521 EAST TREMONT AVENUE
BRONX, COUNTY
BRONX, NEW YORK

Site Management Plan

AKRF Project Number: 190204

NYSDEC Site Number: C203161

Prepared for:
M521 Tremont LLC, 521 Tremont Owner LLC, and
521 East Tremont Housing Development Fund Corporation
48-02 25th Avenue, Suite 400
Queens, NY 11103

Prepared by:

akrf
440 Park Avenue South, 7th Floor
New York, New York 10016
212-696-0670

Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date

AUGUST 2026

CERTIFICATION STATEMENT

I, REBECCA KINAL, certify that I am currently a NYS registered Professional Engineer as in defined in 6 NYCRR Part 375 and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and Green Remediation (DER-31).

DRAFT

_____ P.E.

_____Date

TABLE OF CONTENTS

Section Description Page

ES EXECUTIVE SUMMARY 1
SITE MANAGEMENT PLAN 3
1.0 INTRODUCTION 3
1.1 General 3
1.2 Revisions and Alterations 4
1.3 Notifications 4
2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS 6
2.1 Site Location and Description 6
2.2 Physical Setting 6
2.2.1 Land Use 6
2.2.2 Geology 6
2.2.3 Hydrogeology 7
2.3 Investigation and Remedial History 7
2.4 Remedial Action Objectives 10
2.4.1 Groundwater 11
2.4.2 Soil 11
2.4.3 Soil Vapor 11
2.5 Remaining Contamination 11
2.5.1 Soil 11
2.5.2 Groundwater 14
2.5.3 Soil Vapor 14
3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN 15
3.1 General 15
3.2 Institutional Controls 15
3.3 Engineering Controls 16
3.3.1 Site Cover 16
3.3.2 SSDS 16
3.3.3 Groundwater Treatment Program 17
3.3.4 Criteria for Completion of Remediation/Termination of Remedial Systems 18
4.0 MONITORING AND SAMPLING PLAN 20
4.1 General 20
4.2 Site-wide Inspection 21
4.3 Remedial System Monitoring and Sampling 22
4.3.1 SSDS Monitoring 22
4.3.2 Groundwater Sampling 23
4.3.3 Groundwater Monitoring Well Repairs, Replacement, and Decommissioning 25
4.3.4 Indoor Air Sampling 25
4.3.5 Monitoring and Sampling Protocol 26
5.0 OPERATION AND MAINTENANCE PLAN 27
5.1 General 27
5.2 Remedial System Performance Criteria 27
5.3 SSDS Operation and Maintenance 27
5.3.1 SSDS Start-Up and Testing 27
5.3.2 SSDS Routine Operation and Maintenance 28
5.3.3 SSDS Non-Routine Operation and Maintenance 29
5.3.4 System Monitoring Devices and Alarms 29
5.3.5 Fire Safety 30

6.0 PERIODIC ASSESSMENTS/EVALUATIONS 31
6.1 Climate Change Vulnerability Assessment 31
6.2 Green Remediation Evaluation 31
6.2.1 Timing of Green Remediation Evaluations 31
6.2.2 Remedial Systems 32
6.2.3 Building Operations 32
6.2.4 Frequency of System Checks, Sampling and Other Periodic Activities 32
6.2.5 Metrics and Reporting 32
6.3 Remedial System Optimization 33
7.0 REPORTING REQUIREMENTS 34
7.1 Site Management Reports 34
7.2 Periodic Review Report 35
7.2.1 Certification of Institutional and Engineering Controls 37
7.3 Corrective Measures Work Plan 38
7.4 Remedial System Optimization Report 38
8.0 REFERENCES 40

FIGURES

Figure 1 – Site Location Map
Figure 2 – Site Plan with Cleanup Track Boundaries
Figure 3 – Groundwater Contour Map
Figure 4 – Soil Endpoint Samples with Concentrations above UUSCOs and RRSCOs UUSCOs and RRSCOs after Remedial Action
Figure 5 – Post-Remedial Groundwater Concentrations above AWQSGVs
Figure 6 – Track 4 Cover System Plan
Figure 7 – SSDS Layout Plan
Figure 8 – SSDS Process and Instrumentation Diagrams
Figure 9 – Groundwater Treatment Injection System Layout
Figure 10 – Truck Route Map

IN-TEXT TABLES

Table A – Site Management Plan Summary
Table B – Notifications
Table C – Site Contact List
Table D – Soil Endpoint Sample Concentrations Above RRSCOs
Table E – Soil Endpoint Sample Concentrations Above RRSCOs Following Excavation to Bedrock
Table F – Monitoring/Inspection Schedule
Table G – SSDS Monitoring Requirements and Schedule
Table H – Monitoring Well Construction Details
Table I – SSDS Inspection/Maintenance Schedule
Tabe J – Schedule of Interim Monitoring/Inspection Reports

ATTACHED TABLES

Table 1 – Groundwater Elevation Data
Table 2A-2F – Post-Excavation Endpoint Sample Analytical Results
Table 3 – Post-Remedial Groundwater Sample Analytical Results

APPENDICES

Appendix A – Environmental Easement
Appendix B – Permits and Approvals
Appendix C – Monitoring Well Construction Logs
Appendix D – Excavation Work Plan
Appendix E – Health and Safety Plan
Appendix F – Community Air Monitoring Plan
Appendix G – SSDS and Groundwater Treatment System As-Builts
Appendix H – Quality Assurance Project Plan
Appendix I – Site Management Forms
Appendix J – SSDS Component Manuals
Appendix K – Responsibilities of Owner and Remedial Party
Appendix L – Request to Import/Reuse Fill Material Form
Appendix M – Summary of Green Remediation Metrics for Site Management
Appendix N – RSO Outline

LIST OF ACRONYMS

Acronym	Definition
AS	Air Sparging
ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
BMP	Best Management Practice
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CAMP	Community Air Monitoring Plan
C/D	Construction and Demolition
CFR	Code of Federal Regulation
CLP	Contract Laboratory Program
COC	Certificate of Completion
CO2	Carbon Dioxide
CP	Commissioner Policy
DER	Division of Environmental Remediation
DUSR	Data Usability Summary Report
EC	Engineering Control
ECL	Environmental Conservation Law
ELAP	Environmental Laboratory Approval Program
ERP	Environmental Restoration Program
EWP	Excavation Work Plan
GHG	Greenhouse Gas
GWE&T	Groundwater Extraction and Treatment
HASP	Health and Safety Plan
IC	Institutional Control
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
O&M	Operation and Maintenance
OM&M	Operation, Maintenance and Monitoring
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
P.E. or PE	Professional Engineer
PFAS	Per- and Polyfluoroalkyl Substances
PID	Photoionization Detector
PRP	Potentially Responsible Party
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
QEP	Qualified Environmental Professional

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

ES EXECUTIVE SUMMARY

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

Table A
Site Management Plan Summary

Site Identification:	BCP Site No. C203161 521 East Tremont Avenue, Bronx, NY
Institutional Controls:	1. The property may be used for: restricted residential, commercial, or industrial use; 2. All ECs must be operated and maintained as specified in this SMP; 3. All ECs 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 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 this SMP; 6. Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP; 7. All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP; 8. Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP; 9. Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this 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 the Environmental Easement; 11. The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on Figure 2, and any potential impacts that are identified must be monitored or mitigated; and 12. In-ground vegetable gardens and farming on the Site are prohibited.
Engineering Controls:	1. Active SSDS 2. Site Cover System (Track 4 portion of Site only)

Site Identification:	BCP Site No. C203161 521 East Tremont Avenue, Bronx, NY
	3. Groundwater Injection Treatment System and Monitoring Well Network

Inspections:	Frequency
1. Site cover inspection	Annually
2. SSDS inspection	Monthly during first quarter of operation, quarterly thereafter
3. Groundwater injection treatment system and post-remedial monitoring wells	Quarterly during the first two years following COC, continuation and frequency thereafter to be determined based on consultation with NYSDEC
Monitoring:	**Frequency**
1. SSDS Monitoring	Monthly during first quarter of operation, quarterly thereafter
2. Groundwater Monitoring	Quarterly during the first two years following COC, continuation and frequency thereafter to be determined based on consultation with NYSDEC
Maintenance:	**Frequency**
1. SSDS Maintenance	Quarterly/As necessary
2. Site Cover System Maintenance	As necessary
3. Groundwater Injection Treatment System and Monitoring Well Network Maintenance	As necessary
Reporting:	**Frequency**
1. Quarterly Reports	Quarterly for first two years, continuation and frequency thereafter to be determined based on consultation with NYSDEC.
2. Periodic Review Report (PRR)	First PRR 16 months after receipt of Certificate of Completion. Annually thereafter.

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

SITE MANAGEMENT PLAN

1.0 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the 521 East Tremont Avenue site located in the East Tremont neighborhood of the Bronx, New York (hereinafter referred to as the "Site"). See Figure 1. The Site is currently in the New York State (NYS) Brownfield Cleanup Program (BCP), Site No. C203161, which is administered by New York State Department of Environmental Conservation (NYSDEC or Department).

M521 Tremont LLC entered into a Brownfield Cleanup Agreement (BCA) (Index No. C203161-04-23) on May 8, 2023 with the NYSDEC to remediate the Site. The BCA was amended in January 2024 to add 521 Tremont Owner LLC as a Volunteer, and in February 2026 to add 521 East Tremont Housing Development Fund Corporation as a Volunteer. A figure showing the Site location and boundaries of this Site is provided in Figure 2. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement provided in Appendix A.

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

A complete list of all local, regional, and national government agencies for permits, certificates, or other approvals or authorizations required to complete the remedial and development work is included in Appendix B. This list includes the originating agency and a contact phone number for that agency. NYSDEC approval of the associated Remedial Action Work Plan (RAWP) is provided as Appendix B.

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

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC); and
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6 NYCRR Part 375 and the BCA (Index C203161-04-23; Site C203161) for the Site, and thereby subject to applicable penalties.

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

This SMP was prepared by AKRF, Inc. (AKRF), on behalf of M521 Tremont LLC, 521 Tremont Owner LLC, and 521 East Tremont Housing Development Fund Corporation, in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the Site.

1.2 Revisions and Alterations

Revisions and alterations 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 Environmental Easement 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. 60-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 Environmental Conservation Law.
2. 7-day advance notice of any field activity associated with the remedial program.
3. 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan. 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 7 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:

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

9. 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 B on the following page includes contact information for the above notifications. The information on this table will be updated as necessary to provide accurate contact information.

Table B
Notifications*

Name	Contact Information	Required Notification**
Jennifer Gonzalez NYSDEC Project Manager	(718) 482-6412 jennifer.gonzalez@dec.ny.gov	All Notifications
Andre Obligado NYSDEC Project Manager	(718) 482-4508 jennifer.gonzalez@dec.ny.gov	All Notifications
Jane O'Connell NYSDEC	(718) 482-4599 jane.oconnell@dec.ny.gov	All Notifications
Kelly Lewandowski NYSDEC Site Control	(518) 402-9569 kelly.lewandowski@dec.ny.gov	Notifications 1 and 8
Shaun Surani NYSDOH Project Manager	(518) 402-7860 shaun.surani@health.ny.gov	Notifications 1 through 8

* 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 C
Site Contact List

Company	Individual Name	Title	Contact Information
AKRF, Inc.	Deborah Shapiro	Project Director	dshapiro@akrf.com (646) 388-9544
	Rebecca Kinal	Remedial Engineer	rkinal@akrf.com (914) 922-2362
	Marc Godick	QA/QC Officer	mgodick@akrf.com (914) 922-2356
	Adrianna Bosco	Project Manager	abosco@akrf.com (646) 388-9576
	Patrick O'Mara	Field Team Leader	pomara@akrf.com (914) 874-4309
M521 Tremont LLC, 521 Tremont Owner LLC, and 521 East Tremont Housing Development Fund Corporation	Ana Meza	Volunteer's Representative	AMeza@megagroup.nyc (929) 463-7989

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

2.1 Site Location and Description

The Site is located in the Bronx, Bronx County, New York and is identified as Section 2, Block 3043, Lot 77 on the New York City Tax Map (see Figure 1). The Site is an approximately 0.57-acre parcel and is bounded by a parking lot and Bronx Charter School for Excellence 5 to the north, East Tremont Avenue, followed by commercial uses to the south, Third Avenue, followed by mixed-use buildings to the east, and a funeral home, commercial uses, and Bathgate Avenue to the west (see Figure 2 – Site Layout Map). The boundaries of the Site are more fully described in Appendix A –Environmental Easement. The owner(s) of the Site at the time of issuance of this SMP is:

521 East Tremont Housing Development Fund Corporation

The operators of the Site at the time of issuance of this SMP are:

M521 Tremont LLC, 521 Tremont Owner LLC, and
521 East Tremont Housing Development Fund Corporation

2.2 Physical Setting

2.2.1 Land Use

The Site consists of the following: a mixed-use residential building currently under construction in the northeastern and southern portion of the Site. The northwestern and western portions will contain street-level parking lot once redevelopment is complete. The Site is zoned C4-4D (commercial and residential use) and is currently not utilized for any uses as above grade construction is ongoing. Future occupants will include building tenants and workers in the partial cellar, commercial uses on the ground floor, and residential occupants on floors 2 through 14.

The properties adjoining the Site and in the neighborhood surrounding the Site primarily include commercial, residential, and institutional properties. Surrounding property usage includes East Tremont Avenue, followed by commercial properties to the south; a parking lot and Bronx Charter School for Excellence 5 to the north; Third Avenue, followed by mixed-use buildings to the east; and, a funeral home, commercial uses, and Bathgate Avenue to the west.

2.2.2 Geology

Prior to remediation, the stratigraphy beneath the Site consisted of fill material comprising sand, silt, gravel, brick, with trace amounts of wood, metal, glass, ash, and ceramic fragments from just below surface grade to approximately 3 to 16 feet below grade (bgs). The fill material was underlain by apparent native soil consisting of brown sand, silt, gravel, and clay between approximately 3 and 25 feet bgs (boring terminus). Bedrock was encountered at depths ranging from approximately 3 to 63 feet bgs.

Based on the 2019 geotechnical investigation, alluvial deposits were encountered in two borings located within the northeastern portion of the Site along Third Avenue, and glacial till was encountered in the remainder of the Site at thicknesses of 2 to 27 feet. Gneiss bedrock was encountered below the glacial till and alluvial deposits at depths ranging from 10 to 63 feet below grade. Bedrock was deepest in the eastern portion of the Site.

2.2.3 Hydrogeology

Groundwater beneath the Site ranges from elevation 53.88 to elevation 58.93 (NAVD88), or 11.1 to 14.3 feet bgs across the Site. Based on the well elevation survey, groundwater flows in a generally southerly to southwesterly direction beneath the Site.

A groundwater contour map is shown in Figure 3. Groundwater elevation data is provided in Table 1. Post-remedial 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 8.0 – References.

Geotechnical Investigation Report – Proposed 14-Story Mixed-Use Building, 521 East Tremont Ave., Bronx, New York, SESI Consulting Engineers, May 2019

SESI Consulting Engineers (SESI) conducted a geotechnical investigation at the Site in May 2019. Nine borings were advanced within the footprint of the proposed building and within the adjacent sidewalks to a maximum depth of approximately 68 feet bgs. One test pit was excavated in the western portion of the Site down to approximately 8 feet bgs to determine the depth of the adjacent building's footing. The stratigraphy beneath the Site consisted of surficial materials (asphalt and concrete) between 4 and 10 inches thick, underlain by fill material up to approximately 8 to 14 feet bgs. Underlying the fill layer was a light brown/gray alluvial deposit clayey-silt with varying amounts of fine sand. The alluvial layer was encountered in two borings located along the northeastern portion of the Site, adjacent to Third Avenue. Glacial till, consisting of brown/gray fine to medium sand with clayey-silt and fine to medium gravel, was found to be underlying the existing fill. Glacial till ranged in thickness from 2 to 27 feet thick. Bedrock was encountered at depths ranging from approximately 10 feet below grade in the western portion of the Site to approximately 63 feet bgs in the eastern portion of the Site. Groundwater was encountered in four of the borings at depths between 9 to 20 feet bgs. Split-spoon soil samples were collected in accordance with ASTM D1586.

Phase I Environmental Site Assessment – 521 East Tremont Avenue, Block 3043, Lots 46, 72, 77, and 80, Bronx, New York, ALC Environmental, May 2019

ALC Environmental (ALC) was contracted by the Volunteer to conduct a Phase I Environmental Site Assessment (ESA) of the Site. The Phase I ESA was performed in general conformance with the scope and limitations of the American International (ASTM) Practice E1527-13. The report identified the following Recognized Environmental Conditions (RECs):

- According to the historical Fire Insurance (Sanborn) maps and city directories reviewed, a printing facility (identified as 'Tremont Printing Co.') operated on former Lot 77 (4215 Third Avenue) between at least 1915 and 1927. Printing activities typically generate hazardous wastes in the form of spent inks, oils, and solvents. Based on the lack of hazardous waste regulations prior to the 1970s, it is likely that hazardous wastes associated with said printing facility were improperly disposed of, and therefore the former printing facility at the Site constitutes a REC.
- The historical records reviewed indicated that former Lot 72 (4223-4229 Third Avenue) was previously improved with a single-story commercial building. This former building was occupied by a dry cleaning facility identified as 'Hyvee French Cleaners' between at least 1961 and 1980. Dry cleaning activities typically generated hazardous wastes consisting of

halogenated solvents such as tetrachloroethylene (PCE). This former building was razed sometime between 1981 and 1984, and the Site was converted into a paved, outdoor parking lot. Based on the lack of hazardous waste regulations prior to the 1970s and the length of operation of this former drycleaners, the historical use of the Site for dry-cleaning purposes constitutes a REC.

Subsurface (Phase II) Site Investigation, 521 East Tremont Avenue, Bronx, New York, AKRF, Inc., August 2019

AKRF conducted a Subsurface (Phase II) Investigation at the Site in July 2019 based on the findings of ALC's Phase I ESA. The scope of work for the investigation included a geophysical survey; the advancement of 6 soil borings with the collection and laboratory analysis of 11 soil samples; the installation of 3 temporary groundwater monitoring wells, with the collection and laboratory analysis of 3 groundwater samples; and the installation of 4 soil vapor samples, with the collection and laboratory analysis of 4 soil vapor samples.

The following is a summary of the findings:

Soil Analytical Results

- Acetone, cis-1,2-dichloroethene (cis-1,2-DCE), methylene chloride, toluene, and total xylenes were detected above the NYSDEC Unrestricted Use Soil Cleanup Objectives (UUSCOs) in one or more samples. No other VOCs were detected above UUSCOs and/or Restricted Residential SCOs (RRSCOs).
- Seven polycyclic aromatic hydrocarbons (PAHs) were detected at concentrations exceeding UUSCOs and/or RRSCOs, ranging from 0.40 milligrams per kilogram (mg/kg) to 5.1 mg/kg.
- Four pesticides were detected above the UUSCOs, but below the RRSCOs at concentrations ranging from 0.0077 mg/kg to 0.23 mg/kg.
- Twenty-three metals were detected in the soil samples at concentrations ranging from 0.19 mg/kg to 1,410 mg/kg, above UUSCOs and/or RRSCOs. The following metals were detected at concentrations above RRSCOs: arsenic (maximum concentration of 51.7 mg/kg), barium (maximum concentration of 1,410 mg/kg), lead (maximum concentration of 933 mg/kg), and mercury (maximum concentration of 0.95 mg/kg).

Groundwater Analytical Results

- Eight VOCs were detected above laboratory reporting limits in the groundwater samples at concentrations ranging from 0.50 to 200 micrograms per liter (µg/L). Cis-1,2-DCE, PCE, trichloroethylene (TCE), and vinyl chloride were detected in groundwater sample TW-02_20190710 at concentrations ranging from 14 to 200 µg/L, above the NYSDEC Ambient Water Quality Standards and Guidance Values (AWQSGVs). PCE was also detected in sample TW-05_20190710 above the AWQSGV of 5 µg/L.
- SVOCs, pesticides, and PCBs were not detected above laboratory reporting limits in any groundwater samples.
- Six metals (chromium, iron, lead, magnesium, manganese, and sodium) detected at concentrations above their respective AWQSGVs in the unfiltered (total) metals analysis in groundwater. Four metals (iron, magnesium, manganese, and sodium) were detected at concentrations above their respective AWQSGVs in the filtered (dissolved) metals analysis in groundwater.

Soil Vapor Analytical Results

- VOCs associated with petroleum, including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 4-ethyltoluene, benzene, ethylbenzene, m,p-xylenes, n-heptane, n-hexane, o-xylene, and toluene were detected at individual concentrations up to 180 micrograms per cubic meter ($\mu g/m^3$) (toluene detected in sample SV-03_20190712). Solvent-related VOCs, including acetone, PCE, and TCE were detected at individual concentrations up to 1,800 $\mu g/m^3$ (acetone detected in sample SV-01_20190710).

Remedial Investigation Report, 521 East Tremont Avenue, Bronx, New York, AKRF, Inc., March 2024

AKRF conducted a Remedial Investigation (RI) at the Site in 2023. The scope of work for the investigation included a geophysical survey; the advancement of 24 soil borings with the collection and laboratory analysis of 71 soil samples; the installation of 7 permanent groundwater monitoring wells, with the collection and laboratory analysis of 7 groundwater samples; and the installation of 14 soil vapor samples, with the collection and laboratory analysis of 5 soil vapor and 9 sub-slab soil vapor samples, and the collection and the laboratory analysis of 3 indoor air samples (co-located with 3 of the sub-slab vapor samples).

The following is a summary of the findings:

Soil Analytical Results

- Acetone was detected in two samples at concentrations up to 0.059 mg/kg above the UUSCO of 0.05 mg/kg, but below the RRSCO of 100 mg/kg. No VOCs were detected above the NYSDEC Protection of Groundwater SCOs (PGWSCOs).
- Ten SVOCs were detected above their respective UUSCOs and RRSCOs at concentrations up to 150 mg/kg (phenanthrene in sample RI-SB-08_2-4_20230221).
- Total PCBs were detected in three samples at concentrations ranging from 0.14 to 0.28 mg/kg above the UUSCO of 0.1 mg/kg, but below the RRSCO of 1 mg/kg.
- The pesticides dieldrin, P,P'-DDD, P,P'-DDE, and P,P'-DDT were detected at concentrations above the UUSCOs, but below the RRSCOs in up to 28 soil samples. Concentrations ranged from 0.0035 to 1.2 mg/kg.
- Arsenic (max. 31.2 mg/kg), barium (max. 2,640 mg/kg), cadmium (24.3 mg/kg), lead (max. 4,180 mg/kg), and mercury (max. 12 mg/kg) were detected above the RRSCOs.
- Concentrations of perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) were compared to the guidance values for UUSCOs and RRSCOs presented in the April 2023 *NYSDEC Sampling, Analysis and Assessment of PFAS Under NYSDEC's Part 375 Remedial Programs*. PFOA was detected above the guidance value for UUSCOs of 0.66 parts per billion (ppb), but below the guidance value for RRSCOs of 33 ppb in four soil samples (plus a blind duplicate). PFOS was detected above the NYSDEC guidance value for UUSCOs of 0.88 ppb, but below the RRSCO guidance value of 44 ppb in 23 soil samples (plus four blind duplicates).

Groundwater Analytical Results

- Chloroform was detected above the AWQSGV in one groundwater sample, and PCE was detected above the AWQSGV in two groundwater samples and the blind duplicate samples (up to 490 µg/L).

- 1,4-Dioxane was detected above the AWQSGV of 0.35 µg/L in one sample, RI-MW-06_20230308, at a concentration of 4.7 µg/L. 2,6-Dinitrotoluene was detected in sample RI-MW-02_20230926 at a concentration of 9.6 µg/L, above the AWQSGV of 5 µg/L.
- PCBs were not detected above laboratory reporting limits in any of the groundwater samples.
- P,P'-DDT was detected in sample RI-MW-02_20230926 at a concentration of 0.017 µg/L, below the AWQSGV of 0.2 µg/L.
- Iron, magnesium, manganese, selenium, and/or sodium were detected above the AWQSGVs in the seven filtered groundwater samples. Thirteen metals were detected in the groundwater samples at low levels below the AWQSGVs.
- PFOA and PFOS were detected above the NYSDEC April 2023 guidance values for human health criteria of 6.7 and 2.7 parts per trillion (ppt), respectively, in all seven groundwater samples. Concentrations ranged from 9.16 to 204 ppt.

Soil Vapor, Sub-Slab Soil Vapor, and Indoor Air

- Forty-three of the 76 VOCs analyzed were detected in the soil vapor samples. Solvent-related VOCs were detected in the soil vapor and sub-slab soil vapor samples at individual concentrations up to 370 µg/m^3 from a diluted analysis (PCE in sample RI-SV-10_20230913). Other VOCs, including compounds typically associated with petroleum, were detected in the sub-slab soil vapor samples at individual concentrations up to 640 µg/m^3 from a diluted analysis (n-hexane in sample RI-SV-03_20230223).
- Twenty-seven of the 76 VOCs analyzed were detected in one or more indoor air samples. Fourteen VOCs were detected in the ambient air sample (RI-AA-01_20230222). Solvent-related VOCs were detected in the indoor air samples at individual concentrations up to 3,500 µg/m^3 from a diluted analysis (acetone in sample RI-IA-07_20230222). Other VOCs, including compounds typically associated with petroleum, were detected in the indoor air samples at individual concentrations up to 6,500 µg/m^3 from a diluted analysis (n-hexane in sample RI-IA-07_20230222).
- Based on an evaluation of the co-located sub-slab soil vapor and indoor air samples using the applicable NYSDOH Soil Vapor/Indoor Air Matrices at the time the recommendation was "no further action." The tenants vacated the building between June and August 2023.

Remedial Action Work Plan, 521 East Tremont Avenue, Bronx, New York, AKRF, Inc., June 2024

Based on the previous data collected during the Phase II Investigation and RI, AKRF prepared a RAWP summarizing the proposed remedy to achieve a split Track 2/Track 4 Restricted Residential cleanup. The main components of the remedy included demolition of the existing on-site buildings; excavation of soil to a maximum depth of 15 feet below grade in the southern portion of the Site, plus hotspot removal and a 2-foot excavation in the northern portion of the Site; removal of any unknown tanks; implementation of a groundwater treatment program to treat PCE in groundwater; installation of an active SSDS below the slab-on-grade portion of the building; and implementation of a HASP and CAMP during all intrusive activities.

2.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the Decision Document dated July 2024 are as follows:

2.4.1 Groundwater

RAOs for Public Health Protection

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

RAOs for Environmental Protection

- Remove the source of ground or surface water contamination.

2.4.2 Soil

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

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 into buildings at a site.

2.5 Remaining Contamination

The achieved remedy is a split Track 1 (unrestricted use), and Track 2/4 (restricted residential) cleanup. Endpoint samples were collected across the Site and at three hotspot locations to confirm removal of source material, except where excavation extended to bedrock. Sample locations are shown on Figure 4. All endpoint soil sample results were compared to UUSCOs and RRSCOs (for all containments) and PGWSCOs (for chlorinated VOCs only).

2.5.1 Soil

Soil quality was characterized during previous investigations prior to entering the BCP and during the RI conducted as part of the BCP. All soil exceeding the Track 2 RRSCOs within the upper 15 feet bgs in the southern portion of the Site was excavated and removed from the Site in accordance with the RAWP and DD. In the Track 4 cleanup area, excavation extended to depths ranging from approximately 4 to 14 feet bgs. Soil endpoint samples were collected from the base of the excavation and along perimeter sidewalls; the results are provided in Tables 2A through 2F. Where excavation extended to the bedrock surface in the western portion of the Site, endpoint samples were not collected.

No chlorinated VOCs exceeded PGWSCOs. Select SVOCs and metals were detected in 12 endpoint samples (EP-5, EP-15, EP-16, EP-26 through EP-30, and EP-44 through EP-47) collected within the Track 4 portion of the Site. Endpoint sample EP-05_14_20260601 was collected along the northern sidewall, EP-26 through EP-30 and EP-44 through EP-47 were collected from the SVOC and lead hotspots, respectively, and EP-15 and EP-16 were

collected along the southern sidewall. Although concentrations were above RRSCOs in EP-26 through EP-30 and EP-44 through EP-47, as the source material was confirmed to be removed, no further excavation was required by NYSDEC. For the remaining samples with exceedances, the areas were additionally excavated to bedrock following endpoint sample collection along the southern sidewall. Therefore, the only remaining contamination is within the Track 4 cleanup area at endpoint sample location EP-05.

Figure 4 summarizes the results of all soil samples collected that exceed the UUSCOs and RRSSCOs at the Site after completion of remedial action. Table D summarizes exceedances of the RRSCOs. Table E summarizes exceedances of the RRSCOs following additional excavation to bedrock.

Table D
Soil Endpoint Sample Concentrations Above RRSCOs

Compound	Sample ID	UUSCO (mg/kg)	RRSCO (mg/kg)	Result (mg/kg)
Benzo(a)Anthracene	EP-05_14_20260601	1	1	**4.6**
	EP-26_2_20260202			**2.3**
	EP-27_2_20260202			**3.6**
	EP-30_4_20260202			**44**
	EP-44_4_20260204			**3**
	EP-45_4_20260204			**16**
	EP-46_4_20260204			**10**
	EP-47_4_20260204			**11**
Benzo(a)Pyrene	EP-05_14_20260601	1	1	**5.5**
	EP-16_6_20260129			**1.3**
	EP-26_2_20260202			**2.4**
	EP-27_2_20260202			**3.5**
	EP-30_4_20260202			**35**
	EP-44_4_20260204			**3.4**
	EP-45_4_20260204			**14**
	EP-46_4_20260204			**10**
	EP-47_4_20260204			**9.9**
Benzo(b)Fluoranthene	EP-05_14_20260601	1	1	**6.5**
	EP-16_6_20260129			**1.6**
	EP-26_2_20260202			**2.5**
	EP-27_2_20260202			**4.4**
	EP-30_4_20260202			**42**
	EP-44_4_20260204			**4.7**
	EP-45_4_20260204			**21**
	EP-46_4_20260204			**15**
	EP-47_4_20260204			**14**
Benzo(k)Fluoranthene	EP-30_4_20260202	0.8	3.9	**15**

Compound	Sample ID	UUSCO (mg/kg)	RRSCO (mg/kg)	Result (mg/kg)
	EP-45_4_20260204			**5.6**
	EP-46_4_20260204			**6.3**
	EP-47_4_20260204			**5.7**
Chrysene	EP-05_14_20260601	1	3.9	**4.5**
	EP-30_4_20260202			**45**
	EP-45_4_20260204			**16**
	EP-46_4_20260204			**11**
	EP-47_4_20260204			**11**
Dibenz(a,h)Anthracene	EP-05_14_20260601	0.33	0.33	**1.1**
	EP-27_2_20260202			**0.48**
	EP-30_4_20260202			**4.3**
	EP-44_4_20260204			**0.55**
	EP-45_4_20260204			**1.6**
	EP-46_4_20260204			**1.7**
	EP-47_4_20260204			**1.7**
Indeno(1,2,3-c,d)Pyrene	EP-05_14_20260601	0.5	0.5	**4**
	EP-16_6_20260129			**0.78**
	EP-26_2_20260202			**1.4**
	EP-27_2_20260202			**2.1**
	EP-30_4_20260202			**17**
	EP-44_4_20260204			**2**
	EP-45_4_20260204			**6.2**
	EP-46_4_20260204			**6.1**
	EP-47_4_20260204			**5.9**
Barium	EP-27_2_20260202	350	400	**445**
	EP-28_3_20260202			**543**
	EP-44_4_20260204			**646**
	EP-46_4_20260204			**516**
Lead	EP-27_2_20260202	63	400	**714**
	EP-30_4_20260202			**440**
	EP-44_4_20260204			**960**
	EP-45_4_20260204			**553**
	EP-46_4_20260204			**1,170**
	EP-47_4_20260204			**688**
Mercury	EP-15_6_20260129	0.18	0.81	**1**
	EP-27_2_20260202			**1**
	EP-29_3_20260202			**0.86**
	EP-45_4_20260204			**1.5**

Compound	Sample ID	UUSCO (mg/kg)	RRSCO (mg/kg)	Result (mg/kg)
Notes: mg/kg = milligrams per kilograms Exceedances of RRSCOs are shaded gray.				

Table E
Soil Endpoint Sample Concentrations Above RRSCOs Following Excavation to Bedrock

Compound	Sample ID	UUSCO (mg/kg)	RRSCO (mg/kg)	Result (mg/kg)
Benzo(a)Anthracene	EP-05_14_20260601	1	1	**4.6**
Benzo(a)Pyrene	EP-05_14_20260601	1	1	**5.5**
Benzo(b)Fluoranthene	EP-05_14_20260601	1	1	**6.5**
Chrysene	EP-05_14_20260601	1	3.9	**4.5**
Dibenz(a,h)Anthracene	EP-05_14_20260601	0.33	0.33	**1.1**
Indeno(1,2,3-c,d)Pyrene	EP-05_14_20260601	0.5	0.5	**4**
Notes: mg/kg = milligrams per kilograms Exceedances of RRSCOs are shaded gray.				

2.5.2 Groundwater

Groundwater quality was characterized during previous investigations prior to entering the BCP and during the RI conducted as part of the BCP. The groundwater beneath the Site was found to have concentrations of CVOCs (specifically PCE) above the AWQSGVs and groundwater treatment was included as a component of the Decision Document. A groundwater treatment program was completed at the Site to treat elevated concentrations of PCE (see Figure 9) and four post-remedial groundwater wells were installed and sampled on August 4 and 8, 2026.; however, low-level concentrations exceeding the AWQSGVs still remain. The post-remediation concentrations of CVOCs are provided in Attached Table 3. Residual groundwater PCE concentrations are shown on Figure 5. Elevated concentrations of PCE are still present at the XX interval.

Groundwater use at the Site is also subject to the ICs documented within the Environmental Easement and is prohibited from use as a source of potable or process water without necessary water quality treatment as determined by NYSDOH.

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

2.5.3 Soil Vapor

Based on the findings of the RI and prior investigations, contaminated soil vapor remains at the Site. The contaminated soil vapor will be addressed by the vapor mitigation system, which consists of a vapor barrier membrane and an active SSDS installed below the slab-on-grade portion of the building (see Figure 7 for details). The vapor mitigation system will prevent vapor intrusion into the new building.

3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1 General

Since remaining contamination exists at the Site, Institutional Controls (ICs) and Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the Site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC 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 ICs set forth in the Environmental Easement;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs, such as the implementation of the Excavation Work Plan (EWP) (as provided in Appendix D) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site; and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the site remedy, as determined by the NYSDEC project manager.

3.2 Institutional Controls

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

- The property may be used for: restricted residential, commercial, or industrial use;
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP;
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the New York City Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;

- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;
- Access to the Site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement;
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on Figure 2, and any potential impacts that are identified must be monitored or mitigated; and
- In-ground vegetable gardens and farming on the Site are prohibited.

3.3 Engineering Controls

3.3.1 Site Cover

Exposure to remaining contamination at the Track 4 portion of the Site is prevented by a site cover system. The site cover system is comprised of (1) a minimum 2-foot thick cap of clean, imported fill material, underlain by a demarcation barrier, outside the building footprint in the northern portion of the Site, and (2) the 12-inch thick concrete building slab underlain by a minimum 20-mil vapor barrier membrane (Drago Wrap 20-mil below slab-on-grade and GCP Preprufe 300R below detention tank), and a vapor barrier membrane (GCP Preprufe 160R and Bithuthene 4000) behind subgrade foundation walls. The Figure 6 presents the location and details of the cover system including applicable demarcation layers. The Excavation Work Plan (EWP) provided in Appendix D outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) prepared for the Site and provided in Appendix E, and F, respectively. Any breach of the Site's cover system must be overseen by a Professional Engineer (PE) who is licensed and registered in New York State or a qualified person who directly reports to a PE who is licensed and registered in New York State. A copy of the request to import or reuse backfill material is provided in Appendix L.

3.3.2 SSDS

An active SSDS will be operated to mitigate the potential for soil vapor intrusion into the slab on grade portion of the proposed new building. The SSDS will induce a negative pressure (i.e., vacuum) beneath the building slab. As the cellar slab (elev. 56 feet) was constructed at or just below the water table (elev. 55.73 to 57.7 feet), an SSDS was not installed beneath the cellar slab as it would become inundated with water accumulating around the building foundation and therefore ineffective. The underground elements of the SSDS installed beneath the slab-on-grade portion include the following components:

- Two SSDS branches consisting of 0.02-inch slotted and solid, 4-inch diameter Schedule 40 polyvinyl chloride (PVC) pipe lengths were installed beneath the building slab with riser legs penetrating the building slab and stubbed out above the top of slab;
- Communication and pipe sleeves through concrete foundation elements;

- A minimum 6-inch thick gas-permeable aggregate stratum above and below the SSDS piping underlain by non-woven geotextile fabric beneath the entire SSDS treatment area;
- Seven vacuum monitoring points (VMPs) installed beneath the building slab; and
- A vapor barrier (Drago Wrap 20-mil) beneath the full extent of the slab-on-grade portion of the building slab.

During construction of the new building superstructure, the following aboveground elements will be installed to complete the SSDS installation, under this SMP:

- A pipe manifold, which combines the PVC riser legs into a single 6-inch galvanized steel pipe, will extend to the roof of the building following building completion;
- A roof-mounted blower with a shut-off alarm connected to a local alarm panel;
- One 6-inch diameter galvanized steel rooftop exhaust stack fitted with a rain cap, terminating at least 10 feet above the finished roof;
- Accessories, including: cleanouts, sample ports, vacuum indicators/pressure gauges, flow meters, butterfly valves, and differential pressure switches; and
- A control panel equipped with a telemetry system to notify select personnel of alarm conditions.

The SSDS complies with the requirements stated in Section 10.0 of the RAWP. The location and components of the SSDS are shown on Figure 7. The SSDS process and instrumentation diagram is presented on Figure 8. As-built drawings for the underground components of the SSDS will be included in Appendix G upon SSDS completion.

Procedures for operating and maintaining the SSDS are documented in the Operation and Maintenance Plan and procedures for monitoring the SSDS are included in the Monitoring Plan (see Section 4.0 of this SMP). The Monitoring Plan also addresses severe condition inspections in the event that a severe condition occurs, which may affect controls at the Site.

Procedures for operating and maintaining the SSDS are documented in the Operation and Maintenance Plan (Section 5.0 of this SMP). As-built drawings, signed and sealed by a PE who is licensed and registered in New York State, are included in Appendix G. Operations. Figure 7 shows the location of the ECs for the Site.

3.3.3 Groundwater Treatment Program

One round of ISCO injections was conducted site-wide via temporary injection points during the Remedial Action, as described in the Final Engineering Report. A permanent groundwater treatment system was installed as an EC to allow for additional treatment of remaining contaminant mass in the groundwater in the northeastern portion of the Site if required. The treatment system will allow for potential supplemental injection events and groundwater monitoring, as part of the Site Management phase following redevelopment of the Site.

The full-scale groundwater injection treatment system includes the following components:

- Seven single-screen permanent injection wells consisting of 2-inch Schedule 40 PVC with up to 10-foot long, 0.020-slotted PVC well screens installed approximately 10 feet into the groundwater interface to treat shallow groundwater (approximately 25 feet bgs).

- Nine double-screened permanent injection wells consisting of 1.5-inch Schedule 40 PVC with 0.020-slotted PVC well screens installed to 25 feet bgs (to treat shallow groundwater), and 0.020-slotted PVC well screens installed to approximately 50 feet bgs (to treat deep groundwater).
- 1-inch diameter HDPE tubing installed horizontally within trenches beneath the building footprint which connect to the injection wells and terminate outside the western building wall.
- Four post-remedial monitoring wells (PMW-01 through PMW-04) were installed to evaluate upgradient, cross-gradient, and downgradient groundwater conditions.
- The monitoring wells will be subsequently finished with j-plugs, flush mount well caps, and concrete pads within the building footprint and exterior parking lot.

3.3.4 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10. 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 remedial party receives this approval, the remedial party will decommission all site-related monitoring, injection and recovery wells as per the NYSDEC CP-43 policy.

The remedial party will also conduct any needed site restoration activities, such as asphalt patching and decommissioning treatment system equipment. In addition, the remedial party 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 remedial party will ensure that no ongoing erosion is occurring on the site.

3.3.3.1 – Site Cover System

The site 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.

3.3.3.2 – SSDS

The 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 work plan to discontinue the SSDS will be submitted by the remedial party to the NYSDEC and NYSDOH project managers. The work plan must include soil vapor intrusion sampling to verify that the SSDS is no longer needed and must comply with the NYSDOH Soil Vapor Intrusion Guidance.

If the NYSDEC project manager approves termination of operation and maintenance of an SSDS, the remedial party will notify the property owner and ask whether the property owner wants to keep the SSDS. If the property owner elects to keep the system, the property owner will be responsible for the operation and maintenance of the system going forward. If the property owner wants the system removed, the remedial party will remove and

dispose of the system and repair any parts of the structure that were altered or modified by the SSDS, such as holes in the basement floor or walls.

3.3.3.3 - Monitoring Wells Associated with In-Situ Groundwater Treatment

Groundwater monitoring activities to assess in-situ groundwater 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 ambient water quality standards or the Site SCGs, 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 remedial party. 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 injections, source removal, treatment and/or control measures will be evaluated.

4.0 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 Quality Assurance Project Plan provided in Appendix H.

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 Part 375 SCOs for soil; 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. Monitoring the performance of the remedy and overall reduction in contamination on-site will be conducted for the periods specified for each matrix listed in Table F. The frequency thereafter will be determined in consultation with NYSDEC and based on reports submitted showing contaminant trends. Trends in contaminant levels in the affected areas will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. Monitoring programs are summarized in Table F and outlined in detail in sections below.

Table F
Monitoring/Inspection Schedule

Monitoring Program	Frequency*	Location	Matrix	Analysis
SSDS	Monthly during first quarter of operation, quarterly thereafter	SSDS riser pipes, manifold, vapor monitoring points, and system components on the roof	System Integrity and Air Flow	Visual Inspection of Conditions and System Readings
Groundwater Monitoring and groundwater treatment system	Eight quarterly events following COC	Post-remedial monitoring wells, above grade injection piping, exterior access vaults	Groundwater	CVOCs by EPA Method 8260
Site-Wide Inspection	Annually	Site-Wide	Visual Inspection	N/A

Monitoring Program	Frequency*	Location	Matrix	Analysis
Notes: *The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH. CVOCs – Chlorinated Volatile Organic Compounds				

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 as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE 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 I – 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;
- Whether stormwater management systems, such as basins and outfalls, are working as designed;
- 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 Environmental Easement;
- Achievement of remedial performance criteria; and
- If Site records are complete and up to date.

Reporting requirements are outlined in Section 7.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the Site, verbal notice to the NYSDEC 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 qualified environmental professional, as defined in 6 NYCRR 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.

The remedial party will conduct exterior inspections of all SSDS components on a monthly basis during the first quarter of operation and on a quarterly basis thereafter. Exterior inspections will include: confirming that the fan is running correctly, determining whether there is damage to the stack or other exterior system components, and determining whether there have been structural changes, such as an addition to the structure. Comprehensive inspections include all of the activities required in the exterior inspection and an interior inspection, which includes: confirming a pressure differential on the manometer, inspecting the interior components for damage, recording vacuum readings from sub-slab vacuum monitoring points, and inspecting the building foundation slab for cracks and walls that may have developed since the SSDS was installed. The remedial party will notify the NYSDEC project manager about any problems within three days of inspections. Inspection reports will be emailed to the NYSDEC Project Manager and included in the next PRR. Any needed repairs will be made promptly according to the procedures in the Operation and Maintenance Plan (Section 5.X).

4.3 Remedial System Monitoring and Sampling

4.3.1 SSDS Monitoring

Monitoring of the SSDS will be performed on a routine basis, as identified in Table G SSDS Monitoring Requirements and Schedule (see below). The monitoring of remedial systems must be conducted by a qualified environmental professional as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State. 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 has been reported or an emergency occurs that is deemed likely to affect the operation of the system. SSDS components to be monitored include, but are not limited to, the components included in Table G below.

Table G
SSDS Monitoring Requirements and Schedule

SSDS Component	Monitoring Parameter	Operating Range	Monitoring Schedule
Vapor Monitoring Points	Induced Vacuum Reading	Minimum of -0.004 inches of H_2O	Monthly during first quarter of operation, quarterly thereafter
Riser Legs	Flow Rate	40 to 100 CFM	
Riser Legs	Induced Vacuum Reading	0 to 10 inches of H_2O	
Blower Inlet	Vacuum Readings	0 to 15 inches of H_2O	
Aboveground System Components	Visual-Intactness	NA	

A complete list of components to be inspected is provided in the Inspection Checklist, provided in Appendix I – 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 Operation and Maintenance Plan, is required immediately.

4.3.2 Groundwater Sampling

Groundwater monitoring will be performed quarterly for the first two years (eight quarters total) following issuance of the COC, and thereafter at a frequency approved by NYSDEC 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 will be installed to monitor upgradient, cross-gradient, and downgradient groundwater conditions at the Site. Monitoring well construction logs are included in Appendix C of this document.

Table H 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 will be sampled to evaluate the effectiveness of the remedial system. The remedial party will measure depth to the water table for each monitoring well in the network before sampling.

Table H
Monitoring Well Construction Details

Monitoring Well ID	Well Location	Coordinates (longitude/ latitude)	Well Diameter (inches)	Well Screen Depths (feet below grade)		
				Shallow Screen	Intermediate Screen	Deep Screen Depth
PMW-01	Upgradient	TBD	2	15-25	25-35	40-50
PMW-02	Cross-gradient	TBD	2	15-25	TBD	TBD
PMW-03	Cross-gradient	TBD	2	15-25	TBD	TBD
PMW-04	Downgradient	40.84698 -73.89622	2	15-25	25-35	40-50

Groundwater Sampling Protocol

All monitoring well sampling activities will be recorded by taking applicable notes in a field book and by collecting the readings listed on the groundwater sampling field log presented in Appendix I. Pertinent observations or Site conditions at the time of the sampling (e.g., well integrity, etc.) will be noted on the well sampling log. One well sampling log will be filled out for each of the wells sampled and serve as the inspection form associated with the groundwater monitoring well network.

Groundwater samples will be collected using low flow sampling techniques as described in U.S. EPA's Ground-Water Sampling Guidelines for the collection of groundwater samples from monitoring wells. Sampling will be conducted according to the following procedures, and as detailed in the QAPP included as Appendix H:

- Slowly remove the access manhole and locking cap and immediately measure the vapor concentrations in the well with a PID calibrated to the manufacturer's specifications.

- Measure the depth to water and total well depth of all accessible monitoring wells prior to conducting any purging, and check for the presence of non-aqueous phase liquid (NAPL) using an oil/water interface probe. Measure the thickness of NAPL, if any, and record in field book and the well sampling field log. Groundwater samples will not be collected from wells containing measurable NAPL.
- Use the water level and total well depth measurements to calculate the length of the mid-point of the water column within the screened interval. For example, for a well where the total depth is 20 feet, screened interval is 10 to 20 feet, and depth to water is 14 feet, the mid-point of the water column within the screened interval would be 17 feet.
- For all wells requiring sampling under the approved monitoring program, connect dedicated tubing to a submersible bladder pump and lower the pump such that the intake of the pump is set at the mid-point of the water column within the screened interval of the well. Connect the discharge end of the tubing to the flow-through cell of a YSI multi-parameter (or equivalent) meter. Connect tubing to the output of the cell and place the discharge end of the tubing into a 5-gallon bucket.
- Activate the pump at the lowest flow rate setting of the pump.
- Measure the depth to water within the well. The pump flow rate may be increased such that the water level measurements do not change by more than 0.3 foot as compared to the initial static reading. The well-purging rate should be adjusted to produce a smooth, constant (laminar) flow rate and so as not to produce excessive turbulence in the well. The expected targeted purge rate will be approximately 0.5 liter/minute and will be no greater than 3.8 liters/minute.
- During purging, collect periodic samples and analyze for water quality indicators [e.g., turbidity, pH, temperature, dissolved oxygen (DO), reduction-oxidation potential (ORP), and specific conductivity] with measurements collected approximately every five minutes.
- Continue purging the well until turbidity is less than 50 Nephelometric Turbidity Units (NTUs) and water quality indicators have stabilized to the extent practicable. The criteria for stabilization will be three successive readings for the following low-flow groundwater stabilization parameters and criteria:

Parameter	Stabilization Criteria
pH	+/- 0.1 pH units
Specific Conductance	+/- 3% mS/cm
ORP/Eh	+/- 10mV
Turbidity	<50 NTU
Dissolved Oxygen	+/- 0.3 mg/l

Notes: mS/cm = millisievert per centimeter
mV = millivolts
NTU = nephthalometric turbidity units
mg/l = milligrams per liter

- If the water quality parameters do not stabilize and/or turbidity is greater than 50 NTU within two hours, purging may be discontinued. Efforts to stabilize the water quality for the well must be recorded in the field book, and samples may then be collected as described herein.

- After purging, disconnect the tubing to the inlet of the flow-through cell. Collect groundwater samples directly from the discharge end of the tubing and place into the required sample containers as described in Section 4.2 of the QAPP. Label the containers as described in Section 4.9.2 of the QAPP and place in a chilled cooler.
- Collect one final field sample and analyze for turbidity and water quality parameters (pH, temperature, dissolved oxygen, reduction-oxidation potential, and specific conductivity).
- Once sampling is complete, remove the pump and/or tubing from the well. Dispose of the sample tubing and any associated personal protective equipment (PPE) used for sampling in a 55-gallon drum designated for disposable sampling materials and PPE. The purge water will be managed as described in Section 3.4 of the QAPP included as Appendix H.
- Decontaminate the pump, oil/water interface probe, and flow-through cell, as described in Section 3.3 of the QAPP included as Appendix H.
- Record all measurements (depth to water, depth to NAPL, water quality parameters, turbidity), calculations (well volume), and observations in the project field book and the well sampling field log included in Appendix I.

4.3.3 Groundwater Monitoring Well Repairs, Replacement, and Decommissioning

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 Periodic Review Report. 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.

4.3.4 Indoor Air Sampling

Indoor air sampling will be performed approximately 30 days after SSDS startup is complete. This sampling will be performed after building superstructure is complete and aboveground components of the SSDS are fully installed and operating. Modification to the frequency or sampling requirements will require approval from 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 indoor air sampling event are specified in Section 7.0 – Reporting Requirements.

4.3.5 Monitoring and Sampling Protocol

All sampling activities will be recorded in a field book and associated sampling log as provided in Appendix I – 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 site-specific QAPP provided as Appendix H of this document.

5.0 OPERATION AND MAINTENANCE PLAN

5.1 General

This Operation and Maintenance (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 Operation and Maintenance Plan:

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

Further detail regarding the Operation and Maintenance of the SSDS is provided in Appendix J – Operation and Maintenance Manual. A copy of this Operation and Maintenance Manual, along with the complete SMP, is to be maintained at the Site. This Operation and Maintenance 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

Below grade components of the SSDS have been installed at the Site to prevent the potential for vapor intrusion into the building. During superstructure construction, and under this SMP, aboveground components of the SSDS will be installed and the active SSDS will operate continuously. Details pertaining to the performance monitoring of these ECs are outlined below.

5.3 SSDS Operation and Maintenance

The following sections provide a description of the operations and maintenance of the active SSDS. Cut-sheets and as-built drawings for the SSDS are provided in Appendix G..

5.3.1 SSDS Start-Up and Testing

The SSDS will be started up and tested following completion of the building construction and prior to building occupancy. Testing will also be conducted after any future event that requires system shut-down/restart.

The SSDS start-up inspection will include the following:

- Confirmation of acceptable air flow rate from each SSDS riser by a visual inspection of flow sensors affixed to each of the manifold legs and use of an appropriate manometer or portable vacuum gauging device;
- Confirmation of acceptable vacuum readings from each SSDS riser by a visual inspection of magnehelic gauges affixed to manifold legs; and
- Confirmation of acceptable induced vacuum (a minimum of -0.004 inches of H_2O) beneath the first floor slab from monitoring points MP-1 through MP-7 through the manual access of each point and use of an appropriate manometer or portable vacuum gauging device.

Adjustments to the blower and individual SSDS lines may be necessary at start-up and after any alterations to the overall system. If needed, SSDS equipment, including individual valves on SSDS lines will be throttled to rebalance the system, adjusting air flow rates, and vacuum/pressure readings to acceptable values. A copy of the SSDS inspection log is provided in Appendix I. The log will be updated after initial system start-up and balancing to determine acceptable operating ranges for air flow and vacuum.

At a minimum, the findings and conclusions following system start-up/restart activities will be reported in the subsequent quarterly media monitoring report. In addition, depending on the nature of the adjustment to the system, the process and instrumentation diagram (P&ID) and/or Site figures may need to be updated to reflect the work completed. Such revisions shall be completed and submitted to NYSDEC with the media monitoring report.

All further modifications, adjustments, or additions to the SSDS should be completed in accordance with the equipment specifications provided by the manufacturer. Manufacturers' specifications for all system components as part of the manuals is provided in Appendix J.

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

5.3.2 SSDS Routine Operation and Maintenance

After start-up, the SSDS is designed to operate continuously without any required adjustments or repairs, beyond routine maintenance items discussed in Section 5.5.3. No adjustments to the operating schedule or other intentional interruptions to operation (other than those required for routine maintenance) shall be permitted without written approval by NYSDEC and NYSDOH.

A schedule for SSDS routine equipment maintenance work is provided in Table I:

Table I
SSDS Inspection/Maintenance Schedule

Operations Monitoring Tasks	Frequency	Maintenance Task
SSDS Routine Inspection	Monthly during first quarter after startup, quarterly and as necessary thereafter.	Repairs to system components as needed based on inspections

Routine Maintenance

The routine SSDS inspections will include:

- Confirmation that the blower is operating and air is discharging through the exhaust piping at the roof;
- Confirmation that the pressure gauges and air flow sensors on each SSDS riser leg are clean and readings within normal ranges;
- Confirmation that the vacuum gauge at the blower inlet is clean and reading within the acceptable range; and
- Confirmation that the exterior of the SSDS control panel is clean.

Maintenance to system components (e.g., cleaning/replacement of gauges, adjustments to system balancing) will be scheduled as needed based on findings from the inspection. Some routine maintenance will require intentional interruptions to SSDS operation. Both unexpected and deliberate alterations to and/or shutdowns of the system will be recorded in the field book and documented on an SSDS Inspection Log, provided in Appendix I. A cumulative shutdown log, provided in Appendix I, will be maintained separately to track any atypical system activity, including, but not limited to alarm conditions and responses, and to track scheduled shutdowns for system maintenance.

Detailed SSDS Inspection and System Component Maintenance

The detailed operations check will be performed to identify/rectify operations-based maintenance items, such as malfunctioning SSDS risers, piping runs, and/or other system components. Typical detailed maintenance items that should be addressed during these inspections include:

- Confirm/assess blower performance and integrity;
- Assess blowers and determine need for replacement;
- Confirm/assess the operating condition of vacuum monitoring points MP-1 though MP-7; and
- Confirm/assess the structural integrity of concrete floor slabs overlying constructed SSDS manifold and piping runs.

Once installed, the roof-mounted SSDS fan will consist of a blower and motor pair. Each piece of equipment requires routine maintenance that is dictated either by runtimes or operating conditions, as defined by manufacturer's specifications. The pertinent material cut sheets and manuals are provided as Appendix J. A binder containing complete paper copies of manufacturer's specifications for all system components will be maintained on-Site.

Reporting

Barring any unusual findings, the system inspections and maintenance described above will be reported per the requirements of Section 7.0 of this SMP. In the event that an unexpected condition, such as a critical malfunction or extreme weather conditions that may hinder system operation is noted, the NYSDEC will be alerted promptly.

5.3.3 SSDS Non-Routine Operation and Maintenance

In most instances, non-routine maintenance will be required due to operating conditions that are monitored by the SSDS alarm system. The primary objective of the alarm system is to notify personnel when operating conditions are likely to reduce or otherwise compromise SSDS efficiency.

An alarm condition may be indicative of damage to, blockage of, and/or deterioration of, the SSDS piping or blower. Damage to the individual SSDS lines may be noticeable only by interpreting unusually high or low vacuum readings or air flow rates, which will be noted in the routine system inspections and remedied upon identification.

Table I provides a summary and schedule of routine maintenance.

5.3.4 System Monitoring Devices and Alarms

The SSDS will have a local alarm panel to indicate that the system is not operating properly (e.g., vacuum blower failure or a low vacuum condition). The local alarm will also be connected to an autodialer (remote telemetry) capable of notifying off-site personnel of an alarm condition via email and/or text message.

In the event that the local alarm panel is activated, the on-site maintenance personnel shall investigate the problem by performing a detailed operations check and conducting applicable maintenance and repairs, as specified in this Operation and Maintenance Plan. Testing or applicable maintenance and repairs will be conducted, as specified in the Operation and Maintenance Plan, and the SSDS will be restarted. Operational problems will

be noted in the Periodic Review Report to be prepared for that reporting period and in the respective quarterly report.

5.3.5 Fire Safety

The remedial party will conduct an annual facility walk with the local fire chief and/or fire suppression team. The Site walk will allow for the addition of the facility to any local preplanning efforts. The NYSDEC project manager will be provided with the local fire chief's/fire suppression team's recommendations as soon as they become available. Following review, the NYSDEC project manager may direct the remedial party to implement the recommendations and/or revise the SMP.

6.0 PERIODIC ASSESSMENTS/EVALUATIONS

6.1 Climate Change Vulnerability Assessment

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

This section provides a current vulnerability assessment that evaluates the vulnerability of the Site and/or engineering controls to severe storms/weather events and associated flooding. This section also identifies vulnerability assessment updates that will be conducted for the Site in Periodic Review Reports.

- Flood Plain: The Site is not located within a flood plain.
- Site Drainage and Stormwater Management: Stormwater at the Site and the surrounding area flows to the New York City combined sewer system.
- Erosion: Erosion in portions of the Site that are not capped with concrete is addressed by installation of perimeter Site controls, stabilized truck entrances, and drainage inlet protection. During construction of the superstructure, exterior portions of the Site will be capped with impervious surfaces.
- High Wind: All permanent building components are secured against high winds. In the event that high winds are forecasted, proper precautions will be taken to secure or shelter any Site components that are not protected against high winds.
- Electricity: Electricity to the building is supplied via newly installed underground conduits and is not expected to be affected by severe weather events.
- Spill/Contaminant Release: Storage of large amounts of fuel oil or other chemicals at the Site is not expected. Nominal amounts of cleaning chemicals are likely to be stored at interior and secured locations at the Site and are not expected to be affected by severe weather conditions

6.2 Green Remediation Evaluation

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the SMP also provides a summary of green remediation evaluations to be completed for the Site during site management and reported in PRRs, and the applicable form is included in Appendix M.

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 operation and maintenance activities after

approval from the DER project manager. Reporting these modifications will be presented in the PRR.

6.2.2 Remedial 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. Spent materials will be sent for recycling, as appropriate, including purged groundwater from monitoring wells.

Best management practices include utilizing the various gauges and valves on each SSDS riser leg to maintain a balance of vacuum being applied across the system footprint and the SSDS blower will be adjusted using the VFD to minimize energy usage, if feasible based on operating conditions.

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. Consideration will be made with respect to:

- Heating/cooling systems and temperature set-points;
- Building skin, insulation and building use and occupancy;
- Ventilation;
- Lighting and plug loads; and
- Grounds and property management.

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. Consideration will be made with respect to:

- Combining inspection and sampling events into fewer mobilizations, as applicable, to reduce the frequency of Site visits;
- Use of mass transit for Site visits;
- Installation of a remote telemetry system for the SSDS; and
- Utilizing local staff to perform SSDS inspections and sampling, if feasible.

6.2.5 Metrics and Reporting

As discussed in Section 7.0 and as shown in Appendix I – 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. A set of metrics has been developed and will be evaluated over time to ensure that green remediation actions are achieving the desired results.

6.3 Remedial System Optimization

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

- The remedial actions have not met or are not expected to meet RAOs in the time frame estimated in the DD;
- 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 remedial party or agency; and
- A new and applicable remedial technology becomes available.

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

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

7.0 REPORTING REQUIREMENTS

7.1 Site Management Reports

All Site management inspection, maintenance and monitoring events will be recorded on the appropriate site management forms provided in Appendix I. These forms are subject to NYSDEC revision. All site management inspection, maintenance, and monitoring events will be conducted by a qualified environmental professional as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State. Responsibilities of the owner and remedial party are listed in Appendix K

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 J and summarized in the Periodic Review Report.

Table J
Schedule of Interim Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Monitoring/Inspection Letter Report with Figures and Attachments (Treatment System Inspections and Associated Sampling Events)	Quarterly
Periodic Review Report	Annually. First inspection no more than 16 months after COC, then at least annually thereafter

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

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

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., groundwater, sub-slab vapor, indoor air, outdoor air);
- Copies of all field forms completed (e.g., well sampling logs, 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 Periodic Review Report (PRR) will be submitted to the NYSDEC project manager beginning 16 months after the Certificate of Completion is issued. After submittal of the initial PRR, the next PRR shall be submitted [annually to the NYSDEC project manager , unless an alternate certification period is provided in writing by the NYSDEC pursuant to 6 NYCRR 375-1.8(h)(3). 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. 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 RAWP and 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 update to the climate change vulnerability assessment if site or external conditions have changed since the previous assessment, and recommendations to address vulnerabilities.
    - A summary of the Green Remediation evaluation, including a quantitative and qualitative overview of a site's environmental impacts and recommendations to improve the remedy's environmental footprint. The PRR will include the completed Summary of Green Remediation Metrics form.
    - 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 RAWP and Decision Document; and
    - The overall performance and effectiveness of the remedy.

- A performance summary for all treatment systems at the Site during the calendar year, including information such as:
  - The number of days the system operated for the reporting period;
  - The average, high, and low flows per day;
  - The contaminant mass removed and the cost per pound of mass removed during the certification period and during the life of the treatment system;
  - A description of breakdowns and/or repairs along with an explanation for any significant downtime;
  - A description of the resolution of performance problems;
  - Alarm conditions;
  - Trends in equipment failure;
  - A summary of the performance, effluent and/or effectiveness monitoring; and
  - Comments, conclusions, and recommendations based on data evaluation. Recommendations must address how receptors would be impacted. Recommendations can include:
    - Proposals to address efficiency and costs such as: instituting remote operation, system changes to decrease maintenance costs and downtime, and system changes to decrease energy use; and
    - Proposals to modify or shut down a treatment system due to remediation completion, system performance or changed conditions. System shutdowns are addressed in Section 6.4 of DER-10.

7.2.1 Certification of Institutional and Engineering Controls

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

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

- *The inspection of the Site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*
- *Access to the Site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*

- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*
- *Use of the Site is compliant with the environmental easement;*
- *The engineering control systems are performing as designed and are effective;*
- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices; and*
- *The information presented in this report is accurate and complete.*

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

"I certify that the New York State Education Department has granted a Certificate of Authorization to provide Professional Engineering services to the firm that prepared this Periodic Review Report."

In accordance with 6 NYCRR 375-3.8(h)(2), for this non-significant threat BCP site where contaminants in groundwater at the site boundary contravene drinking water standards, the IC/EC certification shall also include the following:

- *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.*

The signed certification will be included in the PRR.

The Periodic Review Report will be submitted, in electronic format, to the NYSDEC project manager and the NYSDOH project manager. The Periodic Review Report 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 institutional or engineering control 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 Report

If an RSO is to be performed (see Section 6.3), upon completion of an RSO, an RSO report must be submitted to the NYSDEC project manager for approval. A general outline for the RSO report is provided in Appendix N. The RSO report will document the research/ investigation and data gathering that was conducted, evaluate the results and facts obtained, present a revised conceptual site model and present recommendations. RSO recommendations are to be implemented upon approval from the NYSDEC. Additional work plans, design documents, HASPs etc., may still be

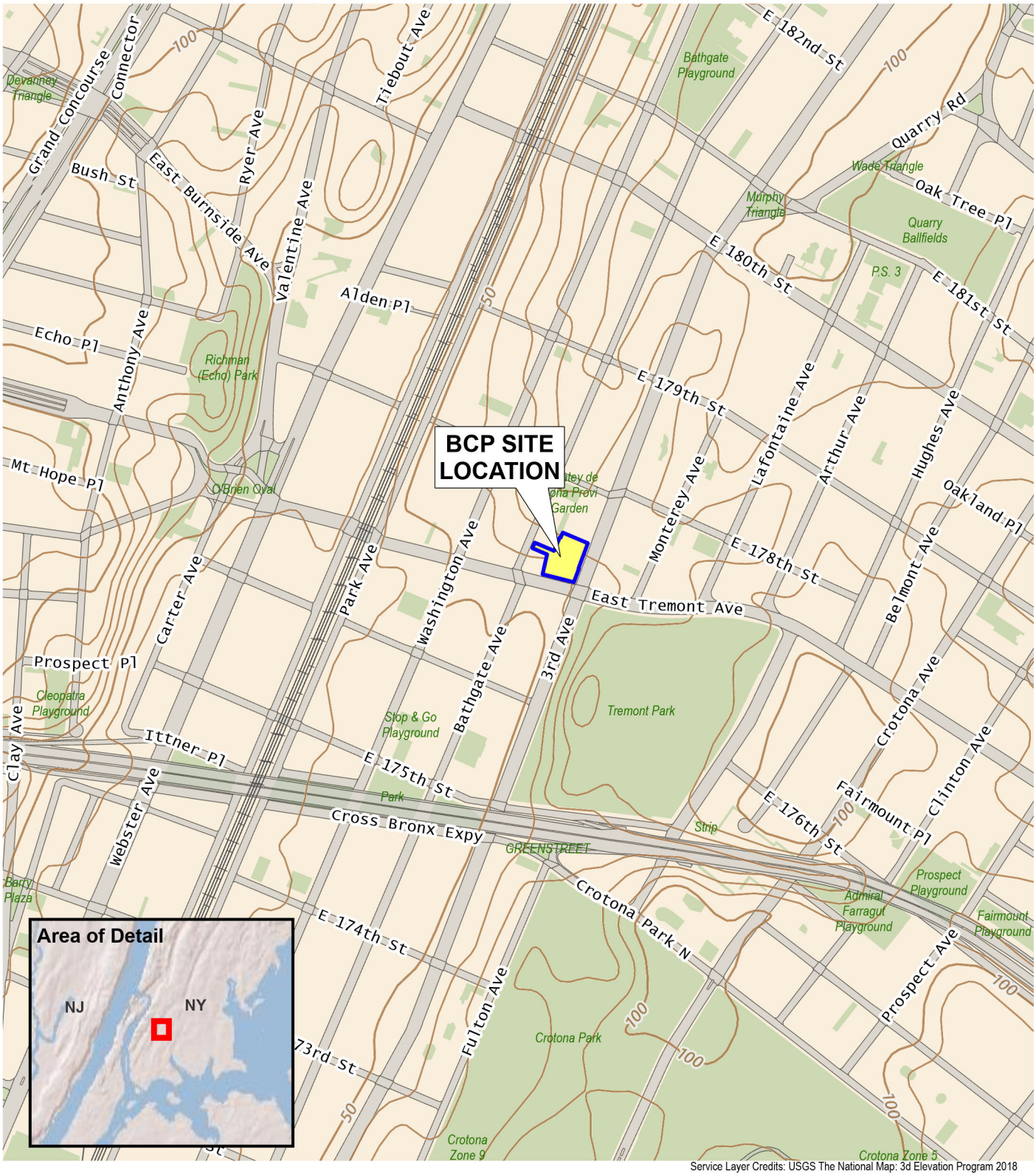
required to implement the recommendations, based upon the actions that need to be taken. An FERand update to the SMP may also be required.

The RSO report will be submitted, in electronic format, to the NYSDEC project manager and the NYSDOH project manager.

8.0 REFERENCES

1. 6 NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.
2. NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation".
3. NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).

