1675 APARTMENTS

1675-1679 WESTCHESTER AVENUE
BRONX, NEW YORK

Draft Remedial Action Work Plan

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Prepared for:

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CERTIFICATIONS

I, Michelle Lapin, P.E., certify that I am currently a NYS registered Professional Engineer as defined in 6 NYCRR Part 375 and that this Remedial Action Work 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).

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

Michelle Lapin, P.E. - 073934-1	January 4, 2019	draft
NYS Professional Engineer #	Date	Signature/Stamp

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TABLE OF CONTENTS

LIST OF ACRONYMS vii
EXECUTIVE SUMMARY 1
DRAFT REMEDIAL ACTION WORK PLAN 8
1.0 INTRODUCTION 8
1.1 Site Location and Description 8
1.2 Proposed Development Plan 8
1.3 Description of Surrounding Property 9
2.0 DESCRIPTION OF SUBSURFACE INVESTIGATION (SI) AND REMEDIAL INVESTIGATION (RI) FINDINGS 12
2.1 Summary of Previous Investigations 12
2.2 Geophysical Survey and Utility Mark-Outs 12
2.3 Soil Boring Advancement 13
2.4 Groundwater Monitoring Well Installation and Development 13
2.5 Groundwater Monitoring Well Elevation and Location Survey 15
2.6 Temporary Soil Vapor Point Installation 16
2.7 Sample Collection and Chemical Analysis 16
2.7.1 Soil Sampling and Laboratory Analysis 16
2.7.2 Groundwater Sampling and Laboratory Analysis 18
2.7.3 Soil Vapor Sampling and Laboratory Analysis 20
2.7.4 Chemical Analytical Work Performed 21
2.7.5 Subsurface Investigation (SI) and Remedial Investigation (RI) Findings 22
2.8 Significant Threat Determination 22
2.9 Site History 22
2.9.1 Past Uses and Ownership 22
2.9.2 Previous Environmental Reports 22
2.9.3 Historical Fire Insurance Sanborn Maps 2727
2.10 Geological Conditions 28
2.11 Contamination Conditions 29
2.11.1 Conceptual Model of Site Contamination 29
2.11.2 Description of Areas of Concern (AOCs) 29
2.11.3 Contaminated Media 30
2.11.4 Identification of Standards, Criteria and Guidance (SCGs) 30
2.11.5 Soil/Fill Contamination 31
2.11.6 Summary of Soil/Fill Data 32
2.11.7 Comparison of Soil/Fill with Standards, Criteria, and Guidance (SCGs) 33
2.11.8 Groundwater Contamination 33
2.11.9 Soil Vapor Contamination 34
2.12 Environmental and Public Health Assessments 36
2.12.1 Qualitative Human Health Exposure Assessment (QHHEA) 36
2.12.2 Overall Human Health Exposure Assessment (OHHEA) 36
2.13 Remedial Action Objectives (RAOs) 37
2.13.1 Groundwater 37
2.13.2 Soil 37
2.13.3 Soil Vapor 37
3.0 WASTE CLASSIFICATION 38
3.1 Waste Classification Sampling 38
3.2 Waste Classification Report 38
4.0 DESCRIPTION OF REMEDIAL ACTION PLAN (RAP) 39

4.1 Evaluation of Remedial Alternatives 39
4.2 Selection of the Preferred Remedy 43
4.2.1 Zoning and Land Use Designation 43
4.2.2 Applicable Comprehensive Community Master Plans or Land Use Plans 43
4.2.3 Surrounding Property Uses 44
4.2.4 Citizen Participation 44
4.2.5 Environmental Justice (EJ) Concerns 44
4.2.6 Population Growth Patterns 44
4.2.7 Accessibility to Existing Infrastructure 44
4.2.8 Proximity to Cultural Resources 45
4.2.9 Proximity to Natural Resources 45
4.2.10 Off-Site Groundwater Impacts 45
4.2.11 Proximity to Floodplains 45
4.2.12 Geography and Geology of the Site 45
4.2.13 Current Institutional Controls (ICs) 45
4.3 Summary of Selected Remedial Actions 46
5.0 REMEDIAL ACTION PROGRAM 48
5.1 Governing Documents 48
5.1.1 Site-Specific Health & Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) 48
5.1.2 Quality Assurance Project Plan (QAPP) 48
5.1.3 Construction Quality Assurance Plan (CQAP) 48
5.1.4 Soil/Materials Management Plan (SMMP) 48
5.1.5 Stormwater Pollution Prevention Plan (SWPPP) 48
5.1.6 Community Air Monitoring Plan (CAMP) 49
5.1.7 Contractors Site Operations Plan (SOP) 49
5.1.8 Citizen Participation Plan (CPP) 49
5.2 General Remedial Construction Information 50
5.2.1 Project Organization 50
5.2.2 Remedial Engineer (RE) 50
5.2.3 Remedial Action Construction Schedule 51
5.2.4 Work Hours 51
5.2.5 Site Security and Traffic Control 51
5.2.6 Contingency Plan 51
5.2.7 Worker Training and Monitoring 51
5.2.8 Agency Approvals 52
5.2.9 NYSDEC BCP Signage 52
5.2.10 Pre-Construction Meeting 52
5.2.11 Emergency Contact Information 52
5.3 Site Preparation 52
5.3.1 Mobilization 53
5.3.2 Groundwater Monitoring Well Decommissioning 53
5.3.3 Erosion and Sedimentation Controls 53
5.3.4 Stabilized Construction Entrance(s) 53
5.3.5 Utility Marker and Easements Layout 53
5.3.6 Sheeting and Shoring 54
5.3.7 Equipment and Material Staging 54
5.3.8 Decontamination Area 54
5.3.9 Site Fencing 54
5.3.10 Demobilization 54

5.4 Reporting ... 54
5.4.1 Daily Reports ... 54
5.4.2 Monthly Progress Reports (MPRs) ... 55
5.4.3 Other Reporting ... 55
5.4.4 Complaint Management Plan ... 56
5.4.5 Deviations From This Remedial Action Work Plan (RAWP) ... 56
6.0 REMEDIAL ACTION: MATERIAL REMOVAL FROM SITE ... 57
6.1 Soil Cleanup Objectives (SCOs) ... 57
6.2 Remedial Performance Evaluation (Post-Excavation Endpoint Sampling) ... 57
6.2.1 Endpoint Sampling Frequency ... 57
6.2.2 Methodology ... 57
6.2.3 Reporting of Results ... 57
6.2.4 Quality Assurance/Quality Control (QA/QC) ... 58
6.2.5 Data Usability Summary Report (DUSR) ... 58
6.2.6 Reporting of Endpoint Data in Final Engineering Report (FER) ... 58
6.3 Estimated Material Removal Quantities ... 58
6.4 Soil/Materials Management Plan (SMMP) ... 58
6.4.1 Soil Screening Methods ... 59
6.4.2 Stockpile Methods ... 59
6.4.3 Materials Excavation and Load Out ... 59
6.4.4 Materials Transport Off-Site ... 60
6.4.5 Materials Disposal Off-Site ... 60
6.4.6 Materials Reuse On-Site ... 62
6.4.7 Fluids Management ... 62
6.4.8 Demarcation ... 62
6.4.9 Backfill from Off-Site Sources ... 63
6.4.10 Stormwater Pollution Prevention ... 63
6.4.11 Contingency Plan ... 64
6.4.12 Community Air Monitoring Plan (CAMP) ... 64
6.4.13 Odor, Airborne Particulate, and Nuisance Control Plans ... 64
7.0 RESIDUAL CONTAMINATION TO REMAIN ON-SITE ... 66
8.0 ENGINEERING CONTROL: COMPOSITE COVER SYSTEM ... 67
9.0 INSTITUTIONAL CONTROLS (ICS) ... 68
9.1 Environmental Easement (EE) ... 68
9.2 Site Management Plan (SMP) ... 69
10.0 FINAL ENGINEERING REPORT (FER) ... 71
10.1 Certifications ... 72
11.0 PROJECT SCHEDULE ... 73

IN-TEXT TABLES

In-Text Table 1 – Sensitive Receptors - Daycare Facilities
In-Text Table 2 – Sensitive Receptors - Schools
In-Text Table 3 – Sensitive Receptors - Parks and Playgrounds
In-Text Table 4 – Project Organization
In-Text Table 5 – Groundwater Monitoring Well Construction Details
In-Text Table 6 – Soil Sample Details
In-Text Table 7 – Soil Vapor Sample Details
In-Text Table 8 – Chemical Analytical Work Performed
In-Text Table 9 – Document Repositories
In-Text Table 10 – Project Schedule

ATTACHED TABLES

Attached Table 1 – SI and RI Soil Sample Concentrations Above UUSCOs and/or RRSCOs
Attached Table 2 – SI and RI Groundwater Sample Concentrations Above TOGS
Attached Table 3 – RI Groundwater Sample Concentrations Above DWHALs
Attached Table 4 – SI and RI Soil Vapor Sample Concentrations
Attached Tables 5 through 9 – SI Soil Analytical Results
Attached Tables 10 through 14 – SI Groundwater Analytical Results
Attached Table 15 – SI Soil Vapor Analytical Results
Attached Tables 16 through 21 – RI Soil Analytical Results
Attached Tables 22 through 28 – RI Groundwater Analytical Results
Attached Table 29 – RI Soil Vapor Analytical Results

FIGURES

Figure 1 – BCP Site Location
Figure 2 – Site and Sample Location Plan
Figure 3 – Surrounding Land Use and Sensitive Receptors
Figure 4a – Subsurface Investigation Soil Sample Concentrations Above NYSDEC UUSCOs and RRSCOs
Figure 4b – Remedial Investigation Soil Sample Concentrations Above NYSDEC UUSCOs and RRSCOs – Soil Borings RI-SB-01 through RI-SB-10
Figure 4c – Remedial Investigation Subsurface Investigation Soil Sample Concentrations Above NYSDEC UUSCOs and RRSCOs – Soil Borings RI-SB-13 through RI-SB-21
Figure 5a – SI Groundwater Sample Concentrations Above NYSDEC TOGS
Figure 5b – RI Groundwater Sample Concentrations Above NYSDEC TOGS
Figure 6a – SI Soil Vapor Sample Concentrations
Figure 6b – RI Soil Vapor Sample Concentrations
Figure 7 – Groundwater Elevation Contour Map
Figure 8 – Project Organization Chart
Figure 9 – Proposed Remedial Excavation and Endpoint Sample Location Plan
Figure 10 – Composite Cover System Plan
Figure 11 – Truck Route Map

APPENDICES

Appendix A – Standards, Criteria, and Guidance (SCGs)
Appendix B – Significant Threat Determination
Appendix C – Metes and Bounds
Appendix D – Proposed Development Plans
Appendix E – Previous Environmental Reports
Appendix F – Sanborn Maps
Appendix G – Quality Assurance Project Plan (QAPP)
Appendix H – Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP)
Appendix I – Negative Declaration
Appendix J – Citizen Participation Plan (CPP)
Appendix K – Construction Quality Assurance Plan (CQAP)
Appendix L – Resumes and Certifications of Key Personnel
Appendix M – Vapor Barrier Specifications

LIST OF ACRONYMS

Acronym	Definition
ACM	Asbestos-Containing Material
AGV	Air Guideline Value
AOC	Area of Concern
ASTM	American Society of Testing Materials
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
CAMP	Construction Air Monitoring Plan
C&D	Construction and Demolition
CEQR	City Environmental Quality Review
CESQG	Conditionally Exempt Small Quantity Generator
COC	Contaminants of Concern
CoC	Certificate of Completion
CP	Commissioner's Policy
CPP	Citizen Participation Plan
CSCO	Commercial Soil Cleanup Objective
CQAP	Construction Quality Assurance Plan
DD	Decision Document
DMM	Division of Materials Management
DPP	Direct Push Probe
DRO	Diesel Range Organics
DUSR	Data Usability Summary Report
DWHA	Drinking Water Health Advisory
EC	Engineering Control
ECL	Environmental Conservation Law
EE	Environmental Easement
EJ	Environmental Justice
ELAP	NYS Environmental Laboratory Approval Program
EM	Electromagnetic
EPA	United States Environmental Protection Agency
EPH	Extractable Petroleum Hydrocarbon
ESA	Environmental Site Assessment
FER	Final Engineering Report
GPR	Ground Penetrating Radar
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
HDFC	Housing Development Fund Corporation
HDPE	High Density Polyethylene

Acronym	Definition
HREC	Historic Recognized Environmental Condition
IC	Institutional Control
LBP	Lead-Based Paint
MS/MSD	Matrix Spike/Matrix Spike Duplicate
MTA	Metropolitan Transit Authority
NAVD	North American Vertical Datum
ND	Non-Detect
NTU	Nephelometric Turbidity Unit
NYCDOB	New York City Department of Buildings
NYCDOF	New York City Department of Finance
NYCDOT	New York City Department of Transportation
NYCOER	New York City Office of Environmental Remediation
NYSDEC	New York State Department of Environmental Conservation/ Department
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
OSHA	Occupational Safety Health Administration
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethylene
PFAS	Per- and Polyfluoroalkyl Substances
PID	Photoionization Detector
PPE	Personal Protective Equipment
PPM	Parts Per Million
PVC	Polyvinyl Chloride
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
QHHEA	Qualitative Human Health Exposure Assessment
RA	Remedial Action
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RE	Remedial Engineer
REC	Recognized Environmental Condition
RI	Remedial Investigation
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan
RRSCO	Restricted Residential Soil Cleanup Objective
SCG	Standards, Criteria, and Guidance
SCO	Soil Cleanup Objective

Acronym	Definition
SDG	Sample Digestion Group
SI	Subsurface Investigation
SIR	Subsurface Investigation Report
SIM	Selective Ion Monitoring
SMMP	Soil/Materials Management Plan
SMP	Site Management Plan
SOE	Support of Excavation
SPDES	State Pollutant Discharge Elimination System
SVOC	Semivolatile Organic Compound
SWPPP	Storm Water Pollution Prevention Plan
TAL	Target Analyte List
TCE	Trichloroethylene
TCLP	Toxic Characteristic Leaching Procedure
TIC	Tentatively Identified Compound
TOGS	Technical Operational and Guidance Series
UST	Underground Storage Tank
USGS	United States Geological Survey
UUSCO	Unrestricted Use Soil Cleanup Objective
VOCs	Volatile Organic Compounds

EXECUTIVE SUMMARY

Site Description, Physical Setting, and Background

This Draft Remedial Action Work Plan (RAWP) has been prepared by AKRF, Inc. (AKRF) on behalf of 1675 JV Associates LLC and 1675 Westchester Avenue Housing Development Fund Corporation (HDFC) for the property located at 1675-1679 Westchester Avenue in the Bronx, New York (hereafter referred to as "the Site"). The Site is identified on the New York City Tax Map as Bronx Borough Block 3780, Lot 1. The Site formerly comprised Bronx Borough Tax Block 3780, Lots 1 and 51; however, an application was filed with the New York City Department of Finance (NYCDOF) on March 1, 2018, which combined Lots 1 and 51 into Lot 1.

The Site is currently a vacant parcel with a concrete-paved area on the southern and southeastern portions at the location of the former Site building that is approximately 8.5 feet below sidewalk grade. The Site was formerly developed with a building fronting Westchester Avenue until its demolition between September and October 2018. The former Site building was deemed unsafe for entry and was subsequently demolished to complete the Remedial Investigation (RI). To stabilize the cellar walls during this process, the New York City Department of Buildings (NYCDOB) required imported clean fill to be added in the former cellar area. Most recently, the Site was occupied by a medical facility on the western portion until sometime in 2012, and a dry cleaner and liquor store on the eastern portion until January 2018. The Site location is shown on Figure 1, and the Site layout and former Site building footprint are shown on Figure 2.

The Site is abutted to the north by residential buildings; to the east by Fteley Avenue, followed by commercial and residential buildings including a daycare facility; to the south by Westchester Avenue and the elevated 6 Metropolitan Transit Authority (MTA) subway tracks, followed by a commercial shopping center; and to the west by Metcalf Avenue, followed by the Bronx River Parkway. The surrounding area is developed with primarily residential and commercial uses. Surrounding land use and sensitive receptors are shown on Figure 3.

1675 JV Associates LLC and 1675 Westchester Avenue HDFC entered into a Brownfield Cleanup Agreement (BCA) (Index No. C203107-04-18) as Volunteers on May 17, 2018 with the New York State Department of Environmental Conservation (NYSDEC). The Site also contains E Designations with the New York City Office of Environmental Remediation (NYCOER) for Hazardous Materials, Air, and Noise (19TMP0380X, 19OTHER002X, 19EHAN119X, respectively). A December 2017 Subsurface Investigation (SI) Report (SIR) and a December 2018 RI Report (RIR) were submitted to NYSDEC. The data compiled from the RI and SRI were used to prepare this RAWP.

History of the Site

Historic records indicate that the western portion of the Site (former Lot 1) was undeveloped prior to 1964, when the western portion of the former Site building was constructed. The western portion of the building was occupied by several commercial and medical uses until approximately 2012 when it was vacated. The eastern portion of the Site (former Lot 51) was undeveloped prior to approximately 1969, when the eastern portion of the former Site building was constructed. The eastern portion of the building was occupied by several commercial uses, including a liquor store, and a dry cleaner since sometime between 1971 and 1975 until January 2018, when it was vacated. The northeastern portion of the Site was used as a parking lot for the commercial and medical spaces. The eastern portion of the Site building (former Lot 51) was demolished in September 2018 and the western portion of the building (former Lot 1) was demolished in October 2018. The NYCDOB signed off on demolition in November 2018.

Summary of the Subsurface Investigation (SI) and Remedial Investigation (RI)

Soil, groundwater, and soil vapor were investigated during AKRF's 2017 SI and 2018 RI. The 18 soil/fill samples collected for laboratory analysis during the SI and the 37 soil/fill samples collected for laboratory analysis during the RI were analyzed for volatile organic compounds (VOCs) by the United States Environmental Protection Agency (EPA) Method 8260, semivolatile organic compounds (SVOCs) by EPA Method 8270, polychlorinated biphenyls (PCBs) by EPA Method 8082, pesticides by EPA Method 8081, target analyte list (TAL) metals by EPA Method 6000/7000 series, and hexavalent chromium. The SI samples were also analyzed for trivalent chromium by EPA Method 7196. Four of the RI soil samples with elevated total lead concentrations were additionally analyzed for Toxic Characteristic Leaching Procedure (TCLP) lead by EPA Method 1311 to determine whether the samples contained characteristic hazardous waste. The 5 groundwater samples collected for laboratory analysis during the SI and the 6 groundwater samples collected for laboratory analysis during the RI were analyzed for VOCs by EPA Method 8260, SVOCs by EPA Method 8270, PCBs by EPA Method 8082, pesticides by EPA Method 8081, and total and dissolved TAL metals by EPA Method 6000/7000 series. The 6 groundwater samples collected during the RI were also analyzed for 1,4-Dioxane (1,4-Dx) by EPA Method 8270 Selective Ion Monitoring (SIM), and a 21-compound list of per- and polyfluoroalkyl substances (PFAS) by EPA Modified Method 537. The 5 soil vapor samples and 1 ambient air sample collected for laboratory analysis during the SI, and the 11 soil vapor samples collected during the RI were analyzed for VOCs by EPA Method TO-15.

The results of the SI and RI were documented in AKRF's December 2017 SIR and December 2018 RIR, respectively. The soil/fill samples analyzed for VOCs, SVOCs, pesticides, PCBs, and metals were compared to 6 New York Codes, Rules, and Regulations (NYCRR) Unrestricted Use Soil Cleanup Objectives (UUSCOs) and Restricted Residential Soil Cleanup Objectives (RRSCOs). Soil/fill sample analytical results for TCLP lead were compared to the EPA hazardous waste threshold criteria. Groundwater sample analytical results for VOCs, SVOCs, PCBs, pesticides, and metals were conservatively compared to the NYSDEC Technical and Operations Guidance Series (TOGS) Class GA Ambient Water Quality Standards (AWQS) and Guidance Values. Groundwater analytical results for PFAS were compared to the EPA combined Drinking Water Health Advisory Limits (DWHALs) because New York State does not currently have an established standard for the compounds. It is noted that the TOGS and DWHAL standards are for drinking water; however, groundwater in the Bronx is not used as a potable source. There are currently no regulatory or published guidance values for VOCs in soil vapor; therefore, the results of the soil vapor samples were conservatively compared to the New York State Department of Health (NYSDOH) Indoor Air Guidance Values (AGVs) and/or Matrix Values from the 2006 Guidance for Evaluating Soil Vapor Intrusion, as revised in fact sheets released in September 2013 for tetrachloroethylene (PCE) and August 2015 for trichloroethylene (TCE), and in the May 2017 Matrix Values updates. Matrices are used to compare soil vapor to indoor air to make a soil vapor intrusion determination and are only applicable for methylene chloride, TCE, PCE, carbon tetrachloride, 1,1,1-trichlorethane (1,1,1-TCA), 1,1-dichlroethylene (1,1-DCE), cis-1,2-dichloroethylene (cis-1,2-DCE), and vinyl chloride.

Attached Tables 1, 2, 3, and 4 summarize SI and RI soil/fill sample exceedances of UUSCOs and/or RRSCOs, SI and RI groundwater sample exceedances of TOGS, RI groundwater sample exceedances of DWHALs, and RI and SI soil vapor sample detections, respectively. The sample locations are shown on Figure 2. SI and RI soil/fill sample concentrations above UUSCOs and/or RRSCOs are presented on Figures 4a, and 4b (RI samples collected from soil borings RI-SB-01 through RI-SB-10) and 4c (RI samples collected from soil borings RI-SB-13 through RI-SB-21), respectively. SI and RI groundwater sample concentrations above TOGS are presented on Figures 5a and 5b, respectively. SI and RI soil vapor sample detections are presented on Figures 6a and 6b, respectively. The complete analytical results for soil, groundwater, and soil vapor data collected during the SI are presented in Attached Tables 5 through 9, 10 through 14, and 15, respectively. The complete analytical results for soil, groundwater, and soil vapor data collected during the RI are presented in Attached Tables 16 through 21, 22 through 28, and 29, respectively. The following is a summary of the findings of the SI and RI soil/fill, groundwater, and soil vapor data.

SI and RI Soil/Fill Analytical Data

One VOC, acetone, was detected in three soil samples at concentrations up to 0.0681 milligrams per kilogram (mg/kg), above its UUSCO of 0.05 mg/kg, but below its RRSCO of 100 mg/kg. VOCs were not detected at concentrations above RRSCOs. SVOCs were detected at concentrations above their respective UUSCOs and/or RRSCOs in 43 soil/fill samples and 4 blind duplicate samples. 4-methylphenol was detected in one sample at a concentration of 0.42 mg/kg, above its UUSCO of 0.33 mg/kg; 4-methylphenol does not have an established RRSCO. The following SVOCs were detected above their UUSCOs and/or RRSCOs: benzo(a)anthracene in 42 samples and 4 blind duplicate samples at concentrations up to 31.8 mg/mg, above its UUSCO and RRSCO of 1 mg/kg; benzo(a)pyrene in 40 samples and 4 blind duplicate samples at concentrations up to 28.4 mg/kg, above its UUSCO and RRSCO of 1 mg/kg; benzo(b)fluoranthene in 43 samples and 4 blind duplicate samples at concentrations up to 33.9 mg/kg, above its UUSCO and RRSCO of 1 mg/kg; benzo(k)fluoranthene in 27 samples and 1 blind duplicate sample at concentrations up to 13.3 mg/kg, above its UUSCO of 0.8 mg/kg and/or its RRSCO of 3.9 mg/kg; chrysene in 40 samples and 2 blind duplicate samples at concentrations up to 31 mg/kg, above its UUSCO of 1 mg/kg and/or its RRSCO of 3.9 mg/kg; dibenzo(a,h)anthracene in 28 samples and 1 blind duplicate sample at concentrations up to 6.42 mg/kg, above its UUSCO and RRSCO of 0.33 mg/kg; and indeno(1,2,3-cd)pyrene in 47 samples and 4 blind duplicate samples at concentrations up to 17.4 mg/kg from a diluted analysis, above its UUSCO and RRSCO of 0.5 mg/kg.

Pesticides were detected at concentrations above their respective UUSCOs in 40 soil samples and 1 blind duplicate sample, including: 4,4'-DDD in 7 samples and 1 blind duplicate sample at concentrations up to 0.133 mg/kg; 4,4'-DDE in 27 samples at concentrations up to 0.153 mg/kg; and 4,4'-DDT in 28 samples at concentrations up to 0.571 mg/kg. Total PCBs were detected above the UUSCO in 5 soil samples. Pesticides and PCBs were not detected at concentrations above their respective RRSCOs.

Twelve metals were detected at concentrations above their respective UUSCOs and/or RRSCOs, including: arsenic in 7 samples at concentrations up to 51.3 mg/kg, above its UUSCO of 13 mg/kg and/or its RRSCO of 16 mg/kg; barium in 6 samples at concentrations up to 4,990 mg/kg from a diluted analysis, above its UUSCO of 350 mg/kg and/or its RRSCO of 400 mg/kg; cadmium in 1 sample at a concentration of 2.8 mg/kg, above its UUSCO of 2.5 but below its RRSCO of 4.3 mg/kg; copper in 29 samples and 1 blind duplicate sample at concentrations up to 284 mg/kg from a diluted analysis, above its UUSCO of 50 mg/kg and its RRSCO of 270 mg/kg; hexavalent chromium in 14 soil samples at concentrations up to 10.5 mg/kg, above its UUSCO of 1 mg/kg, but below its RRSCO of 110 mg/kg; lead in 54 samples and 4 blind duplicate samples at concentrations up to 4,400 mg/kg from a diluted analysis, above its UUSCO of 63 mg/kg and/or its RRSCO of 400 mg/kg; mercury in 50 samples and 4 blind duplicate samples at concentrations up to 3.9 mg/kg from a diluted analysis, above its UUSCO of 0.18 mg/kg and/or its RRSCO of 0.81 mg/kg; nickel in 8 samples at concentrations up to 551 mg/kg, above its UUSCO of 30 mg/kg and its RRSCO of 310 mg/kg; silver in 7 samples at concentrations up to 5.4 mg/kg, above its UUSCO of 2 mg/kg but below its RRSCO of 180 mg/kg; and zinc in 51 samples and 3 blind duplicate samples at concentrations up to 2,430 mg/kg from a diluted analysis, above its UUSCO of 109 mg/kg, but below its RRSCO of 10,000 mg/kg.

SI and RI soil/fill sample concentrations above RRSCOs and/or UUSCOs are summarized in Attached Table 1.

SI and RI Groundwater Analytical Data

Two VOCs were detected in the groundwater samples at concentrations above their respective TOGS. Benzene was detected in one sample and its blind duplicate sample at concentrations of 4 micrograms per liter (μg/L) and 5.2 μg/L, respectively, above its TOGS of 1 μg/L. Isopropylbenzene was detected in one groundwater sample and its blind duplicate sample at concentrations of 7.8 µg/L and 8.8 µg/L, above its TOGS of 5 µg/L. Eight SVOCs were detected in the groundwater samples at concentrations above their respective TOGS, including: acenaphthene in 1 sample and one blind duplicate sample at concentrations of 21.1 µg/L, above its TOGS of 20 µg/L; benzo(a)anthracene at concentrations up to 5.6 µg/L in 4 samples, above its TOGS of 0.002 µg/L; benzo(a)pyrene in 3 samples at concentrations up to 5 µg/L, above its TOGS of non-detect (ND); benzo(b)fluoranthene in 3 samples at concentrations up to 5.7 µg/L, above its TOGS of 0.002 µg/L; benzo(k)fluoranthene in 2 samples at concentrations up to 2.5 µg/L, above its TOGs of 0.002 µg/L; chrysene in 3 samples at concentrations up to 4.9 µg/L, above its TOGS of 0.002 µg/L; indeno(1,2,3-c,d)pyrene in 2 samples at concentrations up to 2.6 µg/L, above its TOGS of 0.002 µg/L; and naphthalene in one sample and one blind duplicate sample at concentrations up to 22.4 µg/L, above is TOGS of 10 µg/L.

Nine metals (arsenic, barium, copper, iron, lead, manganese, magnesium, mercury, and sodium) were detected in the total (unfiltered) groundwater samples at concentrations above their respective TOGS, including: arsenic in 4 samples and 1 blind duplicate sample at concentrations up to 598 µg/L, above its TOGS of 25 µg/L; barium in 1 sample at a concentration of 1,220 µg/L, above its TOGS of 1,000 µg/L; copper in 1 groundwater sample at a concentration of 321 µg/L, above its TOGS of 200 µg/L; iron in 6 samples and 3 blind duplicate samples at concentrations up to 48,600 µg/L, above its TOGS of 300 µg/L; lead in 5 samples at concentrations up to 504 µg/L, above its TOGs of 25 µg/L; magnesium in 5 samples and 3 blind duplicate samples at concentrations up to 90,000 µg/L, above its TOGs of 35,000 µg/L; manganese in 11 samples and 3 blind duplicate samples at concentrations up to 1,130 µg/L, above its TOGS of 300 µg/L; mercury in 2 samples and 1 blind duplicate sample at concentrations up to 3.9 µg/L, above its TOGS of 0.7 µg/L; and sodium in 9 samples at concentrations up to 635,000 µg/L from a diluted analysis, above its TOGS of 20,000 µg/L. Six metals (arsenic, barium, iron, manganese, magnesium, and sodium) were detected in the dissolved (filtered) groundwater samples at concentrations above their respective TOGS, including: arsenic in 3 samples and 1 blind duplicate sample at concentrations up to 724 µg/L, above its TOGS of 25 µg/L; barium in 1 sample at a concentration of 1,250 µg/L, above its TOGS of 1,000 µg/L; iron in 6 samples and 3 blind duplicate samples at concentrations up to 21,200 µg/L, above its TOGS of 300 µg/L; manganese in 11 samples and 3 blind duplicate samples at concentrations up to 1,170 µg/L, above its TOGS of 300 µg/L; magnesium in 5 samples and 3 blind duplicate samples at a concentration of 109,000 µg/L, above its TOGS of 35,000 µg/L; and sodium in 5 samples and 3 blind duplicate samples at concentrations up to 107,000 µg/L, above its TOGS of 20,000 µg/L.

Total PFAS were detected above the DWHAL of 70 nanograms per liter (ng/L) in 3 samples and two blind duplicate samples at concentrations up to an estimated 138.38 ng/L.

SI and RI groundwater sample concentrations above TOGS and DWHALs are summarized in Attached Tables 2 and 3, respectively.

SI and RI Soil Vapor Analytical Data

VOCs associated with petroleum were detected at concentrations up to 1,880 micrograms per cubic meter (µg/m^3). VOCs associated with solvents were detected at concentrations up to 1,020 µg/m^3. PCE was detected in each of the soil vapor samples at concentrations ranging from 4.1 µg/m^3 to 1,020 µg/m^3. PCE was detected in soil vapor samples SV-1 20170808, SV-2 20170921, SV-3 20170808, RI-SV-01 20180529, RI-SV-02 20180529, RI-SV-06 20180529, RI-SV-07 20180802, RI-SV-08 20180529, RI-SV-09 20180802, and RI-SV-11 20180529 at concentrations less than 100 µg/m^3 (20 µg/m^3, 80 µg/m^3, 14 µg/m^3, 31 µg/m^3, 12 µg/m^3, 16 µg/m^3, 84.1 µg/m^3 from a diluted analysis, 4.1 µg/m^3, 51 µg/m^3 from a diluted analysis, and 62 µg/m^3, respectively). According to NYSDOH Soil Vapor/Indoor Air Matrix B, the applicable matrix for PCE, soil vapor concentrations less than 100 µg/m^3 result in a "no further action", "monitor", or "mitigate" action, depending on indoor air concentrations. PCE was detected in soil vapor samples SV-7 20170921, SV-8 20170921, RI-SV-04 20180821, RI-SV-05 20180821, and RI-SV-10 20180529 at concentrations between 100 µg/m^3 and 999 µg/m^3 (110 µg/m^3, 220 µg/m^3, 424 µg/m^3, 269 µg/m^3, and 121 µg/m^3, respectively). According to Matrix B, concentrations of PCE between 100 µg/m^3 and 999 µg/m^3 result in a "no further action", "monitor", or "mitigate" action, depending on indoor air concentrations. PCE was detected in soil vapor sample RI-SV-03 20181009 at a concentration of 1,020 µg/m^3. According to Matrix B, concentrations of PCE of 1,000 µg/m^3 and above result in a "mitigate" action, regardless of indoor air concentrations. However, it is noted that RI-SV-03 20181009 was collected from an off-site location within the Westchester Avenue sidewalk.

TCE was detected in 9 of the soil vapor samples at concentrations ranging from 0.39 µg/m^3 to 61.3 µg/m^3. TCE was detected in soil vapor samples SV-1 20170808, SV-2 20170921, SV-3 20170808, and SV-8 20170921 at concentrations less than 6 µg/m^3 (0.97 µg/m^3, 1.5 µg/m^3, 0.39 µg/m^3, and 0.81 µg/m^3, respectively). According to NYSDOH Soil Vapor/Indoor Air Matrix A, the applicable matrix for TCE, soil vapor concentrations less than 6 µg/m^3 result in a "no further action" or "identify source(s) and resample or mitigate" action, depending on indoor air concentrations. TCE was detected in soil vapor samples SV-7 20170921, RI-SV-03 20181009, RI-SV-05 20180821, and RI-SV-09 20180802 at concentrations between 6 µg/m^3 and 59 µg/m^3 (7.5 µg/m^3, 7 µg/m^3, 30 µg/m^3, and 7.5 µg/m^3 from a diluted analysis, respectively). According to NYSDOH Soil Vapor/Indoor Air Matrix A, soil vapor concentrations between 6 µg/m^3 and 59 µg/m^3 result in a "no further action" "monitor" or "mitigate" action, depending on indoor air concentrations. TCE was detected in soil vapor sample RI-SV-04 20180821 at a concentration of 61.3 µg/m^3. According to NYSDOH Soil Vapor/Indoor Air Matrix A, soil vapor concentrations of 60 µg/m^3 and above result in a mitigate action, regardless of indoor air concentrations.

Cis-1,2-DCE was detected in two soil vapor samples, RI-SV-04 20180821 and RI-SV-05 20180821, at concentrations of 4.4 µg/m^3 and 1.4 µg/m^3, respectively. According to NYSDOH Soil Vapor/Indoor Air Matrix A, the applicable matrix for cis-1,2-DCE, concentrations below 6 µg/m^3 result in a "no further action" or "identify source(s) and resample or mitigate" action, depending on indoor air concentrations.

No other compounds with established Matrices were detected.

SI and RI soil vapor sample detections are summarized in Attached Table 4.

Qualitative Human Health Exposure Assessment (QHHEA)

Potential exposure pathways for the current Site condition include ingestion and/or dermal contact with exposed soil/fill at the Site to trespassers; and from inhalation of VOCs from soil vapor emanating from the Site entering into the neighboring buildings by off-site workers, visitors, and/or residents. Once redevelopment activities begin, there will be a potential exposure pathway from contaminated soil and fill to construction workers through potential inhalation or dermal contact. Redevelopment plans include localized dewatering; therefore, there will be an additional potential exposure pathway as workers could have dermal contact with the contaminated groundwater. Once redevelopment of the Site has been completed, there will be a potential exposure pathway from the potential off-gassing of residual organic vapors in the subsurface to adult and child residents, maintenance staff, and visitors through any cracks or openings in the foundation of the proposed building and/or future adjacent buildings. There will also be a potential exposure pathway from dermal contact, inhalation, or ingestion of surface soil in any landscaped or non-capped areas by adult and child residents, visitors, and trespassers. In addition, there will be a potential exposure pathway from any particulates emanating from the Site during construction to off-site pedestrians, visitors, cyclists, and adult and child residents.

NYSDEC and NYSDOH have not yet determined if the Site poses a significant threat to human health and the environment. Implementation of the RAs outlined in this RAWP will prevent the potential exposure pathways from becoming complete.

Summary of the Remedy

1. The former Site building was deemed unsafe for entry and was subsequently demolished to complete the RI, required to prepare this RAWP. To stabilize the cellar walls during this process, NYCDOB required imported clean fill to be added in the former cellar area.
2. Materials that cannot be beneficially reused on-site will be taken off-site for proper disposal to allow for implementation of the remedy. It is anticipated that excavation and off-site disposal of approximately 14,600 tons (9,730 cubic yards) of soil/fill will be required. In addition, any tanks and associated piping, other structures associated with a source of contamination, and/or grossly contaminated soil/fill, if encountered, will also be removed in accordance with applicable regulations.
3. Installation of support of excavation (SOE) necessary to enable excavation of soil/fill. SOE installation will comply with applicable local and state controlled inspections.
4. Localized dewatering will be implemented in accordance with all federal, local, and state regulations, as necessary, to enable the remedial excavation activities.
5. A Community Air Monitoring Plan (CAMP) will be implemented during all intrusive Site activities to monitor levels of VOCs and airborne particulates within the active work zones and around the perimeter of the Site.
6. Screening for indications of contamination [by visual means, odor, and monitoring with photoionization detector (PID)] of soil during any intrusive Site work.
7. Appropriate off-site disposal of all materials removed from the Site in accordance with all federal, state, and local rules and regulations for handling, transport, and disposal. Waste disposal facilities will be selected based on the data collected to date, including waste classification sampling. Based on the requirements of the selected facilities, additional soil/fill waste characterization samples may be collected and analyzed to obtain approval for soil/fill disposal.
8. Collection and analysis of 40 confirmatory endpoint samples across the remedial excavation area(s) to evaluate the performance of the remedy with respect to attainment of Track 4 Restricted Residential Soil Cleanup Objectives (RRSCOs). Endpoint sampling will occur around any additional Areas of Concern (AOCs) identified during the Remedial Action (RA) based on the sampling frequency outlined in Section 5.4 of DER-10.
9. Importation of clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) to replace the excavated soil/fill and/or establish the designed grades and at the locations of the proposed vegetated and gravel (and any other impervious areas) areas within the proposed courtyard. On-site soil/fill that does not exceed RRSCOs for any compound may be used on-site to backfill the excavation areas or re-grade the Site above the water table and below the demarcation barrier. Soil meeting RRSCOs and PGWSCOs may be used to re-grade the Site below the water table.
10. Construction and maintenance of a composite cover system, which will consist of: (1) a minimum two-foot clean fill buffer with a demarcation barrier in all landscaped and non-covered areas; (2) concrete building foundations and sidewalks/pathways; and (3) a minimum 20-mil vapor barrier or equivalent membrane beneath the new building crawl space slabs and up the sub-grade sidewalls to sidewalk grade, and a minimum 20-mil vapor barrier/waterproofing barrier or equivalent membrane beneath the new building partial cellar slabs and up the subgrade sidewalls to grade. All vapor barrier/waterproofing membranes will meet or exceed the American Society of Testing Materials (ASTM) E-1745.
11. The imposition of two Institutional Controls (ICs) in the form of an Environmental Easement (EE) and a Site-specific NYSDEC-approved Site Management Plan (SMP). The EE will: require the remedial

parties/Site owners to complete and submit a periodic certification of ICs and Engineering Controls (ECs) to the Department in accordance with Part 375-1.8 (h)(3); allow the use and development of the controlled property for restricted residential 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 NYSDOH; and require compliance with a Site-specific NYSDEC-approved SMP.

12. Recording of an EE, including ECs and ICs, to prevent future exposure to any residual contamination remaining at the Site. Preparation of a SMP for long term management of residual contamination as required by the EE, including plans for: (1) ICs and ECs, (2) monitoring, (3) operation and maintenance, and (4) reporting.

Remedial activities will be performed at the Site in accordance with this RAWP and the NYSDEC-issued Decision Document (DD). Any deviations from this RAWP and/or the DD will be promptly reported to NYSDEC for approval and will be fully explained in the Final Engineering Report (FER).

DRAFT REMEDIAL ACTION WORK PLAN

1.0 INTRODUCTION

1675 JV Associates LLC and 1675 Westchester Avenue Housing Development Fund Corporation (HDFC) entered into a Brownfield Cleanup Agreement (BCA) (BCA Index No. C203107-04-18; Site No. C203107) with the New York State Department of Environmental Conservation (NYSDEC) in May 2018 as "Volunteers" to investigate and remediate an approximately 36,865-square foot "L-shaped" property located at 1675-1679 Westchester Avenue in the Soundview neighborhood of the Bronx, New York (hereafter referred to as the Site). The Site also has E Designations with the New York City Office of Environmental Remediation (NYCOER) for Hazardous Materials, Air, and Noise (19TMP0380X, 19OTHER002X, 19EHAN119X, respectively). When completed, the Site will be developed with a new 10- to 12-story mixed-use building with 249 affordable rental apartment units and approximately 18,900 ground square feet of commercial and community facility space, and a north-adjacent courtyard. Therefore, restricted residential and commercial uses are proposed for the Site.

This Draft Remedial Action Work Plan (RAWP) has been prepared by AKRF, Inc. (AKRF) on behalf of the Volunteers. A Subsurface Investigation (SI) Report (SIR) was prepared in December 2017 and a Remedial Investigation (RI) Report (RIR) was prepared and submitted to NYSDEC in December 2018. The data compiled in the SIR and RIR was used to prepare this Draft RAWP, which provides an evaluation of Remedial Action (RA) alternatives, their associated costs, and the recommended and preferred remedy. The remedy described in this document is consistent with the procedures defined in the Division of Environmental Remediation (DER)-10 and complies with all applicable standards, criteria, and guidance (SCGs), which are detailed in Appendix A. The remedy described in this document also complies with all applicable federal, state, and local laws, regulations, and requirements. A formal remedial design document will not be prepared. The NYSDEC and the New York State Department of Health (NYSDOH) have not yet determined if the Site poses a significant threat to human health and the environment. The Significant Threat Determination is provided as Appendix B. The RI for the Site did not identify fish and wildlife resources.

1.1 Site Location and Description

The Site is located in the County of the Bronx, New York and is identified as Bronx Borough Block 3780, Lot 1 on the New York City Tax Map. The Site formerly comprised Bronx Borough Tax Block 3780, Lots 1 and 51; however, an application was filed with the New York City Department of Finance (NYCDOF) on March 1, 2018, which combined Lots 1 and 51 into Lot 1. The Site consists of an approximately 36,865-square foot parcel and is currently vacant with an asphalt-paved parking area on the northern portion, a dirt area on the southern portion underlain by the former Site building cellar slab, and a vegetated area on the southwestern portion. The Site was formerly developed with an "L-shaped" building fronting Westchester Avenue until its demolition to facilitate RI sampling between September and October 2018. Most recently, the former Site building was occupied by a medical facility on the western portion until sometime in 2012, and a dry cleaner and liquor store on the eastern portion until January 2018. A Site Location map is provided as Figure 1 and a Site Plan is provided as Figure 2.

A boundary map is attached to the BCA, as required by Environmental Conservation Law (ECL) Title 14 Section 27-1419. The Site is fully described in the Metes and Bounds provided as Appendix C.

1.2 Proposed Development Plan

The Remedial Action (RA) to be performed under this RAWP is intended to make the Site protective of human health and the environment consistent with the contemplated end use. The proposed redevelopment plan and end use are described below and provide the basis for the assessment. However, the RA contemplated under this RAWP may be implemented independently of the proposed redevelopment plan.

The proposed development plan includes the construction of a new 10- to 12-story mixed-use building with 249 affordable apartment units and approximately 18,900 gross square feet of commercial and community facility space. Crawlspaces will comprise the lowest level in the eastern, southern, and northern portions of the building. A partial cellar on the western portion will contain storage, a workshop, an office, a bike room, and mechanical spaces including a compactor room, a mechanical closet, a water meter/pump room, a suction tank room, an electrical room, a telecom room, and a detention tank room. The proposed courtyard on the northern portion of the Site will include landscaped, play, and seating areas.

The configuration of the proposed new building is shown on Figure 2. Proposed development plans are included in Appendix D.

1.3 Description of Surrounding Property

The Site is bounded by residential buildings to the north; Westchester Avenue and the elevated 6 Metropolitan Transit Authority (MTA) subway tracks to the south, followed by a commercial shopping center; Fteley Avenue, followed by commercial and residential buildings, including a daycare facility, to the east; and Metcalf Avenue, followed by the Bronx River Parkway to the west. The Site is located in a primarily residential and commercial area. Sensitive receptors located within a ½-mile radius of the Site include residences, daycare facilities, parks and playgrounds, and K-12 schools. Daycare facilities, K-12 schools, and parks and playgrounds within a ½-mile radius are listed in In-Text Tables 1, 2, and 3, respectively, and are shown on Figure 3.

In-Text Table 1
Sensitive Receptors – Daycare Facilities

Five Star Day Care 1138 Manor Avenue Bronx, New York 10472 (347) 297-6426 Distance: 1,120 feet west of the Site	Baby Blues Daycare and Preschool 1728 East 172nd Street Bronx, New York 10472 (718) 617-4883 Distance: 500 feet northeast of the Site
Tesoritos Learning Center 1234 Fteley Avenue Bronx, New York 10472 (718) 842-6674 Distance: 115 feet east of the Site	Xavier's Place Nursery & Learning Center 1303 Harrod Avenue, Bronx, New York 10472 (646) 510-0334 Distance: 650 feet northwest of the Site
Bright Star Stratford Inc. 1217 Stratford Avenue Bronx, New York 10472 (718) 842-9361 Distance: 845 feet west of the Site	Lisette's Family Daycare 1584 East 172nd Street Bronx, New York 10472 (646) 874-6754 Distance: 1,085 feet west-northwest of the Site
Bronxdale Tenants League Day Care Center/Sound Dale Day Care Center/Dale Sound DCC Family Day 1211 Croes Avenue Bronx, New York 10472 (718) 378-3533 Distance: 290 feet southeast of the Site	East Tremont Head Start 1244 Manor Avenue Bronx, New York 10472 (718) 328-8547 Distance: 970 feet west-northwest of the Site

Mama Miriam's Family Day Care 1047 Ward Avenue Bronx, New York (718) 991-4280 Distance: 2,060 feet southwest of the Site	Flo's Day Care 1330 Morrison Avenue Bronx, New York 10472 (718) 378-5866 Distance: 945 feet northeast of the Site
Mama Miriam's Family Day Care 1047 Ward Avenue Bronx, New York (718) 991-4280 Distance: 2,060 feet southwest of the Site	Flo's Day Care 1330 Morrison Avenue Bronx, New York 10472 (718) 378-5866 Distance: 945 feet northeast of the Site

In-Text Table 2
Sensitive Receptors – K-12 Schools

P.S. 196 (X196) 1250 Ward Avenue Bronx, New York 10472 Distance: 1,000 feet west-northwest of the Site	P.S. 195 (X195) 1250 Ward Avenue Bronx, New York 10472 Distance: 1,000 feet west-northwest of the Site
Mott Hall V (X242) 1551 East 172nd Street Bronx, New York 10472 Distance: 1,230 feet west-northwest of the Site	The Cinema School (X478) 1551 East 172nd Street Bronx, New York 10472 Distance: 1,230 feet west-northwest of the Site
The Metropolitan Soundview High School (X521) 1300 Boynton Avenue Bronx, New York 10472 Distance: 1,230 feet west-northwest of the Site	High School of World Cultures (X550) 1300 Boynton Avenue Bronx, New York 10472 Distance: 1,230 feet west-northwest of the Site
Pan American International High School at Monroe (X388) 1300 Boynton Avenue Bronx, New York 10472 Distance: 1,230 feet west-northwest of the Site	Bronx Little School (X691) 1827 Archer Street Bronx, New York 10460 Distance: 3,345 feet northeast of the Site
J.H.S 123 James M. Kieran 1025 Morrison Avenue Bronx, New York 10472 Distance: 1,923 feet south-southwest of the Site	P.S. 47 John Randolph (X047) 1794 East 172nd Street Bronx, New York 10472 Distance: 1,540 feet northeast of the Site
School of Urban and Global Mission 1260 Thieriot Avenue Bronx, New York 10472 Distance: 2,200 feet east of the Site	

In-Text Table 3
Sensitive Receptors – Parks and Playgrounds

Metcalf Playground/Park 1409 Fteley Avenue Bronx, New York 10472 Distance: 1,330 feet north-northwest of the Site	Parque De Los Ninos Bound by Harrod Place to the north, Bronx River Parkway to the east, Watson Avenue to the south, and Morrison Avenue to the west (no street address) Bronx, New York 10472 Distance: 440 feet southwest of the Site
Watson Gleason Playground 1273 Noble Avenue Bronx, New York 10472 Distance: 770 feet southeast of the Site	St. Lawrence Triangle Cross Bronx Expressway Service Road (no street address) Bronx, New York 10465 Distance: 1,975 feet northeast of the Site
Noble Playground 1541 Bronx River Avenue Bronx, New York 10460 Distance: 2,260 feet north of the Site	Starlight Park 1490 Sheridan Expressway Bronx, New York 10459 Distance: 1,000 feet west-northwest of the Site

2.0 DESCRIPTION OF SUBSURFACE INVESTIGATION (SI) AND REMEDIAL INVESTIGATION (RI) FINDINGS

The Site was investigated to determine whether past usage of the Site adversely affected the Site subsurface. An SI was conducted at the Site in August and September 2017, which was documented in a December 2017 SIR. An RI was conducted at the Site between May and November 2018 in general accordance with the NYSDEC-approved May 2018 NYSDEC-approved RI Work Plan (RIWP), which was documented in a December 2018 RIR.

The SIR, RIWP, and RIR are further discussed in the following sections and are included in Appendix E (Previous Environmental Reports).

2.1 Summary of Previous Investigations

AKRF conducted an SI in August and September 2017, the results of which are documented in a December 2017 SIR. The scope of the SI included: advancement of 9 soil borings with continuous soil sampling and laboratory analysis of 18 soil samples; installation of 5 temporary groundwater monitoring wells with collection and laboratory analysis of 5 groundwater samples; and installation of 5 temporary soil vapor points with collection and laboratory analysis of 5 soil vapor samples and 1 ambient air sample.

AKRF conducted an RI between May and November 2018, the results of which are documented in a December 2018 RIR. The scope of the RI included: performance of a geophysical investigation across accessible portions of the Site and the adjacent Fteley and Westchester Avenues sidewalks; advancement of 21 soil borings with continuous soil sampling and laboratory analysis of 37 soil samples; installation and development of 5 permanent groundwater monitoring wells with the collection and laboratory analysis of 5 groundwater samples from the newly installed wells and one groundwater sample from a geotechnical well installed during a geotechnical investigation; performance of a groundwater monitoring well elevation and location survey of the 6 sampled groundwater wells; and installation of 11 temporary soil vapor points with the collection and laboratory analysis of 11 soil vapor samples.

2.2 Geophysical Survey and Utility Mark-Outs

As part of the scope of the SI and RI, Dig Safely New York was contacted at least three days prior to the start of intrusive work to obtain utility markouts, as required by law.

As part of the scope of the RI, a geophysical survey was conducted across accessible portions of the Site by Delta Geophysics (Delta) of Catasauqua, Pennsylvania to investigate the potential presence of underground storage tanks (USTs) and underground utilities, and to clear the proposed sampling locations. The geophysical survey was conducted in two phases: portions of the Site outside the former Site building footprint were surveyed on May 24, 2018; and the Westchester and Fteley Avenues sidewalks adjacent to the Site were surveyed on August 2, 2018. The geophysical survey included both electromagnetic (EM) and ground penetrating radar (GPR) methods.

The survey identified several buried utilities, including: water, electric, gas, and unknown subsurface utilities; two sanitary manholes; and an anomaly on the west-central portion of the Site consistent with disturbed earth or fill material. Utility locations and anomalies were marked out with spray paint prior to the commencement of drilling activities and are shown on Figure 2. MTA approval and insurance, and a New York City Department of Transportation (NYCDOT) sidewalk permit were obtained prior to completing work in the Westchester Avenue sidewalk.

The Geophysical Investigation Report is included as Appendix E of the RIR, which is included in Appendix E.

2.3 Soil Boring Advancement

A total of 32 soil borings were advanced at the Site, including 9 borings during the SI and 23 borings during the RI. The locations of the SI and RI soil borings are shown on Figure 2.

To complete the scope of the SI, nine borings (SB-1 through SB-9) were advanced using a track-mounted Geoprobe® Direct Push Probe (DPP) drill rig. Soil samples were collected continuously from surface grade to the boring termination depths (between 15 and 20 feet below surface grade) in five-foot long, two-inch diameter, stainless steel macrocore piston rod samplers fitted with dedicated, internal acetate liners.

To complete the scope of the RI, 23 soil borings (RI-SB-01 through RI-SB-23) were advanced across the Site. Soil borings RI-SB-01 through RI-SB-03, RI-SB-07 through RI-SB-09, RI-SB-15, and RI-SB-19 were advanced using a Rotosonic drill rig; soil borings RI-SB-06, RI-SB-12 through RI-SB-14, RI-SB-16 through RI-SB-18, RI-SB-20, and RI-SB-21 through RI-SB-23 were advanced using a Geoprobe® DPP drill rig; and soil borings RI-SB-04, RI-SB-05, RI-SB-10, and RI-SB-11 were advanced within the former Site building cellar using a hand auger. Soil samples were collected continuously from surface grade to the boring termination depths (between 1.5 feet below the cellar slab and 20 feet below sidewalk grade). Samples from soil borings RI-SB-01 through RI-SB-03, RI-SB-07 through RI-SB-09, RI-SB-15, and RI-SB-19 were collected in dedicated five-foot long, four-inch diameter dedicated plastic bags; samples from borings RI-SB-06, RI-SB-12 through RI-SB-14, RI-SB-16 through RI-SB-18, and RI-SB-20 through RI-SB-23 were collected in decontaminated five-foot long, two-inch diameter, stainless steel macrocore piston rod samplers fitted with dedicated, internal acetate liners; and samples from borings RI-SB-04, RI-SB-05, RI-SB-10, and RI-SB-11 were collected in a decontaminated stainless steel hand auger.

Soil borings advanced during the SI and RI were sampled continuously from grade to the groundwater interface, with the exception of soil borings SB-1 through SB-3, SB-7, SB-8, and RI-SB-01 through RI-SB-04, which were sampled to approximately 5 feet below the observed groundwater interface to facilitate the installation of groundwater monitoring wells. Soil cores were field-screened for evidence of contamination using a PID equipped with a 10.6 electron volt (eV) lamp during the SI and a PID equipped with an 11.7 eV lamp during the RI. The PIDs were calibrated at the beginning of each field day with 100 parts per million (ppm) isobutylene calibration gas in accordance with the manufacturer's specifications. At each boring location, AKRF field personnel recorded and documented subsurface conditions. The soil cores were logged using the modified Burmister soil classification system. All sampling equipment was either dedicated or decontaminated between sampling locations.

The soil boring logs are included in Appendix F of the RIR, which is included in Appendix E.

2.4 Groundwater Monitoring Well Installation and Development

Five temporary groundwater wells were installed and developed during the SI and 5 permanent groundwater wells were installed and developed during the RI. One geotechnical monitoring well installed during a 2017 geotechnical investigation by Haley and Aldrich (further described in Section 2.9.2) was also developed as part of the scope of the RI. The locations of the SI and RI monitoring wells, and the geotechnical monitoring well are shown on Figure 2.

To complete the scope of the SI, five of the soil borings (SB-1 through SB-3, SB-7, and SB-8) were converted into two-inch, temporary groundwater monitoring wells (GW-1 through GW-3, GW-7, and GW-8, respectively). Groundwater monitoring wells GW-1 through GW-3 were constructed of 10 feet of pre-packed polyvinyl chloride (PVC) well screen and temporary groundwater monitoring wells GW-7 and GW-8 were constructed of 10 feet of 0.02-inch slotted well screen with No. 2 Morie sandpack around the well annulus to surface grade.

To complete the scope of the RI, five 2-inch diameter permanent groundwater monitoring wells (RI-MW-01 through RI-MW-05) were installed using a Rotosonic drill rig and monitoring well RI-MW-04 was installed within the former Site building cellar using a hand auger. Groundwater wells RI-MW-01 through RI-MW-03, and RI-MW-05 were constructed with 10 feet of 0.020-inch slotted PVC well screen installed approximately 5 feet into the observed water table. Groundwater wells RI-MW-01 through RI-MW-03, and RI-MW-05 were finished with a solid PVC riser to grade and a No. 2 morie sandpack was installed to two feet above the well screen. The annular space around the solid well riser was sealed with bentonite above each well screen, and the wells were completed with a non-shrinking cement mixture. Due to the shallow depth to groundwater within the former Site building cellar, monitoring well RI-MW-04 was constructed with 5 feet of 0.020-inch slotted PVC monitoring well screen installed approximately 4 feet into the water table, finished with PVC screen to the bottom of the concrete cellar slab, and a No. 2 morie sandpack was installed to approximately three inches above the well screen. The well was completed with a non-shrinking cement mixture to the top of the concrete cellar slab. Geotechnical monitoring well RI-MW-B12, installed by others during a geotechnical investigation, was constructed with 12 feet of slotted PVC monitoring well screen installed approximately 10 feet into the water table and a 4.5-inch diameter steel casing installed to grade. Each of the wells were finished with plugs and flush-mounted manholes.

Following installation of the SI wells, approximately three well volumes were purged from each well to remove accumulated fines and to establish a hydraulic connection with the surrounding aquifer. Following installation of the RI wells, the wells were developed via pumping and surging with a Waterra pump affixed with dedicated high-density polyethylene (HDPE) tubing, a surge block, and foot valve to remove any accumulated fines and establish a hydraulic connection with the surrounding aquifer. Purge water was monitored with a Horiba U-52 water quality monitor during development. Development continued until turbidity within the well was less than 50 nephelometric turbidity units (NTUs) for three successive readings and until water quality indicators stabilized to within 10% for pH, temperature, oxidation reduction potential (ORP), dissolved oxygen, and specific conductivity for three successive readings and/or at least three well volumes were evacuated. At monitoring wells RI-MW-02, RI-MW-05, water quality parameters stabilized. However, due to high turbidity within wells RI-MW-01, RI-MW-03, RI-MW-B12, and RI-MW-04 that did not decrease below 50 NTUs, a minimum of three well volumes was purged from these groundwater monitoring wells. Geotechnical well RI-MW-B12 was also developed as part of the RI.

Groundwater well construction details are summarized in In-Text Table 4.

In-Text Table 4
Groundwater Monitoring Well Construction Details

Monitoring Well ID	On-Site Location	Screened Intervals (feet below grade)	Rationale for Sampling Location
GW-1	Southwestern	10-20	To assess groundwater quality in the southwestern portion of the Site
GW-2	Northern	7.5-17.5	To assess groundwater quality in the northern portion of the Site

In-Text Table 4
Groundwater Monitoring Well Construction Details

Monitoring Well ID	On-Site Location	Screened Intervals (feet below grade)	Rationale for Sampling Location
GW-3	Northeastern	7.5-17.5	To assess groundwater quality in the northeastern portion of the Site
GW-7	Northeastern	9-19	To assess groundwater quality in the northeastern portion of the Site
GW-8	Northern	7-17	To assess groundwater quality in the northern portion of the Site
RI-MW-01	Northwestern	6-16	To assess groundwater quality in the northwestern portion of the Site and determine Site-specific groundwater flow direction and elevation
RI-MW-02	West-central	4.5-14.5	To assess groundwater quality in the west-central portion of the Site and determine Site-specific groundwater flow direction and elevation
RI-MW-03	Westchester Avenue sidewalk	6-16	To assess groundwater quality at the southern Site boundary and determine Site-specific groundwater flow direction and elevation
RI-MW-04	East-central	1.5 – 5.5[1]	To assess groundwater quality beneath the former dry cleaner and determine Site-specific groundwater flow direction and elevation
RI-MW-05	Central	7-17	To assess groundwater quality at the center of the Site and determine Site-specific groundwater flow direction and elevation
RI-MW-B12	Fteley Avenue sidewalk	8-20	To assess groundwater quality at eastern Site boundary and determine Site-specific groundwater flow direction and elevation

Notes:
[1]Depth refers to feet below cellar grade.
Monitoring well IDs denoted as GW-# refer to wells installed during the SI. Monitoring well IDs denoted as RI-MW-# refer to wells installed during the RI, with the exception of RI-MW-B12, which was installed during a 2017 geotechnical investigation, and developed and sampled as part of AKRF's RI.

Groundwater monitoring well construction and development logs are provided in Appendices F and G of the RIR, respectively, which is included in Appendix E.

2.5 Groundwater Monitoring Well Elevation and Location Survey

To complete the scope of the RI, groundwater monitoring wells RI-MW-01, RI-MW-02, RI-MW-04, RI-MW-05, and RI-MW-B12 were surveyed by Roguski Land Surveying, P.C. (Roguski), a New York State-licensed surveyor on September 4, 2018; and groundwater monitoring well RI-MW-03 was surveyed on November 8, 2018 by Roguski. Elevation measurements were taken at the manhole cover and on the north side of the top of the PVC casing at each of the groundwater monitoring wells. Horizontal and vertical datum was tied to the North American Vertical Datum (NAVD) 88. Based on the Site-specific groundwater depths and the elevation survey, groundwater flows beneath the Site in a southeasterly direction.

The locations of the groundwater monitoring wells are shown on Figure 2. A groundwater elevation contour map is included as Figure 7. The groundwater monitoring well elevation survey for the Site is provided as Appendix H of the RIR, which is included in Appendix E.

2.6 Temporary Soil Vapor Point Installation

Five temporary soil vapor points were installed during the SI and 11 temporary soil vapor points were installed during the RI. The locations of the SI and RI temporary soil vapor points are shown on Figure 2.

To complete the scope of the SI, temporary soil vapor points SV-1 through SV-3, SV-7, and SV-8 were installed using a Geoprobe® DPP drill rig to approximately 5 feet below surface grade. Temporary soil vapor points SV-1 and SV-3 were constructed with 1¾" ceramic points with dedicated Teflon™-lined tubing to grade; and temporary soil vapor points SV-2, SV-7, and SV-8 were constructed with six-inch stainless steel screen implants with dedicated Teflon™-lined tubing to grade.

To complete the scope of the RI, temporary soil vapor points RI-SV-01 through RI-SV-03 and RI-SV-06 through RI-SB-11 were installed at the interval directly above the observed groundwater interface (approximately 7 to 9 feet below surface grade). Temporary soil vapor points RI-SV-01 through RI-SV-03 and RI-SV-06 through RI-SV-11 were installed using a Geoprobe® DPP or a Rotosonic drill rig. Temporary sub-slab vapor points RI-SV-04 and RI-SV-05 were installed directly below the cellar slab within the eastern portion of the former Site building. At each monitoring point, a six-inch stainless steel screen implant connected to Teflon™-lined polyethylene tubing was installed through the drilling rods and threaded into the drive point.

At the SI and RI exterior sampling locations, the sampling tubing was extended from the bottom end of the screen to above grade. The rods were then removed and the borings were backfilled with clean silica sand to six inches above the screen. Hydrated bentonite was used to fill the remaining void around the sampling tubing to the ground surface. The temporary RI sub-slab soil vapor sampling points were installed by drilling through the cellar slab with hand tools and installing a six-inch stainless steel screen implant connected to Teflon™-lined polyethylene tubing to approximately six inches beneath the slab. The sample tubing was extended from the end of the screen to above grade. The borings were backfilled with clean silica sand to six inches above the screen. Hydrated bentonite was used to fill the remaining void around the sampling tube to the ground surface.

2.7 Sample Collection and Chemical Analysis

Soil, groundwater, and soil vapor have been sampled and evaluated in the SIR and RIR. The sampling performed and presented in the SIR and RIR provided a basis for the evaluation of subsurface Site conditions and RA with respect to the media sampled.

2.7.1 Soil Sampling and Laboratory Analysis

At each soil boring, continuous soil sampling was conducted during the SI and RI from surface grade to the boring termination depths. Eighteen soil samples were submitted for chemical analysis during the SI and 37 soil samples were submitted for laboratory analysis during the RI. A summary of soil borings and the soil samples submitted for laboratory analysis from each boring is presented in In-Text Table 5.

In-Text Table 5
Summary of Soil Borings and Soil Samples

Soil Boring ID	Soil Sample ID
SB-1	SB-1 (0-2) 20170807
	SB-1 (14-15) 20170807
SB-2	SB-2 (0-2) 20170807
	SB-2 (3-5) 20170807
SB-3	SB-3 (0-2) 20170807
	SB-3 (5-7) 20170807
SB-4	SB-4 (0-2) 20170807
	SB-4 (13-15) 20170807
SB-5	SB-5 (0-2) 20170807
	SB-5 (11-12) 20170807
SB-6	SB-6 (0-2) 20170807
	SB-6 (13-15) 20170807
SB-7	SB-7 (0-2) 20170921
	SB-7 (11-13) 20170921
SB-8	SB-8 (0-2) 20170921
	SB-8 (7-9)20170921
SB-9	SB-9 (0-2) 20170921
	SB-9 (7-9) 20170921
RI-SB-01	RI-SB-01 (0-2) 20180524
	RI-SB-01 (5-7) 20180524
	RI-SB-01 (9-11) 20180524
RI-SB-02	RI-SB-02 (0-2) 20180524
	RI-SB-02 (7.5-9.5) 20180524
RI-SB-03	RI-SB-03 (0-2) 20181008
	RI-SB-03 (8.5-10.5) 20181008
RI-SB-04	RI-SB-04 (9.5-10) 20180821
RI-SB-05	RI-SB-05 (9.5-11) 20180821
RI-SB-06	RI-SB-06 (0-2) 20180525
	RI-SB-06 (9-11) 20180525
RI-SB-07	RI-SB-07 (0-2) 20180524
	RI-SB-07 (5-7) 20180524
	RI-SB-07 (8-10) 20180524
RI-SB-08	RI-SB-08 (0-2) 20180524
	RI-SB-08 (7-9) 20180524
RI-SB-09	RI-SB-09 (0-2) 20180524
	RI-SB-09 (7-9) 20180524
RI-SB-10	RI-SB-10 (9.5-11) 20180821
RI-SB-13	RI-SB-13 (0-2) 20180525
	RI-SB-13 (8-10) 20180525

In-Text Table 5
Summary of Soil Borings and Soil Samples

Soil Boring ID	Soil Sample ID
RI-SB-14	RI-SB-14 (0-2) 20180525
	RI-SB-14 (7-9) 20180525
RI-SB-15	RI-SB-15 (0-2) 20180524
	RI-SB-15 (8-10) 20180524
RI-SB-16	RI-SB-16 (0-2) 20180525
	RI-SB-16 (8-10) 20180525
RI-SB-17	RI-SB-17 (0-2) 20180525
	RI-SB-17 (8-10) 20180525
RI-SB-18	RI-SB-18 (0-2) 20180525
	RI-SB-18 (8-10) 20180525
RI-SB-19	RI-SB-19 (0-2) 20180524
	RI-SB-19 (7-9) 20180524
RI-SB-20	RI-SB-20 (0-2) 20180525
	RI-SB-20 (8-10) 20180525
RI-SB-21	RI-SB-21 (0-2) 20180525
	RI-SB-21 (7.5-9.5) 20180525

Notes:
Soil borings and soil samples denoted as SB-# were advanced/collected during the SI.
Soil borings and soil samples denoted as RI-SB-# were advanced/collected during the RI.
Based on field observations and the RIWP, soil samples were not submitted for laboratory analysis from soil borings RI-SB-11 or RI-SB-12.

SI and RI soil boring locations are shown on Figure 2. SI and RI soil/fill analytical data are presented in Attached Tables 5 through 9 and 16 through 21, respectively.

2.7.2 Groundwater Sampling and Laboratory Analysis

Five groundwater samples were submitted for laboratory analysis during the SI and six groundwater samples were collected for laboratory analysis during the RI. A summary of groundwater monitoring wells and the groundwater samples submitted for laboratory analysis from each well is presented in In-Text Table 6.

In-Text Table 6
Summary of Groundwater Monitoring Wells and Groundwater Samples

Groundwater Monitoring Well ID	Groundwater Sample ID
GW-1	GW-1 20170808
GW-2	GW-2 20170808
GW-3	GW-3 20170808
GW-7	GW-7 20170921
GW-8	GW-8 20170921
RI-MW-01	RI-MW-01 20180608
	RI-MW-01 20180712

In-Text Table 6
Summary of Groundwater Monitoring Wells and Groundwater Samples

Groundwater Monitoring Well ID	Groundwater Sample ID
RI-MW-02	RI-MW-02 20180608
	RI-MW-02 20180712
RI-MW-03	RI-MW-03 20181008
RI-MW-04	RI-MW-04 20180906
RI-MW-05	RI-MW-05 20180608
RI-MW-B12	RI-MW-B12 20180904

Notes:
Groundwater monitoring wells and groundwater samples denoted as GW-# were installed/sampled during the SI.
Groundwater monitoring wells and groundwater samples denoted as RI-MW-# were installed/sampled during the RI, with the exception of RI-MW-B12, which was installed during a 2017 geotechnical investigation and sampled during the RI.

Groundwater sampling locations are shown on Figure 2. A Site-specific groundwater elevation contour map is provided as Figure 7. Groundwater sample analytical data from the SI and RI is presented in Attached Tables 10 through 14 and 22 through 28, respectively.

2.7.3 Soil Vapor Sampling and Laboratory Analysis

Five soil vapor samples and one ambient air sample were submitted for laboratory analysis during the SI and 11 soil vapor samples were submitted for laboratory analysis during the RI. A summary of temporary soil vapor points and the soil vapor samples collected from each point is presented in In-Text Table 7.

In-Text Table 7
Summary of Temporary Soil Vapor Points and Soil Vapor/Ambient Air Samples

Temporary Soil Vapor Point	Soil Vapor/Ambient Air Sample
SV-1	SV-1 20170808
SV-2	SV-2 20170921
SV-3	SV-3 20170808
SV-7	SV-7 20170921
SV-8	SV-8 20170921
N/A	AA-1 20170808
RI-SV-01	RI-SV-01 20180529
RI-SV-02	RI-SV-02 20180529
RI-SV-03	RI-SV-02 20181015
RI-SV-04	RI-SV-04 20180821
RI-SV-05	RI-SV-05 20180821
RI-SV-06	RI-SV-06 20180529
RI-SV-07	RI-SV-07 20180802
RI-SV-08	RI-SV-08 20180529

In-Text Table 7
Summary of Temporary Soil Vapor Points and Soil Vapor/Ambient Air Samples

Temporary Soil Vapor Point	Soil Vapor/Ambient Air Sample
RI-SV-09	RI-SV-09 20180802
RI-SV-10	RI-SV-10 20180529
RI-SV-11	RI-SV-11 20180529

Notes:
Temporary soil vapor points, and soil vapor and ambient air samples denoted as SV/AA-# were installed/sampled during the SI.
Temporary soil vapor points and soil vapor samples denoted as RI-SV-# were installed/sampled during the RI.

Soil vapor sampling locations are shown on Figure 2. Soil vapor sample analytical data from the SI and RI is provided in Attached Tables 15 and 29, respectively.

2.7.4 Chemical Analytical Work Performed

Chemical analytical work is summarized in In-Text Table 8.

In-Text Table 8
Chemical Analytical Work Performed

Quality Assurance Officer	The chemical analytical QA/QC was directed by Michelle Lapin, P.E. of AKRF.
Third-Party Validator	The third-party data validation was performed by L.A.B Validation Corp.
Chemical Analytical Laboratory	The chemical analytical laboratory used in the SI and RI was SGS Laboratories, Inc. of Dayton, New Jersey and Orlando, Florida, a NYS ELAP-certified laboratory.
Chemical Analytical Methods	Soil/fill analytical methods: • VOCs by EPA Method 8260C (rev. 2006) • SVOCs by EPA Method 8270D (rev. 2007) • Pesticides by EPA Method 8081A (rev. 2000) • PCBs by EPA Method 8082A (rev. 2000) • TAL Metals by EPA Method 6000/7000 series (rev. 2007) • TCLP Lead by EPA Method 1311* • Hexavalent Chromium by EPA Method 7196A (rev. 1992)* Groundwater analytical methods: • VOCs by EPA Method 8260C • SVOCs by EPA Method 8270D • 1,4-Dioxane by EPA Method 8270D SIM* • Pesticides by EPA Method 8081A • PCBs by EPA Method 8082A • TAL Metals (total and dissolved) by EPA Method 6000/7000 series (rev. 2007) • 21-compound list of PFAS by Modified EPA Method 537* Soil vapor and ambient air analytical method: • VOCs by EPA Method TO-15

*Analysis was conducted for RI samples only.

2.7.5 Subsurface Investigation (SI) and Remedial Investigation (RI) Findings

SI and RI soil/fill analytical results are presented in Attached Tables 5 through 9 and Attached Tables 16 through 21, respectively. SI and RI groundwater analytical results are presented in Attached Tables 10 through 14 and Attached Tables 22 through 28, respectively. SI and RI soil vapor analytical results are presented in Attached Tables 15 and 29, respectively. Concentration maps showing compounds detected above applicable standards for soil and groundwater are shown on Figures 4a, 4b, and 4c; and Figures 5a and 5b, respectively. A concentration map showing soil vapor concentrations is provided as Figures 6a and 6b. Attached Tables 1, 2, 3, and 4 summarize SI and RI soil/fill sample exceedances of UUSCOs and/or RRSCOs, SI and RI groundwater sample exceedances of TOGS, RI groundwater sample exceedances of DWHALs, and RI and SI soil vapor sample exceedances of AGVs and/or the Soil Vapor/Indoor Air mitigation action levels, respectively.

2.8 Significant Threat Determination

The NYSDEC and NYSDOH have not yet determined if the poses a significant threat to human health and the environment. Notice of that determination will be provided for public review. A copy of the notice will be included in Appendix B.

2.9 Site History

Historic records indicate that the western portion of the Site (former Lot 1) was undeveloped prior to 1964, when the western portion of the former Site building was constructed. The western portion of the building was occupied by several commercial and medical uses until approximately 2012 when it was vacated. The eastern portion of the Site (former Lot 51) was undeveloped prior to approximately 1969, when the eastern portion of the former Site building was constructed. The eastern portion of the building was occupied by several commercial uses, including a liquor store and a dry cleaner since sometime between 1971 and 1975 until January 2018, when it was vacated. The northeastern portion of the Site was a parking lot for the commercial and medical spaces. The eastern portion of the Site building (former Lot 51) was demolished in September 2018 and the western portion of the building (former Lot 1) was demolished in October 2018 to enable completion of the RI.

2.9.1 Past Uses and Ownership

Former Lot 1 owners have included: Richlon Associates prior to 1969; Richard M. Cohen from 1969 to 1970; The Goodrich Investors Group and GIT Realty and Mortgage Investors from 1970 to 1980; Urban Facilities Corporation from 1980 to 1992; Hunts Point Multi-Service Center, Inc. from 1992 to 2014; Promesa Residential Health Care Facility Inc. from 2014 to 2016; 1675 JV Associates LLC from 2016 to 2018; 1675 Westchester Avenue Housing Development Fund Corporation from 2018 to the present. Former Lot 51 owners have included: Urban Facilities Corp. prior to 2018, and 1675 Westchester Avenue Housing Development Fund Corporation from 2018 to the present.

2.9.2 Previous Environmental Reports

Phase I Environmental Site Assessment Report – 1675 Westchester Avenue, Bronx, New York, Environmental Investigations, LLC, July 2014

Environmental Investigations, LLC (EI) prepared a Phase I Environmental Site Assessment (ESA) Report of former Lot 1 in July 2014. The Phase I ESA identified a fill line and a vent pipe north-adjacent to the Site building. EI recommended a subsurface investigation be conducted to determine whether a UST was present and whether or not it had leaked.

Phase II Environmental Site Assessment – 1675 Westchester Avenue, Bronx, New York, Cider Environmental, October 2014

CE prepared a Subsurface (Phase II) ESA Report of former Lot 1 in October 2014. The investigation was conducted to determine the potential presence of a UST, based on EI's July 2014 Phase I ESA. The investigation included a geophysical survey (which identified an approximately 1,000-gallon UST at the approximate location shown on Figure 2), the advancement of three soil borings adjacent to the suspect UST with continuous soil sampling and laboratory analysis of three soil samples, and the collection and laboratory analysis of one groundwater sample. Groundwater was reportedly encountered at approximately 12 feet below grade. Laboratory analytical results identified several fuel oil-related VOCs and SVOCs at levels above applicable standards.

Based on the findings, CE recommended that a spill be reported to NYSDEC and that the UST be closed and removed, along with any contaminated soil, in accordance with applicable local, state, and federal laws. CE also recommended installation of a groundwater monitoring well network at the Site to determine the extent of the groundwater contamination. NYSDEC Spill No. 1407300 was assigned to the Site.

Tank Closure Report – 1675 Westchester Avenue, Bronx, New York, Cider Environmental, December 2014

CE prepared a Tank Closure Report of former Lot 1 in December 2014. According to the report, 756 gallons of waste oil and 55.59 tons of petroleum-contaminated soil were disposed of off-site in October 2014. The tank was cut, cleaned, and removed from the Site. In addition, five endpoint soil samples were collected for laboratory analysis of Commissioner's Policy (CP)-51 VOCs and SVOCs. The results of the sampling indicated that benzo(a)pyrene was detected above 6 NYCRR Restricted Commercial Soil Cleanup Objectives (CSCOs), which were the applicable SCOs for the current Site use at the time of the sampling. All other compounds analyzed were detected below CSCOs. The excavation area was backfilled with imported clean fill. Spill No. 1407300 was closed in October 2014.

Based on the proposed future use of the Site, AKRF additionally compared the analytical results from CE's tank closure report to the 6 NYCRR RRSCOs, which are the applicable SCOs for the intended future use of the Site. Benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene were detected in four soil samples at concentrations ranging between 1,400 parts per billion (ppb) and 3,600 ppb, above their respective RRSCOs of 1,000 ppb. Indeno(1,2,3-cd)pyrene was detected in the same four soil samples at concentrations ranging between 780 ppb and 1,500 ppb, above its RRSCO of 500 ppb. These compounds are polycyclic aromatic hydrocarbons (PAHs), a class of SVOCs most commonly associated with historic fill materials and degraded fuel oil.

Phase I Environmental Site Assessment – 1675 Westchester Avenue, Bronx, New York, Cider Environmental, February 2017

CE prepared a Phase I ESA of 1675 Westchester (former Lot 1) in February 2017. The Phase I ESA identified no recognized environmental conditions (RECs). The report identified closed-status NYSDEC Spill No. 1407300 as a Historical Recognized Environmental Condition (HREC) and the active dry cleaner east-adjacent to former Lot 1 (former Lot 51) as a vapor encroachment condition (VEC). The dry cleaner was also listed as a RCRA CESQG with no reported violations. CE did not provide any recommendations.

Phase I Environmental Site Assessment – 1679 Westchester Avenue, Bronx, New York, AKRF, Inc., October 2017

AKRF prepared a Phase I ESA for 1679 Westchester (former Lot 51) in October 2017. The report identified the following RECs:

- At the time of inspection, the eastern portion of the building was occupied by a dry cleaner. According to historic reverse telephone and database listings for 1681 Westchester Avenue, a historic address for the Site, dry cleaners have operated on the eastern portion of the Site since sometime between 1971 and 1975. Additionally, the Site address appeared in the dry cleaner, historic dry cleaner, and Resource Conservation and Recovery Act (RCRA) Conditionally Exempt Small Quantity Generator (CESQG) databases. The eastern portion of the Site was also listed in the Manifest database for the disposal of several types of solvents, including PCE and TCE, and in the US Airs database for compliance monitoring. During the inspection, several small labeled and unlabeled containers of various dry cleaning chemicals and 55-gallon drums that likely contain waste chemicals and staining on several walls was observed throughout the building. A storm drain with an unknown final discharge location was observed in the asphalt-paved yard north-adjacent to the dry cleaner. Although the Site was not listed with any violations related to dry cleaning operations and no evidence of an ongoing or past release was observed, the current and historical use of the Site as a dry cleaner constituted a REC.
- During the inspection, a fill port and a vent pipe were observed on the eastern Site building façade along Fteley Avenue. Although a tank was not observed within the former building, several New York City Department of Buildings (NYCDOB) documents dated between 2001 and 2007 related to a No. 2 fuel oil-powered boiler were reviewed, including two open violations. The eastern partial cellar was not accessible due to water inundation. Based on the presence of tank piping and NYCDOB documents related to a No. 2 fuel oil tank, it is likely that an oil tank exists or formerly existed at the Site. Current and/or historical on-site fuel oil storage and use was considered a REC.
- Databases identified nearby historical listings, including a closed-status fuel oil spill on the west-adjacent property (former Lot 1) that affected soil and groundwater, a former automotive repair shop east-adjacent to the Site across Fteley Avenue, and a former paint store approximately 30 feet north of former Lot 51.

The report identified the following environmental concerns:

- Historical filling of former Lot 51 with material of unknown origin likely occurred to support redevelopment of the Site and surrounding area.
- Based on the age of the former Site building (constructed between 1950 and 1969), asbestos-containing material (ACM), lead-based paint (LBP), and/or PCBs may have been present in building components and/or in historic fill at the Site.
- At the time of reconnaissance, the former eastern partial cellar (part of the former dry cleaner) was flooded and inaccessible for inspection. Water damage and mold were observed in the western partial cellar (part of the former wine and liquor store).

AKRF recommended: conducting a subsurface investigation, inclusive of soil, groundwater, and soil vapor sampling to investigate the RECs at the Site; the proper registration and/or closure and removal of any tank(s) and associated piping; and protocols for future disturbance of building materials and/or subsurface materials in accordance with applicable regulations, including building materials, soil, and dewatering of groundwater, if needed.

Subsurface Investigation Report – 1675-1679 Westchester Avenue, Bronx, New York, AKRF, Inc., November 2017

AKRF prepared an SIR of the Site in November 2017. The SI was conducted to determine whether current and/or former on-site or off-site activities had adversely affected the Site's subsurface. The investigation included: the advancement of 9 soil borings with continuous soil sampling and laboratory analysis of 18 soil samples; the installation and development of 5 temporary groundwater monitoring wells with collection and laboratory analysis of 5 groundwater samples; and the installation of 5 temporary soil vapor points with collection and laboratory analysis of 5 soil vapor samples and 1 ambient air sample. Groundwater was encountered between approximately 9 and 12 feet below surface grade. Laboratory analytical results identified: concentrations of select SVOCs, pesticides, and metals in soil; select metals in groundwater; and elevated concentrations of solvent and petroleum-related VOCs in soil vapor.

Based on the findings, AKRF recommended preparing an RIWP and conducting an RI at the Site to further determine the extent of contamination, inclusive of a geophysical survey, and soil, groundwater, and soil vapor sampling. The report indicated that remediation was to be completed under the BCP in conjunction with the Site's proposed redevelopment plan. AKRF also recommended the proper registration and/or closure and removal of any tank(s) and associated piping, and provided protocols for future disturbance of building materials and/or subsurface materials in accordance with applicable regulations.

Report on Subsurface Conditions and Foundation Design Recommendations – 1675 Westchester Avenue Mixed Use Affordable Housing Development, Bronx, New York, Haley & Aldrich, January 2018

Haley & Aldrich prepared a Report on Subsurface Conditions and Foundation Design Recommendations in January 2018. The report detailed the results of a subsurface exploration program conducted in May and December 2017, which included: the advancement of 12 test borings, with groundwater observation wells installed in 4 of the borings; the excavation of 1 test pit; and a groundwater elevation survey. Monadnock Construction independently excavated two test pits at the Site in November 2017 and provided information about these test pits to Haley & Aldrich for inclusion in their report.

Subsurface materials consisted of historic fill (silty sand with brick, cinder, slag, and some weathered schist) extending from 12 to 30 feet below grade, underlain by native soils and, in some locations, a layer of peat between 4 and 15 feet thick. Groundwater was encountered between 8 and 11 feet below surface grade in observation wells and test pits, and groundwater was concluded to flow from the northwest to the southeast below the Site. Bedrock was encountered from 37 to 70 feet below surface grade.

Brownfield Cleanup Program (BCP) Application, 1675 Apartments, 1675-1679 Westchester Avenue, Bronx, New York, AKRF, Inc., February 2018

AKRF prepared a BCP Application for the Site in February 2018, which discussed soil, groundwater, and soil vapor contamination associated with the Site's former uses. The Site was entered into the BCP in May 2018.

Site Reconnaissance – 1675 Apartments, 1675-1679 Westchester Avenue, Bronx, New York, AKRF, Inc. (AKRF) April 2018

In January 2018, the dry cleaner tenant vacated the Site. On April 18, 2018, AKRF walked through the former dry cleaner and exterior portions of former Lot 1 with a representative of the Volunteer. The press stations, washing machine, dry cleaning machine, vapor barrier enclosure, stored chemicals and detergents, and 55-gallon drums were no longer present; however, the stains on the wall from the press machines were observed. The cellar, which was inaccessible during the Phase I ESA inspection, was accessed. The cellar was vacant; two cut pipes were observed along the eastern wall. Based on their configuration, the pipes are suspected to be associated with the tank vent pipe and fill port observed along Fteley Avenue. No other evidence of an existing or former fuel oil tank was observed. The storm drain and electrical manholes on the eastern and western portions of the Site, respectively, were inspected. The storm drain was not able to be fully inspected due to excessive debris and vegetation inside and around the drain. The electrical manholes were also unable to be inspected due to safety concerns.

Remedial Investigation Work Plan – 1675 Apartments, 1675-1679 Westchester Avenue, Bronx, New York, AKRF, Inc. (AKRF) May 2018

AKRF prepared an RIWP in May 2018 based on the results of previous environmental investigations. The proposed scope of work detailed in the RIWP included: a geophysical survey across accessible portions of the Site to investigate the presence of potential USTs and underground utilities, and to clear the proposed sampling locations; the advancement of 21 soil borings with continuous sample collection and laboratory analysis of at least one soil sample from each boring; the installation of 5 permanent groundwater monitoring wells with the collection and laboratory analysis of 5 groundwater samples; and the installation of 11 temporary soil vapor points with the collection and laboratory analysis of 11 soil vapor samples. The RIWP included a Quality Assurance Project Plan (QAPP) QAPP and a Health and Safety Plan (HASP). The RIWP was approved in a June 12, 2018 NYSDEC-issued letter.

Citizen Participation Plan (CPP), 1675 Apartments, 1675-1679 Westchester Avenue, Bronx, New York, AKRF, Inc., May 2018

AKRF prepared a CPP for the Site in May 2018, which provided details on major issues of public concern related to the Site and surrounding area. The CPP provided the information to the public and encouraged citizen involvement in decisions being made about the Site regarding their health.

Remedial Investigation Report, 1675 Apartments, 1675-1679 Westchester Avenue, Bronx, New York, AKRF, Inc., December 2018

AKRF prepared an RIR for the Site in December 2018. The RI was conducted to determine the horizontal and vertical extent of contamination identified during AKRF's November 2017 SI and to aid in the design of the remedy. The investigation included: the performance of a geophysical survey across accessible exterior portions of the Site, and the adjacent

Westchester and Fteley Avenue sidewalks, and utility mark-outs; the advancement of 23 soil borings with the collection and laboratory analysis of 37 soil samples; the installation of 5 permanent 2-inch diameter groundwater monitoring wells and the collection and laboratory analysis of 5 groundwater samples from the newly installed wells and one groundwater sample from a geotechnical well installed during a geotechnical investigation; the installation of 11 temporary soil vapor points with the collection and laboratory analysis of 11 soil vapor samples; and the performance of a groundwater monitoring well elevation and location survey, which included the newly installed wells and the geotechnical monitoring well. Groundwater was measured at depths ranging from approximately 9.8 to 11.0 feet below grade, or approximately 3.1 to 6.2 feet above NAVD, on the northwestern and southeastern portions of the Site, respectively. The stratigraphy of the Site, from the surface down, generally consisted of fill material comprising sand, silt, and gravel with varying amounts of concrete, brick, wood, and ceramic up to approximately 16.5 feet below grade, underlain by apparent native sand, gravel, silt, and organics to boring termination depths (up to 20 feet below grade). Bedrock was not encountered during the RI. Laboratory analytical results identified elevated concentrations of select SVOCs, pesticides, PCBs, and metals in soil above their respective UUSCOs and RRSCOs; select VOCs and metals in groundwater above their respective TOGS; and elevated concentrations of solvent and petroleum-related VOCs in soil vapor.

Waste Classification Report, 1675 Apartments, 1675-1679 Westchester Avenue, Bronx, New York, AKRF, Inc., December 2018

AKRF prepared a Waste Classification Sampling Report for the Site in December 2018. The report documented the field procedures and provided laboratory analytical data for the in-situ soil waste classification sampling event conducted by AKRF on November 9, 2018, which was performed to obtain representative analytical data from the subsurface soil/fill across the Site that will be excavated and disposed of during development of the Site. The report was intended to be used as a supplement to applications for disposal approval at facilities considering accepting Site soil/fill. The results of the sampling indicated elevated concentrations of SVOCs and metals across the Site at concentrations below hazardous waste threshold criteria.

Previous environmental reports are included in Appendix E.

2.9.3 Historical Fire Insurance Sanborn Maps

Historical Sanborn Fire Insurance Maps (land use maps) were reviewed for indications of uses (or other evidence) suggesting hazardous materials generation, usage or disposal on or near the Site. Specifically, Sanborn Fire Insurance Maps from 1898, 1908, 1919, 1928, 1950, 1969, 1977, 1978, 1981, 1983, 1986, 1989, 1991-1993, 1995, 1996, 1998, and 2001-2007.

1898

The Site was undeveloped with no notable features.

The general surrounding area was undeveloped. A stream and a road (labeled “turnpike”) were shown south of the Site.

1908

The Site remained similar to the 1898 map.

The area south of the Site was shown divided into vacant blocks.

1919

The Site remained similar to the 1908 map.

The Site block appeared in its current configuration. Blocks to the south were divided into vacant lots and the stream south of the Site was no longer shown, indicating likely filling prior to development.

1928

The Site was shown divided into several lots, but remained undeveloped.

The northern portion of the Site block fronting Fteley Avenue was developed with residential buildings with garages. Blocks further northeast and south were developed with residential and commercial structures. The remainder of the surrounding area was primarily undeveloped, with some sparse residences.

1950

The Site remained similar to the 1928 map.

Residences with automotive garages were shown north- and east-adjacent to the Site along Fteley Avenue. No further significant changes were noted.

1969-1983

The Site was shown developed with a commercial building on the southern portion of the Site with addresses of 1675, 1677, and 1679 Westchester Avenue, and 1235 Fteley Avenue; and parking on the northern portion at 1230-1244 Metcalf Avenue.

The Site block was further developed with residences, and a church. Properties to the south across Westchester Avenue included commercial and residential structures, parking lots, Soundview Station Post Office, churches, and a daycare facility. The Bronx River Parkway was shown west of the Site across Metcalf Avenue.

1986-2007

The Site was shown with the addresses 1661-1679 Westchester Avenue, 1235 Fteley Avenue, and 1230-1244 Metcalf Avenue.

No further significant changes to the surrounding area were noted.

In summary, historical Sanborn maps indicated that the Site was undeveloped between 1898 and 1950. By 1969, the Site was developed with the former building, which was occupied by unspecified commercial uses until 2007, with parking on the northwestern portion.

Historically, the surrounding area was primarily residential, with some commercial, religious, and institutional uses. All Sanborn Maps available for the Site were reviewed prior to preparation of this RAWP. The Sanborn Maps are included as Appendix F.

2.10 Geological Conditions

Surface topography at the Site and in the immediately surrounding area is generally level, except the Bronx River Parkway west of the Site across Metcalf Avenue, which slopes down towards the west. Based on the U.S. Geological Survey (USGS), New York 2011 Quadrangle Map, the Site is approximately 10 feet above the North American Datum of 1988 (an approximation of mean sea level).

Based on AKRF's SI and RI, subsurface materials consisted of historic fill (sand with silt, gravel, concrete, brick, wood, and ceramics) from the ground surface to the groundwater table across the Site. The fill material was underlain by apparent native sand, silt, gravel, and peat in some boring locations.

Groundwater was measured at depths ranging from approximately 9.8 to 11.0 feet below grade, or approximately 3.1 to 6.2 feet above NAVD, on the northwestern and southeastern portions of the Site, respectively. There are no public or private drinking water supply wells within a ½-mile radius of the Site.

A groundwater flow map is provided as Figure 7.

2.11 Contamination Conditions

The data compiled during the SI and RI were compared to the following SCGs to determine the nature and extent of the contamination area associated with the Site:

Soil – NYSDEC UUSCOs and RRSCOs

Groundwater – Class GA (Drinking Water) TOGS and DWHALs

Soil Vapor – No soil vapor standards currently exist

2.11.1 Conceptual Model of Site Contamination

Based on an evaluation of the data and information from the SI and RI, the Site is contaminated with: SVOCs, metals, PCBs, and pesticides in soil/fill; the VOCs benzene and isopropylbenzene, SVOCs, metals, and PFAS in groundwater; and petroleum- and solvent-related VOCs in soil vapor. The elevated concentrations of SVOCs, metals, PCBs, and pesticides in soil/fill from surface grade to the groundwater table appear to be related to historic filling Site-wide. The elevated concentrations of petroleum-related VOCs in groundwater appear to be related to the former storage, handling, and use of fuel oil on-site and the elevated concentrations of SVOCs and metals in groundwater may be related to regional conditions and/or sediment entrained in the groundwater samples. The elevated concentrations of petroleum- and solvent-related VOCs in soil vapor appear to be related to the former storage, handling, and use of fuel oil on-site, and the former on-site dry cleaner. Based on the SI and RI data, it is not likely that contaminants in soil, groundwater, or soil vapor are migrating off-site. The affected media for the existing or potential releases at the Site includes soil, groundwater, and soil vapor.