FIGURES



akrf

440 Park Avenue South, New York, NY 10016

521 East Tremont Avenue
Bronx, New York

SITE LOCATION

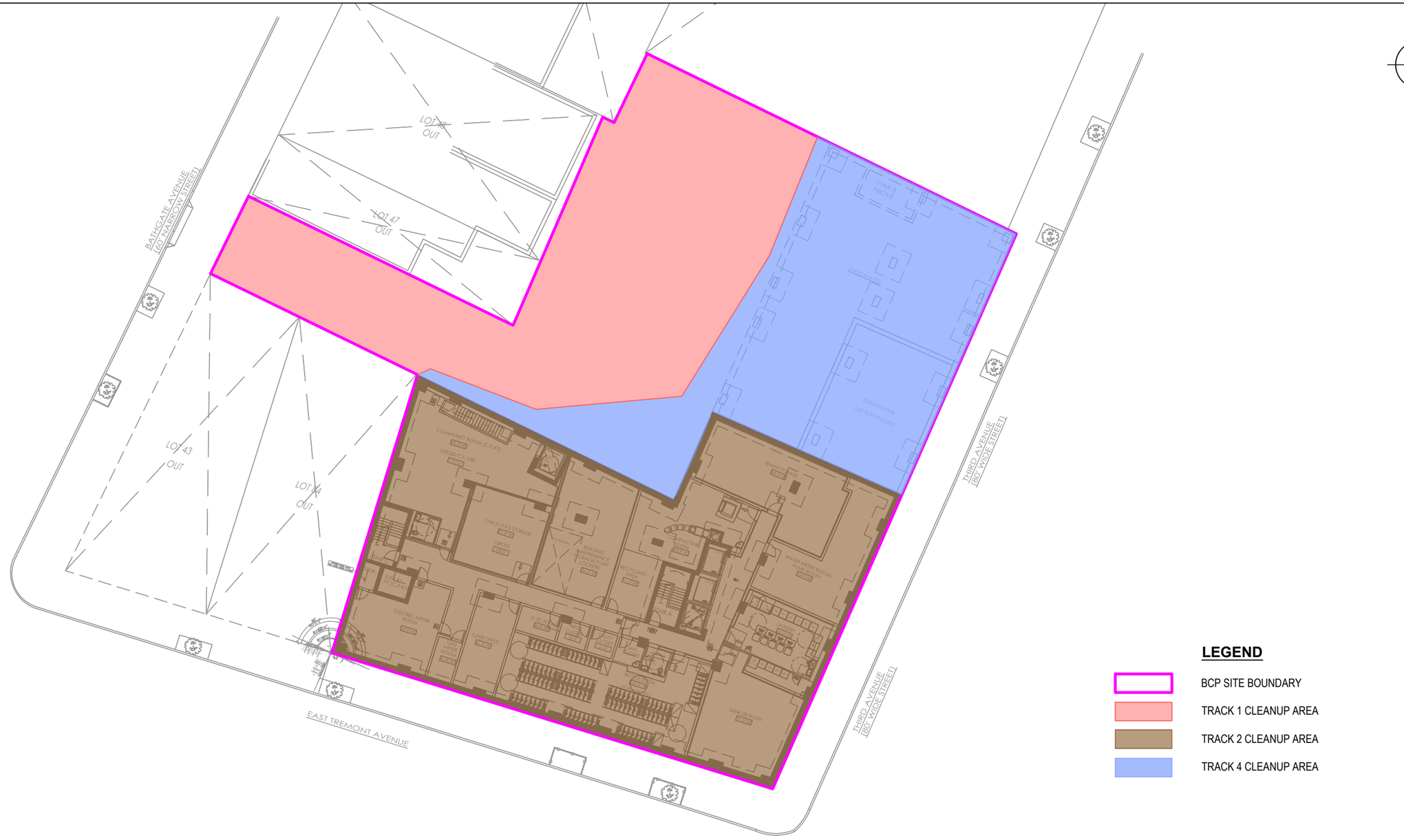
DATE
8/2/2026

PROJECT NO.
190204

FIGURE
1

8/2/2026 9:47 AM mweilleux

©2026 AKRF



LEGEND

- BCP SITE BOUNDARY
- TRACK 1 CLEANUP AREA
- TRACK 2 CLEANUP AREA
- TRACK 4 CLEANUP AREA

0 15 30 60

SCALE IN FEET

Map Source:
SLCE Architects, LLP "CELLAR OVERALL PLAN", Drawing No. A-101.00, 09/08/2023.

akrf
440 Park Avenue South
7th Floor
New York, NY 10016
(212) 696-0670 | www.akrf.com

521 East Tremont Avenue
Bronx, New York

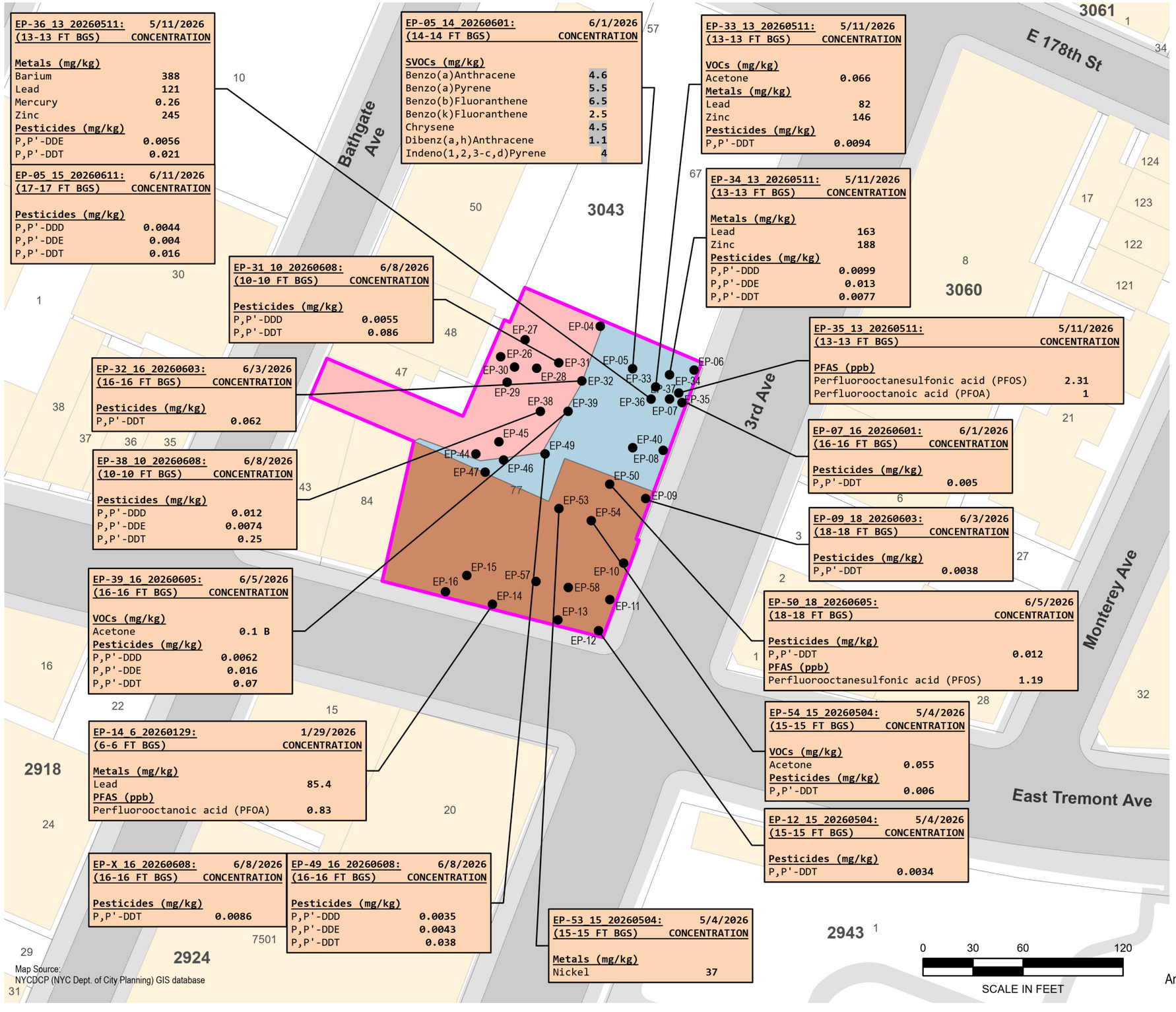
SITE PLAN WITH CLEANUP TRACK BOUNDARIES

DATE
8/2/2026

PROJECT NO.
190204

FIGURE
2

©2026 AKRF, Inc Q:\Projects\190204 - 521 EAST TREMONT AVENUE\Technical\Hazmat\CAD\SMP\190204 Fig 2 Site Plan with Cleanup Track Boundaries.dwg last save: mvellieux 8/2/2026 10:19 AM



LEGEND

- BCP SITE BOUNDARY
- 77 — LOT BOUNDARY AND TAX LOT NUMBER
- 3043 — BLOCK NUMBER
- BUILDING
- ENDPOINT SAMPLE LOCATION
- TRACK 1CLEANUP AREA
- TRACK 2 CLEANUP AREA
- TRACK 4 CLEANUP AREA

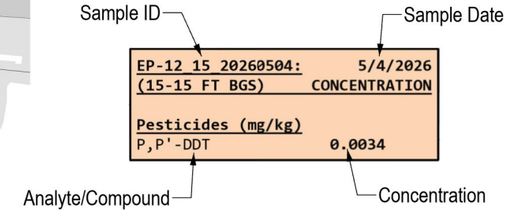
Part 375 Soil Cleanup Objectives (SCOs): SCOs listed in the New York State Department of Environmental Conservation (NYSDEC) "Part 375" Regulations (6 NYCRR Part 375).

Exceedances of NYSDEC Unrestricted Use Soil Cleanup Objectives (UUSCOs) are presented in bold font.

Exceedances of NYSDEC Restricted Residential Soil Cleanup Objectives (RRSCOs) are presented in grey shading.

mg/kg:milligrams per kilogram = parts per million (ppm)
B = Indicates the analyte is detected in the associated blank as well as in the sample.

	NYSDEC PFAS GUIDANCE VALUES Unrestricted (ppb)	PART 375 RESTRICTED RESIDENTIAL OLD (mg/kg)	PART 375 UNRESTRICTED OLD (mg/kg)
VOCs			
Acetone		100	0.05
SVOCs			
Benzo(a)Anthracene		1	1
Benzo(a)Pyrene		1	1
Benzo(b)Fluoranthene		1	1
Benzo(k)Fluoranthene		3.9	0.8
Chrysene		3.9	1
Dibenz(a,h)Anthracene		0.33	0.33
Indeno(1,2,3-c,d)Pyrene		0.5	0.5
Pesticides			
P,P'-DDD		13	0.0033
P,P'-DDE		8.9	0.0033
P,P'-DDT		7.9	0.0033
Metals			
Barium		400	350
Lead		400	63
Mercury		0.81	0.18
Nickel		310	30
Zinc		10,000	109
PFAS			
Perfluorooctanesulfonic acid (PFOS)	0.88		
Perfluorooctanoic acid (PFOA)	0.66		



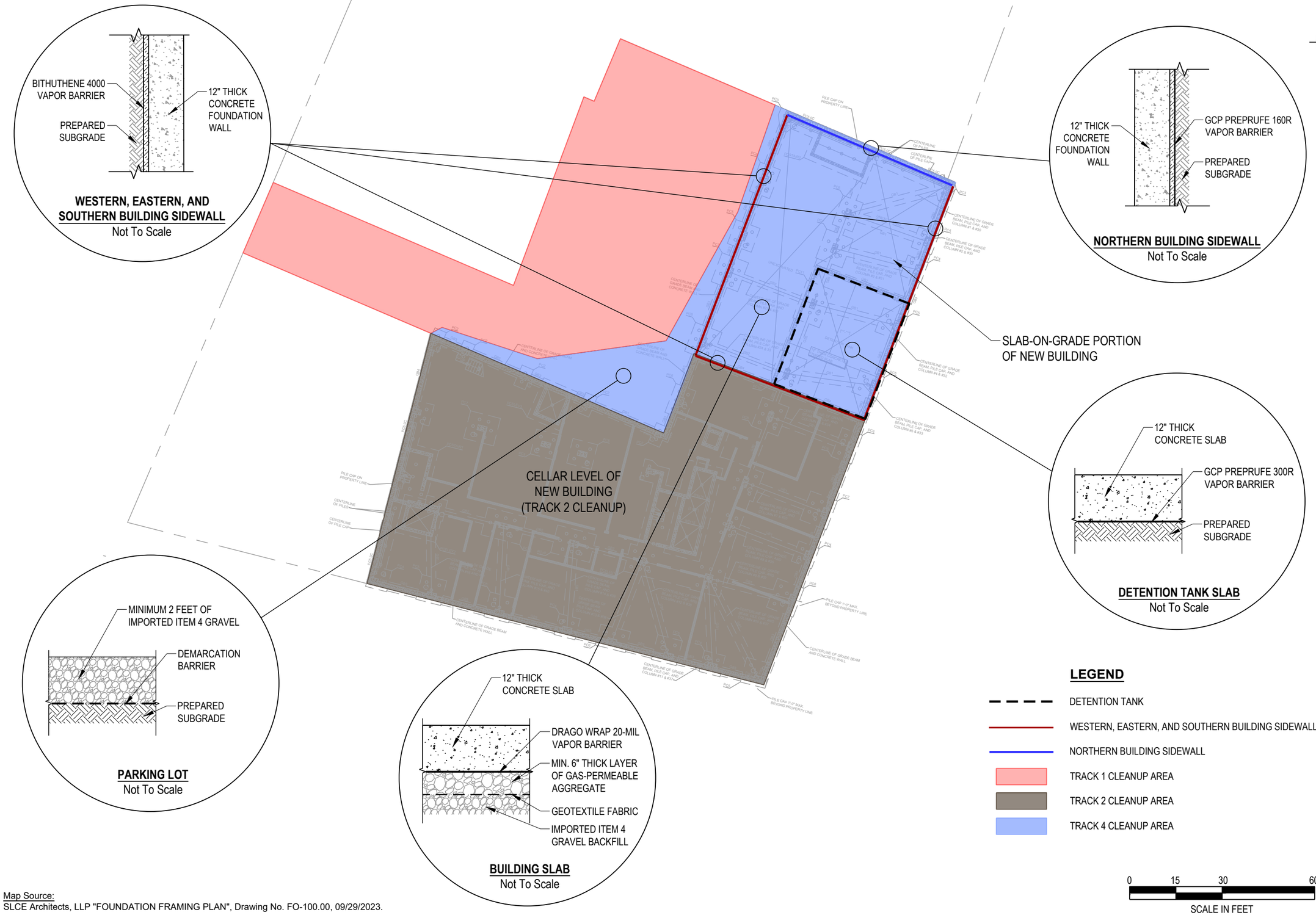
akrf
440 Park Avenue South, New York, NY 10016

521 East Tremont Avenue
Bronx, New York

SOIL ENDPOINT SAMPLES WITH CONCENTRATIONS ABOVE UUSCOS AND RRSCOS AFTER REMEDIAL ACTION

DATE
8/3/2026
PROJECT NO.
190204
FIGURE
4

AKRF O:\Projects\190204 - 521 EAST TREMONT AVENUE\SAR\190204 SMP figures.aprx 8/3/2026 3:21 PM Fig 4 – Soil Endpoint Samples with Concentrations above UUSCOs and RRSCOs after Remedial Action mveilleux



Map Source:
SLCE Architects, LLP "FOUNDATION FRAMING PLAN", Drawing No. FO-100.00, 09/29/2023.

akrf
440 Park Avenue South
7th Floor
New York, NY 10016
(212) 696-0670 | www.akrf.com

521 East Tremont Avenue
Bronx, New York

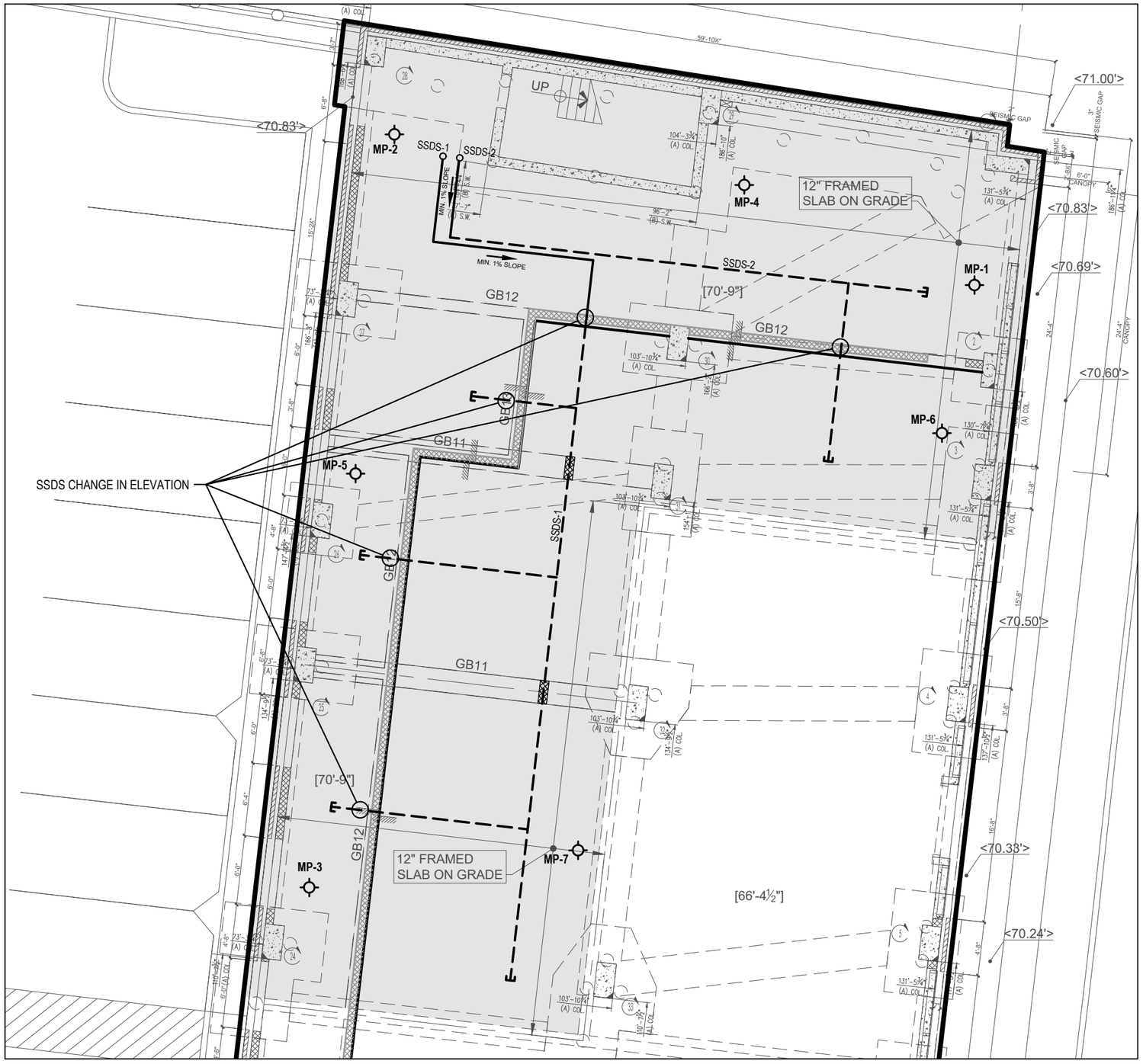
TRACK 4 COVER SYSTEM PLAN

DATE
8/3/2026

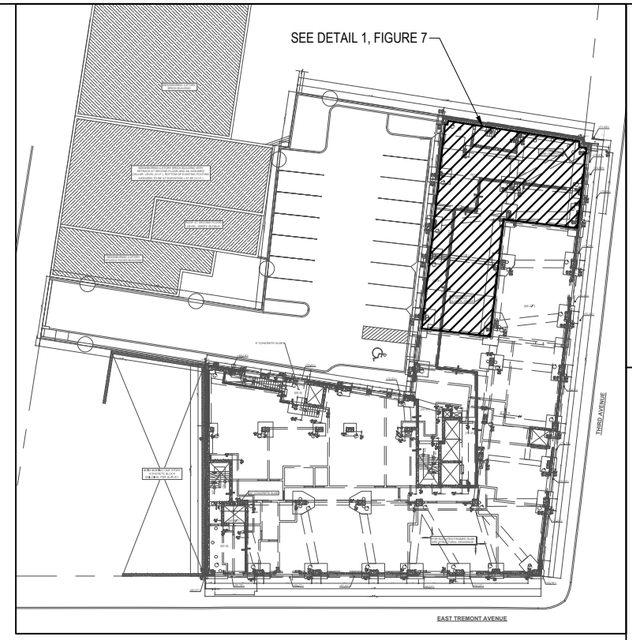
PROJECT NO.
190204

FIGURE
6

©2026 AKRF, Inc Q:\Projects\190204 - 521 EAST TREMONT AVENUE\Technical\Hazmat\CAD\SMP\190204 Fig 6 Track 4 Cover System Plan.dwg last save: mveilleux 8/3/2026 2:03 PM



1 Fig 7 SUBSLAB DEPRESSURIZATION SYSTEM AND VAPOR BARRIER/WATERPROOFING LAYOUT



2 Fig 7 KEY MAP
SCALE: 1" = 60'

LEGEND

- EXTENT OF VAPOR BARRIER
- EXTENT OF GAS PERMEABLE AGGREGATE UNDER SLAB
- PIPE SLEEVE THROUGH GRADE BEAM
- 4" Ø SLOTTED SCHEDULE 40 PVC PIPE WITH PVC END CAP
- 4" Ø SOLID SCHEDULE 40 PVC PIPE
- SSDS-1 — 4" Ø RISER SLAB PENETRATION
- MP-1 — VACUUM MONITORING POINT

VACUUM MONITORING POINT LOCATIONS

ID	BUILDING ROOM NAME
MP-1	FRONT DESK
MP-2	STAIR B VESTIBULE
MP-3	WESTERN CORRIDOR
MP-4	RESIDENTIAL LOBBY
MP-5	WESTERN CORRIDOR
MP-6	RETAIL SPACE
MP-7	RETAIL SPACE

0 2.5 5 10
SCALE IN FEET

akrf
440 Park Avenue South
7th Floor
New York, NY 10016
(212) 696-0670 | www.akrf.com

521 East Tremont Avenue
Bronx, New York

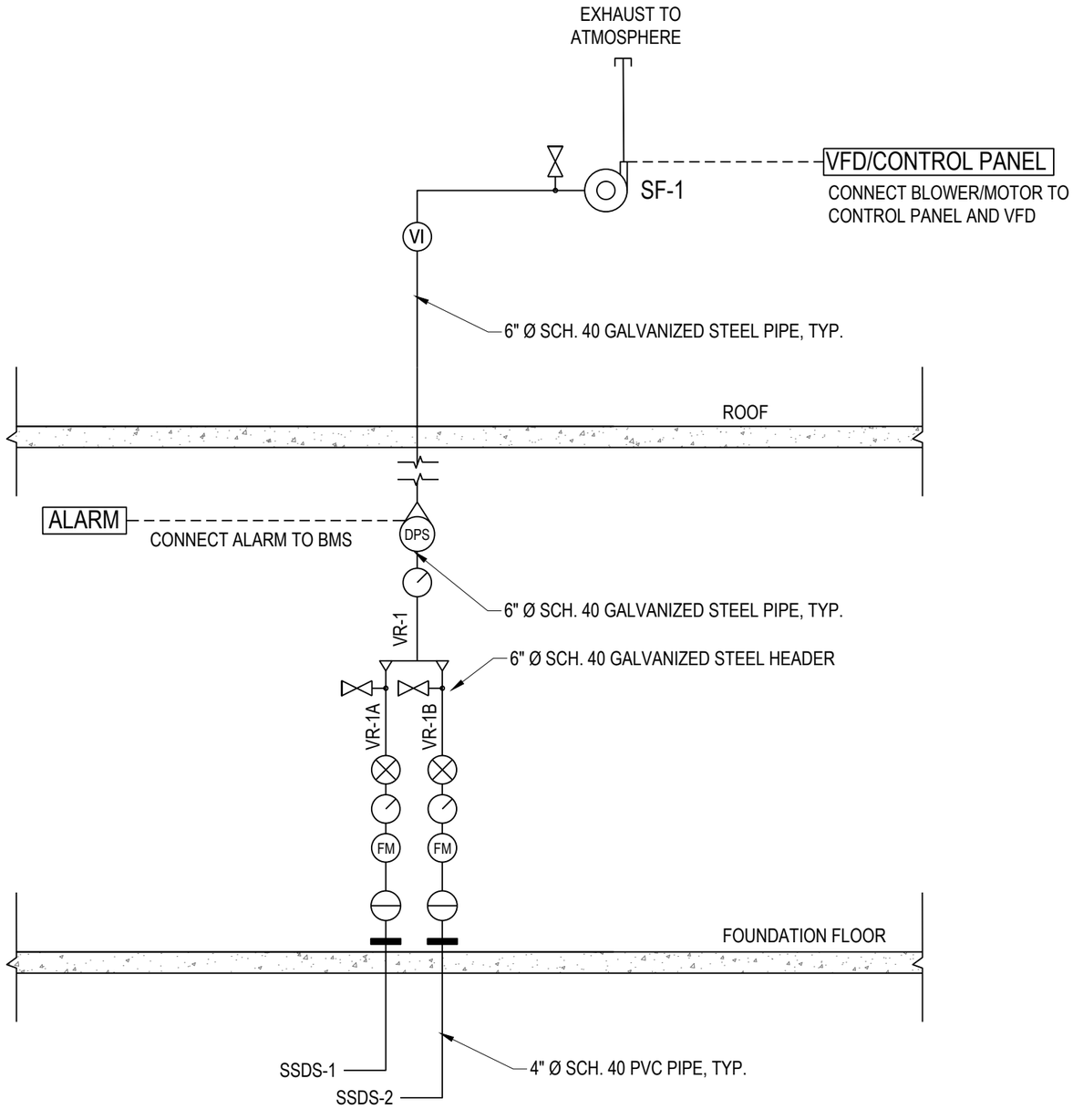
SSDS LAYOUT PLAN

DATE
8/3/2026

PROJECT NO.
190204

FIGURE
7

©2026 AKRF, Inc Q:\Projects\190204 - 521 EAST TREMONT AVENUE\Technical\Hazmat\CAD\SMP\190204 Fig 7 SSDS Layout Plan.dwg last save: mveilleux 8/3/2026 2:14 PM



LEGEND

- PIPE
- ELECTRICAL CONDUIT (COORDINATE WITH OTHER TRADES)
- BLOWER
- DPS — DIFFERENTIAL PRESSURE SWITCH
- REDUCER
- FM — FLOW METER
- RAIN CAP
- BUTTERFLY VALVE
- CLEANOUT
- MAGNEHELIC GAUGE
- SAMPLE PORT
- VI — VACUUM INDICATOR
- HUSKY COUPLING

akrf
440 Park Avenue South
7th Floor
New York, NY 10016
(212) 696-0670 | www.akrf.com

521 East Tremont Avenue
Bronx, New York

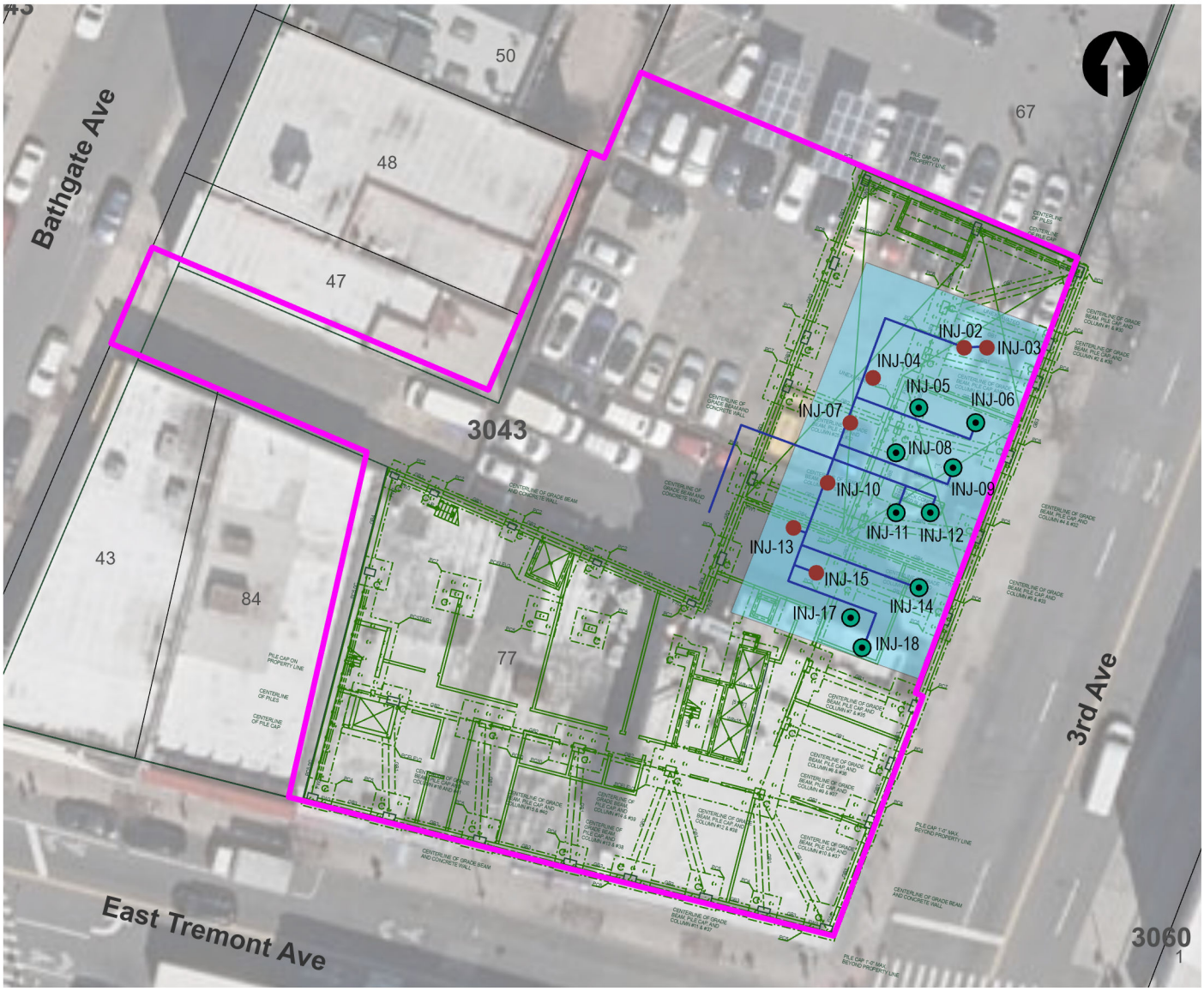
SSDS PROCESS AND INSTRUMENTATION DIAGRAM

DATE
8/2/2026

PROJECT NO.
190204

FIGURE
8

©2026 AKRF, Inc Q:\Projects\190204 - 521 EAST TREMONT AVENUE\Technical\Hazmat\CAD\SMP\190204 Fig 8 SSDS Process and Instrumentation Diagram.dwg last save: mwelleux 8/2/2026 1:03 PM



Map Source:
NYCDCP (NYC Dept. of City Planning) GIS database.
Aerial Source:
2020 New York State ITS GIS Orthoimagery.

LEGEND

- BCP SITE BOUNDARY
- 77 — LOT BOUNDARY AND TAX LOT NUMBER
- 3043 — BLOCK NUMBER
- APPROXIMATE EXTENT OF GROUNDWATER TREATMENT AREA
- SINGLE SCREEN PERMANENT INJECTION WELL POINT
- DOUBLE SCREEN PERMANENT INJECTION WELL POINT
- INJECTION TUBES

0 40 80
SCALE IN FEET

akrf
440 Park Avenue South, New York, NY 10016

521 East Tremont Avenue
Bronx, New York

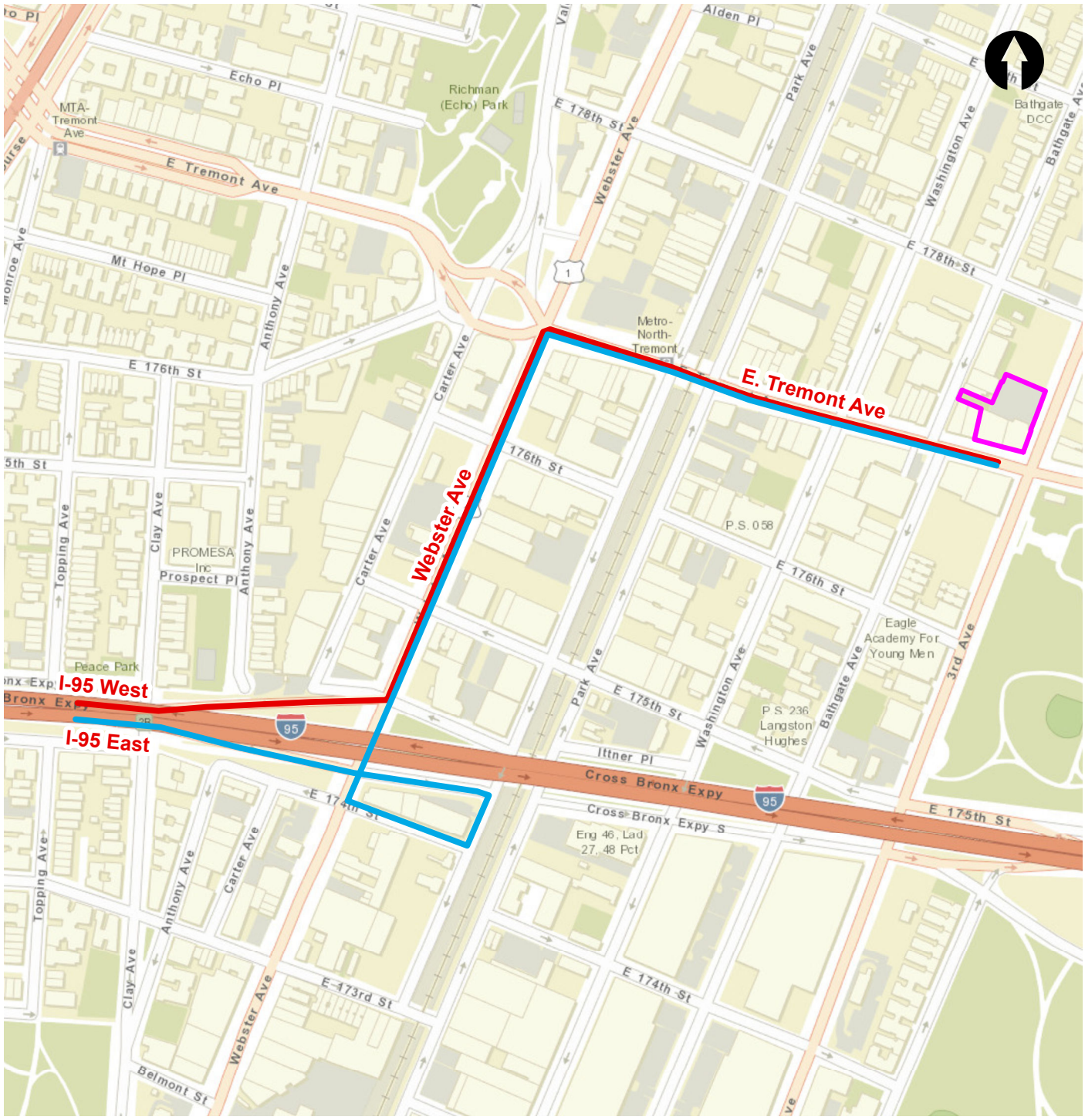
INJECTION SYSTEM LAYOUT

DATE
8/3/2026

PROJECT NO.
190204

FIGURE
9

8/3/2026 3:58 PM mveilleux
©2026 AKRF



Service Layer Credits:
ESRI World Street Map 2023
City of New York Department of Transportation, April, 2019, New York City Truck Routes: New York City

LEGEND

- BCP SITE BOUNDARY
- TRUCK ROUTE TO I95
- TRUCK ROUTE FROM I95

0 400 800

SCALE IN FEET

akrf
440 Park Avenue South, New York, NY 10016

521 East Tremont Avenue
Bronx, New York

TRUCK ROUTE MAP

DATE **7/14/2026**
PROJECT NO. **190204**
FIGURE **10**

©2024 AKRF Q:\Projects\190204 - 521 EAST TREMONT AVENUE\Technical\GIS and Graphics\hazmat\RAWP\190204 Fig 12 Truck Route Map.mxd 2/14/2024 11:30:16 AM mveilleux

TABLES

Table 1A
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Volatile Organic Compounds

			AKRF Sample ID	EP-04_14_20260601		EP-05_14_20260601		EP-06_12_20260601		EP-07_16_20260601		EP-08_16_20260603		EP-09_18_20260603	
			Lab Sample ID	460-352213-2		460-352213-3		460-352213-1		460-352213-4		460-352423-1		460-352423-2	
			Sample Date	6/1/2026		6/1/2026		6/1/2026		6/1/2026		6/3/2026		6/3/2026	
			Dilution Factor	1		1		1		1		1		1	
			Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	**PGWSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
1,1,1-Trichloroethane	0.68	100	0.68	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
1,1,2,2-Tetrachloroethane	NS	NS	NS	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon TF)	NS	NS	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
1,1,2-Trichloroethane	NS	NS	NS	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
1,1-Dichloroethane	0.27	26	0.27	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
1,1-Dichloroethene	0.33	100	0.33	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
1,2,3-Trichlorobenzene	NS	NS	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
1,2,4-Trichlorobenzene	NS	NS	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
1,2,4-Trimethylbenzene	3.6	52	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
1,2-Dibromo-3-Chloropropane	NS	NS	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
1,2-Dibromoethane (Ethylene Dibromide)	NS	NS	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
1,2-Dichlorobenzene	1.1	100	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
1,2-Dichloroethane	0.02	3.1	0.02	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
1,2-Dichloropropane	NS	NS	NS	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	52	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
1,3-Dichlorobenzene	2.4	49	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
1,4-Dichlorobenzene	1.8	13	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
2-Hexanone	NS	NS	N/A	0.0055	U	0.0052	U	0.0047	U	0.0051	U	0.0045	U	0.0055	U
Acetone	**0.05**	100	N/A	0.008		0.0072		0.0058		0.012		0.0076		0.016	
Benzene	0.06	4.8	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Bromochloromethane	NS	NS	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Bromodichloromethane	NS	NS	NS	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Bromoform	NS	NS	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Bromomethane	NS	NS	N/A	0.0022	U	0.0021	U	0.0019	U	0.002	U	0.0018	U	0.0022	U
Carbon Disulfide	NS	NS	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Carbon Tetrachloride	0.76	2.4	0.76	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Chlorobenzene	1.1	100	1.1	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Chloroethane	NS	NS	NS	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Chloroform	0.37	49	0.37	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Chloromethane	NS	NS	NS	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Cis-1,2-Dichloroethylene	0.25	100	0.25	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Cis-1,3-Dichloropropene	NS	NS	NS	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Cyclohexane	NS	NS	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Dibromochloromethane	NS	NS	NS	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Dichlorodifluoromethane	NS	NS	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Ethylbenzene	1	41	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Isopropylbenzene (Cumene)	NS	NS	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
M,P-Xylenes	NS	NS	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Methyl Acetate	NS	NS	N/A	0.0055	U	0.0052	U	0.0047	U	0.0051	U	0.0045	U	0.0055	U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	N/A	0.0055	U	0.0052	U	0.0047	U	0.0051	U	0.0045	U	0.0055	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	NS	N/A	0.0055	U	0.0052	U	0.0047	U	0.0051	U	0.0045	U	0.0055	U
Methylcyclohexane	NS	NS	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Methylene Chloride	0.05	100	0.05	0.0022	U	0.0021	U	0.0019	U	0.002	U	0.0018	U	0.0022	U
N-Butylbenzene	12	100	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
N-Propylbenzene	3.9	100	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
O-Xylene (1,2-Dimethylbenzene)	NS	NS	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Sec-Butylbenzene	11	100	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Styrene	NS	NS	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
T-Butylbenzene	5.9	100	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Tert-Butyl Methyl Ether	0.93	100	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Tetrachloroethylene (PCE)	1.3	19	1.3	0.0011	U	0.001	U	0.00093	U	0.0033		0.00037	J	0.00067	J
Toluene	0.7	100	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Trans-1,2-Dichloroethene	0.19	100	0.19	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Trans-1,3-Dichloropropene	NS	NS	NS	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Trichloroethylene (TCE)	0.47	21	0.47	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Trichlorofluoromethane	NS	NS	N/A	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Vinyl Chloride	0.02	0.9	0.02	0.0011	U	0.001	U	0.00093	U	0.001	U	0.0009	U	0.0011	U
Xylenes, Total	0.26	100	N/A	0.0022	U	0.0021	U	0.0019	U	0.002	U	0.0018	U	0.0022	U

Table 1A
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Volatile Organic Compounds

			AKRF Sample ID	EP-10_15_20260504		EP-11_15_20260504		EP-12_15_20260504		EP-13_15_20260504		EP-X_15_20260504		EP-14_6_20260129	
			Lab Sample ID	460-350261-5		460-350261-6		460-350261-7		460-350261-8		460-350261-9		460-344050-1	
			Sample Date	5/4/2026		5/4/2026		5/4/2026		5/4/2026		5/4/2026		1/29/2026	
			Dilution Factor	1		1		1		1		1		1	
			Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	**PGWSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
1,1,1-Trichloroethane	0.68	100	0.68	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
1,1,2,2-Tetrachloroethane	NS	NS	NS	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon TF)	NS	NS	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
1,1,2-Trichloroethane	NS	NS	NS	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
1,1-Dichloroethane	0.27	26	0.27	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
1,1-Dichloroethene	0.33	100	0.33	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
1,2,3-Trichlorobenzene	NS	NS	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
1,2,4-Trichlorobenzene	NS	NS	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
1,2,4-Trimethylbenzene	3.6	52	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0003	BJ
1,2-Dibromo-3-Chloropropane	NS	NS	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
1,2-Dibromoethane (Ethylene Dibromide)	NS	NS	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
1,2-Dichlorobenzene	1.1	100	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
1,2-Dichloroethane	0.02	3.1	0.02	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
1,2-Dichloropropane	NS	NS	NS	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	52	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
1,3-Dichlorobenzene	2.4	49	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
1,4-Dichlorobenzene	1.8	13	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
2-Hexanone	NS	NS	N/A	0.0048	U	0.0052	U	0.0057	U	0.0059	U	0.005	U	0.0059	U
Acetone	**0.05**	100	N/A	0.0057	U	0.0063	U	0.013		0.0071	U	0.006	U	0.015	
Benzene	0.06	4.8	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Bromochloromethane	NS	NS	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Bromodichloromethane	NS	NS	NS	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Bromoform	NS	NS	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Bromomethane	NS	NS	N/A	0.0019	U	0.0021	U	0.0023	U	0.0024	U	0.002	U	0.0023	U
Carbon Disulfide	NS	NS	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Carbon Tetrachloride	0.76	2.4	0.76	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Chlorobenzene	1.1	100	1.1	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Chloroethane	NS	NS	NS	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Chloroform	0.37	49	0.37	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Chloromethane	NS	NS	NS	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	UT
Cis-1,2-Dichloroethylene	0.25	100	0.25	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Cis-1,3-Dichloropropene	NS	NS	NS	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Cyclohexane	NS	NS	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Dibromochloromethane	NS	NS	NS	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Dichlorodifluoromethane	NS	NS	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Ethylbenzene	1	41	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Isopropylbenzene (Cumene)	NS	NS	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
M,P-Xylenes	NS	NS	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Methyl Acetate	NS	NS	N/A	0.0048	U	0.0052	U	0.0057	U	0.0059	U	0.005	U	0.0059	U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	N/A	0.0048	U	0.0052	U	0.0057	U	0.0059	U	0.005	U	0.0059	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	NS	N/A	0.0048	U	0.0052	U	0.0057	U	0.0059	U	0.005	U	0.0059	U
Methylcyclohexane	NS	NS	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Methylene Chloride	0.05	100	0.05	0.0019	U	0.0021	U	0.0023	U	0.0024	U	0.002	U	0.0023	U
N-Butylbenzene	12	100	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
N-Propylbenzene	3.9	100	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
O-Xylene (1,2-Dimethylbenzene)	NS	NS	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Sec-Butylbenzene	11	100	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Styrene	NS	NS	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
T-Butylbenzene	5.9	100	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Tert-Butyl Methyl Ether	0.93	100	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Tetrachloroethylene (PCE)	1.3	19	1.3	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Toluene	0.7	100	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.00028	J
Trans-1,2-Dichloroethene	0.19	100	0.19	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Trans-1,3-Dichloropropene	NS	NS	NS	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Trichloroethylene (TCE)	0.47	21	0.47	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Trichlorofluoromethane	NS	NS	N/A	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Vinyl Chloride	0.02	0.9	0.02	0.00095	U	0.001	U	0.0011	U	0.0012	U	0.001	U	0.0012	U
Xylenes, Total	0.26	100	N/A	0.0019	U	0.0021	U	0.0023	U	0.0024	U	0.002	U	0.00024	J

Table 1A
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Volatile Organic Compounds

			AKRF Sample ID	EP-15_6_20260129	EP-16_6_20260129	EP-X_6_20260129	EP-17_6_20260129	EP-26_2_20260202	EP-27_2_20260202
			Lab Sample ID	460-344050-2	460-344050-3	460-344050-4	460-344050-5	460-344162-1	460-344162-2
			Sample Date	1/29/2026	1/29/2026	1/29/2026	1/29/2026	2/2/2026	2/2/2026
			Dilution Factor	1	1	1	1	1	1
			Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Compound	**UUSCO**	**RRSCO**	**PGWSCO**	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
1,1,1-Trichloroethane	0.68	100	0.68	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
1,1,2,2-Tetrachloroethane	NS	NS	NS	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon TF)	NS	NS	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
1,1,2-Trichloroethane	NS	NS	NS	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
1,1-Dichloroethane	0.27	26	0.27	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
1,1-Dichloroethene	0.33	100	0.33	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
1,2,3-Trichlorobenzene	NS	NS	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
1,2,4-Trichlorobenzene	NS	NS	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
1,2,4-Trimethylbenzene	3.6	52	N/A	0.00044 BJ	0.0005 BJ	0.00052 BJ	0.0013 U	0.0015 U	0.0014 U
1,2-Dibromo-3-Chloropropane	NS	NS	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
1,2-Dibromoethane (Ethylene Dibromide)	NS	NS	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
1,2-Dichlorobenzene	1.1	100	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
1,2-Dichloroethane	0.02	3.1	0.02	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
1,2-Dichloropropane	NS	NS	NS	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	52	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
1,3-Dichlorobenzene	2.4	49	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
1,4-Dichlorobenzene	1.8	13	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
2-Hexanone	NS	NS	N/A	0.0077 U	0.0076 U	0.0077 U	0.0063 U	0.0073 U	0.0072 U
Acetone	**0.05**	100	N/A	**0.066**	0.033	0.046	0.011	0.0088 U	0.0087 U
Benzene	0.06	4.8	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Bromochloromethane	NS	NS	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Bromodichloromethane	NS	NS	NS	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Bromoform	NS	NS	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Bromomethane	NS	NS	N/A	0.0031 U	0.003 U	0.0031 U	0.0025 U	0.0029 UT	0.0029 UT
Carbon Disulfide	NS	NS	N/A	0.0015 U	0.00074 J	0.00094 J	0.0013 U	0.0015 U	0.0014 U
Carbon Tetrachloride	0.76	2.4	0.76	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Chlorobenzene	1.1	100	1.1	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Chloroethane	NS	NS	NS	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Chloroform	0.37	49	0.37	0.0016	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Chloromethane	NS	NS	NS	0.0015 UT	0.0015 UT	0.0015 UT	0.0013 UT	0.0015 UT	0.0014 UT
Cis-1,2-Dichloroethylene	0.25	100	0.25	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Cis-1,3-Dichloropropene	NS	NS	NS	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Cyclohexane	NS	NS	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Dibromochloromethane	NS	NS	NS	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Dichlorodifluoromethane	NS	NS	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Ethylbenzene	1	41	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Isopropylbenzene (Cumene)	NS	NS	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
M,P-Xylenes	NS	NS	N/A	0.00074 J	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Methyl Acetate	NS	NS	N/A	0.0077 U	0.0076 U	0.0077 U	0.0063 U	0.0073 U	0.0072 U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	N/A	0.0048 J	0.0044 J	0.0064 J	0.0063 U	0.0073 U	0.0072 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	NS	N/A	0.0077 U	0.0076 U	0.0077 U	0.0063 U	0.0073 U	0.0072 U
Methylcyclohexane	NS	NS	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Methylene Chloride	0.05	100	0.05	0.0031 U	0.003 U	0.0031 U	0.0025 U	0.0029 U	0.0029 U
N-Butylbenzene	12	100	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
N-Propylbenzene	3.9	100	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
O-Xylene (1,2-Dimethylbenzene)	NS	NS	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Sec-Butylbenzene	11	100	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Styrene	NS	NS	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
T-Butylbenzene	5.9	100	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Tert-Butyl Methyl Ether	0.93	100	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Tetrachloroethylene (PCE)	1.3	19	1.3	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0011 J
Toluene	0.7	100	N/A	0.0004 J	0.00038 J	0.0015 U	0.00042 J	0.0015 U	0.0014 U
Trans-1,2-Dichloroethene	0.19	100	0.19	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Trans-1,3-Dichloropropene	NS	NS	NS	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Trichloroethylene (TCE)	0.47	21	0.47	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Trichlorofluoromethane	NS	NS	N/A	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 U	0.0014 U
Vinyl Chloride	0.02	0.9	0.02	0.0015 U	0.0015 U	0.0015 U	0.0013 U	0.0015 UT	0.0014 UT
Xylenes, Total	0.26	100	N/A	0.0014 J	0.003 U	0.00028 J	0.0025 U	0.0029 U	0.0029 U

Table 1A
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Volatile Organic Compounds

			AKRF Sample ID	EP-28_3_20260202	EP-29_3_20260202	EP-30_4_20260202	EP-31_10_20260608	EP-32_16_20260603	EP-33_13_20260511
			Lab Sample ID	460-344162-3	460-344162-4	460-344162-5	460-352783-1	460-352423-3	460-350805-3
			Sample Date	2/2/2026	2/2/2026	2/2/2026	6/8/2026	6/3/2026	5/11/2026
			Dilution Factor	1	1	1	1	1	1
			Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Compound	**UUSCO**	**RRSCO**	**PGWSCO**	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
1,1,1-Trichloroethane	0.68	100	0.68	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 UT
1,1,2,2-Tetrachloroethane	NS	NS	NS	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon TF)	NS	NS	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
1,1,2-Trichloroethane	NS	NS	NS	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
1,1-Dichloroethane	0.27	26	0.27	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
1,1-Dichloroethene	0.33	100	0.33	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
1,2,3-Trichlorobenzene	NS	NS	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
1,2,4-Trichlorobenzene	NS	NS	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
1,2,4-Trimethylbenzene	3.6	52	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
1,2-Dibromo-3-Chloropropane	NS	NS	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
1,2-Dibromoethane (Ethylene Dibromide)	NS	NS	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 UT
1,2-Dichlorobenzene	1.1	100	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
1,2-Dichloroethane	0.02	3.1	0.02	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
1,2-Dichloropropane	NS	NS	NS	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	52	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
1,3-Dichlorobenzene	2.4	49	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
1,4-Dichlorobenzene	1.8	13	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
2-Hexanone	NS	NS	N/A	0.0074 U	0.0074 U	0.0069 U	0.0058 U	0.0067 U	0.0058 U
Acetone	**0.05**	100	N/A	0.0089 U	0.0089 U	0.0083 U	0.0069 U	0.012	**0.066**
Benzene	0.06	4.8	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Bromochloromethane	NS	NS	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Bromodichloromethane	NS	NS	NS	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 UT
Bromoform	NS	NS	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 UT
Bromomethane	NS	NS	N/A	0.003 UT	0.003 UT	0.0028 UT	0.0023 U	0.0027 U	0.0023 U
Carbon Disulfide	NS	NS	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.00091 J
Carbon Tetrachloride	0.76	2.4	0.76	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 UT
Chlorobenzene	1.1	100	1.1	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Chloroethane	NS	NS	NS	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 UT
Chloroform	0.37	49	0.37	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Chloromethane	NS	NS	NS	0.0015 UT	0.0015 UT	0.0014 UT	0.0012 U	0.0013 U	0.0012 U
Cis-1,2-Dichloroethylene	0.25	100	0.25	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Cis-1,3-Dichloropropene	NS	NS	NS	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Cyclohexane	NS	NS	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Dibromochloromethane	NS	NS	NS	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 UT
Dichlorodifluoromethane	NS	NS	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Ethylbenzene	1	41	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Isopropylbenzene (Cumene)	NS	NS	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 UT
M,P-Xylenes	NS	NS	N/A	0.0013 J	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Methyl Acetate	NS	NS	N/A	0.0074 U	0.0074 U	0.0069 U	0.0058 U	0.0067 U	0.0058 UT
Methyl Ethyl Ketone (2-Butanone)	0.12	100	N/A	0.0074 U	0.0074 U	0.0069 U	0.0058 U	0.0067 U	0.0058 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	NS	N/A	0.0074 U	0.0074 U	0.0069 U	0.0058 U	0.0067 U	0.0058 U
Methylcyclohexane	NS	NS	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Methylene Chloride	0.05	100	0.05	0.003 U	0.003 U	0.0028 U	0.0023 U	0.0027 U	0.0023 U
N-Butylbenzene	12	100	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
N-Propylbenzene	3.9	100	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
O-Xylene (1,2-Dimethylbenzene)	NS	NS	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Sec-Butylbenzene	11	100	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Styrene	NS	NS	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 UT
T-Butylbenzene	5.9	100	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Tert-Butyl Methyl Ether	0.93	100	N/A	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Tetrachloroethylene (PCE)	1.3	19	1.3	0.00079 J	0.0005 J	0.0014 U	0.0028	0.0021	0.0012 U
Toluene	0.7	100	N/A	0.00041 J	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Trans-1,2-Dichloroethene	0.19	100	0.19	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Trans-1,3-Dichloropropene	NS	NS	NS	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Trichloroethylene (TCE)	0.47	21	0.47	0.0015 U	0.0015 U	0.0014 U	0.0012 U	0.0013 U	0.0012 U
Trichlorofluoromethane	NS	NS	N/A	0.00063 J	0.00068 J	0.00058 J	0.0012 U	0.0013 U	0.0012 UT
Vinyl Chloride	0.02	0.9	0.02	0.0015 UT	0.0015 UT	0.0014 UT	0.0012 U	0.0013 U	0.0012 U
Xylenes, Total	0.26	100	N/A	0.0018 J	0.003 U	0.0028 U	0.0023 U	0.0027 U	0.0023 U

Table 1A
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Volatile Organic Compounds

			AKRF Sample ID	EP-34_13_20260511		EP-35_13_20260511		EP-36_13_20260511		EP-37_13_20260511		EP-38_10_20260608		EP-39_16_20260605	
			Lab Sample ID	460-350805-4		460-350805-5		460-350805-6		460-350805-7		460-352783-2		460-352643-1	
			Sample Date	5/11/2026		5/11/2026		5/11/2026		5/11/2026		6/8/2026		6/5/2026	
			Dilution Factor	1		1		1		1		1		1	
			Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	**PGWSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
1,1,1-Trichloroethane	0.68	100	0.68	0.00098	UT	0.0012	U	0.0012	U	0.00093	UT	0.0012	U	0.00093	U
1,1,2,2-Tetrachloroethane	NS	NS	NS	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon TF)	NS	NS	N/A	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
1,1,2-Trichloroethane	NS	NS	NS	0.00098	U	0.0012	UT	0.0012	UT	0.00093	U	0.0012	U	0.00093	U
1,1-Dichloroethane	0.27	26	0.27	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
1,1-Dichloroethene	0.33	100	0.33	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
1,2,3-Trichlorobenzene	NS	NS	N/A	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
1,2,4-Trichlorobenzene	NS	NS	N/A	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
1,2,4-Trimethylbenzene	3.6	52	N/A	0.0022		0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
1,2-Dibromo-3-Chloropropane	NS	NS	N/A	0.00098	U	0.0012	UT	0.0012	UT	0.00093	U	0.0012	U	0.00093	U
1,2-Dibromoethane (Ethylene Dibromide)	NS	NS	N/A	0.00098	UT	0.0012	UT	0.0012	UT	0.00093	UT	0.0012	U	0.00093	U
1,2-Dichlorobenzene	1.1	100	N/A	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
1,2-Dichloroethane	0.02	3.1	0.02	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
1,2-Dichloropropane	NS	NS	NS	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	52	N/A	0.00092	J	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
1,3-Dichlorobenzene	2.4	49	N/A	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
1,4-Dichlorobenzene	1.8	13	N/A	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
2-Hexanone	NS	NS	N/A	0.0049	U	0.006	U	0.0059	U	0.0046	U	0.0062	U	0.0047	U
Acetone	**0.05**	100	N/A	0.034		0.0072	U	0.032		0.018		0.0074	U	**0.1**	**B**
Benzene	0.06	4.8	N/A	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Bromochloromethane	NS	NS	N/A	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Bromodichloromethane	NS	NS	NS	0.00098	UT	0.0012	U	0.0012	U	0.00093	UT	0.0012	U	0.00093	U
Bromoform	NS	NS	N/A	0.00098	UT	0.0012	UT	0.0012	UT	0.00093	UT	0.0012	U	0.00093	U
Bromomethane	NS	NS	N/A	0.002	U	0.0024	U	0.0024	U	0.0019	U	0.0025	U	0.0019	U
Carbon Disulfide	NS	NS	N/A	0.0017		0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Carbon Tetrachloride	0.76	2.4	0.76	0.00098	UT	0.0012	U	0.0012	U	0.00093	UT	0.0012	U	0.00093	U
Chlorobenzene	1.1	100	1.1	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Chloroethane	NS	NS	NS	0.00098	UT	0.0012	U	0.0012	U	0.00093	UT	0.0012	U	0.00093	U
Chloroform	0.37	49	0.37	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Chloromethane	NS	NS	NS	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Cis-1,2-Dichloroethylene	0.25	100	0.25	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Cis-1,3-Dichloropropene	NS	NS	NS	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Cyclohexane	NS	NS	N/A	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Dibromochloromethane	NS	NS	NS	0.00098	UT	0.0012	UT	0.0012	UT	0.00093	UT	0.0012	U	0.00093	U
Dichlorodifluoromethane	NS	NS	N/A	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Ethylbenzene	1	41	N/A	0.00055	J	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Isopropylbenzene (Cumene)	NS	NS	N/A	0.00098	UT	0.0012	U	0.0012	U	0.00093	UT	0.0012	U	0.00093	U
M,P-Xylenes	NS	NS	N/A	0.0024		0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Methyl Acetate	NS	NS	N/A	0.0049	UT	0.006	U	0.0059	U	0.0046	UT	0.0062	U	0.0047	U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	N/A	0.0049	U	0.006	U	0.0059	U	0.0046	U	0.0062	U	0.0013	J
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	NS	N/A	0.0049	U	0.006	UT	0.0059	UT	0.0046	U	0.0062	U	0.0047	U
Methylcyclohexane	NS	NS	N/A	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Methylene Chloride	0.05	100	0.05	0.002	U	0.0024	U	0.0024	U	0.0019	U	0.0025	U	0.0019	U
N-Butylbenzene	12	100	N/A	0.00038	J	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
N-Propylbenzene	3.9	100	N/A	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
O-Xylene (1,2-Dimethylbenzene)	NS	NS	N/A	0.0013		0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Sec-Butylbenzene	11	100	N/A	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Styrene	NS	NS	N/A	0.00098	UT	0.0012	UT	0.0012	UT	0.00093	UT	0.0012	U	0.00093	U
T-Butylbenzene	5.9	100	N/A	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Tert-Butyl Methyl Ether	0.93	100	N/A	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Tetrachloroethylene (PCE)	1.3	19	1.3	0.011		0.0017		0.073		0.00097		0.003		0.071	
Toluene	0.7	100	N/A	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Trans-1,2-Dichloroethene	0.19	100	0.19	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Trans-1,3-Dichloropropene	NS	NS	NS	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Trichloroethylene (TCE)	0.47	21	0.47	0.00098	U	0.0012	U	0.00057	J	0.00093	U	0.0012	U	0.00093	U
Trichlorofluoromethane	NS	NS	N/A	0.00098	UT	0.0012	U	0.0012	U	0.00093	UT	0.0012	U	0.00093	U
Vinyl Chloride	0.02	0.9	0.02	0.00098	U	0.0012	U	0.0012	U	0.00093	U	0.0012	U	0.00093	U
Xylenes, Total	0.26	100	N/A	0.0036		0.0024	U	0.0024	U	0.0019	U	0.0025	U	0.0019	U

Table 1A
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Volatile Organic Compounds

			AKRF Sample ID	EP-40_16_20260605		EP-44_4_20260204		EP-45_4_20260204		EP-46_4_20260204		EP-47_4_20260204		EP-49_16_20260608	
			Lab Sample ID	460-352643-2		460-344323-1		460-344323-2		460-344323-3		460-344323-4		460-352783-3	
			Sample Date	6/5/2026		2/4/2026		2/4/2026		2/4/2026		2/4/2026		6/8/2026	
			Dilution Factor	1		1		1		1		1		1	
			Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	**PGWSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
1,1,1-Trichloroethane	0.68	100	0.68	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
1,1,2,2-Tetrachloroethane	NS	NS	NS	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon TF)	NS	NS	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
1,1,2-Trichloroethane	NS	NS	NS	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
1,1-Dichloroethane	0.27	26	0.27	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
1,1-Dichloroethene	0.33	100	0.33	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
1,2,3-Trichlorobenzene	NS	NS	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
1,2,4-Trichlorobenzene	NS	NS	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
1,2,4-Trimethylbenzene	3.6	52	N/A	0.001	U	0.0021	U	0.00064	J	0.0015	U	0.0016	U	0.001	U
1,2-Dibromo-3-Chloropropane	NS	NS	N/A	0.001	U	0.0021	UT	0.0013	UT	0.0015	UT	0.0016	UT	0.001	U
1,2-Dibromoethane (Ethylene Dibromide)	NS	NS	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
1,2-Dichlorobenzene	1.1	100	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
1,2-Dichloroethane	0.02	3.1	0.02	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
1,2-Dichloropropane	NS	NS	NS	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	52	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
1,3-Dichlorobenzene	2.4	49	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
1,4-Dichlorobenzene	1.8	13	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
2-Hexanone	NS	NS	N/A	0.0051	U	0.01	U	0.0063	U	0.0074	U	0.0081	U	0.005	U
Acetone	**0.05**	100	N/A	0.014	B	0.013	U	0.0075	U	0.0089	U	0.016		0.006	U
Benzene	0.06	4.8	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Bromochloromethane	NS	NS	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Bromodichloromethane	NS	NS	NS	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Bromoform	NS	NS	N/A	0.001	U	0.0021	UT	0.0013	UT	0.0015	UT	0.0016	UT	0.001	U
Bromomethane	NS	NS	N/A	0.002	U	0.0042	U	0.0025	U	0.003	U	0.0032	U	0.002	U
Carbon Disulfide	NS	NS	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Carbon Tetrachloride	0.76	2.4	0.76	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Chlorobenzene	1.1	100	1.1	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Chloroethane	NS	NS	NS	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Chloroform	0.37	49	0.37	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Chloromethane	NS	NS	NS	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Cis-1,2-Dichloroethylene	0.25	100	0.25	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Cis-1,3-Dichloropropene	NS	NS	NS	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Cyclohexane	NS	NS	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Dibromochloromethane	NS	NS	NS	0.001	U	0.0021	UT	0.0013	UT	0.0015	UT	0.0016	UT	0.001	U
Dichlorodifluoromethane	NS	NS	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Ethylbenzene	1	41	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Isopropylbenzene (Cumene)	NS	NS	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
M,P-Xylenes	NS	NS	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Methyl Acetate	NS	NS	N/A	0.0051	U	0.01	U	0.0063	U	0.0074	U	0.0081	U	0.005	U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	N/A	0.0051	U	0.01	U	0.0063	U	0.0074	U	0.0081	U	0.005	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	NS	N/A	0.0051	U	0.01	U	0.0063	U	0.0074	U	0.0081	U	0.005	U
Methylcyclohexane	NS	NS	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Methylene Chloride	0.05	100	0.05	0.002	U	0.0042	U	0.0025	U	0.003	U	0.0032	U	0.002	U
N-Butylbenzene	12	100	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
N-Propylbenzene	3.9	100	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
O-Xylene (1,2-Dimethylbenzene)	NS	NS	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Sec-Butylbenzene	11	100	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Styrene	NS	NS	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
T-Butylbenzene	5.9	100	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Tert-Butyl Methyl Ether	0.93	100	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Tetrachloroethylene (PCE)	1.3	19	1.3	0.0018		0.0021	U	0.0013	U	0.00093	J	0.0016	U	0.0033	
Toluene	0.7	100	N/A	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Trans-1,2-Dichloroethene	0.19	100	0.19	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Trans-1,3-Dichloropropene	NS	NS	NS	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Trichloroethylene (TCE)	0.47	21	0.47	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Trichlorofluoromethane	NS	NS	N/A	0.001	U	0.029		0.006		0.0063		0.03		0.001	U
Vinyl Chloride	0.02	0.9	0.02	0.001	U	0.0021	U	0.0013	U	0.0015	U	0.0016	U	0.001	U
Xylenes, Total	0.26	100	N/A	0.002	U	0.0042	U	0.0025	U	0.003	U	0.0032	U	0.002	U

Table 1A
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Volatile Organic Compounds

			AKRF Sample ID	EP-X_16_20260608	EP-50_18_20260605	EP-53_15_20260504	EP-54_15_20260504	EP-57_15_20260504	EP-58_15_20260504
			Lab Sample ID	460-352783-6	460-352643-3	460-350261-1	460-350261-2	460-350261-3	460-350261-4
			Sample Date	6/8/2026	6/5/2026	5/4/2026	5/4/2026	5/4/2026	5/4/2026
			Dilution Factor	1	1	1	1	1	1
			Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Compound	**UUSCO**	**RRSCO**	**PGWSCO**	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
1,1,1-Trichloroethane	0.68	100	0.68	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
1,1,2,2-Tetrachloroethane	NS	NS	NS	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon TF)	NS	NS	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
1,1,2-Trichloroethane	NS	NS	NS	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
1,1-Dichloroethane	0.27	26	0.27	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
1,1-Dichloroethene	0.33	100	0.33	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
1,2,3-Trichlorobenzene	NS	NS	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
1,2,4-Trichlorobenzene	NS	NS	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
1,2,4-Trimethylbenzene	3.6	52	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
1,2-Dibromo-3-Chloropropane	NS	NS	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
1,2-Dibromoethane (Ethylene Dibromide)	NS	NS	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
1,2-Dichlorobenzene	1.1	100	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
1,2-Dichloroethane	0.02	3.1	0.02	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
1,2-Dichloropropane	NS	NS	NS	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	52	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
1,3-Dichlorobenzene	2.4	49	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
1,4-Dichlorobenzene	1.8	13	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
2-Hexanone	NS	NS	N/A	0.0056 U	0.0052 U	0.0053 U	0.0054 U	0.0051 U	0.0061 U
Acetone	**0.05**	100	N/A	0.0076	0.0071 B	0.0064 U	**0.055**	0.0068	0.0073 U
Benzene	0.06	4.8	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Bromochloromethane	NS	NS	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Bromodichloromethane	NS	NS	NS	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Bromoform	NS	NS	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Bromomethane	NS	NS	N/A	0.0022 U	0.0021 U	0.0021 U	0.0022 U	0.002 U	0.0024 U
Carbon Disulfide	NS	NS	N/A	0.0011 U	0.001 U	0.0011 U	0.0013	0.001 U	0.0012 U
Carbon Tetrachloride	0.76	2.4	0.76	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Chlorobenzene	1.1	100	1.1	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Chloroethane	NS	NS	NS	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Chloroform	0.37	49	0.37	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Chloromethane	NS	NS	NS	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Cis-1,2-Dichloroethylene	0.25	100	0.25	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Cis-1,3-Dichloropropene	NS	NS	NS	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Cyclohexane	NS	NS	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Dibromochloromethane	NS	NS	NS	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Dichlorodifluoromethane	NS	NS	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Ethylbenzene	1	41	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Isopropylbenzene (Cumene)	NS	NS	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
M,P-Xylenes	NS	NS	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Methyl Acetate	NS	NS	N/A	0.0056 U	0.0052 U	0.0053 U	0.0054 U	0.0051 U	0.0061 U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	N/A	0.0043 J	0.0052 U	0.0053 U	0.0054 U	0.0051 U	0.0061 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	NS	N/A	0.0056 U	0.0052 U	0.0053 U	0.0054 U	0.0051 U	0.0061 U
Methylcyclohexane	NS	NS	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Methylene Chloride	0.05	100	0.05	0.0022 U	0.0021 U	0.0021 U	0.0022 U	0.002 U	0.0024 U
N-Butylbenzene	12	100	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
N-Propylbenzene	3.9	100	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
O-Xylene (1,2-Dimethylbenzene)	NS	NS	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Sec-Butylbenzene	11	100	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Styrene	NS	NS	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
T-Butylbenzene	5.9	100	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Tert-Butyl Methyl Ether	0.93	100	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Tetrachloroethylene (PCE)	1.3	19	1.3	0.0023	0.0017	0.0011 U	0.0011 U	0.001 U	0.0012 U
Toluene	0.7	100	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Trans-1,2-Dichloroethene	0.19	100	0.19	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Trans-1,3-Dichloropropene	NS	NS	NS	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Trichloroethylene (TCE)	0.47	21	0.47	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Trichlorofluoromethane	NS	NS	N/A	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Vinyl Chloride	0.02	0.9	0.02	0.0011 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.0012 U
Xylenes, Total	0.26	100	N/A	0.0022 U	0.0021 U	0.0021 U	0.0022 U	0.002 U	0.0024 U

Table 1A
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Volatile Organic Compounds

				AKRF Sample ID	FB-02_20260511		FB-03_20260608		EP-FB_01_20260129		TB-02_20260511		TB-03_20260608	
				Lab Sample ID	460-350805-1		460-352783-4		460-344050-6		460-350805-2		460-352783-5	
				Sample Date	5/11/2026		6/8/2026		1/29/2026		5/11/2026		6/8/2026	
				Dilution Factor	1		1		1		1		1	
				Unit	µg/L		µg/L		µg/L		µg/L		µg/L	
Compound	**UUSCO**	**RRSCO**	**PGWSCO**		CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
1,1,1-Trichloroethane	0.68	100	0.68		1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	NS	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon TF)	NS	NS	N/A		1	U	1	U	1	U	1	U	1	U
1,1,2-Trichloroethane	NS	NS	NS		0.58	U	0.58	U	0.58	U	0.58	U	0.58	U
1,1-Dichloroethane	0.27	26	0.27		1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	0.33	100	0.33		1	U	1	U	1	U	1	U	1	U
1,2,3-Trichlorobenzene	NS	NS	N/A		1	U	1	U	1	U	1	U	1	U
1,2,4-Trichlorobenzene	NS	NS	N/A		1	U	1	U	1	U	1	U	1	U
1,2,4-Trimethylbenzene	3.6	52	N/A		1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-Chloropropane	NS	NS	N/A		1	U	1	U	1	U	1	U	1	U
1,2-Dibromoethane (Ethylene Dibromide)	NS	NS	N/A		1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1.1	100	N/A		1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.02	3.1	0.02		0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
1,2-Dichloropropane	NS	NS	NS		0.92	U	0.92	U	0.92	U	0.92	U	0.92	U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	52	N/A		1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	2.4	49	N/A		1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1.8	13	N/A		1	U	1	U	1	U	1	U	1	U
2-Hexanone	NS	NS	N/A		5	U	5	U	5	UT	5	U	5	U
Acetone	**0.05**	100	N/A		5	U	5	U	5	U	5	U	5	U
Benzene	0.06	4.8	N/A		0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
Bromochloromethane	NS	NS	N/A		1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	NS	NS	NS		0.98	U	0.98	U	0.98	U	0.98	U	0.98	U
Bromoform	NS	NS	N/A		1	U	1	U	1	U	1	U	1	U
Bromomethane	NS	NS	N/A		1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	NS	NS	N/A		1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.76	2.4	0.76		1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1.1	100	1.1		1	U	1	U	1	U	1	U	1	U
Chloroethane	NS	NS	NS		1	U	1	U	1	U	1	U	1	U
Chloroform	0.37	49	0.37		1	U	1	U	1	U	1	U	1	U
Chloromethane	NS	NS	NS		1	U	1	U	1	U	1	U	1	U
Cis-1,2-Dichloroethylene	0.25	100	0.25		1	U	1	U	1	U	1	U	1	U
Cis-1,3-Dichloropropene	NS	NS	NS		0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
Cyclohexane	NS	NS	N/A		1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	NS	NS	NS		0.78	U	0.78	U	0.78	U	0.78	U	0.78	U
Dichlorodifluoromethane	NS	NS	N/A		1	U	1	U	1	UT	1	U	1	U
Ethylbenzene	1	41	N/A		1	U	1	U	1	U	1	U	1	U
Isopropylbenzene (Cumene)	NS	NS	N/A		1	U	1	U	1	U	1	U	1	U
M,P-Xylenes	NS	NS	N/A		1	U	1	U	1	U	1	U	1	U
Methyl Acetate	NS	NS	N/A		5	U	5	U	5	U	5	U	5	U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	N/A		5	U	5	U	5	U	5	U	5	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	NS	N/A		5	U	5	U	5	U	5	U	5	U
Methylcyclohexane	NS	NS	N/A		1	U	1	U	1	U	1	U	1	U
Methylene Chloride	0.05	100	0.05		1	U	1	U	1	U	1	U	1	U
N-Butylbenzene	12	100	N/A		1	U	1	U	1	U	1	U	1	U
N-Propylbenzene	3.9	100	N/A		1	U	1	U	1	U	1	U	1	U
O-Xylene (1,2-Dimethylbenzene)	NS	NS	N/A		1	U	1	U	1	U	1	U	1	U
Sec-Butylbenzene	11	100	N/A		1	U	1	U	1	U	1	U	1	U
Styrene	NS	NS	N/A		1	U	1	U	1	U	1	U	1	U
T-Butylbenzene	5.9	100	N/A		1	U	1	U	1	U	1	U	1	U
Tert-Butyl Methyl Ether	0.93	100	N/A		1	U	1	U	1	U	1	U	1	U
Tetrachloroethylene (PCE)	1.3	19	1.3		0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Toluene	0.7	100	N/A		1	U	1	U	1	U	1	U	1	U
Trans-1,2-Dichloroethene	0.19	100	0.19		1	U	1	U	1	U	1	U	1	U
Trans-1,3-Dichloropropene	NS	NS	NS		0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
Trichloroethylene (TCE)	0.47	21	0.47		0.28	U	0.28	U	0.28	U	0.28	U	0.28	U
Trichlorofluoromethane	NS	NS	N/A		1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.02	0.9	0.02		1	U	1	U	1	U	1	U	1	U
Xylenes, Total	0.26	100	N/A		2	U	2	U	2	U	2	U	2	U

Table 1B
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Semivolatile Organic Compounds

		AKRF Sample ID	EP-04_14_20260601	EP-05_14_20260601		EP-06_12_20260601	EP-07_16_20260601	EP-08_16_20260603	EP-09_18_20260603
		Lab Sample ID	460-352213-2	460-352213-3		460-352213-1	460-352213-4	460-352423-1	460-352423-2
		Sample Date	6/1/2026	6/1/2026		6/1/2026	6/1/2026	6/3/2026	6/3/2026
		Dilution Factor	1	1	2	1	1	1	1
		Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Compound	**UUSCO**	**RRSCO**	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
1,2,4,5-Tetrachlorobenzene	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
1,4-Dioxane (P-Dioxane)	0.1	13	0.036 U	0.036 U	NR	0.035 U	0.037 U	0.038 U	0.039 U
2,3,4,6-Tetrachlorophenol	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
2,4,5-Trichlorophenol	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
2,4,6-Trichlorophenol	NS	NS	0.15 U	0.15 U	NR	0.14 U	0.15 U	0.15 U	0.16 U
2,4-Dichlorophenol	NS	NS	0.15 U	0.15 U	NR	0.14 U	0.15 U	0.15 U	0.16 U
2,4-Dimethylphenol	NS	NS	0.36 U	0.02 J	NR	0.35 U	0.37 U	0.38 U	0.39 U
2,4-Dinitrophenol	NS	NS	0.29 U	0.29 U	NR	0.28 U	0.3 U	0.31 U	0.31 U
2,4-Dinitrotoluene	NS	NS	0.074 U	0.074 U	NR	0.071 U	0.075 U	0.077 U	0.079 U
2,6-Dinitrotoluene	NS	NS	0.074 U	0.074 U	NR	0.071 U	0.075 U	0.077 U	0.079 U
2-Chloronaphthalene	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
2-Chlorophenol	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
2-Methylnaphthalene	NS	NS	0.36 UT	0.17 JT	NR	0.35 UT	0.37 UT	0.38 UT	0.39 UT
2-Methylphenol (O-Cresol)	0.33	100	0.22 U	0.018 J	NR	0.21 U	0.22 U	0.23 U	0.24 U
2-Nitroaniline	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
2-Nitrophenol	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
3- And 4- Methylphenol (Total)	NS	NS	0.22 U	0.04 J	NR	0.21 U	0.22 U	0.23 U	0.24 U
3,3'-Dichlorobenzidine	NS	NS	0.15 U	0.15 U	NR	0.14 U	0.15 U	0.15 U	0.16 U
3-Nitroaniline	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
4,6-Dinitro-2-Methylphenol	NS	NS	0.29 U	0.29 U	NR	0.28 U	0.3 U	0.31 U	0.31 U
4-Bromophenyl Phenyl Ether	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
4-Chloro-3-Methylphenol	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
4-Chloroaniline	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 UT	0.39 UT
4-Chlorophenyl Phenyl Ether	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
4-Methylphenol (P-Cresol)	0.33	100	0.36 U	0.04 J	NR	0.35 U	0.37 U	0.38 U	0.39 U
4-Nitroaniline	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
4-Nitrophenol	NS	NS	0.74 U	0.74 U	NR	0.71 U	0.75 U	0.77 U	0.79 U
Acenaphthene	20	100	0.36 U	0.6	NR	0.015 J	0.37 U	0.38 U	0.39 U
Acenaphthylene	100	100	0.36 U	0.62	NR	0.01 J	0.038 J	0.0078 J	0.0069 J
Acetophenone	NS	NS	0.36 U	0.049 J	NR	0.35 U	0.37 U	0.38 U	0.39 U
Anthracene	100	100	0.36 U	1.4	NR	0.043 J	0.054 J	0.38 U	0.39 U
Atrazine	NS	NS	0.15 U	0.15 U	NR	0.14 U	0.15 U	0.15 U	0.16 U
Benzaldehyde	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
Benzo(a)Anthracene	**1**	1	0.025 J	**4.6**	NR	0.11	0.18	0.058	0.054
Benzo(a)Pyrene	**1**	1	0.019 J	**5.5**	NR	0.1	0.17	0.053	0.042
Benzo(b)Fluoranthene	**1**	1	0.024 J	**6.5**	NR	0.12	0.22	0.074	0.055
Benzo(g,h,i)Perylene	100	100	0.018 J	4.5	NR	0.067 J	0.14 J	0.038 J	0.031 J
Benzo(k)Fluoranthene	**0.8**	3.9	0.011 J	**2.5**	NR	0.052	0.091	0.027 J	0.025 J
Benzyl Butyl Phthalate	NS	NS	0.36 U	0.026 J	NR	0.35 U	0.37 U	0.38 U	0.39 U
Biphenyl (Diphenyl)	NS	NS	0.36 U	0.052 J	NR	0.35 U	0.37 U	0.38 U	0.39 U
Bis(2-Chloroethoxy) Methane	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	NS	NS	0.036 U	0.036 U	NR	0.035 U	0.037 U	0.038 U	0.039 U
Bis(2-Chloroisopropyl) Ether	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
Bis(2-Ethylhexyl) Phthalate	NS	NS	0.36 U	0.29 J	NR	0.026 J	0.04 J	0.38 U	0.39 U
Caprolactam	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
Carbazole	NS	NS	0.36 U	0.67	NR	0.35 U	0.023 J	0.38 U	0.39 U
Chrysene	**1**	3.9	0.02 J	**4.5**	NR	0.12 J	0.2 J	0.065 J	0.055 J
Dibenz(a,h)Anthracene	**0.33**	0.33	0.036 U	**1.1**	NR	0.012 J	0.022 J	0.0092 J	0.0096 J
Dibenzofuran	7	59	0.36 U	0.35 J	NR	0.0069 J	0.008 J	0.38 U	0.39 U
Diethyl Phthalate	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
Dimethyl Phthalate	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
Di-N-Butyl Phthalate	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
Di-N-Octylphthalate	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
Fluoranthene	100	100	0.047 J	NR	4.3	0.22 J	0.34 J	0.12 J	0.11 J
Fluorene	30	100	0.36 U	0.61	NR	0.016 J	0.016 J	0.38 U	0.39 U
Hexachlorobenzene	0.33	1.2	0.036 U	0.036 U	NR	0.035 U	0.037 U	0.038 U	0.039 U
Hexachlorobutadiene	NS	NS	0.074 U	0.074 U	NR	0.071 U	0.075 U	0.077 U	0.079 U
Hexachlorocyclopentadiene	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
Hexachloroethane	NS	NS	0.036 U	0.036 U	NR	0.035 U	0.037 U	0.038 U	0.039 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	0.5	0.036 U	**4**	NR	0.061	0.12	0.038	0.029 J
Isophorone	NS	NS	0.15 U	0.15 U	NR	0.14 U	0.15 U	0.15 U	0.16 U
Naphthalene	12	100	0.36 U	0.25 J	NR	0.0097 J	0.0095 J	0.38 U	0.39 U
Nitrobenzene	NS	NS	0.036 U	0.036 U	NR	0.035 U	0.037 U	0.038 U	0.039 U
N-Nitrosodi-N-Propylamine	NS	NS	0.036 U	0.036 U	NR	0.035 U	0.037 U	0.038 U	0.039 U
N-Nitrosodiphenylamine	NS	NS	0.36 U	0.36 U	NR	0.35 U	0.37 U	0.38 U	0.39 U
Pentachlorophenol	0.8	6.7	0.29 U	0.29 U	NR	0.28 U	0.3 U	0.31 U	0.31 U
Phenanthrene	100	100	0.037 J	6.9	NR	0.14 J	0.17 J	0.048 J	0.046 J
Phenol	0.33	100	0.22 U	0.22 U	NR	0.21 U	0.22 U	0.23 U	0.24 U
Pyrene	100	100	0.042 J	8.6	NR	0.2 J	0.32 J	0.12 J	0.1 J

Table 1B
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Semivolatile Organic Compounds

		AKRF Sample ID	EP-10_15_20260504		EP-11_15_20260504		EP-12_15_20260504		EP-13_15_20260504		EP-X_15_20260504		EP-14_6_20260129		EP-15_6_20260129	
		Lab Sample ID	460-350261-5		460-350245-6		460-350261-7		460-350261-8		460-350261-9		460-344050-1		460-344050-2	
		Sample Date	5/4/2026		5/4/2026		5/4/2026		5/4/2026		5/4/2026		1/29/2026		1/29/2026	
		Dilution Factor	1		1		1		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
1,2,4,5-Tetrachlorobenzene	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
1,4-Dioxane (P-Dioxane)	0.1	13	0.036	U	0.036	U	0.037	U	0.036	U	0.036	U	0.035	U	0.037	U
2,3,4,6-Tetrachlorophenol	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
2,4,5-Trichlorophenol	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
2,4,6-Trichlorophenol	NS	NS	0.14	U	0.15	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U
2,4-Dichlorophenol	NS	NS	0.14	U	0.15	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U
2,4-Dimethylphenol	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
2,4-Dinitrophenol	NS	NS	0.29	U	0.29	U	0.3	U	0.29	U	0.29	U	0.29	U	0.3	U
2,4-Dinitrotoluene	NS	NS	0.073	U	0.074	U	0.076	U	0.073	U	0.072	U	0.072	U	0.075	U
2,6-Dinitrotoluene	NS	NS	0.073	U	0.074	U	0.076	U	0.073	U	0.072	U	0.072	U	0.075	U
2-Chloronaphthalene	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
2-Chlorophenol	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
2-Methylnaphthalene	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
2-Methylphenol (O-Cresol)	0.33	100	0.22	U	0.22	U	0.23	U	0.22	U	0.22	U	0.35	U	0.37	U
2-Nitroaniline	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
2-Nitrophenol	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
3- And 4- Methylphenol (Total)	NS	NS	0.22	U	0.22	U	0.23	U	0.22	U	0.22	U	0.35	U	0.37	U
3,3'-Dichlorobenzidine	NS	NS	0.14	U	0.15	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U
3-Nitroaniline	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
4,6-Dinitro-2-Methylphenol	NS	NS	0.29	U	0.29	U	0.3	U	0.29	U	0.29	U	0.29	U	0.3	U
4-Bromophenyl Phenyl Ether	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
4-Chloro-3-Methylphenol	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
4-Chloroaniline	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
4-Chlorophenyl Phenyl Ether	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
4-Methylphenol (P-Cresol)	0.33	100	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
4-Nitroaniline	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
4-Nitrophenol	NS	NS	0.73	U	0.74	U	0.76	U	0.73	U	0.72	U	0.72	U	0.75	U
Acenaphthene	20	100	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
Acenaphthylene	100	100	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.02	J
Acetophenone	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
Anthracene	100	100	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.062	J
Atrazine	NS	NS	0.14	U	0.15	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U
Benzaldehyde	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
Benzo(a)Anthracene	**1**	1	0.023	J	0.036	U	0.037	U	0.01	J	0.036	U	0.035	U	0.36	
Benzo(a)Pyrene	**1**	1	0.012	J	0.036	U	0.037	U	0.036	U	0.036	U	0.035	U	0.31	
Benzo(b)Fluoranthene	**1**	1	0.019	J	0.036	U	0.037	U	0.036	U	0.036	U	0.035	U	0.37	
Benzo(g,h,i)Perylene	100	100	0.011	J	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.17	J
Benzo(k)Fluoranthene	**0.8**	3.9	0.0072	J	0.036	U	0.037	U	0.036	U	0.036	U	0.035	U	0.17	
Benzyl Butyl Phthalate	NS	NS	0.046	J	0.36	U	0.37	U	1.1		0.11	J	0.35	U	1.2	
Biphenyl (Diphenyl)	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
Bis(2-Chloroethoxy) Methane	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	NS	NS	0.036	U	0.036	U	0.037	U	0.036	U	0.036	U	0.035	U	0.037	U
Bis(2-Chloroisopropyl) Ether	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
Bis(2-Ethylhexyl) Phthalate	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.071	J
Caprolactam	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
Carbazole	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
Chrysene	**1**	3.9	0.017	J	0.36	U	0.37	U	0.0065	J	0.36	U	0.35	U	0.41	
Dibenz(a,h)Anthracene	**0.33**	0.33	0.036	U	0.036	U	0.037	U	0.036	U	0.036	U	0.035	U	0.048	
Dibenzofuran	7	59	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
Diethyl Phthalate	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
Dimethyl Phthalate	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
Di-N-Butyl Phthalate	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
Di-N-Octylphthalate	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
Fluoranthene	100	100	0.026	J	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.7	
Fluorene	30	100	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
Hexachlorobenzene	0.33	1.2	0.036	U	0.036	U	0.037	U	0.036	U	0.036	U	0.035	U	0.037	U
Hexachlorobutadiene	NS	NS	0.073	U	0.074	U	0.076	U	0.073	U	0.072	U	0.072	U	0.075	U
Hexachlorocyclopentadiene	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
Hexachloroethane	NS	NS	0.036	U	0.036	U	0.037	U	0.036	U	0.036	U	0.035	U	0.037	U
Indeno(1,2,3-c,d)Pyrene	**0.5**	0.5	0.036	U	0.036	U	0.037	U	0.036	U	0.036	U	0.035	U	0.21	
Isophorone	NS	NS	0.14	U	0.15	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U
Naphthalene	12	100	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
Nitrobenzene	NS	NS	0.036	U	0.036	U	0.037	U	0.036	U	0.036	U	0.035	U	0.037	U
N-Nitrosodi-N-Propylamine	NS	NS	0.036	U	0.036	U	0.037	U	0.036	U	0.036	U	0.035	U	0.037	U
N-Nitrosodiphenylamine	NS	NS	0.36	U	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.37	U
Pentachlorophenol	0.8	6.7	0.29	U	0.29	U	0.3	U	0.29	U	0.29	U	0.29	U	0.3	U
Phenanthrene	100	100	0.019	J	0.36	U	0.37	U	0.36	U	0.36	U	0.35	U	0.29	J
Phenol	0.33	100	0.22	U	0.22	U	0.23	U	0.22	U	0.22	U	0.35	U	0.37	U
Pyrene	100	100	0.023	J	0.36	U	0.37	U	0.015	J	0.011	J	0.35	U	0.68	

Table 1B
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Semivolatile Organic Compounds

		AKRF Sample ID	EP-16_6_20260129	EP-X_6_20260129	EP-17_6_20260129	EP-26_2_20260202	EP-27_2_20260202	EP-28_3_20260202	EP-29_3_20260202
		Lab Sample ID	460-344050-3	460-344049-4	460-344049-5	460-344162-1	460-344162-2	460-344162-3	460-344162-4
		Sample Date	1/29/2026	1/29/2026	1/29/2026	2/2/2026	2/2/2026	2/2/2026	2/2/2026
		Dilution Factor	1	1	1	1	1	1	1
		Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Compound	**UUSCO**	**RRSCO**	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
1,2,4,5-Tetrachlorobenzene	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
1,4-Dioxane (P-Dioxane)	0.1	13	0.04 U	0.04 U	0.038 U	0.037 U	0.037 U	0.038 U	0.036 U
2,3,4,6-Tetrachlorophenol	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
2,4,5-Trichlorophenol	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
2,4,6-Trichlorophenol	NS	NS	0.16 U	0.16 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
2,4-Dichlorophenol	NS	NS	0.16 U	0.16 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
2,4-Dimethylphenol	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
2,4-Dinitrophenol	NS	NS	0.32 U	0.32 U	0.3 U	0.3 UT	0.3 UT	0.31 UT	0.29 UT
2,4-Dinitrotoluene	NS	NS	0.081 U	0.081 U	0.076 U	0.076 U	0.075 U	0.077 U	0.074 U
2,6-Dinitrotoluene	NS	NS	0.081 U	0.081 U	0.076 U	0.076 U	0.075 U	0.077 U	0.074 U
2-Chloronaphthalene	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
2-Chlorophenol	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
2-Methylnaphthalene	NS	NS	0.4 U	0.4 U	0.38 U	0.021 JT	0.12 JT	0.38 UT	0.36 UT
2-Methylphenol (O-Cresol)	0.33	100	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
2-Nitroaniline	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
2-Nitrophenol	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
3- And 4- Methylphenol (Total)	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
3,3'-Dichlorobenzidine	NS	NS	0.16 U	0.16 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
3-Nitroaniline	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
4,6-Dinitro-2-Methylphenol	NS	NS	0.32 U	0.32 U	0.3 U	0.3 U	0.3 U	0.31 U	0.29 U
4-Bromophenyl Phenyl Ether	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
4-Chloro-3-Methylphenol	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
4-Chloroaniline	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
4-Chlorophenyl Phenyl Ether	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
4-Methylphenol (P-Cresol)	0.33	100	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
4-Nitroaniline	NS	NS	0.4 U	0.4 U	0.38 U	0.37 UT	0.37 UT	0.38 UT	0.36 UT
4-Nitrophenol	NS	NS	0.81 U	0.81 U	0.76 U	0.76 U	0.75 U	0.77 U	0.74 U
Acenaphthene	20	100	0.049 J	0.013 J	0.38 U	0.078 J	0.41	0.38 U	0.36 U
Acenaphthylene	100	100	0.083 J	0.044 J	0.012 J	0.061 J	0.14 J	0.017 J	0.36 U
Acetophenone	NS	NS	0.06 J	0.4 U	0.38 U	0.37 UT	0.37 UT	0.024 JT	0.36 UT
Anthracene	100	100	0.29 J	0.12 J	0.025 J	0.43	1	0.045 J	0.023 J
Atrazine	NS	NS	0.16 U	0.16 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Benzaldehyde	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.1 J	0.36 U
Benzo(a)Anthracene	**1**	1	**1.6**	0.44	0.13	**2.3**	**3.6**	0.21	0.12
Benzo(a)Pyrene	**1**	1	**1.3**	0.39	0.12	**2.4**	**3.5**	0.19	0.12
Benzo(b)Fluoranthene	**1**	1	**1.6**	0.55	0.14	**2.5**	**4.4**	0.25	0.14
Benzo(g,h,i)Perylene	100	100	0.75	0.3 J	0.077 J	1.5	2.1	0.13 J	0.08 J
Benzo(k)Fluoranthene	**0.8**	3.9	0.75	0.19	0.071	**0.99**	**1.6**	0.093	0.055
Benzyl Butyl Phthalate	NS	NS	0.06 J	0.092 J	0.38 U	0.37 U	0.3 J	0.38 U	0.36 U
Biphenyl (Diphenyl)	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.026 J	0.38 U	0.36 U
Bis(2-Chloroethoxy) Methane	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	NS	NS	0.04 U	0.04 U	0.038 U	0.037 U	0.037 U	0.038 U	0.036 U
Bis(2-Chloroisopropyl) Ether	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
Bis(2-Ethylhexyl) Phthalate	NS	NS	0.15 J	0.037 J	0.38 U	0.37 U	0.021 J	0.38 U	0.36 U
Caprolactam	NS	NS	0.4 U	0.4 U	0.38 U	0.37 UT	0.37 UT	0.38 UT	0.36 UT
Carbazole	NS	NS	0.058 J	0.044 J	0.38 U	0.083 J	0.56	0.017 J	0.36 U
Chrysene	**1**	3.9	**1.6**	0.45	0.14 J	**2.4**	**3.9**	0.21 J	0.12 J
Dibenz(a,h)Anthracene	**0.33**	0.33	0.16	0.066	0.038 U	0.29	**0.48**	0.028 J	0.016 J
Dibenzofuran	7	59	0.019 J	0.4 U	0.38 U	0.03 J	0.27 J	0.38 U	0.36 U
Diethyl Phthalate	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
Dimethyl Phthalate	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
Di-N-Butyl Phthalate	NS	NS	0.4 U	0.4 U	0.38 U	0.37 UT	0.37 UT	0.38 UT	0.36 UT
Di-N-Octylphthalate	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
Fluoranthene	100	100	3.1	0.74	0.25 J	3.8	8.1	0.4	0.22 J
Fluorene	30	100	0.038 J	0.4 U	0.38 U	0.056 J	0.26 J	0.012 J	0.36 U
Hexachlorobenzene	0.33	1.2	0.04 U	0.04 U	0.038 U	0.037 U	0.037 U	0.038 U	0.036 U
Hexachlorobutadiene	NS	NS	0.081 U	0.081 U	0.076 U	0.076 U	0.075 U	0.077 U	0.074 U
Hexachlorocyclopentadiene	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
Hexachloroethane	NS	NS	0.04 U	0.04 U	0.038 U	0.037 U	0.037 U	0.038 U	0.036 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	0.5	**0.78**	0.27	0.096	**1.4**	**2.1**	0.12	0.069
Isophorone	NS	NS	0.16 U	0.16 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Naphthalene	12	100	0.0086 J	0.4 U	0.38 U	0.031 J	0.12 J	0.38 U	0.36 U
Nitrobenzene	NS	NS	0.04 U	0.04 U	0.038 U	0.037 U	0.037 U	0.038 U	0.036 U
N-Nitrosodi-N-Propylamine	NS	NS	0.04 U	0.04 U	0.038 U	0.037 U	0.037 U	0.038 U	0.036 U
N-Nitrosodiphenylamine	NS	NS	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
Pentachlorophenol	0.8	6.7	0.32 U	0.32 U	0.3 U	0.3 U	0.3 U	0.31 U	0.29 U
Phenanthrene	100	100	1.3	0.36 J	0.13 J	2	6.4	0.22 J	0.11 J
Phenol	0.33	100	0.4 U	0.4 U	0.38 U	0.37 U	0.37 U	0.38 U	0.36 U
Pyrene	100	100	3.1	0.71	0.24 J	4.7	7.6	0.4	0.23 J

Table 1B
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Semivolatile Organic Compounds

		AKRF Sample ID	EP-30_4_20260202		EP-31_10_20260608	EP-32_16_20260603	EP-33_13_20260511	EP-34_13_20260511	EP-35_13_20260511
		Lab Sample ID	460-344162-5		460-352783-1	460-352423-3	460-350805-3	460-350773-3	460-350773-4
		Sample Date	2/2/2026		6/8/2026	6/3/2026	5/11/2026	5/11/2026	5/11/2026
		Dilution Factor	1	10	1	1	1	1	1
		Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Compound	**UUSCO**	**RRSCO**	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
1,2,4,5-Tetrachlorobenzene	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
1,4-Dioxane (P-Dioxane)	0.1	13	0.037 U	NR	0.037 U	0.035 U	0.038 U	0.038 U	0.039 U
2,3,4,6-Tetrachlorophenol	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
2,4,5-Trichlorophenol	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
2,4,6-Trichlorophenol	NS	NS	0.15 U	NR	0.15 U	0.14 U	0.15 U	0.15 U	0.16 U
2,4-Dichlorophenol	NS	NS	0.15 U	NR	0.15 U	0.14 U	0.15 U	0.15 U	0.16 U
2,4-Dimethylphenol	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
2,4-Dinitrophenol	NS	NS	0.3 UT	NR	0.3 U	0.28 U	0.3 U	0.31 U	0.31 U
2,4-Dinitrotoluene	NS	NS	0.075 U	NR	0.075 U	0.07 U	0.077 U	0.077 U	0.079 U
2,6-Dinitrotoluene	NS	NS	0.075 U	NR	0.075 U	0.07 U	0.077 U	0.077 U	0.079 U
2-Chloronaphthalene	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
2-Chlorophenol	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
2-Methylnaphthalene	NS	NS	1 T	NR	0.37 UT	0.35 UT	0.38 U	0.38 U	0.39 U
2-Methylphenol (O-Cresol)	0.33	100	0.37 U	NR	0.22 U	0.21 U	0.23 U	0.23 U	0.24 U
2-Nitroaniline	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
2-Nitrophenol	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
3- And 4- Methylphenol (Total)	NS	NS	0.3 J	NR	0.22 U	0.21 U	0.23 U	0.23 U	0.24 U
3,3'-Dichlorobenzidine	NS	NS	0.15 U	NR	0.15 U	0.14 U	0.15 U	0.15 U	0.16 U
3-Nitroaniline	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
4,6-Dinitro-2-Methylphenol	NS	NS	0.3 U	NR	0.3 U	0.28 U	0.3 U	0.31 U	0.31 U
4-Bromophenyl Phenyl Ether	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
4-Chloro-3-Methylphenol	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
4-Chloroaniline	NS	NS	0.37 U	NR	0.37 U	0.35 UT	0.38 U	0.38 U	0.39 U
4-Chlorophenyl Phenyl Ether	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
4-Methylphenol (P-Cresol)	0.33	100	0.3 J	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
4-Nitroaniline	NS	NS	0.37 UT	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
4-Nitrophenol	NS	NS	0.75 U	NR	0.75 U	0.7 U	0.77 U	0.77 U	0.79 U
Acenaphthene	20	100	4	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
Acenaphthylene	100	100	0.32 J	NR	0.015 J	0.018 J	0.38 U	0.0079 J	0.39 U
Acetophenone	NS	NS	0.37 UT	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
Anthracene	100	100	NR	16	0.021 J	0.027 J	0.034 J	0.019 J	0.39 U
Atrazine	NS	NS	0.15 U	NR	0.15 U	0.14 U	0.15 U	0.15 U	0.16 U
Benzaldehyde	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
Benzo(a)Anthracene	**1**	1	NR	**44**	0.11	0.15	0.11	0.097	0.039 U
Benzo(a)Pyrene	**1**	1	NR	**35**	0.12	0.15	0.098	0.073	0.039 U
Benzo(b)Fluoranthene	**1**	1	NR	**42**	0.15	0.2	0.13	0.1	0.039 U
Benzo(g,h,i)Perylene	100	100	NR	16	0.1 J	0.12 J	0.074 J	0.054 J	0.39 U
Benzo(k)Fluoranthene	**0.8**	3.9	NR	**15**	0.063	0.074	0.053	0.035 J	0.039 U
Benzyl Butyl Phthalate	NS	NS	0.37 U	NR	0.025 J	0.35 U	0.38 U	0.38 U	0.39 U
Biphenyl (Diphenyl)	NS	NS	0.48	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
Bis(2-Chloroethoxy) Methane	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	NS	NS	0.037 U	NR	0.037 U	0.035 U	0.038 U	0.038 U	0.039 U
Bis(2-Chloroisopropyl) Ether	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
Bis(2-Ethylhexyl) Phthalate	NS	NS	0.37 U	NR	0.077 J	0.029 J	0.38 U	0.38 U	0.39 U
Caprolactam	NS	NS	0.37 UT	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
Carbazole	NS	NS	1.7	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
Chrysene	**1**	3.9	NR	**45**	0.15 J	0.16 J	0.12 J	0.088 J	0.39 U
Dibenz(a,h)Anthracene	**0.33**	0.33	**4.3**	NR	0.037 U	0.028 J	0.022 J	0.018 J	0.039 U
Dibenzofuran	7	59	2.3	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
Diethyl Phthalate	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
Dimethyl Phthalate	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
Di-N-Butyl Phthalate	NS	NS	0.37 UT	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
Di-N-Octylphthalate	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
Fluoranthene	100	100	NR	88	0.24 J	0.28 J	0.23 J	0.18 J	0.39 U
Fluorene	30	100	1.9	NR	0.37 U	0.0074 J	0.38 U	0.38 U	0.39 U
Hexachlorobenzene	0.33	1.2	0.037 U	NR	0.037 U	0.035 U	0.038 U	0.038 U	0.039 U
Hexachlorobutadiene	NS	NS	0.075 U	NR	0.075 U	0.07 U	0.077 U	0.077 U	0.079 U
Hexachlorocyclopentadiene	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
Hexachloroethane	NS	NS	0.037 U	NR	0.037 U	0.035 U	0.038 U	0.038 U	0.039 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	0.5	NR	**17**	0.089	0.11	0.072	0.05	0.039 U
Isophorone	NS	NS	0.15 U	NR	0.15 U	0.14 U	0.15 U	0.15 U	0.16 U
Naphthalene	12	100	0.64	NR	0.37 U	0.0095 J	0.38 U	0.38 U	0.39 U
Nitrobenzene	NS	NS	0.037 U	NR	0.037 U	0.035 U	0.038 U	0.038 U	0.039 U
N-Nitrosodi-N-Propylamine	NS	NS	0.037 U	NR	0.037 U	0.035 U	0.038 U	0.038 U	0.039 U
N-Nitrosodiphenylamine	NS	NS	0.37 U	NR	0.37 U	0.35 U	0.38 U	0.38 U	0.39 U
Pentachlorophenol	0.8	6.7	0.3 U	NR	0.3 U	0.28 U	0.3 U	0.31 U	0.31 U
Phenanthrene	100	100	NR	82	0.091 J	0.11 J	0.14 J	0.1 J	0.39 U
Phenol	0.33	100	0.37 U	NR	0.22 U	0.21 U	0.23 U	0.23 U	0.24 U
Pyrene	100	100	NR	89	0.25 J	0.28 J	0.2 J	0.17 J	0.39 U

Table 1B
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Semivolatile Organic Compounds

		AKRF Sample ID	EP-36_13_20260511	EP-37_13_20260511	EP-38_10_20260608	EP-39_16_20260605	EP-40_16_20260605	EP-44_4_20260204	EP-45_4_
		Lab Sample ID	460-350805-6	460-350773-6	460-352783-2	460-352643-1	460-352643-2	460-344323-1	460-34
		Sample Date	5/11/2026	5/11/2026	6/8/2026	6/5/2026	6/5/2026	2/4/2026	2/4/2
		Dilution Factor	1	1	1	1	1	1	1
		Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Compound	**UUSCO**	**RRSCO**	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
1,2,4,5-Tetrachlorobenzene	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
1,4-Dioxane (P-Dioxane)	0.1	13	0.039 U	0.035 U	0.036 U	0.035 U	0.037 U	0.039 U	0.039 U
2,3,4,6-Tetrachlorophenol	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
2,4,5-Trichlorophenol	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
2,4,6-Trichlorophenol	NS	NS	0.16 U	0.14 U	0.14 U	0.14 U	0.15 U	0.16 U	0.16 U
2,4-Dichlorophenol	NS	NS	0.16 U	0.14 U	0.14 U	0.14 U	0.15 U	0.16 U	0.16 U
2,4-Dimethylphenol	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
2,4-Dinitrophenol	NS	NS	0.32 U	0.29 U	0.29 U	0.28 U	0.29 U	0.32 U	0.32 U
2,4-Dinitrotoluene	NS	NS	0.08 U	0.072 U	0.072 U	0.071 U	0.074 U	0.08 U	0.08 U
2,6-Dinitrotoluene	NS	NS	0.08 U	0.072 U	0.072 U	0.071 U	0.074 U	0.08 U	0.08 U
2-Chloronaphthalene	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.058 J
2-Chlorophenol	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
2-Methylnaphthalene	NS	NS	0.39 U	0.35 U	0.36 UT	0.35 U	0.37 U	0.063 JT	0.51 T
2-Methylphenol (O-Cresol)	0.33	100	0.24 U	0.21 U	0.22 U	0.21 U	0.22 U	0.39 U	0.022 J
2-Nitroaniline	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
2-Nitrophenol	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
3- And 4- Methylphenol (Total)	NS	NS	0.24 U	0.21 U	0.22 U	0.21 U	0.22 U	0.39 U	0.068 J
3,3'-Dichlorobenzidine	NS	NS	0.16 U	0.14 U	0.14 U	0.14 U	0.15 U	0.16 UT	0.16 UT
3-Nitroaniline	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
4,6-Dinitro-2-Methylphenol	NS	NS	0.32 U	0.29 U	0.29 U	0.28 U	0.29 U	0.32 U	0.32 U
4-Bromophenyl Phenyl Ether	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
4-Chloro-3-Methylphenol	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
4-Chloroaniline	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 UT	0.39 UT
4-Chlorophenyl Phenyl Ether	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
4-Methylphenol (P-Cresol)	0.33	100	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.068 J
4-Nitroaniline	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
4-Nitrophenol	NS	NS	0.8 U	0.72 U	0.72 U	0.71 U	0.74 U	0.8 U	0.8 U
Acenaphthene	20	100	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.15 J	1.8
Acenaphthylene	100	100	0.39 U	0.35 U	0.017 J	0.35 U	0.0052 J	0.25 J	1.1
Acetophenone	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.03 J	0.39 U
Anthracene	100	100	0.39 U	0.35 U	0.026 J	0.35 U	0.37 U	0.6	4.8
Atrazine	NS	NS	0.16 U	0.14 U	0.14 U	0.14 U	0.15 U	0.16 U	0.16 U
Benzaldehyde	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
Benzo(a)Anthracene	**1**	1	0.062	0.035 U	0.14	0.019 J	0.04	**3**	NR
Benzo(a)Pyrene	**1**	1	0.05	0.035 U	0.14	0.0089 J	0.027 J	**3.4**	NR
Benzo(b)Fluoranthene	**1**	1	0.068	0.035 U	0.19	0.014 J	0.037	**4.7**	NR
Benzo(g,h,i)Perylene	100	100	0.038 J	0.35 U	0.1 J	0.35 U	0.024 J	2.1	5.7
Benzo(k)Fluoranthene	**0.8**	3.9	0.025 J	0.035 U	0.072	0.0081 J	0.019 J	**1.5**	**5.6**
Benzyl Butyl Phthalate	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.054 J	0.39 U
Biphenyl (Diphenyl)	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.019 J	0.17 J
Bis(2-Chloroethoxy) Methane	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	NS	NS	0.039 U	0.035 U	0.036 U	0.035 U	0.037 U	0.039 U	0.039 U
Bis(2-Chloroisopropyl) Ether	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
Bis(2-Ethylhexyl) Phthalate	NS	NS	0.39 U	0.35 U	0.067 J	0.35 U	0.37 U	0.55	0.39 U
Caprolactam	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
Carbazole	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.28 J	2.2
Chrysene	**1**	3.9	0.06 J	0.35 U	0.17 J	0.015 J	0.03 J	**3.2**	NR
Dibenz(a,h)Anthracene	**0.33**	0.33	0.039 U	0.035 U	0.025 J	0.035 U	0.037 U	**0.55**	**1.6**
Dibenzofuran	7	59	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.095 J	0.95
Diethyl Phthalate	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
Dimethyl Phthalate	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
Di-N-Butyl Phthalate	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.052 J	0.67
Di-N-Octylphthalate	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
Fluoranthene	100	100	0.11 J	0.35 U	0.27 J	0.032 J	0.062 J	5.1	NR
Fluorene	30	100	0.39 U	0.35 U	0.0071 J	0.35 U	0.37 U	0.14 J	1.7
Hexachlorobenzene	0.33	1.2	0.039 U	0.035 U	0.036 U	0.035 U	0.037 U	0.039 U	0.039 U
Hexachlorobutadiene	NS	NS	0.08 U	0.072 U	0.072 U	0.071 U	0.074 U	0.08 U	0.08 U
Hexachlorocyclopentadiene	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
Hexachloroethane	NS	NS	0.039 U	0.035 U	0.036 U	0.035 U	0.037 U	0.039 U	0.039 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	0.5	0.034 J	0.035 U	0.099	0.035 U	0.037 U	**2**	**6.2**
Isophorone	NS	NS	0.16 U	0.14 U	0.14 U	0.14 U	0.15 U	0.16 U	0.16 U
Naphthalene	12	100	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.12 J	1.4
Nitrobenzene	NS	NS	0.039 U	0.035 U	0.036 U	0.035 U	0.037 U	0.039 U	0.039 U
N-Nitrosodi-N-Propylamine	NS	NS	0.039 U	0.035 U	0.036 U	0.035 U	0.037 U	0.039 U	0.039 U
N-Nitrosodiphenylamine	NS	NS	0.39 U	0.35 U	0.36 U	0.35 U	0.37 U	0.39 U	0.39 U
Pentachlorophenol	0.8	6.7	0.32 U	0.29 U	0.29 U	0.28 U	0.29 U	0.32 U	0.32 U
Phenanthrene	100	100	0.043 J	0.35 U	0.11 J	0.017 J	0.038 J	2.6	NR
Phenol	0.33	100	0.24 U	0.21 U	0.22 U	0.21 U	0.22 U	0.39 U	0.041 J
Pyrene	100	100	0.091 J	0.35 U	0.28 J	0.027 J	0.056 J	4.3	NR

Table 1B
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Semivolatile Organic Compounds

		AKRF Sample ID	20260204	EP-46_4_20260204		EP-47_4_20260204		EP-49_16_20260608	EP-X_16_20260608
		Lab Sample ID	4322-2	460-344323-3		460-344322-4		460-352783-3	460-352783-6
		Sample Date	2026	2/4/2026		2/4/2026		6/8/2026	6/8/2026
		Dilution Factor	5	1	5	1	5	1	1
		Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Compound	**UUSCO**	**RRSCO**	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
1,2,4,5-Tetrachlorobenzene	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
1,4-Dioxane (P-Dioxane)	0.1	13	NR	0.038 U	NR	0.04 U	NR	0.036 U	0.034 U
2,3,4,6-Tetrachlorophenol	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
2,4,5-Trichlorophenol	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
2,4,6-Trichlorophenol	NS	NS	NR	0.16 U	NR	0.16 U	NR	0.15 U	0.14 U
2,4-Dichlorophenol	NS	NS	NR	0.16 U	NR	0.16 U	NR	0.15 U	0.14 U
2,4-Dimethylphenol	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
2,4-Dinitrophenol	NS	NS	NR	0.31 U	NR	0.32 U	NR	0.29 U	0.28 U
2,4-Dinitrotoluene	NS	NS	NR	0.078 U	NR	0.08 U	NR	0.073 U	0.07 U
2,6-Dinitrotoluene	NS	NS	NR	0.078 U	NR	0.08 U	NR	0.073 U	0.07 U
2-Chloronaphthalene	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
2-Chlorophenol	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
2-Methylnaphthalene	NS	NS	NR	0.14 JT	NR	0.76 T	NR	0.36 UT	0.34 UT
2-Methylphenol (O-Cresol)	0.33	100	NR	0.022 J	NR	0.024 J	NR	0.22 U	0.21 U
2-Nitroaniline	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
2-Nitrophenol	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
3- And 4- Methylphenol (Total)	NS	NS	NR	0.07 J	NR	0.07 J	NR	0.22 U	0.21 U
3,3'-Dichlorobenzidine	NS	NS	NR	0.16 UT	NR	0.16 UT	NR	0.15 U	0.14 U
3-Nitroaniline	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
4,6-Dinitro-2-Methylphenol	NS	NS	NR	0.31 U	NR	0.32 U	NR	0.29 U	0.28 U
4-Bromophenyl Phenyl Ether	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
4-Chloro-3-Methylphenol	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
4-Chloroaniline	NS	NS	NR	0.38 UT	NR	0.4 UT	NR	0.36 U	0.34 U
4-Chlorophenyl Phenyl Ether	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
4-Methylphenol (P-Cresol)	0.33	100	NR	0.07 J	NR	0.07 J	NR	0.36 U	0.34 U
4-Nitroaniline	NS	NS	NR	0.38 U	NR	0.28 J	NR	0.36 U	0.34 U
4-Nitrophenol	NS	NS	NR	0.78 U	NR	0.8 U	NR	0.73 U	0.7 U
Acenaphthene	20	100	NR	0.44	NR	1.5	NR	0.013 J	0.34 U
Acenaphthylene	100	100	NR	3.3	NR	0.84	NR	0.021 J	0.34 U
Acetophenone	NS	NS	NR	0.38 U	NR	0.021 J	NR	0.36 U	0.34 U
Anthracene	100	100	NR	2.6	NR	4.5	NR	0.037 J	0.016 J
Atrazine	NS	NS	NR	0.16 U	NR	0.16 U	NR	0.15 U	0.14 U
Benzaldehyde	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
Benzo(a)Anthracene	**1**	1	**16**	NR	**10**	NR	**11**	0.15	0.068
Benzo(a)Pyrene	**1**	1	**14**	NR	**10**	NR	**9.9**	0.15	0.067
Benzo(b)Fluoranthene	**1**	1	**21**	NR	**15**	NR	**14**	0.2	0.078
Benzo(g,h,i)Perylene	100	100	NR	5.6	NR	5.4	NR	0.12 J	0.043 J
Benzo(k)Fluoranthene	**0.8**	3.9	NR	**6.3**	NR	**5.7**	NR	0.072	0.036
Benzyl Butyl Phthalate	NS	NS	NR	0.38 U	NR	0.38 J	NR	0.36 U	0.34 U
Biphenyl (Diphenyl)	NS	NS	NR	0.05 J	NR	0.16 J	NR	0.36 U	0.34 U
Bis(2-Chloroethoxy) Methane	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	NS	NS	NR	0.038 U	NR	0.04 U	NR	0.036 U	0.034 U
Bis(2-Chloroisopropyl) Ether	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
Bis(2-Ethylhexyl) Phthalate	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.072 J	0.34 U
Caprolactam	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
Carbazole	NS	NS	NR	1.1	NR	1.9	NR	0.36 U	0.34 U
Chrysene	**1**	3.9	**16**	NR	**11**	NR	**11**	0.18 J	0.08 J
Dibenz(a,h)Anthracene	**0.33**	0.33	NR	**1.7**	NR	**1.7**	NR	0.035 J	0.034 U
Dibenzofuran	7	59	NR	0.29 J	NR	0.96	NR	0.36 U	0.34 U
Diethyl Phthalate	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
Dimethyl Phthalate	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
Di-N-Butyl Phthalate	NS	NS	NR	0.1 J	NR	0.4 U	NR	0.36 U	0.34 U
Di-N-Octylphthalate	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
Fluoranthene	100	100	36	NR	20	NR	24	0.33 J	0.16 J
Fluorene	30	100	NR	0.66	NR	1.3	NR	0.36 U	0.34 U
Hexachlorobenzene	0.33	1.2	NR	0.038 U	NR	0.04 U	NR	0.036 U	0.034 U
Hexachlorobutadiene	NS	NS	NR	0.078 U	NR	0.08 U	NR	0.073 U	0.07 U
Hexachlorocyclopentadiene	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
Hexachloroethane	NS	NS	NR	0.038 U	NR	0.04 U	NR	0.036 U	0.034 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	0.5	NR	**6.1**	NR	**5.9**	NR	0.11	0.034 U
Isophorone	NS	NS	NR	0.16 U	NR	0.16 U	NR	0.15 U	0.14 U
Naphthalene	12	100	NR	0.36 J	NR	1.1	NR	0.36 U	0.34 U
Nitrobenzene	NS	NS	NR	0.038 U	NR	0.04 U	NR	0.036 U	0.034 U
N-Nitrosodi-N-Propylamine	NS	NS	NR	0.038 U	NR	0.04 U	NR	0.036 U	0.034 U
N-Nitrosodiphenylamine	NS	NS	NR	0.38 U	NR	0.4 U	NR	0.36 U	0.34 U
Pentachlorophenol	0.8	6.7	NR	0.31 U	NR	0.32 U	NR	0.29 U	0.28 U
Phenanthrene	100	100	25	NR	9.5	NR	18	0.17 J	0.1 J
Phenol	0.33	100	NR	0.054 J	NR	0.042 J	NR	0.22 U	0.21 U
Pyrene	100	100	28	NR	16	NR	20	0.32 J	0.14 J

Table 1B
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Semivolatile Organic Compounds

		AKRF Sample ID	EP-50_18_20260605		EP-53_15_20260504		EP-54_15_20260504		EP-57_15_20260504		EP-58_15_20260504		FB-02_20260511		FB-03_20260608	
		Lab Sample ID	460-352643-3		460-350261-1		460-350261-2		460-350261-3		460-350261-4		460-350773-1		460-352783-4	
		Sample Date	6/5/2026		5/4/2026		5/4/2026		5/4/2026		5/4/2026		5/11/2026		6/8/2026	
		Dilution Factor	1		1		1		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		µg/L		µg/L	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
1,2,4,5-Tetrachlorobenzene	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	5	U	5	U
1,4-Dioxane (P-Dioxane)	0.1	13	0.037	U	0.04	U	0.038	U	0.038	U	0.037	U	10	U	10	U
2,3,4,6-Tetrachlorophenol	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
2,4,5-Trichlorophenol	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
2,4,6-Trichlorophenol	NS	NS	0.15	U	0.16	U	0.15	U	0.15	U	0.15	U	3	U	3	U
2,4-Dichlorophenol	NS	NS	0.15	U	0.16	U	0.15	U	0.15	U	0.15	U	5	U	5	U
2,4-Dimethylphenol	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	1.6	U	1.6	U
2,4-Dinitrophenol	NS	NS	0.3	U	0.32	U	0.3	U	0.31	U	0.3	U	1.6	U	1.6	U
2,4-Dinitrotoluene	NS	NS	0.075	U	0.08	U	0.077	U	0.077	U	0.075	U	5	U	5	U
2,6-Dinitrotoluene	NS	NS	0.075	U	0.08	U	0.077	U	0.077	U	0.075	U	2	U	2	U
2-Chloronaphthalene	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
2-Chlorophenol	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
2-Methylnaphthalene	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
2-Methylphenol (O-Cresol)	0.33	100	0.22	U	0.24	U	0.23	U	0.23	U	0.22	U	10	U	10	U
2-Nitroaniline	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	5	U	5	U
2-Nitrophenol	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
3- And 4- Methylphenol (Total)	NS	NS	0.22	U	0.24	U	0.23	U	0.23	U	0.22	U	10	U	10	U
3,3'-Dichlorobenzidine	NS	NS	0.15	U	0.16	U	0.15	U	0.15	U	0.15	U	5	U	5	U
3-Nitroaniline	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	5	U	5	U
4,6-Dinitro-2-Methylphenol	NS	NS	0.3	U	0.32	U	0.3	U	0.31	U	0.3	U	20	U	20	U
4-Bromophenyl Phenyl Ether	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
4-Chloro-3-Methylphenol	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
4-Chloroaniline	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	5	U	5	U
4-Chlorophenyl Phenyl Ether	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
4-Methylphenol (P-Cresol)	0.33	100	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
4-Nitroaniline	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	5	U	5	U
4-Nitrophenol	NS	NS	0.75	U	0.8	U	0.77	U	0.77	U	0.75	U	20	U	20	U
Acenaphthene	20	100	0.37	U	0.4	U	0.013	J	0.38	U	0.37	U	10	U	10	U
Acenaphthylene	100	100	0.016	J	0.4	U	0.012	J	0.38	U	0.37	U	10	U	10	U
Acetophenone	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
Anthracene	100	100	0.02	J	0.4	U	0.027	J	0.38	U	0.37	U	10	U	10	U
Atrazine	NS	NS	0.15	U	0.16	U	0.15	U	0.15	U	0.15	U	2	U	2	U
Benzaldehyde	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
Benzo(a)Anthracene	**1**	1	0.082		0.04	U	0.1		0.015	J	0.037	U	1	U	1	U
Benzo(a)Pyrene	**1**	1	0.072		0.04	U	0.089		0.0078	J	0.037	U	1	U	1	U
Benzo(b)Fluoranthene	**1**	1	0.093		0.04	U	0.12		0.012	J	0.037	U	2	U	2	U
Benzo(g,h,i)Perylene	100	100	0.052	J	0.4	U	0.063	J	0.38	U	0.37	U	10	U	10	U
Benzo(k)Fluoranthene	**0.8**	3.9	0.05		0.04	U	0.046		0.038	U	0.037	U	1	U	1	U
Benzyl Butyl Phthalate	NS	NS	0.37	U	0.4	U	0.14	J	0.38	U	0.37	U	10	U	10	U
Biphenyl (Diphenyl)	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	5	U	5	U
Bis(2-Chloroethoxy) Methane	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	5	U	5	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	NS	NS	0.037	U	0.04	U	0.038	U	0.038	U	0.037	U	1	U	1	U
Bis(2-Chloroisopropyl) Ether	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	5	U	5	U
Bis(2-Ethylhexyl) Phthalate	NS	NS	0.37	U	0.4	U	0.038	J	0.38	U	0.37	U	2	U	2	U
Caprolactam	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
Carbazole	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
Chrysene	**1**	3.9	0.094	J	0.4	U	0.1	J	0.0088	J	0.37	U	2	U	2	U
Dibenz(a,h)Anthracene	**0.33**	0.33	0.013	J	0.04	U	0.02	J	0.038	U	0.037	U	1	U	1	U
Dibenzofuran	7	59	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
Diethyl Phthalate	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
Dimethyl Phthalate	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
Di-N-Butyl Phthalate	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
Di-N-Octylphthalate	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
Fluoranthene	100	100	0.17	J	0.4	U	0.21	J	0.017	J	0.37	U	10	U	10	U
Fluorene	30	100	0.37	U	0.4	U	0.011	J	0.38	U	0.37	U	10	U	10	U
Hexachlorobenzene	0.33	1.2	0.037	U	0.04	U	0.038	U	0.038	U	0.037	U	1	U	1	U
Hexachlorobutadiene	NS	NS	0.075	U	0.08	U	0.077	U	0.077	U	0.075	U	0.5	U	0.5	U
Hexachlorocyclopentadiene	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	5	U	5	U
Hexachloroethane	NS	NS	0.037	U	0.04	U	0.038	U	0.038	U	0.037	U	0.8	U	0.8	U
Indeno(1,2,3-c,d)Pyrene	**0.5**	0.5	0.047		0.04	U	0.065		0.038	U	0.037	U	2	U	2	U
Isophorone	NS	NS	0.15	U	0.16	U	0.15	U	0.15	U	0.15	U	10	U	10	U
Naphthalene	12	100	0.37	U	0.4	U	0.0084	J	0.38	U	0.37	U	2	U	2	U
Nitrobenzene	NS	NS	0.037	U	0.04	U	0.038	U	0.038	U	0.037	U	0.4	U	0.4	U
N-Nitrosodi-N-Propylamine	NS	NS	0.037	U	0.04	U	0.038	U	0.038	U	0.037	U	1	U	1	U
N-Nitrosodiphenylamine	NS	NS	0.37	U	0.4	U	0.38	U	0.38	U	0.37	U	10	U	10	U
Pentachlorophenol	0.8	6.7	0.3	U	0.32	U	0.3	U	0.31	U	0.3	U	20	U	20	U
Phenanthrene	100	100	0.078	J	0.4	U	0.12	J	0.01	J	0.37	U	10	U	10	U
Phenol	0.33	100	0.22	U	0.24	U	0.23	U	0.23	U	0.22	U	10	U	10	U
Pyrene	100	100	0.14	J	0.011	J	0.19	J	0.014	J	0.37	U	10	U	10	U

Table 1B
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Semivolatile Organic Compounds

		AKRF Sample ID	EP-FB_01_20260129	
		Lab Sample ID	460-344050-6	
		Sample Date	1/29/2026	
		Dilution Factor	1	
		Unit	µg/L	
Compound	**UUSCO**	**RRSCO**	CONC	Q
1,2,4,5-Tetrachlorobenzene	NS	NS	10	U
1,4-Dioxane (P-Dioxane)	0.1	13	10	U
2,3,4,6-Tetrachlorophenol	NS	NS	10	U
2,4,5-Trichlorophenol	NS	NS	10	U
2,4,6-Trichlorophenol	NS	NS	3	U
2,4-Dichlorophenol	NS	NS	10	U
2,4-Dimethylphenol	NS	NS	10	U
2,4-Dinitrophenol	NS	NS	12	U
2,4-Dinitrotoluene	NS	NS	10	U
2,6-Dinitrotoluene	NS	NS	2	U
2-Chloronaphthalene	NS	NS	10	U
2-Chlorophenol	NS	NS	10	U
2-Methylnaphthalene	NS	NS	10	U
2-Methylphenol (O-Cresol)	0.33	100	10	U
2-Nitroaniline	NS	NS	10	U
2-Nitrophenol	NS	NS	10	U
3- And 4- Methylphenol (Total)	NS	NS	10	U
3,3'-Dichlorobenzidine	NS	NS	5.2	U
3-Nitroaniline	NS	NS	10	U
4,6-Dinitro-2-Methylphenol	NS	NS	20	U
4-Bromophenyl Phenyl Ether	NS	NS	10	U
4-Chloro-3-Methylphenol	NS	NS	10	U
4-Chloroaniline	NS	NS	5	U
4-Chlorophenyl Phenyl Ether	NS	NS	10	U
4-Methylphenol (P-Cresol)	0.33	100	10	U
4-Nitroaniline	NS	NS	10	U
4-Nitrophenol	NS	NS	20	U
Acenaphthene	20	100	10	U
Acenaphthylene	100	100	10	U
Acetophenone	NS	NS	10	U
Anthracene	100	100	10	U
Atrazine	NS	NS	2	U
Benzaldehyde	NS	NS	10	U
Benzo(a)Anthracene	**1**	1	1	U
Benzo(a)Pyrene	**1**	1	1	U
Benzo(b)Fluoranthene	**1**	1	2	U
Benzo(g,h,i)Perylene	100	100	10	U
Benzo(k)Fluoranthene	**0.8**	3.9	1	U
Benzyl Butyl Phthalate	NS	NS	10	U
Biphenyl (Diphenyl)	NS	NS	5	U
Bis(2-Chloroethoxy) Methane	NS	NS	10	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	NS	NS	1	U
Bis(2-Chloroisopropyl) Ether	NS	NS	10	U
Bis(2-Ethylhexyl) Phthalate	NS	NS	2	U
Caprolactam	NS	NS	10	U
Carbazole	NS	NS	10	U
Chrysene	**1**	3.9	2	U
Dibenz(a,h)Anthracene	**0.33**	0.33	1	U
Dibenzofuran	7	59	10	U
Diethyl Phthalate	NS	NS	10	U
Dimethyl Phthalate	NS	NS	10	U
Di-N-Butyl Phthalate	NS	NS	10	U
Di-N-Octylphthalate	NS	NS	10	U
Fluoranthene	100	100	10	U
Fluorene	30	100	10	U
Hexachlorobenzene	0.33	1.2	1	U
Hexachlorobutadiene	NS	NS	1	U
Hexachlorocyclopentadiene	NS	NS	10	U
Hexachloroethane	NS	NS	0.8	U
Indeno(1,2,3-c,d)Pyrene	**0.5**	0.5	2	U
Isophorone	NS	NS	10	U
Naphthalene	12	100	2	U
Nitrobenzene	NS	NS	1	U
N-Nitrosodi-N-Propylamine	NS	NS	1	U
N-Nitrosodiphenylamine	NS	NS	10	U
Pentachlorophenol	0.8	6.7	20	U
Phenanthrene	100	100	10	U
Phenol	0.33	100	10	U
Pyrene	100	100	10	U

Table 1C
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Metals

		AKRF Sample ID	EP-04_14_20260601		EP-05_14_20260601		EP-06_12_20260601		EP-07_16_20260601		EP-08_16_20260603	
		Lab Sample ID	460-352213-2		460-352213-3		460-352213-1		460-352213-4		460-352423-1	
		Sample Date	6/1/2026		6/1/2026		6/1/2026		6/1/2026		6/3/2026	
		Dilution Factor	1		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Aluminum	NS	NS	17,400		11,600		7,840		8,300		9,910	
Antimony	NS	NS	0.99	U	1	U	1.1	U	1	U	1	U
Arsenic	13	16	2.8		1.9		1.1		1.3		2.3	
Barium	**350**	400	65.3		56.6		36.8		62.7		83.8	
Beryllium	7.2	72	0.76		0.53		0.44		0.52		0.84	
Cadmium	2.5	4.3	0.11	J	0.51	U	0.53	U	0.5	U	0.17	J
Calcium	NS	NS	4,070		63,600		99,300		97,400		31,000	
Chromium, Total	NS	NS	30		23.9		14.3		16.5		22.4	
Cobalt	NS	NS	10.8		7.4		5.8		6.8		14	
Copper	**50**	270	21.7		14.8		12.4		14.4		16.8	
Iron	NS	NS	23,200		17,900		12,200		14,600		23,500	
Lead	**63**	400	12.8		13.2		8.4		18.2		7.7	
Magnesium	NS	NS	8,720		11,900		23,100		18,800		12,700	
Manganese	1,600	2,000	558		447		300		397		849	
Mercury	**0.18**	0.81	0.016	J	0.02		0.015	J	0.02		0.01	J
Nickel	**30**	310	20.7		14.2		11.4		13		22.2	
Potassium	NS	NS	1,510		2,590		1,820		1,850		2,070	
Selenium	3.9	180	1.2	U	1.3	U	1.3	U	1.3	U	1.3	U
Silver	2	180	0.4	U	0.41	U	0.43	U	0.4	U	0.41	U
Sodium	NS	NS	178		426		484		391		686	
Thallium	NS	NS	0.23	J	0.16	J	0.14	J	0.18	J	0.52	
Vanadium	NS	NS	34.2		25.9		16.4		18.9		25.6	
Zinc	**109**	10,000	54.5		66.6		39.8		50.4		92.2	

Table 1C
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Metals

		AKRF Sample ID	EP-09_18_20260603		EP-10_15_20260504		EP-11_15_20260504		EP-12_15_20260504		EP-13_15_20260504	
		Lab Sample ID	460-352423-2		460-350261-5		460-350245-6		460-350261-7		460-350261-8	
		Sample Date	6/3/2026		5/4/2026		5/4/2026		5/4/2026		5/4/2026	
		Dilution Factor	1		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Aluminum	NS	NS	13,800		9,310		5,370		3,780		6,410	
Antimony	NS	NS	1.1	U	0.98	U	1	U	1	U	1.1	U
Arsenic	13	16	2.5		1.3		0.94	J	0.83	J	1.3	
Barium	**350**	400	128		88.2		37.2		26.2		45.7	
Beryllium	7.2	72	0.73		0.41		0.35	J	0.3	J	0.4	J
Cadmium	2.5	4.3	0.55	U	0.49	U	0.5	U	0.52	U	0.12	J
Calcium	NS	NS	2,750		21,300		52,800		47,600		38,800	
Chromium, Total	NS	NS	29.6		23.5		12.4		10.3		17.7	
Cobalt	NS	NS	11.6		10.5		6.4		5.9		7.9	
Copper	**50**	270	18.4		23.2		14.5		12.3		15.4	
Iron	NS	NS	20,200		19,000		13,900		11,300		15,700	
Lead	**63**	400	9.3		7.8		8		3.6		7.3	
Magnesium	NS	NS	6,060		13,700		22,300		24,000		20,500	
Manganese	1,600	2,000	230		595		271		267		389	
Mercury	**0.18**	0.81	0.013	J	0.022		0.011	J	0.0089	J	0.012	J
Nickel	**30**	310	19.8		19.1		11.1		10.8		13.7	
Potassium	NS	NS	5,550		3,290		1,360		963		1,680	
Selenium	3.9	180	1.4	U	1.2	U	1.3	U	1.3	U	1.4	U
Silver	2	180	0.44	U	0.39	U	0.4	U	0.42	U	0.44	U
Sodium	NS	NS	458		506		469		316		341	
Thallium	NS	NS	0.4	J	0.26	J	0.19	J	0.17	J	0.23	J
Vanadium	NS	NS	42.3		29.8		16.5		14.8		22.3	
Zinc	**109**	10,000	70.6		53		32.5		26.6		39.6	

Table 1C
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Metals

		AKRF Sample ID	EP-X_15_20260504		EP-14_6_20260129		EP-15_6_20260129		EP-15_6_20260129		EP-16_6_20260129	
		Lab Sample ID	460-350261-9		460-344050-1		460-344050-2		460-344050-2		460-344050-3	
		Sample Date	5/4/2026		1/29/2026		1/29/2026		1/29/2026		1/29/2026	
		Dilution Factor	1		1		1		2		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Aluminum	NS	NS	6,410		11,800		7,730		NR		9,510	
Antimony	NS	NS	0.99	U	1	U	0.49	J	NR		0.37	J
Arsenic	13	16	1.3		3		4.4		NR		3.7	
Barium	**350**	400	44.5		66.5		312		NR		235	
Beryllium	7.2	72	0.43		0.48		0.32	J	NR		0.58	
Cadmium	2.5	4.3	0.49	U	0.12	J	0.45	J	NR		0.55	
Calcium	NS	NS	32,600		18,800		69,600		NR		41,900	
Chromium, Total	NS	NS	18		20.8		18.1		NR		29.4	
Cobalt	NS	NS	7.3		6.6		5.2		NR		6.5	
Copper	**50**	270	17.7		17.6		32.7		NR		28.3	
Iron	NS	NS	15,200		15,300		15,400		NR		17,800	
Lead	**63**	400	8.3		**85.4**		**333**		NR		**287**	
Magnesium	NS	NS	15,400		11,400		14,400		NR		17,000	
Manganese	1,600	2,000	321		237		226		NR		218	
Mercury	**0.18**	0.81	0.012	J	0.089		NR		**1**		**0.56**	
Nickel	**30**	310	13.4		12.7		15.5		NR		14.4	
Potassium	NS	NS	1,680		1,200		1,820		NR		1,690	
Selenium	3.9	180	1.2	U	0.17	J	0.22	J	NR		0.2	J
Silver	2	180	0.39	U	0.4	U	0.17	J	NR		0.11	J
Sodium	NS	NS	327		526		462		NR		421	
Thallium	NS	NS	0.2	J	0.13	J	0.11	J	NR		0.14	J
Vanadium	NS	NS	22.4		23		19.2		NR		24.4	
Zinc	**109**	10,000	38.6		69.3		**283**		NR		**223**	

Table 1C
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Metals

		AKRF Sample ID	EP-X_6_20260129		EP-17_6_20260129		EP-26_2_20260202		EP-27_2_20260202		
		Lab Sample ID	460-344049-4		460-344049-5		460-344162-1		460-344162-2		
		Sample Date	1/29/2026		1/29/2026		2/2/2026		2/2/2026		
		Dilution Factor	1		1		1		1		3
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC Q
Aluminum	NS	NS	8,930		9,150		13,500		9,570		NR
Antimony	NS	NS	0.45	J	0.27	J	0.21	J	1.6		NR
Arsenic	13	16	4.1		3.9		5.6		8.7		NR
Barium	**350**	400	250		**364**		130		**445**		NR
Beryllium	7.2	72	0.4	J	0.45	J	0.57		0.43		NR
Cadmium	2.5	4.3	0.77		0.43	J	0.34	J	1.2		NR
Calcium	NS	NS	52,500		65,900		41,800		45,200		NR
Chromium, Total	NS	NS	20.7		18.3		24		23.7		NR
Cobalt	NS	NS	7.1		5.5		7		6		NR
Copper	**50**	270	40.4		29.9		34		**105**		NR
Iron	NS	NS	17,700		18,400		17,200		18,000		NR
Lead	**63**	400	**372**		**248**		**271**		**714**		NR
Magnesium	NS	NS	20,500		14,600		21,100		20,400		NR
Manganese	1,600	2,000	266		279		373		320		NR
Mercury	**0.18**	0.81	**0.6**		**0.69**		**0.76**		NR		**1**
Nickel	**30**	310	23.1		13.8		15.8		18.4		NR
Potassium	NS	NS	1,720		2,200		1,180		1,330		NR
Selenium	3.9	180	0.3	J	0.44	J	0.49	J	0.6	J	NR
Silver	2	180	0.15	J	0.14	J	0.4		0.72		NR
Sodium	NS	NS	504		451		626		286		NR
Thallium	NS	NS	0.14	J	0.09	J	0.21	J	0.2	J	NR
Vanadium	NS	NS	40		22.1		31.1		27.4		NR
Zinc	**109**	10,000	**334**		**295**		**192**		**561**		NR