2.11.2 Description of Areas of Concern (AOCs)

- Historic Use of the Site – The historic usage of the Site included a dry cleaner on the eastern portion from sometime between 1971 and 1975 to January 2018. The use of solvents are commonly associated with dry cleaning uses and were identified in soil vapor during the SI and RI.
- Documented Discharges and Former UST(s) – NYSDEC Spill No. 1407300 was reported in October 2014 at 1675 Westchester Avenue. Historic reports indicated that a 1,000-gallon gasoline UST was formerly located beneath the asphalt-paved area on the northeastern portion of former Lot 1 (western portion of the Site). The spill was reported to NYSDEC when slightly elevated concentrations of VOCs in groundwater and SVOCs in soil adjacent to the former UST were discovered during a Phase II investigation. The tank was subsequently cut, cleaned, and removed from the Site and the Spill was closed the same month. Although Spill No. 1407300 was closed in

October 2014, it is noted that NYSDEC recommended groundwater monitoring after tank closure, which was not conducted.

Undocumented Discharges - Undocumented discharges from the Site's historic use as a dry cleaner may have occurred. In addition, during AKRF's Phase I ESA inspection for the 1679 Westchester Avenue (eastern) portion of the Site, a fill port and vent pipe were observed on the eastern Site building façade along Fteley Avenue. Although a tank was not observed within the former building, several NYCDOB documents dated between 2001 and 2007 related to a No. 2 fuel oil-powered boiler were reviewed, including two open violations. During a Site inspection in April 2018, the cellar was accessed and two cut pipes were observed along the eastern wall. Based on their configuration, the pipes are suspected to be associated with the tank vent pipe and fill port observed along Fteley Avenue. No other evidence of an existing or former fuel oil tank was observed.

- Fill – Fill was observed during the SI and RI at depths up to 20 feet below grade (boring termination depth) across the Site. Soil/fill samples submitted for laboratory analysis contained elevated concentrations of SVOCs, metals, PCBs, and pesticides.
- Historical Uses of Surrounding Area – Historical reports identified former uses in the surrounding area that may have affected the Site subsurface, including a former automotive repair shop east-adjacent to the Site across Fteley Avenue and a former paint store approximately 30 feet north of the Site.

2.11.3 Contaminated Media

AKRF's SI and RI concluded that contaminated soil, groundwater, and soil vapor are present at the Site. The primary COCs at the Site include PAHs, pesticides, PCBs, and metals in soil/fill across the entire Site from surface grade to the water table, with the most elevated concentrations of SVOCs and metals on the western and northwestern portions of the Site in soil borings SB-2, SB-7, SB-8, SB-9, RI-SB-01, RI-SB-07, RI-SB-09, RI-SB-17, RI-SB-18. SVOCs were detected above TOGS in groundwater on the northeastern portion of the Site and metals were detected above TOGS in groundwater across the entire Site. Petroleum-related VOCs detected above TOGS in the groundwater samples were collected from the north-central portion of the Site near the former 1,000-gallon UST and on the west-central portion of the Site. The elevated concentrations of SVOCs in the groundwater samples may be related to sediment entrained in the samples, which was noted during sampling. Because the concentrations of metals were detected in both the total and dissolved samples, the elevated concentrations are most likely related to regional groundwater contamination. Elevated concentrations of petroleum- and solvent-related VOCs were detected in soil vapor. The greatest concentration of PCE and TCE were detected beneath the Westchester Avenue sidewalk (off-site). The petroleum- and solvent-related VOCs in soil vapor are likely related to the historic filling, petroleum storage and handling, the NYSDEC petroleum spill, and use as a dry cleaner.

2.11.4 Identification of Standards, Criteria and Guidance (SCGs)

The following remedial SCGs apply to the project and are the performance criteria used to determine whether if the Remedial Action Objectives (RAOs) have been met:

- Soil – 6 NYCRR Part 375, UUSCOs, RRSCOs, and PGWSCOs (December 2006); NYCRR Part 371 - Identification and Listing of Hazardous Wastes; 6 NYCRR Part 376 - Land Disposal Restrictions; and NYCRR Part 360 - Solid Waste Management Facilities.

- Groundwater – 6 NYCRR Parts 700-706 - Water Quality Standards (June 1998), and TOGS 1.1.1 AWQS and Guidance Values and Groundwater Effluent Limitations.
- In addition, the following SCGs are applicable to the remedial program at the Site:
- NYSDEC DER-10 – Technical Guidance for Site Investigation and Remediation (May 2010)
- NYSDEC Draft Brownfield Cleanup Program Guide (May 2004)
- NYSDOH Generic CAMP
- DER-23 (January 2010)
- 6 NYCRR Part 372 – Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities (November 1998)
- 6 NYCRR Subpart 374-1 – Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities (November 1998)
- 6 NYCRR Subpart 374-3 – Standards for Universal Waste (November 1998)
- 6 NYCRR Part 375 – Environmental Remediation Programs (December 2006)
- 6 NYCRR Part 612 – Registration of Petroleum Storage Facilities (February 1992)
- 6 NYCRR Part 613 – Handling and Storage of Petroleum (February 1992)
- 6 NYCRR Part 614 – Standards for New and Substantially Modified Petroleum Storage Tanks (February 1992)
- 40 CFR Part 280 – Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks
- 29 CFR Part 1910.120 – Hazardous Waste Operations and Emergency Response
- 40 CFR Part 144 – Underground Injection Control Program

Additional regulations and guidance may be applicable, relevant, and appropriate to the remedial alternatives and will be complied with in connection with implementation of the remedial program. However, the list above is intended to represent the principal SCGs that should be considered in evaluating the remedial alternatives for the Site. SCGs for the Site are provided in Appendix A.

2.11.5 Soil/Fill Contamination

Based on an evaluation of the data and information from the SI and RI, soil/fill is a media of concern at the Site. The SI and RI documented elevated concentrations of SVOCs, PCBs, pesticides, and metals in soil. The vertical and horizontal extent of soil/fill contamination was identified to be Site-wide between surface grade and the groundwater table, which was encountered between approximately 9 and 11 feet below surface grade. Evidence of petroleum-impacted saturated soil, including dark staining, petroleum-like odors, and elevated PID readings, was detected in saturated soil during installation of monitoring well RI-MW-05 on the north-central portion of the Site. The presence of petroleum in soil is likely related to the former storage, use, and handling of petroleum products and may be related to closed-status NYSDEC Spill No. 1407300. The elevated concentrations of SVOCs, metals, PCBs, and pesticides in soil/fill from surface grade to the groundwater table appear to be related to historic filling Site-wide.

2.11.6 Summary of Soil/Fill Data

Fifty-seven soil/fill samples were collected for laboratory analysis during the SI and RI. One VOC, acetone, was detected in three soil samples at concentrations up to 0.0681 milligrams per kilogram (mg/kg), above its UUSCO of 0.05 mg/kg, but below its RRSCO of 100 mg/kg. VOCs were not detected at concentrations above RRSCOs. SVOCs were detected at concentrations above their respective UUSCOs and/or RRSCOs in 43 soil/fill samples and 4 blind duplicate samples. 4-methylphenol was detected in one sample at a concentration of 0.42 mg/kg, above its UUSCO of 0.33 mg/kg; 4-methylphenol does not have an established RRSCO. The following SVOCs were detected above their UUSCOs and/or RRSCOs: benzo(a)anthracene in 42 samples and 4 blind duplicate samples at concentrations up to 31.8 mg/mg, above its UUSCO and RRSCO of 1 mg/kg; benzo(a)pyrene in 40 samples and 4 blind duplicate samples at concentrations up to 28.4 mg/kg, above its UUSCO and RRSCO of 1 mg/kg; benzo(b)fluoranthene in 43 samples and 4 blind duplicate samples at concentrations up to 33.9 mg/kg, above its UUSCO and RRSCO of 1 mg/kg; benzo(k)fluoranthene in 27 samples and 1 blind duplicate sample at concentrations up to 13.3 mg/kg, above its UUSCO of 0.8 mg/kg and/or its RRSCO of 3.9 mg/kg; chrysene in 40 samples and 2 blind duplicate samples at concentrations up to 31 mg/kg, above its UUSCO of 1 mg/kg and/or its RRSCO of 3.9 mg/kg; dibenzo(a,h)anthracene in 28 samples and 1 blind duplicate sample at concentrations up to 6.42 mg/kg, above its UUSCO and RRSCO of 0.33 mg/kg; and indeno(1,2,3-cd)pyrene in 47 samples and 4 blind duplicate samples at concentrations up to 17.4 mg/kg from a diluted analysis, above its UUSCO and RRSCO of 0.5 mg/kg.

Pesticides were detected at concentrations above their respective UUSCOs in 40 soil samples and 1 blind duplicate sample, including: 4,4'-DDD in 7 samples and 1 blind duplicate sample at concentrations up to 0.133 mg/kg; 4,4'-DDE in 27 samples at concentrations up to 0.153 mg/kg; and 4,4'-DDT in 28 samples at concentrations up to 0.571 mg/kg. Total PCBs were detected above the UUSCO in 5 soil samples. Pesticides and PCBs were not detected at concentrations above their respective RRSCOs.

Twelve metals were detected at concentrations above their respective UUSCOs and/or RRSCOs, including: arsenic in 7 samples at concentrations up to 51.3 mg/kg, above its UUSCO of 13 mg/kg and/or its RRSCO of 16 mg/kg; barium in 6 samples at concentrations up to 4,990 mg/kg from a diluted analysis, above its UUSCO of 350 mg/kg and/or its RRSCO of 400 mg/kg; cadmium in 1 sample at a concentration of 2.8 mg/kg, above its UUSCO of 2.5 but below its RRSCO of 4.3 mg/kg; copper in 29 samples and 1 blind duplicate sample at concentrations up to 284 mg/kg from a diluted analysis, above its UUSCO of 50 mg/kg and its RRSCO of 270 mg/kg; hexavalent chromium in 14 soil samples at concentrations up to 10.5 mg/kg, above its UUSCO of 1 mg/kg, but below its RRSCO of 110 mg/kg; lead in 54 samples and 4 blind duplicate samples at concentrations up to 4,400 mg/kg from a diluted analysis, above its UUSCO of 63 mg/kg and/or its RRSCO of 400 mg/kg; mercury in 50 samples and 4 blind duplicate samples at concentrations up to 3.9 mg/kg from a diluted analysis, above its UUSCO of 0.18 mg/kg and/or its RRSCO of 0.81 mg/kg; nickel in 8 samples at concentrations up to 551 mg/kg, above its UUSCO of 30 mg/kg and its RRSCO of 310 mg/kg; silver in 7 samples at concentrations up to 5.4 mg/kg, above its UUSCO of 2 mg/kg but below its RRSCO of 180 mg/kg; and zinc in 51 samples and 3 blind duplicate samples at concentrations up to 2,430 mg/kg from a diluted analysis, above its UUSCO of 109 mg/kg, but below its RRSCO of 10,000 mg/kg.

2.11.7 Comparison of Soil/Fill with Standards, Criteria, and Guidance (SCGs)

The results of the laboratory data presented in the SIR and RIR indicate that soil/fill is a media of concern. The following compounds of concern were detected above the 6NYCRR Part 375 UUSCOs in the on-site soil/fill: acetone, 4-methylphenol, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, dieldrin, 4,4'-DDD, 4,4'-DDT, 4,4'-DDE, total PCBs, arsenic, barium, cadmium, copper, hexavalent chromium, lead, mercury, nickel, silver, and zinc. The aforementioned SVOCs, with the exception of 4-methylphenol, and metals were also detected at concentrations above the 6NYCRR Part 375 RRSCOs.

Soil/fill sample concentrations above their respective UUSCOs and/or RRSCOs are presented in Attached Table 1. Soil/fill data collected during the SI and RI is presented in Attached Tables 5 through 5 and 13 through 17, respectively. Concentration maps that present the locations of the soil borings and summarizes UUSCO and RRSCO exceedances for the SI soil samples, RI soil samples analyzed from borings RI-SB-01 through RI-SB-10, and RI soil samples analyzed from borings RI-SB-13 through RI-SB-21 are presented as Figures 4a, 4b, and 4c, respectively.

2.11.8 Groundwater Contamination

Based on the results of the SI and RI, groundwater is a media of concern at the Site. The VOCs benzene and isopropylbenzene, SVOCs, and metals were detected at concentrations above their respective standards. The elevated concentrations of petroleum-related VOCs in groundwater appear to be related to the former storage, handling, and use of fuel oil on-site. The elevated concentrations of SVOCs and metals in groundwater may be related to regional contamination and/or sediment entrained in the groundwater samples.

Summary of Groundwater Data

Eleven groundwater samples were collected for laboratory analysis during the SI and RI.

Two VOCs were detected in the groundwater samples at concentrations above their respective TOGS. Benzene was detected in one sample and its blind duplicate sample at concentrations of 4 micrograms per liter (µg/L) and 5.2 µg/L, respectively, above its TOGS of 1 µg/L. Isopropylbenzene was detected in one groundwater sample and its blind duplicate sample at concentrations of 7.8 µg/L and 8.8 µg/L, above its TOGS of 5 µg/L. Eight SVOCs were detected in the groundwater samples at concentrations above their respective TOGS, including: acenaphthene in 1 sample and one blind duplicate sample at concentrations of 21.1 µg/L, above its TOGS of 20 µg/L; benzo(a)anthracene at concentrations up to 5.6 µg/L in 4 samples, above its TOGS of 0.002 µg/L; benzo(a)pyrene in 3 samples at concentrations up to 5 µg/L, above its TOGS of non-detect (ND); benzo(b)fluoranthene in 3 samples at concentrations up to 5.7 µg/L, above its TOGS of 0.002 µg/L; benzo(k)fluoranthene in 2 samples at concentrations up to 2.5 µg/L, above its TOGs of 0.002 µg/L; chrysene in 3 samples at concentrations up to 4.9 µg/L, above its TOGS of 0.002 µg/L; indeno(1,2,3-c,d)pyrene in 2 samples at concentrations up to 2.6 µg/L, above its TOGS of 0.002 µg/L; and naphthalene in one sample and one blind duplicate sample at concentrations up to 22.4 µg/L, above is TOGS of 10 µg/L.

Nine metals (arsenic, barium, copper, iron, lead, manganese, magnesium, mercury, and sodium) were detected in the total (unfiltered) groundwater samples at concentrations above their respective TOGS, including: arsenic in 4 samples and 1 blind duplicate sample at concentrations up to 598 µg/L, above its TOGS of 25 µg/L; barium in 1 sample at a concentration of 1,220 µg/L, above its TOGS of 1,000 µg/L; copper in 1 groundwater sample at a concentration of 321 µg/L, above its TOGS of 200 µg/L; iron in 6 samples and 3 blind duplicate samples at concentrations up to 48,600 µg/L, above its TOGS of 300 µg/L; lead in 5 samples at concentrations up to 504 µg/L, above its TOGs of 25 µg/L; magnesium in 5 samples and 3 blind duplicate samples at concentrations up to 90,000 µg/L, above its TOGs of 35,000 µg/L; manganese in 11 samples and 3 blind duplicate samples at concentrations up to 1,130 µg/L, above its TOGS of 300 µg/L; mercury in 2 samples and 1 blind duplicate sample at concentrations up to 3.9 µg/L, above its TOGS of 0.7 µg/L; and sodium in 9 samples at concentrations up to 635,000 µg/L from a diluted analysis, above its TOGS of 20,000 µg/L. Six metals (arsenic, barium, iron, manganese, magnesium, and sodium) were detected in the dissolved (filtered) groundwater samples at concentrations above their respective TOGS, including: arsenic in 3 samples and 1 blind duplicate sample at concentrations up to 724 µg/L, above its TOGS of 25 µg/L; barium in 1 sample at a concentration of 1,250 µg/L, above its TOGS of 1,000 µg/L; iron in 6 samples and 3 blind duplicate samples at concentrations up to 21,200 µg/L, above its TOGS of 300 µg/L; manganese in 11 samples and 3 blind duplicate samples at concentrations up to 1,170 µg/L, above its TOGS of 300 µg/L; magnesium in 5 samples and 3 blind duplicate samples at a concentration of 109,000 µg/L, above its TOGS of 35,000 µg/L; and sodium in 5 samples and 3 blind duplicate samples at concentrations up to 107,000 µg/L, above its TOGS of 20,000 µg/L.

Total PFAS were detected above the DWHAL of 70 nanograms per liter (ng/L) in 3 samples and two blind duplicate samples at concentrations up to an estimated 138.38 ng/L. Comparison of Groundwater with SCGs

The results of the laboratory data presented in the SIR and RIR indicate that groundwater is a media of concern. The following compounds of concern were detected above the TOGS in groundwater: benzene, isopropylbenzene, acenaphthene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-c,d)pyrene, naphthalene, total and dissolved arsenic, total and dissolved barium, total copper, total and dissolved iron, total lead, total and dissolved manganese, total and dissolved magnesium, and total and dissolved sodium.

Groundwater sample concentrations above TOGS and DWHALs are presented in Attached Tables 2 and 3, respectively. Groundwater data collected during the SI and RI is presented in Attached Tables 10 through 14 and 22 through 28, respectively. Concentration maps that present the locations of the groundwater monitoring wells and summarizes TOGS exceedances for the SI and RI groundwater samples are presented on Figures 5a and 5b, respectively.

2.11.9 Soil Vapor Contamination

Sixteen soil vapor samples were collected from 16 temporary soil vapor points during the SI and RI. VOCs associated with petroleum were detected at concentrations up to 1,880 micrograms per cubic meter (µg/m^3). VOCs associated with solvents were detected at concentrations up to 424 µg/m^3. The elevated concentrations of petroleum- and solvent-related VOCs in soil vapor appear to be related to the former on-site storage, handling, and use of fuel oil, and a dry cleaner.

VOCs associated with petroleum were detected at concentrations up to 1,880 micrograms per cubic meter (µg/m3). VOCs associated with solvents were detected at concentrations up to 1,020 µg/m3. PCE was detected in each of the soil vapor samples at concentrations ranging from 4.1 µg/m3 to 1,020 µg/m3. PCE was detected in soil vapor samples SV-1

20170808, SV-2 20170921, SV-3 20170808, RI-SV-01 20180529, RI-SV-02 20180529, RI-SV-06 20180529, RI-SV-07 20180802, RI-SV-08 20180529, RI-SV-09 20180802, and RI-SV-11 20180529 at concentrations less than 100 µg/m3 (20 µg/m3, 80 µg/m3, 14 µg/m3, 31 µg/m3, 12 µg/m3, 16 µg/m3, 84.1 µg/m3 from a diluted analysis, 4.1 µg/m3, 51 µg/m3 from a diluted analysis, and 62 µg/m3, respectively). According to NYSDOH Soil Vapor/Indoor Air Matrix B, the applicable matrix for PCE, soil vapor concentrations less than 100 µg/m3 result in a "no further action", "monitor", or "mitigate" action, depending on indoor air concentrations. PCE was detected in soil vapor samples SV-7 20170921, SV-8 20170921, RI-SV-04 20180821, RI-SV-05 20180821, and RI-SV-10 20180529 at concentrations between 100 µg/m3 and 999 µg/m3 (110 µg/m3, 220 µg/m3, 424 µg/m3, 269 µg/m3, and 121 µg/m3, respectively). According to Matrix B, concentrations of PCE between 100 µg/m3 and 999 µg/m3 result in a "no further action", "monitor", or "mitigate" action, depending on indoor air concentrations. PCE was detected in soil vapor sample RI-SV-03 20181009 at a concentration of 1,020 µg/m3. According to Matrix B, concentrations of PCE of 1,000 µg/m3 and above result in a "mitigate" action, regardless of indoor air concentrations. However, it is noted that RI-SV-03 20181009 was collected from an off-site location within the Westchester Avenue sidewalk.

TCE was detected in 9 of the soil vapor samples at concentrations ranging from 0.39 µg/m3 to 61.3 µg/m3. TCE was detected in soil vapor samples SV-1 20170808, SV-2 20170921, SV-3 20170808, and SV-8 20170921 at concentrations less than 6 µg/m3 (0.97 µg/m3, 1.5 µg/m3, 0.39 µg/m3, and 0.81 µg/m3, respectively). According to NYSDOH Soil Vapor/Indoor Air Matrix A, the applicable matrix for TCE, soil vapor concentrations less than 6 µg/m3 result in a "no further action" or "identify source(s) and resample or mitigate" action, depending on indoor air concentrations. TCE was detected in soil vapor samples SV-7 20170921, RI-SV-03 20181009, RI-SV-05 20180821, and RI-SV-09 20180802 at concentrations between 6 µg/m3 and 59 µg/m3 (7.5 µg/m3, 7 µg/m3, 30 µg/m3, and 7.5 µg/m3 from a diluted analysis, respectively). According to NYSDOH Soil Vapor/Indoor Air Matrix A, soil vapor concentrations between 6 µg/m3 and 59 µg/m3 result in a "no further action" "monitor" or "mitigate" action, depending on indoor air concentrations. TCE was detected in soil vapor sample RI-SV-04 20180821 at a concentration of 61.3 µg/m3. According to NYSDOH Soil Vapor/Indoor Air Matrix A, soil vapor concentrations of 60 µg/m3 and above result in a mitigate action, regardless of indoor air concentrations.

Cis-1,2-DCE was detected in two soil vapor samples, RI-SV-04 20180821 and RI-SV-05 20180821, at concentrations of 4.4 µg/m3 and 1.4 µg/m3, respectively. According to NYSDOH Soil Vapor/Indoor Air Matrix A, the applicable matrix for cis-1,2-DCE, concentrations below 6 µg/m3 result in a "no further action" or "identify source(s) and resample or mitigate" action, depending on indoor air concentrations.

No other compounds with established Matrices were detected.Comparison of Soil Vapor with SCGs

The results of the laboratory data presented in the SIR and RIR indicate that soil vapor is a media of concern. Soil vapor data collected during the RI and SRI is presented in Attached Tables 12 and 24, respectively. SI and RI soil vapor sample concentrations are shown on Figures 6a and 6b, respectively.

2.12 Environmental and Public Health Assessments

2.12.1 Qualitative Human Health Exposure Assessment (QHHEA)

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

The SI and RI, as described in the SIR and the RIR, respectively, are sufficient to complete a QHHEA. A QHHEA was performed to determine whether the Site poses an existing or future health hazard to the Site's exposed or potentially exposed population. The sampling data from the SI and RI were evaluated to determine whether there is any health risk by characterizing the exposure setting, identifying exposure pathways, and evaluating contaminant fate and transport. This QHHEA was prepared in accordance with Appendix 3B and Section 3.3 (b) 8 of the NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation. The full QHHEA, which describes the contaminants of concern, potential routes of exposure, potential receptors, and existence of human health exposure pathways, is included in Section 6.0 of the RIR, which is provided in Appendix E.

2.12.2 Overall Human Health Exposure Assessment (OHHEA)

The Site is vacant and secured, but the uncapped, landscaped area in the southwestern portion of the Site constitutes an existing potential exposure pathway from contaminants in exposed on-site soil and fill. Once redevelopment activities begin, there will be a potential exposure pathway from contaminated surface soil/fill to construction workers as these workers could potentially ingest, inhale, or have dermal contact with any exposed contaminated fill or soil. As development plans currently include dewatering, there will be an additional potential exposure pathway, as workers could potentially inhale off-gassing vapors or have dermal contact with contaminated groundwater. Without remediation, once redevelopment of the Site has been completed, there will be a potential exposure pathway from the potential off-gassing of residual organic vapors in the soil and/or groundwater to adult and child residents, maintenance staff, students, visitors, and commercial workers through cracks or openings in the foundations of the new building and surrounding buildings. There will also be a potential exposure pathway from dermal contact, inhalation, or ingestion of surface soil in any landscaped or non-capped areas by adult and child residents, visitors, and trespassers. In addition, there will be a potential exposure pathway from any dust emanating from the Site to off-site pedestrians, visitors, cyclists, and adult and child residents.

Based on the results of the QHHEA, a NYSDEC-approved Remedial Action Work Plan (RAWP), which includes a health and safety plan to protect on-site workers, should be implemented during Remedial Action (RA) and construction of the proposed Site building to ensure that the potential exposure pathways identified do not become complete. The RAWP should address the contaminated soil/fill at the Site and the installation/implementation of certain engineering and/or institutional controls (ECs and/or ICs, respectively).

NYSDEC and NYSDOH have not yet determined if the Site poses a significant threat to human health and the environment. Implementation of the RAs outlined in this RAWP will prevent the potential exposure pathways from becoming complete.

2.13 Remedial Action Objectives (RAOs)

Based on the results of the SI and RI, the following RAOs have been identified for the Site.

2.13.1 Groundwater

RAOs for Public Health Protection

- Prevent contact with, or inhalation of, volatiles emanating from contaminated groundwater.

2.13.2 Soil

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

2.13.3 Soil Vapor

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at the Site.
- Prevent the off-site migration of contaminants.

3.0 WASTE CLASSIFICATION

All work in this section will include implementation of the QAPP, provided as Appendix G, and the Site-specific Health and Safety Plan (HASP), provided in Appendix H, which includes on-site and community air monitoring procedures.

3.1 Waste Classification Sampling

The proposed remedy includes soil excavation to approximately 10 feet below grade across the entire Site. Approximately 14,600 tons of material are estimated to be disposed of off-site as part of the remedy.

To gain acceptance from disposal facilities in advance of excavation, in-situ soil sampling was required. Based on the excavation and disposal of approximately 14,600 tons of material and to ensure representative samples are collected, 12 waste classification samples consisting of one grab and one five-point composite sample each were collected from the Site on November 9, 2018. The testing included sampling and laboratory analyses intended to satisfy the analytical requirements of many soil disposal/receiving facilities in New Jersey, New York, and Pennsylvania. However, it is possible that once a specific facility is selected, additional testing and/or chemical analysis may be required.

In accordance with the typical requirements of disposal facilities permitted to receive fill and non-hazardous petroleum-contaminated soil, the grab soil samples were analyzed for VOCs plus 10 tentatively identified compounds (TICs) by EPA Method 8260. The five-point composite samples were analyzed for: SVOCs plus 20 TICs by EPA Method 8270; Target Analyte List (TAL) metals and trivalent chromium; Toxicity Characteristic Leaching Procedure (TCLP) eight Resource Conservation and Recovery Act (RCRA) metals plus copper, nickel, and zinc; PCBs by EPA Method 8082; pesticides by EPA 8081; total cyanide; total petroleum hydrocarbons (TPH) by EPA Method 8015 for diesel range organics (DRO) and gasoline range organics (GRO); extractable petroleum hydrocarbon (EPH); hexavalent chromium; and ignitability, corrosivity, and reactivity. One sample for paint filter by EPA Method 9095 was also collected. EnCore® sampling devices were used to collect the grab samples. A grid of the Site showing approximately 800 cubic yard areas is shown on Figure 9.

3.2 Waste Classification Report

A waste classification report was prepared, which provides a summary of the field work and analytical results. The report includes boring logs and a sample location map. The report will be submitted to the intended disposal facility(ies) along with the waste disposal profile form so that the material can be approved for disposal prior to the start of excavation. The waste classification report is included in Appendix E.

4.0 DESCRIPTION OF REMEDIAL ACTION PLAN (RAP)

4.1 Evaluation of Remedial Alternatives

This section includes a review of remediation alternatives that were considered for the remedy phase of the BCP. The purpose of completing the alternatives analysis is to identify, evaluate, and select a remedy to address the contamination identified during the SI and RI. The RAOs for groundwater and soil include source removal to prevent the potential for exposure and contaminant migration. The RAOs for soil vapor include preventing soil vapor from entering the proposed new Site building. The following performance measures were used to complete the evaluation of remedial alternatives:

- Protection of human health and the environment
- Compliance with SCGs
- Short-term effectiveness and impacts
- Long-term effectiveness and permanence
- Reduction of toxicity, mobility, or volume of contaminated material
- Implementability
- Cost effectiveness
- Community Acceptance
- Land use
- 6 NYCRR Part 375-6 Soil Cleanup Objectives
- New York State Groundwater Quality Standards – 6 NYCRR Part 703
- NYSDEC Ambient Water Quality Standards and Guidance Values – TOGS 1.1.1
- NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation - December 2002 (or later version if available)
- NYSDEC Draft Brownfield Cleanup Program Guide – May 2004
- New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan
- NYS Waste Transporter Permits – 6 NYCRR Part 364
- NYS Solid Waste Management Requirements – 6 NYCRR Part 360 and Part 364

Remedial Alternative 1 – No Further Action

This alternative consists of allowing the Site to remain in its current condition. No remedial activities would occur under this remedy.

1. Protection of Human Health and the Environment – Not satisfied, as contaminated soil would remain and the potential for vapor intrusion into nearby off-site buildings would still exist.
2. Compliance with SCGs – Not satisfied, as contaminants would remain in soil at concentrations that exceed NYSDEC Part 375 UUSCOs and RRSCOs, and groundwater would remain at concentrations that exceed NYSDEC TOGS. Additionally, contaminants would remain in soil vapor at elevated concentrations.

3. Short-Term Effectiveness and Impacts – Not satisfied, as the soil contamination would remain and there would be no measures in place to protect occupants at existing or future nearby off-site buildings.
4. Long-term Effectiveness and Permanence – Not satisfied, as potential exposure pathways identified in the QHHEA would remain.
5. Reduction of Toxicity, Mobility, or Volume of Contaminated Material – Not satisfied, as potential future redevelopment of adjacent properties could be affected by migrating contaminants in groundwater and/or soil vapor. Any reduction of toxicity, mobility, or volume of contaminated material would be through natural attenuation.
6. Implementability – Very feasible, as no personnel or regulatory approvals would be needed, and natural attenuation would be the only remedial plan utilized.
7. Cost Effectiveness – Very cost effective.
8. Community Acceptance – Not satisfied, as this alternative will allow the contamination to remain in place. The Site would remain vacant, which is unacceptable, as the Site is considered to be an unattractive blight on the community in its current condition and is slated to be redeveloped into affordable housing.
9. Land Use – Not satisfied, as the Site would not be redeveloped into a new affordable residential building with community space. In addition, without remediation, potential future purchasers of the Site may be dissuaded from purchasing the Site.

Remedial Alternative 2 – Track 1 Unrestricted Use Soil Cleanup Objectives (UUSCOs)

This alternative would include removal and/or treatment of all contaminated soil, groundwater, and soil vapor to comply with UUSCOs. This would include, but is not limited to, the following: excavation of all soil above bedrock exceeding UUSCOs.

1. Protection of Human Health and the Environment – Satisfied, as all soil above UUSCOs would be removed and VOC groundwater concentrations would be reduced to comply with TOGS, and thus the source of contaminants in soil vapor would be removed.
2. Compliance with SCGs – Satisfied, as all soil above UUSCOs would be removed and VOC groundwater contamination would comply with TOGS.
3. Short-term Effectiveness and Impacts – Effective in reducing soil contamination in the short-term, as all contaminated soil will be removed from the Site. There is, however, a risk of short-term impacts to Site workers and the community, as the process of excavating contaminated soil may cause the release of particulates and organic vapors. In addition, large scale dewatering would be needed to excavate the soil below the water table. This risk can be controlled by employing health and safety procedures during remediation and construction.
4. Long-term Effectiveness and Permanence – Achieved, as removal of all soil above UUSCOs and remediation of VOCs in groundwater to comply with TOGS would allow for unrestricted use of the Site.
5. Reduction of Toxicity, Mobility, or Volume of Contaminated Material – As all soil above UUSCOs at the Site would be removed and all contaminated groundwater would be treated, the toxicity, mobility, and the volume of contaminants would be greatly reduced. Additionally, as the source of soil vapor contamination would be removed, the concentrations of contaminants in soil vapor would be significantly reduced or eliminated completely.

6. Implementability – This alternative would require excavation of all fill and native soil down to bedrock (approximately 40 feet below grade) Site-wide. This would require large scale dewatering and treatment of water prior to discharge. In addition, support of excavation would have to be installed on all sides of the Site. As the Site is adjacent to the elevated NYC subway, NYC Transit (NYCT) would have to approve the deep excavation and SOE. Depending on NYCT's response, this alternative may not be implementable. Even if it is implementable, the remedy would be difficult to implement as it would require additional time beyond the proposed project schedule.
7. Cost Effectiveness – Not cost-effective, as it will require extensive structural support to excavate to all fill and native soil down to bedrock (approximately 40 feet below grade) Site-wide. Based on an excavation depth of 40 feet below grade, approximately 54,615 cubic yards of material would need to be disposed of off-site to meet UUSCOs. Using the conversion factor of 1.5 tons per cubic yard, this equals approximately 82,000 tons. The market rate for the transportation and disposal of non-hazardous, regulated soils ranges from $40-$70 per ton. Using these rates, the soil disposal for this amount of contaminated material would be on the order of $3,280,000 to $5,740,000. Approximately 41,000 cubic yards of clean fill would then have to be imported prior to building construction to bring the Site up to grade. Using a market rate of $30 per cubic yard of clean fill, this equals approximately $1,230,000. Although Track 1 SCOs would be achieved, to comply with the Hazardous Materials E Designation, a vapor barrier would still need to be installed beneath the new building foundation and subgrade walls. Using a market rate of $7 per square foot, this equals approximately $150,000. Inspection, oversight, and reporting associated with this alternative are estimated at a rate of 10% of total costs ($7,120,000) or approximately $712,000. To perform an excavation of this magnitude, extensive support of excavation would have to be performed for the existing roadways and north-adjacent buildings for an estimated cost of $1,000,000. The cost for this alternative was estimated by combining these figures for an approximate total of $8,832,000. This assumes remedial work would be performed concurrently with the planned redevelopment of the Site.
8. Community Acceptance – Satisfied, as this alternative would be protective of human health and the environment. The Site would also be transformed from a blight on the community into affordable residential units with community facility space.
9. Land Use – Satisfied, as this alternative would result in the cleanup of the Site for unrestricted use, which would allow for redevelopment of the Site. Redevelopment of the Site will eliminate the current concerns in connection with the Site's current blighted condition while providing affordable housing and community resources.

Remedial Alternative 3 – Track 4 Restricted Residential Use Soil Cleanup Objectives (RRSCOs)

Alternative 3 would include removing the source of contamination, which would include: any USTs, fill ports, vent pipes, and other associated piping; excavation and off-site disposal of contaminated soil/fill between surface grade and 10 feet below surface grade across the Site in accordance with applicable federal, state, and local laws and regulations, as defined by 6 NYCRR Part 375-6.8; import of clean fill or stone required to raise the grade at the locations of the proposed crawl spaces from approximately 10 feet to approximately 7 feet below grade and to 2 feet below grade in the landscaped areas; collection of post-remedial excavation endpoint samples; installation of a 20-mil vapor barrier to satisfy the Hazardous Materials E-designation, and the installation of ECs and ICs including the installation of a composite cover system.

A BCP Track 4 cleanup would allow for ICs and ECs to be implemented for long-term management of the Site and to prevent future exposure to any residual contamination. As such, an Environmental Easement (EE) would be recorded for the Site to implement the controls and a Site Management

Plan (SMP) would be prepared to specify future soil handling requirements, including a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the Site, provisions for the management and inspection of the ECs that may be necessary, maintaining Site access controls, Department notification, and land use restrictions. Periodic inspection and reporting would be required to verify that the restrictions and requirements included in the EE remain in place and effective. In addition, the Hazardous Materials E-designation would remain.

1. Protection of Human Health and the Environment – Satisfied, as the source of contamination would be removed and any residual contamination would be covered by a composite cover system. Any tanks and associated piping would also be removed. Additionally, ICs and ECs would be implemented to prevent future exposure to any residual contamination.
2. Compliance with SCGs – Satisfied, as RAOs would be achieved by removing the potential for human and environmental exposures to chemical constituents above RRSCOsTrack 4 RRSCOs.
3. Short-term Effectiveness and Impacts – Satisfied, as this alternative would be effective in reducing soil contaminant levels in the short term, since the source of contamination, including any encountered tanks, fill ports, and/or vent lines, would be removed from the Site. Mitigation measures, including a HASP and CAMP, would protect and limit exposure of workers and the surrounding community to contaminated soil, particulate, groundwater, and/or soil vapors during soil removal.
4. Long-term Effectiveness and Permanence – Satisfied, as removal of the source of contamination, the installation and maintenance of ECs (including installation of a composite cover system), and the implementation of ICs would address residual contamination and limit exposure of future occupants to contaminated soil, groundwater, and/or soil vapor, thus achieving the RAOs.
5. Reduction of Toxicity, Mobility, or Volume of Contaminated Material – Satisfied, as the volume of contaminants would be greatly reduced. Removal of source material in soil would reduce residual contaminant mobility into groundwater and soil vapor. Incorporation of a vapor barrier into the proposed structure will reduce mobility of residual soil vapor contaminants with respect to migrating into the structure.
6. Implementability – Satisfied, as contaminated soil removal could be completed in a relatively short timeframe and the equipment and personnel needed to perform the proposed remedial actions are readily available. The majority of the soil to be excavated and disposed of off-site is expected to be classified as non-hazardous, regulated soil. Landfill/beneficial reuse space for these types of materials is readily available. Additionally, installation of the 20-mil vapor barrier would occur concurrently with development.
7. Cost Effectiveness – Satisfied, as this alternative is the most cost effective while being implementable. Under this alternative, approximately 14,600 tons of soil/fill would be excavated and disposed of off-site based on the data collected to date. The market rate for the transportation and disposal of non-hazardous, regulated soil ranges from \$40 to \$70 per ton. Using this range, the soil disposal for this project would be on the order of \$584,000 – \$1,022,000. Approximately 4,400 cubic yards of clean fill will need to be imported to backfill the former cellar area from 10 feet to 7 feet below grade for the proposed crawl spaces, and to raise the grade at the location of the proposed courtyard and install the 2-foot clean fill buffer for the proposed composite cover system. Using a market rate of \$30 per cubic yard, this equals \$132,000. A minimum 20-mil vapor barrier would be installed beneath the new building foundation and subgrade walls. Using a market rate of \$7 per square foot, this equals

approximately $150,000. A total of 40 post-excavation endpoints would total approximately $17,000. Inspection, testing and reporting associated with this work was estimated at a rate of 10% of total costs ($1,832,000), or approximately $183,200. The cost for this alternative was estimated by combining these figures for an approximate total of $1,504,200. This assumes the work would be performed concurrent with the planned Site redevelopment.

8. Community Acceptance – Satisfied, as this alternative would be protective of human health and the environment. The Site would also be transformed from a blight on the community into affordable residential units with community facility space.
9. Land use – Satisfied, as this alternative would result in the cleanup of the Site for residential use, which would allow for redevelopment of the Site. Redevelopment of the Site will eliminate the current concerns in connection with the Site's current blighted condition while providing affordable housing and community resources.

4.2 Selection of the Preferred Remedy

Remedial Alternative 1 (no action) allows the Site to remain in its current condition. This remedial alternative was reviewed and found to be unacceptable, since it would not achieve the RAOs. Therefore, this remedial alternative is not considered a feasible solution.

Remedial Alternative 2 (Track 1) would achieve the RAOs, but was found to be unacceptable since it is not cost-effective and is very difficult if not impossible to implement. Therefore, this remedial alternative is not considered a feasible solution.

Remedial Alternative 3 (Track 4) achieves the RAOs while being cost-effective. After careful consideration with respect to the evaluation criteria listed, Remedial Alternative 3 is determined to be the preferred remedy, since it adequately addresses the subsurface contamination with the most cost-effective approach and is easily implementable.

4.2.1 Zoning and Land Use Designation

The Site is in the process of being rezoned from R-6 (residential) to R8A and R8A/C2-4 (residential and commercial) to support the proposed redevelopment. This rezoning action changes the floor-to-area ratio from 2.43 to 7.02. The City's Rezoning Action (CEQR No. 17DCP154X) is being completed in connection with the ULURP Application (Nos. 170377ZMX, 170378ZRX). The Site was assigned E-Designations for Air, Noise, and Hazardous Materials as part of the rezoning action. The architect's certification that the proposed plans comply with the proposed zoning is enclosed in Appendix D. The Negative Declaration is included in Attachment I.

4.2.2 Applicable Comprehensive Community Master Plans or Land Use Plans

The western portion of the Site has been vacant since 2012 and the eastern portion was vacated in January 2018. Under the DeBlasio administration, the city-wide affordable housing crisis spurred the construction of several housing projects for low- to market-rate rental and owned properties throughout the City. Many of the newly renovated or constructed projects in Soundview have been for mixed-use residential and commercial developments. Additionally, Soundview Park has undergone a transformation, including enhanced pedestrian access and recreational areas. Enhanced policing techniques, changing economic demographics, and increasing immigration of various socioeconomic classes have resulted in a significant decline in crime rates. The redevelopment of the Site is in line with recent neighborhood trends and will contribute significantly to the reemergence of the Soundview neighborhood.

The Site is considered to be an unattractive blight on the community in its current condition. The proposed development will transform the vacant blighted lot into the proposed development called 1675 Apartments. The proposed development plan includes the construction of a new 10- to 12-story mixed-use building with 249 affordable apartment units and approximately 18,900 gross square feet of commercial and community facility space. Crawlspaces will comprise the lowest level in the eastern, southern, and northern portions of the building. A partial cellar on the western portion of the proposed new building will contain storage, a workshop, an office, a bike room, and mechanical spaces including a compactor room, a mechanical closet, a water meter/pump room, a suction tank room, an electrical room, a telecom room, and a detention tank room. The proposed courtyard on the northern portion of the Site will likely include landscaped and seating areas. The proposed development will match the ongoing redevelopment in the area.

The proposed development plans, including a zoning analysis, are included as Attachment D.

4.2.3 Surrounding Property Uses

The Site is bounded by residential buildings to the north; Westchester Avenue and the elevated 6 NYCT subway tracks to the south, followed by a commercial shopping center; Fteley Avenue, followed by commercial and residential buildings including a daycare facility to the east; and Metcalf Avenue, followed by the Bronx River Parkway to the west. The Site is located in a primarily residential and commercial area. The proposed development is consistent with the surrounding property uses and will support nearby existing commercial businesses.

4.2.4 Citizen Participation

A CPP was submitted to NYSDEC in May 2018 and was approved in a NYSDEC-issued letter dated June 12, 2018. The proposed remedy complies with the CPP. The CPP and the NYSDEC-issued approval letter are included in Appendix J.

4.2.5 Environmental Justice (EJ) Concerns

The Site is located in an EJ area. EJ efforts focus on improving the environment in communities, specifically minority and low-income communities, and addressing disproportionate adverse environmental impacts that may exist in those communities. The proposed redevelopment plan will alleviate concerns in connection with the Site’s current vacant condition while providing affordable housing units with residential amenities and community facilities. EJ concerns will also be addressed through the requirements of the CPP.

4.2.6 Population Growth Patterns

The population requiring affordable housing in New York City is expected to increase in the future. This project will help provide necessary affordable housing units to meet that need and will also be in conformance with the mayor’s plan to meet affordable housing needs for the City.

4.2.7 Accessibility to Existing Infrastructure

The Site is located two blocks east of the Morrison Avenue – Soundview Station (6 MTA Subway line). The Bx4 and Bx4A bus stops are south-adjacent to the Site along Westchester Avenue, the Bx27 is located 2 blocks south of the Site along Watson Avenue, and the Bx36 is located two blocks north of the Site along East 174th Street. The area is also supplied with municipal sewers and water, electric, telephone, natural gas, and fiber optic lines.

4.2.8 Proximity to Cultural Resources

There are no cultural resources located adjacent to the Site. However, many cultural resources are easily accessed from the Site via walking, biking, and/or public transportation, including Soundview Park, Pelham Bay Park, the Bronx River, the Bronx Zoo, the New York Botanical Garden, the Bronx Museum of the Arts, and various other smaller community and waterfront parks.

4.2.9 Proximity to Natural Resources

The Site is located in an area of the Bronx that does not contain a significant source of natural resources. However, natural resources such as parks and the waterfront along the Harlem and Bronx Rivers are easily accessible from the Site via public transportation.

4.2.10 Off-Site Groundwater Impacts

During the RI, groundwater was measured at depths ranging from approximately 9.8 to 11.0 feet below grade, or approximately 3.1 to 6.2 feet above NAVD, on the northwestern and southeastern portions of the Site, respectively. Groundwater beneath the Site flows in a generally southeasterly direction. The results of the SI and RI documented concentrations of petroleum-related VOCs, SVOCs, and metals in groundwater across the Site. Based on the low concentrations of VOCs in on-site groundwater, off-site groundwater is not expected to be affected. There are no public or private drinking water supply wells within a ½-mile radius of the Site. A figure showing groundwater elevations measured at each well, groundwater elevations, and contours is provided as Figure 7. The groundwater elevation survey is included as Appendix H of the RIR, which is included in Appendix E.

4.2.11 Proximity to Floodplains

The Site is not located within a floodplain.

4.2.12 Geography and Geology of the Site

The Site is located in the Soundview neighborhood of the Bronx, New York. Surface topography at the Site and in the immediately surrounding area is generally level, except the Bronx River Parkway west of the Site, which slopes down towards the west. Based on a February 2016 (rev. November 2016) survey of the Site by Montrose Surveying Co., LLP the Site lies at an elevation of approximately 11.7 to 17.5 feet above the North American Vertical Datum (NAVD) (1.508 feet below the Bronx Topographic Bureau Datum). The former cellar location was at an elevation of approximately 7.7 feet above NAVD. The stratigraphy of the Site, from the surface down, generally consisted of fill material comprising sand, silt, and gravel with varying amounts of concrete, brick, wood, and ceramic up to approximately 16.5 feet below grade, underlain by apparent native sand, gravel, silt, and organics to boring termination depths (up to 20 feet below grade). Bedrock was not encountered during the RI. Bedrock was encountered during a 2017 geotechnical investigation at depths between 37 and 70 feet below surface grade on the southern and northern portions of the Site, respectively.

4.2.13 Current Institutional Controls (ICs)

Currently, the E-Designation at the Site is the only known IC.

4.3 Summary of Selected Remedial Actions

Remedial activities will be performed at the Site in accordance with this RAWP and the NYSDEC-issued Decision Document (DD). All deviations from this RAWP and/or the DD will be promptly reported to NYSDEC for approval and will be fully explained in the Final Engineering Report (FER).