Table 1C
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Metals

		AKRF Sample ID	EP-28_3_20260202		EP-29_3_20260202		EP-30_4_20260202		EP-31_10_20260608		EP-32_16_20260603	
		Lab Sample ID	460-344162-3		460-344162-4		460-344162-5		460-352783-1		460-352423-3	
		Sample Date	2/2/2026		2/2/2026		2/2/2026		6/8/2026		6/3/2026	
		Dilution Factor	1		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Aluminum	NS	NS	10,800		14,200		9,310		10,700		14,500	
Antimony	NS	NS	0.31	J	0.33	J	0.65	J	1	U	0.11	J
Arsenic	13	16	6		9.1		7.1		1.6		3.1	
Barium	**350**	400	**543**		89.6		145		84.5		85.3	
Beryllium	7.2	72	0.45		0.78		0.41		0.63		0.83	
Cadmium	2.5	4.3	0.53		0.16	J	0.72		0.14	J	0.36	J
Calcium	NS	NS	40,400		4,880		89,300		43,800		31,900	
Chromium, Total	NS	NS	20.1		30.6		18.1		25		28	
Cobalt	NS	NS	6.8		9.3		5.1		12.8		10	
Copper	**50**	270	31		20.9		**79.9**		23.6		19.6	
Iron	NS	NS	14,700		21,100		21,500		21,800		27,400	
Lead	**63**	400	**262**		**94.8**		**440**		21.2		29	
Magnesium	NS	NS	14,400		8,550		46,400		14,800		13,300	
Manganese	1,600	2,000	332		553		311		605		520	
Mercury	**0.18**	0.81	**0.47**		**0.86**		**0.8**		0.018		0.039	
Nickel	**30**	310	14.4		19		15.2		21		16.4	
Potassium	NS	NS	1,400		1,880		1,140		2,290		1,950	
Selenium	3.9	180	0.26	J	0.22	J	0.46	J	0.13	J	0.17	J
Silver	2	180	0.27	J	0.44	U	0.38	J	0.41	U	0.37	U
Sodium	NS	NS	278		135		170		554		423	
Thallium	NS	NS	0.14	J	0.24	J	0.16	J	0.39	J	0.25	J
Vanadium	NS	NS	26.8		33.9		21.9		31.2		31	
Zinc	**109**	10,000	**344**		79.6		**320**		75.1		109	

Table 1C
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Metals

		AKRF Sample ID	EP-33_13_20260511		EP-34_13_20260511		EP-35_13_20260511		EP-36_13_20260511		EP-37_13_20260511	
		Lab Sample ID	460-350805-3		460-350773-3		460-350773-4		460-350805-6		460-350773-6	
		Sample Date	5/11/2026		5/11/2026		5/11/2026		5/11/2026		5/11/2026	
		Dilution Factor	1		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Aluminum	NS	NS	9,230		9,550		12,600		9,450		5,000	
Antimony	NS	NS	0.12	J	0.21	J	0.095	J	0.2	J	0.96	U
Arsenic	13	16	2.5		3.1		3.4		3.4		2	
Barium	**350**	400	209		281		111		**388**		22.9	
Beryllium	7.2	72	0.46		0.45		0.89		0.43		0.4	
Cadmium	2.5	4.3	0.22	J	0.35	J	0.21	J	0.63		0.48	U
Calcium	NS	NS	73,400		46,200		4,340		29,200		1,950	
Chromium, Total	NS	NS	19.3		19.2		22.8		17.7		15.4	
Cobalt	NS	NS	7.5		7.1		7.4		8		6.2	
Copper	**50**	270	29.3		22.7		12		33.3		17	
Iron	NS	NS	17,100		16,700		19,700		18,100		15,600	
Lead	**63**	400	**82**		**163**		11.8		**121**		4.8	
Magnesium	NS	NS	10,300		9,470		3,430		8,090		2,420	
Manganese	1,600	2,000	307		362		679		1,050		493	
Mercury	**0.18**	0.81	0.081		0.13		0.1		**0.26**		0.018	U
Nickel	**30**	310	14.2		14.1		15.3		22.2		10.2	
Potassium	NS	NS	2,300		1,830		1,030		1,470		1,390	
Selenium	3.9	180	0.17	J	0.25	J	0.47	J	0.2	J	1.2	U
Silver	2	180	0.41	U	0.41	U	0.42	U	0.43	U	0.39	U
Sodium	NS	NS	336		300		179		461		142	
Thallium	NS	NS	0.19	J	0.19	J	0.11	J	0.13	J	0.11	J
Vanadium	NS	NS	22.9		24		24.8		28.5		19.8	
Zinc	**109**	10,000	**146**		**188**		50.8		**245**		36	

Table 1C
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Metals

		AKRF Sample ID	EP-38_10_20260608		EP-39_16_20260605		EP-40_16_20260605		EP-44_4_20260204	
		Lab Sample ID	460-352783-2		460-352643-1		460-352643-2		460-344323-1	
		Sample Date	6/8/2026		6/5/2026		6/5/2026		2/4/2026	
		Dilution Factor	1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Aluminum	NS	NS	10,900		9,180		9,380		7,430	
Antimony	NS	NS	0.97	U	0.97	U	0.99	U	1.7	
Arsenic	13	16	1.7		1.3		2.8		8.9	
Barium	**350**	400	73.3		62		107		**646**	
Beryllium	7.2	72	0.65		0.63		0.77		0.35	J
Cadmium	2.5	4.3	0.12	J	0.49	U	0.14	J	1.9	
Calcium	NS	NS	42,700		14,900		5,170		64,500	
Chromium, Total	NS	NS	25		22.1		24.8		28.9	
Cobalt	NS	NS	13		9.6		13.8		7	
Copper	**50**	270	25.4		24.5		22.2		**74.5**	
Iron	NS	NS	21,600		19,000		25,400		28,500	
Lead	**63**	400	15.3		13.2		10.6		**960**	
Magnesium	NS	NS	18,700		6,610		4,740		13,000	
Manganese	1,600	2,000	536		389		1,150		293	
Mercury	**0.18**	0.81	0.021		0.022		0.014	J	**0.61**	
Nickel	**30**	310	20.8		16.2		19.1		29.3	
Potassium	NS	NS	2,700		2,040		1,960		854	
Selenium	3.9	180	0.15	J	1.2	U	1.2	U	0.82	J
Silver	2	180	0.39	U	0.39	U	0.4	U	0.46	J
Sodium	NS	NS	430		226		225		139	
Thallium	NS	NS	0.35	J	0.24	J	0.3	J	0.12	J
Vanadium	NS	NS	29.5		32.3		32.1		35.5	
Zinc	**109**	10,000	67.2		57.7		57.4		**1,140**	

Table 1C
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Metals

		AKRF Sample ID	EP-45_4_20260204			EP-46_4_20260204		EP-47_4_20260204		EP-49_16_20260608	
		Lab Sample ID	460-344322-2			460-344323-3		460-344322-4		460-352783-3	
		Sample Date	2/4/2026			2/4/2026		2/4/2026		6/8/2026	
		Dilution Factor	1		3	1		1		1	
		Unit	mg/kg		mg/kg	mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	CONC	Q	CONC	Q	CONC	Q
Aluminum	NS	NS	8,000		NR	6,870		5,460		11,700	
Antimony	NS	NS	0.76	J	NR	3.4		0.67	J	1.1	U
Arsenic	13	16	8.9		NR	6.9		5.5		1.8	
Barium	**350**	400	**388**		NR	**516**		267		87.8	
Beryllium	7.2	72	0.39	J	NR	0.34	J	0.28	J	0.72	
Cadmium	2.5	4.3	1.4		NR	1.7		1.3		0.18	J
Calcium	NS	NS	39,800		NR	95,500		72,400		44,100	
Chromium, Total	NS	NS	18.3		NR	22.1		16		27.7	
Cobalt	NS	NS	5.3		NR	5.9		4.6		13.7	
Copper	**50**	270	**60.1**		NR	**72.6**		42.3		24.2	
Iron	NS	NS	16,500		NR	17,400		14,100		22,400	
Lead	**63**	400	**553**		NR	**1,170**		**688**		20.1	
Magnesium	NS	NS	11,900		NR	14,400		19,100		13,100	
Manganese	1,600	2,000	303		NR	322		218		577	
Mercury	**0.18**	0.81	NR		**1.5**	**0.6**		**0.57**		0.028	
Nickel	**30**	310	14.9		NR	16.1		23.4		22	
Potassium	NS	NS	1,060		NR	1,460		1,270		2,660	
Selenium	3.9	180	1.3		NR	0.67	J	0.6	J	0.18	J
Silver	2	180	0.69		NR	0.4	J	0.22	J	0.44	U
Sodium	NS	NS	273		NR	246		306		428	
Thallium	NS	NS	0.19	J	NR	0.14	J	0.12	J	0.35	J
Vanadium	NS	NS	27		NR	31		17.1		35.1	
Zinc	**109**	10,000	**740**		NR	**981**		**522**		85.4	

Table 1C
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Metals

		AKRF Sample ID	EP-X_16_20260608		EP-50_18_20260605		EP-53_15_20260504				EP-54_15_20260504	
		Lab Sample ID	460-352783-6		460-352643-3		460-350261-1				460-350261-2	
		Sample Date	6/8/2026		6/5/2026		5/4/2026				5/4/2026	
		Dilution Factor	1		1		1		5		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Aluminum	NS	NS	10,100		11,200		15,500		NR		10,100	
Antimony	NS	NS	0.96	U	0.14	J	1.1	U	NR		1	U
Arsenic	13	16	1.8		2.3		2.3		NR		2.1	
Barium	**350**	400	67.9		107		61.4		NR		77.1	
Beryllium	7.2	72	0.61		0.72		0.73		NR		0.54	
Cadmium	2.5	4.3	0.13	J	0.15	J	0.55	U	NR		0.13	J
Calcium	NS	NS	32,800		13,400		36,000		NR		39,600	
Chromium, Total	NS	NS	22.1		27.8		24.9		NR		22.3	
Cobalt	NS	NS	10.3		15.3		72.5		NR		9.8	
Copper	**50**	270	21.4		22.5		14.7		NR		22.9	
Iron	NS	NS	19,500		22,400		NR		70,700		17,500	
Lead	**63**	400	21.2		21.3		7.3		NR		20.4	
Magnesium	NS	NS	10,200		8,680		23,100		NR		14,300	
Manganese	1,600	2,000	492		911		445		NR		402	
Mercury	**0.18**	0.81	0.022		0.028		0.011	J	NR		0.048	
Nickel	**30**	310	16.5		23.5		**37**		NR		17.4	
Potassium	NS	NS	1,950		2,320		2,720		NR		2,950	
Selenium	3.9	180	0.12	J	0.15	J	1.4	U	NR		1.3	U
Silver	2	180	0.38	U	0.41	U	0.44	U	NR		0.41	U
Sodium	NS	NS	351		624		533		NR		333	
Thallium	NS	NS	0.25	J	0.41		0.44		NR		0.28	J
Vanadium	NS	NS	27.6		31.7		23.9		NR		27.9	
Zinc	**109**	10,000	69.7		83		68.7		NR		62.1	

Table 1C
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Metals

		AKRF Sample ID	EP-57_15_20260504		EP-58_15_20260504		FB-02_20260511	
		Lab Sample ID	460-350261-3		460-350261-4		460-350773-1	
		Sample Date	5/4/2026		5/4/2026		5/11/2026	
		Dilution Factor	1		1		1	
		Unit	mg/kg		mg/kg		µg/L	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q
Aluminum	NS	NS	17,900		8,280		40	U
Antimony	NS	NS	1	U	1	U	2	U
Arsenic	13	16	0.24	J	0.85	J	2	U
Barium	**350**	400	204		80.8		4	U
Beryllium	7.2	72	0.34	J	0.52		0.8	U
Cadmium	2.5	4.3	0.52	U	0.52	U	0.92	U
Calcium	NS	NS	2,400		20,100		500	U
Chromium, Total	NS	NS	26.7		17.8		4	U
Cobalt	NS	NS	12.4		11.3		2	U
Copper	**50**	270	15.2		19.1		4	U
Iron	NS	NS	23,000		17,900		120	U
Lead	**63**	400	6.9		6.4		1.2	U
Magnesium	NS	NS	6,310		13,100		200	U
Manganese	1,600	2,000	178		367		8	U
Mercury	**0.18**	0.81	0.017	U	0.0086	J	0.2	U
Nickel	**30**	310	18.5		14.7		4	U
Potassium	NS	NS	10,200		3,380		200	U
Selenium	3.9	180	1.3	U	1.3	U	2.5	U
Silver	2	180	0.41	U	0.42	U	2	U
Sodium	NS	NS	149		236		500	U
Thallium	NS	NS	0.43		0.24	J	0.5	U
Vanadium	NS	NS	39.3		25.7		4	U
Zinc	**109**	10,000	79.3		46.2		16	U

Table 1C
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Metals

		AKRF Sample ID	FB-03_20260608		EP-FB_01_20260129	
		Lab Sample ID	460-352783-4		460-344050-6	
		Sample Date	6/8/2026		1/29/2026	
		Dilution Factor	1		1	
		Unit	µg/L		µg/L	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q
Aluminum	NS	NS	40	U	40	U
Antimony	NS	NS	2	U	2	U
Arsenic	13	16	2	U	2	U
Barium	**350**	400	4	U	4	U
Beryllium	7.2	72	0.8	U	0.8	U
Cadmium	2.5	4.3	0.92	U	0.92	U
Calcium	NS	NS	500	U	85.4	J
Chromium, Total	NS	NS	4	U	4	U
Cobalt	NS	NS	2	U	2	U
Copper	**50**	270	4	U	4	U
Iron	NS	NS	120	U	120	U
Lead	**63**	400	1.2	U	1.2	U
Magnesium	NS	NS	200	U	200	U
Manganese	1,600	2,000	8	U	8	U
Mercury	**0.18**	0.81	0.2	U	0.2	U
Nickel	**30**	310	4	U	4	U
Potassium	NS	NS	200	U	200	U
Selenium	3.9	180	2.5	U	2.5	U
Silver	2	180	2	U	2	U
Sodium	NS	NS	500	U	222	J
Thallium	NS	NS	0.5	U	0.5	U
Vanadium	NS	NS	4	U	4	U
Zinc	**109**	10,000	16	U	16	U

Table 1D
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Polychlorinated Biphenyls

		AKRF Sample ID	EP-04_14_20260601	EP-05_14_20260601	EP-06_12_20260601	EP-07_16_20260601	EP-08_16_20260603
		Lab Sample ID	460-352213-2	460-352213-3	460-352213-1	460-352213-4	460-352423-1
		Sample Date	6/1/2026	6/1/2026	6/1/2026	6/1/2026	6/3/2026
		Dilution Factor	1	1	1	1	1
		Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Compound	**UUSCO**	**RRSCO**	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
PCB-1016 (Aroclor 1016)	NS	NS	0.074 U	0.074 U	0.071 U	0.075 U	0.077 U
PCB-1221 (Aroclor 1221)	NS	NS	0.074 U	0.074 U	0.071 U	0.075 U	0.077 U
PCB-1232 (Aroclor 1232)	NS	NS	0.074 U	0.074 U	0.071 U	0.075 U	0.077 U
PCB-1242 (Aroclor 1242)	NS	NS	0.074 U	0.074 U	0.071 U	0.075 U	0.077 U
PCB-1248 (Aroclor 1248)	NS	NS	0.074 U	0.074 U	0.071 U	0.075 U	0.077 U
PCB-1254 (Aroclor 1254)	NS	NS	0.074 U	0.074 U	0.071 U	0.075 U	0.077 U
PCB-1260 (Aroclor 1260)	NS	NS	0.074 U	0.074 U	0.071 U	0.075 U	0.077 U
PCB-1262 (Aroclor 1262)	NS	NS	0.074 U	0.074 U	0.071 U	0.075 U	0.077 U
PCB-1268 (Aroclor 1268)	NS	NS	0.074 U	0.074 U	0.071 U	0.075 U	0.077 U
Total PCBs	**0.1**	1	0.074 U	0.074 U	0.071 U	0.075 U	0.077 U

Table 1D
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Polychlorinated Biphenyls

		AKRF Sample ID	EP-09_18_20260603		EP-10_15_20260504		EP-11_15_20260504		EP-12_15_20260504		EP-13_15_20260504	
		Lab Sample ID	460-352423-2		460-350261-5		460-350245-6		460-350261-7		460-350261-8	
		Sample Date	6/3/2026		5/4/2026		5/4/2026		5/4/2026		5/4/2026	
		Dilution Factor	1		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
PCB-1016 (Aroclor 1016)	NS	NS	0.079	U	0.073	U	0.074	U	0.076	U	0.073	U
PCB-1221 (Aroclor 1221)	NS	NS	0.079	U	0.073	U	0.074	U	0.076	U	0.073	U
PCB-1232 (Aroclor 1232)	NS	NS	0.079	U	0.073	U	0.074	U	0.076	U	0.073	U
PCB-1242 (Aroclor 1242)	NS	NS	0.079	U	0.073	U	0.074	U	0.076	U	0.073	U
PCB-1248 (Aroclor 1248)	NS	NS	0.079	U	0.073	U	0.074	U	0.076	U	0.073	U
PCB-1254 (Aroclor 1254)	NS	NS	0.079	U	0.073	U	0.074	U	0.076	U	0.073	U
PCB-1260 (Aroclor 1260)	NS	NS	0.079	U	0.073	U	0.074	U	0.076	U	0.073	U
PCB-1262 (Aroclor 1262)	NS	NS	0.079	U	0.073	U	0.074	U	0.076	U	0.073	U
PCB-1268 (Aroclor 1268)	NS	NS	0.079	U	0.073	U	0.074	U	0.076	U	0.073	U
Total PCBs	**0.1**	1	0.079	U	0.073	U	0.074	U	0.076	U	0.073	U

Table 1D
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Polychlorinated Biphenyls

		AKRF Sample ID	EP-X_15_20260504		EP-14_6_20260129		EP-15_6_20260129		EP-16_6_20260129		EP-X_6_20260129	
		Lab Sample ID	460-350261-9		460-344050-1		460-344050-2		460-344050-3		460-344049-4	
		Sample Date	5/4/2026		1/29/2026		1/29/2026		1/29/2026		1/29/2026	
		Dilution Factor	1		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
PCB-1016 (Aroclor 1016)	NS	NS	0.072	U	0.072	U	0.075	U	0.081	U	0.081	U
PCB-1221 (Aroclor 1221)	NS	NS	0.072	U	0.072	U	0.075	U	0.081	U	0.081	U
PCB-1232 (Aroclor 1232)	NS	NS	0.072	U	0.072	U	0.075	U	0.081	U	0.081	U
PCB-1242 (Aroclor 1242)	NS	NS	0.072	U	0.072	U	0.075	U	0.081	U	0.081	U
PCB-1248 (Aroclor 1248)	NS	NS	0.072	U	0.072	U	0.075	U	0.081	U	0.081	U
PCB-1254 (Aroclor 1254)	NS	NS	0.072	U	0.072	U	0.075	U	0.081	U	0.081	U
PCB-1260 (Aroclor 1260)	NS	NS	0.072	U	0.072	U	0.075	U	0.081	U	0.081	U
PCB-1262 (Aroclor 1262)	NS	NS	0.072	U	0.072	U	0.075	U	0.081	U	0.081	U
PCB-1268 (Aroclor 1268)	NS	NS	0.072	U	0.072	U	0.075	U	0.081	U	0.081	U
Total PCBs	**0.1**	1	0.072	U	0.072	U	0.075	U	0.081	U	0.081	U

Table 1D
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Polychlorinated Biphenyls

		AKRF Sample ID	EP-17_6_20260129	EP-26_2_20260202	EP-27_2_20260202	EP-28_3_20260202	EP-29_3_20260202
		Lab Sample ID	460-344049-5	460-344162-1	460-344162-2	460-344162-3	460-344162-4
		Sample Date	1/29/2026	2/2/2026	2/2/2026	2/2/2026	2/2/2026
		Dilution Factor	5	1	1	1	1
		Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Compound	**UUSCO**	**RRSCO**	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
PCB-1016 (Aroclor 1016)	NS	NS	0.38 U	0.076 U	0.075 U	0.077 U	0.074 U
PCB-1221 (Aroclor 1221)	NS	NS	0.38 U	0.076 U	0.075 U	0.077 U	0.074 U
PCB-1232 (Aroclor 1232)	NS	NS	0.38 U	0.076 U	0.075 U	0.077 U	0.074 U
PCB-1242 (Aroclor 1242)	NS	NS	0.38 U	0.076 U	0.075 U	0.077 U	0.074 U
PCB-1248 (Aroclor 1248)	NS	NS	0.38 U	0.076 U	0.075 U	0.077 U	0.074 U
PCB-1254 (Aroclor 1254)	NS	NS	0.38 U	0.076 U	0.075 U	0.077 U	0.074 U
PCB-1260 (Aroclor 1260)	NS	NS	0.38 U	0.076 U	0.075 U	0.077 U	0.074 U
PCB-1262 (Aroclor 1262)	NS	NS	0.38 U	0.076 U	0.075 U	0.077 U	0.074 U
PCB-1268 (Aroclor 1268)	NS	NS	0.38 U	0.076 U	0.075 U	0.077 U	0.074 U
Total PCBs	**0.1**	1	0.38 U	0.076 U	0.075 U	0.077 U	0.074 U

Table 1D
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Polychlorinated Biphenyls

		AKRF Sample ID	EP-30_4_20260202	EP-31_10_20260608	EP-32_16_20260603	EP-33_13_20260511	EP-34_13_20260511
		Lab Sample ID	460-344162-5	460-352783-1	460-352423-3	460-350805-3	460-350773-3
		Sample Date	2/2/2026	6/8/2026	6/3/2026	5/11/2026	5/11/2026
		Dilution Factor	1	1	1	1	1
		Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Compound	**UUSCO**	**RRSCO**	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
PCB-1016 (Aroclor 1016)	NS	NS	0.075 U	0.074 UT	0.071 U	0.076 U	0.077 U
PCB-1221 (Aroclor 1221)	NS	NS	0.075 U	0.074 U	0.071 U	0.076 U	0.077 U
PCB-1232 (Aroclor 1232)	NS	NS	0.075 U	0.074 U	0.071 U	0.076 U	0.077 U
PCB-1242 (Aroclor 1242)	NS	NS	0.075 U	0.074 U	0.071 U	0.076 U	0.077 U
PCB-1248 (Aroclor 1248)	NS	NS	0.075 U	0.074 U	0.071 U	0.076 U	0.077 U
PCB-1254 (Aroclor 1254)	NS	NS	0.075 U	0.074 U	0.071 U	0.076 U	0.077 U
PCB-1260 (Aroclor 1260)	NS	NS	0.075 U	0.074 UT	0.071 U	0.076 U	0.077 U
PCB-1262 (Aroclor 1262)	NS	NS	0.075 U	0.074 U	0.071 U	0.076 U	0.077 U
PCB-1268 (Aroclor 1268)	NS	NS	0.075 U	0.074 U	0.071 U	0.076 U	0.077 U
Total PCBs	**0.1**	1	0.075 U	0.074 UT	0.071 U	0.076 U	0.077 U

Table 1D
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Polychlorinated Biphenyls

		AKRF Sample ID	EP-35_13_20260511		EP-36_13_20260511		EP-37_13_20260511		EP-38_10_20260608		EP-39_16_20260605	
		Lab Sample ID	460-350773-4		460-350805-6		460-350773-6		460-352783-2		460-352643-1	
		Sample Date	5/11/2026		5/11/2026		5/11/2026		6/8/2026		6/5/2026	
		Dilution Factor	1		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
PCB-1016 (Aroclor 1016)	NS	NS	0.08	U	0.079	U	0.072	U	0.072	UT	0.072	U
PCB-1221 (Aroclor 1221)	NS	NS	0.08	U	0.079	U	0.072	U	0.072	U	0.072	U
PCB-1232 (Aroclor 1232)	NS	NS	0.08	U	0.079	U	0.072	U	0.072	U	0.072	U
PCB-1242 (Aroclor 1242)	NS	NS	0.08	U	0.079	U	0.072	U	0.072	U	0.072	U
PCB-1248 (Aroclor 1248)	NS	NS	0.08	U	0.079	U	0.072	U	0.072	U	0.072	U
PCB-1254 (Aroclor 1254)	NS	NS	0.08	U	0.079	U	0.072	U	0.072	U	0.072	U
PCB-1260 (Aroclor 1260)	NS	NS	0.08	U	0.079	U	0.072	U	0.072	UT	0.072	U
PCB-1262 (Aroclor 1262)	NS	NS	0.08	U	0.079	U	0.072	U	0.072	U	0.072	U
PCB-1268 (Aroclor 1268)	NS	NS	0.08	U	0.079	U	0.072	U	0.072	U	0.072	U
Total PCBs	**0.1**	1	0.08	U	0.079	U	0.072	U	0.072	UT	0.072	U

Table 1D
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Polychlorinated Biphenyls

		AKRF Sample ID	EP-40_16_20260605		EP-44_4_20260204		EP-45_4_20260204		EP-46_4_20260204		EP-47_4_20260204	
		Lab Sample ID	460-352643-2		460-344323-1		460-344322-2		460-344323-3		460-344322-4	
		Sample Date	6/5/2026		2/4/2026		2/4/2026		2/4/2026		2/4/2026	
		Dilution Factor	1		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
PCB-1016 (Aroclor 1016)	NS	NS	0.074	U	0.08	U	0.08	U	0.078	U	0.08	U
PCB-1221 (Aroclor 1221)	NS	NS	0.074	U	0.08	U	0.08	U	0.078	U	0.08	U
PCB-1232 (Aroclor 1232)	NS	NS	0.074	U	0.08	U	0.08	U	0.078	U	0.08	U
PCB-1242 (Aroclor 1242)	NS	NS	0.074	U	0.08	U	0.08	U	0.24		0.08	U
PCB-1248 (Aroclor 1248)	NS	NS	0.074	U	0.08	U	0.08	U	0.078	U	0.08	U
PCB-1254 (Aroclor 1254)	NS	NS	0.074	U	0.08	U	0.08	U	0.078	U	0.08	U
PCB-1260 (Aroclor 1260)	NS	NS	0.074	U	0.08	U	0.08	U	0.078	U	0.08	U
PCB-1262 (Aroclor 1262)	NS	NS	0.074	U	0.08	U	0.08	U	0.078	U	0.08	U
PCB-1268 (Aroclor 1268)	NS	NS	0.074	U	0.08	U	0.08	U	0.078	U	0.08	U
Total PCBs	**0.1**	1	0.074	U	0.08	U	0.08	U	**0.24**		0.08	U

Table 1D
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Polychlorinated Biphenyls

		AKRF Sample ID	EP-49_16_20260608	EP-X_16_20260608	EP-50_18_20260605	EP-53_15_20260504	EP-54_15_20260504
		Lab Sample ID	460-352783-3	460-352783-6	460-352643-3	460-350261-1	460-350261-2
		Sample Date	6/8/2026	6/8/2026	6/5/2026	5/4/2026	5/4/2026
		Dilution Factor	1	1	1	1	1
		Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Compound	**UUSCO**	**RRSCO**	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
PCB-1016 (Aroclor 1016)	NS	NS	0.073 UT	0.07 UT	0.075 U	0.08 U	0.077 U
PCB-1221 (Aroclor 1221)	NS	NS	0.073 U	0.07 U	0.075 U	0.08 U	0.077 U
PCB-1232 (Aroclor 1232)	NS	NS	0.073 U	0.07 U	0.075 U	0.08 U	0.077 U
PCB-1242 (Aroclor 1242)	NS	NS	0.073 U	0.07 U	0.075 U	0.08 U	0.077 U
PCB-1248 (Aroclor 1248)	NS	NS	0.073 U	0.07 U	0.075 U	0.08 U	0.077 U
PCB-1254 (Aroclor 1254)	NS	NS	0.073 U	0.07 U	0.075 U	0.08 U	0.077 U
PCB-1260 (Aroclor 1260)	NS	NS	0.073 UT	0.07 UT	0.075 U	0.08 U	0.077 U
PCB-1262 (Aroclor 1262)	NS	NS	0.073 U	0.07 U	0.075 U	0.08 U	0.077 U
PCB-1268 (Aroclor 1268)	NS	NS	0.073 U	0.07 U	0.075 U	0.08 U	0.077 U
Total PCBs	**0.1**	1	0.073 UT	0.07 UT	0.075 U	0.08 U	0.077 U

Table 1D
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Polychlorinated Biphenyls

		AKRF Sample ID	EP-57_15_20260504		EP-58_15_20260504		FB-02_20260511		FB-03_20260608		EP-FB_01_20260129	
		Lab Sample ID	460-350261-3		460-350261-4		460-350773-1		460-352783-4		460-344050-6	
		Sample Date	5/4/2026		5/4/2026		5/11/2026		6/8/2026		1/29/2026	
		Dilution Factor	1		1		1		1		1	
		Unit	mg/kg		mg/kg		µg/L		µg/L		µg/L	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
PCB-1016 (Aroclor 1016)	NS	NS	0.077	U	0.075	U	0.2	U	0.2	U	0.2	U
PCB-1221 (Aroclor 1221)	NS	NS	0.077	U	0.075	U	0.2	U	0.2	U	0.2	U
PCB-1232 (Aroclor 1232)	NS	NS	0.077	U	0.075	U	0.2	U	0.2	U	0.2	U
PCB-1242 (Aroclor 1242)	NS	NS	0.077	U	0.075	U	0.2	U	0.2	U	0.2	U
PCB-1248 (Aroclor 1248)	NS	NS	0.077	U	0.075	U	0.2	U	0.2	U	0.2	U
PCB-1254 (Aroclor 1254)	NS	NS	0.077	U	0.075	U	0.2	U	0.2	U	0.2	U
PCB-1260 (Aroclor 1260)	NS	NS	0.077	U	0.075	U	0.2	U	0.2	U	0.2	U
PCB-1262 (Aroclor 1262)	NS	NS	0.077	U	0.075	U	0.2	U	0.2	U	0.2	U
PCB-1268 (Aroclor 1268)	NS	NS	0.077	U	0.075	U	0.2	U	0.2	U	0.2	U
Total PCBs	**0.1**	1	0.077	U	0.075	U	0.2	U	0.2	U	0.2	U

Table 1E
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Pesticides

		AKRF Sample ID	EP-04_14_20260601		EP-05_14_20260601		EP-06_12_20260601		EP-07_16_20260601		EP-08_16_20260603	
		Lab Sample ID	460-352213-2		460-352213-3		460-352213-1		460-352213-4		460-352423-1	
		Sample Date	6/1/2026		6/1/2026		6/1/2026		6/1/2026		6/3/2026	
		Dilution Factor	1		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Aldrin	0.005	0.097	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
Chlordane (Technical)	NS	NS	0.074	U	0.074	U	0.071	U	0.075	U	0.077	U
Chlordane, cis-	0.094	4.2	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
Dieldrin	0.005	0.2	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
Endosulfan I	NS	NS	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
Endosulfan II	NS	NS	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
Endosulfan Sulfate	NS	NS	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
Endosulfans ABS	2.4	24	0	U	0	U	0	U	0	U	0	U
Endrin	0.014	11	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
Endrin Aldehyde	NS	NS	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
Endrin Ketone	NS	NS	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
Gamma Bhc (Lindane)	0.1	1.3	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
Heptachlor	0.042	2.1	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
Heptachlor Epoxide	NS	NS	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
Methoxychlor	NS	NS	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
P,P'-DDD	**0.0033**	13	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
P,P'-DDE	**0.0033**	8.9	0.0022	U	0.0022	U	0.0021	U	0.0022	U	0.0023	U
P,P'-DDT	**0.0033**	7.9	0.0022	U	0.0033		0.0021	U	**0.005**		0.0023	U
Toxaphene	NS	NS	0.074	U	0.074	U	0.071	U	0.075	U	0.077	U

Table 1E
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Pesticides

		AKRF Sample ID	EP-09_18_20260603		EP-10_15_20260504		EP-11_15_20260504		EP-12_15_20260504		EP-13_15_20260504	
		Lab Sample ID	460-352423-2		460-350261-5		460-350245-6		460-350261-7		460-350261-8	
		Sample Date	6/3/2026		5/4/2026		5/4/2026		5/4/2026		5/4/2026	
		Dilution Factor	1		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Aldrin	0.005	0.097	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
Chlordane (Technical)	NS	NS	0.079	U	0.073	U	0.074	U	0.076	U	0.073	U
Chlordane, cis-	0.094	4.2	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
Dieldrin	0.005	0.2	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
Endosulfan I	NS	NS	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
Endosulfan II	NS	NS	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
Endosulfan Sulfate	NS	NS	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
Endosulfans ABS	2.4	24	0	U	0	U	0	U	0	U	0	U
Endrin	0.014	11	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
Endrin Aldehyde	NS	NS	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
Endrin Ketone	NS	NS	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
Gamma Bhc (Lindane)	0.1	1.3	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
Heptachlor	0.042	2.1	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
Heptachlor Epoxide	NS	NS	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
Methoxychlor	NS	NS	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
P,P'-DDD	**0.0033**	13	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
P,P'-DDE	**0.0033**	8.9	0.0024	U	0.0022	U	0.0022	U	0.0023	U	0.0022	U
P,P'-DDT	**0.0033**	7.9	**0.0038**		0.0022	U	0.0022	U	**0.0034**		0.0022	U
Toxaphene	NS	NS	0.079	U	0.073	U	0.074	U	0.076	U	0.073	U

Table 1E
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Pesticides

		AKRF Sample ID	EP-X_15_20260504		EP-14_6_20260129		EP-15_6_20260129		EP-16_6_20260129		EP-X_6_20260129	
		Lab Sample ID	460-350261-9		460-344050-1		460-344050-2		460-344050-3		460-344049-4	
		Sample Date	5/4/2026		1/29/2026		1/29/2026		1/29/2026		1/29/2026	
		Dilution Factor	1		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Aldrin	0.005	0.097	0.0022	U	0.0072	U	0.0075	U	0.0081	U	0.0081	U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.0022	U	0.0021	U	0.0023	U	0.0024	U	0.0024	U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.0022	U	0.0021	U	0.0023	U	0.0024	U	0.0024	U
Chlordane (Technical)	NS	NS	0.072	U	0.072	U	0.075	U	0.081	U	0.081	U
Chlordane, cis-	0.094	4.2	0.0022	U	0.0072	U	0.0075	U	0.0081	U	0.0081	U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.0022	U	0.0021	U	0.0023	U	0.0024	U	0.0024	U
Dieldrin	0.005	0.2	0.0022	U	0.0021	U	0.0023	U	0.0024	U	0.0024	U
Endosulfan I	NS	NS	0.0022	U	0.0072	U	0.0075	U	0.0081	U	0.0081	U
Endosulfan II	NS	NS	0.0022	U	0.0072	U	0.0075	U	0.0081	U	0.0081	U
Endosulfan Sulfate	NS	NS	0.0022	U	0.0072	U	0.0075	U	0.0081	U	0.0081	U
Endosulfans ABS	2.4	24	0	U	0	U	0	U	0	U	0	U
Endrin	0.014	11	0.0022	U	0.0072	U	0.0075	U	0.0081	U	0.0081	U
Endrin Aldehyde	NS	NS	0.0022	U	0.0072	U	0.0075	U	0.0081	U	0.0081	U
Endrin Ketone	NS	NS	0.0022	U	0.0072	U	0.0075	U	0.0081	U	0.0081	U
Gamma Bhc (Lindane)	0.1	1.3	0.0022	U	0.0021	U	0.0023	U	0.0024	U	0.0024	U
Heptachlor	0.042	2.1	0.0022	U	0.0072	U	0.0075	U	0.0081	U	0.0081	U
Heptachlor Epoxide	NS	NS	0.0022	U	0.0072	U	0.0075	U	0.0081	U	0.0081	U
Methoxychlor	NS	NS	0.0022	U	0.0072	U	0.0075	U	0.0081	U	0.0081	U
P,P'-DDD	**0.0033**	13	0.0022	U	0.0072	U	0.0075	U	0.0081	U	0.0081	U
P,P'-DDE	**0.0033**	8.9	0.0022	U	0.0072	U	0.0075	U	0.0081	U	0.0032	JP
P,P'-DDT	**0.0033**	7.9	0.0022	U	0.0072	U	**0.006**	**J**	**0.0069**	**J**	**0.0079**	**J**
Toxaphene	NS	NS	0.072	U	0.072	U	0.075	U	0.081	U	0.081	U

Table 1E
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Pesticides

		AKRF Sample ID	EP-17_6_20260129		EP-26_2_20260202		EP-27_2_20260202		EP-28_3_20260202		EP-29_3_20260202	
		Lab Sample ID	460-344049-5		460-344162-1		460-344162-2		460-344162-3		460-344162-4	
		Sample Date	1/29/2026		2/2/2026		2/2/2026		2/2/2026		2/2/2026	
		Dilution Factor	10		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Aldrin	0.005	0.097	0.077	U	0.0076	U	0.0075	U	0.0077	U	0.0074	U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.023	U	0.0023	U	0.0022	U	0.0023	U	0.0022	U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.023	U	0.0023	U	0.0022	U	0.0023	U	0.0022	U
Chlordane (Technical)	NS	NS	0.77	U	0.076	U	0.075	U	0.077	U	0.074	U
Chlordane, cis-	0.094	4.2	0.077	U	0.0076	U	0.0075	U	0.0077	U	0.0074	U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.023	U	0.0023	U	0.0022	U	0.0023	U	0.0022	U
Dieldrin	0.005	0.2	0.023	U	0.0023	U	0.0022	U	0.0023	U	0.0022	U
Endosulfan I	NS	NS	0.077	U	0.0076	U	0.0075	U	0.0077	U	0.0074	U
Endosulfan II	NS	NS	0.077	U	0.0076	U	0.0075	U	0.0077	U	0.0074	U
Endosulfan Sulfate	NS	NS	0.077	U	0.0076	U	0.0075	U	0.0077	U	0.0074	U
Endosulfans ABS	2.4	24	0	U	0	U	0	U	0	U	0	U
Endrin	0.014	11	0.077	U	0.0076	U	0.0075	U	0.0077	U	0.0074	U
Endrin Aldehyde	NS	NS	0.077	U	0.0076	U	0.0075	U	0.0077	U	0.0074	U
Endrin Ketone	NS	NS	0.077	U	0.0076	U	0.0075	U	0.0077	U	0.0074	U
Gamma Bhc (Lindane)	0.1	1.3	0.023	U	0.0023	U	0.0022	U	0.0023	U	0.0022	U
Heptachlor	0.042	2.1	0.077	U	0.0076	U	0.0075	U	0.0077	U	0.0074	U
Heptachlor Epoxide	NS	NS	0.077	U	0.0076	U	0.0075	U	0.0077	U	0.0074	U
Methoxychlor	NS	NS	0.077	U	0.0076	U	0.0075	U	0.0077	U	0.0074	U
P,P'-DDD	**0.0033**	13	**0.045**	**J**	0.0076	U	0.0075	U	0.0077	U	0.0074	U
P,P'-DDE	**0.0033**	8.9	**0.044**	**J**	0.0076	U	0.0075	U	**0.0074**	**J**	0.0074	U
P,P'-DDT	**0.0033**	7.9	**1.4**		0.0076	U	0.0075	U	**0.019**		0.0024	J
Toxaphene	NS	NS	0.77	U	0.076	U	0.075	U	0.077	U	0.074	U

Table 1E
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Pesticides

		AKRF Sample ID	EP-30_4_20260202		EP-31_10_20260608		EP-32_16_20260603		EP-33_13_20260511		EP-34_13_20260511	
		Lab Sample ID	460-344162-5		460-352783-1		460-352423-3		460-350805-3		460-350773-3	
		Sample Date	2/2/2026		6/8/2026		6/3/2026		5/11/2026		5/11/2026	
		Dilution Factor	1		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Aldrin	0.005	0.097	0.0075	U	0.0022	U	0.0021	U	0.0023	U	0.0023	U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.0023	U	0.0022	U	0.0021	U	0.0023	U	0.0023	U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.0023	U	0.0022	U	0.0021	U	0.0023	U	0.0023	U
Chlordane (Technical)	NS	NS	0.075	U	0.074	U	0.071	U	0.076	U	0.077	U
Chlordane, cis-	0.094	4.2	0.0075	U	0.0022	U	0.0021	U	0.0023	U	0.0023	U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.0023	U	0.0022	U	0.0021	U	0.0023	U	0.0023	U
Dieldrin	0.005	0.2	0.0023	U	0.0022	U	0.0021	U	0.0023	U	0.0023	U
Endosulfan I	NS	NS	0.0075	U	0.0022	U	0.0021	U	0.0023	U	0.0023	U
Endosulfan II	NS	NS	0.0075	U	0.0022	U	0.0021	U	0.0023	U	0.0023	U
Endosulfan Sulfate	NS	NS	0.0075	U	0.0022	U	0.0021	U	0.0023	U	0.0023	U
Endosulfans ABS	2.4	24	0	U	0	U	0	U	0	U	0	U
Endrin	0.014	11	0.0075	U	0.0022	U	0.0021	U	0.0023	U	0.0023	U
Endrin Aldehyde	NS	NS	0.0075	U	0.0022	U	0.0021	U	0.0023	U	0.0023	U
Endrin Ketone	NS	NS	0.0075	U	0.0022	U	0.0021	U	0.0023	U	0.0023	U
Gamma Bhc (Lindane)	0.1	1.3	0.0023	U	0.0022	U	0.0021	U	0.0023	U	0.0023	U
Heptachlor	0.042	2.1	0.0075	U	0.0022	U	0.0021	U	0.0023	U	0.0023	U
Heptachlor Epoxide	NS	NS	0.0075	U	0.0022	U	0.0021	U	0.0023	U	0.0023	U
Methoxychlor	NS	NS	0.0075	U	0.0022	U	0.0021	U	0.0023	U	0.0023	U
P,P'-DDD	**0.0033**	13	0.0075	U	**0.0055**		0.0021	U	0.0023	U	**0.0099**	
P,P'-DDE	**0.0033**	8.9	0.0075	U	0.0029		0.0021	U	0.0024	P	**0.013**	
P,P'-DDT	**0.0033**	7.9	0.0075	U	**0.086**		**0.062**		**0.0094**		**0.0077**	
Toxaphene	NS	NS	0.075	U	0.074	U	0.071	U	0.076	U	0.077	U

Table 1E
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Pesticides

		AKRF Sample ID	EP-35_13_20260511		EP-36_13_20260511		EP-37_13_20260511		EP-38_10_20260608		EP-39_16_20260605	
		Lab Sample ID	460-350773-4		460-350805-6		460-350773-6		460-352783-2		460-352643-1	
		Sample Date	5/11/2026		5/11/2026		5/11/2026		6/8/2026		6/5/2026	
		Dilution Factor	1		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Aldrin	0.005	0.097	0.0024	U	0.0024	U	0.0022	U	0.0022	U	0.0021	U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.0024	U	0.0024	U	0.0022	U	0.0022	U	0.0021	U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.0024	U	0.0024	U	0.0022	U	0.0022	U	0.0021	U
Chlordane (Technical)	NS	NS	0.08	U	0.079	U	0.072	U	0.072	U	0.072	U
Chlordane, cis-	0.094	4.2	0.0024	U	0.0024	U	0.0022	U	0.0022	U	0.0021	U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.0024	U	0.0024	U	0.0022	U	0.0022	U	0.0021	U
Dieldrin	0.005	0.2	0.0024	U	0.0024	U	0.0022	U	0.0022	U	0.0021	U
Endosulfan I	NS	NS	0.0024	U	0.0024	U	0.0022	U	0.0022	U	0.0021	U
Endosulfan II	NS	NS	0.0024	U	0.0024	U	0.0022	U	0.0022	U	0.0021	U
Endosulfan Sulfate	NS	NS	0.0024	U	0.0024	U	0.0022	U	0.0022	U	0.0021	U
Endosulfans ABS	2.4	24	0	U	0	U	0	U	0	U	0	U
Endrin	0.014	11	0.0024	U	0.0024	U	0.0022	U	0.0022	U	0.0021	U
Endrin Aldehyde	NS	NS	0.0024	U	0.0024	U	0.0022	U	0.0022	U	0.0021	U
Endrin Ketone	NS	NS	0.0024	U	0.0024	U	0.0022	U	0.0022	U	0.0021	U
Gamma Bhc (Lindane)	0.1	1.3	0.0024	U	0.0024	U	0.0022	U	0.0022	U	0.0021	U
Heptachlor	0.042	2.1	0.0024	U	0.0024	U	0.0022	U	0.0022	U	0.0021	U
Heptachlor Epoxide	NS	NS	0.0024	U	0.0024	U	0.0022	U	0.0022	U	0.0021	U
Methoxychlor	NS	NS	0.0024	U	0.0024	U	0.0022	U	0.0022	U	0.0021	U
P,P'-DDD	**0.0033**	13	0.0024	U	0.0024	U	0.0022	U	**0.012**		**0.0062**	
P,P'-DDE	**0.0033**	8.9	0.0024	U	**0.0056**		0.0022	U	**0.0074**		**0.016**	
P,P'-DDT	**0.0033**	7.9	0.0024	U	**0.021**		0.0022	U	**0.25**		**0.07**	
Toxaphene	NS	NS	0.08	U	0.079	U	0.072	U	0.072	U	0.072	U

Table 1E
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Pesticides

		AKRF Sample ID	EP-40_16_20260605		EP-44_4_20260204		EP-45_4_20260204		EP-46_4_20260204		EP-47_4_20260204	
		Lab Sample ID	460-352643-2		460-344323-1		460-344322-2		460-344323-3		460-344322-4	
		Sample Date	6/5/2026		2/4/2026		2/4/2026		2/4/2026		2/4/2026	
		Dilution Factor	1		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Aldrin	0.005	0.097	0.0022	U	0.008	U	0.008	U	0.0078	U	0.008	U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.0022	U	0.0024	U	0.0024	U	0.0023	U	0.0024	U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.0022	U	0.0024	U	0.0024	U	0.0023	U	0.0024	U
Chlordane (Technical)	NS	NS	0.074	U	0.1	P	0.08	U	0.078	U	0.08	U
Chlordane, cis-	0.094	4.2	0.0022	U	0.034		0.008	U	0.0078	U	0.006	J
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.0022	U	0.0024	U	0.0024	U	0.0023	U	0.0024	U
Dieldrin	0.005	0.2	0.0022	U	0.0024	U	0.0024	U	0.0023	U	0.0024	U
Endosulfan I	NS	NS	0.0022	U	0.008	U	0.008	U	0.0078	U	0.008	U
Endosulfan II	NS	NS	0.0022	U	0.008	U	0.008	U	0.0078	U	0.008	U
Endosulfan Sulfate	NS	NS	0.0022	U	0.008	U	0.008	U	0.0078	U	0.008	U
Endosulfans ABS	2.4	24	0	U	0	U	0	U	0	U	0	U
Endrin	0.014	11	0.0022	U	0.008	U	0.008	U	0.0078	U	0.008	U
Endrin Aldehyde	NS	NS	0.0022	U	0.008	U	0.008	U	0.0078	U	0.008	U
Endrin Ketone	NS	NS	0.0022	U	0.008	U	0.008	U	0.0078	U	0.008	U
Gamma Bhc (Lindane)	0.1	1.3	0.0022	U	0.0024	U	0.0024	U	0.0023	U	0.0024	U
Heptachlor	0.042	2.1	0.0022	U	0.008	U	0.008	U	0.0078	U	0.008	U
Heptachlor Epoxide	NS	NS	0.0022	U	0.0031	J	0.008	U	0.0078	U	0.008	U
Methoxychlor	NS	NS	0.0022	U	0.008	U	0.008	U	0.0078	U	0.008	U
P,P'-DDD	**0.0033**	13	0.0022	U	**0.0034**	**JP**	0.008	U	0.0078	U	0.008	U
P,P'-DDE	**0.0033**	8.9	0.0022	U	**0.052**		0.008	U	0.0078	U	0.008	U
P,P'-DDT	**0.0033**	7.9	0.0022	U	**0.15**		0.008	U	**0.012**		**0.035**	
Toxaphene	NS	NS	0.074	U	0.08	U	0.08	U	0.078	U	0.08	U

Table 1E
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Pesticides

		AKRF Sample ID	EP-49_16_20260608		EP-X_16_20260608		EP-50_18_20260605		EP-53_15_20260504		EP-54_15_20260504	
		Lab Sample ID	460-352783-3		460-352783-6		460-352643-3		460-350261-1		460-350261-2	
		Sample Date	6/8/2026		6/8/2026		6/5/2026		5/4/2026		5/4/2026	
		Dilution Factor	1		1		1		1		1	
		Unit	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Aldrin	0.005	0.097	0.0022	U	0.0021	U	0.0022	U	0.0024	U	0.0023	U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.0022	U	0.0021	U	0.0022	U	0.0024	U	0.0023	U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.0022	U	0.0021	U	0.0022	U	0.0024	U	0.0023	U
Chlordane (Technical)	NS	NS	0.073	U	0.07	U	0.075	U	0.08	U	0.077	U
Chlordane, cis-	0.094	4.2	0.0022	U	0.0021	U	0.0022	U	0.0024	U	0.0023	U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.0022	U	0.0021	U	0.0022	U	0.0024	U	0.0023	U
Dieldrin	0.005	0.2	0.0032		0.0021	U	0.0022	U	0.0024	U	0.0023	U
Endosulfan I	NS	NS	0.0022	U	0.0021	U	0.0022	U	0.0024	U	0.0023	U
Endosulfan II	NS	NS	0.0022	U	0.0021	U	0.0022	U	0.0024	U	0.0023	U
Endosulfan Sulfate	NS	NS	0.0022	U	0.0021	U	0.0022	U	0.0024	U	0.0023	U
Endosulfans ABS	2.4	24	0	U	0	U	0	U	0	U	0	U
Endrin	0.014	11	0.0022	U	0.0021	U	0.0022	U	0.0024	U	0.0023	U
Endrin Aldehyde	NS	NS	0.0022	U	0.0021	U	0.0022	U	0.0024	U	0.0023	U
Endrin Ketone	NS	NS	0.0022	U	0.0021	U	0.0022	U	0.0024	U	0.0023	U
Gamma Bhc (Lindane)	0.1	1.3	0.0022	U	0.0021	U	0.0022	U	0.0024	U	0.0023	U
Heptachlor	0.042	2.1	0.0022	U	0.0021	U	0.0022	U	0.0024	U	0.0023	U
Heptachlor Epoxide	NS	NS	0.0022	U	0.0021	U	0.0022	U	0.0024	U	0.0023	U
Methoxychlor	NS	NS	0.0022	U	0.0021	U	0.0022	U	0.0024	U	0.0023	U
P,P'-DDD	**0.0033**	13	**0.0035**		0.0021	U	0.0022	U	0.0024	U	0.0023	U
P,P'-DDE	**0.0033**	8.9	**0.0043**		0.0021	U	0.0022	U	0.0024	U	0.0023	U
P,P'-DDT	**0.0033**	7.9	**0.038**		**0.0086**		**0.012**		0.0024	U	**0.006**	
Toxaphene	NS	NS	0.073	U	0.07	U	0.075	U	0.08	U	0.077	U

Table 1E
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Pesticides

		AKRF Sample ID	EP-57_15_20260504		EP-58_15_20260504		FB-02_20260511	
		Lab Sample ID	460-350261-3		460-350261-4		460-350773-1	
		Sample Date	5/4/2026		5/4/2026		5/11/2026	
		Dilution Factor	1		1		1	
		Unit	mg/kg		mg/kg		µg/L	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q	CONC	Q
Aldrin	0.005	0.097	0.0023	U	0.0022	U	0.02	U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.0023	U	0.0022	U	0.02	U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.0023	U	0.0022	U	0.02	U
Chlordane (Technical)	NS	NS	0.077	U	0.075	U	0.2	U
Chlordane, cis-	0.094	4.2	0.0023	U	0.0022	U	0.02	U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.0023	U	0.0022	U	0.02	U
Dieldrin	0.005	0.2	0.0023	U	0.0022	U	0.02	U
Endosulfan I	NS	NS	0.0023	U	0.0022	U	0.02	U
Endosulfan II	NS	NS	0.0023	U	0.0022	U	0.02	U
Endosulfan Sulfate	NS	NS	0.0023	U	0.0022	U	0.02	U
Endosulfans ABS	2.4	24	0	U	0	U	0	U
Endrin	0.014	11	0.0023	U	0.0022	U	0.02	U
Endrin Aldehyde	NS	NS	0.0023	U	0.0022	U	0.02	U
Endrin Ketone	NS	NS	0.0023	U	0.0022	U	0.02	U
Gamma Bhc (Lindane)	0.1	1.3	0.0023	U	0.0022	U	0.02	U
Heptachlor	0.042	2.1	0.0023	U	0.0022	U	0.02	U
Heptachlor Epoxide	NS	NS	0.0023	U	0.0022	U	0.02	U
Methoxychlor	NS	NS	0.0023	U	0.0022	U	0.02	U
P,P'-DDD	**0.0033**	13	0.0023	U	0.0022	U	0.02	U
P,P'-DDE	**0.0033**	8.9	0.0023	U	0.0022	U	0.02	U
P,P'-DDT	**0.0033**	7.9	0.0023	U	0.0022	U	0.02	U
Toxaphene	NS	NS	0.077	U	0.075	U	0.5	U

Table 1E
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Pesticides

		AKRF Sample ID	FB-03_20260608		EP-FB_01_20260129	
		Lab Sample ID	460-352783-4		460-344050-6	
		Sample Date	6/8/2026		1/29/2026	
		Dilution Factor	1		1	
		Unit	µg/L		µg/L	
Compound	**UUSCO**	**RRSCO**	CONC	Q	CONC	Q
Aldrin	0.005	0.097	0.02	U	0.02	U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.02	U	0.02	U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.02	U	0.02	U
Chlordane (Technical)	NS	NS	0.05	U	0.2	U
Chlordane, cis-	0.094	4.2	0.02	U	0.02	U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.02	U	0.02	U
Dieldrin	0.005	0.2	0.02	U	0.02	U
Endosulfan I	NS	NS	0.02	U	0.02	U
Endosulfan II	NS	NS	0.02	U	0.02	U
Endosulfan Sulfate	NS	NS	0.02	U	0.02	U
Endosulfans ABS	2.4	24	0	U	0	U
Endrin	0.014	11	0.02	U	0.02	U
Endrin Aldehyde	NS	NS	0.02	U	0.02	U
Endrin Ketone	NS	NS	0.02	U	0.02	U
Gamma Bhc (Lindane)	0.1	1.3	0.02	U	0.02	U
Heptachlor	0.042	2.1	0.02	U	0.02	U
Heptachlor Epoxide	NS	NS	0.02	U	0.02	U
Methoxychlor	NS	NS	0.02	U	0.02	U
P,P'-DDD	**0.0033**	13	0.02	U	0.02	U
P,P'-DDE	**0.0033**	8.9	0.02	U	0.02	U
P,P'-DDT	**0.0033**	7.9	0.02	U	0.02	U
Toxaphene	NS	NS	0.5	U	0.5	U

Table 1F
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Per- and Polyfluoroalkyl Substances

		AKRF Sample ID	EP-04_14_20260601		EP-05_14_20260601		EP-06_12_20260601		EP-07_16_20260601	
		Lab Sample ID	460-352215-2		460-352215-3		460-352215-1		460-352215-4	
		Sample Date	6/1/2026		6/1/2026		6/1/2026		6/1/2026	
		Dilution Factor	1		1		1		1	
		Unit	ppb		ppb		ppb		ppb	
Compound	**UUGV**	**RRGV**	CONC	Q	CONC	Q	CONC	Q	CONC	Q
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS	1.09	U	1.1	U	1.06	U	1.11	U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS	1.09	U	1.1	U	1.06	U	1.11	U
2H,2H,3H,3H-Perfluorooctanoic acid	NS	NS	1.09	U	1.1	U	1.06	U	1.11	U
3-Perfluoroheptyl propanoic acid	NS	NS	1.09	U	1.1	U	1.06	U	1.11	U
3-Perfluoropropyl propanoic acid	NS	NS	0.44	U	0.44	U	0.43	U	0.44	U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
6:2 Fluorotelomer sulfonate	NS	NS	0.44	U	0.44	U	0.12	J	0.44	U
8:2 Fluorotelomer sulfonate	NS	NS	0.44	U	0.44	U	0.43	U	0.44	U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
N-ethyl perfluoro-1-octanesulfonamide	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
N-ethyl perfluorooctanesulfonamidoacetic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
N-methyl perfluoro-1-octanesulfonamide	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
N-methyl perfluorooctanesulfonamidoacetic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Nonafluoro-3,6-dioxaheptanoic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluoro(2-ethoxyethane)sulfonic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluoro(2-Propoxypropanoic) Acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluoro-3-methoxypropanoic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluoro-4-methoxybutanoic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluorobutanesulfonic acid (PFBS)	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluorobutanoic acid	NS	NS	0.44	U	0.44	U	0.43	U	0.44	U
Perfluorodecanesulfonic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluorodecanoic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluorododecane sulfonate (PFDoDS)	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluorododecanoic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluoroheptanesulfonic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluoroheptanoic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluorohexanesulfonic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluorohexanoic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluorononanesulfonic Acid (Pfns)	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluorononanoic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluorooctanesulfonamide	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	44	0.34	EMPC	0.2	J	0.11	J	0.2	J
Perfluorooctanoic acid (PFOA)	**0.66**	33	0.22	U	0.22	U	0.21	U	0.22	U
Perfluoropentanesulfonic Acid (Pfpes)	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluoropentanoic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluorotetradecanoic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluorotridecanoic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Perfluoroundecanoic acid	NS	NS	0.22	U	0.22	U	0.21	U	0.22	U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	NS	NS	0.44	U	0.44	U	0.43	U	0.44	U

Table 1F
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Per- and Polyfluoroalkyl Substances

			AKRF Sample ID	EP-08_16_20260603		EP-09_18_20260603		EP-10_15_20260504		EP-11_15_20260504	
			Lab Sample ID	460-352418-1		460-352418-2		460-350245-5		460-350245-6	
			Sample Date	6/3/2026		6/3/2026		5/4/2026		5/4/2026	
			Dilution Factor	1		1		1		1	
			Unit	ppb		ppb		ppb		ppb	
Compound	**UUGV**	**RRGV**		CONC	Q	CONC	Q	CONC	Q	CONC	Q
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		1.19	U	1.23	U	0.98	U	0.98	U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		1.19	U	1.23	U	0.98	U	0.98	U
2H,2H,3H,3H-Perfluorooctanoic acid	NS	NS		1.19	U	1.23	U	0.98	U	0.98	U
3-Perfluoroheptyl propanoic acid	NS	NS		1.19	U	1.23	U	0.98	U	0.98	U
3-Perfluoropropyl propanoic acid	NS	NS		0.47	U	0.49	U	0.39	U	0.39	U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
6:2 Fluorotelomer sulfonate	NS	NS		0.47	U	0.49	U	0.39	U	0.39	U
8:2 Fluorotelomer sulfonate	NS	NS		0.47	U	0.49	U	0.39	U	0.39	U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
N-ethyl perfluoro-1-octanesulfonamide	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
N-ethyl perfluorooctanesulfonamidoacetic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
N-methyl perfluoro-1-octanesulfonamide	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
N-methyl perfluorooctanesulfonamidoacetic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Nonafluoro-3,6-dioxaheptanoic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluoro(2-ethoxyethane)sulfonic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluoro(2-Propoxypropanoic) Acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluoro-3-methoxypropanoic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluoro-4-methoxybutanoic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluorobutanesulfonic acid (PFBS)	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluorobutanoic acid	NS	NS		0.47	U	0.49	U	0.39	U	0.39	U
Perfluorodecanesulfonic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluorodecanoic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluorododecane sulfonate (PFDoDS)	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluorododecanoic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluoroheptanesulfonic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluoroheptanoic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluorohexanesulfonic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluorohexanoic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluorononanesulfonic Acid (Pfns)	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluorononanoic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluorooctanesulfonamide	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	44		0.29		0.37		0.2	U	0.2	U
Perfluorooctanoic acid (PFOA)	**0.66**	33		0.24	U	0.25	U	0.2	U	0.068	J
Perfluoropentanesulfonic Acid (Pfpes)	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluoropentanoic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluorotetradecanoic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluorotridecanoic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Perfluoroundecanoic acid	NS	NS		0.24	U	0.25	U	0.2	U	0.2	U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	NS	NS		0.47	U	0.49	U	0.39	U	0.39	U

Table 1F
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Per- and Polyfluoroalkyl Substances

			AKRF Sample ID	EP-12_15_20260504		EP-13_15_20260504		EP-X_15_20260504		EP-14_6_20260129	
			Lab Sample ID	460-350245-7		460-350245-8		460-350245-9		460-344049-1	
			Sample Date	5/4/2026		5/4/2026		5/4/2026		1/29/2026	
			Dilution Factor	1		1		1		1	
			Unit	ppb		ppb		ppb		ppb	
Compound	**UUGV**	**RRGV**		CONC	Q	CONC	Q	CONC	Q	CONC	Q
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		0.98	U	0.98	U	0.99	U	0.97	U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		0.98	U	0.98	U	0.99	U	0.97	U
2H,2H,3H,3H-Perfluorooctanoic acid	NS	NS		0.98	U	0.98	U	0.99	U	0.97	U
3-Perfluoroheptyl propanoic acid	NS	NS		0.98	U	0.98	U	0.99	U	0.97	U
3-Perfluoropropyl propanoic acid	NS	NS		0.39	U	0.39	U	0.4	U	0.39	U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
6:2 Fluorotelomer sulfonate	NS	NS		0.39	U	0.39	U	0.4	U	0.39	U
8:2 Fluorotelomer sulfonate	NS	NS		0.39	U	0.39	U	0.4	U	0.39	U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
N-ethyl perfluoro-1-octanesulfonamide	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
N-ethyl perfluorooctanesulfonamidoacetic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
N-methyl perfluoro-1-octanesulfonamide	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
N-methyl perfluorooctanesulfonamidoacetic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Nonafluoro-3,6-dioxaheptanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluoro(2-ethoxyethane)sulfonic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluoro(2-Propoxypropanoic) Acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluoro-3-methoxypropanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluoro-4-methoxybutanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluorobutanesulfonic acid (PFBS)	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluorobutanoic acid	NS	NS		0.39	U	0.39	U	0.4	U	0.39	U
Perfluorodecanesulfonic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluorodecanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluorododecane sulfonate (PFDoDS)	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluorododecanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluoroheptanesulfonic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluoroheptanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.12	J
Perfluorohexanesulfonic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluorohexanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluorononanesulfonic Acid (Pfns)	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluorononanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluorooctanesulfonamide	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	44		0.2	U	0.2	U	0.2	U	0.69	EMPC
Perfluorooctanoic acid (PFOA)	**0.66**	33		0.2	U	0.2	U	0.2	U	**0.83**	
Perfluoropentanesulfonic Acid (Pfpes)	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluoropentanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluorotetradecanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluorotridecanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Perfluoroundecanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.19	U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	NS	NS		0.39	U	0.39	U	0.4	U	0.39	U

Table 1F
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Per- and Polyfluoroalkyl Substances

			AKRF Sample ID	EP-15_6_20260129		EP-16_6_20260129		EP-X_6_20260129		EP-17_6_20260129	
			Lab Sample ID	460-344049-2		460-344049-3		460-344049-4		460-344049-5	
			Sample Date	1/29/2026		1/29/2026		1/29/2026		1/29/2026	
			Dilution Factor	1		1		1		1	
			Unit	ppb		ppb		ppb		ppb	
Compound	**UUGV**	**RRGV**		CONC	Q	CONC	Q	CONC	Q	CONC	Q
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		1.97	U	0.54	J	0.49	J	1.93	U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		1.97	U	0.96	U	0.98	U	1.93	U
2H,2H,3H,3H-Perfluorooctanoic acid	NS	NS		1.97	U	0.96	U	0.98	U	1.93	U
3-Perfluoroheptyl propanoic acid	NS	NS		1.97	U	0.96	U	0.98	U	1.93	U
3-Perfluoropropyl propanoic acid	NS	NS		0.79	U	0.38	U	0.39	U	0.77	U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
6:2 Fluorotelomer sulfonate	NS	NS		0.79	U	0.38	U	0.39	U	0.77	U
8:2 Fluorotelomer sulfonate	NS	NS		0.79	U	0.38	U	0.39	U	0.77	U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
N-ethyl perfluoro-1-octanesulfonamide	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
N-ethyl perfluorooctanesulfonamidoacetic acid	NS	NS		0.72		0.11	J	0.22		0.39	U
N-methyl perfluoro-1-octanesulfonamide	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
N-methyl perfluorooctanesulfonamidoacetic acid	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Nonafluoro-3,6-dioxaheptanoic acid	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluoro(2-ethoxyethane)sulfonic acid	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluoro(2-Propoxypropanoic) Acid	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluoro-3-methoxypropanoic acid	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluoro-4-methoxybutanoic acid	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluorobutanesulfonic acid (PFBS)	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluorobutanoic acid	NS	NS		0.79	U	0.38	U	0.39	U	0.77	U
Perfluorodecanesulfonic acid	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluorodecanoic acid	NS	NS		0.39	U	0.076	J	0.071	J	0.14	J
Perfluorododecane sulfonate (PFDoDS)	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluorododecanoic acid	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluoroheptanesulfonic acid	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluoroheptanoic acid	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluorohexanesulfonic acid	NS	NS		0.39	U	0.1	J	0.1	J	0.23	J
Perfluorohexanoic acid	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluorononanesulfonic Acid (Pfns)	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluorononanoic acid	NS	NS		0.39	U	0.12	J	0.11	J	0.39	U
Perfluorooctanesulfonamide	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	44		**1.56**		**2.34**		**1.88**		**1.94**	
Perfluorooctanoic acid (PFOA)	**0.66**	33		0.38	J	0.41		0.52		**0.75**	
Perfluoropentanesulfonic Acid (Pfpes)	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluoropentanoic acid	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluorotetradecanoic acid	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluorotridecanoic acid	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Perfluoroundecanoic acid	NS	NS		0.39	U	0.19	U	0.2	U	0.39	U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	NS	NS		0.79	U	0.38	U	0.39	U	0.77	U

Table 1F
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Per- and Polyfluoroalkyl Substances

			AKRF Sample ID	EP-26_2_20260202		EP-27_2_20260202		EP-28_3_20260202		EP-29_3_20260202	
			Lab Sample ID	460-344172-1		460-344172-2		460-344172-3		460-344172-4	
			Sample Date	2/2/2026		2/2/2026		2/2/2026		2/2/2026	
			Dilution Factor	1		1		1		1	
			Unit	ppb		ppb		ppb		ppb	
Compound	**UUGV**	**RRGV**		CONC	Q	CONC	Q	CONC	Q	CONC	Q
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		1	U	0.99	U	0.99	U	0.98	U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		1	U	0.99	U	0.99	U	0.98	U
2H,2H,3H,3H-Perfluorooctanoic acid	NS	NS		1	U	0.99	U	0.99	U	0.98	U
3-Perfluoroheptyl propanoic acid	NS	NS		1	U	0.99	U	0.99	U	0.98	U
3-Perfluoropropyl propanoic acid	NS	NS		0.4	U	0.4	U	0.4	U	0.39	U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
6:2 Fluorotelomer sulfonate	NS	NS		0.4	U	0.4	U	0.4	U	0.39	U
8:2 Fluorotelomer sulfonate	NS	NS		0.4	U	0.4	U	0.4	U	0.39	U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
N-ethyl perfluoro-1-octanesulfonamide	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
N-ethyl perfluorooctanesulfonamidoacetic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
N-methyl perfluoro-1-octanesulfonamide	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
N-methyl perfluorooctanesulfonamidoacetic acid	NS	NS		0.2	U	0.2	U	1.03		0.2	U
Nonafluoro-3,6-dioxaheptanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
Perfluoro(2-ethoxyethane)sulfonic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
Perfluoro(2-Propoxypropanoic) Acid	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
Perfluoro-3-methoxypropanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
Perfluoro-4-methoxybutanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
Perfluorobutanesulfonic acid (PFBS)	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
Perfluorobutanoic acid	NS	NS		0.4	U	0.4	U	0.4	U	0.39	U
Perfluorodecanesulfonic acid	NS	NS		0.2	U	0.11	J	0.2	U	0.2	U
Perfluorodecanoic acid	NS	NS		0.095	J	0.15	J	0.082	J	0.2	U
Perfluorododecane sulfonate (PFDoDS)	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
Perfluorododecanoic acid	NS	NS		0.2	U	0.13	J	0.2	U	0.2	U
Perfluoroheptanesulfonic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
Perfluoroheptanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
Perfluorohexanesulfonic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
Perfluorohexanoic acid	NS	NS		0.2	U	0.14	J	0.2	U	0.2	U
Perfluorononanesulfonic Acid (Pfns)	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
Perfluorononanoic acid	NS	NS		0.11	J	0.27	U	0.2	U	0.2	U
Perfluorooctanesulfonamide	NS	NS		0.2	U	0.2	U	0.3		0.2	U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	44		**1.21**		**1.92**		**2.8**		0.41	EMPC
Perfluorooctanoic acid (PFOA)	**0.66**	33		0.31		0.37		**0.69**		**0.69**	
Perfluoropentanesulfonic Acid (Pfpes)	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
Perfluoropentanoic acid	NS	NS		0.1	J	0.18	J	0.2	U	0.2	U
Perfluorotetradecanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
Perfluorotridecanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.2	U
Perfluoroundecanoic acid	NS	NS		0.2	U	0.12	J	0.2	U	0.2	U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	NS	NS		0.4	U	0.4	U	0.4	U	0.39	U

Table 1F
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Per- and Polyfluoroalkyl Substances

			AKRF Sample ID	EP-30_4_20260202		EP-31_10_20260608		EP-32_16_20260603		EP-33_13_20260511	
			Lab Sample ID	460-344172-5		460-352780-1		460-352418-3		460-350773-2	
			Sample Date	2/2/2026		6/8/2026		6/3/2026		5/11/2026	
			Dilution Factor	1		1		1		1	
			Unit	ppb		ppb		ppb		ppb	
Compound	**UUGV**	**RRGV**		CONC	Q	CONC	Q	CONC	Q	CONC	Q
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		0.97	U	1.11	U	1.11	U	0.97	U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		0.97	U	1.11	U	1.11	U	0.97	U
2H,2H,3H,3H-Perfluorooctanoic acid	NS	NS		0.97	U	1.11	U	1.11	U	0.97	UT
3-Perfluoroheptyl propanoic acid	NS	NS		0.97	U	1.11	U	1.11	U	0.97	U
3-Perfluoropropyl propanoic acid	NS	NS		0.39	U	0.44	U	0.44	U	0.39	U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
6:2 Fluorotelomer sulfonate	NS	NS		0.39	U	0.44	U	0.44	U	0.39	U
8:2 Fluorotelomer sulfonate	NS	NS		0.39	U	0.44	U	0.44	U	0.39	U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
N-ethyl perfluoro-1-octanesulfonamide	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
N-ethyl perfluorooctanesulfonamidoacetic acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
N-methyl perfluoro-1-octanesulfonamide	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
N-methyl perfluorooctanesulfonamidoacetic acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Nonafluoro-3,6-dioxaheptanoic acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluoro(2-ethoxyethane)sulfonic acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluoro(2-Propoxypropanoic) Acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluoro-3-methoxypropanoic acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluoro-4-methoxybutanoic acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluorobutanesulfonic acid (PFBS)	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluorobutanoic acid	NS	NS		0.39	U	0.44	U	0.44	U	0.39	U
Perfluorodecanesulfonic acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluorodecanoic acid	NS	NS		0.091	J	0.22	U	0.22	U	0.19	U
Perfluorododecane sulfonate (PFDoDS)	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluorododecanoic acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluoroheptanesulfonic acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluoroheptanoic acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluorohexanesulfonic acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluorohexanoic acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluorononanesulfonic Acid (Pfns)	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluorononanoic acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluorooctanesulfonamide	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	44		0.49		0.24		0.36		0.47	
Perfluorooctanoic acid (PFOA)	**0.66**	33		0.18	J	0.22	U	0.22	U	0.08	J
Perfluoropentanesulfonic Acid (Pfpes)	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluoropentanoic acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluorotetradecanoic acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluorotridecanoic acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Perfluoroundecanoic acid	NS	NS		0.19	U	0.22	U	0.22	U	0.19	U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	NS	NS		0.39	U	0.44	U	0.44	U	0.39	U

Table 1F
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Per- and Polyfluoroalkyl Substances

		AKRF Sample ID	EP-34_13_20260511		EP-35_13_20260511		EP-36_13_20260511		EP-37_13_20260511	
		Lab Sample ID	460-350773-3		460-350773-4		460-350773-5		460-350773-6	
		Sample Date	5/11/2026		5/11/2026		5/11/2026		5/11/2026	
		Dilution Factor	1		1		1		1	
		Unit	ppb		ppb		ppb		ppb	
Compound	**UUGV**	**RRGV**	CONC	Q	CONC	Q	CONC	Q	CONC	Q
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS	0.99	U	1	U	0.99	U	0.98	U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS	0.99	U	1	U	0.99	U	0.98	U
2H,2H,3H,3H-Perfluorooctanoic acid	NS	NS	0.99	UT	1	UT	0.99	UT	0.98	UT
3-Perfluoroheptyl propanoic acid	NS	NS	0.99	U	1	U	0.99	U	0.98	U
3-Perfluoropropyl propanoic acid	NS	NS	0.4	U	0.4	U	0.4	U	0.39	U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
6:2 Fluorotelomer sulfonate	NS	NS	0.4	U	0.4	U	0.4	U	0.39	U
8:2 Fluorotelomer sulfonate	NS	NS	0.4	U	0.4	U	0.4	U	0.39	U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
N-ethyl perfluoro-1-octanesulfonamide	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
N-ethyl perfluorooctanesulfonamidoacetic acid	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
N-methyl perfluoro-1-octanesulfonamide	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
N-methyl perfluorooctanesulfonamidoacetic acid	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Nonafluoro-3,6-dioxaheptanoic acid	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Perfluoro(2-ethoxyethane)sulfonic acid	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Perfluoro(2-Propoxypropanoic) Acid	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Perfluoro-3-methoxypropanoic acid	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Perfluoro-4-methoxybutanoic acid	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Perfluorobutanesulfonic acid (PFBS)	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Perfluorobutanoic acid	NS	NS	0.4	U	0.4	U	0.4	U	0.39	U
Perfluorodecanesulfonic acid	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Perfluorodecanoic acid	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Perfluorododecane sulfonate (PFDoDS)	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Perfluorododecanoic acid	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Perfluoroheptanesulfonic acid	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Perfluoroheptanoic acid	NS	NS	0.2	U	0.14	J	0.2	U	0.2	U
Perfluorohexanesulfonic acid	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Perfluorohexanoic acid	NS	NS	0.2	U	0.15	J	0.2	U	0.2	U
Perfluorononanesulfonic Acid (Pfns)	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Perfluorononanoic acid	NS	NS	0.2	U	0.12	J	0.2	U	0.2	U
Perfluorooctanesulfonamide	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	44	0.79		**2.31**		0.16	J	0.17	J
Perfluorooctanoic acid (PFOA)	**0.66**	33	0.12	J	**1**		0.074	J	0.2	U
Perfluoropentanesulfonic Acid (Pfpes)	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Perfluoropentanoic acid	NS	NS	0.2	U	0.18	J	0.2	U	0.2	U
Perfluorotetradecanoic acid	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Perfluorotridecanoic acid	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Perfluoroundecanoic acid	NS	NS	0.2	U	0.2	U	0.2	U	0.2	U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	NS	NS	0.4	U	0.4	U	0.4	U	0.39	U

Table 1F
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Per- and Polyfluoroalkyl Substances

			AKRF Sample ID	EP-38_10_20260608		EP-39_16_20260605		EP-40_16_20260605		EP-44_4_20260204	
			Lab Sample ID	460-352780-2		460-352642-1		460-352642-2		460-344322-1	
			Sample Date	6/8/2026		6/5/2026		6/5/2026		2/4/2026	
			Dilution Factor	1		1		1		1	
			Unit	ppb		ppb		ppb		ppb	
Compound	**UUGV**	**RRGV**		CONC	Q	CONC	Q	CONC	Q	CONC	Q
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		1.09	U	1.19	U	1.27	U	0.99	U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		1.09	U	1.19	U	1.27	U	1.26	
2H,2H,3H,3H-Perfluorooctanoic acid	NS	NS		1.09	U	1.19	U	1.27	U	0.99	U
3-Perfluoroheptyl propanoic acid	NS	NS		1.09	U	1.19	U	1.27	U	0.99	U
3-Perfluoropropyl propanoic acid	NS	NS		0.43	U	0.48	U	0.51	U	0.4	U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
6:2 Fluorotelomer sulfonate	NS	NS		0.43	U	0.48	U	0.51	U	0.4	U
8:2 Fluorotelomer sulfonate	NS	NS		0.43	U	0.48	U	0.51	U	0.4	U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
N-ethyl perfluoro-1-octanesulfonamide	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
N-ethyl perfluorooctanesulfonamidoacetic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.4	
N-methyl perfluoro-1-octanesulfonamide	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
N-methyl perfluorooctanesulfonamidoacetic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.28	EMPC
Nonafluoro-3,6-dioxaheptanoic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
Perfluoro(2-ethoxyethane)sulfonic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
Perfluoro(2-Propoxypropanoic) Acid	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
Perfluoro-3-methoxypropanoic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
Perfluoro-4-methoxybutanoic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
Perfluorobutanesulfonic acid (PFBS)	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
Perfluorobutanoic acid	NS	NS		0.43	U	0.48	U	0.51	U	0.4	U
Perfluorodecanesulfonic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
Perfluorodecanoic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.32	
Perfluorododecane sulfonate (PFDoDS)	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
Perfluorododecanoic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.11	J
Perfluoroheptanesulfonic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
Perfluoroheptanoic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
Perfluorohexanesulfonic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.27	
Perfluorohexanoic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.16	J
Perfluorononanesulfonic Acid (Pfns)	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
Perfluorononanoic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.25	
Perfluorooctanesulfonamide	NS	NS		0.22	U	0.24	U	0.25	U	0.2	
Perfluorooctanesulfonic acid (PFOS)	**0.88**	44		0.3		0.21	J	0.1	J	**12.5**	
Perfluorooctanoic acid (PFOA)	**0.66**	33		0.22	U	0.24	U	0.25	U	0.54	
Perfluoropentanesulfonic Acid (Pfpes)	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
Perfluoropentanoic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.13	J
Perfluorotetradecanoic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
Perfluorotridecanoic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.2	U
Perfluoroundecanoic acid	NS	NS		0.22	U	0.24	U	0.25	U	0.2	
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	NS	NS		0.43	U	0.48	U	0.51	U	0.4	U

Table 1F
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Per- and Polyfluoroalkyl Substances

			AKRF Sample ID	EP-45_4_20260204		EP-46_4_20260204		EP-47_4_20260204		EP-49_16_20260608	
			Lab Sample ID	460-344322-2		460-344322-3		460-344322-4		460-352780-3	
			Sample Date	2/4/2026		2/4/2026		2/4/2026		6/8/2026	
			Dilution Factor	1		1		1		1	
			Unit	ppb		ppb		ppb		ppb	
Compound	**UUGV**	**RRGV**		CONC	Q	CONC	Q	CONC	Q	CONC	Q
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		1	U	0.99	U	0.99	U	1.12	U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		1	U	0.99	U	2.4		1.12	U
2H,2H,3H,3H-Perfluorooctanoic acid	NS	NS		1	U	0.99	U	0.99	U	1.12	U
3-Perfluoroheptyl propanoic acid	NS	NS		1	U	0.99	U	0.99	U	1.12	U
3-Perfluoropropyl propanoic acid	NS	NS		0.4	U	0.4	U	0.39	U	0.45	U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
6:2 Fluorotelomer sulfonate	NS	NS		0.4	U	0.4	U	0.39	U	0.45	U
8:2 Fluorotelomer sulfonate	NS	NS		0.4	U	0.4	U	0.39	U	0.45	U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
N-ethyl perfluoro-1-octanesulfonamide	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
N-ethyl perfluorooctanesulfonamidoacetic acid	NS	NS		0.2	U	0.2	U	0.39		0.22	U
N-methyl perfluoro-1-octanesulfonamide	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
N-methyl perfluorooctanesulfonamidoacetic acid	NS	NS		0.2	U	0.2	U	0.54		0.22	U
Nonafluoro-3,6-dioxaheptanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
Perfluoro(2-ethoxyethane)sulfonic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
Perfluoro(2-Propoxypropanoic) Acid	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
Perfluoro-3-methoxypropanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
Perfluoro-4-methoxybutanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
Perfluorobutanesulfonic acid (PFBS)	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
Perfluorobutanoic acid	NS	NS		0.4	U	0.4	U	0.15	J	0.45	U
Perfluorodecanesulfonic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
Perfluorodecanoic acid	NS	NS		0.2	U	0.2	U	0.11	J	0.22	U
Perfluorododecane sulfonate (PFDoDS)	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
Perfluorododecanoic acid	NS	NS		0.2	U	0.2	U	0.11	J	0.22	U
Perfluoroheptanesulfonic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
Perfluoroheptanoic acid	NS	NS		0.2	U	0.2	U	0.12	J	0.22	U
Perfluorohexanesulfonic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
Perfluorohexanoic acid	NS	NS		0.2	U	0.12	J	0.43		0.22	U
Perfluorononanesulfonic Acid (Pfns)	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
Perfluorononanoic acid	NS	NS		0.2	U	0.15	J	0.12	J	0.22	U
Perfluorooctanesulfonamide	NS	NS		0.2	U	0.2	U	0.12	J	0.22	U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	44		**2.23**		**3.92**		**2.15**		0.25	
Perfluorooctanoic acid (PFOA)	**0.66**	33		0.21		**0.86**		**0.71**		0.22	U
Perfluoropentanesulfonic Acid (Pfpes)	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
Perfluoropentanoic acid	NS	NS		0.16	J	0.17	J	0.4		0.22	U
Perfluorotetradecanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
Perfluorotridecanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
Perfluoroundecanoic acid	NS	NS		0.2	U	0.2	U	0.2	U	0.22	U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	NS	NS		0.4	U	0.4	U	0.39	U	0.45	U

Table 1F
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Per- and Polyfluoroalkyl Substances

			AKRF Sample ID	EP-X_16_20260608		EP-50_18_20260605		EP-53_15_20260504		EP-54_15_20260504	
			Lab Sample ID	460-352780-4		460-352642-3		460-350245-1		460-350245-2	
			Sample Date	6/8/2026		6/5/2026		5/4/2026		5/4/2026	
			Dilution Factor	1		1		1		1	
			Unit	ppb		ppb		ppb		ppb	
Compound	**UUGV**	**RRGV**		CONC	Q	CONC	Q	CONC	Q	CONC	Q
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		1.09	U	1.15	U	0.97	U	0.98	U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		1.09	U	1.15	U	0.97	U	0.98	U
2H,2H,3H,3H-Perfluorooctanoic acid	NS	NS		1.09	U	1.15	U	0.97	U	0.98	U
3-Perfluoroheptyl propanoic acid	NS	NS		1.09	U	1.15	U	0.97	U	0.98	U
3-Perfluoropropyl propanoic acid	NS	NS		0.44	U	0.46	U	0.39	U	0.39	U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
6:2 Fluorotelomer sulfonate	NS	NS		0.44	U	0.46	U	0.39	U	0.39	U
8:2 Fluorotelomer sulfonate	NS	NS		0.44	U	0.46	U	0.39	U	0.39	U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
N-ethyl perfluoro-1-octanesulfonamide	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
N-ethyl perfluorooctanesulfonamidoacetic acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
N-methyl perfluoro-1-octanesulfonamide	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
N-methyl perfluorooctanesulfonamidoacetic acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Nonafluoro-3,6-dioxaheptanoic acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluoro(2-ethoxyethane)sulfonic acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluoro(2-Propoxypropanoic) Acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluoro-3-methoxypropanoic acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluoro-4-methoxybutanoic acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluorobutanesulfonic acid (PFBS)	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluorobutanoic acid	NS	NS		0.44	U	0.46	U	0.39	U	0.39	U
Perfluorodecanesulfonic acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluorodecanoic acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluorododecane sulfonate (PFDoDS)	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluorododecanoic acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluoroheptanesulfonic acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluoroheptanoic acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluorohexanesulfonic acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluorohexanoic acid	NS	NS		0.22	U	0.23	U	0.12	J	0.2	U
Perfluorononanesulfonic Acid (Pfns)	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluorononanoic acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluorooctanesulfonamide	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	44		0.27		**1.19**		0.19	U	0.17	J
Perfluorooctanoic acid (PFOA)	**0.66**	33		0.22	U	0.23	U	0.098	J	0.086	J
Perfluoropentanesulfonic Acid (Pfpes)	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluoropentanoic acid	NS	NS		0.22	U	0.23	U	0.12	J	0.2	U
Perfluorotetradecanoic acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluorotridecanoic acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Perfluoroundecanoic acid	NS	NS		0.22	U	0.23	U	0.19	U	0.2	U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	NS	NS		0.44	U	0.46	U	0.39	U	0.39	U

Table 1F
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Per- and Polyfluoroalkyl Substances

		AKRF Sample ID	EP-57_15_20260504	EP-58_15_20260504	FB-02_20260511
		Lab Sample ID	460-350245-3	460-350245-4	460-350773-1
		Sample Date	5/4/2026	5/4/2026	5/11/2026
		Dilution Factor	1	1	1
		Unit	ppb	ppb	ppt
Compound	**UUGV**	**RRGV**	CONC Q	CONC Q	CONC Q
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	NS	NS	0.2 U	0.2 U	1.39 U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS	0.99 U	0.99 U	6.96 U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS	0.99 U	0.99 U	6.96 U
2H,2H,3H,3H-Perfluorooctanoic acid	NS	NS	0.99 U	0.99 U	6.96 U
3-Perfluoroheptyl propanoic acid	NS	NS	0.99 U	0.99 U	6.96 U
3-Perfluoropropyl propanoic acid	NS	NS	0.4 U	0.39 U	2.78 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NS	NS	0.2 U	0.2 U	1.39 U
6:2 Fluorotelomer sulfonate	NS	NS	0.4 U	0.39 U	2.78 U
8:2 Fluorotelomer sulfonate	NS	NS	0.4 U	0.39 U	2.78 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	NS	NS	0.2 U	0.2 U	1.39 U
N-ethyl perfluoro-1-octanesulfonamide	NS	NS	0.2 U	0.2 U	1.39 U
N-ethyl perfluorooctanesulfonamidoacetic acid	NS	NS	0.2 U	0.2 U	1.39 U
N-methyl perfluoro-1-octanesulfonamide	NS	NS	0.2 U	0.2 U	1.39 U
N-methyl perfluorooctanesulfonamidoacetic acid	NS	NS	0.2 U	0.2 U	1.39 U
Nonafluoro-3,6-dioxaheptanoic acid	NS	NS	0.2 U	0.2 U	1.39 U
Perfluoro(2-ethoxyethane)sulfonic acid	NS	NS	0.2 U	0.2 U	1.39 U
Perfluoro(2-Propoxypropanoic) Acid	NS	NS	0.2 U	0.2 U	1.39 U
Perfluoro-3-methoxypropanoic acid	NS	NS	0.2 U	0.2 U	1.39 U
Perfluoro-4-methoxybutanoic acid	NS	NS	0.2 U	0.2 U	1.39 U
Perfluorobutanesulfonic acid (PFBS)	NS	NS	0.2 U	0.2 U	1.39 U
Perfluorobutanoic acid	NS	NS	0.4 U	0.39 U	2.78 U
Perfluorodecanesulfonic acid	NS	NS	0.2 U	0.2 U	1.39 U
Perfluorodecanoic acid	NS	NS	0.2 U	0.2 U	1.39 U
Perfluorododecane sulfonate (PFDoDS)	NS	NS	0.2 U	0.2 U	1.39 U
Perfluorododecanoic acid	NS	NS	0.2 U	0.2 U	1.39 U
Perfluoroheptanesulfonic acid	NS	NS	0.2 U	0.2 U	1.39 U
Perfluoroheptanoic acid	NS	NS	0.2 U	0.2 U	1.39 U
Perfluorohexanesulfonic acid	NS	NS	0.2 U	0.2 U	1.39 U
Perfluorohexanoic acid	NS	NS	0.2 U	0.2 U	1.39 U
Perfluorononanesulfonic Acid (Pfns)	NS	NS	0.2 U	0.2 U	1.39 U
Perfluorononanoic acid	NS	NS	0.2 U	0.2 U	1.39 U
Perfluorooctanesulfonamide	NS	NS	0.2 U	0.2 U	1.39 U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	44	0.2 U	0.2 U	1.39 U
Perfluorooctanoic acid (PFOA)	**0.66**	33	0.2 U	0.2 U	1.39 U
Perfluoropentanesulfonic Acid (Pfpes)	NS	NS	0.2 U	0.2 U	1.39 U
Perfluoropentanoic acid	NS	NS	0.2 U	0.2 U	1.39 U
Perfluorotetradecanoic acid	NS	NS	0.2 U	0.2 U	1.39 U
Perfluorotridecanoic acid	NS	NS	0.2 U	0.2 U	1.39 U
Perfluoroundecanoic acid	NS	NS	0.2 U	0.2 U	1.39 U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	NS	NS	0.4 U	0.39 U	2.78 U

Table 1F
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Per- and Polyfluoroalkyl Substances

			AKRF Sample ID	FB-03_20260608		EP-FB-01_20260202
			Lab Sample ID	460-352780-5		460-344172-6
			Sample Date	6/8/2026		2/2/2026
			Dilution Factor	1		1
			Unit	ppt		ppt
Compound	**UUGV**	**RRGV**		CONC	Q	CONC	Q
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	NS	NS		1.68	U	1.62	U
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		8.38	U	8.11	U
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	NS	NS		8.38	U	8.11	U
2H,2H,3H,3H-Perfluorooctanoic acid	NS	NS		8.38	U	8.11	U
3-Perfluoroheptyl propanoic acid	NS	NS		8.38	U	8.11	U
3-Perfluoropropyl propanoic acid	NS	NS		3.35	U	3.24	U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NS	NS		1.68	U	1.62	U
6:2 Fluorotelomer sulfonate	NS	NS		3.35	U	3.24	U
8:2 Fluorotelomer sulfonate	NS	NS		3.35	U	3.24	U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	NS	NS		1.68	U	1.62	U
N-ethyl perfluoro-1-octanesulfonamide	NS	NS		1.68	U	1.62	U
N-ethyl perfluorooctanesulfonamidoacetic acid	NS	NS		1.68	U	1.62	U
N-methyl perfluoro-1-octanesulfonamide	NS	NS		1.68	U	1.62	U
N-methyl perfluorooctanesulfonamidoacetic acid	NS	NS		1.68	U	1.62	U
Nonafluoro-3,6-dioxaheptanoic acid	NS	NS		1.68	U	1.62	U
Perfluoro(2-ethoxyethane)sulfonic acid	NS	NS		1.68	U	1.62	U
Perfluoro(2-Propoxypropanoic) Acid	NS	NS		1.26	U	1.62	U
Perfluoro-3-methoxypropanoic acid	NS	NS		1.68	U	1.62	U
Perfluoro-4-methoxybutanoic acid	NS	NS		1.68	U	1.62	U
Perfluorobutanesulfonic acid (PFBS)	NS	NS		1.68	U	1.62	U
Perfluorobutanoic acid	NS	NS		3.35	U	3.24	U
Perfluorodecanesulfonic acid	NS	NS		1.68	U	1.62	U
Perfluorodecanoic acid	NS	NS		1.68	U	1.62	U
Perfluorododecane sulfonate (PFDoDS)	NS	NS		1.68	U	1.62	U
Perfluorododecanoic acid	NS	NS		1.68	U	1.62	U
Perfluoroheptanesulfonic acid	NS	NS		1.68	U	1.62	U
Perfluoroheptanoic acid	NS	NS		1.68	U	1.62	U
Perfluorohexanesulfonic acid	NS	NS		1.68	U	1.62	U
Perfluorohexanoic acid	NS	NS		1.68	U	1.62	U
Perfluorononanesulfonic Acid (Pfns)	NS	NS		1.68	U	1.62	U
Perfluorononanoic acid	NS	NS		1.68	U	1.62	U
Perfluorooctanesulfonamide	NS	NS		1.68	U	1.62	U
Perfluorooctanesulfonic acid (PFOS)	**0.88**	44		1.68	U	1.62	U
Perfluorooctanoic acid (PFOA)	**0.66**	33		1.68	U	1.62	U
Perfluoropentanesulfonic Acid (Pfpes)	NS	NS		1.68	U	1.62	U
Perfluoropentanoic acid	NS	NS		1.68	U	1.62	U
Perfluorotetradecanoic acid	NS	NS		1.68	U	1.62	U
Perfluorotridecanoic acid	NS	NS		1.68	U	1.62	U
Perfluoroundecanoic acid	NS	NS		1.68	U	1.62	U
Sodium 1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2)	NS	NS		3.35	U	3.24	U

Tables 1A-1F
521 East Tremont Avenue
Bronx, NY
Post-Excavation Endpoint Sample Analytical Results
Notes

DEFINITIONS

B : The analyte was found in an associated blank, as well as in the sample.

C : Indicates pesticide results have been confirmed by gc/ms. Also c with a number indicates a coeluting congener peak.

E : Identifies compounds whose concentration exceed the calibration range of the instrument for that specific analysis.

J : The concentration given is an estimated value.

M : Indicates that the duplicate injection precision was not met.

N/A : Not applicable.

NR : Not reported.

NS : No standard.

P : Indicates a pesticide/aroclor target analyte had a percent difference greater than 25% between the two gc columns. The lower of the two results is reported.

T : Indicates that a quality control parameter has exceeded laboratory limits.

U : Indicates that the compound was analyzed for, but not detected at or above the reporting limit.

mg/kg : milligrams per kilogram

ppb : parts per billion

ppt : parts per trillion

µg/L : micrograms per liter

STANDARDS

Part 375 SCOs : Soil Cleanup Objectives (SCOs) listed in New York State Department of Environmental Conservation (NYSDEC) "Part 375" Regulations [6 New York Codes, Rules and Regulations (NYCRR) Part 375].

Note: Endosulfans ABS represents the detected sum of Endosulfan I, Endosulfan II, and Endosulfan Sulfate.

Exceedances of Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs) are highlighted in bold font.
Exceedances of Part 375 Restricted Residential Soil Cleanup Objectives (RRSCOs) are highlighted in gray shading.
Exceedances of Part 375 Protection of Groundwater Soil Cleanup Objectives (PGWSCOs) are underlined.

NYSDEC Part 375 PFAS Guidance Values : New York State Department of Environmental Conservation (NYSDEC) Sampling, Analysis and Assessment Of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs Issued April 2023.

Exceedances of NYSDEC PFAS Unrestricted Use Guidance Values (UUGVs) are highlighted in bold font.
Exceedances of NYSDEC PFAS Restricted Residential Guidance Values (RRGVs) are highlighted in gray shading.

STANDARDS

EP-X_15_20260504 is a blind duplicate of sample EP-13_15_20260504.
EP-X_16_20260608 is a blind duplicate of sample EP-49_16_20260608.
EP-X_6_20260129 is a blind duplicate of sample EP-16_6_20260129.

APPENDIX A
ENVIRONMENTAL EASEMENT

ARCHITECTURAL SURVEY
SHEET 1 OF 3

LEGAL DESCRIPTION LOT 77/OVERALL EASEMENT:

ALL that certain plot, piece or parcel of land, situate, lying and being in the Borough of Bronx, County of Bronx, City and State of New York. Said parcel being more particularly bounded and described as follows:

BEGINNING at the point formed by the intersection of the northerly side of East Tremont Avenue and the Westerly side of 3rd Avenue;

RUNNING THENCE westerly along the northerly side of East Tremont Avenue a distance of 133.02 feet to a point;

THENCE northerly at right angles to the northerly side of East Tremont Avenue, a distance of 83.81 feet to a point;

THENCE westerly along a line forming an angle to the South with the last described course of 98 degrees 52 minutes 21 seconds, a distance of 66.02 feet to a point on the easterly side of Bathgate Avenue;

THENCE northerly along the easterly side of Bathgate Avenue forming an angle to the East with the last described course of 90 degrees 0 minutes 13 seconds, a distance of 24.82 feet to a point;

THENCE easterly at right angles to the easterly side of Bathgate Avenue, a distance of 84.74 feet to a point;

THENCE northerly along a line forming an angle to the West with the last described course of 87 degrees 18 minutes 04 seconds, a distance of 15.19 feet to a point;

THENCE still northerly along a line forming an angle to the West with the last described course of 179 degrees 58 minutes 31 seconds, a distance of 50.05 feet to a point;

THENCE easterly along a line forming an angle to the South with the last described course of 87 degrees 16 minutes 44 seconds, a distance of 3.62 feet to a point;

THENCE northerly along a line forming an angle to the West with the last described course of 89 degrees 39 minutes 35 seconds, a distance of 22.00 feet to a point;

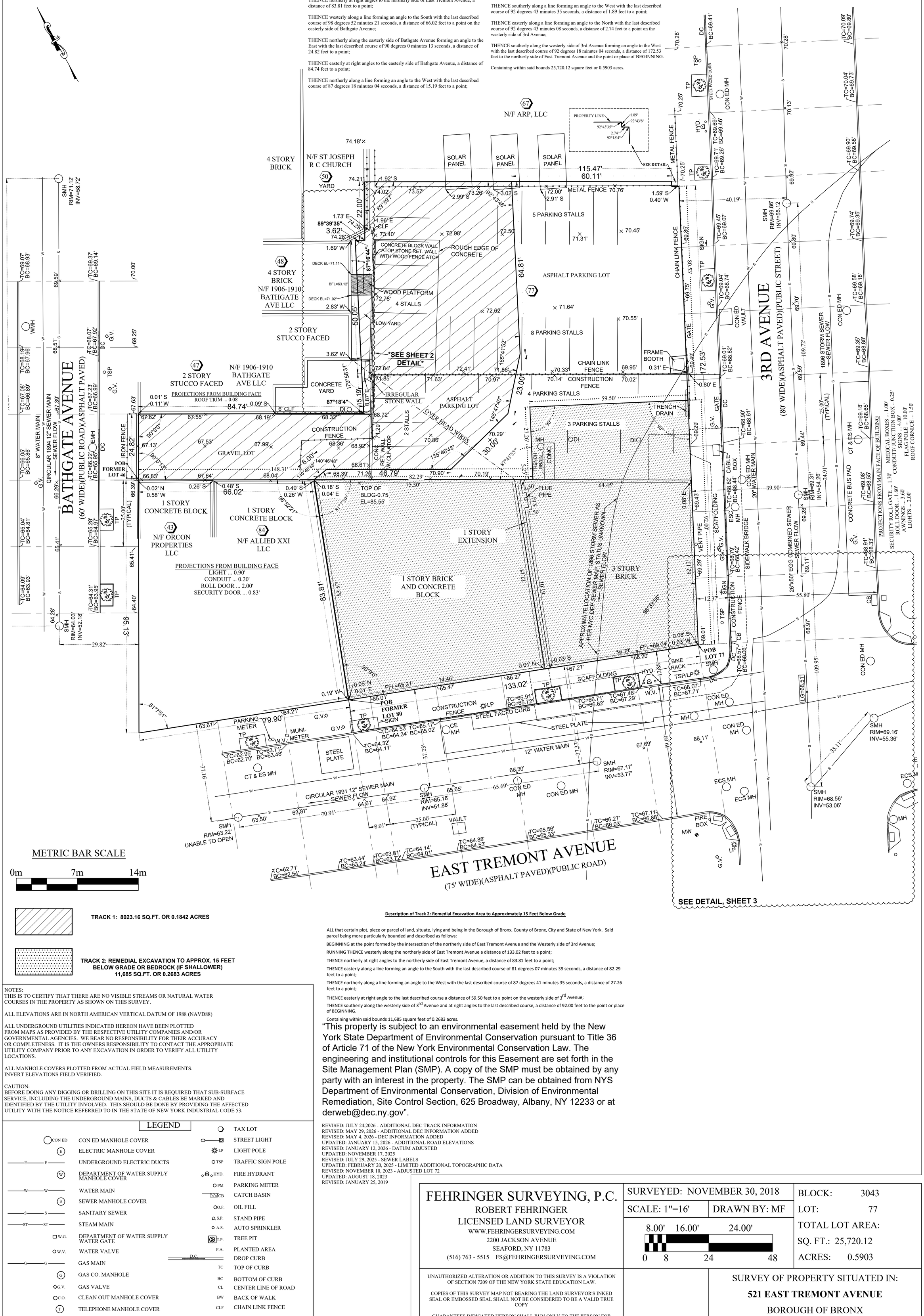
THENCE easterly along a line forming an angle to the South with the last described course of 89 degrees 39 minutes 7 seconds, a distance of 115.47 feet to a point;

THENCE southerly along a line forming an angle to the West with the last described course of 92 degrees 43 minutes 35 seconds, a distance of 1.89 feet to a point;

THENCE easterly along a line forming an angle to the North with the last described course of 92 degrees 43 minutes 08 seconds, a distance of 2.74 feet to a point on the westerly side of 3rd Avenue;

THENCE southerly along the westerly side of 3rd Avenue forming an angle to the West with the last described course of 92 degrees 18 minutes 04 seconds, a distance of 172.53 feet to the northerly side of East Tremont Avenue and the point or place of BEGINNING.

Containing within said bounds 25,720.12 square feet or 0.5903 acres.



METRIC BAR SCALE

0m 7m 14m

TRACK 1: 8023.16 SQ.FT. OR 0.1842 ACRES

TRACK 2: REMEDIAL EXCAVATION TO APPROX. 15 FEET BELOW GRADE OR BEDROCK (IF SHALLOWER) 11,685 SQ.FT. OR 0.2683 ACRES

Description of Track 2: Remedial Excavation Area to Approximately 15 Feet Below Grade

ALL that certain plot, piece or parcel of land, situate, lying and being in the Borough of Bronx, County of Bronx, City and State of New York. Said parcel being more particularly bounded and described as follows:

BEGINNING at the point formed by the intersection of the northerly side of East Tremont Avenue and the Westerly side of 3rd Avenue;

RUNNING THENCE westerly along the northerly side of East Tremont Avenue a distance of 133.02 feet to a point;

THENCE northerly at right angles to the northerly side of East Tremont Avenue, a distance of 83.81 feet to a point;

THENCE easterly along a line forming an angle to the South with the last described course of 81 degrees 07 minutes 39 seconds, a distance of 82.29 feet to a point;

THENCE northerly along a line forming an angle to the West with the last described course of 87 degrees 41 minutes 35 seconds, a distance of 27.26 feet to a point;

THENCE easterly at right angle to the last described course a distance of 59.50 feet to a point on the westerly side of 3rd Avenue;

THENCE southerly along the westerly side of 3rd Avenue and at right angles to the last described course, a distance of 92.00 feet to the point or place of BEGINNING.

Containing within said bounds 11,685 square feet of 0.2683 acres.

"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 New York Environmental Conservation Law. The engineering and institutional controls for this Easement are set forth in the Site Management Plan (SMP). A copy of the SMP must be obtained by any party with an interest in the property. The SMP can be obtained from NYS Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233 or at derweb@dec.ny.gov".

NOTES:
THIS IS TO CERTIFY THAT THERE ARE NO VISIBLE STREAMS OR NATURAL WATER COURSES IN THE PROPERTY AS SHOWN ON THIS SURVEY.

ALL ELEVATIONS ARE IN NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

ALL UNDERGROUND UTILITIES INDICATED HEREON HAVE BEEN PLOTTED FROM MAPS AS PROVIDED BY THE RESPECTIVE UTILITY COMPANIES AND/OR GOVERNMENTAL AGENCIES. WE BEAR NO RESPONSIBILITY FOR THEIR ACCURACY OR COMPLETENESS. IT IS THE OWNERS RESPONSIBILITY TO CONTACT THE APPROPRIATE UTILITY COMPANY PRIOR TO ANY EXCAVATION IN ORDER TO VERIFY ALL UTILITY LOCATIONS.

ALL MANHOLE COVERS PLOTTED FROM ACTUAL FIELD MEASUREMENTS.
INVERT ELEVATIONS FIELD VERIFIED.

CAUTION:
BEFORE DOING ANY DIGGING OR DRILLING ON THIS SITE IT IS REQUIRED THAT SUB-SURFACE SERVICE, INCLUDING THE UNDERGROUND MAINS, DUCTS & CABLES BE MARKED AND IDENTIFIED BY THE UTILITY INVOLVED. THIS SHOULD BE DONE BY PROVIDING THE AFFECTED UTILITY WITH THE NOTICE REFERRED TO IN THE STATE OF NEW YORK INDUSTRIAL CODE 53.

LEGEND

CON ED	CON ED MANHOLE COVER		TAX LOT
E	ELECTRIC MANHOLE COVER		STREET LIGHT
E E	UNDERGROUND ELECTRIC DUCTS	LP	LIGHT POLE
W	DEPARTMENT OF WATER SUPPLY MANHOLE COVER	TSP	TRAFFIC SIGN POLE
W W	WATER MAIN	HYD.	FIRE HYDRANT
S	SEWER MANHOLE COVER	PM	PARKING METER
S S	SANITARY SEWER	CB	CATCH BASIN
ST ST	STEAM MAIN	O.F.	OIL FILL
W.G.	DEPARTMENT OF WATER SUPPLY WATER GATE	S.P.	STAND PIPE
W.V.	WATER VALVE	A.S.	AUTO SPRINKLER
G G	GAS MAIN	T.P.	TREE PIT
G	GAS CO. MANHOLE	P.A.	PLANTED AREA
G.V.	GAS VALVE	D.C.	DROP CURB
C.O.	CLEAN OUT MANHOLE COVER	TC	TOP OF CURB
T	TELEPHONE MANHOLE COVER	BC	BOTTOM OF CURB
T T	TELEPHONE LINES	CL	CENTER LINE OF ROAD
OHW	OVERHEAD UTILITY WIRES	BW	BACK OF WALK
U.P.	UTILITY COMPANY POLE	CLF	CHAIN LINK FENCE
		WIF	WROUGHT IRON FENCE
		WSF	WOOD STOCKADE FENCE
		PRF	POST AND RAIL FENCE

REVISED: JULY 24,2026 - ADDITIONAL DEC TRACK INFORMATION
REVISED: MAY 29, 2026 - ADDITIONAL DEC INFORMATION ADDED
REVISED: MAY 4, 2026 - DEC INFORMATION ADDED
UPDATED: JANUARY 15, 2026 - ADDITIONAL ROAD ELEVATIONS
REVISED: JANUARY 12, 2026 - DATUM ADJUSTED
UPDATED: NOVEMBER 17, 2025
REVISED: JULY 29, 2025 - SEWER LABELS
UPDATED: FEBRUARY 20, 2025 - LIMITED ADDITIONAL TOPOGRAPHIC DATA
REVISED: NOVEMBER 10, 2023 - ADJUSTED LOT 72
UPDATED: AUGUST 18, 2023
REVISED: JANUARY 25, 2019

FEHRINGER SURVEYING, P.C.
ROBERT FEHRINGER
LICENSED LAND SURVEYOR
WWW.FEHRINGERSURVEYING.COM
2200 JACKSON AVENUE
SEAFORD, NY 11783
(516) 763 - 5515 FS@FEHRINGERSURVEYING.COM

SURVEYED: NOVEMBER 30, 2018
SCALE: 1"=16' DRAWN BY: MF

8.00' 16.00' 24.00'
0 8 24 48

BLOCK: 3043
LOT: 77
TOTAL LOT AREA:
SQ. FT.: 25,720.12
ACRES: 0.5903

UNAUTHORIZED ALTERATION OR ADDITION TO THIS SURVEY IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW.

COPIES OF THIS SURVEY MAP NOT BEARING THE LAND SURVEYOR'S INKED SEAL OR EMBOSSED SEAL SHALL NOT BE CONSIDERED TO BE A VALID TRUE COPY

GUARANTEES INDICATED HEREON SHALL RUN ONLY TO THE PERSON FOR WHOM THE SURVEY IS PREPARED, AND ON HIS BEHALF TO THE TITLE COMPANY, GOVERNMENTAL AGENCY AND LENDING INSTITUTION LISTED HEREON, AND TO THE ASSIGNEES OF THE LENDING INSTITUTION. GUARANTEES ARE NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.

SURVEY OF PROPERTY SITUATED IN:

521 EAST TREMONT AVENUE

BOROUGH OF BRONX
COUNTY OF BRONX
CITY OF NEW YORK
STATE OF NEW YORK

APPENDIX B
PERMITS AND APPROVALS

Construction Permits
521 East Tremont Avenue, Bronx, NY

Agency	Permit	Agency Phone Number
NYCDOB	Work Permit	(718) 960-4700
	New Building Permit	
	Asbestos/Demolition Permit	
	Electrical Work Permit	
	After Hours Work Variance	
	Fence Permit	
	Sidewalk Shed Permit	
	Barricade Permit	
	Roof Protection Permit	
	Elevator Permit	
	Hoist Permit	
	Certificate of Occupancy	
NYCDEP	Hydrant Connections	(718) 595-3855
	Dust Mitigation Plan	
	Construction Noise Mitigation Plan	
	Stormwater Pollution Prevention Plan	
NYCDOT	NYCDOT Signoff	(212) 748-6680
	Temporary Construction Signs Permit	
	Temporary Pedestrian Walk Permit	
	Occupancy of Sidewalk Permit	
	Equipment in Roadway Permit	
	Temporary Security Structure	
	Occupancy of Roadway Permit	
	Maintain Fence in Sidewalk Permit	
FDNY	Chemical Storage and Handling Permits	(718) 999-2000
	FDNY Signoff	

Notes:
NYCDOB – New York City Department of Buildings
NYSDEP – New York City Department of Environmental Protection
NYCDOT- New York City Department of Transportation
FDNY – Fire Department of New York

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 2
47-40 21st Street, Long Island City, NY 11101
P: (718) 482-4995
www.dec.ny.gov

April 4, 2024

Michelle Ponce
M521 Tremont LLC
48-02 25th Avenue, Suite 400
Astoria, NY 11103

Re: 521 East Tremont Avenue
Site ID: C203161
Remedial Investigation Report (RIR)

Dear Ms. Ponce,

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has reviewed the *Remedial Investigation Report* (RIR) for the referenced site dated March 2024, and prepared by AKRF Inc. on behalf of M521 Tremont LLC (the Volunteer). The RIR is a requirement of the NYS Brownfield Cleanup Program, Agreement Index No. C203161-04-23. The RIR meets the requirements of DER-10 and the Brownfield Cleanup Agreement (BCA) and is hereby approved.

In accordance with the BCA, the Volunteer is required to place a copy of the approved RIR in the document repositories and provide certification that the repositories have been populated with all relevant site-related documents.

If you have any questions, please contact me at (718) 482-4508 or by email: jennifer.gonzalez@dec.ny.gov.

Sincerely,

Jennifer Gonzalez
Project Manager

ec: J. O'Connell, A. Obligado, G. Nam – NYSDEC
S. McLaughlin, S. Surani – NYSDOH
G. Duke – Connell Foley
D. Shapiro, A. Bosco – AKRF

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 2
47-40 21st Street, Long Island City, NY 11101
P: (718) 482-4995
www.dec.ny.gov

July 15, 2024

Myles Monaghan
M521 Tremont LLC
521 Tremont Owner LLC
48-02 25th Avenue, Suite 400
Astoria, NY 11103
mmonaghan@megagroup.com

Re: 521 East Tremont Avenue
521 East Tremont Avenue, Bronx, Bronx County
Brownfield Cleanup Program #C203161
Remedial Action Work Plan

Dear Mr. Monaghan:

The New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) have reviewed the Remedial Action Work Plan (RAWP) dated June 2024, for the referenced site which were prepared by AKRF, Inc. on behalf of M521 Tremont LLC and 521 Tremont Owner LLC (the Volunteers). The RAWP is hereby approved. Please ensure that a copy of the approved RAWP is placed in the document repositories. The draft document should be removed.

Attached is a copy of NYSDEC's Decision Document for the site. The remedy is to be implemented in accordance with this Decision Document. Please ensure that a copy of the Decision Document is placed in the document repositories. A certification that these documents have been placed in the project repositories, and that the repositories are complete with all project documents, must be submitted to the NYSDEC project manager.

Please contact NYSDEC's Project Manager, Jennifer Gonzalez, at jennifer.gonzalez@dec.ny.gov at your earliest convenience to discuss next steps. Please recall NYSDEC requires seven days' notice prior to the start of field work.

Sincerely,

Jane H. O'Connell, P.G.
Regional Remediation Engineer, Region 2

ec: A. Obligado, J. Gonzalez, G. Nam – NYSDEC
J. Deming, S. Surani – NYSDOH
D. Shapiro, A. Bosco – AKRF
C. Argyriou – M521 Tremont LLC
G. Duke – Connell Foley LLP

DECISION DOCUMENT

521 East Tremont Avenue
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203161
July 2024

Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

DECLARATION STATEMENT - DECISION DOCUMENT

521 East Tremont Avenue
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203161
July 2024

Statement of Purpose and Basis

This document presents the remedy for the 521 East Tremont Avenue site a brownfield cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the 521 East Tremont Avenue site and the public's input to the proposed remedy presented by NYSDEC.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.
- Additionally, to incorporate green remediation principles and techniques to the extent

feasible in the future development at this site, any future on-site buildings shall be constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

As part of the remedial design program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA), SiteWise^{TM} (available in the Sustainable Remediation Forum [SURF] library) or similar NYSDEC accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial design program, as appropriate. The project design specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial design program.

Additionally, the remedial design program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

2. Excavation

The existing on-site buildings will be demolished and materials which cannot be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy.

Excavation and off-site disposal of contaminant source areas, including:

- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead;
- soil containing total SVOCs exceeding 500 ppm; and
- soils which exceed the protection of groundwater soil cleanup objectives (PGWSCOs), as defined by 6 NYCRR Part 375-6.8 for those contaminants found in site groundwater above standard.

Track 2 Area (proposed building basement footprint): Excavation and off-site disposal of all on-site soils which exceed restricted-residential SCOs, as defined by 6 NYCRR Part 375-6.8 in the upper 15 feet. If a Track 2 restricted residential cleanup is achieved, a Cover System will not be a required element of the remedy for this portion of the site.

Track 4 Area (remainder of site): All soils in the upper two feet which exceed the restricted

residential soil cleanup objectives (SCOs) will be excavated and transported off-site for disposal to allow for placement of the site cover. In addition, soil will be excavated in three hotspots in the Track 4 area to depths ranging from 5 to 13 feet below grade surface (bgs).

Approximately 8,300 cubic yards of contaminated soil will be removed from the site.

Collection and analysis of confirmation and documentation samples at the remedial excavation depths will be used to verify that SCOs for the site have been achieved. If confirmation/documentation sampling indicates that SCOs were not achieved at the stated remedial depth, the Applicant must notify NYSDEC, submit the sample results and, in consultation with NYSDEC, determine if further remedial excavation is necessary. Further excavation for development will proceed after confirmation samples demonstrate that SCOs for the site have been achieved.

To ensure proper handling and disposal of excavated material, waste characterization sampling will be completed for all identified contaminated site material. Waste characterization sampling will be performed exclusively for the purposes of off-site disposal in a manner suitable to receiving facilities and in conformance with applicable federal, state and local laws, rules, and regulations and facility-specific permits.

3. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d)(1) will be brought in to complete the backfilling of the excavation and establish the design grades at the site.

4. Cover System

A site cover will be required in areas where the upper two feet of exposed surface soil will exceed the applicable SCOs, to allow for future restricted residential use of the site. Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

5. In-Situ Chemical Oxidation

In-situ chemical oxidation (ISCO) will be implemented to treat tetrachloroethylene (PCE) and its associated degradation compounds in groundwater. A chemical oxidizing agent will be injected into the subsurface to destroy the contaminants in an approximately 4,300-square foot area located in the northeastern portion of the site near the former dry cleaner. The method and depth of injection will be determined during the remedial design.

Monitoring will be required up-gradient, down-gradient, and within the treatment zone. Monitoring will be conducted for contaminants of concern (VOCs), dissolved oxygen, oxidation/reduction potential, pH, and other parameters to assess the effectiveness of the

treatment.

6. Vapor Mitigation

Any proposed on-site buildings will be required to have a sub-slab depressurization system, or other acceptable measures, to mitigate the potential migration of vapors into the building from soil and/or groundwater.

7. Engineering and Institutional Controls

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 2/Track 4 restricted residential, commercial cleanup at a minimum and will include imposition of a site cover on the Track 4 portion of the site and a vapor mitigation system for the site as engineering controls.

Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

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

8. Site Management Plan

A Site Management Plan is required, which includes the following:

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:
   - Institutional Controls: The Environmental Easement discussed in Remedy Element 7 above.
   - Engineering Controls: The site cover system for the Track 4 portion of the site discussed in Remedy Element 4, and the vapor mitigation system discussed in Remedy Element 6.

   This plan includes, but may not be limited to:
   - an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
   - descriptions of the provisions of the environmental easement including any land use, and groundwater water use restrictions;
   - a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Remedy Element 4 above will be placed in any areas where the upper two feet of exposed surface soil exceed the

applicable soil cleanup objectives (SCOs);
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and NYSDEC notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
   - monitoring of groundwater to assess the performance and effectiveness of the remedy;
   - a schedule of monitoring and frequency of submittals to the NYSDEC.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system(s). The plan includes, but is not limited to:
   - procedures for operating and maintaining the system(s); and
   - compliance inspection of the system(s) to ensure proper O&M as well as providing the data for any necessary reporting.

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

July 15, 2024
Date

Jane H. O'Connell
Regional Remediation Engineer, Reg. 2

DECISION DOCUMENT

521 East Tremont Avenue
Bronx, Bronx County
Site No. C203161
July 2024

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, where a contaminant is present at levels exceeding the soil cleanup objectives or other health-based or environmental standards, criteria or guidance, based on the reasonably anticipated use of the property.

NYSDEC has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

NYSDEC seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by NYSDEC in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repositories:

DECInfo Locator - Web Application
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C203161

New York Public Library Tremont Branch
1866 Washington Avenue
Bronx, NY 10457
Phone: (718) 299-5177

Bronx Community Board 6
1932 Arthur Ave., Room 403-a
Bronx, NY 10457
Phone: (718) 579-6990

Receive Site Citizen Participation Information By Email

Please note that NYSDEC's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location:

The site is located at 521 East Tremont Avenue and 4223 Third Avenue in the East Tremont neighborhood of the Bronx, NY and is designated as Block 3043, Lots 72 and 77 on the NYC Tax Map. The site is abutted to the north by a parking lot and a funeral home; to the east by 3rd Avenue, followed by mixed-use buildings, an active construction site, commercial uses, and a church; to the south by East Tremont Avenue followed by commercial buildings; and to the west by commercial buildings, Bathgate Avenue, and a preschool. Tremont Park is located approximately 120 feet southeast of the site.

Site Features:

The site is an approximately 0.57-acre parcel currently occupied by a private parking lot with a gravel surface on the western portion of the property, and a public asphalt-paved parking lot on the north and east part of the property. The southern portion of the site contains a three-story commercial building with a cellar level, and a one-story slab-on-grade, commercial building. Both buildings are vacant.

Current Zoning and Land Use:

The current zoning of the site is C4-5X (commercial) but is undergoing rezoning to C4-4D (commercial) with Mandatory Inclusionary Housing as part of NYC Uniform Land Use Review Procedure, to construct a mixed-use development.

The site is currently vacant and unoccupied.

The surrounding area is predominantly comprised of mixed-use commercial/residential with some industrial uses and public facilities, including a school.

Past Use of the Site:

The site was developed with residential buildings as early as 1901 and various commercial uses between approximately 1915 through present-day. Historical site operations included a printing facility (Tremont Printing Co.) on the southeastern portion of the site between approximately 1915 and 1927. A dry cleaner was located in the northern portion of the site between approximately 1961 and 1980.

Site Geology and Hydrology:

The site is mapped on the U.S. Geological Survey (USGS) 7.5 Minute Topographic Map Central Park, N.Y. Quadrangle (2018). The site is approximately 60 to 70 feet above the North American Vertical Datum (NAVD) of 1988 (an approximation of mean sea level), and regional surface topography slopes toward the southwest.

The stratigraphy beneath the site consists of historic fill comprised of sand, silt, gravel, brick, with trace amounts of wood, metal, glass, ash, and ceramic fragments from just below surface grade (bsg) to approximately 3 to 16 feet bsg. The fill material was underlain by apparent native soil consisting of brown sand, silt, gravel, and clay between approximately 3 and 25 feet bsg (boring terminus). Presumed shallow bedrock was encountered at depths ranging from approximately 5 to 22 feet bsg. Based on the 2019 geotechnical investigation, alluvial deposits were encountered in two borings located within the northeastern portion of the site along Third Avenue, and glacial till was encountered in the remainder of the site at thicknesses of 2 to 27 feet. Gneiss bedrock was encountered below the glacial till and alluvial deposits at depths ranging from 10 to 63 feet bsg. Bedrock was deepest in the eastern portion of the site.

Groundwater beneath the Site ranges from 11.1 to 14.3 feet bsg across the site. Based on a well elevation survey, groundwater flows in a generally southerly to southwesterly direction beneath the site.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

NYSDEC may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to restricted-residential use (which allows for commercial use and industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the Remedial Investigation (RI) to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The Applicant(s) under the Brownfield Cleanup Agreement is a/are Volunteer(s). The Applicant(s) does/do not have an obligation to address off-site contamination. However, NYSDEC has determined that this site does not pose a significant threat to public health or the environment; accordingly, no enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor
- indoor air
- sub-slab vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. NYSDEC has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see:

http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

trichloroethene (TCE)
tetrachloroethene (PCE)
lead
benzo(a)pyrene
chrysene
benzo(a)anthracene
benzo(b)fluoranthene
pyrene
barium
benzo(k)fluoranthene
dibenz[a,h]anthracene
fluoranthene
indeno(1,2,3-cd)pyrene
phenanthrene
cis-1,2-dichloroethene
1,4-dioxane
vinyl chloride

The contaminant(s) of concern exceed the applicable SCGs for:

- groundwater
- soil
- soil vapor intrusion

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

There were no IRMs performed at this site during the RI.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl substances (PFAS), and pesticides. Soil vapor was analyzed for VOCs. Based on

the previous investigation, the primary contaminants of concern for the site are SVOCs and metals in soil and groundwater, and VOCs in soil vapor.

Soil -SVOCs were detected at concentrations exceeding their applicable restricted residential soil cleanup objectives (RRSCOs) including maximum concentrations of benzo(a)anthracene at 62 parts per million, or ppm (RRSCO of 1 ppm), benzo(a)pyrene at 49 ppm (RRSCO of 1 ppm), benzo(b)fluoranthene at 60 ppm (RRSCO of 1 ppm), benzo(k)fluoranthene at 30 ppm (RRSCO of 3.9 ppm), chrysene at 56 ppm (RRCSCO of 3.9 ppm), dibenz(a,h)anthracene at 2.5 ppm (RRSCO of 0.33 ppm), fluoranthene at 150 ppm (RRSCO of 100 ppm), indeno(1,2,3-cd)pyrene at 8 ppm (RRSCO of 0.5 ppm), phenanthrene at 150 ppm (RRSCO of 100 ppm), and pyrene at 140 ppm (RRSCO of 100 ppm).

Metals detected at concentrations above the RRSCOs include maximum concentrations of arsenic at 51.7 ppm (RRSCO of 16 ppm), barium at 2,640 ppm (RRSCO of 400 ppm), cadmium at 24.3 ppm (RRSCO of 4.3 ppm), lead at 4,180 ppm (RRSCO of 400 ppm), and mercury at 12 ppm (RRSCO of 0.81 ppm).

No VOCs, pesticides, PCBs, PFAS, or 1,4-dioxane were detected above the RRSCOs. Data does not indicate any off-site impacts in soil related to the site.

Groundwater - VOCs were detected exceeding the NYS Ambient Water Quality Standards and Guidance Values (AWQSGVs), including maximum concentrations of cis-1,2-dichloroethylene at 64 parts per billion, or ppb (AWQSGV of 5 ppb), tetrachloroethene (PCE) at 490 ppb (AWQSGV of 5 ppb), trichloroethene (TCE) at 120 ppb (AWQSGV of 5 ppb), vinyl chloride at 14 ppb (AWQSGV of 2 ppb), and 1,4-dioxane at 4.7 ppb (AWQSGV of 0.35 ppb).

Dissolved selenium was detected exceeding the AWQSGV (10 ppb) at a concentration of 15.8 ppb in one sample. The other four dissolved metals detected at concentrations above their respective AWQSGVs in groundwater were naturally-occurring elements including iron, magnesium, manganese, and sodium.

The following PFAS were detected in exceedance of applicable guidance values: PFOA at a maximum concentration of 204 parts per trillion, or ppt (guidance value 6.7 ppt); and PFOS at a maximum concentration of 131 ppt (guidance value 2.7 ppt).

No SVOCs, pesticides, or PCBs were detected above laboratory reporting limits in any groundwater samples. Data does not indicate any off-site impacts in groundwater related to the site.

Soil Vapor, Sub-Slab Soil Vapor, and Indoor Air - For soil vapor samples, petroleum-related VOCs include maximum concentrations of benzene at 7.1 micrograms per cubic meter ($\mu g/m^3$), ethylbenzene at 16 $\mu g/m^3$, m,p-xylenes at 79 $\mu g/m^3$, n-heptane at 270 $\mu g/m^3$, n-hexane at 640 $\mu g/m^3$, and toluene at 350 $\mu g/m^3$, and chlorinated-solvent-related VOCs include maximum concentrations of PCE at 370 $\mu g/m^3$, TCE at 63 $\mu g/m^3$, and methylene chloride at 15 $\mu g/m^3$.

In sub-slab soil vapor, petroleum-related VOCs include maximum concentrations of benzene at 5.3 µg/m^3, ethylbenzene at 12 µg/m^3, m,p-xylenes at 59 µg/m^3, n-heptane at 9.3 µg/m^3, n-hexane at 8.2 µg/m^3, and toluene at 33 µg/m^3, and chlorinated-solvent-related VOCs include maximum concentrations of PCE at 140 µg/$m^3$and methylene chloride at 3.6 µg/m^3.

In indoor air, petroleum-related VOCs include maximum concentrations of benzene at 3.6 µg/m^3, ethylbenzene at 13 µg/m^3, m,p-xylenes at 51 µg/m^3, n-heptane at 14 µg/m^3, n-hexane at 6,500 µg/m^3, and toluene at 3,400 µg/m^3, and chlorinated-solvent-related VOCs include maximum concentrations of PCE at 1.5 µg/m^3, TCE at 0.63 µg/$m^3$and methylene chloride at 45 µg/m^3.
Data does not indicate any off-site impacts in soil vapor related to the site.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure.*

Since the site is vacant and covered by buildings, asphalt, and gravel, people will not come into contact with site-related soil and groundwater contamination unless they dig below the surface. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in soil vapor (air spaces within the soil) may move into buildings and affect indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because the on-site building is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a concern for the site in its current condition. However, the potential exists for the inhalation of site contaminants due to soil vapor intrusion for any future on-site development. In addition, environmental sampling indicates soil vapor intrusion from site contamination is not a concern for off-site buildings.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

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

RAOs for Environmental Protection

- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

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

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Remove the source of ground or surface water contamination.

Soil Vapor

RAOs for Public Health Protection

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

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation and 6 NYCRR Part 375.

The selected remedy is a Multiple Cleanup Tracks (Track 2/Track 4 Restricted Residential Use) remedy.

The selected remedy is referred to as the Excavation, Groundwater Treatment, Cover System and Vapor Mitigation remedy.

The elements of the selected remedy, as shown in Figures 2-5, are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;

- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings shall be constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

As part of the remedial design program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA), SiteWise^{TM} (available in the Sustainable Remediation Forum [SURF] library) or similar NYSDEC accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial design program, as appropriate. The project design specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial design program.

Additionally, the remedial design program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

2. Excavation

The existing on-site buildings will be demolished and materials which cannot be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy.

Excavation and off-site disposal of contaminant source areas, including:

- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead;
- soil containing total SVOCs exceeding 500 ppm; and
- soils which exceed the protection of groundwater soil cleanup objectives (PGWSCOs), as defined by 6 NYCRR Part 375-6.8 for those contaminants found in site groundwater

above standard.

Track 2 Area (proposed building basement footprint): Excavation and off-site disposal of all on-site soils which exceed restricted-residential SCOs, as defined by 6 NYCRR Part 375-6.8 in the upper 15 feet. If a Track 2 restricted residential cleanup is achieved, a Cover System will not be a required element of the remedy for this portion of the site.

Track 4 Area (remainder of site): All soils in the upper two feet which exceed the restricted residential soil cleanup objectives (SCOs) will be excavated and transported off-site for disposal to allow for placement of the site cover. In addition, soil will be excavated in three hotspots in the Track 4 area to depths ranging from 5 to 13 feet below grade surface (bgs).

Approximately 8,300 cubic yards of contaminated soil will be removed from the site.

Collection and analysis of confirmation and documentation samples at the remedial excavation depths will be used to verify that SCOs for the site have been achieved. If confirmation/documentation sampling indicates that SCOs were not achieved at the stated remedial depth, the Applicant must notify NYSDEC, submit the sample results and, in consultation with NYSDEC, determine if further remedial excavation is necessary. Further excavation for development will proceed after confirmation samples demonstrate that SCOs for the site have been achieved.

To ensure proper handling and disposal of excavated material, waste characterization sampling will be completed for all identified contaminated site material. Waste characterization sampling will be performed exclusively for the purposes of off-site disposal in a manner suitable to receiving facilities and in conformance with applicable federal, state and local laws, rules, and regulations and facility-specific permits.

3. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d)(1) will be brought in to complete the backfilling of the excavation and establish the design grades at the site.

4. Cover System

A site cover will be required in areas where the upper two feet of exposed surface soil will exceed the applicable SCOs, to allow for future restricted residential use of the site. Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

5. In-Situ Chemical Oxidation

In-situ chemical oxidation (ISCO) will be implemented to treat tetrachloroethylene (PCE) and its

associated degradation compounds in groundwater. A chemical oxidizing agent will be injected into the subsurface to destroy the contaminants in an approximately 4,300-square foot area located in the northeastern portion of the site near the former dry cleaner. The method and depth of injection will be determined during the remedial design.

Monitoring will be required up-gradient, down-gradient, and within the treatment zone. Monitoring will be conducted for contaminants of concern (VOCs), dissolved oxygen, oxidation/reduction potential, pH, and other parameters to assess the effectiveness of the treatment.

6. Vapor Mitigation

Any proposed on-site buildings will be required to have a sub-slab depressurization system, or other acceptable measures, to mitigate the potential migration of vapors into the building from soil and/or groundwater.

7. Engineering and Institutional Controls

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 2/Track 4 restricted residential, commercial cleanup at a minimum and will include imposition of a site cover on the Track 4 portion of the site and a vapor mitigation system for the site as engineering controls.

Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

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

8. Site Management Plan

A Site Management Plan is required, which includes the following:

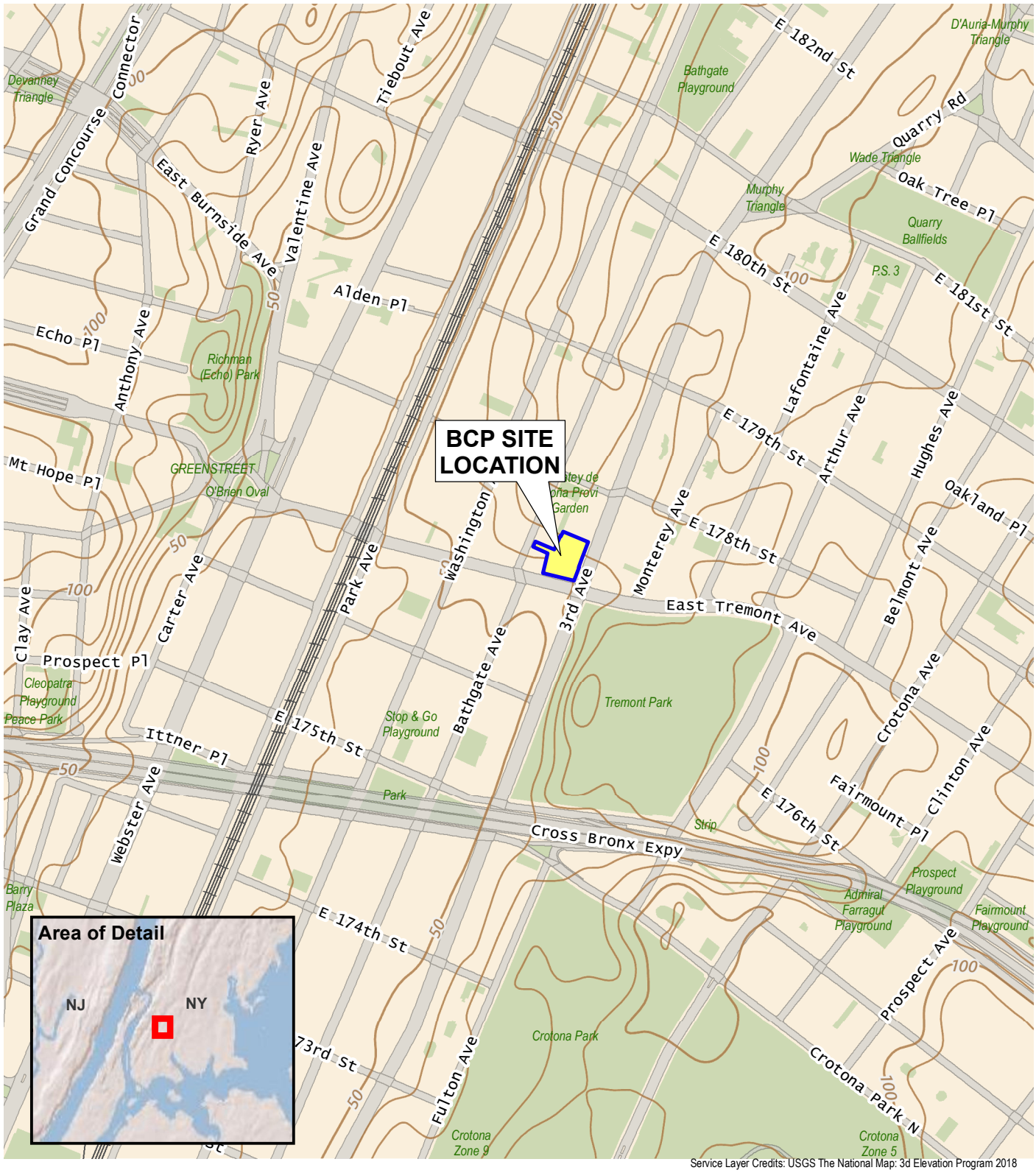
a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:
   - Institutional Controls: The Environmental Easement discussed in Remedy Element 7 above.
   - Engineering Controls: The site cover system for the Track 4 portion of the site discussed in Remedy Element 4, and the vapor mitigation system discussed in Remedy Element 6.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use, and groundwater water use restrictions;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Remedy Element 4 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and NYSDEC notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
   - monitoring of groundwater to assess the performance and effectiveness of the remedy;
   - a schedule of monitoring and frequency of submittals to the NYSDEC.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system(s). The plan includes, but is not limited to:
   - procedures for operating and maintaining the system(s); and
   - compliance inspection of the system(s) to ensure proper O&M as well as providing the data for any necessary reporting.



©2022 AKRF Q:\Projects\190204 - 521 EAST TREMONT AVENUE\Technical\GIS and Graphics\hazmat\190204 Fig 1 site loc map.mxd 8/23/2022 9:13:30 AM mveilleux

AKRF
440 Park Avenue South, New York, NY 10016

521 East Tremont Avenue
Bronx, New York

SITE LOCATION

DATE
8/23/2022

BCP ID NO.
C203161

FIGURE
1

LEGEND

- BCP SITE BOUNDARY
- TRACK 4 PROPOSED REMEDIAL EXCAVATION TO 2 FEET BELOW GRADE
- TRACK 2 PROPOSED REMEDIAL EXCAVATION TO APPROXIMATELY 15 FEET BELOW GRADE OR BEDROCK (IF SHALLOWER)
- PROPOSED HOTSPOT EXCAVATION (25' X 25')
- PROPOSED SIDEWALL ENDPOINT SAMPLE LOCATION
- PROPOSED BOTTOM ENDPOINT SAMPLE LOCATION

0 15 30 60

SCALE IN FEET

Map Source:
SLCE Architects, LLP "CELLAR OVERALL PLAN", Drawing No. A-101.00, 09/08/2023.