1. The former Site building was deemed unsafe for entry and was subsequently demolished to complete the RI, required to prepare this RAWP. To stabilize the cellar walls during this process, NYCDOB required imported clean fill to be added in the former cellar area.
2. Materials that cannot be beneficially reused on-site will be taken off-site for proper disposal to allow for implementation of the remedy. It is anticipated that excavation and off-site disposal of approximately 14,600 tons (9,730 cubic yards) of soil/fill will be required. In addition, any tanks and associated piping, other structures associated with a source of contamination, and/or grossly contaminated soil/fill, if encountered, will also be removed in accordance with applicable regulations.
3. Installation of support of excavation (SOE) necessary to enable excavation of soil/fill. SOE installation will comply with applicable local and state controlled inspections.
4. Localized dewatering will be implemented in accordance with all federal, local, and state regulations, as necessary, to enable the remedial excavation activities.
5. A Community Air Monitoring Plan (CAMP) will be implemented during all intrusive Site activities to monitor levels of VOCs and airborne particulates within the active work zones and around the perimeter of the Site.
6. Screening for indications of contamination [by visual means, odor, and monitoring with photoionization detector (PID)] of soil during any intrusive Site work.
7. Appropriate off-site disposal of all materials removed from the Site in accordance with all federal, state, and local rules and regulations for handling, transport, and disposal. Waste disposal facilities will be selected based on the data collected to date, including waste classification sampling. Based on the requirements of the selected facilities, additional soil/fill waste characterization samples may be collected and analyzed to obtain approval for soil/fill disposal.
8. Collection and analysis of 40 confirmatory endpoint samples across the remedial excavations area(s) to evaluate the performance of the remedy with respect to attainment of Track 4 Site-Specific Soil Cleanup Objectives (RRSCOs). Endpoint sampling will occur around any additional Areas of Concern (AOCs) identified during the Remedial Action (RA) based on the sampling frequency outlined in Section 5.4 of DER-10.
9. Importation of clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) to replace the excavated soil/fill and/or establish the designed grades and at the locations of the proposed vegetated and gravel (and any other impervious areas) areas within the proposed courtyard. On-site soil/fill that does not exceed RRSCOs for any compound may be used on-site to backfill the excavation areas or re-grade the Site above the water table and below the demarcation barrier. Soil meeting RRSCOs and PGWSCOs may be used to re-grade the Site below the water table.
10. Construction and maintenance of a composite cover system, which will consist of: (1) a minimum two-foot clean fill buffer with a demarcation barrier in all landscaped and non-covered areas; (2) concrete building foundations and sidewalks/pathways; and (3) a minimum

20-mil vapor barrier or equivalent membrane beneath the new building crawl space slabs and up the sub-grade sidewalls to sidewalk grade, and a minimum 20-mil vapor barrier/waterproofing barrier or equivalent membrane beneath the new building partial cellar slabs and up the subgrade sidewalls to grade. All vapor barrier/waterproofing membranes will meet or exceed the American Society of Testing Materials (ASTM) E-1745.

11. The imposition of two Institutional Controls (ICs) in the form of an Environmental Easement (EE) and a Site-specific NYSDEC-approved Site Management Plan (SMP). The EE will: require the remedial parties/Site owners to complete and submit a periodic certification of ICs and Engineering Controls (ECs) to the Department in accordance with Part 375-1.8 (h)(3); allow the use and development of the controlled property for restricted residential 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 NYSDOH; and require compliance with a Site-specific NYSDEC-approved SMP.
12. Recording of an EE, including ECs and ICs, to prevent future exposure to any residual contamination remaining at the Site. Preparation of a SMP for long term management of residual contamination as required by the EE, including plans for: (1) ICs and ECs, (2) monitoring, (3) operation and maintenance, and (4) reporting.

Remedial activities will be performed at the Site in accordance with this NYSDEC-approved RAWP and the Department-issued DD. All deviations from the RAWP and/or DD will be promptly reported to NYSDEC for approval and fully explained in the FER.

5.0 REMEDIAL ACTION PROGRAM

5.1 Governing Documents

5.1.1 Site-Specific Health & Safety Plan (HASP) and Community Air Monitoring Plan (CAMP)

All remedial work performed under this RAWP will be in full compliance with governmental requirements, including Site and worker safety requirements mandated by federal Occupational Safety and Health Administration (OSHA) regulations.

The Volunteers and associated parties preparing the remedial documents submitted to the state and those performing the construction work, are completely responsible for the preparation of an appropriate HASP and for the appropriate performance of work according to that plan and applicable laws.

The HASP and requirements defined in this RAWP pertain to all remedial and invasive work performed at the Site until the issuance of a Certificate of Completion (CoC).

The Site Safety Coordinator will be designated prior to commencement of the RA. A resume will be provided to NYSDEC prior to the start of remedial construction.

Confined space entry will comply with all OSHA requirements to address the potential risk posed by combustible and toxic gasses.

5.1.2 Quality Assurance Project Plan (QAPP)

Any sampling associated with this project will be conducted in accordance with the QAPP included in Appendix G, which details field screening and sampling methodologies, and sample submittal and reporting requirements. The QAPP includes the project team responsible for implementing the remediation requirements and provisions set forth in this RAWP.

5.1.3 Construction Quality Assurance Plan (CQAP)

The CQAP, provided as Appendix K, provides a detailed description of the observation and testing activities that will be used to monitor construction quality and confirm that remedial construction is in conformance with the remediation objectives and specifications.

5.1.4 Soil/Materials Management Plan (SMMP)

An SMMP is included in Section 6.4 of this RAWP. The SMMP includes detailed plans for managing all soils/materials that are disturbed at the Site, including excavation, handling, storage, transport, and disposal. It also includes all of the procedures that will be applied to assure effective, nuisance-free performance in compliance with all applicable federal, state, and local laws and regulations.

5.1.5 Stormwater Pollution Prevention Plan (SWPPP)

Based on the size of the Site, a SWPPP is not required. Erosion and sediment controls implemented at the Site will conform to requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control Erosion. Sediment control measures will be installed at the Site prior to conducting any ground-intrusive work. These measures will be installed according to all applicable or relevant and appropriate federal, state, and local laws. The measures will provide for abatement and control of environmental pollution arising from proposed remediation and construction activities. The control measures will include procedures for perimeter Site controls, stabilized construction pads at each construction entrance, equipment decontamination, drainage inlet protection, and particulate suppression. The Remedial Engineer (RE), or her representative, will conduct routine inspections, any repairs and/or maintenance of control measures will be completed in a timely fashion to maintain the controls in proper working order. All vehicles leaving the project Site will be inspected to ensure that no soil adheres to the wheels or undercarriage of the vehicle leaving the Site. Any situations involving material spilled in transit or mud and particulates tracked off-site will be remedied. The access routes will be inspected for road conditions, overhead clearance, and weight restrictions.

5.1.6 Community Air Monitoring Plan (CAMP)

A Site-specific HASP and associated CAMP have been prepared for the Site and are included as Appendix H. All remedial work performed under this RAWP will be in compliance with governmental requirements, including Site and worker safety requirements mandated by the federal Occupational Health and Safety Administration (OSHA). Community air monitoring will be conducted during all intrusive Site activities in compliance with the NYSDOH Generic CAMP and the Site-Specific CAMP. Work zone monitoring will be performed for the health and safety of workers in accordance with action levels and guidance outlined in the HASP.

Community air monitoring will be performed via two fixed stations (upwind and downwind) at the perimeter of the Site during all ground-intrusive work. On the perimeter of the work zone, air monitoring will be performed periodically (at a minimum once per hour) on a roving basis with hand-held equipment based upon wind direction and the location of the intrusive work.

The requirements of this RAWP and its appendices pertain to all remediation work performed at the Site until the issuance of a CoC. The Volunteers and associated parties preparing the remedial documents submitted to the state and those performing the construction work, are completely responsible for the preparation of an appropriate HASP and for the appropriate performance of work according to that plan and applicable laws.

The Site Safety Officer (SSO) will be Chris Puopolo of AKRF. Mr. Puopolo's resume is included in Appendix L. Confined space entry is not anticipated for this project. If confined space entry becomes necessary, work will comply with all OSHA requirements to address the potential risk posed by combustible and toxic gases.

5.1.7 Contractors Site Operations Plan (SOP)

The RE will review pertinent plans and submittals for this remedial project (including those listed above and contractor and sub-contractor document submittals) and confirms that they are in compliance with this RAWP. The RE is responsible to ensure that all later document submittals for this remedial project, including contractor and subcontractor document submittals, are in compliance with this RAWP. All remedial documents will be submitted to NYSDEC and NYSDOH in a timely manner and prior to the start of work.

5.1.8 Citizen Participation Plan (CPP)

A CPP was approved by NYSDEC and NYSDOH in July 2018. A Project Fact Sheet describing the approved plan for RA will be forwarded to persons on the Site contact list in accordance with the NYSDEC and NYSDOH-approved CPP.

A certification of mailing will be sent by the Volunteers to the NYSDEC project manager following the distribution of all Fact Sheets and notices that includes: (1) certification that the Fact Sheets were mailed; (2) the date they were mailed; (3) a copy of the Fact Sheet; (4) a list of recipients (contact list); and (5) a statement that the repository was inspected on (specific date) and that it contained all of applicable project documents.

No changes will be made to the approved Fact Sheets authorized for release by NYSDEC without written consent of the NYSDEC. No other information, such as brochures and flyers, will be included with the Fact Sheet mailing.

The approved CPP for the project is attached in Appendix J.

Document repositories have been established at the following locations and contain all applicable project documents:

In-Text Table 9
Document Repositories

Document Repository	Hours of Operation
Clason's Point Library, New York Public Library 1215 Morrison Avenue Bronx, New York 10472 Library Manager: Melissa Davis (718) 842-1235	Monday through Tuesday: 10:00 – 1900 Friday and Saturday: 10:00 – 16:00 Sunday: Closed
Bronx Community Board 9 1967 Turnbull Avenue Bronx, New York 10473 (718) 823-6461	Monday through Friday: 09:00 – 17:00

5.2 General Remedial Construction Information

5.2.1 Project Organization

Personnel responsible for implementation of this RAWP are included on the Organization Chart provided as Figure 8. Resumes of key personnel involved in the RA are included in Appendix L.

5.2.2 Remedial Engineer (RE)

The RE for this project will be Michelle Lapin, P.E. The RE is a registered Professional Engineer (PE) licensed by the State of New York. The RE will have primary direct responsibility for implementation of the remedial program for the 1675 Apartments Site (NYSDEC C203107-04-18; Site No. C203107). The RE will certify in the FER that the remedial activities were observed by qualified environmental professionals under her supervision and that the remediation requirements set forth in the RAWP and any other relevant provisions of ECL 27-1419 have been achieved in full conformance with this RAWP. Other RE certification requirements are listed later in this RAWP.

The RE will coordinate the work of other contractors and subcontractors involved in all aspects of remedial construction, including soil excavation, stockpiling, characterization, removal and disposal, air monitoring, emergency spill response services, import of back fill material, and management of waste transport and disposal. The RE will be responsible for all appropriate communication with NYSDEC and NYSDOH.

The RE will review all pre-remedial plans submitted by contractors for compliance with this RAWP and will certify compliance in the FER.

The RE will provide the certifications listed in Section 10.1 in the FER.

5.2.3 Remedial Action Construction Schedule

A schedule for performance of the remedial work is included in Section 12.0.

5.2.4 Work Hours

The hours for operation of remedial construction will conform to the New York City Department of Buildings (NYCDOB) construction code requirements, construction permits, or according to specific variances issued by that agency. NYSDEC will be notified by the Volunteers of any variances issued by the NYCDOB. NYSDEC reserves the right to deny alternate remedial construction hours.

5.2.5 Site Security and Traffic Control

The Site will be completely closed from public access by using secured construction fencing. No unauthorized personnel will be able to access the Site. During off hours, the Site will be completely enclosed within a locked gate.

It is not anticipated that traffic will be disrupted beyond normal contractor vehicle traffic going to and from the Site during construction. Any sidewalk closures that are required during the course of construction/remediation activities will be conducted in accordance with NYCDOT permits.

5.2.6 Contingency Plan

A contingency plan has been developed to describe the procedures to be followed upon discovery of an unknown source of contamination or AOC that may require remediation (USTs, stained soil, drums, etc.). The identification of an unknown source structure or unexpected contaminated media discovered by screening during invasive Site work will be promptly communicated by phone to NYSDEC's project manager. These findings will also be included in daily and periodic reports. If USTs or other previously unidentified contaminant sources are found during on-site remedial excavation or development related construction, sampling will be performed on product, sediment and surrounding soil, etc. Chemical analytical work will be for TCL VOCs, SVOCs, TCL pesticides, PCBs, and TAL metals. These analyses will not be limited to the Commissioner's Policy (CP)-51 parameters where tanks are identified without prior approval by NYSDEC.

5.2.7 Worker Training and Monitoring

All those who enter the work area while intrusive activities are being performed must recognize and understand the potential hazards to health and safety. All construction personnel upon entering the Site must attend a brief training meeting, its purpose being to:

- Make workers aware of the potential hazards they may encounter;
- Instruct workers on how to identify potential hazards;
- Provide the knowledge and skills necessary for them to perform the work with minimal risk to health and safety;
- Make workers aware of the purpose and limitations of safety equipment; and
- Ensure that they can safely avoid or escape from emergencies.

Construction personnel will be responsible for identifying potential hazards in the work zone. The project manager will be responsible for insuring that the training is conducted.

Others who enter the Site must be accompanied by a suitably-trained construction worker. In addition, any site workers within the "work zone" will have received the OSHA 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training and will be under a medical monitoring program. Current certifications for key personnel are included in Appendix L.

5.2.8 Agency Approvals

The Volunteers will comply with all City Environmental Quality Review (CEQR) requirements for the Site. All permits or government approvals required for remedial construction have been, or will be, obtained prior to the start of remedial construction.

Evidence to show that the planned use conforms to zoning designations will be provided to the NYSDEC prior to issuance of a CoC. A CoC will not be issued for the project unless conformance with zoning designation is demonstrated.

A complete list of all local, state, and federal permits, certificates, or other approvals or authorizations required to perform the remedial and development work will be included in the FER.

All planned remedial or construction work in regulated wetlands and adjacent areas will be specifically approved by the NYSDEC Division of Natural Resources to ensure that it meets the requirements for substantive compliance with those regulations prior to the start of construction. Nothing in this RAWP or its approval by NYSDEC should be construed as an approval for this purpose.

5.2.9 NYSDEC BCP Signage

Signs are optional for BCP sites and will be discussed with the NYSDEC project manager. If a sign is displayed, it will follow NYSDEC specifications for design and content, provided by the NYSDEC project manager.

5.2.10 Pre-Construction Meeting

A pre-construction meeting with the NYSDEC will be scheduled prior to the start of major construction activities. Representative members of the Volunteers, AKRF, NYSDEC, NYSDOH, and NYCOER will be invited to attend.

5.2.11 Emergency Contact Information

An emergency contact sheet with names and phone numbers is included in the Site-specific HASP, included in Appendix H. The HASP defines the specific project contacts for use by NYSDEC, NYSDOH, and NYCOER in the case of a day or night emergency.

5.3 Site Preparation

Prior to conducting any intrusive activities for Site remediation activities, the work zone(s), designated entry points, soil stockpile staging areas, decontamination zones, and truck routes will be established, as applicable. The Site Plan will be updated as necessary to reflect any changes in operations during the course of the intrusive work. Particulate control measures, if necessary, will be implemented. Additional details of Site preparation activities are provided in the following sections.

5.3.1 Mobilization

Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking and staking excavation areas will be performed prior to undertaking any Site remediation activities.

5.3.2 Groundwater Monitoring Well Decommissioning

Existing groundwater monitoring wells will be properly decommissioned in accordance with NYSDEC policy CP-43. Decommissioning will not occur if the full length of the well is excavated during excavation for remediation and/or development, and all well components are removed.

5.3.3 Erosion and Sedimentation Controls

Erosion and sedimentation control measures will be installed at the Site prior to conducting any ground-intrusive work. These measures will be installed according to all applicable or relevant and appropriate federal, state, and local laws. The measures will provide for abatement and control of environmental pollution arising from proposed remediation and construction activities. The control measures will include procedures for perimeter Site controls, stabilized construction pads at each construction entrance, equipment decontamination, drainage inlet protection, and particulate suppression. The RE, or her representative, will conduct routine inspections, and any repairs and/or maintenance of control measures required will be completed in a timely fashion to maintain the controls in proper working order. All vehicles leaving the project Site will be inspected to ensure that no soil adheres to the wheels or undercarriage of the vehicle leaving the Site. Any situations involving material spilled in transit or mud and particulate tracked off-site will be remedied. The access routes will be inspected for road conditions, overhead clearance, and weight restrictions.

5.3.4 Stabilized Construction Entrance(s)

A crushed stone path will be constructed by the general contractor at all truck entrances for the Site. All trucks will drive over this path prior to leaving so that they do not get re-contaminated prior to departure from the Site. A laborer with a broom and a hose connected to a NYC fire hydrant will check the trucks as they leave. The broom and/or hose will be used to remove soil/fill from the truck tires and body as it leaves the Site, as necessary.

5.3.5 Utility Marker and Easements Layout

The Volunteers and their contractors are solely responsible for the identification of utilities that might be affected by work under this RAWP and implementation of all required, appropriate, and/or necessary health and safety measures during performance of work under this RAWP. The Volunteers and their contractors are solely responsible for safe execution of all invasive and other work performed under this RAWP. The Volunteers and its contractors must obtain any local, state, and/or federal permits or approvals pertinent to such work that may be required to perform work under this RAWP. Approval of this RAWP by NYSDEC does not constitute satisfaction of these requirements.

The presence of utilities and easements on the Site has been investigated. It has been determined that no risk or impediment to the planned work under this RAWP is posed by utilities or easements on the Site.

5.3.6 Sheeting and Shoring

Appropriate management of structural stability of on- or off-site structures during on-site activities including excavation is the sole responsibility of the Volunteers and its contractors. The Volunteers and their contractors are solely responsible for safe execution of all invasive and other work performed under this Plan. The Volunteers and its contractors must obtain any local, state or federal permits or approvals that may be required to perform work under this RAWP. Further, the Volunteers and its contractors are solely responsible for the implementation of all required, appropriate, or necessary health and safety measures during performance of work under this approved RAWP.

5.3.7 Equipment and Material Staging

Staging and storage of equipment and materials will be contained within the secured Site or within a secured area on the street/sidewalk in accordance with a NYCDOT permit. By the nature of the work involved in the project, equipment and materials will be moved to different areas within the secured Site as work progresses. Materials will be stored in accordance with applicable federal, state, and local regulations.

5.3.8 Decontamination Area

A decontamination area will be established adjacent to the work areas. Decontamination fluids will be managed to prevent discharge to the ground surface.

All equipment in direct contact with known or potentially contaminated material will be either dedicated or decontaminated prior to handling less contaminated material or removal from the Site. All liquids used in the decontamination procedure will be collected, stored and disposed of in accordance with federal, state, and local regulations. Personnel performing this task will wear the proper personal protective equipment (PPE) as prescribed in the HASP, which is provided in Appendix H.

5.3.9 Site Fencing

The Site will be secured with a locking fence that will be placed around the entire perimeter. During all remedial activities, access to the Site will be limited and all persons entering the Site will be required to sign a log book and meet all applicable health and safety requirements. The Site will be secured during non-working hours.

5.3.10 Demobilization

Restoration of the excavation work will include backfilling and general earthwork to prepare for construction of the foundation elements. Upon completion of the remedial excavation work, any waste materials (i.e., plastic sheet, absorbent pads, etc.) and the decontamination pad will be removed from the Site for proper disposal.

5.4 Reporting

All daily and monthly reports will be included in the FER.

5.4.1 Daily Reports

Daily reports will be submitted to NYSDEC, NYSDOH, and NYCOER project managers by the end of each day following the reporting period and will include:

- An update of progress made during the reporting day;
- Locations of work and quantities of material imported and exported from the Site;

- References to the alpha-numeric map (Figure 9) for Site activities;
- A summary of any and all complaints with relevant details (names, phone numbers);
- A summary of CAMP finding, including excursions; and
- An explanation of notable Site conditions.

Daily reports are not intended to be the mode of communication for notification to NYSDEC of emergencies (accident, spill), requests for changes to this RAWP, or other sensitive or time critical information. However, such conditions must also be included in the daily reports. Emergency conditions and changes to this RAWP will be addressed directly to NYSDEC project manager via personal communication.

Daily reports will include a description of daily activities keyed to an alpha-numeric map for the Site that identifies work areas. These reports will include a summary of air sampling results, odor and dust problems and corrective actions, and all complaints received from the public.

A Site map that shows a predefined alpha-numeric grid for use in identifying locations described in reports submitted to NYSDEC prior to the start of RA. A proposed preliminary grid is shown on Figure 9; however, the grids may be updated to reflect the approved soil disposal facilities.

The NYSDEC-assigned project number will appear on all reports.

5.4.2 Monthly Progress Reports (MPRs)

MPRs prepared in accordance with DER-10 Section 5.7(b) will be submitted to NYSDEC and NYSDOH project managers by the 10th day of the month following the end of the month of the reporting period and will include, at a minimum:

- Activities relative to the Site during the previous reporting period and those anticipated for the next reporting period, including a quantitative presentation of work performed (i.e. tons of material exported and imported, etc.);
- Description of approved activity modifications, including changes of work scope and/or schedule;
- Sampling results received following internal data review and validation, as applicable; and
- An update of the remedial schedule including the percentage of project completion, unresolved delays encountered or anticipated that may affect the future schedule, and efforts made to mitigate such delays.

5.4.3 Other Reporting

Photographs will be taken of all remedial activities and submitted to NYSDEC in digital (JPEG) format. Photographs will illustrate all remedial program elements and will be of acceptable quality. Representative photographs of the Site prior to any RAs will be provided. Representative photographs will be provided of each contaminant source, source area, and Site structures before, during, and after remediation. Photographs will be included in the daily reports as needed, and a comprehensive collection of photographs will be included as an appendix to the FER.

Job site record keeping for all remedial work will be appropriately documented. These records will be maintained on-site at all times during the project and be available for inspection by NYSDEC, NYSDOH, and NYCOER staff.

5.4.4 Complaint Management Plan

A log of any complaints from the public regarding nuisance or other Site conditions will be compiled by a member of the AKRF project team, as applicable. All complaints will be documented in the daily reports.

5.4.5 Deviations From This Remedial Action Work Plan (RAWP)

Any deviations from this RAWP will require prior approval from NYSDEC. The deviations will be recorded in both the MPRs and in the FER. At a minimum, the report of the deviations will include the following:

- Reasons for deviating from this approved RAWP;
- Approval process to be followed for changes/editions to the RAWP; and
- Effect of the deviations on overall remedy, if any.

6.0 REMEDIAL ACTION: MATERIAL REMOVAL FROM SITE

Based on data collected to date, removal of materials from the Site will include: (1) excavation and off-site disposal of asphalt, concrete, and contaminated soil/fill, as shown on Figure 9; and (2) removal of petroleum storage tank(s), fill port(s), and vent(s), if encountered. The amount of soil/fill to be excavated is approximately 14,600 tons. Additional soil/fill may have to be removed as part of the remedial excavation following the results of the endpoint sampling. All contaminated soil/fill will be removed from the Site and disposed of at a facility(ies) licensed to accept such material. The intended disposal facilities will be submitted to NYSDEC and NYCOER prior to start of the remedial action and prior to off-site disposal of the material.

6.1 Soil Cleanup Objectives (SCOs)

The applicable SCOs for the Site are the Track 4 RRSCOs.

Soil and materials management on-site and off-site will be conducted in accordance with the SMP, as described below. UST closures will, at a minimum, conform to criteria defined in DER-10.

6.2 Remedial Performance Evaluation (Post-Excavation Endpoint Sampling)

6.2.1 Endpoint Sampling Frequency

Based on the sampling frequency outlined in Section 5.4 of DER-10, endpoint sampling for the remedial excavation will include one bottom soil sample for every 900 square feet across the Site and one sidewall sample for every 30 linear feet around the perimeter of the Site. Based on the size of the proposed remedial excavation area at the Site, 40 endpoint samples will be collected for laboratory analysis at the approximate locations shown on Figure 9. Endpoint sampling will occur around any additional AOCs identified during the RA based on the sampling frequency outlined in Section 5.4 of DER-10.

6.2.2 Methodology

The excavation endpoint samples will be collected using a decontaminated stainless steel sampling trowel or hand auger, or a dedicated wooden tongue depressor and placed directly into pre-sterilized laboratory-issued containers. The sample containers will be properly labeled and immediately placed on ice within a cooler. Sample time, date, and location will be recorded on a chain of custody. The samples will be submitted to an ELAP-certified laboratory for analysis of VOCs by EPA Method 8260, SVOCs by EPA Method 8270, pesticides by EPA Method 8081, PCBs by EPA Method 8082, and TAL metals by EPA Method 6000/7000 series. The laboratory will follow the NYSDEC – Analytical Services Protocol (ASP) dated 1995 using NYSDEC ASP Category B deliverables. Further details regarding the specific sampling methodology and analytical procedures are presented in the QAPP, included as Appendix G.

6.2.3 Reporting of Results

The analytical results of the endpoint samples will be tabulated and compared to UUSCOs, RRSCOs, and the RRSCOs. The tabulated data and the laboratory reports will be included in the FER. All analytical data will be submitted to NYSDEC in electronic data deliverable (EDD) format via the Environmental Quality Information System (EQuIS™).

6.2.4 Quality Assurance/Quality Control (QA/QC)

The fundamental QA objective with respect to accuracy, precision, and sensitivity of analysis for laboratory analytical data is to achieve the QC acceptance of the analytical protocol. The accuracy, precision, and completeness requirements will be addressed by the laboratory for all data generated. Collected samples will be appropriately packaged, placed in coolers, and shipped or delivered directly to the analytical laboratory by the laboratory's courier service. Samples will be containerized in appropriate laboratory provided glassware and shipped in plastic coolers. Samples will be preserved to maintain a temperature of 4 °C. Decontamination of non-dedicated sampling equipment will consist of the following: gently tap or scrape to remove adhered soil; rinse with tap water; wash with Alconox® detergent solution and scrub; rinse with tap water; rinse with distilled or deionized water; prepare field blanks by pouring distilled or deionized water in laboratory provided containers.

One trip blank, one field blank, one blind duplicate sample, and one MS/MSD will be collected per every 20 samples or Sample Delivery Group (SDG) per media and submitted for analysis during the endpoint sampling event. The field blank(s), blind duplicate(s), and MS/MSD(s) will include all of the parameters included in the sample analysis while the trip blank will be analyzed for VOCs only. Additional QA/QC information is provided in the QAPP, included as Appendix G.

6.2.5 Data Usability Summary Report (DUSR)

A qualified, third-party data validator will review the endpoint sample laboratory reports and prepare a DUSR. The DUSR will be discussed and included as an appendix to the FER.

6.2.6 Reporting of Endpoint Data in Final Engineering Report (FER)

The FER will include a detailed description of endpoint sampling activities, data summary tables, concentration figure showing endpoint sample locations and concentrations, DUSR, and laboratory reports. Chemical labs used for all endpoint sample results and contingency (if any) sampling will be NYSDOH ELAP-certified.

Endpoint sampling, including bottom and sidewall sampling, will be performed in accordance with DER-10 sample frequency requirements. Sidewall samples will be collected a minimum of every 30 linear feet. Bottom samples will be collected at a rate of one for every 900 square feet. The FER will provide a tabulated summary and map of all endpoint sample results.

6.3 Estimated Material Removal Quantities

The estimated quantity of soil/fill to be removed from the Site is 14,600 tons. The estimated quantity of soil to be imported into the Site for backfill and cover soil is 4,400 cubic yards. The estimated quantity of soil/fill expected to be reused/relocated on Site unknown at this time. All locations and elevations of placed backfill will be reported in the FER.

6.4 Soil/Materials Management Plan (SMMP)

The SMMP describes the procedures to be performed during the handling of soil/fill materials on-site during all intrusive work.

6.4.1 Soil Screening Methods

Visual, olfactory, and PID soil screening and assessment will be performed by a QEP or experienced field geologist under the direction of the RE during all remedial excavations. Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during the remedy and during development phase, such as excavations for foundations and utility work, prior to issuance of the CoC.

All primary contaminant sources (including but not limited to tanks and hotspots) identified during Site characterization, the subsurface investigations, and the RA will be surveyed by a surveyor licensed to practice in the State of New York. This information will be provided on maps in the FER.

Screening will be performed by QEPs. Resumes have been provided in Appendix L for all personnel responsible for field screening (i.e., those representing the RE) of invasive work for unknown contaminant sources during remediation and development work.

6.4.2 Stockpile Methods

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a dedicated logbook and maintained at the Site and available for inspection by NYSDEC. 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. Soil stockpiles will be continuously encircled with silt fences. Hay bales will be used as needed near catch basins, surface waters and other discharge points. Water will be available on-site at suitable supply and pressure for use in dust control.

6.4.3 Materials Excavation and Load Out

The RE or a QEP under her supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The Volunteers and its contractors are solely responsible for safe execution of all invasive and other work performed under this RAWP.

The presence of utilities and easements on the Site has been investigated by the RE. It has been determined that no risk or impediment to the planned work under this RAWP is posed by utilities or easements on the Site.

Loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate federal, state, local, and NYSDOT requirements (and all other applicable transportation requirements). The RE's representative will make reasonable efforts to ensure that vehicles are not loaded beyond their NYSDOT weight rating and that all material is secured beneath the truck bed cover.

A truck wash will be operated on-site. The RE's representative will be responsible for ensuring that all outbound trucks are washed at the truck wash before leaving the Site until the remedial construction is complete.

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

The RE's representative will be responsible for ensuring that all egress points for truck and equipment transport from the Site will be clean of dirt and other materials derived from the

Site during Site remediation and development. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials.

The Volunteers and associated parties preparing the remedial documents submitted to the State, and parties performing the work described in this RAWP, are completely responsible for the safe performance of all invasive work, the structural integrity of excavations, and for structures that may be affected by excavations (such as building foundations).

The RE's representative will ensure that Site development activities will not interfere with, or otherwise impair or compromise, remedial activities proposed in this RAWP.

Any hotspot(s) and/or structure(s) to be remediated (USTs, vaults and associated piping, transformers, etc.) will be removed and endpoint remedial performance sampling completed before excavations related to Site development commence proximal to the hotspot or structure.

Development-related grading cuts and fills will not be performed without NYSDEC approval and will not interfere with, or otherwise impair or compromise, the performance of remediation required by this RAWP.

Mechanical processing of soil/fill on-site is prohibited.

All primary contaminant sources identified during Site characterization, the subsurface investigations, and the RA (including, but not limited to, tanks and hotspots) will be surveyed by a surveyor licensed to practice in the State of New York. The survey information will be shown on maps to be reported in the FER.

6.4.4 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.

The proposed inbound and outbound truck transport routes are shown on Figure 11.

All trucks loaded with Site materials will exit the vicinity of the Site using only these approved truck routes. The routes are the most appropriate routes 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 to minimize off-site disturbance. Off-site queuing will be prohibited. Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used. Trucks will be washed prior to leaving the Site as deemed necessary by the QEP.

6.4.5 Materials Disposal Off-Site

The proposed disposal facility(ies) information will be reported to the NYSDEC and NYCOER project managers prior to commencing the disposal activities. Based on the waste characterization results, a properly permitted waste disposal facility will be selected for off-site disposal.

The total quantity of material expected to be disposed off-site is approximately 14,600 tons.

All soil/fill/solid waste excavated and removed from the Site will be treated as contaminated and regulated material and will be disposed in accordance with all local, state (including 6NYCRR Part 360), and federal regulations. If disposal of soil/fill from the Site is proposed for unregulated disposal (i.e., clean soil removed for development purposes), a formal request with an associated plan will be made to NYSDEC project manager. Unregulated off-site management of materials from the Site is prohibited without formal NYSDEC approval.

Material that does not meet Track 1 UUSCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

The following documentation will be obtained and reported by the RE for each disposal location used in this project to fully demonstrate and document that the disposal of material derived from the Site conforms with all applicable laws: (1) a letter from the RE or BCP Volunteers to the receiving facility describing the material to be disposed and requesting formal written acceptance of the material. This letter will state that material to be disposed is contaminated material generated at an environmental remediation Site in New York State. The letter will provide the project identity and the name and phone number of the RE. The letter will include as an attachment a summary of all chemical data for the material being transported (including Site characterization data); and (2) a letter from all receiving facilities stating it is in receipt of the correspondence (above) and is approved to accept the material. These documents will be included in the FER.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2.

Fill and contaminated soil from the Site are prohibited from being disposed at Part 360-16 Registration Facilities (also known as Soil Recycling Facilities).

Soils that are contaminated but non-hazardous and are being removed from the Site are considered by the Division of Materials Management (DMM) in NYSDEC to be Construction and Demolition (C&D) materials with contamination not typical of virgin soils. These soils may be sent to a permitted Part 360 landfill. They may be sent to a permitted C&D processing facility without permit modifications only upon prior notification of NYSDEC Region 2 DMM. This material is prohibited from being sent or redirected to a Part 360-16 Registration Facility. In this case, as dictated by DMM, special procedures will include, at a minimum, a letter to the C&D facility that provides a detailed explanation that the material is derived from a DER remediation Site, that the soil material is contaminated and that it must not be redirected to on-site or off-site soil recycling facilities. The letter will provide the project identity, and the name and phone number of the RE. The letter will include as an attachment a summary of all chemical data for the material being transported.

The FER will include an accounting of the destination of all material removed from the Site during the RA, including excavated soil, contaminated soil, historic fill, solid waste, and hazardous waste, non-regulated material, and fluids. Documentation associated with disposal of all material must also include records and approvals for receipt of the material. This information will also be presented in a tabular form in the FER.

Bill of lading system or equivalent will be used for off-site movement of non-hazardous wastes and contaminated soils. This information will be reported in the Final Engineering Report.

Hazardous wastes derived from on-site will be stored, transported, and disposed of in full compliance with applicable local, state, and federal regulations.

Appropriately licensed haulers will be used for material removed from the Site and will be in full compliance with all applicable local, state, and federal regulations.

Waste characterization will be performed for off-site disposal in a manner suitable to the receiving facility and in conformance with applicable permits. Sampling and analytical methods, sampling frequency, analytical results and QA/QC will be reported in the FER. All data available for soil/material to be disposed at a given facility must be submitted to the disposal facility with suitable explanation prior to shipment and receipt.

6.4.6 Materials Reuse On-Site

Chemical criteria for on-site reuse of material have been approved by NYSDEC. Materials planned for reuse (if any) will be segregated and stockpiled from materials slated for off-site disposal. Stockpiles will be placed on and covered with polyethylene sheeting. The stockpiled soil will be sampled and analyzed in accordance with Table 5.49(e)10 on page 161 of DER-10 Technical Guidance for Investigation and Remediation. All materials reused on the Site will comply with RRSCOs and PGWSCOs. The RE will ensure that procedures defined for materials reuse in this RAWP are followed and that unacceptable material will not remain on-site.

Demolition material will not be reused on-site. Concrete crushing or processing on-site is prohibited. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the Site is prohibited for reuse on-Site. Contaminated on-site material, including historic fill and contaminated soil, removed for grading or other purposes will not be reused within a cover soil layer (if any), within landscaping berms, or as backfill for subsurface utility lines. This will be expressed in the final SMP.

6.4.7 Fluids Management

All liquids to be removed from the Site, including dewatering fluids, will be handled, transported and disposed in accordance with applicable local, state, and federal regulations. Liquids discharged into the New York City sewer system will be addressed through approval by the New York City Department of Environmental Protection (NYCDEP). Dewatered fluids will not be recharged back to the land surface or subsurface of the Site. Dewatering fluids will be managed off-site. Discharge of water generated during remedial construction to surface waters (i.e., a local pond, stream or river) is prohibited without a State Pollutant Discharge Elimination System (SPDES) permit.

6.4.8 Demarcation

After the completion of soil removal and any other invasive remedial activities and prior to backfilling, a land survey will be performed by a New York State licensed surveyor. The survey will define the top elevation of residual contaminated soils. A physical demarcation layer, consisting of orange snow fencing material or equivalent material will be placed on this surface to provide a visual reference. This demarcation layer will constitute the top of the 'Residuals Management Zone', the zone that requires adherence to special conditions for disturbance of contaminated residual soils defined in the SMP. The survey will measure the grade covered by the demarcation layer before the placement of cover soils, pavement and sub-soils, structures, or other materials. This survey and the demarcation layer placed on this grade surface will constitute the physical and written record of the upper surface of the 'Residuals Management Zone' in the SMP. A map showing the survey results will be included in the Final Engineering Report and the SMP.

6.4.9 Backfill from Off-Site Sources

All materials proposed for import onto the Site will be approved by the RE and will be in compliance with provisions in this RAWP prior to receipt at the Site.

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

The FER will include the following certification by the Remedial Engineer: "I certify that all import of soils from off-site, including source evaluation, approval and sampling, has been performed in a manner that is consistent with the methodology defined in the Remedial Action Work Plan".

All imported soils will meet NYSDEC approved backfill or cover soil quality objectives for this Site. These NYSDEC approved backfill or cover soil quality objectives are the lower of the protection of groundwater or the protection of public health RRSCOs, as set forth in Table 375-6.8(b) of 6 NYCRR Part 375. Non-compliant soils will not be imported onto the Site without prior approval by NYSDEC. Nothing in this approved RAWP or its approval by NYSDEC should be construed as an approval for this purpose.

Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC. Nothing in this RAWP should be construed as an approval for this purpose. Solid waste will not be imported onto the Site.

Trucks entering the Site with imported soils will be securely covered with tight fitting covers.

6.4.10 Stormwater Pollution Prevention

The erosion and sediment controls will be in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control Erosion and sediment control measures will be installed at the Site prior to conducting ground-intrusive work. These measures will be installed according to all applicable or relevant and appropriate federal, state, and local laws.

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

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

Erosion and sediment control measures identified in this RAWP 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 remedial construction area.

6.4.11 Contingency Plan

If USTs or other previously unidentified contaminant sources are found during on-site remedial excavation or development related construction, sampling will be performed on product, sediment, surrounding soils, etc. Chemical analytical work will be for full scan parameters (TCL VOCs, SVOCs, pesticides, and PCBs; and TAL metals). These analyses will not be limited to CP-51 parameters where tanks are identified without prior approval by NYSDEC. Analyses will not be otherwise limited without NYSDEC approval.

Identification of unknown or unexpected contaminated media identified by screening during invasive Site work will be promptly communicated by phone to the NYSDEC project manager. The findings will be also included in daily and monthly progress reports.

6.4.12 Community Air Monitoring Plan (CAMP)

A Site-specific HASP containing a CAMP has been prepared for this Site and is enclosed as Appendix H. Community air monitoring and real-time air monitoring at the perimeter of the exclusion zone will be conducted during all intrusive Site activities in accordance with the NYSDOH Generic CAMP and as described in Section 2.6 of Appendix H.

All readings will be recorded and available for NYSDEC, NYSDOH, and NYCOER personnel to review. Exceedances observed in the CAMP will be reported to NYSDEC, NYSDOH, and NYCOER project managers; and included in the daily and monthly progress reports.

6.4.13 Odor, Airborne Particulate, and Nuisance Control Plans

The FER will include the following certification by the RE: "I certify that all invasive work during the remediation and all invasive development work were conducted in accordance with dust and odor suppression methodology defined in the Remedial Action Work Plan."

Odor Control Plan

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used on a routine basis will include the use of a PID to screen for VOCs and olfactory observations by a field technician. If nuisance odors are identified, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of any odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, will be the responsibility of the Volunteers' RE, who is responsible for certifying the FER.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) 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.

Where odor nuisances have developed during remedial work and cannot be corrected, or where the release of nuisance odors cannot otherwise be avoided due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering excavation and handling areas under tented containment structures equipped with appropriate air venting/filtering systems.

Airborne Particulate Control Plan

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

- Airborne particulate suppression will be achieved through the use of a dedicated on-site hose connected to a fire hydrant.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, non-vegetated soils vulnerable to airborne particulate 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 spraying.

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 and will conform, at a minimum, to NYCDEP noise control standards.

7.0 RESIDUAL CONTAMINATION TO REMAIN ON-SITE

Since residual contaminated soil, groundwater, and soil vapor will exist beneath the Site after the remedy is complete, ECs and ICs are required to protect human health and the environment. These ECs and ICs are described in Sections 8.0 and 9.0, respectively. Long-term management of EC and ICs and of residual contamination will be executed under a Site specific SMP.

ECs will be implemented to protect public health and the environment by appropriately managing residual contamination. After excavation and off-site disposal of all soil/fill between surface grade and 10 feet below grade and confirmation that the Track 4 RRSCOs are met by collecting the proposed endpoint samples, minimal residual contamination will remain on-site. The select petroleum-related VOCs in groundwater are most likely the result of residual petroleum-contaminated soil related to historic on-site fuel oil handling, storage, and use. After excavation of the source material, concentrations of petroleum-related VOCs in groundwater are expected to naturally attenuate and, after installation of the vapor barrier/waterproofing membrane beneath all building slabs and up sub-grade exterior sidewalls to grade, would not pose a risk or concern for vapor intrusion at the Site. Additionally, the soil vapor sample with the most elevated concentrations of VOCs (RI-SV-03) is located off-site within the Westchester Avenue sidewalk. Therefore, the Site will have one primary EC system, including a composite cover system consisting of a minimum two-foot clean fill buffer with demarcation barrier in all landscaped and non-covered areas, concrete building foundations underlain by a 20-mil vapor barrier/waterproofing membrane, and sidewalks/pathways.

The FER will report residual contamination on the Site in tabulated and map form and will include the presentation of UUSCO and/or RRSCO exceedances, as applicable.

8.0 ENGINEERING CONTROL: COMPOSITE COVER SYSTEM

To prevent direct contact with any residually-contaminated soil, a composite cover system will be installed at the Site. The proposed composite cover system will be composed of: (1) concrete building foundation, sidewalks, and pathways; (2) a minimum two-foot clean fill buffer with a demarcation barrier in all landscaped and non-covered areas to prevent human exposure to residual contamination soil/fill at the Site; and (3) a minimum 20-mil vapor barrier/waterproofing membrane. A minimum 20-mil vapor barrier or equivalent membrane that meets or exceeds ASTM E-1745 standard for installation of a vapor barrier between granular fill and concrete will be selected. The proposed membranes will be installed at the following locations: Grace Bituthene 4000 and Hydroduct 220 at the exterior foundation walls to sidewalk grade, Preprufe 300R beneath the cellar slab, Vapor Block Plus beneath the crawl space slabs, and Aquafin beneath the cellar elevator and ejector pits.

The membranes will be installed in accordance with the manufacturer's installation procedures. Prior to pouring the concrete slab, the installed vapor barrier will be inspected, documented, and photographed. In addition, the vapor barrier will serve as the demarcation barrier underneath the building. As such, a NYS-licensed surveyor will survey the vapor barrier elevations and locations for inclusion on an "as built" drawing. Installation photographs and the "as built" drawing will be included as appendices to the FER.

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

A Soil Management Plan will be included in the SMP and will outline the procedures to be followed in the event that the composite cover system and any underlying residual contamination are disturbed after the RA is complete. Maintenance of the composite cover system will be described in the SMP in the FER.

The manufacturers' specifications for the vapor barriers are included as Appendix M. The proposed composite cover system plan is provided as Figure 10.

9.0 INSTITUTIONAL CONTROLS (ICS)

After the remedy is complete, residual contamination may remain at the Site. ICs for the residual contamination have been incorporated into the remedy to render the overall Site remedy protective of public health and the environment. Two elements have been designed to ensure continual and proper management of residual contamination in perpetuity: an EE and a SMP.

All as-built drawings, diagrams, calculations, and manufacturer documentation for the EC will be presented in the FER. A Site-specific EE will be recorded with Bronx County to provide an enforceable means of ensuring the continual and proper management of residual contamination and protection of public health and the environment in perpetuity or until released in writing by NYSDEC. It requires that the grantor of the EE and the grantor's successors and assigns adhere to all ECs/ICs placed on the Site by the NYSDEC-approved remedy. ICs provide restrictions on Site usage and mandate operation, maintenance, monitoring, and reporting measures for all ECs and ICs. The SMP will describe appropriate methods and procedures to ensure compliance with all ECs and ICs that are required by the EE. Once the SMP has been approved by NYSDEC, compliance with the SMP is required by the grantors of the EE and the grantors' successors and assigns.

9.1 Environmental Easement (EE)

An EE, as defined in Article 71 Title 36 of the ECL, is required when residual contamination is left on-site after the RA is complete. As part of the remedy described in this RAWP, an EE approved by NYSDEC will be filed and recorded with the Bronx County Office of the City Register. The EE will be submitted as an appendix to the FER.

The EE renders the Site a Controlled Property. The EE must be recorded with the Bronx County Office of the City Register before the CoC can be issued by NYSDEC. A series of ICs are required under the remedy to implement, maintain and monitor the ECs, prevent future exposure to residual contamination by controlling disturbances of the subsurface soil and restricting the use of the Site to restricted residential, commercial, or industrial uses only. The ICs are requirements or restrictions placed on the Site that are listed in, and required by, the EE. ICs can generally be subdivided between controls that support ECs and those that place general restrictions on Site usage or other requirements. ICs in both of these groups are closely integrated with the SMP, which will provide all of the methods and procedures to be followed to comply with the remedy.

The ICs that support the ECs are:

- Compliance with the EE by the Grantee and the Grantee's successors and adherence of all elements of the SMP is required;
- All ECs must be operated and maintained as specified in the SMP;
- A composite cover system must be inspected, certified, and maintained as required in the SMP;
- All ECs on the Controlled Property must be inspected and certified at a frequency and in a manner defined in the SMP.
- Data and information pertinent to Site management for the Controlled Property must be reported at the frequency and in a manner defined in the SMP; and
- ECs may not be discontinued without an amendment or extinguishment of the EE.

Adherence to the ICs for the Site is mandated by the EE and will be implemented under the SMP (discussed in the next section). The Controlled Property (Site) will also have a series of ICs in the form of Site restrictions and requirements. The Site restrictions that apply to the Controlled Property are:

- In-ground vegetable gardens and farming on the Controlled Property are prohibited;
- Use of groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for intended purpose;
- All future activities on the Controlled Property that will disturb residual contaminated material are prohibited unless they are conducted in accordance with the soil management provisions in the SMP;
- The Controlled Property may be used for restricted residential use only, provided the long-term ECs and ICs included in the SMP are employed;
- The Controlled Property may not be used for a higher level of use, such as residential use without an amendment or extinguishment of the EE; and
- Grantor agrees to submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow. This annual statement must be certified by an expert that the NYSDEC finds acceptable.

In addition, the Site will continue to be registered with the Hazardous Materials E Designation.

9.2 Site Management Plan (SMP)

Site management is the last phase of remediation and begins with the approval of the FER and issuance of the CoC for the RA. The SMP is submitted as part of the FER, but will be written in a manner that allows its removal and use as a complete and independent document. Site management continues in perpetuity or until released in writing by NYSDEC. The Controlled Property owner is responsible to ensure that all Site management responsibilities defined in the EE and the SMP are performed.