AKRF
440 Park Avenue South, New York, NY 10016

521 East Tremont Avenue
Bronx, New York

PROPOSED REMEDIAL EXCAVATION PLAN

DATE
5/16/2024

PROJECT NO.
190204

FIGURE
2

©2024 AKRF, Inc Q:\Projects\190204 - 521 EAST TREMONT AVENUE\Technical\Hazmat\CAD\RAWP\190204 Fig 11 Proposed Remedial Investigation Plan.dwg last save: mveilleux 5/16/2024 4:25 PM

Map Source:
NYCDCP (NYC Dept. of City Planning) GIS database.
Aerial Source:
2020 New York State ITS GIS Orthoimagery.

LEGEND

- BCP SITE BOUNDARY
- 77 — LOT BOUNDARY AND TAX LOT NUMBER
- 3043 — BLOCK NUMBER
- PHASE II SOIL BORING LOCATION/TEMPORARY WELL/SOIL VAPOR LOCATION (JULY 2019)
- PHASE II SOIL BORING LOCATION/TEMPORARY WELL LOCATION (JULY 2019)
- RI MONITORING WELL/RI SOIL BORING LOCATION (FEBRUARY/SEPTEMBER/NOVEMBER 2023)
- PROPOSED INJECTION POINT
- PROPOSED INJECTION POINT 12-FOOT RADIUS OF INFLUENCE
- PROPOSED POST REMEDIAL MONITORING WELL LOCATION
- APPROXIMATE EXTENT OF GROUNDWATER TREATMENT AREA
- GROUNDWATER FLOW DIRECTION

0 40 80
SCALE IN FEET

AKRF
440 Park Avenue South, New York, NY 10016

521 East Tremont Avenue
Bronx, New York

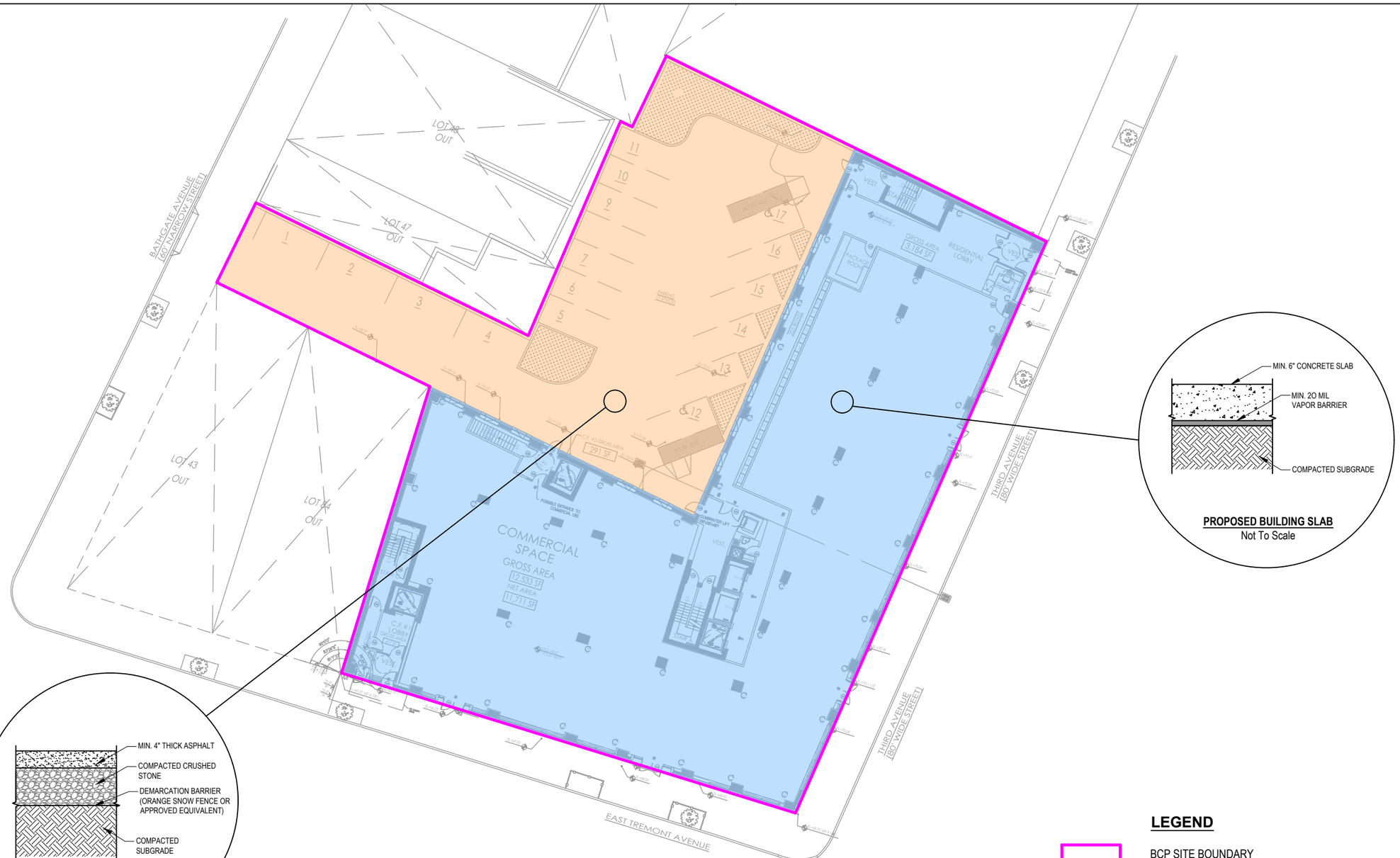
PROPOSED GROUNDWATER TREATMENT AREA

DATE
2/14/2024

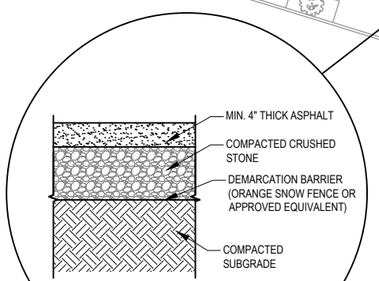
BCP ID NO.
C203161

FIGURE
3

©2024 AKRF Q:\Projects\190204 - 521 EAST TREMONT AVENUE\Technical\GIS and Graphics\hazmat\RAWP\190204 Fig 13 Proposed Groundwater Treatment Area.mxd 2/14/2024 11:59:20 AM mvelleux



PROPOSED BUILDING SLAB
Not To Scale



PROPOSED STREET-LEVEL PARKING
Not To Scale

LEGEND

- BCP SITE BOUNDARY
- PROPOSED BUILDING SLAB
- PROPOSED STREET-LEVEL PARKING

0 15 30 60
SCALE IN FEET

Map Source:
SLCE Architects, LLP "1ST FLOOR OVERALL PLAN", Drawing No. A-102.00, 09/08/2023.

AKRF
440 Park Avenue South, New York, NY 10016

521 East Tremont Avenue
Bronx, New York

PROPOSED SITE COVER SYSTEM

DATE
1/5/2024

BCP ID NO.
C203161

FIGURE
4

©2024 AKRF, Inc Q:\Projects\190204 - 521 EAST TREMONT AVENUE\Technical\Hazmat\CAD\RAW\P\190204 Fig 14 Proposed Site Cover System.dwg last save: mvelleux 1/5/2024 9:59 AM

LEGEND

- EXTENT OF VAPOR BARRIER UNDER SLAB
- PIPE SLEEVE THROUGH GRADE BEAM
- 4" Ø SLOTTED SCHEDULE 40 PVC PIPE
- VACUUM MONITORING POINT
- MANIFOLD AND RISER LOCATIONS

0 15 30 60

SCALE IN FEET

Map Source:
SLCE Architects, LLP "FOUNDATION FRAMING PLAN", Drawing No. FO-100.00, 09/29/2023.

©2024 AKRF, Inc Q:\Projects\190204 - 521 EAST TREMONT AVENUE\Technical\Hazmat\CAD\RAWP\190204 Fig 15 Conceptual SSDS Plan.dwg last save: mvelleux 2/14/2024 4:43 PM

AKRF
440 Park Avenue South, New York, NY 10016

521 East Tremont Avenue
Bronx, New York

CONCEPTUAL SSDS PLAN

DATE
2/14/2024

BCP ID NO.
C203161

FIGURE
5

NEW YORK STATE | Department of Environmental Conservation

KATHY HOCHUL
Governor

AMANDA LEFTON
Commissioner

October 6, 2025

Myles Monaghan
M521 Tremont LLC
521 Tremont Owner LLC
48-02 25th Avenue, Suite 400
Astoria, NY 11103
mmonaghan@megagroup.com

Re: 521 East Tremont Avenue
521 East Tremont Avenue, Bronx, Bronx County
Brownfield Cleanup Program #C203161
Remedial Design

Dear Mr. Monaghan:

The New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) have reviewed the Remedial Design for the 521 East Tremont Avenue site dated September 2025 and prepared by AKRF, Inc. on behalf of M521 Tremont LLC and 521 Tremont Owner LLC (the Volunteer). The Remedial Design is hereby approved.

The Volunteer and its contractors are solely responsible for safe execution of all invasive and other field work performed under this Remedial Design. The Volunteer and its contractors must obtain all local, state, and/or federal permits or approvals that may be required to perform work under this Remedial Design. Further, the Volunteer and its contractors are solely responsible for the identification of utilities that might be affected by work under this Remedial Design and, implementation of all required, appropriate, or necessary health and safety measures during performance of work under this Remedial Design.

In accordance with the requirements of the Brownfield Cleanup Agreement and the Citizen Participation Plan, the approved Remedial Design must be placed in the project document repositories within 5 business days. Any draft copies of this work plan should be removed. A certification that this document has been placed in the project repositories, and that the repositories are complete with all project documents, must be submitted to the NYSDEC project manager.

Please recall the NYSDEC's requires seven days' notice prior to the start of field work. Should you have any questions regarding this letter or any other aspect of the project, please contact me at 718-482-4508 or jennifer.gonzalez@dec.ny.gov.

Regards,

Jennifer Gonzalez
Project Manager

ec: J. O'Connell, A. Obligado – NYSDEC
J. Deming, S. Surani – NYSDOH
C. Argyriou, M. Monaghan – M521 Tremont LLC and 521 Tremont Owner LLC
R. Kinal, D. Shapiro, A. Bosco – AKRF

APPENDIX C
MONITORING WELL CONSTRUCTION LOGS

APPENDIX D
EXCAVATION WORK PLAN

APPENDIX D
EXCAVATION WORK PLAN (EWP)

1.1 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 A includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information.

Table A
Notifications*

Name	Contact Information
Jennifer Gonzalez NYSDEC Project Manager	(718) 482-6412 jennifer.gonzalez@dec.ny.gov
Andre Obligado NYSDEC Project Manager	(718) 482-4508 jennifer.gonzalez@dec.ny.gov
Jane O'Connell NYSDEC	(718) 482-4599 jane.oconnell@dec.ny.gov
Kelly Lewandowski NYSDEC Site Control	(518) 402-9569 kelly.lewandowski@dec.ny.gov
Shaun Surani NYSDOH Project Manager	(518) 402-7860 shaun.surani@health.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 E 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.

1.2 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 PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE 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 Section 1.5 of this Appendix.

1.3 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.

1.4 Materials Excavation and Load-Out

A qualified environmental professional (QEP) as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE 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.

1.5 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 either tight-fitting opaque covers that are secured on the sides and/or back, or opaque covers that are locked on all sides. 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 shown on Figure 10. All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

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.

1.6 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 361-5 registered or permitted facility).

1.7 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 the cover system or within landscaping berms. Contaminated on-site material may only be used beneath the site cover as backfill for subsurface utility lines with prior approval from the DEC project manager.

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 X-2 and X-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 may only be reused on-site with written approval from the NYSDEC project manager.

1.8 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.

1.9 Cover System Restoration

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the RAWP, and Decision Document . The existing cover system is comprised of a minimum of 24 inches of clean soil and the concrete building slab. The

demarcation layer, consisting of orange snow fencing material, white geotextile or equivalent material, etc. will be replaced to provide a visual reference to the top of the remaining contamination zone, the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this SMP. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in an updated SMP. 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.

1.10 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 L.

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 restricted residential. use, specifically the lower of the applicable protection of groundwater or protection of public health soil cleanup objectives set forth public health soil cleanup objectives set forth in Table 375-6.8(b). 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.

1.11 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.

1.12 Excavation Contingency Plan

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

1.13 Community Air Monitoring Plan

A figure showing the location of air sampling stations based on generally prevailing wind conditions is shown in Figure 2 of the CAMP in Appendix F. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations.

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

1.13.1 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, 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.

1.13.2 Special Requirements for Indoor Work with Co-Located Residences or Facilities

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall be as stated above under "Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures" except that in this instance "nearby/occupied structures" would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, should be understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls be used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g. weekends or evenings) when building occupancy is at a minimum.

1.14 Odor Control Plan

This odor control plan is capable of controlling emissions of nuisance odors off-site and on-site. Specific odor control methods to be used on a routine basis will include the use of odor suppressing foam or covering stockpiles or areas of open excavation. 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.

1.15 Dust Control Plan

Particulate monitoring must be conducted according to the Community Air Monitoring Plan (CAMP) provided in Appendix F. 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.

1.16 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.

APPENDIX E
HEALTH AND SAFETY PLAN

521 EAST TREMONT AVENUE

BRONX, NEW YORK

Health and Safety Plan

NYSDEC BCP Site No: C203161
AKRF Project Number: 190204

Prepared For:

NYSDEC
Division of Environmental Remediation
47-40 21st Street
Long Island City, NY 11101

Prepared On Behalf Of:

M521 Tremont LLC, 521 Tremont Owner LLC, and
521 East Tremont Housing Development Fund Corporation
48-02 25th Avenue, Suite 400
Queens, NY 11103

Prepared by:

AKRF, Inc.
440 Park Avenue South, 7th Floor
New York, New York 10016
212-696-0670

JULY 2026

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 HEALTH AND SAFETY GUIDELINES AND PROCEDURES 2
2.1 Hazard Evaluation 2
2.1.1 Hazards of Concern 2
2.1.2 Physical Characteristics 2
2.1.3 Hazardous Materials 2
2.1.4 Chemicals of Concern 2
2.2 Designated Personnel 4
2.3 Training 4
2.4 Medical Surveillance Program 5
2.5 Site Work Zones 5
2.6 Personal Protection Equipment (PPE) 5
2.7 General Work Practices 6
3.0 EMERGENCY PROCEDURES AND EMERGENCY RESPONSE PLAN 7
3.1 Hospital Information 7
3.2 Emergency Contacts 7
4.0 APPROVAL & ACKNOWLEDGMENTS OF HASP 8
4.1 Approval 8
4.2 Affidavit 8

FIGURES

Figure 1 – Site Location Map
Figure 2 – Hospital Location Map

ATTACHMENTS

Attachment A – Potential Health Effects from On-Site Contaminants
Attachment B – Report Forms
Attachment C – Emergency Hand Signals

1.0 INTRODUCTION

This environmental Health and Safety Plan (HASP) has been developed for the implementation of a Site Management Plan (SMP) by AKRF, Inc. (AKRF) personnel and its subcontractors at the property located at 521 East Tremont Avenue in the Tremont section of the Bronx, New York, hereafter referred to as the "Site." The Site is identified by the City of New York as Borough of the Bronx, Block 3043, Lot 77 (formerly Lots 46, 72, 77, and 80). The Applicant is enrolled in the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) as a Volunteer under BCP Site No. C203161.

The Site currently consists of a mixed-use residential building under construction in the northeastern and southern portion of the Site. The northwestern and western portions will contain a street-level parking lot once construction is complete. The Site location and topography of the Site and surrounding area is shown on Figure 1. The Site is abutted to the north by a parking lot and Bronx Charter School for Excellence 5; to the east by Third Avenue, followed by mixed-use buildings, commercial uses, and a church; to the south by East Tremont Avenue followed by commercial buildings; and to the west by a funeral home, commercial uses, followed by Bathgate Avenue. The surrounding area is predominantly residential and commercial, with some institutional uses.

This HASP does not discuss routine health and safety issues common to general construction and excavation, including, but not, limited to slips, trips, falls, shoring, and other physical hazards. All AKRF employees are directed that all work must be performed in accordance with AKRF's Generic HASP and all Occupation Safety and Health Administration (OSHA)-applicable regulations for the work activities required for the project. All project personnel are furthermore directed that they are not permitted to enter Permit Required Confined Spaces (as defined by OSHA). For issues unrelated to contaminated materials, all non-AKRF employees are to be bound by all applicable OSHA regulations as well as any more stringent requirements specified by their employer in their corporate HASP or otherwise. AKRF is not responsible for providing oversight for issues unrelated to contaminated materials for non-employees. This oversight shall be the responsibility of the employer of that worker or other official designated by that employer.

2.0 HEALTH AND SAFETY GUIDELINES AND PROCEDURES

2.1 Hazard Evaluation

2.1.1 Hazards of Concern

Hazards of concern include: organic and inorganic chemicals, and heat and/or cold stress.

2.1.2 Physical Characteristics

Physical characteristics of the hazards of concern include solid, aqueous, and vapor states.

2.1.3 Hazardous Materials

The Site-specific hazardous materials that may be encountered during SMP implementation include: fill material, solvent-related VOCs, SVOCs, petroleum, polychlorinated biphenyls (PCBs), and/or metals.

2.1.4 Chemicals of Concern

Chemical	REL/PEL/STEL	Health Hazards
Arsenic	REL C: 0.002 mg/m^3 PEL: 0.010 mg/m^3	Ulceration of nasal septum, dermatitis, gastrointestinal disturbances, peripheral neuropathy, resp irritation, hyperpigmentation of skin, [potential occupational carcinogen].
Asbestos	No exposure limits listed.	Asbestosis (chronic exposure): dyspnea (breathing difficulty), interstitial fibrosis, restricted pulmonary function, finger clubbing; irritation eyes; [potential occupational carcinogen].
Benzene	REL: 0.1 ppm N STEL: 1 ppm PEL: 1 ppm O STEL: 5 ppm	Irritation eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; anorexia, lassitude (weakness, exhaustion); dermatitis; bone marrow depression; [potential occupational carcinogen].
Carbon Tetrachloride	N STEL: 2 ppm PEL: 10 ppm PEL C: 25 ppm; 5-min max peak 200 ppm	Irritation eyes, skin; central nervous system depression; nausea, vomiting; liver, kidney injury; drowsiness, dizziness, incoordination; [potential occupational carcinogen].
Cis-1,2-Dichloroethylene	PEL: 790 mg/m^3 REL: 790 mg/m^3	Irritation eyes, respiratory system; central nervous system depression.
DDD, DDE, & DDT	REL: 0.5 mg/m^3 PEL: 1 mg/m^3	Irritation eyes, skin; paresthesia tongue, lips, face; tremor; anxiety, dizziness, confusion, malaise (vague feeling of discomfort), headache, lassitude (weakness, exhaustion); convulsions; paresis hands; vomiting; [potential occupational carcinogen].

Chemical	REL/PEL/STEL	Health Hazards
Fuel Oils	REL: 100 mg/m^3	Irritation eyes, skin, nose, throat; burning sensation in chest; headache, nausea, lassitude (weakness, exhaustion), restlessness, incoordination, confusion, drowsiness; vomiting, diarrhea; dermatitis; chemical pneumonitis (aspiration liquid).
Lead	REL: 0.050 mg/m^3 PEL:0.050 mg/m^3	Lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation eyes; hypertension.
Mercury	REL: 0.05 mg/m^3 REL C: 0.1 mg/m^3 PEL: 0.1 mg/m^3	Irritation eyes, skin; cough, chest pain, dyspnea (breathing difficulty), bronchitis, pneumonitis; tremor, insomnia, irritability, indecision, headache, lassitude (weakness, exhaustion); stomatitis, salivation; gastrointestinal disturbance, anorexia, weight loss; proteinuria.
Methylene Chloride	PEL: 25 ppm O STEL: 125 ppm	Irritation eyes, skin; lassitude (weakness, exhaustion), drowsiness, dizziness; numb, tingle limbs; nausea; [potential occupational carcinogen].
PAHs	REL: 0.1 mg/m^3 PEL: 0.2 mg/m^3	Effects reported from occupational exposure to PAHs include chronic bronchitis, chronic cough irritation, bronchogenic cancer, dermatitis, cutaneous photosensitization, and pilosebaceous reactions. Reported health effects associated with chronic exposure to coal tar and its by-products (e.g., PAHs): Skin: erythema, burns, and warts on sun-exposed areas with progression to cancer. The toxic effects of coal tar are enhanced by exposure to ultraviolet light. Eyes: irritation and photosensitivity. Respiratory system: cough, bronchitis, and bronchogenic cancer. Gastrointestinal system: leukoplakia, buccal-pharyngeal cancer, and cancer of the lip. Hematopoietic system: leukemia (inconclusive) and lymphoma. Genitourinary system: hematuria and kidney and bladder cancers.
PCBs	REL: 0.001 mg/m^3 PEL: 0.5 mg/m^3	Irritation eyes, chloracne; liver damage; reproductive effects; [potential occupational carcinogen].
Tetrachloroethylene	PEL: 100 ppm PEL C: 200 ppm; max peak: 300 ppm	Irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; [potential occupational carcinogen].

Chemical	REL/PEL/STEL	Health Hazards
Toluene	REL: 100 ppm N STEL: 150 ppm PEL: 200 ppm PEL C: 300 ppm; 10-min max peak: 500 ppm	Irritation eyes, nose; lassitude (weakness, exhaustion), confusion, euphoria, dizziness, headache; dilated pupils, lacrimation (discharge of tears); anxiety, muscle fatigue, insomnia; paresthesia; dermatitis; liver, kidney damage.
Trichloroethylene	PEL: 100 ppm PEL C: 200 ppm; 5-min max peak: 300 ppm	Irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; [potential occupational carcinogen].
Vinyl Chloride	PEL: 1 ppm PEL C: 5 ppm	Lassitude (weakness, exhaustion); abdominal pain, gastrointestinal bleeding; enlarged liver; pallor or cyanosis of extremities; liquid: frostbite; [potential occupational carcinogen].
Xylene	REL: 100 ppm N STEL: 150 ppm PEL: 100 ppm	Irritation eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis.
Notes: REL: Recommended exposure limit (NIOSH) PEL: Permissable exposure limits (OSHA) STEL: Short-term exposure limit N: NIOSH O: OSHA C: Ceiling		

The potential health effects from these known and suspected on-site contaminants are provided in Attachment A.

2.2 Designated Personnel

AKRF will appoint one of its on-site personnel as the Site Safety Officer (SSO). This individual will be responsible for the implementation of the HASP. The SSO will work under the direction of a Qualified Environmental Professional (QEP) and will be experienced in the implementation of air monitoring and hazardous materials sampling programs. Health and safety training required for the SSO and all field personnel are outlined in Section 2.3 of this HASP.

2.3 Training

All personnel who enter the work area while intrusive activities are being performed will have completed a 40-hour training course that meets OSHA requirements of 29 CFR Part 1910, Occupational Safety and Health Standards. In addition, all personnel will have up-to-date 8-hour refresher training. The training will allow personnel to recognize and understand the potential hazards to health and safety. All field personnel must attend a training program, whose purpose is to:

- Make them aware of the potential hazards they may encounter;
- Provide the knowledge and skills necessary for them to perform the work with minimal risk to health and safety;
- Make them aware of the purpose and limitations of safety equipment; and

- Ensure that they can safely avoid or escape from emergencies.

Each member of the field crew will be instructed in these objectives before work begins. A Site safety meeting will be conducted at the start of the project work. Additional meetings shall be conducted, as necessary, for new personnel working at the Site.

2.4 Medical Surveillance Program

All AKRF and subcontractor personnel performing field work involving subsurface disturbance at the Site are required to have passed a complete medical surveillance examination in accordance with 29 CFR 1910.120 (f). A physician's medical release for work will be confirmed by the SSO before an employee can begin Site activities. The medical release shall consider the type of work to be performed and the required personal protective equipment (PPE). The medical examination will, at a minimum, be provided annually and upon termination of hazardous waste Site work.

2.5 Site Work Zones

During any activities involving subsurface disturbance, the work area must be divided into various zones to prevent the spread of any contamination, ensure that proper PPE is donned, and provide an area for decontamination.

The Exclusion Zone is defined as the area where exposure to impacted media could be encountered. The Contamination Reduction Zone (CRZ) is the area where decontamination procedures take place and is located next to the Exclusion Zone. The Support is the zone area where support facilities such as vehicles, fire extinguisher, and first aid supplies are located. The emergency staging area (part of the Support Zone) is the area where all workers on-site would assemble in the event of an emergency. A summary of these areas is provided below. These zones may be changed by the SSO, depending on that day's activities. All field personnel will be informed of the location of these zones before work begins. The exclusion zone and CRZ are 10 and 25 feet from the drill rig during the RI, respectively. Control measures such as caution tape and/or traffic cones will be placed around the perimeter of the work area when needed.

2.6 Personal Protection Equipment (PPE)

The PPE required for various kinds of tasks are based on 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response, Appendix B, "General Description and Discussion of the Levels of Protection and Protective Gear."

AKRF field personnel and other site personnel shall wear, at a minimum, Level D PPE. The protection will be based on the air monitoring described in Section 2.6.

Level D PPE includes donning of the following during drilling and sampling:

- Steel Toed Boots
- Hard Hat
- Work Gloves
- Safety Glasses
- Ear Plugs
- Nitrile Gloves
- Tyvek Suit [if non-aqueous phase liquid (NAPL) is present]

If PID readings exceed 5 ppm in the breathing zone, personnel will don Level C PPE, which includes Level D PPE and a half- or full-face respirator with a dual organic and particulate cartridge.

2.7 General Work Practices

To protect the health and safety of the field personnel, field personnel will adhere to the guidelines listed below during activities involving subsurface disturbance:

- Eating, drinking, chewing gum or tobacco, and smoking are prohibited, except in designated areas on the Site. These areas will be designated by the SSO.
- Workers must wash their hands thoroughly on leaving the work area and before eating, drinking, or any other such activity.
- The workers should shower as soon as possible after leaving the Site. Contact with contaminated or suspected surfaces should be avoided.
- The buddy system should always be used; each buddy should watch for signs of fatigue, exposure, and heat/cold stress.

3.0 EMERGENCY PROCEDURES AND EMERGENCY RESPONSE PLAN

The field crew will be equipped with emergency equipment, such as a first aid kit and disposable eye washes. In the case of a medical emergency, the SSO will determine the nature of the emergency and he/she will have someone call for an ambulance, if needed. If the nature of the injury is not serious, i.e., the person can be moved without expert emergency medical personnel, he/she should be taken to a hospital by on-site personnel. Directions to the hospital are provided below, and a Hospital Location Map showing the more direct route to the hospital is included as Figure 2.

3.1 Hospital Information

Hospital Name:	St. Barnabas Hospital
Phone Number:	(718) 960-9000
Address:	4422 3rd Avenue, Bronx, NY 10457
Directions:	1. Turn LEFT out of the Site onto 3rd Avenue toward East 178th Street. 2. Continue STRAIGHT. The emergency room will be on the RIGHT at the intersection of 3rd Avenue and East 183rd Street.

3.2 Emergency Contacts

Company	Individual Name	Title	Contact Number
AKRF	Deborah Shapiro	QA/QC Officer, QEP	(646) 388-9544
	Adrianna Bosco	Project Manager	(646) 388-9576
	Patrick O'Mara	Field Team Leader/SSO	(914) 874-4309 (cell)
M521 Tremont LLC / 521 Tremont Owner LLC	Ana Meza	Volunteer's Representative	(929) 463-7989
Ambulance, Fire Department & Police Department	-	-	911
NYSDEC Spill Hotline	-	-	800-457-7362

4.0 APPROVAL & ACKNOWLEDGMENTS OF HASP

4.1 Approval

Signed: _____ Date: _____

AKRF Project Manager

Signed: _____ Date: _____

AKRF Health and Safety Officer

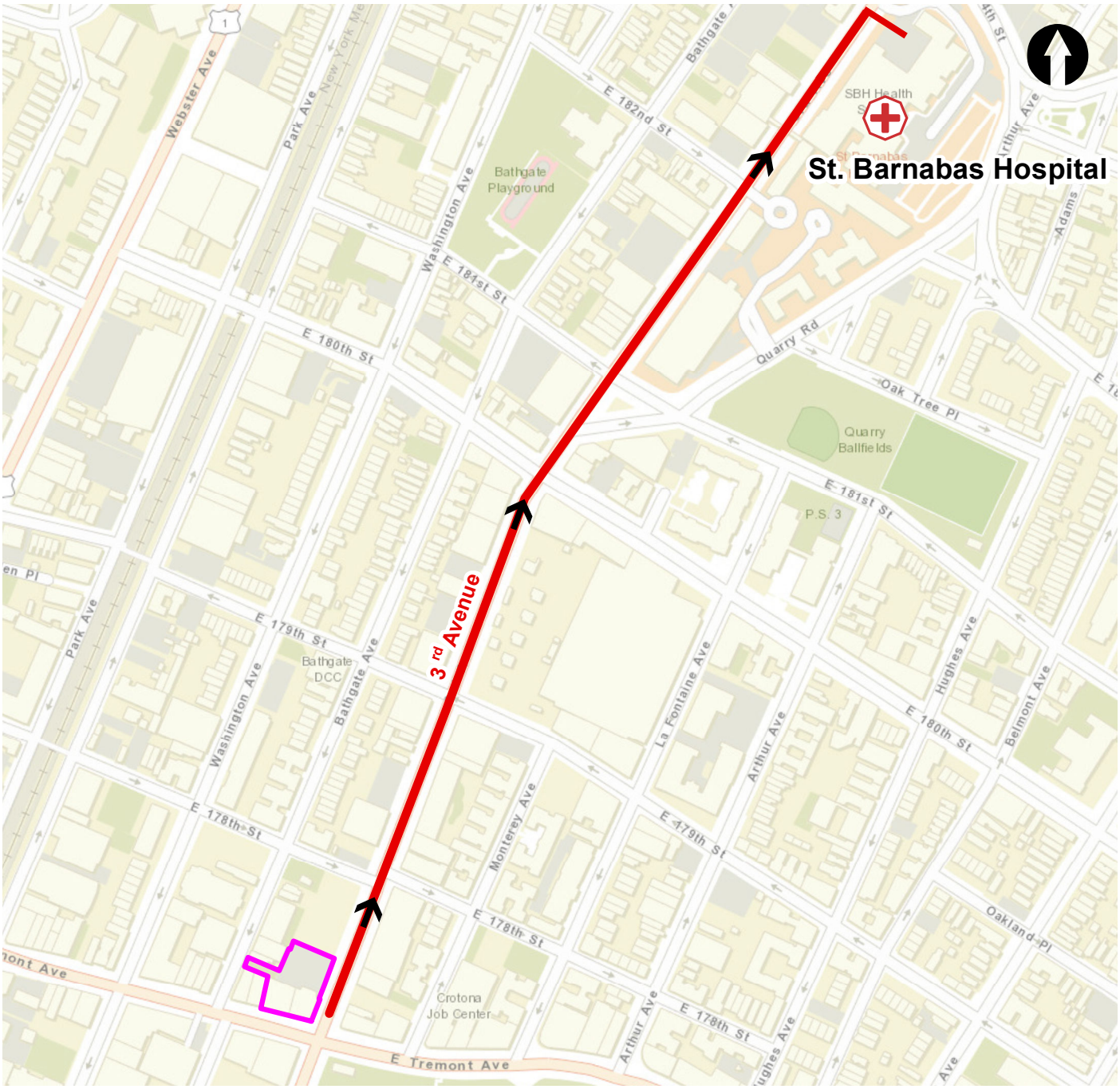
Below is an affidavit that must be signed by all workers who enter the site. A copy of the HASP must be on-site at all times and will be kept by the SSO.

4.2 Affidavit

I have read the Health and Safety Plan (HASP) for the project located at 521 East Tremont Avenue, Bronx, NY. I agree to conduct all on-site work in accordance with the requirements set forth in this HASP and understand that failure to comply with this HASP could lead to my removal from the site.

Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____

FIGURES



Service Layer Credits: ESRI World Street Map 2021

St. Barnabas Hospital
4422 3rd Avenue
Bronx, NY 10457
(718) 960-9000

LEGEND

- PROJECT SITE BOUNDARY
- HOSPITAL LOCATION
- ROUTE TO HOSPITAL

0 400 800
SCALE IN FEET

akrf
440 Park Avenue South, New York, NY 10016

521 East Tremont Avenue
Bronx, New York

HOSPITAL ROUTE MAP

DATE
7/15/2026

PROJECT NO.
190204

FIGURE
2

©2022 AKRF Q:\Projects\190204 - 521 EAST TREMONT AVENUE\Technical\GIS and Graphics\hazmat\RIWP\190204 Fig 2 Hospital Route Map.mxd 9/1/2022 11:05:48 AM mveilleux

ATTACHMENT A

POTENTIAL HEALTH EFFECTS FROM ON-SITE CONTAMINANTS

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

1,2-DICHLOROETHENE
CAS # 540-59-0, 156-59-2, and 156-60-5

This fact sheet answers the most frequently asked health questions (FAQs) about 1,2-dichloroethene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to 1,2-dichloroethene occurs mainly in workplaces where it is made or used. Breathing high levels of 1,2-dichloroethene can make you feel nauseous, drowsy, and tired. *cis*-1,2-Dichloroethene has been found in at least 146 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA). *trans*-1,2-Dichloroethene was found in at least 563 NPL sites. 1,2-Dichloroethene was found at 336 sites, but the isomer (*cis*- or *trans*-) was not specified.

What is 1,2-dichloroethene?

(Pronounced 1,2-dī-klôrʹ ō-ĕthʹēn)

1,2-Dichloroethene, also called 1,2-dichloroethylene, is a highly flammable, colorless liquid with a sharp, harsh odor. It is used to produce solvents and in chemical mixtures. You can smell very small amounts of 1,2-dichloroethene in air (about 17 parts of 1,2-dichloroethene per million parts of air [17 ppm]).

There are two forms of 1,2-dichloroethene; one is called *cis*-1,2-dichloroethene and the other is called *trans*-1,2-dichloroethene. Sometimes both forms are present as a mixture.

What happens to 1,2-dichloroethene when it enters the environment?

- 1,2-Dichloroethene evaporates rapidly into air.
- In the air, it takes about 5-12 days for half of it to break down.
- Most 1,2-dichloroethene in the soil surface or bodies of water will evaporate into air.
- 1,2-Dichloroethene can travel through soil or dissolve in water in the soil. It is possible that it can contaminate groundwater.
- In groundwater, it takes about 13-48 weeks to break down.
- There is a slight chance that 1,2-dichloroethene will break down into vinyl chloride, a different chemical which is believed to be more toxic than 1,2-dichloroethene.

How might I be exposed to 1,2-dichloroethene?

- Breathing 1,2-dichloroethene that has leaked from hazardous waste sites and landfills.
- Drinking contaminated tap water or breathing vapors from contaminated water while cooking, bathing, or washing dishes.
- Breathing 1,2-dichloroethene, touching it, or touching contaminated materials in the workplace.

How can 1,2-dichloroethene affect my health?

Breathing high levels of 1,2-dichloroethene can make you feel nauseous, drowsy, and tired; breathing very high levels can kill you.

When animals breathed high levels of *trans*-1,2-dichloroethene for short or longer periods of time, their livers and lungs were damaged and the effects were more severe with longer exposure times. Animals that breathed very high

levels of *trans*-1,2-dichloroethene had damaged hearts.

Animals that ingested extremely high doses of *cis*- or *trans*-1,2-dichloroethene died.

Lower doses of *cis*-1,2-dichloroethene caused effects on the blood, such as decreased numbers of red blood cells, and also effects on the liver.

The long-term (365 days or longer) human health effects after exposure to low concentrations of 1,2-dichloroethene aren't known. One animal study suggested that an exposed fetus may not grow as quickly as one that hasn't been exposed.

Exposure to 1,2-dichloroethene hasn't been shown to affect fertility in people or animals.

How likely is 1,2-dichloroethene to cause cancer?

The EPA has determined that *cis*-1,2-dichloroethene is not classifiable as to its human carcinogenicity.

No EPA cancer classification is available for *trans*-1,2-dichloroethene.

Is there a medical test to show whether I've been exposed to 1,2-dichloroethene?

Tests are available to measure concentrations of the breakdown products of 1,2-dichloroethene in blood, urine, and tissues. However, these tests aren't used routinely to determine whether a person has been exposed to this compound. This is because after you are exposed to 1,2-dichloroethene, the breakdown products in your body that are detected with these tests may be the same as those that come from exposure to other chemicals. These tests aren't available in most doctors' offices, but can be done at special laboratories that have the right equipment.

Has the federal government made recommendations to protect human health?

The EPA has set the maximum allowable level of *cis*-1,2-dichloroethene in drinking water at 0.07 milligrams per liter of water (0.07 mg/L) and *trans*-1,2-dichloroethene at 0.1 mg/L.

The EPA requires that any spills or accidental release of 1,000 pounds or more of 1,2-dichloroethene must be reported to the EPA.

The Occupational Health Safety and Health Administration (OSHA) has set the maximum allowable amount of 1,2-dichloroethene in workroom air during an 8-hour workday in a 40-hour workweek at 200 parts of 1,2-dichloroethene per million parts of air (200 ppm).

Glossary

Carcinogenicity: Ability of a substance to cause cancer.

CAS: Chemical Abstracts Service.

Fertility: Ability to reproduce.

Ingest: To eat or drink something.

Milligram (mg): One thousandth of a gram.

ppm: Parts per million.

Solvent: A chemical that can dissolve other substances.

References

This ToxFAQs information is taken from the 1996 Toxicological Profile for 1,2-Dichloroethene produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

ARSENIC
CAS # 7440-38-2

Division of Toxicology ToxFAQs™ December 2003

This fact sheet answers the most frequently asked health questions (FAQs) about arsenic. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to higher than average levels of arsenic occurs mostly in the workplace, near hazardous waste sites, or in areas with high natural levels. At high levels, inorganic arsenic can cause death. Exposure to lower levels for a long time can cause a discoloration of the skin and the appearance of small corns or warts. Arsenic has been found at 1,014 of the 1,598 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is arsenic?

Arsenic is a naturally occurring element widely distributed in the earth's crust. In the environment, arsenic is combined with oxygen, chlorine, and sulfur to form inorganic arsenic compounds. Arsenic in animals and plants combines with carbon and hydrogen to form organic arsenic compounds.

Inorganic arsenic compounds are mainly used to preserve wood. Organic arsenic compounds are used as pesticides, primarily on cotton plants.

What happens to arsenic when it enters the environment?

❑ Arsenic cannot be destroyed in the environment. It can only change its form.
❑ Arsenic in air will settle to the ground or is washed out of the air by rain.
❑ Many arsenic compounds can dissolve in water.
❑ Fish and shellfish can accumulate arsenic, but the arsenic in fish is mostly in a form that is not harmful.

How might I be exposed to arsenic?

❑ Eating food, drinking water, or breathing air containing arsenic.
❑ Breathing contaminated workplace air.
❑ Breathing sawdust or burning smoke from wood treated with arsenic.
❑ Living near uncontrolled hazardous waste sites containing arsenic.
❑ Living in areas with unusually high natural levels of arsenic in rock.

How can arsenic affect my health?

Breathing high levels of inorganic arsenic can give you a sore throat or irritated lungs. Ingesting high levels of inorganic arsenic can result in death. Lower levels of arsenic can cause nausea and vomiting, decreased production of red and white blood cells, abnormal heart rhythm, damage to blood vessels, and a sensation of "pins and needles" in hands and feet.

Ingesting or breathing low levels of inorganic arsenic for a long time can cause a darkening of the skin and the

appearance of small "corns" or "warts" on the palms, soles, and torso.

Skin contact with inorganic arsenic may cause redness and swelling.

Organic arsenic compounds are less toxic than inorganic arsenic compounds. Exposure to high levels of some organic arsenic compounds may cause similar effects as inorganic arsenic.

How likely is arsenic to cause cancer?

Several studies have shown that inorganic arsenic can increase the risk of lung cancer, skin cancer, bladder cancer, liver cancer, kidney cancer, and prostate cancer. The World Health Organization (WHO), the Department of Health and Human Services (DHHS), and the EPA have determined that inorganic arsenic is a human carcinogen.

How can arsenic affect children?

We do not know if exposure to arsenic will result in birth defects or other developmental effects in people. Birth defects have been observed in animals exposed to inorganic arsenic.

It is likely that health effects seen in children exposed to high amounts of arsenic will be similar to the effects seen in adults.

How can families reduce the risk of exposure to arsenic?

❑ If you use arsenic-treated wood in home projects, you should wear dust masks, gloves, and protective clothing to decrease exposure to sawdust.
❑ If you live in an area with high levels of arsenic in water or soil, you should use cleaner sources of water and limit contact with soil.

Is there a medical test to show whether I've been exposed to arsenic?

There are tests to measure the level of arsenic in blood, urine, hair, or fingernails. The urine test is the most reliable test for arsenic exposure within the last few days. Tests on hair and fingernails can measure exposure to high levels or arsenic over the past 6-12 months. These tests can determine if you have been exposed to above-average levels of arsenic. They cannot predict how the arsenic levels in your body will affect your health.

Has the federal government made recommendations to protect human health?

EPA has set limits on the amount of arsenic that industrial sources can release to the environment and has restricted or canceled many uses of arsenic in pesticides. EPA has set a limit of 0.01 parts per million (ppm) for arsenic in drinking water.

The Occupational Safety and Health Administration has set limits of 10 μg arsenic per cubic meter of workplace air (10 $\mu g/m^3$) for 8 hour shifts and 40 hour work weeks.

Source of Information

Agency for Toxic Substances and Disease Registry (ATSDR). 2000. Toxicological Profile for Arsenic. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html . ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

ASBESTOS
CAS # 1332-21-4

Division of Toxicology ToxFAQs™ **September 2001**

This fact sheet answers the most frequently asked health questions (FAQs) about asbestos. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, individual susceptibility and personal habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to asbestos usually occurs by breathing contaminated air in workplaces that make or use asbestos. Asbestos is also found in the air of buildings that are being torn down or renovated. Asbestos exposure can cause serious lung problems and cancer. This substance has been found at 83 of the 1,585 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is asbestos?

Asbestos is the name given to a group of six different fibrous minerals (amosite, chrysotile, crocidolite, and the fibrous varieties of tremolite, actinolite, and anthophyllite) that occur naturally in the environment. Asbestos minerals have separable long fibers that are strong and flexible enough to be spun and woven and are heat resistant. Because of these characteristics, asbestos has been used for a wide range of manufactured goods, mostly in building materials (roofing shingles, ceiling and floor tiles, paper products, and asbestos cement products), friction products (automobile clutch, brake, and transmission parts), heat-resistant fabrics, packaging, gaskets, and coatings. Some vermiculite or talc products products may contain asbestos.

What happens to asbestos when it enters the environment?

Asbestos fibers can enter the air or water from the breakdown of natural deposits and manufactured asbestos products. Asbestos fibers do not evaporate into air or dissolve in water. Small diameter fibers and particles may remain suspended in the air for a long time and be carried long distances by wind or water before settling down. Larger diameter fibers and particles tend to settle more quickly.

Asbestos fibers are not able to move through soil. Asbestos fibers are generally not broken down to other compounds and will remain virtually unchanged over long periods.

How might I be exposed to asbestos?

We are all exposed to low levels of asbestos in the air we breathe. These levels range from 0.00001 to 0.0001 fibers per milliliter of air and generally are highest in cities and industrial areas.

People working in industries that make or use asbestos products or who are involved in asbestos mining may be exposed to high levels of asbestos. People living near these industries may also be exposed to high levels of asbestos in air.

Asbestos fibers may be released into the air by the disturbance of asbestos-containing material during product use, demolition work, building or home maintenance, repair, and remodeling. In general, exposure may occur only when the asbestos-containing material is disturbed in some way to release particles and fibers into the air.

Drinking water may contain asbestos from natural sources or from asbestos-containing cement pipes.

How can asbestos affect my health?

Asbestos mainly affects the lungs and the membrane that surrounds the lungs. Breathing high levels of asbestos fibers for a long time may result in scar-like tissue in the lungs and in the pleural membrane (lining) that surrounds the lung. This disease is called asbestosis and is usually found in workers exposed to asbestos, but not in the general public. People with asbestosis have difficulty breathing, often a cough, and in severe cases heart enlargement. Asbestosis is a serious disease and can eventually lead to disability and death.

ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html

Breathing lower levels of asbestos may result in changes called plaques in the pleural membranes. Pleural plaques can occur in workers and sometimes in people living in areas with high environmental levels of asbestos. Effects on breathing from pleural plaques alone are not usually serious, but higher exposure can lead to a thickening of the pleural membrane that may restrict breathing.

How likely is asbestos to cause cancer?

The Department of Health and Human Services (DHHS), the World Health Organization (WHO), and the EPA have determined that asbestos is a human carcinogen.

It is known that breathing asbestos can increase the risk of cancer in people. There are two types of cancer caused by exposure to asbestos: lung cancer and mesothelioma. Mesothelioma is a cancer of the thin lining surrounding the lung (pleural membrane) or abdominal cavity (the peritoneum). Cancer from asbestos does not develop immediately, but shows up after a number of years. Studies of workers also suggest that breathing asbestos can increase chances of getting cancer in other parts of the body (stomach, intestines, esophagus, pancreas, and kidneys), but this is less certain. Early identification and treatment of any cancer can increase an individual's quality of life and survival.

Cigarette smoke and asbestos together significantly increase your chances of getting lung cancer. Therefore, if you have been exposed to asbestos you should stop smoking. This may be the most important action that you can take to improve your health and decrease your risk of cancer.

How can asbestos affect children?

We do not know if exposure to asbestos will result in birth defects or other developmental effects in people. Birth defects have not been observed in animals exposed to asbestos.

It is likely that health effects seen in children exposed to high levels of asbestos will be similar to the effects seen in adults.

How can families reduce the risk of exposure to asbestos?

Materials containing asbestos that are not disturbed or deteriorated do not, in general, pose a health risk and can be left alone. If you suspect that you may be exposed to asbestos in your home, contact your state or local health department or the regional offices of EPA to find out how to test your home and how to locate a company that is trained to remove or contain the fibers.

Is there a medical test to show whether I've been exposed to asbestos?

Low levels of asbestos fibers can be measured in urine, feces, mucus, or lung washings of the general public. Higher than average levels of asbestos fibers in tissue can confirm exposure but not determine whether you will experience any health effects.

A thorough history, physical exam, and diagnostic tests are needed to evaluate asbestos-related disease. Chest x-rays are the best screening tool to identify lung changes resulting from asbestos exposure. Lung function tests and CAT scans also assist in the diagnosis of asbestos-related disease.

Has the federal government made recommendations to protect human health?

In 1989, EPA banned all new uses of asbestos; uses established before this date are still allowed. EPA established regulations that require school systems to inspect for damaged asbestos and to eliminate or reduce the exposure by removing the asbestos or by covering it up. EPA regulates the release of asbestos from factories and during building demolition or renovation to prevent asbestos from getting into the environment.

EPA has proposed a concentration limit of 7 million fibers per liter of drinking water for long fibers (lengths greater than or equal to 5 μm). The Occupational Safety and Health Administration has set limits of 100,000 fibers with lengths greater than or equal to 5 μm per cubic meter of workplace air for 8-hour shifts and 40-hour work weeks.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2001. Toxicological Profile for Asbestos. Update. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html . ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

BENZENE
CAS # 71-43-2

This fact sheet answers the most frequently asked health questions (FAQs) about benzene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Benzene is a widely used chemical formed from both natural processes and human activities. Breathing benzene can cause drowsiness, dizziness, and unconsciousness; long-term benzene exposure causes effects on the bone marrow and can cause anemia and leukemia. Benzene has been found in at least 813 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is benzene?

(Pronounced bĕn′zēn′)

Benzene is a colorless liquid with a sweet odor. It evaporates into the air very quickly and dissolves slightly in water. It is highly flammable and is formed from both natural processes and human activities.

Benzene is widely used in the United States; it ranks in the top 20 chemicals for production volume. Some industries use benzene to make other chemicals which are used to make plastics, resins, and nylon and synthetic fibers. Benzene is also used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include volcanoes and forest fires. Benzene is also a natural part of crude oil, gasoline, and cigarette smoke.

What happens to benzene when it enters the environment?

- Industrial processes are the main source of benzene in the environment.
- Benzene can pass into the air from water and soil.
- It reacts with other chemicals in the air and breaks down within a few days.
- Benzene in the air can attach to rain or snow and be carried back down to the ground.
- It breaks down more slowly in water and soil, and can pass through the soil into underground water.
- Benzene does not build up in plants or animals.

How might I be exposed to benzene?

- Outdoor air contains low levels of benzene from tobacco smoke, automobile service stations, exhaust from motor vehicles, and industrial emissions.
- Indoor air generally contains higher levels of benzene from products that contain it such as glues, paints, furniture wax, and detergents.
- Air around hazardous waste sites or gas stations will contain higher levels of benzene.
- Leakage from underground storage tanks or from hazardous waste sites containing benzene can result in benzene contamination of well water.
- People working in industries that make or use benzene may be exposed to the highest levels of it.
- A major source of benzene exposures is tobacco smoke.

How can benzene affect my health?

Breathing very high levels of benzene can result in death, while high levels can cause drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness. Eating or drinking foods containing high levels of benzene can cause vomiting, irritation of the stomach, dizziness, sleepiness, convulsions, rapid heart rate, and death.

ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html

The major effect of benzene from long-term (365 days or longer) exposure is on the blood. Benzene causes harmful effects on the bone marrow and can cause a decrease in red blood cells leading to anemia. It can also cause excessive bleeding and can affect the immune system, increasing the chance for infection.

Some women who breathed high levels of benzene for many months had irregular menstrual periods and a decrease in the size of their ovaries. It is not known whether benzene exposure affects the developing fetus in pregnant women or fertility in men.

Animal studies have shown low birth weights, delayed bone formation, and bone marrow damage when pregnant animals breathed benzene.

How likely is benzene to cause cancer?

The Department of Health and Human Services (DHHS) has determined that benzene is a known human carcinogen. Long-term exposure to high levels of benzene in the air can cause leukemia, cancer of the blood-forming organs.

Is there a medical test to show whether I've been exposed to benzene?

Several tests can show if you have been exposed to benzene. There is test for measuring benzene in the breath; this test must be done shortly after exposure. Benzene can also be measured in the blood, however, since benzene disappears rapidly from the blood, measurements are accurate only for recent exposures.

In the body, benzene is converted to products called metabolites. Certain metabolites can be measured in the urine. However, this test must be done shortly after exposure and is not a reliable indicator of how much benzene you have been exposed to, since the metabolites may be present in urine from other sources.

Has the federal government made recommendations to protect human health?

The EPA has set the maximum permissible level of benzene in drinking water at 0.005 milligrams per liter (0.005 mgL). The EPA requires that spills or accidental releases into the environment of 10 pounds or more of benzene be reported to the EPA.

The Occupational Safety and Health Administration (OSHA) has set a permissible exposure limit of 1 part of benzene per million parts of air (1 ppm) in the workplace during an 8-hour workday, 40-hour workweek.

Glossary

Anemia: A decreased ability of the blood to transport oxygen.

Carcinogen: A substance with the ability to cause cancer.

CAS: Chemical Abstracts Service.

Chromosomes: Parts of the cells responsible for the development of hereditary characteristics.

Metabolites: Breakdown products of chemicals.

Milligram (mg): One thousandth of a gram.

Pesticide: A substance that kills pests.

References

This ToxFAQs information is taken from the 1997 Toxicological Profile for Benzene (update) produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop E-29, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 404-498-0093. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

CARBON TETRACHLORIDE

CAS # 56-23-5

Division of Toxicology ToxFAQs™ **August 2005**

This fact sheet answers the most frequently asked health questions (FAQs) about carbon tetrachloride. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Carbon tetrachloride does not occur naturally. Exposure to this substance results mostly from breathing air, drinking water, or coming in contact with soil that is contaminated with it. Exposure to very high amounts of carbon tetrachloride can damage the liver, kidneys, and nervous system. Carbon tetrachloride can cause cancer in animals. Carbon tetrachloride has been found in at least 425 of the 1,662 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is carbon tetrachloride?

Carbon tetrachloride is a manufactured chemical that does not occur naturally. It is a clear liquid with a sweet smell that can be detected at low levels. It is also called carbon chloride, methane tetrachloride, perchloromethane, tetrachloroethane, or benziform.

Carbon tetrachloride is most often found in the air as a colorless gas. It is not flammable and does not dissolve in water very easily. It was used in the production of refrigeration fluid and propellants for aerosol cans, as a pesticide, as a cleaning fluid and degreasing agent, in fire extinguishers, and in spot removers. Because of its harmful effects, these uses are now banned and it is only used in some industrial applications.

What happens to carbon tetrachloride when it enters the environment?

- ❏ It moves very quickly into the air upon release, so most of it is in the air.
- ❏ It evaporates quickly surface water.
- ❏ Only a small amount sticks to soil particles; the rest evaporates or moves into the groundwater.
- ❏ It is very stable in air (lifetime 30-100 years).
- ❏ It can be broken down or transformed in soil and water within several days.
- ❏ When it does break down, it forms chemicals that can destroy ozone in the upper atmosphere.
- ❏ It does not build up in animals. We do not know if it build up in plants.

How might I be exposed to carbon tetrachloride?

- ❏ Breathing contaminated air near manufacturing plants or waste sites.
- ❏ Breathing workplace air when it is used.
- ❏ Drinking contaminated water near manufacturing plants and waste sites.
- ❏ Breathing contaminated air and skin contact with water while showering or cooking with contaminated water.
- ❏ Swimming or bathing in contaminated water.
- ❏ Contact with or eating contaminated soil (pica child) at waste sites.

How can carbon tetrachloride affect my health?

High exposure to carbon tetrachloride can cause liver, kidney, and central nervous system damage. These effects can occur after ingestion or breathing carbon tetrachloride, and possibly from exposure to the skin. The liver is especially sensitive to carbon tetrachloride because it enlarges and cells are damaged or destroyed. Kidneys also are damaged, causing a build up of wastes in the blood. If exposure is low and brief, the liver and kidneys can repair the damaged cells and function normally again. Effects of carbon tetrachloride are more severe in persons who drink large amounts of alcohol.

If exposure is very high, the nervous system, including the brain, is affected. People may feel intoxicated and experience headaches, dizziness, sleepiness, and nausea and vomiting. These effects may subside if exposure is stopped, but in severe cases, coma and even death may occur.

CARBON TETRACHLORIDE
CAS # 56-23-5

There have been no studies of the effects of carbon tetrachloride on reproduction in humans, but studies in rats showed that long-term inhalation may cause decreased fertility.

How likely is carbon tetrachloride to cause cancer?

Studies in humans have not been able to determine whether or not carbon tetrachloride can cause cancer because usually there has been exposure to other chemicals at the same time. Swallowing or breathing carbon tetrachloride for years caused liver tumors in animals. Mice that breathed carbon tetrachloride also developed tumors of the adrenal gland. The Department of Health and Human Services (DHHS) has determined that carbon tetrachloride may reasonably be anticipated to be a carcinogen. The International Agency for Research on Cancer (IARC) has determined that carbon tetrachloride is possibly carcinogenic to humans, whereas the EPA determined that carbon tetrachloride is a probable human carcinogen.

How can carbon tetrachloride affect children?

The health effects of carbon tetrachloride have not been studied in children, but they are likely to be similar to those seen in adults exposed to the chemical. We do not know whether children differ from adults in their susceptibility to carbon tetrachloride.

A few survey-type studies suggest that maternal drinking water exposure to carbon tetrachloride might possibly be related to certain birth defects. Studies in animals showed that carbon tetrachloride can cause early fetal deaths, but did not cause birth defects. A study with human breast milk in a test tube suggested that it would be possible for carbon tetrachloride to pass from the maternal circulation to breast milk, but there is no direct demonstration of this occurring.

How can families reduce the risks of exposure to carbon tetrachloride?

❑ Discard any product that contains carbon tetrachloride that you may have at home and may have used in the past.

❑ Household chemicals should be stored out of the reach of children in their original containers.

❑ Sometimes older children sniff household chemical products to get high. Talk to your children about the dangers of sniffing chemicals.

Is there a medical test to determine whether I've been exposed to carbon tetrachloride?

Several sensitive and specific tests are available to measure carbon tetrachloride in exposed persons. The most convenient way is simply to measure carbon tetrachloride in the exhaled air. Carbon tetrachloride also can be measured in blood, fat, or other tissues. These tests are not usually done in the doctor's office because they require special equipment. Although these tests can show that a person has been exposed to carbon tetrachloride, the results cannot be used to reliably predict whether any adverse health effect might result. Because carbon tetrachloride leaves the body fairly quickly, these methods are best suited to detecting exposures that have occurred within the last several days.

Has the federal government made recommendations to protect human health?

The EPA has set a limit for carbon tetrachloride in drinking water of 5 parts of carbon tetrachloride per billion parts of water (5 ppb). The EPA has also set limits on how much carbon tetrachloride can be released from an industrial plant into waste water and is preparing to set limits on how much carbon tetrachloride can escape from an industrial plant into outside air.

The Occupational Safety and Health Administration (OSHA) set a limit of 10 ppm for carbon tetrachloride in workplace air for an 8-hour workday, 40-hour workweek.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2005. Toxicological Profile for Carbon Tetrachloride (Update). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-0093. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

DDT, DDE, AND DDD

CAS # 50-29-3, 72-55-9, 72-54-8

Division of Toxicology ToxFAQs™ **September 2002**

This fact sheet answers the most frequently asked health questions (FAQs) about DDT, DDE, and DDD. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to DDT, DDE, and DDD occurs mostly from eating foods containing small amounts of these compounds, particularly meat, fish and poultry. High levels of DDT can affect the nervous system causing excitability, tremors and seizures. In women, DDE can cause a reduction in the duration of lactation and an increased chance of having a premature baby. DDT, DDE, and DDD have been found in at least 441 of the 1,613 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What are DDT, DDE, and DDD?

DDT (dichlorodiphenyltrichloroethane) is a pesticide once widely used to control insects in agriculture and insects that carry diseases such as malaria. DDT is a white, crystalline solid with no odor or taste. Its use in the U.S. was banned in 1972 because of damage to wildlife, but is still used in some countries.

DDE (dichlorodiphenyldichloroethylene) and DDD (dichlorodiphenyldichloroethane) are chemicals similar to DDT that contaminate commercial DDT preparations. DDE has no commercial use. DDD was also used to kill pests, but its use has also been banned. One form of DDD has been used medically to treat cancer of the adrenal gland.

What happens to DDT, DDE, and DDD when they enter the environment?

❑ DDT entered the environment when it was used as a pesticide; it still enters the environment due to current use in other countries.

❑ DDE enters the environment as contaminant or breakdown product of DDT; DDD also enters the environment as a breakdown product of DDT.

❑ DDT, DDE, and DDD in air are rapidly broken down by sunlight. Half of what's in air breaks down within 2 days.

❑ They stick strongly to soil; most DDT in soil is broken down slowly to DDE and DDD by microorganisms; half the DDT in soil will break down in 2-15 years, depending on the type of soil.

❑ Only a small amount will go through the soil into groundwater; they do not dissolve easily in water.

❑ DDT, and especially DDE, build up in plants and in fatty tissues of fish, birds, and other animals.

How might I be exposed to DDT, DDE, and DDD?

❑ Eating contaminated foods, such as root and leafy vegetables, fatty meat, fish, and poultry, but levels are very low.

❑ Eating contaminated imported foods from countries that still allow the use of DDT to control pests.

❑ Breathing contaminated air or drinking contaminated water near waste sites and landfills that may contain higher levels of these chemicals.

❑ Infants fed on breast milk from mothers who have been exposed.

❑ Breathing or swallowing soil particles near waste sites or landfills that contain these chemicals.

How can DDT, DDE, and DDD affect my health?

DDT affects the nervous system. People who accidentally swallowed large amounts of DDT became excitable and had tremors and seizures. These effects went away after the exposure stopped. No effects were seen in people who took small daily doses of DDT by capsule for 18 months.

A study in humans showed that women who had high amounts of a form of DDE in their breast milk were unable to

breast feed their babies for as long as women who had little DDE in the breast milk. Another study in humans showed that women who had high amounts of DDE in breast milk had an increased chance of having premature babies.
In animals, short-term exposure to large amounts of DDT in food affected the nervous system, while long-term exposure to smaller amounts affected the liver. Also in animals, short-term oral exposure to small amounts of DDT or its breakdown products may also have harmful effects on reproduction.

How likely are DDT, DDE, and DDD to cause cancer?

Studies in DDT-exposed workers did not show increases in cancer. Studies in animals given DDT with the food have shown that DDT can cause liver cancer.
The Department of Health and Human Services (DHHS) determined that DDT may reasonable be anticipated to be a human carcinogen. The International Agency for Research on Cancer (IARC) determined that DDT may possibly cause cancer in humans. The EPA determined that DDT, DDE, and DDD are probable human carcinogens.

How can DDT, DDE, and DDD affect children?

There are no studies on the health effects of children exposed to DDT, DDE, or DDD. We can assume that children exposed to large amounts of DDT will have health effects similar to the effects seen in adults. However, we do not know whether children differ from adults in their susceptibility to these substances.
There is no evidence that DDT, DDE, or DDD cause birth defects in people. A study showed that teenage boys whose mothers had higher DDE amounts in the blood when they were pregnant were taller than those whose mothers had lower DDE levels. However, a different study found the opposite in preteen girls. The reason for the discrepancy between these studies is unknown.
Studies in rats have shown that DDT and DDE can mimic the action of natural hormones and in this way affect the development of the reproductive and nervous systems. Puberty was delayed in male rats given high amounts of DDE as juveniles. This could possibly happen in humans. A study in mice showed that exposure to DDT during the first weeks of life may cause neurobehavioral problems later in life.

How can families reduce the risk of exposure to DDT,DDE, and DDE?

❑ Most families will be exposed to DDT by eating food or drinking liquids contaminated with small amounts of DDT.
❑ Cooking will reduce the amount of DDT in fish.
❑ Washing fruit and vegetables will remove most DDT from their surface.
❑ Follow health advisories that tell you about consumption of fish and wildlife caught in contaminated areas.

Is there a medical test to show whether I've been exposed to DDT, DDE, and DDD?

Laboratory tests can detect DDT, DDE, and DDD in fat, blood, urine, semen, and breast milk. These tests may show low, moderate, or excessive exposure to these compounds, but cannot tell the exact amount you were exposed to, or whether you will experience adverse effects. These tests are not routinely available at the doctor's office because they require special equipment.

Has the federal government made recommendations to protect human health?

The Occupational Safety and Health Administration (OSHA) sets a limit of 1 milligram of DDT per cubic meter of air (1 mg/m^3) in the workplace for an 8-hour shift, 40-hour workweek.
The Food and Drug Administration (FDA) has set limits for DDT, DDE, and DDD in foodstuff at or above which the agency will take legal action to remove the products from the market.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2002. Toxicological Profile for DDT/DDE/DDD (Update). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

FUEL OILS

CAS # 8008-20-6, 70892-10-3, 68476-30-2, 68476-34-6, 68476-31-3

This fact sheet answers the most frequently asked health questions (FAQs) about fuel oils. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

SUMMARY: Fuel oils are liquid mixtures produced from petroleum, and their use mostly involves burning them as fuels. Drinking or breathing fuel oils may cause nausea or nervous system effects. However, exposure under normal use conditions is not likely to be harmful. Fuel oils have been found in at least 26 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What are fuel oils?

(Pronounced fyo͞o′əl oilz)

Fuel oils are a variety of yellowish to light brown liquid mixtures that come from crude petroleum. Some chemicals found in fuel oils may evaporate easily, while others may more easily dissolve in water.

Fuel oils are produced by different petroleum refining processes, depending on their intended uses. Fuel oils may be used as fuel for engines, lamps, heaters, furnaces, and stoves, or as solvents.

Some commonly found fuel oils include kerosene, diesel fuel, jet fuel, range oil, and home heating oil. These fuel oils differ from one another by their hydrocarbon compositions, boiling point ranges, chemical additives, and uses.

What happens to fuel oils when they enter the environment?

- Some chemicals found in fuel oils may evaporate into the air from open containers or contaminated soil or water.
- Some chemicals found in fuel oils may dissolve in water after spills to surface waters or leaks from underground storage tanks.
- Some chemicals found in fuel oils may stick to particles in water, which will eventually cause them to settle to the bottom sediment.
- Some of the chemicals found in fuel oils may be broken down slowly in air, water, and soil by sunlight or small organisms.
- Some of the chemicals found in fuel oils may build up significantly in plants and animals.

How might I be exposed to fuel oils?

- Using a home kerosene heater or stove, or using fuel oils at work.
- Breathing air in home or building basements that has been contaminated with fuel oil vapors entering from the soil.
- Drinking or swimming in water that has been contaminated with fuel oils from a spill or a leaking underground storage tank.
- Touching soil contaminated with fuel oils.
- Using fuel oils to wash paint or grease from skin or equipment.

How can fuel oils affect my health?

Little information is available about the health effects that may be caused by fuel oils. People who use kerosene

stoves for cooking do not seem to have any health problems related to their exposure.

Breathing some fuel oils for short periods may cause nausea, eye irritation, increased blood pressure, headache, lightheadedness, loss of appetite, poor coordination, and difficulty concentrating. Breathing diesel fuel vapors for long periods may cause kidney damage and lower your blood's ability to clot.

Drinking small amounts of kerosene may cause vomiting, diarrhea, coughing, stomach swelling and cramps, drowsiness, restlessness, painful breathing, irritability, and unconsciousness. Drinking large amounts of kerosene may cause convulsions, coma, or death. Skin contact with kerosene for short periods may cause itchy, red, sore, or peeling skin.

How likely are fuel oils to cause cancer?

The International Agency for Research on Cancer (IARC) has determined that some fuel oils (heavy) may possibly cause cancer in humans, but for other fuel oils (light) there is not enough information to make a determination. IARC has also determined that occupational exposures to fuel oils during petroleum refining are probably carcinogenic in humans.

Some studies with mice have suggested that repeated contact with fuel oils may cause liver or skin cancer. However, other mouse studies have found this not to be the case. No studies are available in other animals or in people on the carcinogenic effects of fuel oils.

Is there a medical test to show whether I've been exposed to fuel oils?

There is no medical test that shows if you have been exposed to fuel oils. Tests are available to determine if some of the chemicals commonly found in fuel oils are in your blood. However, the presence of these chemicals in blood may not necessarily mean that you have been exposed to fuel oils.

Has the federal government made recommendations to protect human health?

The Occupational Safety and Health Administration (OSHA) and the Air Force Office of Safety and Health (AFOSH) have set a permissible exposure level (PEL) of 400 parts of petroleum distillates per million parts of air (400 ppm) for an 8-hour workday, 40-hour workweek.

The National Institute for Occupational Safety and Health (NIOSH) recommends that average workplace air levels not exceed 350 milligrams of petroleum distillates per cubic meter of air (350 mg/m^3) for a 40-hour workweek.

The Department of Transportation (DOT) lists fuel oils as hazardous materials and, therefore, regulates their transportation.

Glossary

Carcinogenic: Able to cause cancer.

CAS: Chemical Abstracts Service.

Evaporate: To change into a vapor or a gas.

Hydrocarbon: Any compound made up of hydrogen and carbon.

Milligram (mg): One thousandth of a gram.

ppm: Parts per million.

Sediment: Mud and debris that have settled to the bottom of a body of water.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1995. Toxicological profile for fuel oils. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop E-29, Atlanta, GA 30333. Phone:1-888-422-8737, FAX: 404-498-0093. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

LEAD

CAS # 7439-92-1

Division of Toxicology and Environmental Medicine ToxFAQs™ **August 2007**

This fact sheet answers the most frequently asked health questions (FAQs) about lead. For more information, call the ATSDR Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to lead can happen from breathing workplace air or dust, eating contaminated foods, or drinking contaminated water. Children can be exposed from eating lead-based paint chips or playing in contaminated soil. Lead can damage the nervous system, kidneys, and reproductive system. Lead has been found in at least 1,272 of the 1,684 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is lead?

Lead is a naturally occurring bluish-gray metal found in small amounts in the earth's crust. Lead can be found in all parts of our environment. Much of it comes from human activities including burning fossil fuels, mining, and manufacturing.

Lead has many different uses. It is used in the production of batteries, ammunition, metal products (solder and pipes), and devices to shield X-rays. Because of health concerns, lead from paints and ceramic products, caulking, and pipe solder has been dramatically reduced in recent years. The use of lead as an additive to gasoline was banned in 1996 in the United States.

What happens to lead when it enters the environment?

- ❏ Lead itself does not break down, but lead compounds are changed by sunlight, air, and water.
- ❏ When lead is released to the air, it may travel long distances before settling to the ground.
- ❏ Once lead falls onto soil, it usually sticks to soil particles.
- ❏ Movement of lead from soil into groundwater will depend on the type of lead compound and the characteristics of the soil.

How might I be exposed to lead?

- ❏ Eating food or drinking water that contains lead. Water pipes in some older homes may contain lead solder. Lead can leach out into the water.
- ❏ Spending time in areas where lead-based paints have been used and are deteriorating. Deteriorating lead paint can contribute to lead dust.
- ❏ Working in a job where lead is used or engaging in certain hobbies in which lead is used, such as making stained glass.
- ❏ Using health-care products or folk remedies that contain lead.

How can lead affect my health?

The effects of lead are the same whether it enters the body through breathing or swallowing. Lead can affect almost every organ and system in your body. The main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. High-level exposure in men can damage the organs responsible for sperm production.

How likely is lead to cause cancer?

We have no conclusive proof that lead causes cancer in humans. Kidney tumors have developed in rats and mice that had been given large doses of some kind of lead compounds. The Department of Health and Human Services

(DHHS) has determined that lead and lead compounds are reasonably anticipated to be human carcinogens and the EPA has determined that lead is a probable human carcinogen. The International Agency for Research on Cancer (IARC) has determined that inorganic lead is probably carcinogenic to humans and that there is insufficient information to determine whether organic lead compounds will cause cancer in humans.

How can lead affect children?

Small children can be exposed by eating lead-based paint chips, chewing on objects painted with lead-based paint, or swallowing house dust or soil that contains lead.

Children are more vulnerable to lead poisoning than adults. A child who swallows large amounts of lead may develop blood anemia, severe stomachache, muscle weakness, and brain damage. If a child swallows smaller amounts of lead, much less severe effects on blood and brain function may occur. Even at much lower levels of exposure, lead can affect a child's mental and physical growth.

Exposure to lead is more dangerous for young and unborn children. Unborn children can be exposed to lead through their mothers. Harmful effects include premature births, smaller babies, decreased mental ability in the infant, learning difficulties, and reduced growth in young children. These effects are more common if the mother or baby was exposed to high levels of lead. Some of these effects may persist beyond childhood.

How can families reduce the risks of exposure to lead?

❑ Avoid exposure to sources of lead.

❑ Do not allow children to chew or mouth surfaces that may have been painted with lead-based paint.

❑ If you have a water lead problem, run or flush water that has been standing overnight before drinking or cooking with it.

❑ Some types of paints and pigments that are used as make-up or hair coloring contain lead. Keep these kinds of products away from children

❑ If your home contains lead-based paint or you live in an area contaminated with lead, wash children's hands and faces often to remove lead dusts and soil, and regularly clean the house of dust and tracked in soil.

Is there a medical test to determine whether I've been exposed to lead?

A blood test is available to measure the amount of lead in your blood and to estimate the amount of your recent exposure to lead. Blood tests are commonly used to screen children for lead poisoning. Lead in teeth or bones can be measured by X-ray techniques, but these methods are not widely available. Exposure to lead also can be evaluated by measuring erythrocyte protoporphyrin (EP) in blood samples. EP is a part of red blood cells known to increase when the amount of lead in the blood is high. However, the EP level is not sensitive enough to identify children with elevated blood lead levels below about 25 micrograms per deciliter (μg/dL). These tests usually require special analytical equipment that is not available in a doctor's office. However, your doctor can draw blood samples and send them to appropriate laboratories for analysis.

Has the federal government made recommendations to protect human health?

The Centers for Disease Control and Prevention (CDC) recommends that states test children at ages 1 and 2 years. Children should be tested at ages 3–6 years if they have never been tested for lead, if they receive services from public assistance programs for the poor such as Medicaid or the Supplemental Food Program for Women, Infants, and Children, if they live in a building or frequently visit a house built before 1950; if they visit a home (house or apartment) built before 1978 that has been recently remodeled; and/or if they have a brother, sister, or playmate who has had lead poisoning. CDC considers a blood lead level of 10 μg/dL to be a level of concern for children.

EPA limits lead in drinking water to 15 μg per liter.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2007. Toxicological Profile for lead (Update). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-800-232-4636, FAX: 770-488-4178. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

MERCURY
CAS # 7439-97-6

This fact sheet answers the most frequently asked health questions (FAQs) about mercury. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to mercury occurs from breathing contaminated air, ingesting contaminated water and food, and having dental and medical treatments. Mercury, at high levels, may damage the brain, kidneys, and developing fetus. This chemical has been found in at least 714 of 1,467 National Priorities List sites identified by the Environmental Protection Agency.

What is mercury?

(Pronounced mŭr′kyə-rē)

Mercury is a naturally occurring metal which has several forms. The metallic mercury is a shiny, silver-white, odorless liquid. If heated, it is a colorless, odorless gas.

Mercury combines with other elements, such as chlorine, sulfur, or oxygen, to form inorganic mercury compounds or "salts," which are usually white powders or crystals. Mercury also combines with carbon to make organic mercury compounds. The most common one, methylmercury, is produced mainly by microscopic organisms in the water and soil. More mercury in the environment can increase the amounts of methylmercury that these small organisms make.

Metallic mercury is used to produce chlorine gas and caustic soda, and is also used in thermometers, dental fillings, and batteries. Mercury salts are sometimes used in skin lightening creams and as antiseptic creams and ointments.

What happens to mercury when it enters the environment?

- Inorganic mercury (metallic mercury and inorganic mercury compounds) enters the air from mining ore deposits, burning coal and waste, and from manufacturing plants.
- It enters the water or soil from natural deposits, disposal of wastes, and volcanic activity.
- Methylmercury may be formed in water and soil by small organisms called bacteria.
- Methylmercury builds up in the tissues of fish. Larger and older fish tend to have the highest levels of mercury.

How might I be exposed to mercury?

- Eating fish or shellfish contaminated with methylmercury.
- Breathing vapors in air from spills, incinerators, and industries that burn mercury-containing fuels.
- Release of mercury from dental work and medical treatments.
- Breathing contaminated workplace air or skin contact during use in the workplace (dental, health services, chemical, and other industries that use mercury).
- Practicing rituals that include mercury.

How can mercury affect my health?

The nervous system is very sensitive to all forms of mercury. Methylmercury and metallic mercury vapors are more harmful than other forms, because more mercury in these forms reaches the brain. Exposure to high levels of metallic, inorganic, or organic mercury can permanently damage the brain, kidneys, and developing fetus. Effects on brain functioning may result in irritability, shyness, tremors, changes in vision or hearing, and memory problems.

Short-term exposure to high levels of metallic mercury vapors may cause effects including lung damage, nausea,

vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes, and eye irritation.

How likely is mercury to cause cancer?

There are inadequate human cancer data available for all forms of mercury. Mercuric chloride has caused increases in several types of tumors in rats and mice, and methylmercury has caused kidney tumors in male mice. The EPA has determined that mercuric chloride and methylmercury are possible human carcinogens.

How can mercury affect children?

Very young children are more sensitive to mercury than adults. Mercury in the mother's body passes to the fetus and may accumulate there. It can also can pass to a nursing infant through breast milk. However, the benefits of breast feeding may be greater than the possible adverse effects of mercury in breast milk.

Mercury's harmful effects that may be passed from the mother to the fetus include brain damage, mental retardation, incoordination, blindness, seizures, and inability to speak. Children poisoned by mercury may develop problems of their nervous and digestive systems, and kidney damage.

How can families reduce the risk of exposure to mercury?

Carefully handle and dispose of products that contain mercury, such as thermometers or fluorescent light bulbs. Do not vacuum up spilled mercury, because it will vaporize and increase exposure. If a large amount of mercury has been spilled, contact your health department. Teach children not to play with shiny, silver liquids.

Properly dispose of older medicines that contain mercury. Keep all mercury-containing medicines away from children.

Pregnant women and children should keep away from rooms where liquid mercury has been used.

Learn about wildlife and fish advisories in your area from your public health or natural resources department.

Is there a medical test to show whether I've been exposed to mercury?

Tests are available to measure mercury levels in the body. Blood or urine samples are used to test for exposure to metallic mercury and to inorganic forms of mercury. Mercury in whole blood or in scalp hair is measured to determine exposure to methylmercury. Your doctor can take samples and send them to a testing laboratory.

Has the federal government made recommendations to protect human health?

The EPA has set a limit of 2 parts of mercury per billion parts of drinking water (2 ppb).

The Food and Drug Administration (FDA) has set a maximum permissible level of 1 part of methylmercury in a million parts of seafood (1 ppm).

The Occupational Safety and Health Administration (OSHA) has set limits of 0.1 milligram of organic mercury per cubic meter of workplace air (0.1 mg/m^3) and 0.05 mg/m^3 of metallic mercury vapor for 8-hour shifts and 40-hour work weeks.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1999. Toxicological profile for mercury. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

METHYLENE CHLORIDE
CAS # 75-09-2

Division of Toxicology ToxFAQs™ **February 2001**

This fact sheet answers the most frequently asked health questions (FAQs) about methylene chloride. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to methylene chloride occurs mostly from breathing contaminated air, but may also occur through skin contact or by drinking contaminated water. Breathing in large amounts of methylene chloride can damage the central nervous system. Contact of eyes or skin with methylene chloride can result in burns. Methylene chloride has been found in at least 882 of 1,569 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is methylene chloride?

Methylene chloride is a colorless liquid with a mild, sweet odor. Another name for it is dichloromethane. Methylene chloride does not occur naturally in the environment.

Methylene chloride is used as an industrial solvent and as a paint stripper. It may also be found in some aerosol and pesticide products and is used in the manufacture of photographic film.

What happens to methylene chloride when it enters the environment?

❑ Methylene chloride is mainly released to the environment in air. About half of the methylene chloride in air disappears in 53 to 127 days.

❑ Methylene chloride does not easily dissolve in water, but small amounts may be found in drinking water.

❑ We do not expect methylene chloride to build up in plants or animals.

How might I be exposed to methylene chloride?

❑ The most likely way to be exposed to methylene chloride is by breathing contaminated air.

❑ Breathing the vapors given off by products containing methylene chloride. Exposure to high levels of methylene chloride is likely if methylene chloride or a product containing it is used in a room with inadequate ventilation.

How can methylene chloride affect my health?

If you breathe in large amounts of methylene chloride you may feel unsteady, dizzy, and have nausea and a tingling or numbness of your finger and toes. A person breathing smaller amounts of methylene chloride may become less attentive and less accurate in tasks requiring hand-eye coordination. Skin contact with methylene chloride causes burning and redness of the skin.

How likely is methylene chloride to cause cancer?

We do not know if methylene chloride can cause cancer in humans. An increased cancer risk was seen in mice

breathing large amounts of methylene chloride for a long time.

The World Health Organization (WHO) has determined that methylene chloride may cause cancer in humans.

The Department of Health and Human Services (DHHS) has determined that methylene chloride can be reasonably anticipated to be a cancer-causing chemical.

The EPA has determined that methylene chloride is a probable cancer-causing agent in humans.

How can methylene chloride affect children?

It is likely that health effects seen in children exposed to high amounts of methylene chloride will be similar to the effects seen in adults. We do not know if methylene chloride can affect the ability of people to have children or if it causes birth defects. Some birth defects have been seen in animals inhaling very high levels of methylene chloride.

How can families reduce the risk of exposure to methylene chloride?

❏ Families may be exposed to methylene chloride while using products such as paint removers. Such products should always be used in well-ventilated areas and skin contact should be avoided.
❏ Children should not be allowed to remain near indoor paint removal activities.

Is there a medical test to show whether I've been exposed to methylene chloride?

❏ Several tests can measure exposure to methylene chloride. These tests are not routinely available in your doctor's office.
❏ Methylene chloride can be detected in the air you breathe out and in your blood. These tests are only useful for detecting exposures that have occurred within a few days.
❏ It is also possible to measure carboxyhemoglobin (a chemical formed in the blood as methylene chloride breaks down in the body) in the blood or formic acid (a breakdown product of methylene chloride) in the urine. These tests are not specific for methylene chloride.

Has the federal government made recommendations to protect human health?

❏ The EPA requires that releases of methylene chloride of 1,000 pounds or more be reported to the federal government.
❏ The EPA recommends that exposure of children to methylene chloride be limited to less than 10 milligrams per liter of drinking water (10 mg/L) for 1 day or 2 mg/L for 10 days.
❏ The Food and Drug Administration (FDA) has established limits on the amounts of methylene chloride that can remain after processing of spices, hops extract, and decaffeinated coffee.
❏ The Occupational Safety and Health Administration (OSHA) has set limits of 25 parts methylene chloride per million parts of workplace air (25 ppm) for 8-hour shifts and 40-hour work weeks.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2000. Toxicological Profile for methylene chloride. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html . ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)

Agency for Toxic Substances and Disease Registry ToxFAQs **September 1996**

This fact sheet answers the most frequently asked health questions (FAQs) about polycyclic aromatic hydrocarbons (PAHs). For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

SUMMARY: Exposure to polycyclic aromatic hydrocarbons usually occurs by breathing air contaminated by wild fires or coal tar, or by eating foods that have been grilled. PAHs have been found in at least 600 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What are polycyclic aromatic hydrocarbons?

(Pronounced pŏl′ĭ-sī′klĭk ăr′ə-măt′ĭk hī′drə-kar′bənz)

Polycyclic aromatic hydrocarbons (PAHs) are a group of over 100 different chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot.

Some PAHs are manufactured. These pure PAHs usually exist as colorless, white, or pale yellow-green solids. PAHs are found in coal tar, crude oil, creosote, and roofing tar, but a few are used in medicines or to make dyes, plastics, and pesticides.

What happens to PAHs when they enter the environment?

- PAHs enter the air mostly as releases from volcanoes, forest fires, burning coal, and automobile exhaust.
- PAHs can occur in air attached to dust particles.
- Some PAH particles can readily evaporate into the air from soil or surface waters.
- PAHs can break down by reacting with sunlight and other chemicals in the air, over a period of days to weeks.
- PAHs enter water through discharges from industrial and wastewater treatment plants.
- Most PAHs do not dissolve easily in water. They stick to solid particles and settle to the bottoms of lakes or rivers.
- Microorganisms can break down PAHs in soil or water after a period of weeks to months.
- In soils, PAHs are most likely to stick tightly to particles; certain PAHs move through soil to contaminate underground water.
- PAH contents of plants and animals may be much higher than PAH contents of soil or water in which they live.

How might I be exposed to PAHs?

- Breathing air containing PAHs in the workplace of coking, coal-tar, and asphalt production plants; smokehouses; and municipal trash incineration facilities.
- Breathing air containing PAHs from cigarette smoke, wood smoke, vehicle exhausts, asphalt roads, or agricultural burn smoke.
- Coming in contact with air, water, or soil near hazardous waste sites.
- Eating grilled or charred meats; contaminated cereals, flour, bread, vegetables, fruits, meats; and processed or pickled foods.
- Drinking contaminated water or cow's milk.

- Nursing infants of mothers living near hazardous waste sites may be exposed to PAHs through their mother's milk.

How can PAHs affect my health?

Mice that were fed high levels of one PAH during pregnancy had difficulty reproducing and so did their offspring. These offspring also had higher rates of birth defects and lower body weights. It is not known whether these effects occur in people.

Animal studies have also shown that PAHs can cause harmful effects on the skin, body fluids, and ability to fight disease after both short- and long-term exposure. But these effects have not been seen in people.

How likely are PAHs to cause cancer?

The Department of Health and Human Services (DHHS) has determined that some PAHs may reasonably be expected to be carcinogens.

Some people who have breathed or touched mixtures of PAHs and other chemicals for long periods of time have developed cancer. Some PAHs have caused cancer in laboratory animals when they breathed air containing them (lung cancer), ingested them in food (stomach cancer), or had them applied to their skin (skin cancer).

Is there a medical test to show whether I've been exposed to PAHs?

In the body, PAHs are changed into chemicals that can attach to substances within the body. There are special tests that can detect PAHs attached to these substances in body tissues or blood. However, these tests cannot tell whether any health effects will occur or find out the extent or source of your exposure to the PAHs. The tests aren't usually available in your doctor's office because special equipment is needed to conduct them.

Has the federal government made recommendations to protect human health?

The Occupational Safety and Health Administration (OSHA) has set a limit of 0.2 milligrams of PAHs per cubic meter of air (0.2 mg/m^3). The OSHA Permissible Exposure Limit (PEL) for mineral oil mist that contains PAHs is 5 mg/m^3 averaged over an 8-hour exposure period.

The National Institute for Occupational Safety and Health (NIOSH) recommends that the average workplace air levels for coal tar products not exceed 0.1 mg/m^3 for a 10-hour workday, within a 40-hour workweek. There are other limits for workplace exposure for things that contain PAHs, such as coal, coal tar, and mineral oil.

Glossary

Carcinogen: A substance that can cause cancer.

Ingest: Take food or drink into your body.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1995. Toxicological profile for polycyclic aromatic hydrocarbons. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

POLYCHLORINATED BIPHENYLS

Division of Toxicology ToxFAQs™ **February 2001**

This fact sheet answers the most frequently asked health questions (FAQs) about polychlorinated biphenyls. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Polychlorinated biphenyls (PCBs) are a mixture of individual chemicals which are no longer produced in the United States, but are still found in the environment. Health effects that have been associated with exposure to PCBs include acne-like skin conditions in adults and neurobehavioral and immunological changes in children. PCBs are known to cause cancer in animals. PCBs have been found in at least 500 of the 1,598 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What are polychlorinated biphenyls?

Polychlorinated biphenyls are mixtures of up to 209 individual chlorinated compounds (known as congeners). There are no known natural sources of PCBs. PCBs are either oily liquids or solids that are colorless to light yellow. Some PCBs can exist as a vapor in air. PCBs have no known smell or taste. Many commercial PCB mixtures are known in the U.S. by the trade name Aroclor.

PCBs have been used as coolants and lubricants in transformers, capacitors, and other electrical equipment because they don't burn easily and are good insulators. The manufacture of PCBs was stopped in the U.S. in 1977 because of evidence they build up in the environment and can cause harmful health effects. Products made before 1977 that may contain PCBs include old fluorescent lighting fixtures and electrical devices containing PCB capacitors, and old microscope and hydraulic oils.

What happens to PCBs when they enter the environment?

❑ PCBs entered the air, water, and soil during their manufacture, use, and disposal; from accidental spills and leaks during their transport; and from leaks or fires in products containing PCBs.

❑ PCBs can still be released to the environment from hazardous waste sites; illegal or improper disposal of industrial wastes and consumer products; leaks from old electrical transformers containing PCBs; and burning of some wastes in incinerators.

❑ PCBs do not readily break down in the environment and thus may remain there for very long periods of time. PCBs can travel long distances in the air and be deposited in areas far away from where they were released. In water, a small amount of PCBs may remain dissolved, but most stick to organic particles and bottom sediments. PCBs also bind strongly to soil.

❑ PCBs are taken up by small organisms and fish in water. They are also taken up by other animals that eat these aquatic animals as food. PCBs accumulate in fish and marine mammals, reaching levels that may be many thousands of times higher than in water.

How might I be exposed to PCBs?

❑ Using old fluorescent lighting fixtures and electrical devices and appliances, such as television sets and refrigerators, that were made 30 or more years ago. These items may leak small amounts of PCBs into the air when they get hot during operation, and could be a source of skin exposure.

❑ Eating contaminated food. The main dietary sources of PCBs are fish (especially sportfish caught in contaminated lakes or rivers), meat, and dairy products.

❑ Breathing air near hazardous waste sites and drinking contaminated well water.

❑ In the workplace during repair and maintenance of PCB transformers; accidents, fires or spills involving transformers, fluorescent lights, and other old electrical devices; and disposal of PCB materials.

How can PCBs affect my health?

The most commonly observed health effects in people exposed to large amounts of PCBs are skin conditions such as acne and rashes. Studies in exposed workers have shown changes in blood and urine that may indicate liver damage. PCB exposures in the general population are not likely to result in skin and liver effects. Most of the studies of health effects of PCBs in the general population examined children of mothers who were exposed to PCBs.

Animals that ate food containing large amounts of PCBs for short periods of time had mild liver damage and some died. Animals that ate smaller amounts of PCBs in food over several weeks or months developed various kinds of health effects, including anemia; acne-like skin conditions; and liver, stomach, and thyroid gland injuries. Other effects

of PCBs in animals include changes in the immune system, behavioral alterations, and impaired reproduction. PCBs are not known to cause birth defects.

How likely are PCBs to cause cancer?

Few studies of workers indicate that PCBs were associated with certain kinds of cancer in humans, such as cancer of the liver and biliary tract. Rats that ate food containing high levels of PCBs for two years developed liver cancer. The Department of Health and Human Services (DHHS) has concluded that PCBs may reasonably be anticipated to be carcinogens. The EPA and the International Agency for Research on Cancer (IARC) have determined that PCBs are probably carcinogenic to humans.

How can PCBs affect children?

Women who were exposed to relatively high levels of PCBs in the workplace or ate large amounts of fish contaminated with PCBs had babies that weighed slightly less than babies from women who did not have these exposures. Babies born to women who ate PCB-contaminated fish also showed abnormal responses in tests of infant behavior. Some of these behaviors, such as problems with motor skills and a decrease in short-term memory, lasted for several years. Other studies suggest that the immune system was affected in children born to and nursed by mothers exposed to increased levels of PCBs. There are no reports of structural birth defects caused by exposure to PCBs or of health effects of PCBs in older children. The most likely way infants will be exposed to PCBs is from breast milk. Transplacental transfers of PCBs were also reported In most cases, the benefits of breast-feeding outweigh any risks from exposure to PCBs in mother's milk.

How can families reduce the risk of exposure to PCBs?

❑ You and your children may be exposed to PCBs by eating fish or wildlife caught from contaminated locations. Certain states, Native American tribes, and U.S. territories have issued advisories to warn people about PCB-contaminated fish and fish-eating wildlife. You can reduce your family's exposure to PCBs by obeying these advisories.

❑ Children should be told not play with old appliances, electrical equipment, or transformers, since they may contain PCBs.

❑ Children should be discouraged from playing in the dirt near hazardous waste sites and in areas where there was a transformer fire. Children should also be discouraged from eating dirt and putting dirty hands, toys or other objects in their mouths, and should wash hands frequently.

❑ If you are exposed to PCBs in the workplace it is possible to carry them home on your clothes, body, or tools. If this is the case, you should shower and change clothing before leaving work, and your work clothes should be kept separate from other clothes and laundered separately.

Is there a medical test to show whether I've been exposed to PCBs?

Tests exist to measure levels of PCBs in your blood, body fat, and breast milk, but these are not routinely conducted. Most people normally have low levels of PCBs in their body because nearly everyone has been environmentally exposed to PCBs. The tests can show if your PCB levels are elevated, which would indicate past exposure to above-normal levels of PCBs, but cannot determine when or how long you were exposed or whether you will develop health effects.

Has the federal government made recommendations to protect human health?

The EPA has set a limit of 0.0005 milligrams of PCBs per liter of drinking water (0.0005 mg/L). Discharges, spills or accidental releases of 1 pound or more of PCBs into the environment must be reported to the EPA. The Food and Drug Administration (FDA) requires that infant foods, eggs, milk and other dairy products, fish and shellfish, poultry and red meat contain no more than 0.2-3 parts of PCBs per million parts (0.2-3 ppm) of food. Many states have established fish and wildlife consumption advisories for PCBs.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2000. Toxicological profile for polychlorinated biphenyls (PCBs). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop E-29, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 404-498-0093. ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html . ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

TRICHLOROETHYLENE

CAS # 79-01-6

Division of Toxicology ToxFAQs™ **July 2003**

This fact sheet answers the most frequently asked health questions (FAQs) about trichloroethylene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Trichloroethylene is a colorless liquid which is used as a solvent for cleaning metal parts. Drinking or breathing high levels of trichloroethylene may cause nervous system effects, liver and lung damage, abnormal heartbeat, coma, and possibly death. Trichloroethylene has been found in at least 852 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is trichloroethylene?

Trichloroethylene (TCE) is a nonflammable, colorless liquid with a somewhat sweet odor and a sweet, burning taste. It is used mainly as a solvent to remove grease from metal parts, but it is also an ingredient in adhesives, paint removers, typewriter correction fluids, and spot removers.

Trichloroethylene is not thought to occur naturally in the environment. However, it has been found in underground water sources and many surface waters as a result of the manufacture, use, and disposal of the chemical.

What happens to trichloroethylene when it enters the environment?

- Trichloroethylene dissolves a little in water, but it can remain in ground water for a long time.
- Trichloroethylene quickly evaporates from surface water, so it is commonly found as a vapor in the air.
- Trichloroethylene evaporates less easily from the soil than from surface water. It may stick to particles and remain for a long time.
- Trichloroethylene may stick to particles in water, which will cause it to eventually settle to the bottom sediment.
- Trichloroethylene does not build up significantly in plants and animals.

How might I be exposed to trichloroethylene?

- Breathing air in and around the home which has been contaminated with trichloroethylene vapors from shower water or household products such as spot removers and typewriter correction fluid.
- Drinking, swimming, or showering in water that has been contaminated with trichloroethylene.
- Contact with soil contaminated with trichloroethylene, such as near a hazardous waste site.
- Contact with the skin or breathing contaminated air while manufacturing trichloroethylene or using it at work to wash paint or grease from skin or equipment.

How can trichloroethylene affect my health?

Breathing small amounts may cause headaches, lung irritation, dizziness, poor coordination, and difficulty concentrating.

Breathing large amounts of trichloroethylene may cause impaired heart function, unconsciousness, and death. Breathing it for long periods may cause nerve, kidney, and liver damage.

ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html

Drinking large amounts of trichloroethylene may cause nausea, liver damage, unconsciousness, impaired heart function, or death.

Drinking small amounts of trichloroethylene for long periods may cause liver and kidney damage, impaired immune system function, and impaired fetal development in pregnant women, although the extent of some of these effects is not yet clear.

Skin contact with trichloroethylene for short periods may cause skin rashes.

How likely is trichloroethylene to cause cancer?

Some studies with mice and rats have suggested that high levels of trichloroethylene may cause liver, kidney, or lung cancer. Some studies of people exposed over long periods to high levels of trichloroethylene in drinking water or in workplace air have found evidence of increased cancer. Although, there are some concerns about the studies of people who were exposed to trichloroethylene, some of the effects found in people were similar to effects in animals.

In its 9th Report on Carcinogens, the National Toxicology Program (NTP) determined that trichloroethylene is "reasonably anticipated to be a human carcinogen." The International Agency for Research on Cancer (IARC) has determined that trichloroethylene is "probably carcinogenic to humans."

Is there a medical test to show whether I've been exposed to trichloroethylene?

If you have recently been exposed to trichloroethylene, it can be detected in your breath, blood, or urine. The breath test, if it is performed soon after exposure, can tell if you have been exposed to even a small amount of trichloroethylene.

Exposure to larger amounts is assessed by blood and urine tests, which can detect trichloroethylene and many of its breakdown products for up to a week after exposure. However, exposure to other similar chemicals can produce the same breakdown products, so their detection is not absolute proof of exposure to trichloroethylene. This test isn't available at most doctors' offices, but can be done at special laboratories that have the right equipment.

Has the federal government made recommendations to protect human health?

The EPA has set a maximum contaminant level for trichloroethylene in drinking water at 0.005 milligrams per liter (0.005 mg/L) or 5 parts of TCE per billion parts water.

The EPA has also developed regulations for the handling and disposal of trichloroethylene.

The Occupational Safety and Health Administration (OSHA) has set an exposure limit of 100 parts of trichloroethylene per million parts of air (100 ppm) for an 8-hour workday, 40-hour workweek.

Glossary

Carcinogenicity: The ability of a substance to cause cancer.
CAS: Chemical Abstracts Service.
Evaporate: To change into a vapor or gas.
Milligram (mg): One thousandth of a gram.
Nonflammable: Will not burn.
ppm: Parts per million.
Sediment: Mud and debris that have settled to the bottom of a body of water.
Solvent: A chemical that dissolves other substances.

References

This ToxFAQs information is taken from the 1997 Toxicological Profile for Trichloroethylene (update) produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html . ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

TETRACHLOROETHYLENE
CAS # 127-18-4

This fact sheet answers the most frequently asked health questions (FAQs) about tetrachloroethylene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Tetrachloroethylene is a manufactured chemical used for dry cleaning and metal degreasing. Exposure to very high concentrations of tetrachloroethylene can cause dizziness, headaches, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death. Tetrachloroethylene has been found in at least 771 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is tetrachloroethylene?

(Pronounced tĕt′rə-klôr′ ō-ĕth′ə-lēn′)

Tetrachloroethylene is a manufactured chemical that is widely used for dry cleaning of fabrics and for metal-degreasing. It is also used to make other chemicals and is used in some consumer products.

Other names for tetrachloroethylene include perchloroethylene, PCE, and tetrachloroethene. It is a nonflammable liquid at room temperature. It evaporates easily into the air and has a sharp, sweet odor. Most people can smell tetrachloroethylene when it is present in the air at a level of 1 part tetrachloroethylene per million parts of air (1 ppm) or more, although some can smell it at even lower levels.

What happens to tetrachloroethylene when it enters the environment?

- Much of the tetrachloroethylene that gets into water or soil evaporates into the air.
- Microorganisms can break down some of the tetrachloroethylene in soil or underground water.
- In the air, it is broken down by sunlight into other chemicals or brought back to the soil and water by rain.
- It does not appear to collect in fish or other animals that live in water.

How might I be exposed to tetrachloroethylene?

- When you bring clothes from the dry cleaners, they will release small amounts of tetrachloroethylene into the air.
- When you drink water containing tetrachloroethylene, you are exposed to it.

How can tetrachloroethylene affect my health?

High concentrations of tetrachloroethylene (particularly in closed, poorly ventilated areas) can cause dizziness, headache, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death.

Irritation may result from repeated or extended skin contact with it. These symptoms occur almost entirely in work (or hobby) environments when people have been accidentally exposed to high concentrations or have intentionally used tetrachloroethylene to get a "high."

In industry, most workers are exposed to levels lower than those causing obvious nervous system effects. The health effects of breathing in air or drinking water with low levels of tetrachloroethylene are not known.

Results from some studies suggest that women who work in dry cleaning industries where exposures to tetrachloroethyl-

ene can be quite high may have more menstrual problems and spontaneous abortions than women who are not exposed. However, it is not known if tetrachloroethylene was responsible for these problems because other possible causes were not considered.

Results of animal studies, conducted with amounts much higher than those that most people are exposed to, show that tetrachloroethylene can cause liver and kidney damage. Exposure to very high levels of tetrachloroethylene can be toxic to the unborn pups of pregnant rats and mice. Changes in behavior were observed in the offspring of rats that breathed high levels of the chemical while they were pregnant.

How likely is tetrachloroethylene to cause cancer?

The Department of Health and Human Services (DHHS) has determined that tetrachloroethylene may reasonably be anticipated to be a carcinogen. Tetrachloroethylene has been shown to cause liver tumors in mice and kidney tumors in male rats.

Is there a medical test to show whether I've been exposed to tetrachloroethylene?

One way of testing for tetrachloroethylene exposure is to measure the amount of the chemical in the breath, much the same way breath-alcohol measurements are used to determine the amount of alcohol in the blood.

Because it is stored in the body's fat and slowly released into the bloodstream, tetrachloroethylene can be detected in the breath for weeks following a heavy exposure.

Tetrachloroethylene and trichloroacetic acid (TCA), a breakdown product of tetrachloroethylene, can be detected in the blood. These tests are relatively simple to perform. These tests aren't available at most doctors' offices, but can be performed at special laboratories that have the right equipment.

Because exposure to other chemicals can produce the same breakdown products in the urine and blood, the tests for breakdown products cannot determine if you have been exposed to tetrachloroethylene or the other chemicals.

Has the federal government made recommendations to protect human health?

The EPA maximum contaminant level for the amount of tetrachloroethylene that can be in drinking water is 0.005 milligrams tetrachloroethylene per liter of water (0.005 mg/L).

The Occupational Safety and Health Administration (OSHA) has set a limit of 100 ppm for an 8-hour workday over a 40-hour workweek.

The National Institute for Occupational Safety and Health (NIOSH) recommends that tetrachloroethylene be handled as a potential carcinogen and recommends that levels in workplace air should be as low as possible.

Glossary

Carcinogen: A substance with the ability to cause cancer.

CAS: Chemical Abstracts Service.

Milligram (mg): One thousandth of a gram.

Nonflammable: Will not burn.

References

This ToxFAQs information is taken from the 1997 Toxicological Profile for Tetrachloroethylene (update) produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone:1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

TOLUENE
CAS # 108-88-3

Division of Toxicology ToxFAQs™ **February 2001**

This fact sheet answers the most frequently asked health questions (FAQs) about toluene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to toluene occurs from breathing contaminated workplace air, in automobile exhaust, some consumer products paints, paint thinners, fingernail polish, lacquers, and adhesives. Toluene affects the nervous system. Toluene has been found at 959 of the 1,591 National Priority List sites identified by the Environmental Protection Agency

What is toluene?

Toluene is a clear, colorless liquid with a distinctive smell. Toluene occurs naturally in crude oil and in the tolu tree. It is also produced in the process of making gasoline and other fuels from crude oil and making coke from coal.

Toluene is used in making paints, paint thinners, fingernail polish, lacquers, adhesives, and rubber and in some printing and leather tanning processes.

What happens to toluene when it enters the environment?

❑ Toluene enters the environment when you use materials that contain it. It can also enter surface water and groundwater from spills of solvents and petrolieum products as well as from leasking underground storage tanks at gasoline stations and other facilities.

❑ When toluene-containing products are placed in landfills or waste disposal sites, the toluene can enter the soil or water near the waste site.

❑ Toluene does not usually stay in the environment long.

❑ Toluene does not concentrate or buildup to high levels in animals.

How might I be exposed to toluene?

❑ Breathing contaminated workplace air or automobile exhaust.

❑ Working with gasoline, kerosene, heating oil, paints, and lacquers.

❑ Drinking contaminated well-water.

❑ Living near uncontrolled hazardous waste sites containing toluene products.

How can toluene affect my health?

Toluene may affect the nervous system. Low to moderate levles can cause tiredness, confusion, weakness, drunken-type actions, memory loss, nausea, loss of appetite, and

hearing and color vision loss. These symptoms usually disappear when exposure is stopped.

Inhaling High levels of toluene in a short time can make you feel light-headed, dizzy, or sleepy. It can also cause unconsciousness, and even death.

High levels of toluene may affect your kidneys.

How likely is toluene to cause cancer?

Studies in humans and animals generally indicate that toluene does not cause cancer.

The EPA has determined that the carcinogenicity of toluene can not be classified.

How can toluene affect children?

It is likely that health effects seen in children exposed to toluene will be similar to the effects seen in adults. Some studies in animals suggest that babies may be more sensitive than adults.

Breathing very high levels of toluene during pregnancy can result in children with birth defects and retard mental abilities, and growth. We do not know if toluene harms the unborn child if the mother is exposed to low levels of toluene during pregnancy.

How can families reduce the risk of exposure to toluene?

❑ Use toluene-containing products in well-ventilated areas.

❑ When not in use, toluene-containing products should be tightly covered to prevent evaporation into the air.

Is there a medical test to show whether I've been exposed to toluene?

There are tests to measure the level of toluene or its breakdown products in exhaled air, urine, and blood. To determine if you have been exposed to toluene, your urine or blood must be checked within 12 hours of exposure. Several other chemicals are also changed into the same breakdown products as toluene, so some of these tests are not specific for toluene.

Has the federal government made recommendations to protect human health?

EPA has set a limit of 1 milligram per liter of drinking water (1 mg/L).

Discharges, releases, or spills of more than 1,000 pounds of toluene must be reported to the National Response Center.

The Occupational Safety and Health Administration has set a limit of 200 parts toluene per million of workplace air (200 ppm).

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2000. Toxicological Profile for Toluene. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html . ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

VINYL CHLORIDE

CAS # 75-01-4

Division of Toxicology and Environmental Medicine ToxFAQs™ **July 2006**

This fact sheet answers the most frequently asked health questions (FAQs) about vinyl chloride. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to vinyl chloride occurs mainly in the workplace. Breathing high levels of vinyl chloride for short periods of time can cause dizziness, sleepiness, unconsciousness, and at extremely high levels can cause death. Breathing vinyl chloride for long periods of time can result in permanent liver damage, immune reactions, nerve damage, and liver cancer. This substance has been found in at least 616 of the 1,662 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is vinyl chloride?

Vinyl chloride is a colorless gas. It burns easily and it is not stable at high temperatures. It has a mild, sweet odor. It is a manufactured substance that does not occur naturally. It can be formed when other substances such as trichloroethane, trichloroethylene, and tetrachloroethylene are broken down. Vinyl chloride is used to make polyvinyl chloride (PVC). PVC is used to make a variety of plastic products, including pipes, wire and cable coatings, and packaging materials.

Vinyl chloride is also known as chloroethene, chloroethylene, and ethylene monochloride.

What happens to vinyl chloride when it enters the environment?

❑ Liquid vinyl chloride evaporates easily. Vinyl chloride in water or soil evaporates rapidly if it is near the surface.
❑ Vinyl chloride in the air breaks down in a few days to other substances, some of which can be harmful.
❑ Small amounts of vinyl chloride can dissolve in water.
❑ Vinyl chloride is unlikely to build up in plants or animals that you might eat.

How might I be exposed to vinyl chloride?

❑ Breathing vinyl chloride that has been released from plastics industries, hazardous waste sites, and landfills.
❑ Breathing vinyl chloride in air or during contact with your skin or eyes in the workplace.
❑ Drinking water from contaminated wells.

How can vinyl chloride affect my health?

Breathing high levels of vinyl chloride can cause you to feel dizzy or sleepy. Breathing very high levels can cause you to pass out, and breathing extremely high levels can cause death.

Some people who have breathed vinyl chloride for several years have changes in the structure of their livers. People are more likely to develop these changes if they breathe high levels of vinyl chloride. Some people who work with vinyl chloride have nerve damage and develop immune reactions. The lowest levels that produce liver changes, nerve damage, and immune reaction in people are not known. Some workers exposed to very high levels of vinyl chloride have problems with the blood flow in their hands. Their fingers turn white and hurt when they go into the cold.

The effects of drinking high levels of vinyl chloride are unknown. If you spill vinyl chloride on your skin, it will cause numbness, redness, and blisters.

Animal studies have shown that long-term exposure to vinyl chloride can damage the sperm and testes.

How likely is vinyl chloride to cause cancer?

The U.S. Department of Health and Human Services has determined that vinyl chloride is a known carcinogen. Studies in workers who have breathed vinyl chloride over many years showed an increased risk of liver, brain, lung cancer, and some cancers of the blood have also been observed in workers.

How can vinyl chloride affect children?

It has not been proven that vinyl chloride causes birth defects in humans, but studies in animals suggest that vinyl chloride might affect growth and development. Animal studies also suggest that infants and young children might be more susceptible than adults to vinyl chloride-induced cancer.

How can families reduce the risk of exposure to vinyl chloride?

Tobacco smoke contains low levels of vinyl chloride, so limiting your family's exposure to cigarette or cigar smoke may help reduce their exposure to vinyl chloride.

Is there a medical test to show whether I've been exposed to vinyl chloride?

The results of several tests can sometimes show if you have been exposed to vinyl chloride. Vinyl chloride can be measured in your breath, but the test must be done shortly after exposure. This is not helpful for measuring very low levels of vinyl chloride.

The amount of the major breakdown product of vinyl chloride, thiodiglycolic acid, in the urine may give some information about exposure. However, this test must be done shortly after exposure and does not reliably indicate the level of exposure.

Has the federal government made recommendations to protect human health?

Vinyl chloride is regulated in drinking water, food, and air. The EPA requires that the amount of vinyl chloride in drinking water not exceed 0.002 milligrams per liter (mg/L) of water.

The Occupational Safety and Health Administration (OSHA) has set a limit of 1 part vinyl chloride per 1 million parts of air (1 ppm) in the workplace.

The Food and Drug Administration (FDA) regulates the vinyl chloride content of various plastics. These include plastics that carry liquids and plastics that contact food. The limits for vinyl chloride content vary depending on the nature of the plastic and its use.

Reference

Agency for Toxic Substances and Disease Registry (ATSDR). 2006. Toxicological Profile for Vinyl Chloride (Update). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

XYLENE
CAS # 1330-20-7

This fact sheet answers the most frequently asked health questions (FAQs) about xylene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

SUMMARY: Exposure to xylene occurs in the workplace and when you use paint, gasoline, paint thinners and other products that contain it. People who breathe high levels may have dizziness, confusion, and a change in their sense of balance. This substance has been found in at least 658 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is xylene?

(Pronounced zī′lēn)

Xylene is a colorless, sweet-smelling liquid that catches on fire easily. It occurs naturally in petroleum and coal tar and is formed during forest fires. You can smell xylene in air at 0.08–3.7 parts of xylene per million parts of air (ppm) and begin to taste it in water at 0.53–1.8 ppm.

Chemical industries produce xylene from petroleum. It's one of the top 30 chemicals produced in the United States in terms of volume.

Xylene is used as a solvent and in the printing, rubber, and leather industries. It is also used as a cleaning agent, a thinner for paint, and in paints and varnishes. It is found in small amounts in airplane fuel and gasoline.

What happens to xylene when it enters the environment?

- Xylene has been found in waste sites and landfills when discarded as used solvent, or in varnish, paint, or paint thinners.
- It evaporates quickly from the soil and surface water into the air.
- In the air, it is broken down by sunlight into other less harmful chemicals.
- It is broken down by microorganisms in soil and water.
- Only a small amount of it builds up in fish, shellfish, plants, and animals living in xylene-contaminated water.

How might I be exposed to xylene?

- Breathing xylene in workplace air or in automobile exhaust.
- Breathing contaminated air.
- Touching gasoline, paint, paint removers, varnish, shellac, and rust preventatives that contain it.
- Breathing cigarette smoke that has small amounts of xylene in it.
- Drinking contaminated water or breathing air near waste sites and landfills that contain xylene.
- The amount of xylene in food is likely to be low.

How can xylene affect my health?

Xylene affects the brain. High levels from exposure for short periods (14 days or less) or long periods (more than 1 year) can cause headaches, lack of muscle coordination, dizziness, confusion, and changes in one's sense of balance. Exposure of

people to high levels of xylene for short periods can also cause irritation of the skin, eyes, nose, and throat; difficulty in breathing; problems with the lungs; delayed reaction time; memory difficulties; stomach discomfort; and possibly changes in the liver and kidneys. It can cause unconsciousness and even death at very high levels.

Studies of unborn animals indicate that high concentrations of xylene may cause increased numbers of deaths, and delayed growth and development. In many instances, these same concentrations also cause damage to the mothers. We do not know if xylene harms the unborn child if the mother is exposed to low levels of xylene during pregnancy.

How likely is xylene to cause cancer?

The International Agency for Research on Cancer (IARC) has determined that xylene is not classifiable as to its carcinogenicity in humans.

Human and animal studies have not shown xylene to be carcinogenic, but these studies are not conclusive and do not provide enough information to conclude that xylene does not cause cancer.

Is there a medical test to show whether I've been exposed to xylene?

Laboratory tests can detect xylene or its breakdown products in exhaled air, blood, or urine. There is a high degree of agreement between the levels of exposure to xylene and the levels of xylene breakdown products in the urine. However, a urine sample must be provided very soon after exposure ends because xylene quickly leaves the body. These tests are not routinely available at your doctor's office.

Has the federal government made recommendations to protect human health?

The EPA has set a limit of 10 ppm of xylene in drinking water.

The EPA requires that spills or accidental releases of xylenes into the environment of 1,000 pounds or more must be reported.

The Occupational Safety and Health Administration (OSHA) has set a maximum level of 100 ppm xylene in workplace air for an 8-hour workday, 40-hour workweek.

The National Institute for Occupational Safety and Health (NIOSH) and the American Conference of Governmental Industrial Hygienists (ACGIH) also recommend exposure limits of 100 ppm in workplace air.

NIOSH has recommended that 900 ppm of xylene be considered immediately dangerous to life or health. This is the exposure level of a chemical that is likely to cause permanent health problems or death.

Glossary

Evaporate: To change from a liquid into a vapor or a gas.

Carcinogenic: Having the ability to cause cancer.

CAS: Chemical Abstracts Service.

ppm: Parts per million.

Solvent: A liquid that can dissolve other substances.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1995. Toxicological profile for xylenes (update). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop E-29, Atlanta, GA 30333. Phone:1-888-422-8737, FAX: 404-498-0093. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATTACHMENT B
REPORT FORMS

WEEKLY SAFETY REPORT FORM

Week Ending: _____ Project Name/Number: _____

Report Date: _____ Project Manager Name: _____

Summary of any violations of procedures occurring that week:

_____

_____

_____

Summary of any job related injuries, illnesses, or near misses that week:

_____

_____

_____

_____

Summary of air monitoring data that week (include and sample analyses, action levels exceeded, and actions taken):

_____

_____

_____

Comments:

_____

_____

_____

Name: _____ Company: _____

Signature: _____ Title: _____

INCIDENT REPORT FORM

Date of Report: _____

Injured: _____

Employer: _____

Site: _____ Site Location: _____

Report Prepared By: _____ _____
Signature Title

ACCIDENT/INCIDENT CATEGORY (check all that applies)

___Injury	___ Illness	___ Near Miss
__ Property Damage	___ Fire	___ Chemical Exposure
__ On-site Equipment	___ Motor Vehicle	___ Electrical
__ Mechanical	___ Spill	___ Other

DATE AND TIME OF ACCIDENT/INCIDENT: Narrative report of Accident/Incident: Identify: 1) actions leading to or contributing to the accident/incident; 2) the accident/incident occurrence; and 3) actions following the accident/incident.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

WITNESS TO ACCIDENT/INCIDENT:

Name:	_____	Company:	_____
Address:	_____	Address:	_____
Phone No.:	_____	Phone No.:	_____
Name:	_____	Company:	_____
Address:	_____	Address:	_____
Phone No.:	_____	Phone No.:	_____

INJURED - ILL:

Name: _____ SSN: _____

Address: _____ Age: _____

Length of Service: _____ Time on Present Job: _____

Time/Classification: _____

SEVERITY OF INJURY OR ILLNESS:

____ Disabling ___ Non-disabling ___ Fatality

____ Medical Treatment ___ First Aid Only

ESTIMATED NUMBER OF DAYS AWAY FROM JOB: _____

NATURE OF INJURY OR ILLNESS: _____

_____

_____

_____

CLASSIFICATION OF INJURY:

__ Abrasions	_____ Dislocations	____ Punctures
__ Bites	_____ Faint/Dizziness	____ Radiation Burns
__ Blisters	_____ Fractures	____ Respiratory Allergy
__ Bruises	_____ Frostbite	____ Sprains
__ Chemical Burns	_____ Heat Burns	____ Toxic Resp. Exposure
__ Cold Exposure	_____ Heat Exhaustion	____ Toxic Ingestion
__ Concussion	_____ Heat Stroke	____ Dermal Allergy
__ Lacerations		

Part of Body Affected: _____

Degree of Disability: _____

Date Medical Care was Received: _____

Where Medical Care was Received: _____

Address (if off-site): _____

(If two or more injuries, record on separate sheets)

PROPERTY DAMAGE:

Description of Damage: _____

_____

Cost of Damage: $ _____

ACCIDENT/INCIDENT LOCATION: _____

ACCIDENT/INCIDENT ANALYSIS: Causative agent most directly related to accident/incident (Object, substance, material, machinery, equipment, conditions)

_____

_____

_____

_____

Was weather a factor?:_____

_____

Unsafe mechanical/physical/environmental condition at time of accident/incident (Be specific):

_____

_____

_____

Personal factors (Attitude, knowledge or skill, reaction time, fatigue):

_____

_____

ON-SITE ACCIDENTS/INCIDENTS:

Level of personal protection equipment required in Site Safety Plan:

_____

_____

Modifications:

_____

Was injured using required equipment?:

_____

_____

If not, how did actual equipment use differ from plan?:

_____

_____

ACTION TAKEN TO PREVENT RECURRENCE: (Be specific. What has or will be done? When will it be done? Who is the responsible party to insure that the correction is made?

_____

_____

_____

_____

_____

ACCIDENT/INCIDENT REPORT REVIEWED BY:

_____ _____

SSO Name Printed SSO Signature

OTHERS PARTICIPATING IN INVESTIGATION:

_____ _____

Signature Title

_____ _____

Signature Title

_____ _____

Signature Title

ACCIDENT/INCIDENT FOLLOW-UP: Date: _____

Outcome of accident/incident: _____

_____

_____

_____

Physician's recommendations: _____

_____

_____

_____

Date injured returned to work: _____

Follow-up performed by:

_____ _____

Signature Title

ATTACH ANY ADDITIONAL INFORMATION TO THIS FORM

ATTACHMENT C

EMERGENCY HAND SIGNALS

EMERGENCY SIGNALS

In most cases, field personnel will carry portable radios for communication. If this is the case, a transmission that indicates an emergency will take priority over all other transmissions. All other site radios will yield the frequency to the emergency transmissions.

Where radio communications is not available, the following air-horn and/or hand signals will be used:

EMERGENCY HAND SIGNALS

OUT OF AIR, CAN'T BREATHE!

Hand gripping throat

LEAVE AREA IMMEDIATELY, NO DEBATE!

(No Picture) Grip partner's wrist or place both hands around waist

NEED ASSISTANCE!

Hands on top of head

OKAY! – I'M ALL RIGHT!

- I UNDERSTAND!

Thumbs up

NO! - NEGATIVE!

Thumbs down

APPENDIX F
COMMUNITY AIR MONITORING PLAN

521 EAST TREMONT AVENUE

BRONX, NEW YORK

Community Air Monitoring Plan

NYSDEC BCP Site No: C203161
AKRF Project Number: 190204

Prepared For:

NYSDEC
Division of Environmental Remediation
47-40 21st Street
Long Island City, NY 11101

Prepared On Behalf Of:

M521 Tremont LLC, 521 Tremont Owner LLC, and
521 East Tremont Housing Development Fund Corporation
48-02 25th Avenue, Suite 400
Queens, NY 11103

Prepared by:

AKRF, Inc.
440 Park Avenue South, 7th Floor
New York, New York 10016
212-696-0670

JULY 2026

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 AIR MONITORING PROGRAM 2
2.1 Work Zone Air Monitoring 2
2.1.1 Volatile Organic Compound (VOC) Monitoring 2
2.1.2 Airborne Particulate Monitoring 2
2.2 Perimeter Community Air Monitoring 3
2.2.1 Perimeter Community Air Monitoring Action Levels 4
2.3 Major Vapor Emission Response Plan 4
2.4 Special Requirements CAMP 5
2.5 Reporting 5

TABLES

Table 1 – Work Zone Air Monitoring Action Levels

ATTACHMENTS

Attachment A – Special Requirements CAMP

1.0 INTRODUCTION

This Community Air Monitoring Plan (CAMP) has been developed for the implementation of the Site Management Plan (SMP) by AKRF, Inc. (AKRF) personnel and its subcontractors at the property located at 521 East Tremont Avenue in the Tremont section of the Bronx, New York, hereafter referred to as the "Site." The Site is identified by the City of New York as Borough of the Bronx, Tax Block 3043, Lot 77 (formerly Lots 46, 72, 77, and 80).

The Site currently consists of a mixed-use residential building under construction in the northeastern and southern portion of the Site. The northwestern and western portions are vacant and will contain a street-level parking lot once construction is complete. The Site location and topography of the Site and surrounding area is shown on Figure 1. The Site is abutted to the north by a parking lot and Bronx Charter School for Excellence 5; to the east by Third Avenue, followed by mixed-use buildings, commercial uses, and a church; to the south by East Tremont Avenue followed by commercial buildings; and to the west by a funeral home, commercial uses, followed by Bathgate Avenue. The surrounding area is predominantly residential and commercial, with some institutional uses.

2.0 AIR MONITORING PROGRAM

The purpose of the air monitoring program is to identify any exposure of the field personnel and the community to potential environmental hazards in the soil, groundwater, and/or soil vapor. Air Monitoring will be conducted in accordance with the New York State Department of Health (NYSDOH) and New York State Department of Environmental Conservation (NYSDEC) guidance. Results of the air monitoring will be used to determine the appropriate response action, if needed. Field personnel will be trained in the proper operation of all field instruments at the start of the field program. The equipment will be calibrated according to manufacturer specifications at the start of each day of fieldwork. If an instrument fails calibration, the project manager will be contacted immediately to obtain a replacement instrument and arrange for repairs.

2.1 Work Zone Air Monitoring

2.1.1 Volatile Organic Compound (VOC) Monitoring

Continuous monitoring for VOCs will be conducted using roving hand-held equipment during all ground-intrusive activities, including soil excavation and groundwater monitoring well installation. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background concentrations. VOCs will be monitored continuously at the downwind perimeter of the exclusion zone. Monitoring will be conducted with a photoionization detector (PID) equipped with a 10.6 electron Volt (eV) lamp capable of calculating 15-minute running average concentrations. More frequent intervals of monitoring will be conducted if required as determined by the SSO. All PID readings will be recorded and available for NYSDEC and NYSDOH personnel to review. Instantaneous readings will also be recorded.

2.1.2 Airborne Particulate Monitoring

A DustTrak® or equivalent would be used to measure real-time concentrations of total particulates 10 micrometers or less (PM10). Measurements for particulates will be taken prior to commencement of the work and during the work in areas where contaminated soil would be disturbed. The action levels listed in Table 1 are based on 15-minute averages of the monitoring data. The measurements will be made at the breathing height of the workers and as close to their location as practicable. The Site Safety Officer (SSO) will set up the equipment and confirm that it is working properly. His/her qualified designee may oversee the air measurements during the day. The initial measurement for the day will be performed before the start of work and will establish background levels. The final measurement for the day will be performed after the end of work. The action levels for particulates and VOCs and required responses are listed in Table 1.

Table 1
Work Zone Action Levels and Required Responses

Monitoring	Action Level[1]	Response Action
Particulate	Less than 0.125 mg/m^3 above background	**Level D or D-Modified** (Requires coveralls and steel toe boots) (As applicable: Chemical resistant gloves, chemical resistant boot covers, hard hat, safety glasses, face shield, or escape mask)
	Between 0.125 mg/m^3 and 0.150 mg/m^3 above background	**Level C** (Requires full face or half face respirator, hooded chemical resistant two piece Tyvek suit or overalls, chemical resistant inner and outer gloves, chemical resistant boot covers, steel toe and shank boots) (As applicable: hard hat, face shield, or escape mask) Apply dust suppression measures. Resume work or upgrade.
	Greater than 0.150 mg/m^3 above background	Stop work. Apply additional dust suppression measures. Resume work when less than 0.150 mg/m^3 and maintain Level C.
Volatile Organic Compound (VOC)	Less than 5 ppm in breathing zone	**Level D or D-Modified**
	Between 5 and 50 ppm	**Level C**
	More than 50 ppm	Stop work. Resume work when source of vapors is abated and readings are less than 50 ppm above background.

Notes:
[1] - 15-minute time-weighted average
parts per million = ppm
milligrams per cubic meter = mg/m^3

2.2 Perimeter Community Air Monitoring

Fixed air monitoring stations will be set up at the upwind and downwind perimeters of the exclusion zone during all ground intrusive activities and will continuously log VOC and particulate levels. Each fixed monitoring station will be fully enclosed and equipped with the following:

- A PID equipped with a 10.6 eV lamp capable of calculating 15-minute running average VOC concentrations;
- A TSI 8530 DustTrak II or equivalent dust monitor capable of measuring the concentration of airborne respirable particulates less than 10 micrometers in size (PM10) and calculating 15-minute running average particulate concentrations; and
- A Netronix™ Thiamus™ ICU-820 or equivalent Global System for Mobile Communication (GSM)/Global Positioning System (GPS) device capable of recording air monitoring and location data.
- Each monitoring station will be capable of sending e-mail alerts to the SSO to indicate an exceedance of action levels. Additionally, the SSO will conduct an inspection of the monitoring stations on at least an hourly basis. Upon completion of Site activities, all air monitoring data will be available to download via the iEnvironet® website. All air monitoring data recorded at the fixed monitoring stations will be available for NYSDOH and NYSDEC review and will be included in the Periodic Review Report (PRR) and quarterly reports.

2.2.1 Perimeter Community Air Monitoring Action Levels

VOC Action Levels

The following actions will be taken based on organic vapor levels measured:

If total organic vapor levels exceed 5 parts per million (ppm) above background for the 15-minute average at the exclusion zone perimeter, work activities will be temporarily halted and monitoring continued. If levels readily decrease (per instantaneous readings) below 5 ppm above background, work activities will resume with continued monitoring.

If total organic vapor levels at the downwind perimeter of the exclusion zone persist at levels in excess of 5 ppm above background, but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities will resume provided that the total organic vapor level 200 feet downwind of the hot zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less – but in no case less than 20 feet – is below 5 ppm above background for the 15-minute average.

If the total organic vapor level is above 25 ppm at the perimeter of the exclusion zone, activities will be shutdown.

Particulate Action Levels

The following actions will be taken based on particulate levels measured:

If the downwind particulate concentrations are greater than 0.1 milligrams per cubic meter (mg/m^3) above background (upwind concentrations), and no other obvious source is apparent, then it will be assumed that the elevated particulate concentrations are a result of site activities. In such instances, dust suppression measures will be implemented and monitoring will be continued. Work will be allowed to continue with dust suppression if downwind particulate levels do not exceed 0.15 mg/m^3 above the background (upwind concentration) and provided that no visible dust is migrating from the work area.

If particulate levels persist at 0.15 mg/m^3 above the background, work must be stopped until dust suppression measures bring particulate levels to below 0.15 mg/m^3 above background.

2.3 Major Vapor Emission Response Plan

If any organic levels greater than 5 ppm over background are identified 200 feet downwind from the work Site, or half the distance to the nearest residential or commercial property, whichever is less, all work activities must be halted or vapor controls must be implemented.

If, following the cessation of the work activities, or as the result of an emergency, organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest residential or commercial property from the exclusion zone, then the air quality must be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20 Foot Zone).

If either of the following criteria is exceeded in the 20 Foot Zone, then the Major Vapor Emission Response Plan shall automatically be implemented:

- Sustained organic vapor levels approaching 1 ppm above background for a period of more than 30 minutes; or
- Organic vapor levels greater than 5 ppm above background for any time period.

Upon activation, the following activities shall be undertaken as part of the Major Vapor Emission Response Plan:

- The NYSDEC, NYSDOH, and local police authorities will be immediately contacted by the SSO and advised of the situation;
- Frequent air monitoring will be conducted at 30-minute intervals within the 20 Foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the Site Health and Safety Officer; and
- All Emergency contacts will go into effect as appropriate.
- All readings will be recorded and be available for NYSDEC and NYSDOH personnel to review.

2.4 Special Requirements CAMP

As the Site is located within 20 feet of potentially occupied structures, a Special Requirements CAMP will be implemented. The fixed CAMP stations will be located near potentially exposed individuals. Commercial-use buildings are located west-adjacent to the Site.

The additional CAMP provisions included in the Special Requirements CAMP are as follows:

- Use of engineering controls such as vapor/dust barriers or special ventilation devices will be considered; and
- Special consideration will be given to implementing planned activities when potentially exposed populations are at a minimum.

The following Site-Specific CAMP provisions will be implemented at the Site, as necessary:

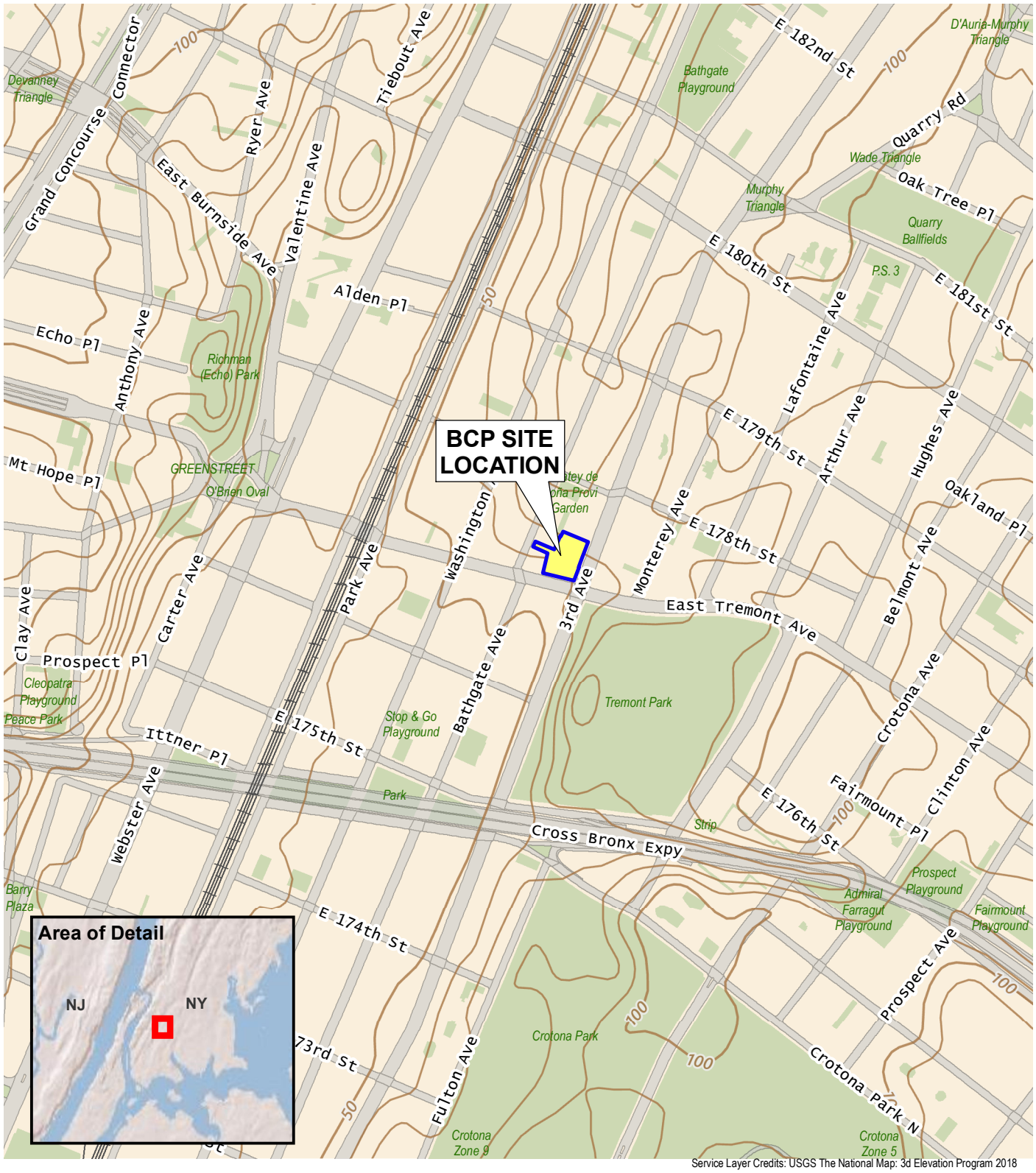
- If total VOC concentrations near the outside walls or next to intake vents of the west-adjacent occupied structures exceed 1 ppm, air monitoring should occur within the occupied structures; and
- If total particulate concentrations near the outside walls or next to intake vents of the west-adjacent occupied structures exceed 0.15 mg/m^3, work activities should be suspended until controls are implemented.

Additional information regarding the Special Requirements CAMP is provided in Attachment A.

2.5 Reporting

CAMP summary reports will be prepared and submitted to NYSDEC and NYSDOH for review as part of the daily reports. In the event there is an action level exceedance or complaint, NYSDEC and NYSDOH will be notified within 24 hours (same day to the extent possible) of the exceedance or complaint. The notification will include a description of the exceedance or complaint, the cause of the exceedance, and any corrective actions taken. All recorded CAMP data will be included in the PRR and quarterly reports.

FIGURE



©2025 AKRF Q:\Projects\190204 - 521 EAST TREMONT AVENUE\Technical\GIS and Graphics\hazmat\RDIR\190204 Fig 1 site loc map.mxd 5/22/2025 8:15:10 AM mvelleux

akrf
440 Park Avenue South, New York, NY 10016

521 East Tremont Avenue
Bronx, New York

SITE LOCATION

DATE
5/22/2025

PROJECT NO.
190204

FIGURE
1

ATTACHMENT A

SPECIAL REQUIREMENTS CAMP

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 ppm, monitoring should occur within the occupied structure(s). 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 mcg/m^3, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m^3 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.

Special Requirements for Indoor Work With Co-Located Residences or Facilities

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall be as stated above under "Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures" except that in this instance "nearby/occupied structures" would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, should be understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls be used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g. weekends or evenings) when building occupancy is at a minimum.

APPENDIX G
SSDS AND GROUNDWATER TREATMENT SYSTEM AS-BUILTS

APPENDIX H
QUALITY ASSURANCE PROJECT PLAN

521 EAST TREMONT AVENUE

BRONX, NEW YORK

Quality Assurance Project Plan

NYSDEC BCP Site Number: C203161
AKRF Project Number: 190204

Prepared For:

NYSDEC
Division of Environmental Remediation
47-40 21st Street
Long Island City, NY 11101

Prepared On Behalf Of:

M521 Tremont LLC, 521 Tremont Owner LLC, and
521 East Tremont Housing Development Fund Corporation
48-02 25th Avenue, Suite 400
Queens, NY 11103

Prepared by:

AKRF, Inc.
440 Park Avenue South, 7th Floor
New York, New York 10016
212-696-0670

JULY 2026

TABLE OF CONTENTS

INTRODUCTION 1
PROJECT TEAM 2
1.1 Remedial Engineer 2
1.2 QA/QC Officer 2
1.3 Project Manager 2
1.4 Field Team Leader, Field Technician, Site Safety Officer (SSO), and Alternates 2
1.5 Laboratory Quality Assurance/Quality Control (QA/QC) Officer 2
1.6 Thirty-Party Data Validator 3
DATA QUALITY USABILITY OBJECTIVES 4
STANDARD OPERATING PROCEDURES (SOPs) 6
1.7 Decontamination of Sampling Equipment 6
1.8 Management of Investigation-Derived Waste (IDW) 6
SAMPLING AND LABORATORY PROCEDURES 7
1.9 Groundwater Sampling 7
1.11 Laboratory Methods 8
1.12 Quality Control (QC) Sampling 8
1.13 Sample Handling 8
1.13.1 Sample Identification 8

TABLES

Table 1 – Laboratory Analytical Methods for Analysis Groups
Table 2 – Sample Nomenclature

ATTACHMENTS

Attachment A – Resumes for Remedial Engineer, QA/QC Officer, Project Manager, Field Team Leader, Site Safet Officers, Laboratory QA/QC Officer, and Third-Party Data Validator

INTRODUCTION

This Quality Assurance Project Plan (QAPP) describes the protocols and procedures that will be followed during implementation of the Site Management Plan (SMP) for the site located at 521 East Tremont Avenue in the East Tremont section of the Bronx, New York, hereafter referred to as the "Site." The Site is identified by the City of New York as Borough of the Bronx, Block 3043, Lot 77 (formerly Lots 46, 72, 77, and 80). A Site location map is provided on Figure 1. The objective of this QAPP is to provide for Quality Assurance (QA) and maintain Quality Control (QC) of environmental investigative and sampling activities conducted under the New York State Department of Environmental Conservation (NYSDEC) oversight in the Brownfield Cleanup Program (BCP) (BCP Site No. C203161). Adherence to this QAPP will ensure that defensible data will be obtained during environmental work at the Site.

PROJECT TEAM

The project team will be drawn from AKRF professional and technical personnel, and AKRF's subcontractors. All field personnel and subcontractors will have completed a 40-hour training course and updated 8-hour refresher course that meet the Occupational Safety and Health Administration (OSHA) requirements of 29 CFR Part 1910. The following sections describe the key project personnel and their responsibilities.

1.1 Remedial Engineer

Ms. Rebecca Kinal, P.E. will serve as the RE for the RAWP. As the RE, Ms. Kinal will oversee the design and implementation of all Institutional Controls (ICs) and Engineering Controls (ECs) at the Site. Ms. Kinal's resume is included in Attachment A.