The SMP is intended to provide a detailed description of the procedures required to manage any residual contamination left in place at the Site following completion of the RA in accordance with the BCA with the NYSDEC. This includes: (1) development, implementation, and management of all ECs and ICs; (2) development and implementation of monitoring systems and a monitoring plan; (3) development of a plan to operate and maintain any treatment, collection, containment, or recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual); (4) submittal of Site Management Reports, performance of inspections and certification of results, and demonstration of proper communication of Site information to NYSDEC; and (5) defining criteria for termination of treatment system operation.

To address these needs, this SMP will include three plans: (1) an EC and IC Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site monitoring; and (4) a SMP for submittal of data, information, recommendations, and certifications to NYSDEC. The SMP will be prepared in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation and the guidelines provided by NYSDEC.

Site management activities, reporting, and EC/IC certification will be scheduled on a certification period basis. The certification period will be annually. The SMP will be based on a calendar year and will be due for submission to NYSDEC by March 1 of the year following the reporting period.

The SMP in the FER will include a monitoring plan for groundwater at the downgradient Site perimeter to evaluate Site-wide performance of the remedy. Appropriately placed groundwater monitor wells will also be installed immediately down-gradient of all VOC remediation areas for the purpose of evaluation of the effectiveness of the remedy that is implemented.

No exclusions for handling of residual contaminated soils will be provided in the SMP. All handling of residual contaminated material will be subject to provisions contained in the SMP.

10.0 FINAL ENGINEERING REPORT (FER)

An FER will be submitted to NYSDEC following implementation of the Remedial Action defined in this RAWP. The FER provides the documentation that the remedial work required under this RAWP has been completed and has been performed in compliance with this plan. The FER will provide a comprehensive account of the locations and characteristics of all material removed from the Site including the surveyed map(s) of all sources. The Final Engineering Report will include as-built drawings for all constructed elements, calculation and manufacturer documentation for treatment systems, certifications, manifests, bills of lading as well as the complete SMP (formerly the OM&M Plan). The FER will provide a description of the changes in the RA from the elements provided in this RAWP and associated design documents. The FER will provide a tabulated summary of all performance evaluation sampling results and all material characterization results and other sampling and chemical analysis performed as part of the Remedial Action. The FER will provide test results demonstrating that all mitigation and remedial systems are functioning properly. The FER will be prepared in conformance with DER-10.

Where determined to be necessary by NYSDEC, a Financial Assurance Plan will be required to ensure the sufficiency of revenue to perform long-term operations, maintenance and monitoring tasks defined in the SMP and EE. This determination will be made by NYSDEC in the context of the Final Engineering Report review.

The FER will include written and photographic documentation of all remedial work performed under this remedy and an itemized, tabulated description of actual costs incurred during all aspects of the RA.

The FER will provide a thorough summary of all residual contamination left on the Site after the remedy is complete. Residual contamination includes all contamination that exceeds the Track 1 UUSCO in 6NYCRR Part 375-6. A table that shows exceedances from Track 1 UUSCOs and Track 4 RRSCOs for all soil/fill remaining at the Site after the RA and a map that shows the location and summarizes exceedances from Track 1 UUSCOs and Track 4 RRSCOs for all soil/fill remaining at the Site after the RA will be included in the FER.

The FER will provide a thorough summary of all residual contamination that exceeds the SCOs defined for the Site in this RAWP and must provide an explanation for why the material was not removed as part of the RA. A table that shows residual contamination in excess of Site SCOs and a map that shows residual contamination in excess of Site SCOs will be included in the FER.

The FER will include an accounting of the destination of all material removed from the Site, including excavated contaminated soil, historic fill, solid waste, hazardous waste, non-regulated material, and fluids. Documentation associated with disposal of all material must also include records and approvals for receipt of the material. It will provide an accounting of the origin and chemical quality of all material imported onto the Site.

Before approval of a FER and issuance of a CoC, all project reports must be submitted in digital form on electronic media (PDF).

10.1 Certifications

The following certification will appear in front of the Executive Summary of the FER. The certification will be signed by the RE, Michelle Lapin, P.E., who is a P.E. registered in New York State. This certification will be appropriately signed and stamped. The certification will include the following statements:

I, Michelle Lapin, P.E., am currently a registered Professional Engineer licensed by the State of New York. I had primary direct responsibility for implementation of the remedial program for the 1675 Apartments Site (NYSDEC BCA Index No. C203107-04-18; Site No. C203107).

I certify that the Site description presented in this FER is identical to the Site descriptions presented in the Environmental Easement, the Site Management Plan, and the Brownfield Cleanup Agreement for 1675 Apartments and related amendments.

I certify that the Remedial Action Work Plan dated [month day year] and Stipulations [if any] in a letter dated [month day year] and approved by the NYSDEC were implemented and that all requirements in those documents have been substantively complied with.

I certify that the remedial activities were observed by qualified environmental professionals under my supervision and that the remediation requirements set forth in the Remedial Action Work Plan and any other relevant provisions of ECL 27-1419 have been achieved.

I certify that all use restrictions, Institutional Controls, Engineering Controls, and all operation and maintenance requirements applicable to the Site are contained in an Environmental Easement created and recorded pursuant ECL 71-3605 and that all affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded. A Site Management Plan has been submitted by the Volunteers for the continual and proper operation, maintenance, and monitoring of all Engineering Controls employed at the Site, including the proper maintenance of all remaining monitoring wells, and that such plan has been approved by the NYSDEC.

I certify that the export of all contaminated soil, fill, water or other material from the property was performed in accordance with the Remedial Action Work Plan, and were taken to facilities licensed to accept this material in full compliance with all federal, state and local laws.

I certify that all import of soils from off-site, including source approval and sampling, has been performed in a manner that is consistent with the methodology defined in the Remedial Action Work Plan.

I certify that all invasive work during the remediation and all invasive development work were conducted in accordance with dust and odor suppression methodology and soil screening methodology defined in the Remedial Action Work Plan.

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

It is a violation of Article 130 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 130, New York State Education Law.

11.0 PROJECT SCHEDULE

In-Text Table 10
Proposed Project Schedule

Activity	Time To Complete
Site Building Demolition	September - October 2018
Remedial Investigation (RI) is Completed	November 2018
RI Report (RIR) Submitted to NYSDEC	December 17, 2018
Draft Remedial Action Work Plan (RAWP) Submitted to NYSDEC	January 4, 2019
45-day Public Comment Period for RAWP is Initiated	January 2019
Public Comment Period for RAWP Ends	February 2019
Final RAWP Submitted/NYSDEC Approves and Issues Decision Document	February 2019
Issue Remedial/Construction Notice Fact Sheet	February 2019
Pre-Construction Meeting	March 2019
Begin Redevelopment (Construction) with Implementation of RAWP	March 2019
Execution of Environmental Easement	March 2020
Draft Site Management Plan (SMP) Submitted to NYSDEC	August 2020
Draft Final Engineering Report and Fact Sheet	September 2020
Certificate of Completion and Fact Sheet	December 2020
Completion of Building	December 2022

TABLES

Attached Table 1
Soil Sample Detected Concentrations Above UUSCOs and/or RRSCOs

Analyte	Sample Identification	UUSCO (mg/kg)	RRSCO (mg/kg)	Concentration (mg/kg)
VOCs				
Acetone	SB-2 (3-5) 20170807	0.05	100	0.0681
	RI-SB-04 (9.5-10) 20180821			0.0529
	RI-SB-21 (7.5-9.5) 20180525			0.0608
SVOCs				
4-Methylphenol (P-Cresol)	SB-8 (7-9) 20170921	0.33	NS	0.42
Benzo(a)anthracene	SB-2 (0-2) 20170807	1	1	25.2 D
	SB-2 (3-5) 20170807			1.57
	SB-3 (5-7) 20170807			3.81 D
	SB-4 (0-2) 20170807			3.3
	SB-5 (0-2) 20170807			7.34 D
	SB-2 (11-12) 20170807			1.32
	SB-6 (0-2) 20170807			1.42
	SB-6 (13-15) 20170807			1.12
	SB-7 (0-2) 20170921			5.38 D
	SB-7 (11-13) 20170921			4.48 D
	SB-8 (0-2) 20170921			2.7
	SB-8 (7-9) 20170921			27.8 D
	SB-9 (0-2) 20170921			4.53 D
	RI-SB-01 (0-2) 20180524			2.6
	RI-SB-01 (5-7) 20180524			5.88 D
	RI-SB-01 (9-11) 20180524			2.99
	RI-SB-03 (0-2) 20181008			1.56
	RI-SB-03 (8.5-10.5) 20181008			1.77 D
	RI-SB-X04 (8.5-10.5) 20181008			1.93 D
	RI-SB-06 (0-2) 20180525			5.73 D
	RI-SB-07 (0-2) 20180524			31.8 D
	RI-SB-07 (5-7) 20180524			3.09
	RI-SB-07 (8-10) 20180524			1.56
	RI-SB-08 (0-2) 20180524			5.02 D
	RI-SB-08 (7-9) 20180524			4.82 D
	RI-SB-09 (0-2) 20180524			17.6 D
	RI-SB-X01 (0-2) 20180524			28.3 D
	RI-SB-10 (9.5-11) 20180821			1.01
	RI-SB-X03 (9.5-11) 20180821			1.08
	RI-SB-13 (8-10) 20180525			1.13
	RI-SB-14 (0-2) 20180525			7.22 D
	RI-SB-15 (0-2) 20180524			3.49

Attached Table 1
Soil Sample Detected Concentrations Above UUSCOs and/or RRSCOs

Analyte	Sample Identification	UUSCO (mg/kg)	RRSCO (mg/kg)	Concentration (mg/kg)
	RI-SB-15 (8-10) 20180524			1.69
	RI-SB-16 (8-10) 20180525			2.16
	RI-SB-17 (0-2) 20180525			13.3 D
	RI-SB-17 (8-10) 20180525			4.58 D
	RI-SB-18 (0-2) 20180525			31.3 D
	RI-SB-18 (8-10) 20180525			2.33
	RI-SB-19 (0-2) 20180524			1.85
	RI-SB-19 (7-9) 20180524			1.49
	RI-SB-20 (0-2) 20180525			8.25 D
	RI-SB-X02 (0-2) 20180523			1.04
	RI-SB-01 (0-2) 20180524			2.6
Benzo(a)pyrene	SB-2 (0-2) 20170807	1	1	21.5 D
	SB-2 (3-5) 20170807			1.85
	SB-3 (0-2) 20170807			1.02
	SB-3 (5-7) 20170807			3.78 D
	SB-4 (0-2) 20170807			3.12
	SB-5 (0-2) 20170807			6.51 D
	SB-5 (11-12) 20170807			1.27
	SB-6 (0-2) 20170807			1.5
	SB-7 (0-2) 20170921			5.07 D
	SB-7 (11-13) 20170921			3.52
	SB-8 (0-2) 20170921			2.84
	SB-8 (7-9) 20170921			23.7 D
	SB-9 (0-2) 20170921			4.15 D
	RI-SB-01 (0-2) 20180524			2.62
	RI-SB-01 (5-7) 20180524			5.07 D
	RI-SB-01 (9-11) 20180524			3.04
	RI-SB-03 (0-2) 20181008			1.54
	RI-SB-03 (8.5-10.5) 20181008			1.66 D
	RI-SB-X04 (8.5-10.5) 20181008			1.9 D
	RI-SB-06 (0-2) 20180525			5.23 D
	RI-SB-07 (0-2) 20180524			28.4 D
	RI-SB-07 (5-7) 20180524			3.08
	RI-SB-07 (8-10) 20180524			1.37
	RI-SB-08 (0-2) 20180524			4.39 D
	RI-SB-08 (7-9) 20180524			4.44 D
	RI-SB-09 (0-2) 20180524			17.1 D
	RI-SB-X01 (0-2) 20180524			24.5 D
	RI-SB-X03 (9.5-11) 20180821			1.02

Attached Table 1
Soil Sample Detected Concentrations Above UUSCOs and/or RRSCOs

Analyte	Sample Identification	UUSCO (mg/kg)	RRSCO (mg/kg)	Concentration (mg/kg)
	RI-SB-14 (0-2) 20180525			6.04 D
	RI-SB-15 (0-2) 20180524			3.56
	RI-SB-15 (8-10) 20180524			1.62
	RI-SB-16 (8-10) 20180525			2.15
	RI-SB-17 (0-2) 20180525			11.7 D
	RI-SB-17 (8-10) 20180525			3.78
	RI-SB-18 (0-2) 20180525			25.8 D
	RI-SB-18 (8-10) 20180525			2.12
	RI-SB-19 (0-2) 20180524			1.73
	RI-SB-19 (7-9) 20180524			1.39
	RI-SB-20 (0-2) 20180525			7.05 D
	RI-SB-X02 (0-2) 20180525			1.07
Benzo(b)fluoranthene	SB-2 (0-2) 20170807	1	1	24.5 D
	SB-2 (3-5) 20170807			2.11
	SB-3 (0-2) 20170807			1.28
	SB-3 (5-7) 20170807			4.01 D
	SB-4 (0-2) 20170807			3.25 D
	SB-5 (0-2) 20170807			8.34 D
	SB-2 (11-12) 20170807			1.61
	SB-6 (0-2) 20170807			1.79
	SB-6 (13-15) 20170807			1.11
	SB-7 (0-2) 20170921			5.8 D
	SB-7 (11-13) 20170921			4.84 D
	SB-8 (0-2) 20170921			3.26
	SB-8 (7-9) 20170921			27.8 D
	SB-9 (0-2) 20170921			5.3 D
	RI-SB-01 (0-2) 20180524			2.94
	RI-SB-01 (5-7) 20180524			5.09 D
	RI-SB-01 (9-11) 20180524			2.95
	RI-SB-03 (0-2) 20181008			1.7
	RI-SB-03 (8.5-10.5) 20181008			1.61 D
	RI-SB-X04 (8.5-10.5) 20181008			1.84 D
	RI-SB-06 (0-2) 20180525			6.19 D
	RI-SB-07 (0-2) 20180524			33.9 D
	RI-SB-07 (5-7) 20180524			3.18
	RI-SB-07 (8-10) 20180524			1.39
	RI-SB-08 (0-2) 20180524			5.43 D
	RI-SB-08 (7-9) 20180524			5.12 D
	RI-SB-09 (0-2) 20180524			17.3 D

Attached Table 1
Soil Sample Detected Concentrations Above UUSCOs and/or RRSCOs

Analyte	Sample Identification	UUSCO (mg/kg)	RRSCO (mg/kg)	Concentration (mg/kg)
	RI-SB-X01 (0-2) 20180524			28.4 D
	RI-SB-10 (9.5-11) 20180821			1.02
	RI-SB-X03 (9.5-11) 20180821			1.16
	RI-SB-13 (8-10) 20180525			1.11
	RI-SB-14 (0-2) 20180525			7.37 D
	RI-SB-15 (0-2) 20180524			4.34 D
	RI-SB-15 (8-10) 20180524			1.84
	RI-SB-16 (8-10) 20180525			2.63
	RI-SB-17 (0-2) 20180525			12 D
	RI-SB-17 (8-10) 20180525			4.69 D
	RI-SB-18 (0-2) 20180525			31.1 D
	RI-SB-18 (8-10) 20180525			2.49
	RI-SB-19 (0-2) 20180524			2.09
	RI-SB-19 (7-9) 20180524			1.4
	RI-SB-20 (0-2) 20180525			8.75 D
	RI-SB-X02 (0-2) 20180525			1.23
	SB-2 (0-2) 20170807			9.63 D
	SB-3 (5-7) 20170807			1.67 D
	SB-4 (0-2) 20170807			1.07 D
	SB-5 (0-2) 20170807			2.74 D
	SB-7 (0-2) 20170921			1.97 D
	SB-7 (11-13) 20170921			1.67
	SB-8 (0-2) 20170921			1.3
	SB-8 (7-9) 20170921			9.97 D
	SB-9 (0-2) 20170921			1.78
	RI-SB-01 (0-2) 20180524			0.942
	RI-SB-01 (5-7) 20180524			1.66
Benzo(k)fluoranthene	RI-SB-01 (9-11) 20180524	0.8	3.9	0.887
	RI-SB-06 (0-2) 20180525			2.38 D
	RI-SB-07 (0-2) 20180524			12.8 D
	RI-SB-07 (5-7) 20180524			1.35
	RI-SB-08 (0-2) 20180524			2.11
	RI-SB-08 (7-9) 20180524			2.21
	RI-SB-09 (0-2) 20180524			7.88 D
	RI-SB-X01 (0-2) 20180524			10.1 D
	RI-SB-14 (0-2) 20180525			2.53 D
	RI-SB-15 (0-2) 20180524			1.59
	RI-SB-16 (8-10) 20180525			0.84
	RI-SB-17 (0-2) 20180525			3.87 D

Attached Table 1
Soil Sample Detected Concentrations Above UUSCOs and/or RRSCOs

Analyte	Sample Identification	UUSCO (mg/kg)	RRSCO (mg/kg)	Concentration (mg/kg)
	RI-SB-17 (8-10) 20180525			1.46 D
	RI-SB-18 (0-2) 20180525			13.3 D
	RI-SB-18 (8-10) 20180525			0.837
	RI-SB-20 (0-2) 20180525			3.07 D
Chrysene	SB-2 (0-2) 20170807	1	3.9	22.3 D
	SB-2 (3-5) 20170807			1.7
	SB-3 (5-7) 20170807			3.58 D
	SB-4 (0-2) 20170807			3.3
	SB-5 (0-2) 20170807			6.6 D
	SB-5 (11-12) 20170807			1.44
	SB-6 (0-2) 20170807			1.4
	SB-6 (13-15) 20170807			1.1
	SB-7 (0-2) 20170921			5.62 D
	SB-7 (11-13) 20170921			3.85
	SB-8 (0-2) 20170921			2.78
	SB-8 (7-9) 20170921			26.5 D
	SB-9 (0-2) 20170921			4.2 D
	RI-SB-01 (0-2) 20180524			2.59
	RI-SB-01 (5-7) 20180524			5.86 D
	RI-SB-01 (9-11) 20180524			2.99
	RI-SB-03 (0-2) 20181008			1.41
	RI-SB-03 (8.5-10.5) 20181008			1.76 D
	RI-SB-X04 (8.5-10.5) 20181008			1.88 D
	RI-SB-06 (0-2) 20180525			5.22 D
	RI-SB-07 (0-2) 20180524			31 D
	RI-SB-07 (5-7) 20180524			3.08
	RI-SB-07 (8-10) 20180524			1.51
	RI-SB-08 (0-2) 20180524			4.71 D
	RI-SB-08 (7-9) 20180524			4.93 D
	RI-SB-09 (0-2) 20180524			17.5 D
	RI-SB-X01 (0-2) 20180524			25.2 D
	RI-SB-X03 (9.5-11) 20180821			1.06
	RI-SB-13 (8-10) 20180525			1.13
	RI-SB-14 (0-2) 20180525			6.78 D
	RI-SB-15 (0-2) 20180524			3.9 D
	RI-SB-15 (8-10) 20180524			1.79
	RI-SB-16 (8-10) 20180525			1.9
	RI-SB-17 (0-2) 20180525			12.6 D
	RI-SB-17 (8-10) 20180525			4.15 D

Attached Table 1
Soil Sample Detected Concentrations Above UUSCOs and/or RRSCOs

Analyte	Sample Identification	UUSCO (mg/kg)	RRSCO (mg/kg)	Concentration (mg/kg)
	RI-SB-18 (0-2) 20180525			29.8 D
	RI-SB-18 (8-10) 20180525			2.26
	RI-SB-19 (0-2) 20180524			1.98
	RI-SB-19 (7-9) 20180524			1.58
	RI-SB-20 (0-2) 20180525			7.9 D
Dibenzo(a,h)anthracene	SB-2 (0-2) 20170807	0.33	0.33	3.01 D
	SB-2 (3-5) 20170807			0.335
	SB-3 (5-7) 20170807			0.832
	SB-4 (0-2) 20170807			0.57
	SB-5 (0-2) 20170807			1.95
	SB-7 (0-2) 20170921			1.15 D
	SB-7 (11-13) 20170921			0.65
	SB-8 (0-2) 20170921			0.557
	SB-8 (7-9) 20170921			4.25 D
	SB-9 (0-2) 20170921			0.895
	RI-SB-01 (0-2) 20180524			0.475
	RI-SB-01 (5-7) 20180524			0.876
	RI-SB-01 (9-11) 20180524			0.514
	RI-SB-06 (0-2) 20180525			1.11
	RI-SB-07 (0-2) 20180524			5.11 D
	RI-SB-07 (5-7) 20180524			0.619
	RI-SB-08 (0-2) 20180524			1.11
	RI-SB-08 (7-9) 20180524			1.07
	RI-SB-09 (0-2) 20180524			3.36 D
	RI-SB-X01 (0-2) 20180524			5.97 D
	RI-SB-14 (0-2) 20180525			1.37
	RI-SB-15 (0-2) 20180524			0.751
	RI-SB-16 (8-10) 20180525			0.447
	RI-SB-17 (0-2) 20180525			2.97
	RI-SB-17 (8-10) 20180525			0.788
	RI-SB-18 (0-2) 20180525			6.42 D
	RI-SB-18 (8-10) 20180525			0.397
	RI-SB-20 (0-2) 20180525			1.49
Indeno(1,2,3-cd)pyrene	SB-1 (14-15) 20170807	0.5	0.5	0.503
	SB-2 (0-2) 20170807			13.1 D
	SB-2 (3-5) 20170807			1.32
	SB-3 (0-2) 20170807			0.754
	SB-3 (5-7) 20170807			2.64
	SB-4 (0-2) 20170807			2.21

Attached Table 1
Soil Sample Detected Concentrations Above UUSCOs and/or RRSCOs

Analyte	Sample Identification	UUSCO (mg/kg)	RRSCO (mg/kg)	Concentration (mg/kg)
	SB-5 (0-2) 20170807			4.15 D
	SB-5 (11-12) 20170807			0.903
	SB-6 (0-2) 20170807			1.05
	SB-7 (13-15) 20170921			0.627
	SB-7 (0-2) 20170921			3.09 D
	SB-7 (11-13) 20170921			2.27
	SB-8 (0-2) 20170921			2.11
	SB-8 (7-9) 20170921			13 D
	SB-9 (0-2) 20170921			3
	SB-9 (7-9) 20170921			0.552
	RI-SB-01 (0-2) 20180524			1.73
	RI-SB-01 (5-7) 20180524			2.92
	RI-SB-01 (9-11) 20180524			1.74
	RI-SB-03 (0-2) 20181008			0.922
	RI-SB-03 (8.5-10.5) 20181008			1.05 D
	RI-SB-X04 (8.5-10.5) 20181008			1.26 D
	RI-SB-06 (0-2) 20180525			3.16
	RI-SB-07 (0-2) 20180524			17.4 D
	RI-SB-07 (5-7) 20180524			1.92
	RI-SB-07 (8-10) 20180524			0.849
	RI-SB-08 (0-2) 20180524			3.11
	RI-SB-08 (7-9) 20180524			3.4
	RI-SB-09 (0-2) 20180524			9.98 D
	RI-SB-X01 (0-2) 20180524			12.9 D
	RI-SB-09 (7-9) 2018-524			0.626
	RI-SB-10 (9.5-11) 20180821			0.607
	RI-SB-X03 (9.5-11) 20180821			0.694
	RI-SB-13 (8-10) 20180525			0.616
	RI-SB-14 (0-2) 20180525			3.49 D
	RI-SB-14 (7-9) 20180525			0.517
	RI-SB-15 (0-2) 20180524			2.29
	RI-SB-15 (8-10) 20180524			1.11
	RI-SB-16 (8-10) 20180525			1.42
	RI-SB-17 (0-2) 20180525			6.29 D
	RI-SB-17 (8-10) 20180525			2.24
	RI-SB-18 (0-2) 20180525			17 D
	RI-SB-18 (8-10) 20180525			1.35
	RI-SB-19 (0-2) 20180524			1.13
	RI-SB-19 (7-9) 20180524			0.883

Attached Table 1
Soil Sample Detected Concentrations Above UUSCOs and/or RRSCOs

Analyte	Sample Identification	UUSCO (mg/kg)	RRSCO (mg/kg)	Concentration (mg/kg)
	RI-SB-20 (0-2) 20180525			4.16 D
	RI-SB-X02 (0-2) 20180525			0.682
Pesticides				
Dieldrin	SB-6 (13-15) 20170807	0.005	0.2	0.0053
4,4'-DDD	SB-2 (3-5) 20170807	0.033	13	0.0067
	SB-4 (13-15) 20170807			0.0176
	SB-5 (11-12) 20170807			0.099
	SB-8 (0-2) 20170921			0.267 D
	RI-SB-06 (0-2) 20180525			0.0057 JKD
	RI-SB-X01 (0-2) 20180524			0.0045 JKD
	RI-SB-16 (8-10) 20180525			0.133 JD
4,4'-DDE	SB-1 (0-2) 20180807	0.0033	8.9	0.004
	SB-2 (0-2) 20170807			0.0091
	SB-3 (5-7) 20170807			0.0095
	SB-4 (0-2) 20170807			0.0037
	SB-4 (13-15) 20170807			0.0094
	SB-5 (0-2) 20170807			0.0066
	SB-6 (13-15) 20170807			0.0099
	SB-7 (11-13) 20170921			0.0057
	SB-8 (0-2) 20170921			0.0538 D
	SB-8 (7-9) 20170921			0.0042
	RI-SB-01 (0-2) 20180524			0.0061 JK
	RI-SB-01 (5-7) 20180524			0.02 JKD
	RI-SB-02 (7.5-9.5) 20180524			0.0082 JKD
	RI-SB-06 (0-2) 20180525			0.0229 JKD
	RI-SB-06 (9-11) 20180525			0.0057 JKDN
	RI-SB-07 (0-2) 20180524			0.0062 JKD
	RI-SB-07 (8-10) 20180524			0.0064 JK
	RI-SB-08 (7-9) 20180524			0.0045 JKN
	RI-SB-09 (0-2) 20180524			0.0036 JKN
	RI-SB-X01 (0-2) 20180524			0.01 JKD
	RI-SB-09 (7-9) 20180524			0.0114 JKD
	RI-SB-14 (0-2) 20180525			0.0052 JKD
	RI-SB-14 (7-9) 20180525			0.0035 JK
	RI-SB-16 (8-10) 20180525			0.153 JD
	RI-SB-18 (0-2) 20180525			0.0086 JKD
	RI-SB-20 (0-2) 20180525			0.0096 JKD
	RI-SB-20 (8-10) 20180525			0.0043
	RI-SB-01 (0-2) 20180524			0.0061 JK

Attached Table 1
Soil Sample Detected Concentrations Above UUSCOs and/or RRSCOs

Analyte	Sample Identification	UUSCO (mg/kg)	RRSCO (mg/kg)	Concentration (mg/kg)
4,4'-DDT	SB-1 (0-2) 20170807	0.0033	7.9	0.0212
	SB-4 (0-2) 20170807			0.0071
	SB-4 (13-15) 20170807			0.0202
	SB-5 (0-2) 20170807			0.0105
	SB-5 (11-12) 20170807			0.0076
	SB-6 (0-2) 20170807			0.0074
	SB-6 (13-15) 20170807			0.0251
	SB-8 (0-2) 20170921			0.0111 D
	RI-SB-01 (5-7) 20180524			0.0457 JKD
	RI-SB-01 (9-11) 20180524			0.0037 JKND
	RI-SB-02 (0-2) 20180524			0.0043 JKN
	RI-SB-02 (7.5-9.5) 20180524			0.0357 JKD
	RI-SB-06 (0-2) 20180525			0.0253 JKD
	RI-SB-06 (9-11) 20180525			0.0126 JKD
	RI-SB-07 (5-7) 20180524			0.0081 JKD
	RI-SB-07 (8-10) 20180524			0.0466 JKD
	RI-SB-08 (0-2) 20180524			0.0065 JKN
	RI-SB-09 (7-9) 20180524			0.0533 JKD
	RI-SB-14 (7-9) 20180525			0.0064 JKN
	RI-SB-15 (0-2) 20180524			0.0118 JKD
	RI-SB-15 (8-10) 20180524			0.0043 JKN
	RI-SB-16 (8-10) 20180525			0.571 JD
	RI-SB-17 (8-10) 20180525			0.0055 JKN
	RI-SB-18 (0-2) 20180525			0.0118 JKDN
	RI-SB-19 (0-2) 20180524			0.0034 JKN
	RI-SB-19 (7-9) 20180524			0.0067 JK
	RI-SB-20 (0-2) 20180525			0.0114 JKDN
	RI-SB-20 (8-10) 20180525			0.0052
PCBs				
Total PCBs	SB-6 (13-15) 20170807	0.1	1	0.472
	SB-7 (11-13) 20170921			0.121
	SB-9 (0-2) 20170921			0.104
	RI-SB-01 (5-7) 20180524			0.139 JKN
	RI-SB-07 (0-2) 20180524			0.127 JK
Metals				
Arsenic	SB-3 (5-7) 20170807	13	16	51.3
	SB-7 (11-13) 20170921			17.1
	SB-9 (0-2) 20170921			13.6
	RI-SB-04 (9.5-11) 20180821			48.1

Attached Table 1
Soil Sample Detected Concentrations Above UUSCOs and/or RRSCOs

Analyte	Sample Identification	UUSCO (mg/kg)	RRSCO (mg/kg)	Concentration (mg/kg)
	RI-SB-07 (5-7) 20180524			13.3
	RI-SB-16 (0-2) 20180524			22.4 D
	RI-SB-19 (0-2) 20180524			16.5
Barium	SB-4 (13-15) 20170807	350	400	899
	SB-8 (0-2) 20170921			413
	SB-8 (7-9) 20170921			880
	RI-SB-02 (7.5-9.5) 20180524			424
	RI-SB-07 (8-10) 20180524			511
	RI-SB-08 (7-9) 20180524			815
	RI-SB-09 (7-9) 20180524			468
	RI-SB-15 (8-10) 20180524			2,050 D
	RI-SB-16 (8-10) 20180525			4,990 D
	RI-SB-20 (0-2) 20180525			2,620 D
Cadmium	SB-1 (0-2) 20170807	2.5	4.3	2.8
Copper	SB-1 (14-15) 20170807	50	270	60.5
	SB-2 (0-2) 20170807			106
	SB-3 (0-2) 20170807			56.3
	SB-3 (5-7) 20170807			62.5
	SB-5 (0-2) 20170807			245 D
	SB-5 (11-12) 20170807			91.9
	SB-6 (0-2) 20170807			115
	SB-7 (0-2) 20170921			61.6
	SB-7 (11-13) 20170921			57.2
	SB-8 (7-9) 20170921			89.3
	SB-9 (0-2) 20170921			75.1
	SB-9 (7-9) 20170921			72.7
	RI-SB-04 (9.5-11) 20180821			284 D
	RI-SB-05 (9.5-11) 20180821			135
	RI-SB-06 (0-2) 20180525			51.5
	RI-SB-07 (0-2) 20180524			70.9
	RI-SB-07 (5-7) 20180524			78.2
	RI-SB-09 (0-2) 20180524			128 J
	RI-SB-X01 (0-2) 20180524			64.9
	RI-SB-10 (9.5-11) 20180821			67.4 J
	RI-SB-13 (8-10) 20180525			70
	RI-SB-14 (0-2) 20180525			54.9
	RI-SB-16 (0-2) 20180524			197 D
	RI-SB-18 (0-2) 20180525			105
	RI-SB-19 (0-2) 20180524			102

Attached Table 1
Soil Sample Detected Concentrations Above UUSCOs and/or RRSCOs

Analyte	Sample Identification	UUSCO (mg/kg)	RRSCO (mg/kg)	Concentration (mg/kg)
	RI-SB-19 (7-9) 20180524			62.3
	RI-SB-20 (0-2) 20180525			56.3
	RI-SB-21 (7.5-9.5) 20180525			74.1
Hexavalent Chromium	SB-3 (5-7) 20170807	1	110	1.1
	SB-5 (0-2) 20170807			1.3
	SB-8 (7-9) 20170921			1.3
	RI-SB-01 (5-7) 20180524			1.1
	RI-SB-03 (0-2) 20181008			1.1
	RI-SB-06 (0-2) 20180525			3
	RI-SB-07 (8-10) 20180524			1.1
	RI-SB-09 (7-9) 20180524			10.5
	RI-SB-13 (8-10) 20180525			1.4
	RI-SB-16 (0-2) 20180525			1.6
	RI-SB-16 (8-10) 20180525			2.5
	RI-SB-18 (0-2) 20180525			1.5
	RI-SB-19 (0-2) 20180524			1.3
	RI-SB-19 (7-9) 20180524			1.1
	RI-SB-20 (8-10) 20180525			3.7
Trivalent Chromium	SB-3 (5-7) 20170807	30	180	36.2
	SB-9 (0-2) 20170921			30.6
Lead	SB-1 (0-2) 20170807	63	400	637
	SB-1 (14-15) 20170807			278
	SB-2 (0-2) 20170807			236
	SB-2 (3-5) 20170807			244
	SB-3 (0-2) 20170807			310
	SB-3 (5-7) 20170807			498 D
	SB-4 (0-2) 20170807			283
	SB-4 (13-15) 20170807			2,130 D
	SB-5 (0-2) 20170807			254
	SB-5 (11-12) 20170807			381
	SB-6 (0-2) 20170807			280
	SB-6 (13-15) 20170807			1,520 D
	SB-7 (0-2) 20170921			719
	SB-7 (11-13) 20170921			544
	SB-8 (0-2) 20170921			2,300 D
	SB-8 (7-9) 20170921			3,430 D
	SB-9 (0-2) 20170921			459
	SB-9 (7-9) 20170921			174
	RI-SB-01 (0-2) 20180524			305

Attached Table 1
Soil Sample Detected Concentrations Above UUSCOs and/or RRSCOs

Analyte	Sample Identification	UUSCO (mg/kg)	RRSCO (mg/kg)	Concentration (mg/kg)
	RI-SB-01 (5-7) 20180524			1,330 D
	RI-SB-01 (9-11) 20180524			311
	RI-SB-02 (0-2) 20180524			314
	RI-SB-02 (7.5-9.5) 20180524			887
	RI-SB-03 (0-2) 20181008			203
	RI-SB-03 (8.5-10.5) 20181008			274
	RI-SB-X04 (8.5-10.5) 20181008			179
	RI-SB-04 (9.5-10) 20180821			682 D
	RI-SB-05 (9.5-11) 20180821			302
	RI-SB-06 (0-2) 20180525			236
	RI-SB-06 (9-11) 20180525			431
	RI-SB-07 (0-2) 20180524			2,410 D
	RI-SB-07 (5-7) 20180524			370
	RI-SB-07 (8-10) 20180524			4,400 D
	RI-SB-08 (0-2) 20180524			262
	RI-SB-08 (7-9) 20180524			1,900 D
	RI-SB-09 (0-2) 20180524			261 J
	RI-SB-X01 (0-2) 20180524			268
	RI-SB-09 (7-9) 20180524			2,040 D
	RI-SB-10 (9.5-11) 20180821			265 J
	RI-SB-X03 (9.5-11) 20180821			646 J
	RI-SB-13 (0-2) 20180525			84.8
	RI-SB-13 (8-10) 20180525			296
	RI-SB-14 (0-2) 20180525			304
	RI-SB-14 (7-9) 20180525			453
	RI-SB-15 (0-2) 20180524			302
	RI-SB-15 (8-10) 20180524			1,760 D
	RI-SB-16 (0-2) 20180525			530 D
	RI-SB-16 (8-10) 20180525			622
	RI-SB-17 (0-2) 20180525			326
	RI-SB-17 (8-10) 20180525			177
	RI-SB-18 (0-2) 20180525			520
	RI-SB-18 (8-10) 20180525			87.8
	RI-SB-19 (0-2) 20180524			393
	RI-SB-19 (7-9) 20180524			866
	RI-SB-20 (0-2) 20180525			1,290 D
	RI-SB-20 (8-10) 20180525			256
	RI-SB-21 (0-2) 20180525			275 J
	RI-SB-X02 (0-2) 20180525			164 JL

Attached Table 1
Soil Sample Detected Concentrations Above UUSCOs and/or RRSCOs

Analyte	Sample Identification	UUSCO (mg/kg)	RRSCO (mg/kg)	Concentration (mg/kg)
	RI-SB-21 (7.5-9.5) 20180525			367
Mercury	SB-1 (0-2) 20170807	0.18	0.81	0.57
	SB-1 (14-15) 20170807			0.66
	SB-2 (0-2) 20170807			0.27
	SB-2 (3-5) 20170807			0.52
	SB-3 (0-2) 20170807			1.1 D
	SB-3 (5-7) 20170807			3.9 D
	SB-4 (0-2) 20170807			3.7 D
	SB-5 (0-2) 20170807			0.25
	SB-5 (11-12) 20170807			0.97
	SB-6 (0-2) 20170807			0.62
	SB-6 (13-15) 20170807			1.2 D
	SB-7 (0-2) 20170921			0.74
	SB-7 (11-13) 20170921			0.31
	SB-8 (0-2) 20170921			0.26
	SB-8 (7-9) 20170921			1.2 D
	SB-9 (0-2) 20170921			0.55
	SB-9 (7-9) 20170921			0.34
	RI-SB-01 (0-2) 20180524			0.53
	RI-SB-01 (5-7) 20180524			8.9 D
	RI-SB-01 (9-11) 20180524			1.3 D
	RI-SB-02 (0-2) 20180524			1.3 D
	RI-SB-02 (7.5-9.5) 20180524			0.39
	RI-SB-03 (0-2) 20181008			0.23
	RI-SB-03 (8.5-10.5) 20181008			0.66
	RI-SB-X04 (8.5-10.5) 20181008			0.61
	RI-SB-04 (9.5-10) 20180821			2.5 D
	RI-SB-05 (9.5-11) 20180821			0.6
	RI-SB-06 (9-11) 20180525			0.4
	RI-SB-07 (0-2) 20180524			0.28
	RI-SB-07 (5-7) 20180524			0.7
	RI-SB-07 (8-10) 20180524			0.33
	RI-SB-08 (0-2) 20180524			0.49
	RI-SB-08 (7-9) 20180524			0.46
	RI-SB-09 (0-2) 20180524			0.37
	RI-SB-X01 (0-2) 20180524			0.43
	RI-SB-09 (7-9) 20180524			0.54
	RI-SB-10 (9.5-11) 20180821			1 JD
	RI-SB-X03 (9.5-11) 20180821			0.31 J

Attached Table 1
Soil Sample Detected Concentrations Above UUSCOs and/or RRSCOs

Analyte	Sample Identification	UUSCO (mg/kg)	RRSCO (mg/kg)	Concentration (mg/kg)
	RI-SB-13 (0-2) 20180525			0.31
	RI-SB-14 (0-2) 20180525			0.95 D
	RI-SB-X02 (0-2) 20180525			0.69
	RI-SB-14 (7-9) 20180525			0.6
	RI-SB-15 (0-2) 20180524			0.59
	RI-SB-15 (8-10) 20180524			1.2 D
	RI-SB-16 (0-2) 20180525			2.2 D
	RI-SB-16 (8-10) 20180525			1.6 D
	RI-SB-17 (0-2) 20180525			0.59
	RI-SB-17 (8-10) 20180525			0.43
	RI-SB-18 (0-2) 20180525			0.81
	RI-SB-18 (8-10) 20180525			0.85
	RI-SB-19 (0-2) 20180524			0.67
	RI-SB-19 (7-9) 20180524			1.1 D
	RI-SB-20 (0-2) 20180525			0.4
	RI-SB-21 (0-2) 20180525			0.33 JL
	RI-SB-X02 (0-2) 20180525			0.69
	RI-SB-21 (7.5-9.5) 20180525			0.25
Nickel	SB-1 (0-2) 20170807	30	310	30.2
	SB-3 (5-7) 20170807			58.5
	SB-9 (0-2) 20170921			40.3
	RI-SB-02 (0-2) 20180524			40.2
	RI-SB-07 (5-7) 20180524			36.4
	RI-SB-13 (8-10) 20180525			551
	RI-SB-14 (0-2) 20180525			33.5
	RI-SB-19 (0-2) 20180524			30.3
	RI-SB-21 (7.5-9.5) 20180525			92.5
Silver	RI-SB-01 (0-2) 20180524	2	180	3.2
	RI-SB-01 (5-7) 20180524			2.5
	RI-SB-01 (9-11) 20180524			3
	RI-SB-02 (0-2) 20180524			3
	RI-SB-04 (9.5-10) 20180821			2.3 D
	RI-SB-07 (0-2) 20180524			2.8
	RI-SB-07 (5-7) 20180524			4.3
	RI-SB-15 (0-2) 20180524			3.1
	RI-SB-15 (8-10) 20180524			2.4
	RI-SB-19 (0-2) 20180524			5.4
	RI-SB-19 (7-9) 20180524			2.5
Zinc	SB-1 (0-2) 20170807	109	10,000	193

Attached Table 1
Soil Sample Detected Concentrations Above UUSCOs and/or RRSCOs

Analyte	Sample Identification	UUSCO (mg/kg)	RRSCO (mg/kg)	Concentration (mg/kg)
	SB-1 (14-15) 20170807			202
	SB-2 (0-2) 20170807			147
	SB-2 (3-5) 20170807			162
	SB-3 (0-2) 20170807			188
	SB-3 (5-7) 20170807			576
	SB-4 (0-2) 20170807			195
	SB-4 (13-15) 20170807			831
	SB-5 (0-2) 20170807			224
	SB-5 (11-12) 20170807			395
	SB-6 (0-2) 20170807			248
	SB-6 (13-15) 20170807			287
	SB-7 (0-2) 20170921			265
	SB-7 (11-13) 20170921			222
	SB-8 (0-2) 20170921			234
	SB-8 (7-9) 20170921			431
	SB-9 (0-2) 20170921			285
	SB-9 (7-9) 20170921			267
	RI-SB-01 (0-2) 20180524			205
	RI-SB-01 (5-7) 20180524			334
	RI-SB-01 (9-11) 20180524			154
	RI-SB-02 (0-2) 20180524			165
	RI-SB-02 (7.5-9.5) 20180524			2,790 D
	RI-SB-03 (0-2) 20181008			139
	RI-SB-03 (8.5-10.5) 20181008			141
	RI-SB-04 (9.5-10) 20180821			872
	RI-SB-05 (9.5-10) 20180821			753
	RI-SB-06 (0-2) 20180525			305
	RI-SB-06 (9-11) 20180525			480
	RI-SB-07 (0-2) 20180524			178
	RI-SB-07 (5-7) 20180524			193
	RI-SB-07 (8-10) 20180524			241
	RI-SB-08 (0-2) 20180524			315
	RI-SB-08 (7-9) 20180524			398
	RI-SB-09 (0-2) 20180524			190
	RI-SB-X01 (0-2) 20180524			206
	RI-SB-09 (7-9) 20180524			393
	RI-SB-10 (9.5-11) 20180821			155 J
	RI-SB-X03 (9.5-11) 20180821			110
	RI-SB-13 (8-10) 20180525			184

Attached Table 1
Soil Sample Detected Concentrations Above UUSCOs and/or RRSCOs

Analyte	Sample Identification	UUSCO (mg/kg)	RRSCO (mg/kg)	Concentration (mg/kg)
	RI-SB-14 (0-2) 20180525			199
	RI-SB-14 (7-9) 20180525			224
	RI-SB-X02 (0-2) 20180525			126
	RI-SB-15 (0-2) 20180524			181
	RI-SB-15 (8-10) 20180524			1,320 D
	RI-SB-16 (0-2) 20180525			439
	RI-SB-16 (8-10) 20180525			2,430 D
	RI-SB-17 (0-2) 20180525			210
	RI-SB-17 (8-10) 20180525			149
	RI-SB-18 (0-2) 20180525			385
	RI-SB-19 (0-2) 20180524			435
	RI-SB-19 (7-9) 20180524			264
	RI-SB-20 (0-2) 20180525			322
	RI-SB-20 (8-10) 20180525			224
	RI-SB-21 (0-2) 20180525			160
	RI-SB-X02 (0-2) 20180525			126
	RI-SB-21 (7.5-9.5) 20180525			233

Notes:
D – The reported concentration is proportional to the dilution factor and may be exaggerated.
J – The analyte was detected at a concentration above the laboratory reporting limit; the reported concentration is approximate and may be inaccurate or imprecise.
JD – The reported concentration is proportional to the dilution factor and may be exaggerated and is approximate and may be inaccurate or imprecise.
JL –The analyte was detected at a concentration above the laboratory reporting limit; the reported concentration is approximate and may be inaccurate or imprecise and biased low.
JK –The analyte was detected at a concentration above the laboratory reporting limit; the reported concentration is approximate and may be inaccurate or imprecise and biased high.
JKN – The analyte was detected at a concentration above the laboratory reporting limit with presumtive evidence to make a tentative identification; the reported concentration is proportional to the dilution factor and may be exaggerated.
JKD – The analyte was detected at a concentration above the laboratory reporting limit in a diluted analysis; the reported concentration is proportional to the dilution factor and may be exaggerated.
JKND – The analyte was detected at a concentration above the laboratory reporting limit with presumtive evidence to make a tentative identification in a diluted analysis; the reported concentration is proportional to the dilution factor and may be exaggerated.

Sample RI-SB-X01 (0-2) 20180524 is a blind duplicate of sample RI-SB-09 (0-2) 20180524.
Sample RI-SB-X03 (9.5-11) 20180821 is a blind duplicate of sample RI-SB-10 (9.5-11) 20180821.
Sample RI-SB-X02 (0-2) 20180525 is a blind duplicate of sample RI-SB-21 (0-2) 20180525.

Attached Table 2
Groundwater Sample Concentrations Detected Above TOGs

Analyte	Sample	TOGs (µg/L)	Concentration (µg/L)
VOCs			
Benzene	RI-MW-02 20180712	1	4
	RI-MW-X02 20180712		5.2
Isopropylbenzene	RI-MW-05 20180906	5	7.8
	RI-MW-X03 20180906		8.8
	RI-MW-B12 20180904		0.40 J
SVOCs			
Acenaphthene	RI-MW-05 20180906	20	21.1
	RI-MW-X03 20180906		21.1
Benzo(a)anthracene	GW-3 20170808	0.002	3.1
	GW-7 20170921		5.6
	RI-MW-B12 20180904		0.39 J
Benzo(a)pyrene	GW-3 20170808	ND	3.2
	GW-7 20170921		5
	RI-MW-B12 20180904		0.4 J
Benzo(b)fluoranthene	GW-3 20170808	0.002	3.6
	GW-7 20170921		5.7
	RI-MW-B12 20180904		0.46 J
Benzo(k)fluoranthene	GW-3 20170808	0.002	3.6
	GW-7 20170921		5.7
Chrysene	GW-3 20170808	0.002	3.1
	GW-7 20170921		4.9
	RI-MW-B12 20180904		0.39 J
Indeno(1,2,3-cd)pyrene	GW-3 20170808	0.002	2
	GW-7 20170921		2.6
Naphthalene	RI-MW-05 20180906	10	22.4
	RI-MW-X03 20180906		20.4
Metals			
Arsenic	GW-3 20170808	25	598
	GW-3 20170808F		724
	RI-MW-04 20180906		365 JL
	RI-MW-04 20180906F		480
	RI-MW-05 20180906		492
	RI-MW-05 20180906F		447
	RI-MW-X03 20180906		493
	RI-MW-X03 20180906F		464
	RI-MW-B12 20180904		86.7
Barium	RI-MW-B12 20180904	1,000	1,220
	RI-MW-B12 20180904F		1,250

Attached Table 2
Groundwater Sample Concentrations Detected Above TOGs

Analyte	Sample	TOGs (µg/L)	Concentration (µg/L)
Copper	GW-3 20170808	200	321
Iron	RI-MW-01 20180712	300	813
	RI-MW-01 20180712F		794
	RI-MW-02 20180712		3,400
	RI-MW-02 20180712F		2,520
	RI-MW-X02 20180712		3,450
	RI-MW-X02 20180712F		2,520
	RI-MW-03 20181015		702
	RI-MW-03 20181015F		643
	RI-MW-X04 20181015		693
	RI-MW-X04 20181015F		630
	RI-MW-04 20180906		18,000
	RI-MW-04 20180906F		3,970
	RI-MW-05 20180904		4,520
	RI-MW-05 20180904F		4,020
	RI-MW-X03 20180906		5,070
	RI-MW-X03 20180906F		3,830
	RI-MW-B12 20180904		48,600
	RI-MW-B12 20180904F		21,200
Lead	GW-1 20170808	25	27.5
	GW-3 20170808		504
	GW-7 20170921		198
	RI-MW-04 20180906		217 D
	RI-MW-B12 20180904		122 D
Magnesium	RI-MW-02 20180712	35,000	79,000
	RI-MW-X02 20180712		79,300
	RI-MW-02 20180712F		77,500
	RI-MW-X02 20180712F		74,800
	RI-MW-03 20181015		49,300
	RI-MW-X04 20181015		48,000
	RI-MW-03 20181015F		48,700
	RI-MW-X04 20181015F		47,200
	RI-MW-04 20180906		73,400
	RI-MW-04 20180906F		44,800
	RI-MW-05 20180906		43,700
	RI-MW-X03 20180906		44,700
	RI-MW-05 20180906F		41,600
	RI-MW-X03 20180906F		46,400
	RI-MW-B12 20180904		90,000

Attached Table 2
Groundwater Sample Concentrations Detected Above TOGs

Analyte	Sample	TOGs (µg/L)	Concentration (µg/L)
	RI-MW-B12 20180904F		109,000
Mercury	GW-3 20170808	0.7	1.9
	GW-7 20170921		1.5
	RI-MW-X02 20180712		3.9
Manganese	GW-1 20170808	300	357
	GW-1 20170808F		341
	GW-2 20170808		344
	GW-2 20170808F		330
	GW-3 20170808		886
	GW-3 20170808F		808
	GW-7 201700921		420
	GW-7 2017080921F		321
	GW-8 201700921		392
	GW-8 2017080921F		365
	RI-MW-01 20180712		1,130
	RI-MW-01 20180712F		1,170
	RI-MW-02 20180712		1,010
	RI-MW-02 20180712F		962
	RI-MW-X02 20180712		1,020
	RI-MW-X02 20180712F		935
	RI-MW-03 20181015		752
	RI-MW-03 20181015F		723
	RI-MW-X04 20181015		779
	RI-MW-X04 20181015F		721
	RI-MW-04 20180906		660
	RI-MW-04 20180906F		358
	RI-MW-05 20180904		359
	RI-MW-05 20180904F		377
	RI-MW-X03 20180906		381
	RI-MW-X03 20180906F		387
	RI-MW-B12 20180904		877
	RI-MW-B12 20180904F		933
Sodium	RI-MW-01 20180712	20,000	56,200
	RI-MW-01 20180712F		57,000
	RI-MW-02 20180712		43,600
	RI-MW-02 20180712F		43,000
	RI-MW-X02 20180712		43,400
	RI-MW-X02 20180712F		41,300
	RI-MW-03 20181015		72,600

Attached Table 2
Groundwater Sample Concentrations Detected Above TOGs

Analyte	Sample	TOGs (µg/L)	Concentration (µg/L)
	RI-MW-03 20181015F		71,700
	RI-MW-X04 20181015		70,800
	RI-MW-X04 20181015F		69,700
	RI-MW-04 20180906		354,000 D
	RI-MW-04 20180906F		107,000
	RI-MW-05 20180904		106,000
	RI-MW-05 20180904F		81,000
	RI-MW-X03 20180906		110,000
	RI-MW-X03 20180906F		107,000
	RI-MW-B12 20180904		635,000 D
	RI-MW-B12 20180904F		777,000 D

Note:
Samples denoted with an “F” indicate analysis performed on a filtered groundwater sample.
Sample RI-MW-X02 20180712 is a blind duplicate of sample RI-MW-02 20180712.
Sample RI-MW-X03 20180906 is a blind duplicate of sample RI-MW-05 20180904.

Attached Table 3
Groundwater Sample Concentrations Detected Above USEPA DWHAL

Analyte	Sample	USEPA DWHAL (ng/L)	Concentration (ng/L)
PFAS	RI-MW-03 20181015	70	136.04 J
	RI-MW-X04 20181015		138.38 J
	RI-MW-05 20180904		128.37 J
	RI-MW-X03 20180906		137.07 J
	RI-MW-B12 20180904		92.53 J

Notes:
Standard is a combined sum total standard.
Concentrations are reported in ng/L.
J – The reported concentration is estimated and may be inaccurate or imprecise.

Attached Table 4
Soil Vapor Sample Concentrations

Analyte	Soil Vapor Sample ID	Concentration (µg/m^3)
1,2,4-Trimethylbenzene	SV-1 20170808	6.4
	SV-2 20170921	81.6
	SV-3 20170808	1.6
	SV-7 20170921	55.6
	SV-8 20170921	70.8
	RI-SV-02 20180529	6.4 D
	RI-SV-08 20180529	5.4
	RI-SV-10 20180529	10
	RI-SV-07 20180802	7.9
	RI-SV-04 20180821	11

Attached Table 4
Soil Vapor Sample Concentrations

Analyte	Soil Vapor Sample ID	Concentration ($\mu g/m^3$)
	RI-SV-05 20180821	24
	RI-SV-03 20181009	76.2
1,2-Dibromoethane (Ethylene Dibromide)	SV-2 20170921	0.77
	RI-SV-02 20180529	18
	RI-SV-06 20180529	37
1,3,5-Trimethylbenzene (Mesitylene)	SV-1 20170808	1.9
	SV-2 20170921	22
	SV-3 20170808	0.54 J
	SV-7 20170921	16
	SV-8 20170921	20
	RI-SV-07 20180802	3.5 JD
	RI-SV-04 20180821	3.3
	RI-SV-05 20180821	7.9
	RI-SV-03 20181009	22
1,3-Butadiene	RI-SV-09 20180802	75.9 D
	RI-SV-03 20181009	12
1,3-Dichlorobenzene	RI-SV-07 20180802	12 D
	RI-SV-09 20180802	23 D
	RI-SV-05 20180821	2.3
1,4-Dichlorobenzene	RI-SV-04 20180821	1.7
	RI-SV-05 20180821	4.1
2,2,4-Trimethylpentane	SV-1 20170808	10
	SV-2 20170921	13
	SV-3 20170808	6.1
	SV-7 20170921	21
	SV-8 20170921	22
	RI-SV-07 20180802	4.3 D
	RI-SV-04 20180821	19
	RI-SV-05 20180821	32
	RI-SV-03 20181009	23
2-Hexanone	SV-1 20170808	22
	SV-2 20170921	98.6
	SV-3 20170808	10
	SV-7 20170921	126
	SV-8 20170921	77.7
	RI-SV-01 20180529	108 D
	RI-SV-04 20180821	9
	RI-SV-05 20180821	15
	RI-SV-02 20180529	43.8
	RI-SV-06 20180529	47.4
	RI-SV-08 20180529	36
	RI-SV-10 20180529	91.6
	RI-SV-11 20180529	49.5
	RI-SV-07 20180802	14
4-Ethyltoluene	SV-1 20170808	2.2
	SV-2 20170921	23
	SV-3 20170808	0.54 J
	SV-7 20170921	17

Attached Table 4
Soil Vapor Sample Concentrations

Analyte	Soil Vapor Sample ID	Concentration (µg/m^3)
	SV-8 20170921	22
	RI-SV-04 20180821	3
	RI-SV-05 20180821	6.9
	RI-SV-03 20181009	28
Acetone	SV-1 20170808	295
	SV-2 20170921	1,290
	SV-3 20170808	182
	SV-7 20170921	964
	SV-8 20170921	967
	AA-1 20170808	19
	RI-SV-07 20180802	143 D
	RI-SV-04 20180821	96.7
	RI-SV-05 20180821	133 D
	RI-SV-03 20181009	59.4 D
	RI-SV-01 20180529	1350
	RI-SV-02 20180529	1110
	RI-SV-06 20180529	841
	RI-SV-08 20180529	758
	RI-SV-10 20180529	1880
	RI-SV-11 20180529	1040
Benzene	SV-1 20170808	4.5
	SV-2 20170921	14
	SV-3 20170808	6.1
	SV-7 20170921	11
	SV-8 20170921	17
	AA-1 20170808	0.38 J
	RI-SV-07 20180802	8.9 D
	RI-SV-09 20180802	48.9 D
	RI-SV-04 20180821	5.8
	RI-SV-05 20180821	12
	RI-SV-03 20181009	95.8
Carbon Disulfide	SV-1 20170808	9.3
	SV-2 20170921	37.4
	SV-3 20170808	3
	SV-7 20170921	22
	SV-8 20170921	33
	RI-SV-02 20180529	8.7 D
	RI-SV-07 20180802	8.1 D
	RI-SV-09 20180802	80
	RI-SV-04 20180821	4.7
	RI-SV-05 20180821	3
	RI-SV-03 20181009	17
Chlorobenzene	RI-SV-07 20180802	2.9 JD
	RI-SV-05 20180821	5.5
Chloroform	SV-1 20170808	0.88 J
	SV-2 20170921	4.3
	SV-7 20170921	2.6
	SV-8 20170921	5.4
	RI-SV-07 20180802	2.9 JD
	RI-SV-04 20180821	21

Attached Table 4
Soil Vapor Sample Concentrations

Analyte	Soil Vapor Sample ID	Concentration (µg/m³)
	RI-SV-05 20180821	53.7
	RI-SV-03 20181009	7.8
Chloromethane	SV-1 20170808	0.81
	SV-3 20170808	0.66
	SV-7 20170921	0.56
	RI-SV-07 20180802	1.3 JD
Cis-1,2-Dichloroethylene	RI-SV-04 20180821	4.4
	RI-SV-05 20180821	1.4
Cyclohexane	SV-1 20170808	0.96
	SV-2 20170921	6.9
	SV-3 20170808	1.4
	SV-7 20170921	12
	SV-8 20170921	20
	RI-SV-07 20180802	4.1 D
	RI-SV-09 20180802	21 D
	RI-SV-04 20180821	2.2
	RI-SV-05 20180821	3.4
	RI-SV-03 20181009	29
Dichlorodifluoromethane	SV-1 20170808	2.4
	SV-2 20170921	2.4
	SV-3 20170808	2.3
	SV-7 20170921	3
	RI-SV-04 20180821	2.6
	RI-SV-05 20180821	2.7
Ethanol	SV-1 20170808	34.7
	SV-2 20170921	20.9
	SV-3 20170808	27.7
	SV-7 20170921	30.7
	SV-8 20170921	18
	RI-SV-07 20180802	203 D
	RI-SV-09 20180802	76.5 D
	RI-SV-04 20180821	51.8
	RI-SV-05 20180821	55.6
	RI-SV-03 20181009	45.6
	RI-SV-01 20180529	70.3
	RI-SV-02 20180529	50.1
	RI-SV-06 20180529	53.5
	RI-SV-08 20180529	44.5
	RI-SV-10 20180529	68.8
	RI-SV-11 20180529	49.6
Ethyl Acetate	SV-7 20170921	5.8
	SV-8 20170921	4
	RI-SV-02 20180529	5 D
	RI-SV-07 20180802	9
Ethylbenzene	SV-1 20170808	7.4
	SV-2 20170921	25
	SV-3 20170808	3
	SV-7 20170921	33
	SV-8 20170921	38

Attached Table 4
Soil Vapor Sample Concentrations

Analyte	Soil Vapor Sample ID	Concentration ($\mu g/m^3$)
	RI-SV-07 20180802	16 D
	RI-SV-09 20180802	11 JD
	RI-SV-04 20180821	7.4
	RI-SV-05 20180821	39
	RI-SV-03 20181009	83.8
Isopropanol	SV-1 20170808	7.1
	SV-2 20170921	2.7
	SV-3 20170808	4.4
	SV-7 20170921	8.8
	RI-SV-01 20180529	43.3 D
	RI-SV-09 20180802	8.1
	RI-SV-04 20180821	6.1 J
	RI-SV-05 20180821	7.1 D
	RI-SV-03 20181009	25.3
	RI-SV-02 20180529	24
	RI-SV-06 20180529	24
	RI-SV-08 20180529	61
	RI-SV-10 20180529	27.8
	RI-SV-11 20180529	8.4
M,P-Xylene (Sum Of Isomers)	RI-SV-02 20180529	12 D
	RI-SV-06 20180529	9.6 D
	RI-SV-08 20180529	9.6
	RI-SV-10 20180529	11
	RI-SV-07 20180802	115
	RI-SV-09 20180802	58.6
	RI-SV-04 20180821	31
	RI-SV-05 20180821	188
	RI-SV-03 20181009	298
Methyl Ethyl Ketone (2-Butanone)	SV-1 20170808	105
	SV-2 20170921	263
	SV-3 20170808	62.2
	SV-7 20170921	170
	SV-8 20170921	158
	RI-SV-07 20180802	27 D
	RI-SV-09 20180802	37.5 D
	RI-SV-04 20180821	37.5
	RI-SV-05 20180821	67.5
	RI-SV-03 20181009	58.7
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	SV-1 20170808	0.94
	SV-2 20170921	4.1
	SV-7 20170921	3.8
	SV-8 20170921	7
	RI-SV-07 20180802	8.2 D
	RI-SV-04 20180821	4
	RI-SV-05 20180821	4.5
Methylene Chloride	RI-SV-06 20180529	11
	RI-SV-04 20180821	10
	RI-SV-05 20180821	2.3

Attached Table 4
Soil Vapor Sample Concentrations

Analyte	Soil Vapor Sample ID	Concentration (μg/m^3)
N-Heptane	SV-1 20170808	4.5
	SV-2 20170921	26
	SV-3 20170808	3.6
	SV-7 20170921	23
	SV-8 20170921	35
	RI-SV-07 20180802	14 D
	RI-SV-09 20180802	1,330 D
	RI-SV-04 20180821	7
	RI-SV-05 20180821	23
	RI-SV-03 20181009	141
N-Hexane	SV-1 20170808	5.6
	SV-2 20170921	34
	SV-3 20170808	4.9
	SV-7 20170921	31
	SV-8 20170921	77.9
	RI-SV-07 20180802	17 D
	RI-SV-09 20180802	2,590 D
	RI-SV-04 20180821	17
	RI-SV-05 20180821	47.2
	RI-SV-03 20181009	180
O-Xylene (1,2-Dimethylbenzene)	SV-1 20170808	9.6
	SV-2 20170921	39
	SV-3 20170808	3.5
	SV-7 20170921	47.3
	SV-8 20170921	54.7
	RI-SV-02 20180529	5.6 D
	RI-SV-08 20180529	4.8 D
	RI-SV-07 20180802	120
	RI-SV-09 20180802	53.4
	RI-SV-04 20180821	11
	RI-SV-05 20180821	110
	RI-SV-03 20181009	99.9
Styrene	SV-1 20170808	7.7
	SV-2 20170921	23
	SV-3 20170808	2
	SV-7 20170921	23
	SV-8 20170921	27
	RI-SV-07 20180802	7.2 D
	RI-SV-04 20180821	1.8
	RI-SV-05 20180821	10

Attached Table 4
Soil Vapor Sample Concentrations

Analyte	Soil Vapor Sample ID	Concentration ($\mu g/m^3$)
Tert-Butyl Alcohol	SV-1 20170808	11
	SV-2 20170921	10
	SV-3 20170808	5.5
	SV-7 20170921	25
	SV-8 20170921	10
	RI-SV-07 20180802	49.4 D
	RI-SV-09 20180802	21 D
	RI-SV-04 20180821	18
	RI-SV-05 20180821	17
	RI-SV-01 20180529	22
	RI-SV-02 20180529	24
	RI-SV-06 20180529	27
	RI-SV-08 20180529	23
	RI-SV-10 20180529	50.6
	RI-SV-11 20180529	
Tetrachloroethylene (PCE)	SV-1 20170808	20
	SV-2 20170921	80
	SV-3 20170808	14
	SV-7 20170921	11
	SV-8 20170921	220
	RI-SV-05 20180821	269 D
	RI-SV-03 20181009	1,020 D
	RI-SV-07 20180802	84.1
	RI-SV-09 20180802	51
	RI-SV-04 20180821	424
	RI-SV-02 20180529	12
	RI-SV-06 20180529	16
	RI-SV-08 20180529	4.1
	RI-SV-10 20180529	121
	RI-SV-11 20180529	62
	RI-SV-01 20180529	31
Tetrahydrofuran	SV-1 20170808	6.2
	SV-2 20170921	3.2
	SV-3 20170808	2.3
	SV-7 20170921	4.4
	SV-8 20170921	5.3
	RI-SV-09 20180802	4.7 JD
	RI-SV-04 20180821	2.9
	RI-SV-05 20180821	5.9
	RI-SV-07 20180802	8 D
Toluene	SV-1 20170808	30
	SV-2 20170921	60.7
	SV-3 20170808	20
	SV-7 20170921	82.2
	SV-8 20170921	99.1
	RI-SV-05 20180821	54.6 D
	RI-SV-03 20181009	355 D
	RI-SV-02 20180529	6.8
	RI-SV-08 20180529	7.2
	RI-SV-10 20180529	7.5

Attached Table 4
Soil Vapor Sample Concentrations

Analyte	Soil Vapor Sample ID	Concentration ($\mu g/m^3$)
	RI-SV-07 20180802 RI-SV-09 20180802 RI-SV-04 20180821	22 37 29
Trans-1,2-Dichloroethene	SV-2 20170921 SV-7 20170921	1.3 2.7
Trichloroethylene (TCE)	SV-1 20170808 SV-2 20170921 SV-3 20170808 SV-7 20170921 SV-8 20170921 RI-SV-09 20180802 RI-SV-04 20180821 RI-SV-05 20180821 RI-SV-03 20181009	0.97 1.5 0.39 7.5 0.81 7.5 D 61.3 30 7
Trichlorofluoromethane	SV-1 20170808 SV-2 20170921 SV-3 20170808 SV-7 20170921 RI-SV-04 20180821 RI-SV-05 20180821	1.3 1.7 1.3 2 3.1 2.5
Vinyl Acetate	RI-SV-02 20180529 RI-SV-08 20180529 RI-SV-10 20180529	4.6 3.9 9.5
Vinyl Chloride	SV-2 20170921	0.28
Xylenes, Total	SV-1 20170808 SV-2 20170921 SV-3 20170808 SV-7 20170921 SV-8 20170921 RI-SV-02 20180529 RI-SV-06 20180529 RI-SV-08 20180529 RI-SV-10 20180529 RI-SV-07 20180802 RI-SV-09 20180802 RI-SV-04 20180821 RI-SV-05 20180821 RI-SV-03 20181009	38 135 15 162 187 17 D 9.6 D 15 11 235 112 43 297 398

Attached Table 5
1675-1679 Westchester Avenue
Bronx, New York
SI Soil Analytical Results
Volatile Organic Compounds

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-1 (0-2) 20170807		SB-1 (14-15) 20170807		SB-2 (0-2) 20170807	
Lab Sample ID			JC48434-1		JC48434-2		JC48434-3	
Dilution Factor			1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
1,1,1-Trichloroethane	0.68	100	0.0023	U	0.0026	U	0.0021	U
1,1,2,2-Tetrachloroethane	NS	NS	0.0023	U	0.0026	U	0.0021	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	NS	NS	0.0057	U	0.0064	U	0.0051	U
1,1,2-Trichloroethane	NS	NS	0.0023	U	0.0026	U	0.0021	U
1,1-Dichloroethane	0.27	26	0.0011	U	0.0013	U	0.001	U
1,1-Dichloroethene	0.33	100	0.0011	U	0.0013	U	0.001	U
1,2,3-Trichlorobenzene	NS	NS	0.0057	U	0.0064	U	0.0051	U
1,2,4-Trichlorobenzene	NS	NS	0.0057	U	0.0064	U	0.0051	U
1,2,4-Trimethylbenzene	3.6	52	0.0023	U	0.0026	U	0.0021	U
1,2-Dibromo-3-Chloropropane	NS	NS	0.0023	U	0.0026	U	0.0021	U
1,2-Dibromoethane (Ethylene Dibromide)	NS	NS	0.0011	U	0.0013	U	0.001	U
1,2-Dichlorobenzene	1.1	100	0.0011	U	0.0013	U	0.001	U
1,2-Dichloroethane	0.02	3.1	0.0011	U	0.0013	U	0.001	U
1,2-Dichloropropane	NS	NS	0.0023	U	0.0026	U	0.0021	U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	52	0.0023	U	0.0026	U	0.0021	U
1,3-Dichlorobenzene	2.4	49	0.0011	U	0.0013	U	0.001	U
1,4-Dichlorobenzene	1.8	13	0.0011	U	0.0013	U	0.001	U
1,4-Dioxane (P-Dioxane)	0.1	13	0.036	U	0.04	U	0.04	U
2-Hexanone	NS	NS	0.0057	U	0.0064	U	0.0051	U
Acetone	0.05	100	0.011	U	0.0318		0.01	U
Benzene	0.06	4.8	0.00025	J	0.00064	U	0.00051	U
Bromochloromethane	NS	NS	0.0057	U	0.0064	U	0.0051	U
Bromodichloromethane	NS	NS	0.0023	U	0.0026	U	0.0021	U
Bromoform	NS	NS	0.0057	U	0.0064	U	0.0051	U
Bromomethane	NS	NS	0.0057	U	0.0064	U	0.0051	U
Carbon Disulfide	NS	NS	0.0023	U	0.0014	J	0.0021	U
Carbon Tetrachloride	0.76	2.4	0.0023	U	0.0026	U	0.0021	U
Chlorobenzene	1.1	100	0.0023	U	0.0026	U	0.0021	U
Chloroethane	NS	NS	0.0057	U	0.0064	U	0.0051	U
Chloroform	0.37	49	0.0023	U	0.0026	U	0.0021	U
Chloromethane	NS	NS	0.0057	U	0.0064	U	0.0051	U
Cis-1,2-Dichloroethylene	0.25	100	0.0011	U	0.0013	U	0.001	U
Cis-1,3-Dichloropropene	NS	NS	0.0023	U	0.0026	U	0.0021	U
Cyclohexane	NS	NS	0.0023	U	0.0026	U	0.0021	U
Dibromochloromethane	NS	NS	0.0023	U	0.0026	U	0.0021	U
Dichlorodifluoromethane	NS	NS	0.0057	U	0.0064	U	0.0051	U
Ethylbenzene	1	41	0.0011	U	0.0013	U	0.001	U
Isopropylbenzene (Cumene)	NS	NS	0.0023	U	0.0026	U	0.0021	U
Methyl Acetate	NS	NS	0.0057	U	0.0064	U	0.0051	U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	0.011	U	0.013	U	0.01	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	NS	0.0057	U	0.0064	U	0.0051	U
Methylcyclohexane	NS	NS	0.0023	U	0.0026	U	0.0021	U
Methylene Chloride	0.05	100	0.0057	U	0.0064	U	0.0051	U
N-Butylbenzene	12	100	0.0023	U	0.0026	U	0.0021	U
N-Propylbenzene	3.9	100	0.0023	U	0.0026	U	0.0021	U
O-Xylene (1,2-Dimethylbenzene)	NS	NS	0.0011	U	0.0013	U	0.001	U
Sec-Butylbenzene	11	100	0.0023	U	0.0026	U	0.0021	U
Styrene	NS	NS	0.0023	U	0.0026	U	0.0021	U
T-Butylbenzene	5.9	100	0.0023	U	0.0026	U	0.0021	U
Tert-Butyl Methyl Ether	0.93	100	0.0011	U	0.0013	U	0.001	U
Tetrachloroethylene (PCE)	1.3	19	0.0023	U	0.0026	U	0.0021	U
Toluene	0.7	100	0.0011	U	0.0013	U	0.001	U
Trans-1,2-Dichloroethene	0.19	100	0.0011	U	0.0013	U	0.001	U
Trans-1,3-Dichloropropene	NS	NS	0.0023	U	0.0026	U	0.0021	U
Trichloroethylene (TCE)	0.47	21	0.0011	U	0.0013	U	0.001	U
Trichlorofluoromethane	NS	NS	0.0057	U	0.0064	U	0.0051	U
Vinyl Chloride	0.02	0.9	0.0023	U	0.0026	U	0.0021	U
Xylenes, Total	0.26	100	0.0011	U	0.0013	U	0.001	U

Attached Table 5
1675-1679 Westchester Avenue
Bronx, New York
SI Soil Analytical Results
Volatile Organic Compounds

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-2 (3-5) 20170807		SB-3 (0-2) 20170807		SB-3 (5-7) 20170807	
Lab Sample ID			JC48434-4		JC48434-11		JC48434-12	
Dilution Factor			1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
1,1,1-Trichloroethane	0.68	100	0.0022	U	0.0024	U	0.0021	U
1,1,2,2-Tetrachloroethane	NS	NS	0.0022	U	0.0024	U	0.0021	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	NS	NS	0.0055	U	0.0059	U	0.0053	U
1,1,2-Trichloroethane	NS	NS	0.0022	U	0.0024	U	0.0021	U
1,1-Dichloroethane	0.27	26	0.0011	U	0.0012	U	0.0011	U
1,1-Dichloroethene	0.33	100	0.0011	U	0.0012	U	0.0011	U
1,2,3-Trichlorobenzene	NS	NS	0.0055	U	0.0059	U	0.0053	U
1,2,4-Trichlorobenzene	NS	NS	0.0055	U	0.0059	U	0.0053	U
1,2,4-Trimethylbenzene	3.6	52	0.0018	J	0.0024	U	0.0021	U
1,2-Dibromo-3-Chloropropane	NS	NS	0.0022	U	0.0024	U	0.0021	U
1,2-Dibromoethane (Ethylene Dibromide)	NS	NS	0.0011	U	0.0012	U	0.0011	U
1,2-Dichlorobenzene	1.1	100	0.0011	U	0.0012	U	0.0011	U
1,2-Dichloroethane	0.02	3.1	0.0011	U	0.0012	U	0.0011	U
1,2-Dichloropropane	NS	NS	0.0022	U	0.0024	U	0.0021	U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	52	0.0021	J	0.0024	U	0.0021	U
1,3-Dichlorobenzene	2.4	49	0.0011	U	0.0012	U	0.0011	U
1,4-Dichlorobenzene	1.8	13	0.0011	U	0.0012	U	0.0011	U
1,4-Dioxane (P-Dioxane)	0.1	13	0.039	U	0.038	U	0.034	U
2-Hexanone	NS	NS	0.0055	U	0.0059	U	0.0053	U
Acetone	0.05	100	**0.0681**		0.012	U	0.011	U
Benzene	0.06	4.8	0.0098		0.00059	U	0.0002	J
Bromochloromethane	NS	NS	0.0055	U	0.0059	U	0.0053	U
Bromodichloromethane	NS	NS	0.0022	U	0.0024	U	0.0021	U
Bromoform	NS	NS	0.0055	U	0.0059	U	0.0053	U
Bromomethane	NS	NS	0.0055	U	0.0059	U	0.0053	U
Carbon Disulfide	NS	NS	0.00099	J	0.0024	U	0.0021	U
Carbon Tetrachloride	0.76	2.4	0.0022	U	0.0024	U	0.0021	U
Chlorobenzene	1.1	100	0.0022	U	0.0024	U	0.0021	U
Chloroethane	NS	NS	0.0055	U	0.0059	U	0.0053	U
Chloroform	0.37	49	0.0022	U	0.0024	U	0.0021	U
Chloromethane	NS	NS	0.0055	U	0.0059	U	0.0053	U
Cis-1,2-Dichloroethylene	0.25	100	0.0011	U	0.0012	U	0.0011	U
Cis-1,3-Dichloropropene	NS	NS	0.0022	U	0.0024	U	0.0021	U
Cyclohexane	NS	NS	0.0596		0.0024	U	0.0021	U
Dibromochloromethane	NS	NS	0.0022	U	0.0024	U	0.0021	U
Dichlorodifluoromethane	NS	NS	0.0055	U	0.0059	U	0.0053	U
Ethylbenzene	1	41	0.0093		0.0012	U	0.0011	U
Isopropylbenzene (Cumene)	NS	NS	0.00089	J	0.0024	U	0.0021	U
Methyl Acetate	NS	NS	0.0055	U	0.0059	U	0.0053	U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	0.0106	J	0.012	U	0.011	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	NS	0.0055	U	0.0059	U	0.0053	U
Methylcyclohexane	NS	NS	0.172		0.0024	U	0.0021	U
Methylene Chloride	0.05	100	0.0055	U	0.0059	U	0.0053	U
N-Butylbenzene	12	100	0.0022	U	0.0024	U	0.0021	U
N-Propylbenzene	3.9	100	0.00082	J	0.0024	U	0.0021	U
O-Xylene (1,2-Dimethylbenzene)	NS	NS	0.0112		0.0012	U	0.0011	U
Sec-Butylbenzene	11	100	0.0022	U	0.0024	U	0.0021	U
Styrene	NS	NS	0.0017	J	0.0024	U	0.0021	U
T-Butylbenzene	5.9	100	0.0022	U	0.0024	U	0.0021	U
Tert-Butyl Methyl Ether	0.93	100	0.0011	U	0.0012	U	0.0011	U
Tetrachloroethylene (PCE)	1.3	19	0.0022	U	0.0024	U	0.0021	U
Toluene	0.7	100	0.0119		0.0012	U	0.0011	U
Trans-1,2-Dichloroethene	0.19	100	0.0011	U	0.0012	U	0.0011	U
Trans-1,3-Dichloropropene	NS	NS	0.0022	U	0.0024	U	0.0021	U
Trichloroethylene (TCE)	0.47	21	0.0011	U	0.0012	U	0.0011	U
Trichlorofluoromethane	NS	NS	0.0055	U	0.0059	U	0.0053	U
Vinyl Chloride	0.02	0.9	0.0022	U	0.0024	U	0.0021	U
Xylenes, Total	0.26	100	0.0385		0.0012	U	0.0011	U

Attached Table 5
1675-1679 Westchester Avenue
Bronx, New York
SI Soil Analytical Results
Volatile Organic Compounds

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-4 (0-2) 20170807		SB-4 (13-15) 20170807		SB-5 (0-2) 20170807	
Lab Sample ID			JC48434-7		JC48434-8		JC48434-9	
Dilution Factor			1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
1,1,1-Trichloroethane	0.68	100	0.0018	U	0.0027	U	0.0021	U
1,1,2,2-Tetrachloroethane	NS	NS	0.0018	U	0.0027	U	0.0021	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	NS	NS	0.0045	U	0.0067	U	0.0053	U
1,1,2-Trichloroethane	NS	NS	0.0018	U	0.0027	U	0.0021	U
1,1-Dichloroethane	0.27	26	0.0009	U	0.0013	U	0.0011	U
1,1-Dichloroethene	0.33	100	0.0009	U	0.0013	U	0.0011	U
1,2,3-Trichlorobenzene	NS	NS	0.0045	U	0.0067	U	0.0053	U
1,2,4-Trichlorobenzene	NS	NS	0.0045	U	0.0067	U	0.0053	U
1,2,4-Trimethylbenzene	3.6	52	0.0018	U	0.0027	U	0.0021	U
1,2-Dibromo-3-Chloropropane	NS	NS	0.0018	U	0.0027	U	0.0021	U
1,2-Dibromoethane (Ethylene Dibromide)	NS	NS	0.0009	U	0.0013	U	0.0011	U
1,2-Dichlorobenzene	1.1	100	0.0009	U	0.0013	U	0.0011	U
1,2-Dichloroethane	0.02	3.1	0.0009	U	0.0013	U	0.0011	U
1,2-Dichloropropane	NS	NS	0.0018	U	0.0027	U	0.0021	U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	52	0.0018	U	0.0027	U	0.0021	U
1,3-Dichlorobenzene	2.4	49	0.0009	U	0.0013	U	0.0011	U
1,4-Dichlorobenzene	1.8	13	0.0009	U	0.0013	U	0.0011	U
1,4-Dioxane (P-Dioxane)	0.1	13	0.037	U	0.046	U	0.035	U
2-Hexanone	NS	NS	0.0045	U	0.0067	U	0.0053	U
Acetone	0.05	100	0.009	U	0.0127	J	0.011	U
Benzene	0.06	4.8	0.00045	U	0.00029	J	0.00053	U
Bromochloromethane	NS	NS	0.0045	U	0.0067	U	0.0053	U
Bromodichloromethane	NS	NS	0.0018	U	0.0027	U	0.0021	U
Bromoform	NS	NS	0.0045	U	0.0067	U	0.0053	U
Bromomethane	NS	NS	0.0045	U	0.0067	U	0.0053	U
Carbon Disulfide	NS	NS	0.0018	U	0.0036		0.0021	U
Carbon Tetrachloride	0.76	2.4	0.0018	U	0.0027	U	0.0021	U
Chlorobenzene	1.1	100	0.0018	U	0.0027	U	0.0021	U
Chloroethane	NS	NS	0.0045	U	0.0067	U	0.0053	U
Chloroform	0.37	49	0.0018	U	0.0027	U	0.0021	U
Chloromethane	NS	NS	0.0045	U	0.0067	U	0.0053	U
Cis-1,2-Dichloroethylene	0.25	100	0.0009	U	0.0013	U	0.0011	U
Cis-1,3-Dichloropropene	NS	NS	0.0018	U	0.0027	U	0.0021	U
Cyclohexane	NS	NS	0.0018	U	0.0027	U	0.0021	U
Dibromochloromethane	NS	NS	0.0018	U	0.0027	U	0.0021	U
Dichlorodifluoromethane	NS	NS	0.0045	U	0.0067	U	0.0053	U
Ethylbenzene	1	41	0.0009	U	0.00067	J	0.0011	U
Isopropylbenzene (Cumene)	NS	NS	0.0018	U	0.0027	U	0.0021	U
Methyl Acetate	NS	NS	0.0045	U	0.0067	U	0.0053	U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	0.009	U	0.013	U	0.011	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	NS	0.0045	U	0.0067	U	0.0053	U
Methylcyclohexane	NS	NS	0.0018	U	0.0027	U	0.0021	U
Methylene Chloride	0.05	100	0.0045	U	0.0067	U	0.0053	U
N-Butylbenzene	12	100	0.0018	U	0.0027	U	0.0021	U
N-Propylbenzene	3.9	100	0.0018	U	0.0027	U	0.0021	U
O-Xylene (1,2-Dimethylbenzene)	NS	NS	0.0009	U	0.0013	U	0.0011	U
Sec-Butylbenzene	11	100	0.0018	U	0.0027	U	0.0021	U
Styrene	NS	NS	0.0018	U	0.0027	U	0.0021	U
T-Butylbenzene	5.9	100	0.0018	U	0.0027	U	0.0021	U
Tert-Butyl Methyl Ether	0.93	100	0.0009	U	0.0013	U	0.0011	U
Tetrachloroethylene (PCE)	1.3	19	0.0018	U	0.0027	U	0.0021	U
Toluene	0.7	100	0.0009	U	0.0013		0.0011	U
Trans-1,2-Dichloroethene	0.19	100	0.0009	U	0.0013	U	0.0011	U
Trans-1,3-Dichloropropene	NS	NS	0.0018	U	0.0027	U	0.0021	U
Trichloroethylene (TCE)	0.47	21	0.0009	U	0.0013	U	0.0011	U
Trichlorofluoromethane	NS	NS	0.0045	U	0.0067	U	0.0053	U
Vinyl Chloride	0.02	0.9	0.0018	U	0.0027	U	0.0021	U
Xylenes, Total	0.26	100	0.0009	U	0.0013	U	0.0011	U

Attached Table 5
1675-1679 Westchester Avenue
Bronx, New York
SI Soil Analytical Results
Volatile Organic Compounds

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-5 (11-12) 20170807		SB-6 (0-2) 20170807		SB-6 (13-15) 20170807	
Lab Sample ID			JC48434-10		JC48434-5		JC48434-6	
Dilution Factor			1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
1,1,1-Trichloroethane	0.68	100	0.0023	U	0.0022	U	0.0024	U
1,1,2,2-Tetrachloroethane	NS	NS	0.0023	U	0.0022	U	0.0024	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	NS	NS	0.0058	U	0.0056	U	0.0059	U
1,1,2-Trichloroethane	NS	NS	0.0023	U	0.0022	U	0.0024	U
1,1-Dichloroethane	0.27	26	0.0012	U	0.0011	U	0.0012	U
1,1-Dichloroethene	0.33	100	0.0012	U	0.0011	U	0.0012	U
1,2,3-Trichlorobenzene	NS	NS	0.0058	U	0.0056	U	0.0059	U
1,2,4-Trichlorobenzene	NS	NS	0.0058	U	0.0056	U	0.0059	U
1,2,4-Trimethylbenzene	3.6	52	0.0023	U	0.0022	U	0.0024	U
1,2-Dibromo-3-Chloropropane	NS	NS	0.0023	U	0.0022	U	0.0024	U
1,2-Dibromoethane (Ethylene Dibromide)	NS	NS	0.0012	U	0.0011	U	0.0012	U
1,2-Dichlorobenzene	1.1	100	0.0012	U	0.0011	U	0.0012	U
1,2-Dichloroethane	0.02	3.1	0.0012	U	0.0011	U	0.0012	U
1,2-Dichloropropane	NS	NS	0.0023	U	0.0022	U	0.0024	U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	52	0.0023	U	0.0022	U	0.0024	U
1,3-Dichlorobenzene	2.4	49	0.0012	U	0.0011	U	0.0012	U
1,4-Dichlorobenzene	1.8	13	0.0012	U	0.0011	U	0.0012	U
1,4-Dioxane (P-Dioxane)	0.1	13	0.041	U	0.036	U	0.044	U
2-Hexanone	NS	NS	0.0058	U	0.0056	U	0.0059	U
Acetone	0.05	100	0.0306		0.011	U	0.0193	
Benzene	0.06	4.8	0.00019	J	0.00056	U	0.00019	J
Bromochloromethane	NS	NS	0.0058	U	0.0056	U	0.0059	U
Bromodichloromethane	NS	NS	0.0023	U	0.0022	U	0.0024	U
Bromoform	NS	NS	0.0058	U	0.0056	U	0.0059	U
Bromomethane	NS	NS	0.0058	U	0.0056	U	0.0059	U
Carbon Disulfide	NS	NS	0.0043		0.0022	U	0.0024	U
Carbon Tetrachloride	0.76	2.4	0.0023	U	0.0022	U	0.0024	U
Chlorobenzene	1.1	100	0.0023	U	0.0022	U	0.0024	U
Chloroethane	NS	NS	0.0058	U	0.0056	U	0.0059	U
Chloroform	0.37	49	0.0023	U	0.0022	U	0.0024	U
Chloromethane	NS	NS	0.0058	U	0.0056	U	0.0059	U
Cis-1,2-Dichloroethylene	0.25	100	0.0012	U	0.0011	U	0.0012	U
Cis-1,3-Dichloropropene	NS	NS	0.0023	U	0.0022	U	0.0024	U
Cyclohexane	NS	NS	0.0023	U	0.0022	U	0.0024	U
Dibromochloromethane	NS	NS	0.0023	U	0.0022	U	0.0024	U
Dichlorodifluoromethane	NS	NS	0.0058	U	0.0056	U	0.0059	U
Ethylbenzene	1	41	0.0012	U	0.0011	U	0.0012	U
Isopropylbenzene (Cumene)	NS	NS	0.0023	U	0.0022	U	0.0024	U
Methyl Acetate	NS	NS	0.0058	U	0.0056	U	0.0059	U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	0.012	U	0.011	U	0.012	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	NS	0.0058	U	0.0056	U	0.0059	U
Methylcyclohexane	NS	NS	0.0023	U	0.0022	U	0.0024	U
Methylene Chloride	0.05	100	0.0058	U	0.0056	U	0.0059	U
N-Butylbenzene	12	100	0.0023	U	0.0022	U	0.0024	U
N-Propylbenzene	3.9	100	0.0023	U	0.0022	U	0.0024	U
O-Xylene (1,2-Dimethylbenzene)	NS	NS	0.0012	U	0.0011	U	0.0012	U
Sec-Butylbenzene	11	100	0.0023	U	0.0022	U	0.0024	U
Styrene	NS	NS	0.0023	U	0.0022	U	0.0024	U
T-Butylbenzene	5.9	100	0.0023	U	0.0022	U	0.0024	U
Tert-Butyl Methyl Ether	0.93	100	0.0012	U	0.0011	U	0.0012	U
Tetrachloroethylene (PCE)	1.3	19	0.0023	U	0.0022	U	0.0024	U
Toluene	0.7	100	0.0012	U	0.0011	U	0.0012	U
Trans-1,2-Dichloroethene	0.19	100	0.0012	U	0.0011	U	0.0012	U
Trans-1,3-Dichloropropene	NS	NS	0.0023	U	0.0022	U	0.0024	U
Trichloroethylene (TCE)	0.47	21	0.0012	U	0.0011	U	0.0012	U
Trichlorofluoromethane	NS	NS	0.0058	U	0.0056	U	0.0059	U
Vinyl Chloride	0.02	0.9	0.0023	U	0.0022	U	0.0024	U
Xylenes, Total	0.26	100	0.0012	U	0.0011	U	0.0012	U

Attached Table 5
1675-1679 Westchester Avenue
Bronx, New York
SI Soil Analytical Results
Volatile Organic Compounds

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-7 (0-2) 20170921		SB-7 (11-13) 20170921		SB-8 (0-2) 20170921	
Lab Sample ID			JC51377-3		JC51377-4		JC51377-5	
Dilution Factor			1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
1,1,1-Trichloroethane	0.68	100	0.0019	U	0.0019	U	0.0019	U
1,1,2,2-Tetrachloroethane	NS	NS	0.0019	U	0.0019	U	0.0019	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	NS	NS	0.0048	U	0.0049	U	0.0046	U
1,1,2-Trichloroethane	NS	NS	0.0019	U	0.0019	U	0.0019	U
1,1-Dichloroethane	0.27	26	0.00097	U	0.00097	U	0.00093	U
1,1-Dichloroethene	0.33	100	0.00097	U	0.00097	U	0.00093	U
1,2,3-Trichlorobenzene	NS	NS	0.0048	U	0.0049	U	0.0046	U
1,2,4-Trichlorobenzene	NS	NS	0.0048	U	0.0049	U	0.0046	U
1,2,4-Trimethylbenzene	3.6	52	0.0019	U	0.0019	U	0.0019	U
1,2-Dibromo-3-Chloropropane	NS	NS	0.0019	U	0.0019	U	0.0019	U
1,2-Dibromoethane (Ethylene Dibromide)	NS	NS	0.00097	U	0.00097	U	0.00093	U
1,2-Dichlorobenzene	1.1	100	0.00097	U	0.00097	U	0.00093	U
1,2-Dichloroethane	0.02	3.1	0.00097	U	0.00097	U	0.00093	U
1,2-Dichloropropane	NS	NS	0.0019	U	0.0019	U	0.0019	U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	52	0.0019	U	0.0019	U	0.0019	U
1,3-Dichlorobenzene	2.4	49	0.00097	U	0.00097	U	0.00093	U
1,4-Dichlorobenzene	1.8	13	0.00097	U	0.00097	U	0.00093	U
1,4-Dioxane (P-Dioxane)	0.1	13	0.072	UD	0.039	U	0.036	U
2-Hexanone	NS	NS	0.0048	U	0.0049	U	0.0046	U
Acetone	0.05	100	0.0097	U	0.0165		0.0093	U
Benzene	0.06	4.8	0.00048	U	0.00049	U	0.00046	U
Bromochloromethane	NS	NS	0.0048	U	0.0049	U	0.0046	U
Bromodichloromethane	NS	NS	0.0019	U	0.0019	U	0.0019	U
Bromoform	NS	NS	0.0048	U	0.0049	U	0.0046	U
Bromomethane	NS	NS	0.0048	U	0.0049	U	0.0046	U
Carbon Disulfide	NS	NS	0.0019	U	0.00077	J	0.0019	U
Carbon Tetrachloride	0.76	2.4	0.0019	U	0.0019	U	0.0019	U
Chlorobenzene	1.1	100	0.0019	U	0.0019	U	0.0019	U
Chloroethane	NS	NS	0.0048	U	0.0049	U	0.0046	U
Chloroform	0.37	49	0.0019	U	0.0019	U	0.0019	U
Chloromethane	NS	NS	0.0048	U	0.0049	U	0.0046	U
Cis-1,2-Dichloroethylene	0.25	100	0.00097	U	0.00097	U	0.00093	U
Cis-1,3-Dichloropropene	NS	NS	0.0019	U	0.0019	U	0.0019	U
Cyclohexane	NS	NS	0.0019	U	0.0019	U	0.0019	U
Dibromochloromethane	NS	NS	0.0019	U	0.0019	U	0.0019	U
Dichlorodifluoromethane	NS	NS	0.0048	U	0.0049	U	0.0046	U
Ethylbenzene	1	41	0.00097	U	0.00097	U	0.00093	U
Isopropylbenzene (Cumene)	NS	NS	0.0019	U	0.0019	U	0.0019	U
Methyl Acetate	NS	NS	0.0048	U	0.0049	U	0.0046	U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	0.0097	U	0.0097	U	0.0093	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	NS	0.0048	U	0.0049	U	0.0046	U
Methylcyclohexane	NS	NS	0.0019	U	0.0019	U	0.0019	U
Methylene Chloride	0.05	100	0.0048	U	0.0049	U	0.0046	U
N-Butylbenzene	12	100	0.0019	U	0.0019	U	0.0019	U
N-Propylbenzene	3.9	100	0.0019	U	0.0019	U	0.0019	U
O-Xylene (1,2-Dimethylbenzene)	NS	NS	0.00097	U	0.00097	U	0.00093	U
Sec-Butylbenzene	11	100	0.0019	U	0.0019	U	0.0019	U
Styrene	NS	NS	0.0019	U	0.0019	U	0.0019	U
T-Butylbenzene	5.9	100	0.0019	U	0.0019	U	0.0019	U
Tert-Butyl Methyl Ether	0.93	100	0.00097	U	0.00097	U	0.00093	U
Tetrachloroethylene (PCE)	1.3	19	0.0017	J	0.0019	U	0.0019	U
Toluene	0.7	100	0.00097	U	0.00066	J	0.00093	U
Trans-1,2-Dichloroethene	0.19	100	0.00097	U	0.00097	U	0.00093	U
Trans-1,3-Dichloropropene	NS	NS	0.0019	U	0.0019	U	0.0019	U
Trichloroethylene (TCE)	0.47	21	0.00097	U	0.00097	U	0.00093	U
Trichlorofluoromethane	NS	NS	0.0048	U	0.0049	U	0.0046	U
Vinyl Chloride	0.02	0.9	0.0019	U	0.0019	U	0.0019	U
Xylenes, Total	0.26	100	0.00097	U	0.00097	U	0.00093	U