1.2 QA/QC Officer

Ms. Deborah Shapiro, QEP, will serve as the quality assurance/quality control officer (QA/QC) and will be responsible for adherence to the QAPP including QA/QC. The QA/QC officer will review the procedures with all personnel prior to commencing any fieldwork and will conduct periodic Site visits to assess implementation of the procedures. The QA/QC officer will also be responsible for reviewing the Data Usability Summary Reports (DUSRs) prepared by a third-party data validator for soil, groundwater, and sub-slab soil vapor/indoor air/ambient air analytical results. Ms. Shapiro's resume is included in Attachment A.

1.3 Project Manager

The project manager will be responsible for directing and coordinating all elements of the RAWP. The project manager will prepare reports and participate in meetings with the Site owner/Applicant, and/or the NYSDEC. Adrianna Bosco will serve as the project manager for the RAWP. Ms. Bosco's resume is included in Attachment A.

1.4 Field Team Leader, Field Technician, Site Safety Officer (SSO), and Alternates

The field team leader will be responsible for supervising the daily sampling and health and safety activities in the field and will ensure adherence to the work plan and Health and Safety Plan (HASP), included as Appendix G of the RAWP. The field team leader will also act as the field technician and Site Safety Officer (SSO) and will report to the project manager or project manager alternate on a regular basis regarding daily progress and any deviations from the work plan. The field team leader will be a qualified and responsible person able to act professionally and promptly during environmental work at the Site. Patrick O'Mara will be the field team leader. Mr. O'Mara's resume is provided in Attachment A.

1.5 Laboratory Quality Assurance/Quality Control (QA/QC) Officer

The laboratory QA/QC officer will be responsible for quality control procedures and checks in the laboratory and ensuring adherence to laboratory protocols. The QA/QC officer will track the movement of samples from the time they are checked in at the laboratory to the time that analytical results are issued, and will conduct a final check on the analytical calculations and sign off on the laboratory reports. The laboratory QA/QC officer will be Carl Ambruster of Eurofins Environment Testing Northeast LLC (Eurofins), the New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified laboratory being employed for all environmental sampling at the Site. Mr. Ambruster's resume is included in Attachment A.

1.6 Thirty-Party Data Validator

The third-party data validator will be responsible for reviewing the final data packages for soil, groundwater, sub/slab soil vapor, and indoor air samples and preparing a DUSR that will provide performance information with regard to accuracy, precision, sensitivity, representation, completeness, and comparability associated with the laboratory analyses for the investigation. The third-party data validator will be Lori Beyer of L.A.B. Validation Corporation of East Northport, New York. Ms. Beyer's resume is included in Attachment A.

DATA QUALITY USABILITY OBJECTIVES

The objectives for the sampling include:

- During implementation of the SMP, groundwater, sub-slab soil vapor, and indoor air samples will be collected from post-remedial groundwater monitoring wells and interior portions the building following construction completion, respectively.
- Samples will be collected to assess the effectiveness of the completed remedial actions.

Who will use the data?

- The collected data will be used by NYSDEC, NYSDOH, the Volunteer, and AKRF as part of the Site's enrollment in the BCP.

What types of data are needed?

- Groundwater samples will be collected from permanent monitoring wells to be installed for post-remedial monitoring analyzed for chlorinated volatile organic compounds (CVOCs) by EPA Method 8260 using Category B deliverables.
- Indoor air samples, and sub-slab soil vapor samples (if required) will be analyzed for VOCs by Method TO-15 using Category B deliverables.

How much data are needed?

- Approximately 12 groundwater samples will be collected from post-remedial monitoring wells.
- Seven sub-slab soil vapor samples will be collected from seven vacuum monitoring points installed as part of the sub-slab depressurization system (SSDS). Seven co-located indoor air samples and one outdoor (ambient) air sample will be collected.

Where, when, and how should the data be collected/generated?

- Post-remedial monitoring well locations are included in the SMP. Groundwater samples will be collected in accordance with EPA low-flow sampling protocols approximately one to two weeks following monitoring well development. Samples will be collected by AKRF personnel using a submersible bladder pump with HDPE tubing. During sampling, water quality parameters will be recorded on log sheets until the parameters have stabilized within ±10% and turbidity is below 50 nephelometric turbidity units (NTUs). Groundwater samples slated for laboratory analysis will be placed in laboratory-supplied containers and shipped in accordance with appropriate EPA protocols to a NYSDOH ELAP-certified laboratory.
- Sub-slab soil vapor and indoor air sampling will be performed in accordance with the guidelines provided in the NYSDOH document entitled, "Guidance for Evaluating Soil Vapor Intrusion in the State of New York," (October 2006, revised 2017)." The sub-slab soil vapor samples, indoor, and ambient air samples will be collected using a 6-Liter, batch-certified SUMMA® canister equipped with a vacuum gauge and flow regulator set at a maximum rate of 0.2 liter per minute. After 24 hours, the flow controller valve will be closed, the final vacuum noted, and the canister placed in a shipping carton for delivery to the laboratory.

Who will collect and generate the data?

- AKRF, and any subcontractor, will be responsible for performing the sampling. All samples will be analyzed by Eurofins Edison or Eurofins Burlington (subcontracted by AKRF), NYSDOH-certified laboratories. AKRF will be responsible for collecting, reviewing, assessing, and disseminating

validated data. Third-party data validation and the preparation of a DUSR will be prepared by Ms. Lori Beyer of L.A.B. Validation Corporation.

How will the data be reported?

- The data will be reported quarterly reports and in the annual Periodic Review Report (PRR), and as EQuIS-compatible electronic data deliverables (EDDs) submitted to NYSDEC.

How will the data be archived?

- All hard-copy data will be maintained at AKRF offices for a minimum of one year. Field logbooks and forms/sampling logs will be scanned and all electronic data will be archived on the AKRF corporate server.

STANDARD OPERATING PROCEDURES (SOPS)

The following sections describe the SOPs for the remedial activities included in the SMP. During these activities, safety monitoring will be performed as described in the HASP, included as Appendix E of the SMP.

1.7 Decontamination of Sampling Equipment

All sampling equipment (augers, drilling rods, split spoon samplers, probe rods, pumps, etc.) will be either dedicated or decontaminated between sampling locations. Decontamination will be conducted on plastic sheeting (or equivalent) that is bermed to prevent discharge to the ground. The decontamination procedure will be as follows:

1. Scrub using tap water/Alconox® mixture and bristle brush.
2. Rinse with tap water.
3. Scrub again with tap water/Alconox® mixture and bristle brush.
4. Rinse with tap water.
5. Rinse with distilled water.
6. Air-dry the equipment, if possible.

1.8 Management of Investigation-Derived Waste (IDW)

IDW will be containerized in New York State Department of Transportation (NYSDOT)-approved 55-gallon drums. The drums will be sealed at the end of each work day and labeled with the date, the excavation grid(s), the type of waste (i.e., purge groundwater), and the name and phone number of an AKRF point-of-contact. All IDW exhibiting field evidence of contamination will be disposed of or treated according to applicable local, state, and federal regulations.

SAMPLING AND LABORATORY PROCEDURES

1.9 Groundwater Sampling

Groundwater sampling will be conducted according to the following procedures:

- Field screen the sample for evidence of contamination (e.g., odors, staining, etc.) using visual and olfactory methods and screen the well headspace for VOCs using a photoionization detector (PID) equipped with a 10.6 eV lamp.
- A list of acceptable equipment is provided below, but other equipment may be considered appropriate based on sampling conditions.
    - stainless steel inertia pump with high-density polyethylene (HDPE) tubing
    - peristaltic pump equipped with HDPE tubing and silicone tubing
    - stainless steel bailer with stainless steel ball
    - bladder pump with HDPE tubing [a low-density polyethylene (LDPE) bladder will be used as no industry-approved HDPE alternative currently exists]
- Collect the groundwater sample from each proposed sample location in laboratory-supplied glassware, label the sample in accordance with Section 4.6.1, and place in an ice-filled cooler for shipment to the laboratory. Samples analyzed for the emerging contaminants, PFAS, should be contained in a separate cooler and the sample containers should be labeled with ballpoint pen, not permanent marker.
- Complete the proper COC paperwork and seal the cooler.
- Record sample location, sample depth, and sample observations (evidence of contamination, PID readings, free phase liquid, etc.) in field log book and boring log data sheet, if applicable.
- Decontaminate any groundwater sampling equipment between sample locations as described in Section 3.1 of this QAPP. Standard two-step decontamination using detergent (Alconox) and clean, PFAS-free water will be performed for sampling equipment (when analyzing for PFAS).

1.10 Sub-Slab Soil Vapor and Indoor Air Sampling

Sub-slab soil vapor sampling will be conducted according to the following procedures:

- Field screen the sample for evidence of contamination (e.g., odors, etc.) using olfactory methods and screen the purged vapors for VOCs using a PID equipped with a 10.6 eV lamp.
- Collect the soil vapor samples from each proposed sample locations in laboratory-supplied SUMMA® canisters, label the sample in accordance with Section 4.6.1, and place in shipment container for shipment to the laboratory.
- Indoor air samples should be placed within the breathing zone (approximately 4 to 5 feet above ground surface).
- Complete the proper COC paperwork and seal the shipment container.
- Record sample location, sample depth, and sample observations (odors, PID readings, etc.) in field log book and boring log data sheet, if applicable.

1.11 Laboratory Methods

Table 1 summarizes the laboratory methods that will be used to analyze field samples and the sample container type, preservation, and applicable holding times. Eurofins of Edison, New Jersey, a NYSDOH ELAP-certified laboratory subcontracted to AKRF, will be used for all chemical analyses in accordance with the Division of Environmental Remediation (DER)-10 2.1(b) and 2.1(f) with Category B Deliverables.

Table 1
Laboratory Analytical Methods for Analysis Groups

Matrix	Analysis	EPA Method	Bottle Type	Preservative	Hold Time
Groundwater and Groundwater QA/QC	CVOCs	8260D	3 x 40 mL Glass Vials	HCl to pH < 2 and ≤ 4 ºC	48 hours to extract; 14 days to analyze
Sub-Slab Soil Vapor/Indoor Air	VOCs	TO-15	6L SUMMA® Canister	None	14 days

Notes:
QA/QC samples will be analyzed for the same parameters as the parent sample, with the exception of the trip blank(s), which will be analyzed for VOCs by EPA Method 8260C only.
EPA – Environmental Protection Agency

1.12 Quality Control (QC) Sampling

In addition to the laboratory analysis of the soil and groundwater samples, additional analysis will be included for QC measures, as required by the Category B sampling techniques. These samples will include a field blank, trip blank, matrix spike/matrix spike duplicate (MS/MSD), and blind duplicate samples at a frequency of one sample per 20 field samples collected. QC samples will be analyzed for the same parameters as the accompanying samples, with the exception of any trip blanks, which will be analyzed for the VOC list only. Additionally, one equipment blank will be collected during each day of groundwater sampling.

1.13 Sample Handling

1.13.1 Sample Identification

All samples will be consistently identified in all field documentation, chain-of-custody (COC) documents, and laboratory reports. All samples will be amended with the collection date at the end of the sample name in a year, month, day (YYYYMMDD) format. Blind duplicate sample nomenclature will consist of the sample type followed by an "X"; MS/MSD samples will be the same as the parent sample name, but will be indicated as MS/MSD on the chain of custody; and trip and field blanks will consist of "TB-" and "FB-", respectively, followed by a sequential number of the trip/field blanks collected within the SDG. Special characters, including primes/apostrophes ('), will not be used for sample nomenclature.

1.13.1.1. Site Management Sample Identification

All samples will be consistently identified in all field documentation, chain-of-custody documents and laboratory reports using an alpha-numeric code. Groundwater samples collected during the Site Management phase will be identified with "PMW-" followed by groundwater monitoring well number. The

field duplicate samples will be labeled with a dummy sample location to ensure that they are submitted as blind samples to the laboratory. Trip blanks and field blanks will be identified with "TB" and "FB", respectively. Table 2 provides examples of the sampling identification scheme for samples collected during the Site management activities.

Table 2
Sample Nomenclature

Sample Description	Sample Designation
Groundwater sample collected from post-remedial groundwater monitoring well PMW-01 on January 15, 2027	PMW-01_20270117
Blind duplicate sample of groundwater sample collected from groundwater monitoring well PMW-01 on January 15, 2027	PMW-X_20270117
Trip blank collected on January 15, 2027	TB_20270117
Sub-slab soil vapor sample collected from SSDS vacuum monitoring point MP-01 on August 1, 2027	VMP-01_20270801
Indoor air sample collected concurrently with sub-slab soil vapor sample VMP-01 on August 1, 2027	IA-01_20270801
Ambient air sample collected on August 1, 2027	AA-01_20270801

1.13.1.2. Waste Classification Sampling

Any waste classification samples (if needed) will be amended with "WC-" and the alphanumeric drum identification. Table 3 provides examples of the sampling identification scheme for proposed waste classification samples.

Table 3
Waste Classification Sample Nomenclature

Sample Description	Sample Designation
Waste classification sample collected from Drum 1 on February 10, 2027	WC-D1_20270210

1.13.1.3. Sample Labeling and Shipping

All sample containers will be provided with labels containing the following information:

- Project identification, including Site name, BCP Site number, Site address
- Sample identification
- Date and time of collection
- Analysis(es) to be performed

- Sampler's initials

Once the samples are collected and labeled, they will be placed in chilled coolers and stored in a cool area away from direct sunlight in a secured area to await shipment to the laboratory. All samples will be shipped to the laboratory within 48 hours of sampling. At the start and end of each workday, field personnel will add ice to the cooler(s) as needed to confirm that all sample/cooler temperatures are maintained at <6° Celsius.

The samples will be prepared for shipment by placing each sample in laboratory-supplied glassware, then wrapping each container in bubble wrap to prevent breakage, and adding freezer packs and/or fresh ice in sealable plastic bags. The COC form will be properly completed by the sampler in ink, and all sample shipment transactions will be documented with signatures, and the date and time of custody transfer. Samples will be shipped overnight (e.g., Federal Express) or transported by a laboratory courier. All coolers shipped to the laboratory will be sealed with mailing tape and a COC seal to ensure that the samples remain under strict COC protocol.

1.13.1.4. Sample Custody

Field personnel will be responsible for maintaining the sample coolers in a secured location until they are picked up and/or sent to the laboratory. The record of possession of samples from the time they are obtained in the field to the time they are delivered to the laboratory or shipped off-site will be documented on COC forms. The COC forms will contain the following information: project name; names of sampling personnel; sample number; date and time of collection and matrix; and signatures of individuals involved in sample transfer, and the dates and times of transfers. Laboratory personnel will note the condition of the custody seal and sample containers at sample check-in.

1.14 Field Instrumentation

Field personnel will be trained in the proper operation of all field instruments at the start of the field program. Instruction manuals for the equipment will be on file at the Site for referencing proper operation, maintenance, and calibration procedures. The equipment will be calibrated according to manufacturer specifications at the start of each day of fieldwork. If an instrument fails calibration, the project manager or QA/QC officer will be contacted immediately to obtain a replacement instrument. A calibration log will be maintained to record the date of each calibration, any failure to calibrate and corrective actions taken. The PID will be equipped with a 10.6 eV lamp and will be calibrated each day using 100 parts per million (ppm) isobutylene standard gas in accordance with the manufacturer's standards.

1.15 Quality Assurance (QA)

All sample laboratory analytical data will be reviewed by a third-party validator and a DUSR will be prepared to document the usability and validity of the data. The Final Engineering Report (FER) will include a detailed description of endpoint sampling activities, data summary tables, concentration map showing endpoint sample locations and concentrations, DUSR, and laboratory reports.

ATTACHMENT A

RESUMES FOR REMEDIAL ENGINEER, QA/QC OFFICER, PROJECT MANAGER, FIELD TEAM LEADER, SITE SAFETY OFFICERS, LABORATORY QA/QC OFFICER, AND THIRD-PARTY DATA VALIDATOR

REBECCA KINAL, P.E.

VICE PRESIDENT

Rebecca Kinal has over 20 years of experience in the assessment and remediation of soil and groundwater contamination and other hazardous/non-hazardous waste problems. Ms. Kinal's experience includes environmental due diligence, soil and groundwater investigations, leaking underground storage tank studies, soil gas/vapor intrusion surveys, and oversight of small- and large-scale remediation programs, including design of groundwater remediation systems and vapor mitigation systems. She has directed numerous Phase I and Phase II investigations and remediation programs, many of them in conjunction with commercial/residential developers, law firms, lending institutions, and public agencies. She is experienced in the cleanup of contaminated properties under New York State Brownfield Cleanup Program (BCP) regulations and the New York City "E-designation" program. As a part of this work, her duties have included technical and report review, proposal writing, scheduling, budgeting, and acting as liaison between clients and regulatory agencies, and project coordination with federal, state, and local authorities.

BACKGROUND

Education

M.S., Hydrogeology, Rensselaer Polytechnic Institute, 1995

B.S., Civil Engineering, Lafayette College, 1992

Licenses/Certifications

State of New York, P.E. Registration No. 082046, 2004

Years of Experience

Year started in company: 2000

Year started in industry: 1996

RELEVANT EXPERIENCE

White Plains Mall/Hamilton Green

Ms. Kinal managed environmental due diligence and remediation planning for the project, which included Phase I and II environmental assessments, a petroleum Spill investigation, preparation of remediation cost estimates, and application to the NYSDEC BCP.

New York City School Construction Authority On-Call Contracts for Environmental Consulting Services, Various Sites, NY

Ms. Kinal serves as the project manager for AKRF's on-call hazardous materials consulting contract with the New York City School Construction Authority for over 8 years. For potential new school sites, assignments include initial due diligence, Phase I environmental site assessments, (ESAs) and subsurface investigation of soil, groundwater, and soil vapor to determine the suitability of a site for development as a school, likely remediation requirements, and associated costs. For sites undergoing design and development, assignments include preparation of remediation plan, contract specifications, and design drawings. The work has also included conducting indoor air quality testing, vapor intrusion assessments, preparation of specifications, supervision of storage tank removals, and investigation and remediation of spills for existing schools. Due to the sensitivity of school sites, work under this contract is often conducted on short notice and during non-school hours.

USTA National Tennis Center, Queens, NY

AKRF prepared an EIS for the New York City Departments of City Planning (DCP) and Environmental Protection (DEP) as co-lead agencies to analyze the expansion of the National Tennis Center, which includes multiple improvements and construction projects at the USTA campus over several years. As part of the EIS requirements, AKRF prepared a Remedial Action Plan for implementation during the proposed project's construction. In accordance with the RAP, vapor mitigation systems were incorporated into the design for several of the proposed structures at the facility, including two new stadiums, a new transportation center, and several practice court facilities. Ms. Kinal prepared the specifications and design drawings for the vapor mitigation and is providing on-going construction support to review contractor submittals and inspect the vapor barrier and sub-slab depressurization system installations.

Montefiore Medical Center, Various Locations, NY

Ms. Kinal provides due diligence assistance to Montefiore Medical Center (MMC) for the ongoing expansion of their facilities, primarily in the Bronx and Westchester County. She conducts and manages environmental due diligence tasks related to their property transactions, including Phase I Environmental Site Assessments (ESAs), Phase II investigations, and geophysical surveys. She also assists MMC in making decisions with respect to environmental risk issues.

Queens West Development Project, Long Island City, NY

For over 20 years, AKRF has played a key role in advancing the Queens West development, which promises to transform an underused industrial waterfront property into one of largest and most vibrant mixed-use communities just across the East River from the United Nations. AKRF has prepared an Environmental Impact Statement that examines issues pertaining to air quality, land use and community character, economic impacts, historic and archaeological resources, and infrastructure. As part of the project, AKRF also undertook the largest remediation ventures completed to date under the NYSDEC Brownfields Cleanup Program (BCP). Ms. Kinal helped prepare the Remedial Work Plan (RWP) and oversaw the remediation of Parcel 9, a 1.8-acre former industrial site. Remediation includes installation of a sheet pile containment wall, excavation of coal tar- and petroleum-contaminated soil under a temporary structure to control odors during remediation, vapor mitigation for the future buildings, and institutional controls. Upon completion of the remediation activities, Ms. Kinal managed the preparation of a Final Engineering Report (FER) to document the clean-up activities. The NYSDEC issued a Certificate of Completion (COC) for the Parcel 9 site in December 2006. Ms. Kinal continues to oversee post-remediation monitoring and site management activities to ensure that the remedy remains in-place and effective.

Roosevelt Union Free School District, Roosevelt, NY

Ms. Kinal managed environmental investigation and remediation activities for the sites of three new elementary schools and a new middle school in Roosevelt, New York. Remediation activities include removal/closure of contaminated dry wells and underground petroleum storage tanks, and excavation and off-site disposal of petroleum- and pesticide-contaminated soil. Remediation of the new middle school site, which also included a sub-slab depressurization system, was conducted through coordination with the NYSDEC, NYSDOH, New York State Education Department (NYSED), and the local school district. Upon completion of the remediation and school construction, Ms. Kinal managed confirmatory indoor air testing and preparation of a Final Engineering Report to document the site clean-up. The NYSDEC issued a Certificate of Completion and the school was open for the Fall 2008 semester as planned.

Proposed NYC Public School Campus, Bronx, NY

Ms. Kinal provided environmental consulting services to the selected environmental remediation contractor for this former manufactured gas plant in the Mott Haven neighborhood of the Bronx, which was remediated under the NYSDEC BCP. These services included: preparation of an in situ sampling plan and excavation plan for waste

characterization and disposal; supervision of waste characterization sampling activities; development and implementation of a community air monitoring program during all remediation activities; and daily reporting to the NYC School Construction Authority.

National Grid – Halesite Manufactured Gas Plant Site, Town of Huntington, NY

Ms. Kinal served as the project manager for the remedial design and engineering work associated with remediation of National Grid's former manufactured gas plant (MGP) located in the Town of Huntington. The site is situated in a sensitive location along the waterfront, surround by commercial and residential properties, and half the property where the remediation was conducted is a steep slope. The remedy consisted of soil removal, oxygen injection, and non-aqueous phase liquid recovery. Ms. Kinal developed the remedial work plans, design/construction documents, and managed environmental oversight of the remedial work, including waste characterization and tracking, confirmatory endpoint sampling, air monitoring, and reporting to the NYSDEC. After the remediation work was completed, Ms. Kinal prepared appropriate close-out documentation in accordance with NYSDEC requirements.

Shell Service Station, Millwood, NY

Ms. Kinal planned and oversaw a Phase I Environmental Site Assessment and Phase II Subsurface Investigation of this active gasoline station in northern Westchester County. The Phase I/Phase II investigations were performed for the potential buyer of the property who wished to redevelop it with a more modern service station and convenience store. Ms. Kinal also prepared a conceptual remediation plan to address several areas of petroleum contamination identified during the Phase II. The plan, which was approved by NYSDEC, will be implemented in conjunction with the site redevelopment activities to achieve closure for several spills reported at the site.

Pelham Plaza Shopping Center Site Investigation & Remediation, Pelham Manor, NY

Ms. Kinal managed a Site Investigation at Pelham Plaza, an approximately ten-acre site that formerly contained a manufactured gas plant. The site was investigated under a voluntary clean-up agreement entered into with the NYSDEC by the site owner. The site investigation included advancing over 100 soil borings with continuous soil sampling to bedrock, installing monitoring and recovery wells, and conducting test pitting both indoor and outdoor locations to collect soil and groundwater samples and determine the extent of Non-Aqueous Phase Liquid (NAPL). The investigation also included: soil gas sampling to determine contaminant concentrations in the vapors beneath the foundation of an on-site retail store; sediment sampling in an adjacent creek to identify off-site impacts; and a tidal survey to determine tidal influence on groundwater levels at the site. Ms. Kinal also oversaw interim remedial measures, which include biweekly pumping of recovery wells to remove dense NAPL (DNAPL) from the site subsurface.

Shaws Supermarket Redevelopment Project, New Fairfield, CT

Ms. Kinal managed the Remedial Investigation (RI) for an approximately nine-acre shopping center site that was contaminated by releases from former dry cleaning operations. The site was being redeveloped with a new supermarket and separate retail stores. The investigation included the installation of monitoring wells in the intermediate overburden aquifer and bedrock aquifer, sampling of existing and newly installed wells, geophysical logging in bedrock wells, and pump testing in intermediate and bedrock wells. Ms. Kinal prepared a Remedial Action Work Plan (RAWP) based on results from the RI, which included a groundwater pump and treat system to contain a plume of perchlorethylene (PCE)-contaminated groundwater, and excavation and disposal of contaminated soil in the presumed source area. Following CTDEP approval of the RAWP, Ms. Kinal prepared bid specifications for soil excavation and remediation system installation, and oversaw their implementation. Ms. Kinal also prepared NPDES permit applications for discharges from construction dewatering and the groundwater remediation system, and conducted associated discharge monitoring.

Yankee Stadium, Bronx, NY

Ms. Kinal performed the hazardous materials analysis for the Draft Environmental Impact Statement for the proposed new Yankee Stadium. The analysis included a Phase I Environmental Site Assessment of the entire project area and Subsurface (Phase II) Investigation in areas where environmental conditions were identified. The Phase II investigation included geophysical surveys to search for potential underground storage tanks; and soil, soil gas, and groundwater sampling at over 40 locations to determine potential environmental impacts during and after the proposed construction. Ms. Kinal also developed an extensive community air monitoring plan and oversaw its implementation during deconstruction of the old Yankee Stadium.

Avalon on the Sound, New Rochelle, NY

Ms. Kinal oversaw environmental investigation and soil remediation during the construction of two luxury high-rise apartment buildings and an associated parking garage. Investigation activities included an electromagnetic survey to search for possible underground storage tanks, and subsurface sampling to characterize soil and groundwater. Remediation activities included removing underground storage tanks, excavating and disposing of soil contaminated with volatile and semi-volatile organic compounds, and collecting end-of-excavation confirmation samples.

Davids Island Environmental Audit, New Rochelle, NY

Ms. Kinal managed the hazardous materials portion of the audit of this undeveloped island site, including a Phase I Environmental Site Assessment (ESA) and Subsurface (Phase II) Investigation in areas where environmental conditions were identified. The Phase II investigation included collecting soil samples from more than 100 locations and analyzing them for targeted compounds, including volatile organic compounds, semi-volatile compounds, metals, pesticides, and polychlorinated biphenyls (PCBs). Ms. Kinal also oversaw an electromagnetic (EM) survey conducted to identify the location of suspected underground storage tanks on the island. Based on soil sample results, Ms. Kinal estimated the volume of contaminated soil requiring remediation and prepared cost estimates for soil excavation and for transportation and disposal of contaminated soil and hazardous materials.

Outlet City Site Investigation, Queens, NY

Ms. Kinal prepared a work plan for remedial investigation of the Outlet City site, a property in Long Island City that was formerly occupied by a manufacturer of industrial cleaners and pharmaceuticals. The site is being investigated and remediated under the NYSDEC voluntary clean-up program. In preparing the work plan, Ms. Kinal evaluated results from several previous investigations and conducted a limited groundwater sampling program to determine future data needs for designing remediation of creosote-contaminated soil and groundwater. The work plan included additional soil and groundwater sampling, a tidal survey to determine tidal influence on groundwater levels, and pilot free product recovery testing. Ms. Kinal also helped design a venting system for an on-site basement and performed exposure calculations for the vented vapors.

Yonkers Waterfront Redevelopment Project, Yonkers, NY

For this redevelopment along Yonkers' Hudson River waterfront, Ms. Kinal supervised the remediation of Parcels H and I that were contaminated with hazardous soil. During the remediation process, she reviewed the subcontractor health and safety plans, delineated the areas of excavation, and oversaw field activities to ensure compliance with the specifications and appropriate regulations. This property was remediated under the NYSDEC Environmental Restoration Program (ERP).

DEBORAH SHAPIRO, QEP

SENIOR VICE PRESIDENT

Deborah Shapiro is a Senior Vice President in the Site Assessment and Remediation Department. Ms. Shapiro supervises project teams and manages all aspects of assessment and remediation projects across the New York Metropolitan Area. Ms. Shapiro works with developers, non-profit organizations, architects, local community groups, local businesses, and government agencies. Her projects fall under the regulatory oversight of NYSDEC, NYCDEP, and NYCOER including the New York State Brownfield Cleanup Program (BCP), New York City Voluntary Cleanup Program (VCP), NYSDEC petroleum spills program, RCRA/UIC closures, and NYCOER's E-designation program. Ms. Shapiro has also assisted commercial and industrial property owners with maintaining the integrity of their portfolios by providing compliance related cleanup and chemical storage management services. Ms. Shapiro has also been a moderator and panelist at numerous conferences.

Ms. Shapiro manages all aspects of redevelopment projects from the initial Phase I ESA, Phase II, and remediation through post-remedial site management. In addition, her experience includes groundwater investigations, monitoring, and sampling programs; Brownfield and hazardous waste site investigations; In-Situ Chemical Oxidation; underground storage tank studies, including soil contamination delineation, classification, removal and disposal; waste characterization sampling; exposure assessments; on-going remedial action (especially AS/SVE), and permitting.

BACKGROUND

Education

M.S., Environmental Science, American University, 2001
B.A., Environmental Studies, American University, 1998

Professional Licenses/Certifications

Qualified Environmental Professional
Health and Safety Operations at Hazardous Materials Sites 29 CFR 1910.120

OSHA 8 Hour HAZWOPER Supervisor

OSHA 10 Hour Occupational Construction Safety and Health

CPR

Professional Memberships

Past President, New York City Brownfield Partnership
Board Member, Residents for a More Beautiful Port Washington
Member, Institute of Professional Environmental Practitioners (IPEP)

Awards

Big Apple Brownfield Award recipient as part of the Elton Crossing redevelopment team 2017
Big Apple Brownfield Award recipient as part of the Courtlandt Crescent redevelopment team 2013
Big Apple Brownfield Award recipient as part of the Via Verde redevelopment team 2012
Big Apple Brownfield Award recipient as part of the Cornerstone B1 (LaTerraza) redevelopment team 2011

Years of Experience

Year started in company: 2013
Year started in industry: 1998

RELEVANT EXPERIENCE

Elton Crossing, Bronx, NY

AKRF provided environmental consulting services in connection with the purchase and redevelopment of the Elton Crossing site at 899 Elton Avenue in the Bronx, NY. The work initially involved the preparation of a Phase II subsurface investigation including soil and soil vapor testing to determine if the site would be eligible for the New York State Brownfield Cleanup Program (NYSBCP). Upon completion of the investigation, AKRF prepared a NYCBCP Application and the site was accepted into the NYSBCP. AKRF managed all aspects of the brownfield cleanup including; development of Investigation Work Plans, performing Remedial Investigations and Reports, preparation of Phase I ESAs, preparation of a Citizen Participation Plan, distribution of public notices, preparation and implementation of a Remedial Action Work Plan (RAWP), design of a sub-slab depressurization system, preparation of the Final Engineering Report and Site Management Plan, and sampling and management of soil disposal. AKRF is in the midst of implementing the Site Management Plan. As project manager, Ms. Shapiro was responsible for managing all technical components of the project, communication with NYSDEC and the Client, and managing the budget.

Second Farms, Bronx, NY

AKRF, Inc. was initially contracted by the New York City Office of Environmental Remediation (NYCOER) to conduct a subsurface investigation of a 1.12-acre parcel in the Bronx, New York under the United States Environmental Protection Agency (USEPA) Brownfield Assessment Grant program. The investigation included a geophysical survey and utility mark-outs, and the collection and analysis of soil, groundwater, soil vapor, indoor air and ambient air samples. AKRF continued working on the project for the developer by preparing a Remedial Action Plan and Environmental Assessment Statement. AKRF is in the midst of implementing the remedy.As project manager, Ms. Shapiro was responsible for managing all technical components of the project, communication with OER, NYCDEP, and the Client, and managing the budget.

Bradhurst Cornerstone II Residences, Manhattan, NY

AKRF, Inc. prepared a Part 58 Environmental Assessment and a City Environmental Quality Review Environmental Assessment Statement for the Bradhurst Cornerstone II Apartments project. Issues of concern for the environmental review included the identification of project commitments for certain of the four sites related to historic resources, hazardous materials, air quality, and building attenuation. As part of the mitigation of hazardous materials, AKRF conducted a Phase II investigation, and prepared a Remedial Action Plan and Construction Health and Safety Plan. As project manager, Ms. Shapiro was responsible for managing all technical components of the hazardous materials portion of the project, communication with the regulatory agency and the Client, and managing the budget.

Lambert Houses, Bronx, NY

AKRF performed an EIS of the Lambert Houses affordable housing complex located in the West Farms section of the Bronx, NY. Lambert Houses consisted of multi-story apartment buildings, parking garage, and a multi-tenant retail/commercial building alongside the elevated NYC subway. AKRF also conducted a Phase I ESA with a vapor intrusion screen of the Property to satisfy HUD's vapor intrusion requirements. The Phase I and vapor intrusion screens were prepared in accordance with ASTM E1527-05, ASTM E2600, and EPA's All Appropriate Inquiry (AAI) rule. After completion of the EIS, an E designation for hazardous materials was placed on the Site. A Subsurface Investigation was conducted and a Remedial Action Work Plan was prepared under OER oversight. The Site was subsequently entered in the NYC Voluntary Cleanup Program. AKRF is in the midst of implementing the RAWP, which included remediation of a hydraulic oil spill. As project manager, Ms. Shapiro was responsible for managing all technical components of the hazardous materials portion of the project, communication with the regulatory agency and the Client, and managing the budget.

Brook 156, Bronx, NY

AKRF was retained to provide environmental consulting services in connection with the purchase and development of the Site. AKRF prepared a Phase I Environmental Site Assessment (ESA) of the NYC-owned former gasoline service station and a former railroad. A Tier 1 Vapor Encroachment Screening was also conducted to satisfy HUD's vapor intrusion requirements. AKRF prepared a Remedial Investigation Work Plan (RIWP) and conducted a Remedial Investigation (RI) at the site, which included the collection and analysis of soil, soil vapor, and groundwater. The results of the RI, which were documented in a Remedial Investigation Report (RIR), were used to prepare a New York City Brownfield Cleanup Program (NYCBCP) application. The site was accepted into the New York State Brownfield Cleanup Program (NYSBCP). AKRF prepared a Citizen Participation Plan (CPP), distributed public notices, and conducted multiple Remedial Investigations to further investigate soil, soil vapor, and groundwater at the site prior to redevelopment. The results of the investigations were used to prepare a Remedial Action Work Plan (RAWP), which is undergoing review and approval by NYSDEC. The proposed remedy includes excavation of soil, design and installation of a soil vapor extraction system and sub-slab depressurization system, contingent groundwater treatment program, and installation of a vapor barrier and composite cover system. As project manager, Ms. Shapiro is responsible for managing all technical components of the project, communication with NYSDEC and the Client, and managing the budget.

On-Call Environmental Consulting Services (Various Locations), New York City Mayor's Office of Environmental Remediation (OER) (administered by NYCEDC)

Ms. Shapiro is managing an on-call contract with the OER for brownfields environmental assessment and remediation. The work has included conducting Phase I environmental site assessments (ESAs) and multi-media sampling of soil, groundwater, and soil vapor for various sites funded by EPA grants. The work plans and investigation reports were completed in accordance with OER and EPA requirements. AKRF also implemented a remedial plan for capping a park site in Staten Island. In addition, AKRF provided support to OER and an affordable housing developer to expedite an application for entry into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP), as well as preparation and implementation of the remedial investigation and remedial plan.

Atlantic Chestnut, Brooklyn, NY

AKRF was retained to provide environmental consulting services in connection with the purchase and redevelopment of former burned manufacturing buildings encompassing an entire city block in Brooklyn, New York. As part of due diligence, AKRF prepared a Phase I Environmental Site Assessment (ESA) Report for the property. After acquisition, the property was divided into three separate sites (3264 Fulton Street, 235 Chestnut Street, and 3301 Atlantic Avenue). AKRF prepared a Subsurface (Phase II) Investigation Work Plans and conducted Phase IIs at each of the sites, which included the collection and analysis of soil, soil vapor, and groundwater samples. Based on the results of the Phase IIs, which were documented in Subsurface (Phase II) Reports, New York State Brownfield Cleanup Program (NYSBCP) applications were prepared for each of the sites. After acceptance into the NYSBCP, AKRF prepared Citizen Participation Plans (CPPs) and distributed public notices. AKRF prepared Remedial Investigation (RI) Work Plans (RIWPs) and implemented numerous Remediation Investigations for each of the sites to further investigate contaminated media at the site prior to redevelopment, and prepared the RI Reports (RIRs). AKRF is in the midst of preparing Interim Remedial Work Plans for each Site, which include installation of a Soil Vapor Extraction to prevent the off-site migration of contaminants. As project manager, Ms. Shapiro was responsible for managing all technical components of the project, communication with NYSDEC and the Client, and managing the budget.

ADRIANNA BOSCO

TECHNICAL DIRECTOR

Adrianna Bosco is a Technical Director in AKRF's Site Assessment and Remediation Department. She has experience in navigating redevelopment projects through regulatory requirements under local and state programs. Ms. Bosco has worked closely with projects enrolled in the NYSDEC Brownfield Cleanup Program, the New York City Voluntary Cleanup Program, and NYSDEC petroleum spills program, from initial stages of investigation and remediation, through site closure and post-remedial management. Ms. Bosco also has experience in preparing Phase I Environmental Site Assessments and Subsurface (Phase II) Investigations, in addition to conducting environmental/construction oversight and the associated reporting elements. Prior to joining AKRF, she worked as an Environmental Scientist for PS&S Engineering, Inc.

BACKGROUND

Education
BS, Manhattan College, Environmental Engineering, 2011

Licenses/Certifications
OSHA 40 Hour HAZWOPER
OSHA 8 Hour Refresher

Professional Memberships
Committee Member - Policy Innovation Network, Citizens Housing Planning Council

Years of Experience
11 years in the industry
8 years with AKRF

Contact Information
440 Park Avenue South, 7th Floor
New York, NY 10016
P: (646) 388-9576
E: abosco@akrf.com

RELEVANT EXPERIENCE

22-60 46th Street, Queens, NY

AKRF is providing environmental consulting services during to further investigate and remediate the property under the Brownfield Cleanup Program. This property has a long history of industrial and manufacturing uses, including a knitting mill and electronics manufacturer. As a result of the former operations, soil vapor beneath the site is contaminated with chlorinated solvents. As Project Manager, Ms. Bosco led the Remedial Investigation and assisted in the design and implementation of an active sub-slab depressurization system, soil vapor extraction system, and in-situ groundwater treatment program. Ms. Bosco oversees the day-to-day activities during remediation, and was the primary author of the Final Engineering Report and Site Management Plan.

601 West 29th Street, Manhattan, NY

This site is currently enrolled in the Brownfield Cleanup Program and contains E-Designations for air quality, noise, and hazardous materials. Historically, the site was developed with various industrial and automotive operations since the early 1800s. As the Project Manager, Ms. Bosco managed various pertinent tasks from

preparation of the Brownfield Cleanup Program Application to implementation of the Remedial Investigation, and successfully managing the remediation. A Certificate of Completion was issued in December 2020. Ms. Bosco is also managing the post-remedial monitoring and site inspections.

East Side Coastal Resiliency (ESCR) Preliminary & Final Design, New York, NY

AKRF is leading a multidisciplinary design team that was selected by the New York City agency partnership of the New York Department of Design and Construction (NYCDDC), New York City Department of Parks and Recreation (NYC Parks), New York City Department of Transportation (NYCDOT), and the Mayor's Office of Recovery and Resiliency (ORR) to provide engineering, planning, landscape architecture, urban design and community engagement services for the Preliminary and Final Design Services for ESCR.

Adrianna conducted a portion of the 2016 subsurface investigation. The ESCR subsurface exploration program involved a review of available utility plans and environmental reports involving manufactured gas plant (MGP) and petroleum-related contamination. Responsibilities included groundwater sampling, soil boring and temporary well installation, and compliance with the Supplemental Subsurface Investigation Work Plan.

147-25 94th Avenue, Queens, NY

This historical meat refrigeration facility is enrolled in the Brownfield Cleanup Program to remediate the property and construct a 23-story affordable residential building. Although the site has an E-Designation for hazardous materials, noise, and air quality, AKRF assisted with applying for entry into the NYSDEC Brownfield Cleanup Program, due to the presence of contaminated soil and soil vapor beneath the site. AKRF is providing environmental consulting services throughout the project.

As the Deputy Project Manager, Ms. Bosco prepared the Brownfield Cleanup Program application and Remedial Action Work Plan. Ms. Bosco also managed field activities associated with the Remedial Investigation, to determine the vertical and horizontal extent of on-site contamination. During construction, Ms. Bosco managed the on-site remediation and prepared NYSDEC-required submittals and reports.

1888 Bathgate Avenue Redevelopment Site, Bronx, NY

AKRF provided environmental consulting services in connection to the investigation and remediation of an approximately 36,000-square foot parcel enrolled in the Brownfield Cleanup Program. This former steel door manufacturing facility was contaminated with chlorinated solvents, including tetrachloroethene. The selected remedy included site-wide excavation of soil and bedrock, continuous air monitoring, collection of post-excavation endpoint samples, and implementation of an in-situ groundwater treatment program.

As the Deputy Project Manager for this project, Ms. Bosco managed various field efforts, including a Remedial Design Investigation to develop the groundwater treatment program and implementation of the Remedial Action Work Plan. Upon completion of the remediation, Ms. Bosco prepared the Final Engineering Report and Site Management Plan for submission to the NYSDEC.

On-Call for Professional Services for an Environmental Assessment Statement (EAS), New York, NY

AKRF worked with NYCDDC, NYCDOT, and the New York State Department of Transportation (NYSDOT) on a full roadway and sidewalk reconstruction project along Main Street between 38th Avenue and 40th Road in Downtown Flushing, Queens. The goal of the project was focused on formalizing a NYCDOT pilot program for improving pedestrian circulation and safety in an area that experiences some of the highest pedestrian traffic in New York City given its proximity to the terminus of the 7-train subway line at Flushing Main Street station and Long Island Rail Road (LIRR) Flushing Main Street station as well as numerous bus routes, in conjunction with traffic study and analysis, and environmental impact analysis for the proposed widening of sidewalks within the project limits. This unique project tied together the interconnected relationship between the proposed reconstruction engineering and the balance of improving

pedestrian accommodation, flow, and safety with maintaining modified vehicular flow and acceptable level of service along Main Street which experiences notably high volumes of intermodal pedestrian, train, bus, and vehicular traffic. Design scope included reconstruction of the roadway and curb to widen sidewalks, traffic study and analysis, and environmental impact assessment including Design Approval Document and Plans, Specifications and Estimate (PS&E) submission to NYSDOT for review and approval associated with Federal funding allocated for the project. AKRF developed the preliminary design and final design plans for the reconstruction project.

New York City Mayor's Office of Environmental Remediation (OER) On-Call Contract, Various Locations, NY

The work has included conducting Phase I environmental site assessments (ESAs) and multi-media sampling of soil, groundwater, and soil vapor for various sites funded by U.S. Environmental Protection Agency (USEPA) grants. The work plans and investigation reports were completed in accordance with OER and USEPA requirements. AKRF also implemented a remedial plan for capping a park site in Staten Island. In addition, AKRF provided support to OER and an affordable housing developer to expedite an application for entry into the New York State Department of Environmental Conservation (NYSDEC) BCP, as well as preparation and implementation of the remedial investigation and remedial plan.

On-Call Environmental Consulting for NYCSCA, Various locations, NY

AKRF's on-call hazardous materials consulting contract with NYCSCA. AKRF performed lead in drinking water sampling in about 160 schools during two three-month periods. AKRF continues to provide lead sampling, reporting and remedial recommendations, as new plumbing is installed. AKRF also oversees plumbing disinfection work, which is required prior to new plumbing being placed into service. The assignments involve reviewing and commenting on disinfection plans, supervision of the disinfection and confirmation testing, and preparation of reports documenting the work was conducted in accordance with the specifications and applicable requirements. Due to the sensitivity of school sites, work under this contract is often conducted on short notice and during non-school hours.

Adrianna worked on the following assignments under this contract:

- PS 11Q - Addition
- PS 340M – Design
- PS K680 – Design
- Upk Sites – Brooklyn, Staten Island, and the Bronx

New York City Housing Authority (NYCHA), Settlement Housing Fund Inc., Twin Parks Terrace, Bronx, NY

AKRF provided site assessment/remediation services on behalf of NYCHA in connection with a joint application for conversion of assistance under the U.S. Department of Housing and Urban Development (HUD)'s Rental Assistance Demonstration and Section 18 disposition programs. We then supported the public/private partnership formed between NYCHA and Highbridge Affordable Group for leasing, financing, capital rehabilitation, operation, property management, and social service delivery at several public housing developments in the Bronx, including Twin Parks West (Sites 1 and 2). AKRF proceeded to work on behalf of Settlement Housing Fund for Twin Parks Terrace, the proposed redevelopment of a parking lot adjacent to Twin Parks West (Sites 1 and 2). Twin Parks Terrace will be a 14-story building with 182 units of affordable housing, 10,000 square feet of commercial space, and 1,800 square feet of community facility space. Social services will be provided by BronxWorks.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Personnel Resume

Carl Armbruster
QA Manager

Qualifications Summary

Mr. Armbruster has over 30 years of experience in the environmental laboratory and engineering industry that includes extensive technical, management/leadership experience in all aspects of the laboratory business. He is an action-oriented manager dedicated to ensuring the laboratory maintains a quality program that holds the highest credentials in PT scores, accreditations and customer satisfaction. His unique experience lends itself to working successfully with employees, managers and clients at all levels.

Professional Experience

Quality Assurance Manager – TestAmerica Edison - 2005 to Present

Mr. Armbruster is responsible for establishing and implementing the quality assurance program at the Edison facility; and for interfacing with the corporate Quality Assurance Director to ensure adherence with the overall Quality Management Plan. He is also responsible for monitoring implementation and compliance with NELAC and TestAmerica's QMP, conducting annual management system audits and data audits, as well as providing regulatory updates and technical support to the Laboratory Director, Operations Manager, Client Services and Sales department.

Project Manager/Assistant Technical Director – STL Edison --2000 to 2005

Laboratory Director − STL Whippany − 1998 to 2000

Account Manager − Clean Harbors Environmental Services − 1997 to 1998

Laboratory Manager − Waste Management Inc., and Chemical Waste Management Inc − 1988 to 1997

Environmental Scientist − ICF Technology − 1987 to 1988

Analytical Chemist − IT Corporation – 1985 to 1987

Analytical Chemist − Hess Environmental Laboratories – 1983 to 1985

Education

- MS in Biology – East Stroudsburg University, 1984
- BS in Environmental Studies - East Stroudsburg University, 1980

L.A.B. Validation Corp., 14 West Point Drive, East Northport, New York 11731

Lori A. Beyer

SUMMARY: General Manager/Laboratory Director with a solid technical background combined with Management experience in environmental testing industry. Outstanding organizational, leadership, communication and technical skills. Customer focused, quality oriented professional with consistently high marks in customer/employee satisfaction.

EXPERIENCE:

1998-Present L.A.B. Validation Corporation, 14 West Point Drive, East Northport, NY
President

- Perform Data Validation activities relating to laboratory generated Organic and Inorganic Environmental Data.

1998-Present American Analytical Laboratories, LLC. 56 Toledo Street, Farmingdale, NY
Laboratory Director/Technical Director

- Plan, direct and control the operation, development and implementation of programs for the entire laboratory in order to meet AAL's financial and operational performance standards.
- Ensures that all operations are in compliance with AAL's QA manual and other appropriate regulatory requirements.
- Actively maintains a safe and healthy working environmental that is demanded by local laws/regulations.
- Monitors and manages group's performance with respect to data quality, on time delivery, safety, analyst development/goal achievement and any other key performance indices.
- Reviews work for accuracy and completeness prior to release of results to customers.

1996-1998 Nytest Environmental, Inc. (NEI) Port Washington, New York
General Manager

- Responsible for controlling the operation of an 18,000 square foot facility to meet NEI's financial and operational performance standards.
- Management of 65 FTEs including Sales and Operations
- Ensure that all operations are in compliance with NEI's QA procedures
- Ensures that productivity indicators, staffing levels and other cost factors are held within established guidelines
- Maintains a quantified model of laboratory's capacity and uses this model as the basis for controlling the flow of work into and through the lab so as to ensure that customer requirements and lab's revenue and contribution targets are achieved.

1994-1996 Nytest Environmental, Inc. (NEI) Port Washington, New York
Technical Project Manager

- Responsible for the coordination and implementation of environmental testing programs requirements between NEI and their customers
- Supervise Customer Service Department
- Assist in the development of major proposals
- Complete management of all Federal and State Contracts and assigned commercial contracts
- Provide technical assistance to the customer, including data validation and interpretation
- Review and implement Project specific QAPP's.

1995-1996 Nytest Environmental, Inc. (NEI) Port Washington, New York
Corporate QA/QC Officer

- Responsible for the implementation of QA practices as required in the NJDEP and EPA Contracts
- Primary contact for NJDEP QA/QC issues including SOP preparation, review and approval
- Responsible for review, verification and adherence to the Contract requirements and NEI QA Plan

1992-1994 Nytest Environmental, Inc. (NEI) Port Washington, New York
Data Review Manager

- Responsible for the accurate compilation, review and delivery of analytical data to the company's customers. Directly and effectively supervised a department of 22 personnel.
- Managed activities of the data processing software including method development, form creation, and production
- Implement new protocol requirements for report and data management formats
- Maintained control of data storage/archival areas as EPA/CLP document control officer

1987-1991 Nytest Environmental, Inc. (NEI) Port Washington, New York
Data Review Specialist

- Responsible for the review of GC, GC/MS, Metals and Wet Chemistry data in accordance with regulatory requirements
- Proficient with USEPA, NYSDEC, NJDEP and NEESA requirements
- Review data generated in accordance with SW846, NYSDEC ASP, EPA/CLP and 40 CFR Methodologies

1986-1987 Nytest Environmental, Inc (NEI) Port Washington, New York
GC/MS VOA Analyst

EDUCATION:

1982-1985 State University of New York at Stony Brook, New York; BS Biology/Biochemistry
1981-1982 University of Delaware; Biology/Chemistry
5/91 Rutgers University; Mass Spectral Data Interpretation Course, GC/MS Training
8/92 Westchester Community College; Organic Data Validation Course
9/93 Westchester Community College; Inorganic Data Validation Course

Westchester Community College

Professional Development Center

Awards this Certificate of Achievement To

LORI BEYER

for Successfully Completing

ORGANIC DATA VALIDATION COURSE (35 HOURS)

Dr. John Samuelian

Date AUGUST 1992

Assistant Dean
Professional Development Center

President

The Professional
Development Center

SUNY
WESTCHESTER COMMUNITY COLLEGE
Valhalla, New York 10595

Westchester Community College

Professional Development Center

Awards this Certificate of Achievement To

LORI BEYER

for Successfully Completing

INORGANIC DATA VALIDATION

Instructor: Dale Boshart

Date MARCH 1993

Assistant Dean
Professional Development Center

President

The Professional
Development Center

SUNY
WESTCHESTER COMMUNITY COLLEGE
Valhalla, New York 10595

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233

Thomas C. Jorling
Commissioner

July 8, 1992

Ms. Elaine Sall
Program Coordinator
Westchester Community College
Valhalla, NY 10595-1698

Dear Elaine,

Thank you for your letter of June 29, 1992. I have reviewed the course outline for organic data validation, qualifications for teachers and qualifications for students. The course that you propose to offer would be deemed equivalent to that which is offered by EPA. The individuals who successfully complete the course and pass the final written exam would be acceptable to perform the task of organic data validation for the Department of Environmental Conservation, Division of Hazardous Waste Remediation.

As we have discussed in our conversation of July 7, 1992, you will forward to me prior to the August course deadline, the differences between the EPA SOW/90 and the NYSDEC ASP 12/91. You stated these differences will be compiled by Mr. John Samulian.

I strongly encourage you to offer an inorganic data validation course. I anticipate the same list of candidates would be interested in an inorganic validation course as well, since most of the data to be validated consists of both organic and inorganic data.

Thank you for you efforts and please contact me if I can be of any further assistance.

Sincerely,

Maureen P. Serafini

Maureen P. Serafini
Environmental Chemist II
Division of Hazardous Waste
Remediation

The Professional
Development Center
AT
WESTCHESTER COMMUNITY COLLEGE

914 285-6619

October 2, 1992

Ms. Lori Beyer
3 sparkill Drive
East Northport, NY 11731

Dear Ms. Beyer:

Congratulations upon successful completion of the Organic Data Validation course held August 17 - 21, 1992, through Westchester Community College, Professional Development Center. This course has been deemed by New York State Department of Environmental Conservation as equivalent to EPA's Organic Data Validation Course.

Enclosed is your Certificate. Holders of this Certificate are deemed competent to perform organic data validation for the New York State DEC Division of Hazardous Waste Remediation.

The Professional Development Center at Westchester Community College plans to continue to offer courses and seminars which will be valuable to environmental engineers, chemists and related personnel. Current plans include a TCLP seminar on November 17th and a conference on Environmental Monitoring Regulations on November 18th.

We look forward to seeing you again soon at another environmental program or event. Again, congratulations.

Very truly yours,

Passing Grade is 70%
Your Grade is 99%

Elaine Sall
Program Coordinator

ES/bf

SUNY
WESTCHESTER COMMUNITY COLLEGE
Valhalla, New York 10595

The Professional
Development Center
AT
WESTCHESTER COMMUNITY COLLEGE

914 285-6619

June 21, 1993

Dear Ms. Beyer:

Enclosed is your graded final examination in the Inorganic Data Validation course you completed this past March. A score of 70% was required in order to receive a certificate of satisfactory completion. Persons holding this certificate are deemed acceptable to perform Inorganic Data Validation for the New York State Department of Environmental Conservation, Division of Hazardous Waste Remediation.

I am also enclosing a course evaluation for you to complete if you have not already done so. The information you provide will greatly aid us in structuring further courses. We wish to make these course offerings as relevant, targeted and comprehensive as possible. Your evaluation is vital to that end.

Congratulations on your achievement. I look forward to seeing you again at another professional conference or course. We will be co-sponsoring an environmental monitoring conference on October 21, 1993 with the New York Water Pollution Control Association, Lower Hudson Chapter, at IBM's Yorktown Heights, NY site. Information regarding this event will be going out in August.

Very truly yours,

Elaine Sall

Elaine Sall
Program Coordinator

ES/bf

Enclosures

SUNY
WESTCHESTER COMMUNITY COLLEGE
Valhalla, New York 10595

APPENDIX I
SITE MANAGEMENT FORMS

521 East Tremont Avenue
Bronx, NY
BCP Site No. C203161
Annual Site-Wide Inspection Form

1. General conditions at time of inspection:

Name:	
Time:	
Date:	
Weather:	

Annual inspection or emergency inspection (if emergency, specify nature)?

Notes: _____

2. Are any SMP-related site activities currently being conducted (SSDS Operation, GW Sampling, Groundwater Injections, or other)?

_____ YES _____ NO

Notes: _____

3. Institutional Control (IC) Checklist (SMP maintained on-site, routine SMP tasks being conducted)

- Copy of SMP on-site? _____ YES _____ NO
- Building use consistent with SMP (Restricted Residential)? _____ YES _____ NO
- Have the following tasks been conducted during the reporting period?
  - SSDS inspection/monitoring _____ YES _____ NO
  - Groundwater monitoring _____ YES _____ NO
  - Supplemental groundwater treatment _____ YES _____ NO

Notes: _____

521 East Tremont Avenue
Bronx, NY
BCP Site No. C203161
Annual Site-Wide Inspection Form

4. Evaluation of Engineering Controls (ECs)

- EC: Active SSDS

- Are there any unusual odors, spills, or leaks near the SSDS piping on the ground floor? _____ YES _____ NO
If yes, describe source and plans for repair:

- Are the above grade components of the SSDS clean? _____ YES _____ NO

- Is the SSDS blower running? _____ YES _____ NO
If no, provide details:

- Any evidence of tampering, vandalism, or damage on the SSDS piping or system components? _____ YES _____ NO
If yes, describe:

- EC: Composite Cover System

- Is the composite cover system intact? _____ YES _____ NO
If there are significant cracks/breaks/openings, describe the size and location:

- Are corrective actions required to address the condition of the composite cover system? _____ YES _____ NO
If yes, describe:

The condition of the composite cover system is being documented in this inspection log, which will be provided as part of the PRR.

Notes: _____

- EC: Groundwater Injection System

- Is the groundwater injection system intact? _____ YES _____ NO

If there are significant cracks/breaks/openings to above grade injection lines or the vault, describe the size and location:

_____

- Are corrective actions required to address the condition of the groundwater injection system? _____ YES _____ NO

If yes, describe:

_____

The condition of the groundwater injection system is being documented in this inspection log, which will be provided as part of the PRR.

Notes: _____

5. Site Documentation

Including updates regarding notification to NYSDEC regarding any changes to Site conditions/operations, routine reporting to NYSDEC, etc.).

Notes: _____

SSDS MONITORING INSPECTION FORM
521 East Tremont Avenue
Bronx, NY

Inspector Name:	**Date:**
Time In:	**Time Out:**

General

Weather:	Temperature:	Barometric Pressure:	

When was the last rain event?

Is the blower currently operating? Yes / No

If no, please list reason/alarm condition:

Any evidence of system tampering, vandalism or damage in the first floor equipment room? -

Is air discharging from the exhaust piping to the roof? -

Any evidence of system tampering, vandalism, or damage to the exhaust stack? -

Were all cleanout/sampling port caps securely attached prior to system testing? -

If no, list location and contact Project Manager/Project Director.

Is the concrete floor slab overlying all of the SSDS piping runs intact? -

If no, list location and contact Project Manager/Project Director.

SSDS Operations

Monitoring Point (MP) or Riser (R) Identification	Location	Flow Sensor Reading[1] in. H_2O	Applied Vacuum[1] in. H_2O	Induced Vacuum[2] in. H_2O	Notes
MP-1	FRONT DESK	NA	NA		
MP-2	STAIR B VESTIBULE	NA	NA		
MP-3	WESTERN CORRIDOR	NA	NA		
MP-4	RESIDENTIAL LOBBY	NA	NA		
MP-5	WESTERN CORRIDOR	NA	NA		
MP-6	RETAIL SPACE	NA	NA		
MP-7	RETAIL SPACE	NA	NA		
R-1	STAIR B VESTIBULE			NA	
R-2				NA	

Comments: Combined applied vacuum on VR-1 riser =

Notes:

1. Normal system flow rates range from 40 to 100 cfm. Applied vacuum readings range from 1 to 15 in. H_2O. System readings will be obtained from each riser leg (R-1 and R-2).
2. Normal system induced vacuum readings should be a minimum of -0.004 in. H_2O. System readings will be obtained from each monitoring point (MP-1 through MP-7).
3. If observations are confirmed to be outside of this range, inform emergency contacts below and prepare corrective action plan, if necessary.

in. of H_2O - inches of water

cfm - cubic feet per minute

NA - not applicable

SSDS System Shutdown Log
TRACKING FORM
521 East Tremont Avenue, Bronx, NY

Date	Time	Message	Unusual conditions on arrival	Restart successful?	Description of persistant problem(s)
MM/DD/YY	HH:MM	Alarm	fan shut down.	Yes	

akrf

440 Park Avenue South, 7th Floor
New York, NY 10016

Groundwater Monitoring Well Sampling Log

Project Name:	521 East Tremont Avenue	**Client:**		**Well ID:**	
Project Location:	521 East Tremont Avenue, Bronx, NY	**Sampled By:**			
Project Number:	190204	**Sampling Date:**			
Headspace PID:		**Sampling Time:**			
Total Well Depth:	ft. below top of casing	**Water Column:**	feet	*= 0.041 * WC for 1" wells	
Depth to Water:	ft. below top of casing	**Well Volume*:**	gallons	*= 0.163 * WC for 2" wells	
Product Thickness:	ft. below top of casing	**Volume Purged:**	gallons	*= 0.653 * WC for 4" wells	
Depth to Top of Screen:	ft. below top of casing	**Well Diameter:**	2 inches	The target maximum flow rate is 100 ml/min. If water quality parameters do not stabilize and/or turbidity is greater than 50 NTU within two hours, discontinue purging and collect sample.	
Depth to Bottom of Screen:	ft. below top of casing	**Purging Device:**			
Approximate Pump Intake:	ft. below top of casing				

Time	Depth to Water (ft.)	Purge Rate (ml/min)	Temperature (^{o}C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments (problems, odor, sheen)
	Sampling								
Stabilization Criteria:				**+/- 3% mS/cm**	**+/- 0.3 mg/L**	**+/- 0.1 pH units**	**+/- 10 mV**	**<50 NTU**	

Notes:

ORP - oxidation reduction potential mV - millivolt NTU - nephelometric turbidity units ml/min - mililiter per minute mS/cm - MilliSiemens per centimeter mg/L - miligrams per liter

Groundwater samples analyzed for

akrf

440 Park Avenue South, 7th Floor
New York, NY 10016

Sub-Slab Soil Vapor Sample Log

Project Name:	521 East Tremont Avenue	**Sampled By:**	
Project Location:	521 East Tremont Avenue, Bronx, NY	**Date:**	
Project Number:	190204	**Weather:**	
Client:			

Sample Setup

Vapor Point Depth:		Inches	**Purge Time:**	
Tubing Volume:		In^3	**Purge Volume:**	
Purging Pump:			**Purged Vapor PID:**	ppm
Pump Flow Rate*:		L/min	**Helium Concentration:**	%

Sample Identification

Soil Vapor Point ID:		**SUMMA® Canister ID:**	
Flow Controller ID:		**Soil Vapor Sample ID:**	

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:				
Time Halfway:				
Time Stopped:				

Notes:	ND = non-detect ppm = parts per million L/min = Liters per minute in/Hg = inches of mercury
	Soil vapor sample _____ collected in a __-L SUMMA® canister using a ___-hour flow controller.

akrf
440 Park Avenue South, 7th Floor
New York, NY 10016

Indoor Air Sample Log

Project Name:	521 East Tremont Avenue	**Sampled By:**	
Project Location:	521 East Tremont Avenue, Bronx, NY	**Date:**	
Project Number:	190204	**Weather:**	
Client:			

Sample Identification

On-Site Location:		**SUMMA® Canister ID:**	
Flow Controller ID:		**Indoor Air Sample ID:**	

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Potential VOC Sources/Notes
Time Started:				
Time Halfway:				
Time Stopped:				

Notes:			
	ND = non-detect	in/Hg = inches of mercury	L/min = Liters per minute
	Indoor air sample _____ collected in a 6-L SUMMA® canister using a ___-hour flow controller.		

akrf

440 Park Avenue South, 7th Floor
New York, NY 10016

Ambient Air Sample Log

Project Name:	521 East Tremont Avenue	**Sampled By:**	
Project Location:	521 East Tremont Avenue, Bronx, NY	**Date:**	
Project Number:	190204	**Weather:**	
Client:		**Wind Direction:**	

Sample Identification

On-Site Location:		**SUMMA® Canister ID:**	
Flow Controller ID:		**Ambient Air Sample ID:**	

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Potential VOC Sources/Notes
Time Started:				
Time Halfway:				
Time Stopped:				

Notes:	ND = non-detect	in/Hg = inches of mercury	L/min = Liters per minute
	Ambient air sample ____collected in a __-L SUMMA® canister using a ___-hour flow controller.		

APPENDIX J
SSDS COMPONENTS MANUAL

APPENDIX K
RESPONSIBILITIES OF OWNER AND REMEDIAL PARTY

RESPONSIBILITIES OF OWNER AND REMEDIAL PARTY

Responsibilities

The responsibilities for implementing the Site Management Plan ("SMP") for the 521 East Tremont Avenue site (the "Site"), number C203161, are divided between the Site owner(s) and a Remedial Party, as defined below. The owner(s) is/are currently listed as:

[Insert site owners' names, contacts and addresses] (the "owner").

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 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. The RP is:

[Insert RP's name, contact and address].

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, Environmental Notice] 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. The RP remains ultimately responsible for maintaining the engineering controls.
9. 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.
10. 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 Appendix J (Operation, Monitoring and Maintenance Manual) 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 L
REQUEST TO IMPORT/REUSE FILL MATERIAL FORM

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Request to Import/Reuse Fill or Soil

This form is based on the information required by DER-10, Section 5.4(e) and 6NYCRR Part 360.13. Use of this form is not a substitute for reading the applicable regulations and Technical Guidance document.

SECTION 1 – SITE BACKGROUND

Site Name:

Site Number:

The allowable site use is: Choose an item

Have Ecological Resources been identified? Choose an item

Is this soil originating from the site? Choose an item

How many cubic yards of soil will be imported/reused? Choose an item

If greater than 1000 cubic yards will be imported, enter volume to be imported:

SECTION 2 – MATERIAL OTHER THAN SOIL

Is the material to be imported gravel, rock or stone? Choose an item

Does it contain less than 10%, by weight, material that passes a size 100 sieve? Choose an item

Is this virgin material from a permitted mine or quarry? Choose an item

Is this material recycled concrete or brick from a DEC registered processing facility? Choose an item

SECTION 3 - SAMPLING

Provide a brief description of the number and type of samples collected in the space below:

Example Text: 5 discrete samples were collected and analyzed for VOCs. 2 composite samples were collected and analyzed for SVOCs, Inorganics & PCBs/Pesticides.

If the material meets requirements of DER-10 section 5.4(e)5 (other material), no chemical testing needed.

SECTION 3 CONT'D - SAMPLING

Provide a brief written summary of the sampling results or attach evaluation tables (compare to DER-10, Appendix 5):

Example Text: Arsenic was detected up to 17 ppm in 1 (of 5) samples; the allowable level is 16 ppm.

If Ecological Resources have been identified use the "If Ecological Resources are Present" column in Appendix 5.

SECTION 4 – SOURCE OF FILL

Name of person providing fill and relationship to the source:

Name and address of fill source:

Location where fill was obtained:

Identification of any state or local approvals as a fill source:

If no approvals are available, provide a brief history of the use of the property that is the fill source:

Provide a list of supporting documentation included with this request:

The information provided on this form is accurate and complete.

_____ _____

Signature Date

_____

Print Name

_____

Firm

APPENDIX M
SUMMARY OF GREEN REMEDIATION METRICS FOR SITE MANAGEMENT

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 and lab-supplied bottles, shipping of laboratory samples, and the removal of waste.

	Current Reporting Period (miles)	**Total to Date (miles)**
Standby Engineer/Contractor		
Laboratory Courier/Delivery Service (bottle and sample delivery)		
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 (not including treated water)		
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:
Recommendations/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**

Appendix N
Remedial System Optimization Table of Contents

REMEDIAL SYSTEM OPTIMIZATION FOR 521 EAST TREMONT AVENUE

TABLE OF CONTENTS

1.0 INTRODUCTION
- 1.1 SITE OVERVIEW
- 1.2 PROJECT OBJECTIVES AND SCOPE OF WORK
- 1.3 REPORT OVERVIEW

2.0 REMEDIAL ACTION DESCRIPTION
- 2.1 SITE LOCATION AND HISTORY
- 2.2 REGULATORY HISTORY AND REQUIREMENTS
- 2.3 CLEAN-UP GOALS AND SITE CLOSURE CRITERIA
- 2.4 PREVIOUS REMEDIAL ACTIONS
- 2.5 DESCRIPTION OF EXISTING REMEDY
  - 2.5.1 System Goals and Objectives
  - 2.5.2 System Description
  - 2.5.3 Operation and Maintenance Program

3.0 FINDINGS AND OBSERVATIONS
- 3.1 SUBSURFACE PERFORMANCE
- 3.2 TREATMENT SYSTEM PERFORMANCE
- 3.3 REGULATORY COMPLIANCE
- 3.4 MAJOR COST COMPONENTS OR PROCESSES
- 3.5 SAFETY RECORD

4.0 RECOMMENDATIONS
- 4.1 RECOMMENDATIONS TO ACHIEVE OR ACCELERATE SITE CLOSURE
  - 4.1.1 Source Reduction/Treatment
  - 4.1.2 Sampling
  - 4.1.3 Conceptual Site Model (Risk Assessment)
- 4.2 RECOMMENDATIONS TO IMPROVE PERFORMANCE
  - 4.2.1 Maintenance Improvements
  - 4.2.2 Monitoring Improvements
  - 4.2.3 Process Modifications
- 4.3 RECOMMENDATIONS TO REDUCE COSTS
  - 4.3.1 Supply Management
  - 4.3.2 Process Improvements or Changes
  - 4.3.3 Optimize Monitoring Program
  - 4.3.4 Maintenance and Repairs
- 4.4 RECOMMENDATIONS FOR IMPLEMENTATION