Attached Table 5
1675-1679 Westchester Avenue
Bronx, New York
SI Soil Analytical Results
Volatile Organic Compounds

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-8 (7-9)20170921		SB-9 (0-2) 20170921		SB-9 (7-9) 20170921	
Lab Sample ID			JC51377-6		JC51377-7		JC51377-8	
Dilution Factor			1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
1,1,1-Trichloroethane	0.68	100	0.002	U	0.0019	U	0.002	U
1,1,2,2-Tetrachloroethane	NS	NS	0.002	U	0.0019	U	0.002	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	NS	NS	0.005	U	0.0048	U	0.005	U
1,1,2-Trichloroethane	NS	NS	0.002	U	0.0019	U	0.002	U
1,1-Dichloroethane	0.27	26	0.001	U	0.00097	U	0.001	U
1,1-Dichloroethene	0.33	100	0.001	U	0.00097	U	0.001	U
1,2,3-Trichlorobenzene	NS	NS	0.005	U	0.0048	U	0.005	U
1,2,4-Trichlorobenzene	NS	NS	0.005	U	0.0048	U	0.005	U
1,2,4-Trimethylbenzene	3.6	52	0.002	U	0.0019	U	0.002	U
1,2-Dibromo-3-Chloropropane	NS	NS	0.002	U	0.0019	U	0.002	U
1,2-Dibromoethane (Ethylene Dibromide)	NS	NS	0.001	U	0.00097	U	0.001	U
1,2-Dichlorobenzene	1.1	100	0.001	U	0.00097	U	0.001	U
1,2-Dichloroethane	0.02	3.1	0.001	U	0.00097	U	0.001	U
1,2-Dichloropropane	NS	NS	0.002	U	0.0019	U	0.002	U
1,3,5-Trimethylbenzene (Mesitylene)	8.4	52	0.002	U	0.0019	U	0.002	U
1,3-Dichlorobenzene	2.4	49	0.001	U	0.00097	U	0.001	U
1,4-Dichlorobenzene	1.8	13	0.001	U	0.00097	U	0.001	U
1,4-Dioxane (P-Dioxane)	0.1	13	0.04	U	0.038	U	0.041	U
2-Hexanone	NS	NS	0.005	U	0.0048	U	0.005	U
Acetone	0.05	100	0.01	U	0.0097	U	0.01	U
Benzene	0.06	4.8	0.0005	U	0.00048	U	0.0005	U
Bromochloromethane	NS	NS	0.005	U	0.0048	U	0.005	U
Bromodichloromethane	NS	NS	0.002	U	0.0019	U	0.002	U
Bromoform	NS	NS	0.005	U	0.0048	U	0.005	U
Bromomethane	NS	NS	0.005	U	0.0048	U	0.005	U
Carbon Disulfide	NS	NS	0.002	U	0.0019	U	0.002	U
Carbon Tetrachloride	0.76	2.4	0.002	U	0.0019	U	0.002	U
Chlorobenzene	1.1	100	0.002	U	0.0019	U	0.002	U
Chloroethane	NS	NS	0.005	U	0.0048	U	0.005	U
Chloroform	0.37	49	0.002	U	0.0019	U	0.002	U
Chloromethane	NS	NS	0.005	U	0.0048	U	0.005	U
Cis-1,2-Dichloroethylene	0.25	100	0.001	U	0.00097	U	0.001	U
Cis-1,3-Dichloropropene	NS	NS	0.002	U	0.0019	U	0.002	U
Cyclohexane	NS	NS	0.002	U	0.0019	U	0.002	U
Dibromochloromethane	NS	NS	0.002	U	0.0019	U	0.002	U
Dichlorodifluoromethane	NS	NS	0.005	U	0.0048	U	0.005	U
Ethylbenzene	1	41	0.001	U	0.00097	U	0.001	U
Isopropylbenzene (Cumene)	NS	NS	0.002	U	0.0019	U	0.002	U
Methyl Acetate	NS	NS	0.005	U	0.0048	U	0.005	U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	0.01	U	0.0097	U	0.01	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	NS	0.005	U	0.0048	U	0.005	U
Methylcyclohexane	NS	NS	0.002	U	0.0019	U	0.002	U
Methylene Chloride	0.05	100	0.005	U	0.0048	U	0.005	U
N-Butylbenzene	12	100	0.002	U	0.0019	U	0.002	U
N-Propylbenzene	3.9	100	0.002	U	0.0019	U	0.002	U
O-Xylene (1,2-Dimethylbenzene)	NS	NS	0.001	U	0.00097	U	0.001	U
Sec-Butylbenzene	11	100	0.002	U	0.0019	U	0.002	U
Styrene	NS	NS	0.002	U	0.0019	U	0.002	U
T-Butylbenzene	5.9	100	0.002	U	0.0019	U	0.002	U
Tert-Butyl Methyl Ether	0.93	100	0.001	U	0.00097	U	0.001	U
Tetrachloroethylene (PCE)	1.3	19	0.00065	J	0.0019	U	0.002	U
Toluene	0.7	100	0.001	U	0.00097	U	0.001	U
Trans-1,2-Dichloroethene	0.19	100	0.001	U	0.00097	U	0.001	U
Trans-1,3-Dichloropropene	NS	NS	0.002	U	0.0019	U	0.002	U
Trichloroethylene (TCE)	0.47	21	0.001	U	0.00097	U	0.001	U
Trichlorofluoromethane	NS	NS	0.005	U	0.0048	U	0.005	U
Vinyl Chloride	0.02	0.9	0.002	U	0.0019	U	0.002	U
Xylenes, Total	0.26	100	0.001	U	0.00097	U	0.001	U

Attached Table 6
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-1 (0-2) 20170807		SB-1 (14-15) 20170807		SB-2 (0-2) 20170807	
Lab Sample ID			JC48434-1		JC48434-2		JC48434-3	
Dilution Factor			1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
1,2,4,5-Tetrachlorobenzene	NS	NS	0.18	U	0.2	U	0.2	U
2,3,4,6-Tetrachlorophenol	NS	NS	0.18	U	0.2	U	0.2	U
2,4,5-Trichlorophenol	NS	NS	0.18	U	0.2	U	0.2	U
2,4,6-Trichlorophenol	NS	NS	0.18	U	0.2	U	0.2	U
2,4-Dichlorophenol	NS	NS	0.18	U	0.2	U	0.2	U
2,4-Dimethylphenol	NS	NS	0.18	U	0.2	U	0.2	U
2,4-Dinitrophenol	NS	NS	0.18	U	0.2	U	0.2	U
2,4-Dinitrotoluene	NS	NS	0.036	U	0.04	U	0.04	U
2,6-Dinitrotoluene	NS	NS	0.036	U	0.04	U	0.04	U
2-Chloronaphthalene	NS	NS	0.072	U	0.081	U	0.08	U
2-Chlorophenol	NS	NS	0.072	U	0.081	U	0.08	U
2-Methylnaphthalene	NS	NS	0.02	J	0.0287	J	0.294	
2-Methylphenol (O-Cresol)	0.33	100	0.072	U	0.081	U	0.08	U
2-Nitroaniline	NS	NS	0.18	U	0.2	U	0.2	U
2-Nitrophenol	NS	NS	0.18	U	0.2	U	0.2	U
3,3'-Dichlorobenzidine	NS	NS	0.072	U	0.081	U	0.08	U
3-Nitroaniline	NS	NS	0.18	U	0.2	U	0.2	U
4,6-Dinitro-2-Methylphenol	NS	NS	0.18	U	0.2	U	0.2	U
4-Bromophenyl Phenyl Ether	NS	NS	0.072	U	0.081	U	0.08	U
4-Chloro-3-Methylphenol	NS	NS	0.18	U	0.2	U	0.2	U
4-Chloroaniline	NS	NS	0.18	U	0.2	U	0.2	U
4-Chlorophenyl Phenyl Ether	NS	NS	0.072	U	0.081	U	0.08	U
4-Methylphenol (P-Cresol)	0.33	NS	0.072	U	0.081	U	0.08	U
4-Nitroaniline	NS	NS	0.18	U	0.2	U	0.2	U
4-Nitrophenol	NS	NS	0.36	U	0.4	U	0.4	U
Acenaphthene	20	100	0.0663		0.05		3.92	
Acenaphthylene	100	100	0.0391		0.0648		0.226	
Acetophenone	NS	NS	0.18	U	0.0297	J	0.2	U
Anthracene	100	100	0.146		0.178		11.7	D
Atrazine	NS	NS	0.072	U	0.081	U	0.08	U
Benzaldehyde	NS	NS	0.18	U	0.2	U	0.0225	J
Benzo(A)Anthracene	1	1	0.495		0.646		**25.2**	**D**
Benzo(A)Pyrene	1	1	0.495		0.719		**21.5**	**D**
Benzo(B)Fluoranthene	1	1	0.609		0.752		**24.5**	**D**
Benzo(G,H,I)Perylene	100	100	0.332		0.479		11	D
Benzo(K)Fluoranthene	0.8	3.9	0.225		0.28		**9.63**	**D**
Benzyl Butyl Phthalate	NS	NS	0.072	U	0.081	U	0.08	U
Biphenyl (Diphenyl)	NS	NS	0.072	U	0.0229	J	0.122	
Bis(2-Chloroethoxy) Methane	NS	NS	0.072	U	0.081	U	0.08	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	NS	NS	0.072	U	0.081	U	0.08	U
Bis(2-Chloroisopropyl) Ether	NS	NS	0.072	U	0.081	U	0.08	U
Bis(2-Ethylhexyl) Phthalate	NS	NS	0.072	U	0.081	U	0.08	U
Caprolactam	NS	NS	0.072	U	0.081	U	0.08	U
Carbazole	NS	NS	0.0507	J	0.046	J	1.39	
Chrysene	1	3.9	0.506		0.621		**22.3**	**D**
Dibenz(A,H)Anthracene	0.33	0.33	0.0968		0.126		**3.01**	**D**
Dibenzofuran	7	59	0.0337	J	0.032	J	1.79	
Diethyl Phthalate	NS	NS	0.072	U	0.081	U	0.08	U
Dimethyl Phthalate	NS	NS	0.072	U	0.081	U	0.08	U
Di-N-Butyl Phthalate	NS	NS	0.072	U	0.081	U	0.08	U
Di-N-Octylphthalate	NS	NS	0.072	U	0.081	U	0.08	U
Fluoranthene	100	100	0.856		1.06		43	D
Fluorene	30	100	0.0525		0.0411		3.11	
Hexachlorobenzene	0.33	1.2	0.072	U	0.081	U	0.08	U
Hexachlorocyclopentadiene	NS	NS	0.36	U	0.4	U	0.4	U
Hexachloroethane	NS	NS	0.18	U	0.2	U	0.2	U
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	0.382		**0.503**		**13.1**	**D**
Isophorone	NS	NS	0.072	U	0.081	U	0.08	U
Nitrobenzene	NS	NS	0.072	U	0.081	U	0.08	U
N-Nitrosodi-N-Propylamine	NS	NS	0.072	U	0.081	U	0.08	U
N-Nitrosodiphenylamine	NS	NS	0.18	U	0.2	U	0.2	U
Pentachlorophenol	0.8	6.7	0.14	U	0.16	U	0.16	U
Phenanthrene	100	100	0.59		0.598		21.8	D
Phenol	0.33	100	0.072	U	0.081	U	0.08	U
Pyrene	100	100	0.807		1.33		37.3	D

Attached Table 6
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-2 (3-5) 20170807		SB-3 (0-2) 20170807		SB-3 (5-7) 20170807	
Lab Sample ID			JC48434-4		JC48434-11		JC48434-12	
Dilution Factor			1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
1,2,4,5-Tetrachlorobenzene	NS	NS	0.19	U	0.19	U	0.17	U
2,3,4,6-Tetrachlorophenol	NS	NS	0.19	U	0.19	U	0.17	U
2,4,5-Trichlorophenol	NS	NS	0.19	U	0.19	U	0.17	U
2,4,6-Trichlorophenol	NS	NS	0.19	U	0.19	U	0.17	U
2,4-Dichlorophenol	NS	NS	0.19	U	0.19	U	0.17	U
2,4-Dimethylphenol	NS	NS	0.19	U	0.19	U	0.17	U
2,4-Dinitrophenol	NS	NS	0.19	U	0.19	U	0.17	U
2,4-Dinitrotoluene	NS	NS	0.039	U	0.038	U	0.034	U
2,6-Dinitrotoluene	NS	NS	0.039	U	0.038	U	0.034	U
2-Chloronaphthalene	NS	NS	0.078	U	0.075	U	0.068	U
2-Chlorophenol	NS	NS	0.078	U	0.075	U	0.068	U
2-Methylnaphthalene	NS	NS	0.323		0.0305	J	0.658	
2-Methylphenol (O-Cresol)	0.33	100	0.078	U	0.075	U	0.068	U
2-Nitroaniline	NS	NS	0.19	U	0.19	U	0.17	U
2-Nitrophenol	NS	NS	0.19	U	0.19	U	0.17	U
3,3'-Dichlorobenzidine	NS	NS	0.078	U	0.075	U	0.068	U
3-Nitroaniline	NS	NS	0.19	U	0.19	U	0.17	U
4,6-Dinitro-2-Methylphenol	NS	NS	0.19	U	0.19	U	0.17	U
4-Bromophenyl Phenyl Ether	NS	NS	0.078	U	0.075	U	0.068	U
4-Chloro-3-Methylphenol	NS	NS	0.19	U	0.19	U	0.17	U
4-Chloroaniline	NS	NS	0.19	U	0.19	U	0.17	U
4-Chlorophenyl Phenyl Ether	NS	NS	0.078	U	0.075	U	0.068	U
4-Methylphenol (P-Cresol)	0.33	NS	0.078	U	0.075	U	0.068	U
4-Nitroaniline	NS	NS	0.19	U	0.19	U	0.17	U
4-Nitrophenol	NS	NS	0.39	U	0.38	U	0.34	U
Acenaphthene	20	100	1.42		0.0783		0.379	
Acenaphthylene	100	100	0.062		0.0811		1.1	
Acetophenone	NS	NS	0.19	U	0.19	U	0.17	U
Anthracene	100	100	1.31		0.277		2.91	
Atrazine	NS	NS	0.078	U	0.075	U	0.068	U
Benzaldehyde	NS	NS	0.19	U	0.19	U	0.17	U
Benzo(A)Anthracene	1	1	**1.57**		1		**3.81**	**D**
Benzo(A)Pyrene	1	1	**1.85**		**1.02**		**3.78**	**D**
Benzo(B)Fluoranthene	1	1	**2.11**		**1.28**		**4.01**	**D**
Benzo(G,H,I)Perylene	100	100	1.21		0.66		2.3	
Benzo(K)Fluoranthene	0.8	3.9	0.519		0.36		**1.67**	**D**
Benzyl Butyl Phthalate	NS	NS	0.078	U	0.075	U	0.068	U
Biphenyl (Diphenyl)	NS	NS	0.0773	J	0.075	U	0.181	
Bis(2-Chloroethoxy) Methane	NS	NS	0.078	U	0.075	U	0.068	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	NS	NS	0.078	U	0.075	U	0.068	U
Bis(2-Chloroisopropyl) Ether	NS	NS	0.078	U	0.075	U	0.068	U
Bis(2-Ethylhexyl) Phthalate	NS	NS	0.108		0.334		0.068	U
Caprolactam	NS	NS	0.078	U	0.075	U	0.068	U
Carbazole	NS	NS	0.426		0.0735	J	0.634	
Chrysene	1	3.9	**1.7**		1		**3.58**	**D**
Dibenz(A,H)Anthracene	0.33	0.33	**0.335**		0.193		**0.832**	
Dibenzofuran	7	59	0.882		0.0471	J	0.893	
Diethyl Phthalate	NS	NS	0.078	U	0.075	U	0.068	U
Dimethyl Phthalate	NS	NS	0.078	U	0.075	U	0.068	U
Di-N-Butyl Phthalate	NS	NS	0.078	U	0.075	U	0.068	U
Di-N-Octylphthalate	NS	NS	0.078	U	0.0748	J	0.068	U
Fluoranthene	100	100	4.57	D	1.74		7.51	D
Fluorene	30	100	1.82		0.0571		0.529	
Hexachlorobenzene	0.33	1.2	0.078	U	0.075	U	0.068	U
Hexachlorocyclopentadiene	NS	NS	0.39	U	0.38	U	0.34	U
Hexachloroethane	NS	NS	0.19	U	0.19	U	0.17	U
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	**1.32**		**0.754**		**2.64**	
Isophorone	NS	NS	0.078	U	0.075	U	0.068	U
Nitrobenzene	NS	NS	0.078	U	0.075	U	0.068	U
N-Nitrosodi-N-Propylamine	NS	NS	0.078	U	0.075	U	0.068	U
N-Nitrosodiphenylamine	NS	NS	0.19	U	0.19	U	0.17	U
Pentachlorophenol	0.8	6.7	0.16	U	0.15	U	0.14	U
Phenanthrene	100	100	5.56	D	1.01		7.64	D
Phenol	0.33	100	0.078	U	0.075	U	0.068	U
Pyrene	100	100	3.84	D	1.83		6.09	D

Attached Table 6
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-4 (0-2) 20170807		SB-4 (13-15) 20170807		SB-5 (0-2) 20170807	
Lab Sample ID			JC48434-7		JC48434-8		JC48434-9	
Dilution Factor			1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
1,2,4,5-Tetrachlorobenzene	NS	NS	0.18	U	0.23	U	0.18	U
2,3,4,6-Tetrachlorophenol	NS	NS	0.18	U	0.23	U	0.18	U
2,4,5-Trichlorophenol	NS	NS	0.18	U	0.23	U	0.18	U
2,4,6-Trichlorophenol	NS	NS	0.18	U	0.23	U	0.18	U
2,4-Dichlorophenol	NS	NS	0.18	U	0.23	U	0.18	U
2,4-Dimethylphenol	NS	NS	0.18	U	0.23	U	0.18	U
2,4-Dinitrophenol	NS	NS	0.18	U	0.23	U	0.18	U
2,4-Dinitrotoluene	NS	NS	0.037	U	0.046	U	0.035	U
2,6-Dinitrotoluene	NS	NS	0.037	U	0.046	U	0.035	U
2-Chloronaphthalene	NS	NS	0.074	U	0.092	U	0.071	U
2-Chlorophenol	NS	NS	0.074	U	0.092	U	0.071	U
2-Methylnaphthalene	NS	NS	0.108		0.092	U	0.159	
2-Methylphenol (O-Cresol)	0.33	100	0.074	U	0.092	U	0.071	U
2-Nitroaniline	NS	NS	0.18	U	0.23	U	0.18	U
2-Nitrophenol	NS	NS	0.18	U	0.23	U	0.18	U
3,3'-Dichlorobenzidine	NS	NS	0.074	U	0.092	U	0.071	U
3-Nitroaniline	NS	NS	0.18	U	0.23	U	0.18	U
4,6-Dinitro-2-Methylphenol	NS	NS	0.18	U	0.23	U	0.18	U
4-Bromophenyl Phenyl Ether	NS	NS	0.074	U	0.092	U	0.071	U
4-Chloro-3-Methylphenol	NS	NS	0.18	U	0.23	U	0.18	U
4-Chloroaniline	NS	NS	0.18	U	0.23	U	0.18	U
4-Chlorophenyl Phenyl Ether	NS	NS	0.074	U	0.092	U	0.071	U
4-Methylphenol (P-Cresol)	0.33	NS	0.074	U	0.092	U	0.071	U
4-Nitroaniline	NS	NS	0.18	U	0.23	U	0.18	U
4-Nitrophenol	NS	NS	0.37	U	0.46	U	0.35	U
Acenaphthene	20	100	0.466		0.046	U	1.2	
Acenaphthylene	100	100	0.0669		0.046	U	0.127	
Acetophenone	NS	NS	0.18	U	0.23	U	0.18	U
Anthracene	100	100	1.17		0.0321	J	2.77	
Atrazine	NS	NS	0.074	U	0.092	U	0.071	U
Benzaldehyde	NS	NS	0.18	U	0.0197	J	0.18	U
Benzo(A)Anthracene	1	1	**3.3**		0.0889		**7.34**	**D**
Benzo(A)Pyrene	1	1	**3.12**		0.0746		**6.51**	**D**
Benzo(B)Fluoranthene	1	1	**3.25**	**D**	0.0871		**8.34**	**D**
Benzo(G,H,I)Perylene	100	100	1.85		0.0595		3.5	D
Benzo(K)Fluoranthene	0.8	3.9	**1.07**	**D**	0.0305	J	**2.74**	**D**
Benzyl Butyl Phthalate	NS	NS	0.074	U	0.092	U	0.071	U
Biphenyl (Diphenyl)	NS	NS	0.0263	J	0.092	U	0.0498	J
Bis(2-Chloroethoxy) Methane	NS	NS	0.074	U	0.092	U	0.071	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	NS	NS	0.074	U	0.092	U	0.071	U
Bis(2-Chloroisopropyl) Ether	NS	NS	0.074	U	0.092	U	0.071	U
Bis(2-Ethylhexyl) Phthalate	NS	NS	0.074	U	0.119		0.071	U
Caprolactam	NS	NS	0.074	U	0.092	U	0.071	U
Carbazole	NS	NS	0.403		0.092	U	1.07	
Chrysene	1	3.9	**3.3**		0.0979		**6.6**	**D**
Dibenz(A,H)Anthracene	0.33	0.33	**0.57**		0.046	U	**1.95**	
Dibenzofuran	7	59	0.177		0.092	U	0.434	
Diethyl Phthalate	NS	NS	0.074	U	0.092	U	0.071	U
Dimethyl Phthalate	NS	NS	0.074	U	0.092	U	0.071	U
Di-N-Butyl Phthalate	NS	NS	0.074	U	0.092	U	0.071	U
Di-N-Octylphthalate	NS	NS	0.074	U	0.092	U	0.071	U
Fluoranthene	100	100	5.35	D	0.165		13.6	D
Fluorene	30	100	0.345		0.046	U	0.888	
Hexachlorobenzene	0.33	1.2	0.074	U	0.092	U	0.071	U
Hexachlorocyclopentadiene	NS	NS	0.37	U	0.46	U	0.35	U
Hexachloroethane	NS	NS	0.18	U	0.23	U	0.18	U
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	**2.21**		0.0563		**4.15**	**D**
Isophorone	NS	NS	0.074	U	0.092	U	0.071	U
Nitrobenzene	NS	NS	0.074	U	0.092	U	0.071	U
N-Nitrosodi-N-Propylamine	NS	NS	0.074	U	0.092	U	0.071	U
N-Nitrosodiphenylamine	NS	NS	0.18	U	0.23	U	0.18	U
Pentachlorophenol	0.8	6.7	0.15	U	0.18	U	0.14	U
Phenanthrene	100	100	4.34	D	0.18		9.05	D
Phenol	0.33	100	0.074	U	0.092	U	0.071	U
Pyrene	100	100	5.26	D	0.223		12.2	D

Attached Table 6
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-5 (11-12) 20170807		SB-6 (0-2) 20170807		SB-6 (13-15) 20170807	
Lab Sample ID			JC48434-10		JC48434-5		JC48434-6	
Dilution Factor			1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
1,2,4,5-Tetrachlorobenzene	NS	NS	0.2	U	0.18	U	0.22	U
2,3,4,6-Tetrachlorophenol	NS	NS	0.2	U	0.18	U	0.22	U
2,4,5-Trichlorophenol	NS	NS	0.2	U	0.18	U	0.22	U
2,4,6-Trichlorophenol	NS	NS	0.2	U	0.18	U	0.22	U
2,4-Dichlorophenol	NS	NS	0.2	U	0.18	U	0.22	U
2,4-Dimethylphenol	NS	NS	0.2	U	0.18	U	0.22	U
2,4-Dinitrophenol	NS	NS	0.2	U	0.18	U	0.22	U
2,4-Dinitrotoluene	NS	NS	0.041	U	0.036	U	0.044	U
2,6-Dinitrotoluene	NS	NS	0.041	U	0.036	U	0.044	U
2-Chloronaphthalene	NS	NS	0.082	U	0.073	U	0.087	U
2-Chlorophenol	NS	NS	0.082	U	0.073	U	0.087	U
2-Methylnaphthalene	NS	NS	0.0926		0.0276	J	0.0564	J
2-Methylphenol (O-Cresol)	0.33	100	0.082	U	0.073	U	0.087	U
2-Nitroaniline	NS	NS	0.2	U	0.18	U	0.22	U
2-Nitrophenol	NS	NS	0.2	U	0.18	U	0.22	U
3,3'-Dichlorobenzidine	NS	NS	0.082	U	0.073	U	0.087	U
3-Nitroaniline	NS	NS	0.2	U	0.18	U	0.22	U
4,6-Dinitro-2-Methylphenol	NS	NS	0.2	U	0.18	U	0.22	U
4-Bromophenyl Phenyl Ether	NS	NS	0.082	U	0.073	U	0.087	U
4-Chloro-3-Methylphenol	NS	NS	0.2	U	0.18	U	0.22	U
4-Chloroaniline	NS	NS	0.2	U	0.18	U	0.22	U
4-Chlorophenyl Phenyl Ether	NS	NS	0.082	U	0.073	U	0.087	U
4-Methylphenol (P-Cresol)	0.33	NS	0.082	U	0.073	U	0.087	U
4-Nitroaniline	NS	NS	0.2	U	0.18	U	0.22	U
4-Nitrophenol	NS	NS	0.41	U	0.36	U	0.44	U
Acenaphthene	20	100	0.34		0.123		0.176	
Acenaphthylene	100	100	0.147		0.0569		0.0406	J
Acetophenone	NS	NS	0.2	U	0.18	U	0.22	U
Anthracene	100	100	0.498		0.357		0.425	
Atrazine	NS	NS	0.082	U	0.073	U	0.087	U
Benzaldehyde	NS	NS	0.2	U	0.18	U	0.22	U
Benzo(A)Anthracene	1	1	**1.32**		**1.42**		**1.12**	
Benzo(A)Pyrene	1	1	**1.27**		**1.5**		0.967	
Benzo(B)Fluoranthene	1	1	**1.61**		**1.79**		**1.11**	
Benzo(G,H,I)Perylene	100	100	0.857		0.919		0.604	
Benzo(K)Fluoranthene	0.8	3.9	0.439		0.586		0.33	
Benzyl Butyl Phthalate	NS	NS	0.082	U	0.073	U	0.087	U
Biphenyl (Diphenyl)	NS	NS	0.0362	J	0.073	U	0.0178	J
Bis(2-Chloroethoxy) Methane	NS	NS	0.082	U	0.073	U	0.087	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	NS	NS	0.082	U	0.073	U	0.087	U
Bis(2-Chloroisopropyl) Ether	NS	NS	0.082	U	0.073	U	0.087	U
Bis(2-Ethylhexyl) Phthalate	NS	NS	0.082	U	0.073	U	0.124	
Caprolactam	NS	NS	0.082	U	0.073	U	0.087	U
Carbazole	NS	NS	0.151		0.119		0.141	
Chrysene	1	3.9	**1.44**		**1.4**		**1.1**	
Dibenz(A,H)Anthracene	0.33	0.33	0.236		0.29		0.162	
Dibenzofuran	7	59	0.154		0.0574	J	0.0987	
Diethyl Phthalate	NS	NS	0.082	U	0.073	U	0.087	U
Dimethyl Phthalate	NS	NS	0.082	U	0.073	U	0.087	U
Di-N-Butyl Phthalate	NS	NS	0.082	U	0.073	U	0.087	U
Di-N-Octylphthalate	NS	NS	0.082	U	0.073	U	0.087	U
Fluoranthene	100	100	3.35		2.47		2.33	
Fluorene	30	100	0.217		0.0916		0.152	
Hexachlorobenzene	0.33	1.2	0.082	U	0.073	U	0.087	U
Hexachlorocyclopentadiene	NS	NS	0.41	U	0.36	U	0.44	U
Hexachloroethane	NS	NS	0.2	U	0.18	U	0.22	U
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	**0.903**		**1.05**		**0.627**	
Isophorone	NS	NS	0.082	U	0.073	U	0.087	U
Nitrobenzene	NS	NS	0.082	U	0.073	U	0.087	U
N-Nitrosodi-N-Propylamine	NS	NS	0.082	U	0.073	U	0.087	U
N-Nitrosodiphenylamine	NS	NS	0.2	U	0.18	U	0.22	U
Pentachlorophenol	0.8	6.7	0.16	U	0.15	U	0.17	U
Phenanthrene	100	100	2.03		1.45		2.85	
Phenol	0.33	100	0.082	U	0.073	U	0.087	U
Pyrene	100	100	3.22		2.43		2.87	

Attached Table 6
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-7 (0-2) 20170921		SB-7 (11-13) 20170921		SB-8 (0-2) 20170921	
Lab Sample ID			JC51377-3		JC51377-4		JC51377-5	
Dilution Factor			2		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
1,2,4,5-Tetrachlorobenzene	NS	NS	0.36	UD	0.2	U	0.18	U
2,3,4,6-Tetrachlorophenol	NS	NS	0.36	UD	0.2	U	0.18	U
2,4,5-Trichlorophenol	NS	NS	0.36	UD	0.2	U	0.18	U
2,4,6-Trichlorophenol	NS	NS	0.36	UD	0.2	U	0.18	U
2,4-Dichlorophenol	NS	NS	0.36	UD	0.2	U	0.18	U
2,4-Dimethylphenol	NS	NS	0.36	UD	0.2	U	0.18	U
2,4-Dinitrophenol	NS	NS	0.36	UD	0.2	U	0.18	U
2,4-Dinitrotoluene	NS	NS	0.072	UD	0.039	U	0.036	U
2,6-Dinitrotoluene	NS	NS	0.072	UD	0.039	U	0.036	U
2-Chloronaphthalene	NS	NS	0.14	UD	0.078	U	0.072	U
2-Chlorophenol	NS	NS	0.14	UD	0.078	U	0.072	U
2-Methylnaphthalene	NS	NS	0.177	D	0.172		0.0792	
2-Methylphenol (O-Cresol)	0.33	100	0.14	UD	0.078	U	0.072	U
2-Nitroaniline	NS	NS	0.36	UD	0.2	U	0.18	U
2-Nitrophenol	NS	NS	0.36	UD	0.2	U	0.18	U
3,3'-Dichlorobenzidine	NS	NS	0.14	UD	0.078	U	0.072	U
3-Nitroaniline	NS	NS	0.36	UD	0.2	U	0.18	U
4,6-Dinitro-2-Methylphenol	NS	NS	0.36	UD	0.2	U	0.18	U
4-Bromophenyl Phenyl Ether	NS	NS	0.14	UD	0.078	U	0.072	U
4-Chloro-3-Methylphenol	NS	NS	0.36	UD	0.2	U	0.18	U
4-Chloroaniline	NS	NS	0.36	UD	0.2	U	0.18	U
4-Chlorophenyl Phenyl Ether	NS	NS	0.14	UD	0.078	U	0.072	U
4-Methylphenol (P-Cresol)	0.33	NS	0.14	UD	0.078	U	0.072	U
4-Nitroaniline	NS	NS	0.36	UD	0.2	U	0.18	U
4-Nitrophenol	NS	NS	0.72	UD	0.39	U	0.36	U
Acenaphthene	20	100	1.18	D	1.09		0.228	
Acenaphthylene	100	100	0.198	D	0.0711		0.44	
Acetophenone	NS	NS	0.36	UD	0.2	U	0.18	U
Anthracene	100	100	2.35	D	1.92		0.794	
Atrazine	NS	NS	0.14	UD	0.078	U	0.072	U
Benzaldehyde	NS	NS	0.36	UD	0.2	U	0.18	U
Benzo(A)Anthracene	1	1	**5.38**	**D**	**4.88**	**D**	**2.7**	
Benzo(A)Pyrene	1	1	**5.07**	**D**	**3.52**		**2.84**	
Benzo(B)Fluoranthene	1	1	**5.8**	**D**	**4.84**	**D**	**3.26**	
Benzo(G,H,I)Perylene	100	100	3.22	D	1.84		1.82	
Benzo(K)Fluoranthene	0.8	3.9	**1.97**	**D**	**1.67**		**1.3**	
Benzyl Butyl Phthalate	NS	NS	0.14	UD	0.078	U	0.072	U
Biphenyl (Diphenyl)	NS	NS	0.061	JD	0.0556	J	0.0313	J
Bis(2-Chloroethoxy) Methane	NS	NS	0.14	UD	0.078	U	0.072	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	NS	NS	0.14	UD	0.078	U	0.072	U
Bis(2-Chloroisopropyl) Ether	NS	NS	0.14	UD	0.078	U	0.072	U
Bis(2-Ethylhexyl) Phthalate	NS	NS	0.165	D	0.078	U	0.072	U
Caprolactam	NS	NS	0.14	UD	0.078	U	0.072	U
Carbazole	NS	NS	1.08	D	0.766		0.275	
Chrysene	1	3.9	**5.62**	**D**	**3.85**		**2.78**	
Dibenz(A,H)Anthracene	0.33	0.33	**1.15**	**D**	**0.65**		**0.557**	
Dibenzofuran	7	59	0.529	D	0.5		0.2	
Diethyl Phthalate	NS	NS	0.14	UD	0.078	U	0.072	U
Dimethyl Phthalate	NS	NS	0.14	UD	0.078	U	0.072	U
Di-N-Butyl Phthalate	NS	NS	0.14	UD	0.078	U	0.072	U
Di-N-Octylphthalate	NS	NS	0.14	UD	0.078	U	0.072	U
Fluoranthene	100	100	12	D	10.6	D	7.06	D
Fluorene	30	100	0.894	D	0.978		0.272	
Hexachlorobenzene	0.33	1.2	0.14	UD	0.078	U	0.072	U
Hexachlorocyclopentadiene	NS	NS	0.72	UD	0.39	U	0.36	U
Hexachloroethane	NS	NS	0.36	UD	0.2	U	0.18	U
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	**3.09**	**D**	**2.27**		**2.11**	
Isophorone	NS	NS	0.14	UD	0.078	U	0.072	U
Nitrobenzene	NS	NS	0.14	UD	0.078	U	0.072	U
N-Nitrosodi-N-Propylamine	NS	NS	0.14	UD	0.078	U	0.072	U
N-Nitrosodiphenylamine	NS	NS	0.36	UD	0.2	U	0.18	U
Pentachlorophenol	0.8	6.7	0.29	UD	0.16	U	0.14	U
Phenanthrene	100	100	9.71	D	7.68	D	3.51	
Phenol	0.33	100	0.14	UD	0.078	U	0.072	U
Pyrene	100	100	10.4	D	10.7	D	6.78	D

Attached Table 6
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-8 (7-9) 20170921		SB-9 (0-2) 20170921		SB-9 (7-9) 20170921	
Lab Sample ID			JC51377-6		JC51377-7		JC51377-8	
Dilution Factor			1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
1,2,4,5-Tetrachlorobenzene	NS	NS	0.2	U	0.19	U	0.2	U
2,3,4,6-Tetrachlorophenol	NS	NS	0.2	U	0.19	U	0.2	U
2,4,5-Trichlorophenol	NS	NS	0.2	U	0.19	U	0.2	U
2,4,6-Trichlorophenol	NS	NS	0.2	U	0.19	U	0.2	U
2,4-Dichlorophenol	NS	NS	0.2	U	0.19	U	0.2	U
2,4-Dimethylphenol	NS	NS	0.274		0.19	U	0.2	U
2,4-Dinitrophenol	NS	NS	0.2	U	0.19	U	0.2	U
2,4-Dinitrotoluene	NS	NS	0.04	U	0.038	U	0.041	U
2,6-Dinitrotoluene	NS	NS	0.04	U	0.038	U	0.041	U
2-Chloronaphthalene	NS	NS	0.08	U	0.076	U	0.081	U
2-Chlorophenol	NS	NS	0.08	U	0.076	U	0.081	U
2-Methylnaphthalene	NS	NS	1.85		0.089		0.0463	J
2-Methylphenol (O-Cresol)	0.33	100	0.177		0.076	U	0.081	U
2-Nitroaniline	NS	NS	0.2	U	0.19	U	0.2	U
2-Nitrophenol	NS	NS	0.2	U	0.19	U	0.2	U
3,3'-Dichlorobenzidine	NS	NS	0.08	U	0.076	U	0.081	U
3-Nitroaniline	NS	NS	0.2	U	0.19	U	0.2	U
4,6-Dinitro-2-Methylphenol	NS	NS	0.2	U	0.19	U	0.2	U
4-Bromophenyl Phenyl Ether	NS	NS	0.08	U	0.076	U	0.081	U
4-Chloro-3-Methylphenol	NS	NS	0.2	U	0.19	U	0.2	U
4-Chloroaniline	NS	NS	0.2	U	0.19	U	0.2	U
4-Chlorophenyl Phenyl Ether	NS	NS	0.08	U	0.076	U	0.081	U
4-Methylphenol (P-Cresol)	0.33	NS	**0.42**		0.076	U	0.081	U
4-Nitroaniline	NS	NS	0.2	U	0.19	U	0.2	U
4-Nitrophenol	NS	NS	0.4	U	0.38	U	0.41	U
Acenaphthene	20	100	4.83	D	0.551		0.14	
Acenaphthylene	100	100	3.26		0.112		0.0647	
Acetophenone	NS	NS	0.2	U	0.19	U	0.2	U
Anthracene	100	100	9.83	D	1.24		0.284	
Atrazine	NS	NS	0.08	U	0.076	U	0.081	U
Benzaldehyde	NS	NS	0.2	U	0.19	U	0.2	U
Benzo(A)Anthracene	1	1	**27.8**	**D**	**4.53**	**D**	0.695	
Benzo(A)Pyrene	1	1	**23.7**	**D**	**4.15**	**D**	0.749	
Benzo(B)Fluoranthene	1	1	**27.8**	**D**	**5.3**	**D**	0.871	
Benzo(G,H,I)Perylene	100	100	14.1	D	2.51		0.487	
Benzo(K)Fluoranthene	0.8	3.9	**9.97**	**D**	**1.78**		0.317	
Benzyl Butyl Phthalate	NS	NS	0.08	U	0.076	U	0.081	U
Biphenyl (Diphenyl)	NS	NS	0.661		0.0333	J	0.017	J
Bis(2-Chloroethoxy) Methane	NS	NS	0.08	U	0.076	U	0.081	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	NS	NS	0.08	U	0.076	U	0.081	U
Bis(2-Chloroisopropyl) Ether	NS	NS	0.08	U	0.076	U	0.081	U
Bis(2-Ethylhexyl) Phthalate	NS	NS	0.08	U	0.076	U	0.081	U
Caprolactam	NS	NS	0.08	U	0.076	U	0.081	U
Carbazole	NS	NS	4.94	D	0.456		0.114	
Chrysene	1	3.9	**26.5**	**D**	**4.2**	**D**	0.71	
Dibenz(A,H)Anthracene	0.33	0.33	**4.25**	**D**	**0.895**		0.151	
Dibenzofuran	7	59	4.4	D	0.252		0.0933	
Diethyl Phthalate	NS	NS	0.08	U	0.076	U	0.081	U
Dimethyl Phthalate	NS	NS	0.08	U	0.076	U	0.081	U
Di-N-Butyl Phthalate	NS	NS	0.08	U	0.076	U	0.081	U
Di-N-Octylphthalate	NS	NS	0.08	U	0.076	U	0.081	U
Fluoranthene	100	100	68.8	D	6.98	D	1.24	
Fluorene	30	100	4.74	D	0.43		0.124	
Hexachlorobenzene	0.33	1.2	0.08	U	0.076	U	0.081	U
Hexachlorocyclopentadiene	NS	NS	0.4	U	0.38	U	0.41	U
Hexachloroethane	NS	NS	0.2	U	0.19	U	0.2	U
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	**13**	**D**	**3**		**0.552**	
Isophorone	NS	NS	0.08	U	0.076	U	0.081	U
Nitrobenzene	NS	NS	0.08	U	0.076	U	0.081	U
N-Nitrosodi-N-Propylamine	NS	NS	0.08	U	0.076	U	0.081	U
N-Nitrosodiphenylamine	NS	NS	0.2	U	0.19	U	0.2	U
Pentachlorophenol	0.8	6.7	0.16	U	0.15	U	0.16	U
Phenanthrene	100	100	60.6	D	4.64	D	1.05	
Phenol	0.33	100	0.174		0.076	U	0.081	U
Pyrene	100	100	64	D	7.54	D	1.37	

Attached Table 7
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Pesticides

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-1 (0-2) 20170807	SB-1 (14-15) 20170807	SB-2 (0-2) 20170807	SB-2 (3-5) 20170807	SB-3 (0-2) 20170807
Lab Sample ID			JC48434-1	JC48434-2	JC48434-3	JC48434-4	JC48434-11
Dilution Factor			1	1	1	1	1
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aldrin	0.005	0.097	0.00068 U	0.00082 U	0.00073 U	0.00074 U	0.00073 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.00068 U	0.00082 U	0.00073 U	0.00074 U	0.00073 U
Alpha Endosulfan	2.4	24	0.00068 U	0.00082 U	0.00073 U	0.00074 U	0.00073 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.00068 U	0.00082 U	0.00073 U	0.00074 U	0.00073 U
Beta Endosulfan	2.4	24	0.00068 U	0.00082 U	0.00073 U	0.00074 U	0.00073 U
cis-Chlordane	0.094	4.2	0.00068 U	0.00082 U	0.00073 U	0.00074 U	0.00073 U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.00068 U	0.00082 U	0.00073 U	0.00074 U	0.00073 U
Dieldrin	0.005	0.2	0.00068 U	0.00082 U	0.00073 U	0.00074 U	0.00073 U
Endosulfan Sulfate	2.4	24	0.00068 U	0.00082 U	0.00073 U	0.00074 U	0.00073 U
Endrin	0.014	11	0.00068 U	0.00082 U	0.00073 U	0.00074 U	0.00045 J
Endrin Aldehyde	NS	NS	0.00068 U	0.00082 U	0.00073 U	0.00074 U	0.00073 U
Endrin Ketone	NS	NS	0.00068 U	0.00082 U	0.00073 U	0.00074 U	0.00073 U
Gamma Bhc (Lindane)	0.1	1.3	0.00068 U	0.00082 U	0.0107	0.0062	0.00073 U
Heptachlor	0.042	2.1	0.00068 U	0.00082 U	0.00073 U	0.00074 U	0.00073 U
Heptachlor Epoxide	NS	NS	0.00068 U	0.00082 U	0.00073 U	0.00074 U	0.00073 U
Methoxychlor	NS	NS	0.0014 U	0.0016 U	0.0015 U	0.0015 U	0.0015 U
P,P'-DDD	0.0033	13	0.00068 U	0.00082 U	0.00073 U	**0.0067**	0.00073 U
P,P'-DDE	0.0033	8.9	**0.0044**	0.00082 U	**0.0091**	0.0026	0.00073 U
P,P'-DDT	0.0033	7.9	**0.0212**	0.00082 U	0.00073 U	0.00074 U	0.00073 U
Toxaphene	NS	NS	0.017 U	0.021 U	0.018 U	0.018 U	0.018 U
trans-Chlordane	NS	NS	0.00078	0.00082 U	0.00073 U	0.00074 U	0.00073 U

Attached Table 7
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Pesticides

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-3 (5-7) 20170807		SB-4 (0-2) 20170807		SB-4 (13-15) 20170807		SB-5 (0-2) 20170807		SB-5 (11-12) 20170807	
Lab Sample ID			JC48434-12		JC48434-7		JC48434-8		JC48434-9		JC48434-10	
Dilution Factor			1		1		1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Aldrin	0.005	0.097	0.00066	U	0.00067	U	0.00082	U	0.00072	U	0.00079	U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.00066	U	0.00067	U	0.00082	U	0.00072	U	0.00079	U
Alpha Endosulfan	2.4	24	0.00066	U	0.00067	U	0.00082	U	0.00072	U	0.00079	U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.00066	U	0.00067	U	0.00082	U	0.00072	U	0.00079	U
Beta Endosulfan	2.4	24	0.00066	U	0.00067	U	0.00082	U	0.00072	U	0.00079	U
cis-Chlordane	0.094	4.2	0.00066	U	0.00067	U	0.0067		0.00072	U	0.00079	U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.00066	U	0.00067	U	0.00082	U	0.00072	U	0.00079	U
Dieldrin	0.005	0.2	0.00066	U	0.00067	U	0.00082	U	0.00072	U	0.00079	U
Endosulfan Sulfate	2.4	24	0.00066	U	0.00067	U	0.00082	U	0.00072	U	0.00079	U
Endrin	0.014	11	0.0091		0.00067	U	0.00082	U	0.00072	U	0.0012	
Endrin Aldehyde	NS	NS	0.00066	U	0.00067	U	0.00082	U	0.00072	U	0.00079	U
Endrin Ketone	NS	NS	0.00066	U	0.00067	U	0.00082	U	0.00072	U	0.00079	U
Gamma Bhc (Lindane)	0.1	1.3	0.006		0.00067	U	0.00082	U	0.00072	U	0.00079	U
Heptachlor	0.042	2.1	0.00066	U	0.00067	U	0.00082	U	0.00072	U	0.00079	U
Heptachlor Epoxide	NS	NS	0.00066	U	0.00067	U	0.00082	U	0.00072	U	0.00079	U
Methoxychlor	NS	NS	0.0013	U	0.0013	U	0.0016	U	0.0014	U	0.0016	U
P,P'-DDD	0.0033	13	0.00066	U	0.00067	U	**0.0176**		0.00072	U	**0.0099**	
P,P'-DDE	0.0033	8.9	**0.0095**		**0.0037**		**0.0094**		**0.0066**		0.0027	
P,P'-DDT	0.0033	7.9	0.00066	U	**0.0071**		**0.0202**		**0.0105**		**0.0076**	
Toxaphene	NS	NS	0.016	U	0.017	U	0.02	U	0.018	U	0.02	U
trans-Chlordane	NS	NS	0.00066	U	0.00067	U	0.0039		0.00072	U	0.00079	U

Attached Table 7
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Pesticides

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-6 (0-2) 20170807		SB-6 (13-15) 20170807		SB-7 (0-2) 20170921		SB-7 (11-13) 20170921		SB-8 (0-2) 20170921	
Lab Sample ID			JC48434-5		JC48434-6		JC51377-3		JC51377-4		JC51377-5	
Dilution Factor			1		1		1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg And mg/kg	
Aldrin	0.005	0.097	0.00074	U	0.00084	U	0.00007	U	0.00008	U	0.00007	U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.00074	U	0.00084	U	0.00007	U	0.00008	U	0.00007	U
Alpha Endosulfan	2.4	24	0.00074	U	0.00084	U	0.00007	U	0.00008	U	0.00007	U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.00074	U	0.00084	U	0.00007	U	0.00008	U	0.00007	U
Beta Endosulfan	2.4	24	0.00074	U	0.00084	U	0.00007	U	0.00008	U	0.00007	U
cis-Chlordane	0.094	4.2	0.00074	U	0.00084	U	0.00007	U	0.00008	U	0.0022	
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.00074	U	0.00084	U	0.00007	U	0.00008	U	0.00007	U
Dieldrin	0.005	0.2	0.00074	U	**0.0053**		0.00007	U	0.00008	U	0.00007	U
Endosulfan Sulfate	2.4	24	0.00074	U	0.00084	U	0.00007	U	0.00008	U	0.00007	U
Endrin	0.014	11	0.00074	U	0.00084	U	0.00007	U	0.00008	U	0.00007	U
Endrin Aldehyde	NS	NS	0.00074	U	0.00084	U	0.00007	U	0.00008	U	0.00007	U
Endrin Ketone	NS	NS	0.00074	U	0.00084	U	0.00007	U	0.00008	U	0.00007	U
Gamma Bhc (Lindane)	0.1	1.3	0.00074	U	0.00084	U	0.00007	U	0.00008	U	0.00007	U
Heptachlor	0.042	2.1	0.00074	U	0.00084	U	0.00007	U	0.00008	U	0.00007	U
Heptachlor Epoxide	NS	NS	0.00074	U	0.00084	U	0.00007	U	0.00008	U	0.00007	U
Methoxychlor	NS	NS	0.0015	U	0.0017	U	0.00013	U	0.00015	U	0.00013	U
P,P'-DDD	0.0033	13	0.00074	U	0.003		0.00007	U	0.00008	U	**0.0267**	**D**
P,P'-DDE	0.0033	8.9	0.0029		**0.0099**		0.003		**0.0057**		**0.0538**	**D**
P,P'-DDT	0.0033	7.9	**0.0074**		**0.0251**		0.0026		0.00008	U	**0.0111**	**D**
Toxaphene	NS	NS	0.019	U	0.021	U	0.0017	U	0.0019	U	0.0017	U
trans-Chlordane	NS	NS	0.00074	U	0.00084	U	0.00007	U	0.00008	U	0.002	

Attached Table 7
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Pesticides

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-8 (7-9) 20170921		SB-9 (0-2) 20170921		SB-9 (7-9) 20170921	
Lab Sample ID			JC51377-6		JC51377-7		JC51377-8	
Dilution Factor			1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
Aldrin	0.005	0.097	0.00007	U	0.00007	U	0.00008	U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.00007	U	0.00007	U	0.00008	U
Alpha Endosulfan	2.4	24	0.00007	U	0.00007	U	0.00008	U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.00007	U	0.00007	U	0.00008	U
Beta Endosulfan	2.4	24	0.00007	U	0.00007	U	0.00008	U
cis-Chlordane	0.094	4.2	0.00007	U	0.00076		0.00013	
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.00007	U	0.00007	U	0.00008	U
Dieldrin	0.005	0.2	0.00007	U	0.00007	U	0.00065	
Endosulfan Sulfate	2.4	24	0.00007	U	0.00007	U	0.00008	U
Endrin	0.014	11	0.00007	U	0.00007	U	0.00008	U
Endrin Aldehyde	NS	NS	0.00007	U	0.00007	U	0.00008	U
Endrin Ketone	NS	NS	0.00007	U	0.00007	U	0.00008	U
Gamma Bhc (Lindane)	0.1	1.3	0.00007	U	0.00007	U	0.00008	U
Heptachlor	0.042	2.1	0.00007	U	0.00007	U	0.00008	U
Heptachlor Epoxide	NS	NS	0.00007	U	0.00071		0.00008	U
Methoxychlor	NS	NS	0.00015	U	0.00014	U	0.00015	U
P,P'-DDD	0.0033	13	0.00007	U	0.00007	U	0.00044	
P,P'-DDE	0.0033	8.9	**0.0042**		0.0033		0.00077	
P,P'-DDT	0.0033	7.9	0.00007	U	0.00007	U	0.00096	
Toxaphene	NS	NS	0.0019	U	0.0017	U	0.0019	U
trans-Chlordane	NS	NS	0.00007	U	0.0008		0.00019	

Attached Table 8
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-1 (0-2) 20170807		SB-1 (14-15) 20170807		SB-2 (0-2) 20170807		SB-2 (3-5) 20170807		SB-3 (0-2) 20170807	
Lab Sample ID			JC48434-1		JC48434-2		JC48434-3		JC48434-4		JC48434-11	
Dilution Factor			1		1		1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
PCB-1016 (Aroclor 1016)	NS	NS	0.034	U	0.041	U	0.036	U	0.037	U	0.036	U
PCB-1221 (Aroclor 1221)	NS	NS	0.034	U	0.041	U	0.036	U	0.037	U	0.036	U
PCB-1232 (Aroclor 1232)	NS	NS	0.034	U	0.041	U	0.036	U	0.037	U	0.036	U
PCB-1242 (Aroclor 1242)	NS	NS	0.034	U	0.041	U	0.036	U	0.037	U	0.036	U
PCB-1248 (Aroclor 1248)	NS	NS	0.034	U	0.041	U	0.036	U	0.037	U	0.036	U
PCB-1254 (Aroclor 1254)	NS	NS	0.034	U	0.041	U	0.036	U	0.037	U	0.036	U
PCB-1260 (Aroclor 1260)	NS	NS	0.034	U	0.041	U	0.036	U	0.037	U	0.036	U
PCB-1262 (Aroclor 1262)	NS	NS	0.034	U	0.041	U	0.036	U	0.037	U	0.036	U
PCB-1268 (Aroclor 1268)	NS	NS	0.034	U	0.041	U	0.036	U	0.037	U	0.036	U
Polychlorinated Biphenyls (Total)	0.1	1	0.034	U	0.041	U	0.036	U	0.037	U	0.036	U

Attached Table 8
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-3 (5-7) 20170807		SB-4 (0-2) 20170807		SB-4 (13-15) 20170807		SB-5 (0-2) 20170807		SB-5 (11-12) 20170807	
Lab Sample ID			JC48434-12		JC48434-7		JC48434-8		JC48434-9		JC48434-10	
Dilution Factor			1		1		1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
PCB-1016 (Aroclor 1016)	NS	NS	0.033	U	0.034	U	0.041	U	0.036	U	0.039	U
PCB-1221 (Aroclor 1221)	NS	NS	0.033	U	0.034	U	0.041	U	0.036	U	0.039	U
PCB-1232 (Aroclor 1232)	NS	NS	0.033	U	0.034	U	0.041	U	0.036	U	0.039	U
PCB-1242 (Aroclor 1242)	NS	NS	0.033	U	0.034	U	0.041	U	0.036	U	0.039	U
PCB-1248 (Aroclor 1248)	NS	NS	0.033	U	0.034	U	0.041	U	0.036	U	0.039	U
PCB-1254 (Aroclor 1254)	NS	NS	0.033	U	0.034	U	0.041	U	0.036	U	0.039	U
PCB-1260 (Aroclor 1260)	NS	NS	0.033	U	0.034	U	0.041	U	0.036	U	0.039	U
PCB-1262 (Aroclor 1262)	NS	NS	0.033	U	0.034	U	0.041	U	0.036	U	0.039	U
PCB-1268 (Aroclor 1268)	NS	NS	0.033	U	0.034	U	0.041	U	0.036	U	0.039	U
Polychlorinated Biphenyls (Total)	0.1	1	0.033	U	0.034	U	0.041	U	0.036	U	0.039	U

Attached Table 8
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-6 (0-2) 20170807		SB-6 (13-15) 20170807		SB-7 (0-2) 20170921		SB-7 (11-13) 20170921		SB-8 (0-2) 20170921	
Lab Sample ID			JC48434-5		JC48434-6		JC51377-3		JC51377-4		JC51377-5	
Dilution Factor			1		1		1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
PCB-1016 (Aroclor 1016)	NS	NS	0.037	U	0.042	U	0.0036	U	0.0039	U	0.0035	U
PCB-1221 (Aroclor 1221)	NS	NS	0.037	U	0.042	U	0.0036	U	0.0039	U	0.0035	U
PCB-1232 (Aroclor 1232)	NS	NS	0.037	U	0.042	U	0.0036	U	0.0039	U	0.0035	U
PCB-1242 (Aroclor 1242)	NS	NS	0.037	U	0.042	U	0.0036	U	0.0039	U	0.0035	U
PCB-1248 (Aroclor 1248)	NS	NS	0.037	U	0.042	U	0.0036	U	0.0039	U	0.0035	U
PCB-1254 (Aroclor 1254)	NS	NS	0.037	U	0.042	U	0.0289		0.121		0.0878	
PCB-1260 (Aroclor 1260)	NS	NS	0.037	U	0.042	U	0.0036	U	0.0039	U	0.0035	U
PCB-1262 (Aroclor 1262)	NS	NS	0.037	U	0.472		0.0036	U	0.0039	U	0.0035	U
PCB-1268 (Aroclor 1268)	NS	NS	0.037	U	0.042	U	0.0036	U	0.0039	U	0.0035	U
Polychlorinated Biphenyls (Total)	0.1	1	0.037	U	**0.472**		0.0289		**0.121**		0.0878	

Attached Table 8
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-8 (7-9) 20170921		SB-9 (0-2) 20170921		SB-9 (7-9) 20170921	
Lab Sample ID			JC51377-6		JC51377-7		JC51377-8	
Dilution Factor			1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
PCB-1016 (Aroclor 1016)	NS	NS	0.0036	U	0.0038	U	0.0036	U
PCB-1221 (Aroclor 1221)	NS	NS	0.0036	U	0.0038	U	0.0036	U
PCB-1232 (Aroclor 1232)	NS	NS	0.0036	U	0.0038	U	0.0036	U
PCB-1242 (Aroclor 1242)	NS	NS	0.0036	U	0.0038	U	0.0036	U
PCB-1248 (Aroclor 1248)	NS	NS	0.0036	U	0.0038	U	0.0036	U
PCB-1254 (Aroclor 1254)	NS	NS	0.0521		0.104		0.0139	
PCB-1260 (Aroclor 1260)	NS	NS	0.0036	U	0.0038	U	0.0036	U
PCB-1262 (Aroclor 1262)	NS	NS	0.0036	U	0.0038	U	0.0036	U
PCB-1268 (Aroclor 1268)	NS	NS	0.0036	U	0.0038	U	0.0036	U
Polychlorinated Biphenyls (Total)	0.1	1	0.0521		**0.104**		0.0139	

Attached Table 9
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Metals

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-1 (0-2) 20170807		SB-1 (14-15) 20170807		SB-2 (0-2) 20170807		SB-2 (3-5) 20170807		SB-3 (0-2) 20170807		SB-3 (5-7) 20170807	
Lab Sample ID			JC48434-1		JC48434-2		JC48434-3		JC48434-4		JC48434-11		JC48434-12	
Dilution Factor			1		1		1		1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Arsenic	13	16	6.2		4.5		7.3		5.9		10.5		**51.3**	
Barium	350	400	236		134		146		226		125		190	
Beryllium	7.2	72	0.45		0.37		0.48		0.52		0.38		0.34	
Cadmium	2.5	4.3	**2.8**		0.6	U	0.6	U	0.58	U	0.58	U	0.87	
Chromium, Hexavalent	1	110	0.44	U	0.49	U	0.49	U	0.47	U	0.47	U	**1.1**	
Chromium, Trivalent	30	180	25.7		17		18.6		25.8		19.1		**36.2**	
Copper	50	270	**60.5**		**106**		**56.3**		40.7		**62.5**		**245**	**D**
Lead	63	400	**637**		**278**		**236**		**244**		**310**		**498**	**D**
Manganese	1,600	2,000	304		186		334		246		235		181	D
Mercury	0.18	0.81	**0.57**		**0.66**		**0.27**		**0.52**		**1.1**	**D**	**3.9**	**D**
Nickel	30	310	**30.2**		16.2		17.3		28.2		22.4		**58.5**	
Selenium	3.9	180	2.1	U	2.4	U	2.4	U	2.3	U	2.3	U	**4.2**	**UD**
Silver	2	180	0.53	U	0.6	U	0.6	U	0.58	U	0.58	U	1.8	D
Zinc	109	10,000	**193**		**202**		**147**		**162**		**188**		**576**	

Attached Table 9
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Metals

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-4 (0-2) 20170807		SB-4 (13-15) 20170807		SB-5 (0-2) 20170807		SB-5 (11-12) 20170807		SB-6 (0-2) 20170807	
Lab Sample ID			JC48434-7		JC48434-8		JC48434-9		JC48434-10		JC48434-5	
Dilution Factor			1		1		1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Arsenic	13	16	4		10.5		7		8.9		7.8	
Barium	350	400	320		**899**		155		284		177	
Beryllium	7.2	72	0.4		0.27	U	0.45		0.42		0.49	
Cadmium	2.5	4.3	0.57	U	1.2		0.54	U	0.76		0.56	U
Chromium, Hexavalent	1	110	0.45	U	0.56	U	**1.3**		0.49	U	0.44	U
Chromium, Trivalent	30	180	20.1		14.6		28.0		20		22.9	
Copper	50	270	41.4		47.5		**91.9**		**115**		**61.6**	
Lead	63	400	**283**		**2,130**	D	**254**		**381**		**280**	
Manganese	1,600	2,000	333		347		315		270		361	
Mercury	0.18	0.81	**3.7**	D	0.17		**0.25**		**0.97**		**0.62**	
Nickel	30	310	19.4		12		23		21.4		25.1	
Selenium	3.9	180	2.3	U	2.7	U	2.1	U	2.4	U	2.2	U
Silver	2	180	0.57	U	0.67	U	0.54	U	0.61	U	0.56	U
Zinc	109	10,000	**195**		**831**		**224**		**395**		**248**	

Attached Table 9
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Metals

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-6 (13-15) 20170807		SB-7 (0-2) 20170921		SB-7 (11-13) 20170921		SB-8 (0-2) 20170921		SB-8 (7-9) 20170921	
Lab Sample ID			JC48434-6		JC51377-3		JC51377-4		JC51377-5		JC51377-6	
Dilution Factor			1		1		1		1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Arsenic	13	16	11.8		6.8		**17.1**		3.9		8.8	
Barium	350	400	169		336		251		**413**		**880**	
Beryllium	7.2	72	0.3		0.37		0.41		0.48		0.46	
Cadmium	2.5	4.3	0.65	U	0.58		0.57	U	0.55	U	0.96	
Chromium, Hexavalent	1	110	0.54	U	0.52		0.48	U	1		**1.3**	
Chromium, Trivalent	30	180	16.2		14.3		18.8		20.6		17.4	
Copper	50	270	28.4		**65.1**		**57.2**		28.9		**89.3**	
Lead	63	400	**1,520**	**D**	**719**		**544**		**2,300**	**D**	**3,430**	**D**
Manganese	1,600	2,000	239		268		286		240		322	
Mercury	0.18	0.81	**1.2**	**D**	**0.74**		**0.31**		**0.26**		**1.2**	**D**
Nickel	30	310	14		14.3		17.1		18.4		14.4	
Selenium	3.9	180	2.6	U	2.2	U	2.3	U	2.2	U	2.5	U
Silver	2	180	0.65	U	0.55	U	0.57	U	0.55	U	0.62	U
Zinc	109	10,000	**287**		**265**		**222**		**234**		**431**	

Attached Table 9
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Analytical Results
Metals

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	SB-9 (0-2) 20170921		SB-9 (7-9) 20170921	
Lab Sample ID			JC51377-7		JC51377-8	
Dilution Factor			1		1	
Unit	mg/kg	mg/kg	mg/kg		mg/kg	
Arsenic	13	16	**13.6**		6.4	
Barium	350	400	256		175	
Beryllium	7.2	72	0.49		0.45	
Cadmium	2.5	4.3	0.65		0.6	U
Chromium, Hexavalent	1	110	0.97		0.49	U
Chromium, Trivalent	30	180	**30.6**		18.5	
Copper	50	270	**75.1**		**72.7**	
Lead	63	400	**459**		**174**	
Manganese	1,600	2,000	339		248	
Mercury	0.18	0.81	**0.55**		**0.34**	
Nickel	30	310	**40.3**		25.2	
Selenium	3.9	180	2.3	U	2.4	U
Silver	2	180	0.57	U	0.6	U
Zinc	109	10,000	**285**		**267**	

Attached Table 10
1675-1679 Westchester Avenue, Bronx, New York
SI Groundwater Analytical Results
Volatile Organic Compounds

AKRF Sample ID	NYSDEC TOGS	GW-1 20170808		GW-2 20170808		GW-3 20170808		GW-7 20170921		GW-8 20170921	
Lab Sample ID		JC48635-1		JC48635-2		JC48635-3		JC51377-1		JC51377-2	
Dilution Factor		1		1		1		1		1	
Unit	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L	
1,1,1-Trichloroethane	5	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	5	1	U	1	U	1	U	1	U	1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	5	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane	1	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	5	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	5	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichlorobenzene	5	1	U	1	U	1	U	1	U	1	U
1,2,4-Trichlorobenzene	5	1	U	1	U	1	U	1	U	1	U
1,2,4-Trimethylbenzene	5	2	U	2	U	2	U	2	U	2	U
1,2-Dibromo-3-Chloropropane	0.04	2	U	2	U	2	U	2	U	2	U
1,2-Dibromoethane (Ethylene Dibromide)	0.0006	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	3	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.6	1	U	1	U	1	U	1	U	1	U
1,2-Dichloropropane	1	1	U	1	U	1	U	1	U	1	U
1,3,5-Trimethylbenzene (Mesitylene)	5	2	U	2	U	2	U	2	U	2	U
1,3-Dichlorobenzene	3	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	3	1	U	1	U	1	U	1	U	1	U
1,4-Dioxane (P-Dioxane)	NS	1	U	1	U	1	U	1.1	U	1.1	U
2-Hexanone	50	5	U	5	U	5	U	5	U	5	U
Acetone	50	10	U	10	U	10	U	10	U	10	U
Benzene	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	5	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	50	1	U	1	U	1	U	1	U	1	U
Bromoform	50	1	U	1	U	1	U	1	U	1	U
Bromomethane	5	2	U	2	U	2	U	2	U	2	U
Carbon Disulfide	60	2	U	2	U	2	U	2	U	2	U
Carbon Tetrachloride	5	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	5	1	U	1	U	1	U	1	U	1	U
Chloroethane	5	1	U	1	U	1	U	1	U	1	U
Chloroform	7	1	U	1	U	1	U	1	U	1	U
Chloromethane	5	1	U	1	U	1	U	1	U	1	U
Cis-1,2-Dichloroethylene	5	1	U	1	U	1	U	1	U	1	U
Cis-1,3-Dichloropropene	NS	1	U	1	U	1	U	1	U	1	U
Cyclohexane	NS	5	U	5	U	5	U	5	U	5	U
Dibromochloromethane	50	1	U	1	U	1	U	1	U	1	U
Dichlorodifluoromethane	5	2	U	2	U	2	U	2	U	2	U
Ethylbenzene	5	1	U	1	U	1	U	1	U	1	U
Isopropylbenzene (Cumene)	5	1	U	1	U	1	U	1	U	1	U
Methyl Acetate	NS	5	U	5	U	5	U	5	U	5	U
Methyl Ethyl Ketone (2-Butanone)	50	10	U	10	U	10	U	10	U	10	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentar	NS	5	U	5	U	5	U	5	U	5	U
Methylcyclohexane	NS	5	U	5	U	5	U	5	U	5	U
Methylene Chloride	5	2	U	2	U	2	U	2	U	2	U
N-Butylbenzene	5	2	U	2	U	2	U	2	U	2	U
N-Propylbenzene	5	2	U	2	U	2	U	2	U	2	U
O-Xylene (1,2-Dimethylbenzene)	5	1	U	1	U	1	U	1	U	1	U
Sec-Butylbenzene	5	2	U	2	U	2	U	2	U	2	U
Styrene	5	1	U	1	U	1	U	1	U	1	U
T-Butylbenzene	5	2	U	2	U	2	U	2	U	2	U
Tert-Butyl Methyl Ether	10	1	U	1	U	1	U	1	U	1	U
Tetrachloroethylene (PCE)	5	1	U	1	U	1	U	1	U	1	U
Toluene	5	1	U	1	U	1	U	0.49	J	1	U
Trans-1,2-Dichloroethene	5	1	U	1	U	1	U	1	U	1	U
Trans-1,3-Dichloropropene	NS	1	U	1	U	1	U	1	U	1	U
Trichloroethylene (TCE)	5	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	5	2	U	2	U	2	U	2	U	2	U
Vinyl Chloride	2	1	U	1	U	1	U	1	U	1	U
Xylenes, Total	NS	1	U	1	U	1	U	1	U	1	U

Attached Table 11
1675-1679 Westchester Avenue, Bronx, New York
SI Groundwater Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID	NYSDEC TOGS	GW-1 20170808	GW-2 20170808	GW-3 20170808	GW-7 20170921	GW-8 20170921
Lab Sample ID		JC48635-1	JC48635-2	JC48635-3	JC51377-1	JC51377-2
Dilution Factor		1	1	1	1	1
Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1,2,4,5-Tetrachlorobenzene	5	2 U	2 U	2 U	2.2 U	2.2 U
2,3,4,6-Tetrachlorophenol	NS	5 U	5 U	5 U	5.6 U	5.6 U
2,4,5-Trichlorophenol	NS	5 U	5 U	5 U	5.6 U	5.6 U
2,4,6-Trichlorophenol	NS	5 U	5 U	5 U	5.6 U	5.6 U
2,4-Dichlorophenol	5	2 U	2 U	2 U	2.2 U	2.2 U
2,4-Dimethylphenol	50	5 U	5 U	5 U	5.6 U	5.6 U
2,4-Dinitrophenol	10	10 U	10 U	10 U	11 U	11 U
2,4-Dinitrotoluene	5	1 U	1 U	1 U	1.1 U	1.1 U
2,6-Dinitrotoluene	5	1 U	1 U	1 U	1.1 U	1.1 U
2-Chloronaphthalene	10	2 U	2 U	2 U	2.2 U	2.2 U
2-Chlorophenol	NS	5 U	5 U	5 U	5.6 U	5.6 U
2-Methylnaphthalene	NS	1 U	1 U	1 U	1.1 U	1.1 U
2-Methylphenol (O-Cresol)	NS	2 U	2 U	2 U	2.2 U	2.2 U
2-Nitroaniline	5	5 U	5 U	5 U	5.6 U	5.6 U
2-Nitrophenol	NS	5 U	5 U	5 U	5.6 U	5.6 U
3,3'-Dichlorobenzidine	5	2 U	2 U	2 U	2.2 U	2.2 U
3-Nitroaniline	5	5 U	5 U	5 U	5.6 U	5.6 U
4,6-Dinitro-2-Methylphenol	NS	5 U	5 U	5 U	5.6 U	5.6 U
4-Bromophenyl Phenyl Ether	NS	2 U	2 U	2 U	2.2 U	2.2 U
4-Chloro-3-Methylphenol	NS	5 U	5 U	5 U	5.6 U	5.6 U
4-Chloroaniline	5	5 U	5 U	5 U	5.6 U	5.6 U
4-Chlorophenyl Phenyl Ether	NS	2 U	2 U	2 U	2.2 U	2.2 U
4-Methylphenol (P-Cresol)	NS	2 U	2 U	2 U	2.2 U	2.2 U
4-Nitroaniline	5	5 U	5 U	5 U	5.6 U	5.6 U
4-Nitrophenol	NS	10 U	10 U	10 U	11 U	11 U
Acenaphthene	20	1 U	1 U	0.5 J	5.1	1.1 U
Acenaphthylene	NS	1 U	1 U	1 U	1.1 U	1.1 U
Acetophenone	NS	2 U	2 U	2 U	2.2 U	2.2 U
Anthracene	50	1 U	1 U	0.82 J	1.8	1.1 U
Atrazine	7.5	2 U	2 U	2 U	2.2 U	2.2 U
Benzaldehyde	NS	5 U	5 U	5 U	5.6 U	5.6 U
Benzo(A)Anthracene	0.002	1 U	1 U	**3.1**	**5.6**	1.1 U
Benzo(A)Pyrene	ND	1 U	1 U	**3.2**	**5**	1.1 U
Benzo(B)Fluoranthene	0.002	1 U	1 U	**3.6**	**5.7**	1.1 U
Benzo(G,H,I)Perylene	NS	1 U	1 U	1.9	2.8	1.1 U
Benzo(K)Fluoranthene	0.002	1 U	1 U	**1.3**	**2.5**	1.1 U
Benzyl Butyl Phthalate	50	2 U	2 U	2 U	2.2 U	2.2 U
Biphenyl (Diphenyl)	5	1 U	1 U	1 U	1.1 U	1.1 U
Bis(2-Chloroethoxy) Methane	5	2 U	2 U	2 U	2.2 U	2.2 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ethe	1	2 U	2 U	2 U	2.2 U	2.2 U
Bis(2-Chloroisopropyl) Ether	5	2 U	2 U	2 U	2.2 U	2.2 U
Bis(2-Ethylhexyl) Phthalate	5	2 U	2 U	2 U	2.2 U	2.2 U
Caprolactam	NS	2 U	2 U	2 U	2.2 U	2.2 U
Carbazole	NS	1 U	1 U	1 U	0.77 J	1.1 U
Chrysene	0.002	1 U	1 U	**3.1**	**4.9**	1.1 U
Dibenz(A,H)Anthracene	NS	1 U	1 U	0.51 J	0.71 J	1.1 U
Dibenzofuran	NS	5 U	5 U	5 U	0.56 J	5.6 U
Diethyl Phthalate	50	2 U	2 U	2 U	2.2 U	2.2 U
Dimethyl Phthalate	50	2 U	2 U	2 U	2.2 U	2.2 U
Di-N-Butyl Phthalate	50	2 U	2 U	2 U	2.2 U	2.2 U
Di-N-Octylphthalate	50	2 U	2 U	2 U	2.2 U	2.2 U
Fluoranthene	50	1 U	1 U	5.5	11.6	0.58 J
Fluorene	50	1 U	1 U	1 U	1 J	1.1 U
Hexachlorobenzene	0.04	1 U	1 U	1 U	1.1 U	1.1 U
Hexachlorocyclopentadiene	5	10 U	10 U	10 U	11 U	11 U
Hexachloroethane	5	2 U	2 U	2 U	2.2 U	2.2 U
Indeno(1,2,3-C,D)Pyrene	0.002	1 U	1 U	**2**	**2.6**	1.1 U
Isophorone	50	2 U	2 U	2 U	2.2 U	2.2 U
Nitrobenzene	0.4	2 U	2 U	2 U	2.2 U	2.2 U
N-Nitrosodi-N-Propylamine	NS	2 U	2 U	2 U	2.2 U	2.2 U
N-Nitrosodiphenylamine	50	5 U	5 U	5 U	5.6 U	5.6 U
Pentachlorophenol	NS	4 U	4 U	4 U	4.4 U	4.4 U
Phenanthrene	50	0.45 J	1 U	3.2	6	0.46 J
Phenol	NS	2 U	2 U	2 U	2.2 U	2.2 U
Pyrene	50	1 U	1 U	5.4	12.8	0.54 J

Attached Table 12
1675-1679 Westchester Avenue, Bronx, New York
SI Groundwater Analytical Results
Pesticides

AKRF Sample ID	NYSDEC TOGS	GW-1 20170808		GW-2 20170808		GW-3 20170808		GW-7 20170921		GW-8 20170921	
Lab Sample ID		JC48635-1		JC48635-2		JC48635-3		JC51377-1		JC51377-2	
Dilution Factor		1		1		1		1		1	
Unit	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L	
Aldrin	ND	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.01	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U
Alpha Endosulfan	NS	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U
Beta Bhc (Beta Hexachlorocyclohexane)	0.04	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U
Beta Endosulfan	NS	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U
cis-Chlordane	NS	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U
Dieldrin	0.004	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U
Endosulfan Sulfate	NS	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U
Endrin	ND	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U
Endrin Aldehyde	5	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U
Endrin Ketone	5	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U
Gamma Bhc (Lindane)	0.05	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U
Heptachlor	0.04	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U
Heptachlor Epoxide	0.03	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U
Methoxychlor	35	0.002	U	0.002	U	0.002	U	0.0011	U	0.001	U
P,P'-DDD	0.3	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U
P,P'-DDE	0.2	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U
P,P'-DDT	0.2	0.001	U	0.0016		0.001	U	0.00056	U	0.0005	U
Toxaphene	0.06	0.025	U	0.025	U	0.025	U	0.014	U	0.013	U
trans-Chlordane	NS	0.001	U	0.001	U	0.001	U	0.00056	U	0.0005	U

Attached Table 13
1675-1679 Westchester Avenue, Bronx, New York
SI Groundwater Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID	NYSDEC TOGS	GW-1 20170808		GW-2 20170808		GW-3 20170808		GW-7 20170921		GW-8 20170921	
Lab Sample ID		JC48635-1		JC48635-2		JC48635-3		JC51377-1		JC51377-2	
Dilution Factor		1		1		1		1		1	
Unit	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L	
PCB-1016 (Aroclor 1016)	NS	0.056	U	0.054	U	0.056	U	0.028	U	0.025	U
PCB-1221 (Aroclor 1221)	NS	0.056	U	0.054	U	0.056	U	0.028	U	0.025	U
PCB-1232 (Aroclor 1232)	NS	0.056	U	0.054	U	0.056	U	0.028	U	0.025	U
PCB-1242 (Aroclor 1242)	NS	0.056	U	0.054	U	0.056	U	0.028	U	0.025	U
PCB-1248 (Aroclor 1248)	NS	0.056	U	0.054	U	0.056	U	0.028	U	0.025	U
PCB-1254 (Aroclor 1254)	NS	0.056	U	0.054	U	0.056	U	0.028	U	0.025	U
PCB-1260 (Aroclor 1260)	NS	0.056	U	0.054	U	0.056	U	0.028	U	0.025	U
PCB-1262 (Aroclor 1262)	NS	0.056	U	0.054	U	0.056	U	0.028	U	0.025	U
PCB-1268 (Aroclor 1268)	NS	0.056	U	0.054	U	0.056	U	0.028	U	0.025	U
Polychlorinated biphenyls (Total)	0.09	0.056	U	0.054	U	0.056	U	0.028	U	0.025	U

Attached Table 14
1675-1679 Westchester Avenue, Bronx, New York
SI Groundwater Analytical Results
Total and Dissolved Metals

AKRF Sample ID	NYSDEC TOGS	GW-1 20170808		GW-2 20170808		GW-3 20170808		GW-7 20170921		GW-8 20170921	
Lab Sample ID		JC48635-1		JC48635-2		JC48635-3		JC51377-1		JC51377-2	
Dilution Factor		1		1/2		1		1		1	
Unit	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L	
Arsenic, Total	25	3.8		3.9		**598**		22.1		13.4	
Barium, Total	1,000	200	U	200	U	400	U	243		241	
Beryllium, Total	3	1	U	1	U	2	U	1	U	1	U
Cadmium, Total	5	3	U	3	U	6	U	3	U	3	U
Chromium, Total	50	10	U	10	U	33.6		11.3		10	U
Copper, Total	200	10	U	10	U	**321**		37.9		10	U
Lead, Total	25	**27.5**		22	D	**504**		**198**		23.6	
Manganese, Total	300	**357**		**344**		**886**		**420**		**392**	
Mercury, Total	0.7	0.26		0.2	U	**1.9**		**1.5**		0.36	
Nickel, Total	100	10	U	10	U	27.2		10	U	10	U
Selenium, Total	10	10	U	10	U	20	U	10	U	10	U
Silver, Total	50	10	U	10	U	20	U	10	U	10	U
Zinc, Total	2,000	20	U	20	U	465		96.1		20	U
Arsenic, Dissolved	25	3	U	3	U	**724**		12.8		9.2	
Barium, Dissolved	1,000	200	U	200	U	200	U	200	U	200	U
Beryllium, Dissolved	3	1	U	1	U	1	U	1	U	1	U
Cadmium, Dissolved	5	3	U	3	U	3	U	3	U	3	U
Chromium, Dissolved	50	10	U	10	U	10	U	10	U	10	U
Copper, Dissolved	200	10	U	10	U	10	U	10	U	10	U
Lead, Dissolved	25	3	U	6	UD	3.3		3	U	3	U
Manganese, Dissolved	300	**341**		**330**		**808**		**321**		**365**	
Mercury, Dissolved	0.7	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Nickel, Dissolved	100	10	U	10	U	10	U	10	U	10	U
Selenium, Dissolved	10	10	U	10	U	10	U	10	U	10	U
Silver, Dissolved	50	10	U	10	U	10	U	10	U	10	U
Zinc, Dissolved	2,000	20	U	20	U	20	U	20	U	20	U

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-01 (0-2) 20180524 JC66764-3 5/24/2018 10:30:00 AM 1 mg/kg	RI-SB-01 (5-7) 20180524 JC66764-4 5/24/2018 10:35:00 AM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.0019 U	0.0024 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0019 U	0.0024 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0048 U	0.006 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0019 U	0.0024 U
1,1-Dichloroethane	**0.27**	**26**	0.00095 U	0.0012 U
1,1-Dichloroethene	**0.33**	**100**	0.00095 U	0.0012 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0048 U	0.006 U
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0048 U	0.006 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0019 U	0.0024 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0019 U	0.0024 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.00095 U	0.0012 U
1,2-Dichlorobenzene	**1.1**	**100**	0.00095 U	0.0012 U
1,2-Dichloroethane	**0.02**	**3.1**	0.00095 U	0.0012 U
1,2-Dichloropropane	**NS**	**NS**	0.0019 U	0.0024 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0019 U	0.0024 U
1,3-Dichlorobenzene	**2.4**	**49**	0.00095 U	0.0012 U
1,4-Dichlorobenzene	**1.8**	**13**	0.00095 U	0.0012 U
2-Hexanone	**NS**	**NS**	0.0048 U	0.006 U
Acetone	**0.05**	**100**	0.0095 U	0.012 U
Benzene	**0.06**	**4.8**	0.00048 U	0.0006 U
Bromochloromethane	**NS**	**NS**	0.0048 U	0.006 U
Bromodichloromethane	**NS**	**NS**	0.0019 U	0.0024 U
Bromoform	**NS**	**NS**	0.0048 U	0.006 U
Bromomethane	**NS**	**NS**	0.0048 U	0.006 U
Carbon Disulfide	**NS**	**NS**	0.0019 U	0.0024 U
Carbon Tetrachloride	**0.76**	**2.4**	0.0019 U	0.0024 U
Chlorobenzene	**1.1**	**100**	0.0019 U	0.0024 U
Chloroethane	**NS**	**NS**	0.0048 U	0.006 U
Chloroform	**0.37**	**49**	0.0019 U	0.0024 U
Chloromethane	**NS**	**NS**	0.0048 U	0.006 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.00095 U	0.0012 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0019 U	0.0024 U
Cyclohexane	**NS**	**NS**	0.0019 U	0.0024 U
Dibromochloromethane	**NS**	**NS**	0.0019 U	0.0024 U
Dichlorodifluoromethane	**NS**	**NS**	0.0048 U	0.006 U
Ethylbenzene	**1**	**41**	0.00095 U	0.0012 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0019 U	0.0024 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.00095 U	0.0012 U
Methyl Acetate	**NS**	**NS**	0.0048 U	0.006 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.0095 U	0.012 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0048 U	0.006 U
Methylcyclohexane	**NS**	**NS**	0.0019 U	0.0024 U
Methylene Chloride	**0.05**	**100**	0.0048 U	0.006 U
N-Butylbenzene	**12**	**100**	0.0019 U	0.0024 U
N-Propylbenzene	**3.9**	**100**	0.0019 U	0.0024 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.00095 U	0.0012 U
Sec-Butylbenzene	**11**	**100**	0.0019 U	0.0024 U
Styrene	**NS**	**NS**	0.0019 U	0.0024 U
T-Butylbenzene	**5.9**	**100**	0.0019 U	0.0024 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.00095 U	0.0012 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0019 U	0.0024 U
Toluene	**0.7**	**100**	0.00095 U	0.0012 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.00095 U	0.0012 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0019 U	0.0024 U
Trichloroethylene (TCE)	**0.47**	**21**	0.00095 U	0.0012 U
Trichlorofluoromethane	**NS**	**NS**	0.0048 U	0.006 U
Vinyl Chloride	**0.02**	**0.9**	0.0019 U	0.0024 U
Xylenes, Total	**0.26**	**100**	0.00095 U	0.0012 U

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-01 (9-11) 20180524 JC66764-5 5/24/2018 10:45:00 AM 1 mg/kg	RI-SB-02 (0-2) 20180524 JC66764-1 5/24/2018 9:00:00 AM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.0021 U	0.002 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0021 U	0.002 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0051 U	0.0051 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0021 U	0.002 U
1,1-Dichloroethane	**0.27**	**26**	0.001 U	0.001 U
1,1-Dichloroethene	**0.33**	**100**	0.001 U	0.001 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0051 U	0.0051 U
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0051 U	0.0051 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0021 U	0.002 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0021 U	0.002 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.001 U	0.001 U
1,2-Dichlorobenzene	**1.1**	**100**	0.001 U	0.001 U
1,2-Dichloroethane	**0.02**	**3.1**	0.001 U	0.001 U
1,2-Dichloropropane	**NS**	**NS**	0.0021 U	0.002 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0021 U	0.002 U
1,3-Dichlorobenzene	**2.4**	**49**	0.001 U	0.001 U
1,4-Dichlorobenzene	**1.8**	**13**	0.001 U	0.001 U
2-Hexanone	**NS**	**NS**	0.0051 U	0.0051 U
Acetone	**0.05**	**100**	0.01 U	0.01 U
Benzene	**0.06**	**4.8**	0.00051 U	0.00051 U
Bromochloromethane	**NS**	**NS**	0.0051 U	0.0051 U
Bromodichloromethane	**NS**	**NS**	0.0021 U	0.002 U
Bromoform	**NS**	**NS**	0.0051 U	0.0051 U
Bromomethane	**NS**	**NS**	0.0051 U	0.0051 U
Carbon Disulfide	**NS**	**NS**	0.0021 U	0.002 U
Carbon Tetrachloride	**0.76**	**2.4**	0.0021 U	0.002 U
Chlorobenzene	**1.1**	**100**	0.0021 U	0.002 U
Chloroethane	**NS**	**NS**	0.0051 U	0.0051 U
Chloroform	**0.37**	**49**	0.0021 U	0.002 U
Chloromethane	**NS**	**NS**	0.0051 U	0.0051 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.001 U	0.001 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0021 U	0.002 U
Cyclohexane	**NS**	**NS**	0.0021 U	0.002 U
Dibromochloromethane	**NS**	**NS**	0.0021 U	0.002 U
Dichlorodifluoromethane	**NS**	**NS**	0.0051 U	0.0051 U
Ethylbenzene	**1**	**41**	0.001 U	0.001 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0021 U	0.002 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.001 U	0.001 U
Methyl Acetate	**NS**	**NS**	0.0051 U	0.0051 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.01 U	0.01 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0051 U	0.0051 U
Methylcyclohexane	**NS**	**NS**	0.0021 U	0.002 U
Methylene Chloride	**0.05**	**100**	0.0051 U	0.0051 U
N-Butylbenzene	**12**	**100**	0.0021 U	0.002 U
N-Propylbenzene	**3.9**	**100**	0.0021 U	0.002 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.001 U	0.001 U
Sec-Butylbenzene	**11**	**100**	0.0021 U	0.002 U
Styrene	**NS**	**NS**	0.0021 U	0.002 U
T-Butylbenzene	**5.9**	**100**	0.0021 U	0.002 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.001 U	0.001 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0021 U	0.002 U
Toluene	**0.7**	**100**	0.001 U	0.001 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.001 U	0.001 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0021 U	0.002 U
Trichloroethylene (TCE)	**0.47**	**21**	0.001 U	0.001 U
Trichlorofluoromethane	**NS**	**NS**	0.0051 U	0.0051 U
Vinyl Chloride	**0.02**	**0.9**	0.0021 U	0.002 U
Xylenes, Total	**0.26**	**100**	0.001 U	0.001 U

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-02 (7.5-9.5) 20180524 JC66764-2 5/24/2018 9:05:00 AM 1 mg/kg	RI-SB-03 (0-2) 20181008 JC75512-5 10/8/2018 8:45:00 AM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.0023 U	0.0019 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0023 U	0.0019 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0057 U	0.0047 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0023 U	0.0019 U
1,1-Dichloroethane	**0.27**	**26**	0.0011 U	0.00094 U
1,1-Dichloroethene	**0.33**	**100**	0.0011 U	0.00094 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0057 U	0.0047 U
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0057 U	0.0047 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0023 U	0.0019 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0023 U	0.0019 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.0011 U	0.00094 U
1,2-Dichlorobenzene	**1.1**	**100**	0.0011 U	0.00094 U
1,2-Dichloroethane	**0.02**	**3.1**	0.0011 U	0.00094 U
1,2-Dichloropropane	**NS**	**NS**	0.0023 U	0.0019 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0023 U	0.0019 U
1,3-Dichlorobenzene	**2.4**	**49**	0.0011 U	0.00094 U
1,4-Dichlorobenzene	**1.8**	**13**	0.0011 U	0.00094 U
2-Hexanone	**NS**	**NS**	0.0057 U	0.0047 U
Acetone	**0.05**	**100**	0.0098 J	0.0094 U
Benzene	**0.06**	**4.8**	0.00057 U	0.00047 U
Bromochloromethane	**NS**	**NS**	0.0057 U	0.0047 U
Bromodichloromethane	**NS**	**NS**	0.0023 U	0.0019 U
Bromoform	**NS**	**NS**	0.0057 U	0.0047 U
Bromomethane	**NS**	**NS**	0.0057 U	0.0047 U
Carbon Disulfide	**NS**	**NS**	0.00074 J	0.0019 U
Carbon Tetrachloride	**0.76**	**2.4**	0.0023 U	0.0019 U
Chlorobenzene	**1.1**	**100**	0.0023 U	0.0019 U
Chloroethane	**NS**	**NS**	0.0057 U	0.0047 U
Chloroform	**0.37**	**49**	0.0023 U	0.0019 U
Chloromethane	**NS**	**NS**	0.0057 U	0.0047 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.0011 U	0.00094 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0023 U	0.0019 U
Cyclohexane	**NS**	**NS**	0.0023 U	0.0019 U
Dibromochloromethane	**NS**	**NS**	0.0023 U	0.0019 U
Dichlorodifluoromethane	**NS**	**NS**	0.0057 U	0.0047 U
Ethylbenzene	**1**	**41**	0.0011 U	0.00094 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0023 U	0.0019 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.0011 U	0.00094 U
Methyl Acetate	**NS**	**NS**	0.0057 U	0.0047 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.011 U	0.0094 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0057 U	0.0047 U
Methylcyclohexane	**NS**	**NS**	0.0023 U	0.0019 U
Methylene Chloride	**0.05**	**100**	0.0057 U	0.0047 U
N-Butylbenzene	**12**	**100**	0.0023 U	0.0019 U
N-Propylbenzene	**3.9**	**100**	0.0023 U	0.0019 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.0011 U	0.00094 U
Sec-Butylbenzene	**11**	**100**	0.0023 U	0.0019 U
Styrene	**NS**	**NS**	0.0023 U	0.0019 U
T-Butylbenzene	**5.9**	**100**	0.0023 U	0.0019 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.0011 U	0.00094 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0023 U	0.0019 U
Toluene	**0.7**	**100**	0.0011 U	0.00094 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.0011 U	0.00094 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0023 U	0.0019 U
Trichloroethylene (TCE)	**0.47**	**21**	0.0011 U	0.00094 U
Trichlorofluoromethane	**NS**	**NS**	0.0057 U	0.0047 U
Vinyl Chloride	**0.02**	**0.9**	0.0023 U	0.0019 U
Xylenes, Total	**0.26**	**100**	0.0011 U	0.00094 U

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-03 (8.5-10.5) 20181008 JC75512-1 10/8/2018 9:00:00 AM 1 mg/kg	RI-SB-X04 (8.5-10.5) 20181008 JC75512-2 10/8/2018 12:00:00 PM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.0021 U	0.0018 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0021 U	0.0018 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0053 U	0.0045 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0021 U	0.0018 U
1,1-Dichloroethane	**0.27**	**26**	0.0011 U	0.0009 U
1,1-Dichloroethene	**0.33**	**100**	0.0011 U	0.0009 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0053 U	0.0045 U
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0053 U	0.0045 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0021 U	0.0018 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0021 U	0.0018 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.0011 U	0.0009 U
1,2-Dichlorobenzene	**1.1**	**100**	0.0011 U	0.0009 U
1,2-Dichloroethane	**0.02**	**3.1**	0.0011 U	0.0009 U
1,2-Dichloropropane	**NS**	**NS**	0.0021 U	0.0018 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0021 U	0.0018 U
1,3-Dichlorobenzene	**2.4**	**49**	0.0011 U	0.0009 U
1,4-Dichlorobenzene	**1.8**	**13**	0.0011 U	0.0009 U
2-Hexanone	**NS**	**NS**	0.0053 U	0.0045 U
Acetone	**0.05**	**100**	0.011 U	0.009 U
Benzene	**0.06**	**4.8**	0.00053 U	0.00045 U
Bromochloromethane	**NS**	**NS**	0.0053 U	0.0045 U
Bromodichloromethane	**NS**	**NS**	0.0021 U	0.0018 U
Bromoform	**NS**	**NS**	0.0053 U	0.0045 U
Bromomethane	**NS**	**NS**	0.0053 U	0.0045 U
Carbon Disulfide	**NS**	**NS**	0.0021 U	0.0018 U
Carbon Tetrachloride	**0.76**	**2.4**	0.0021 U	0.0018 U
Chlorobenzene	**1.1**	**100**	0.0021 U	0.0018 U
Chloroethane	**NS**	**NS**	0.0053 U	0.0045 U
Chloroform	**0.37**	**49**	0.0021 U	0.0018 U
Chloromethane	**NS**	**NS**	0.0053 U	0.0045 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.0011 U	0.0009 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0021 U	0.0018 U
Cyclohexane	**NS**	**NS**	0.0021 U	0.0018 U
Dibromochloromethane	**NS**	**NS**	0.0021 U	0.0018 U
Dichlorodifluoromethane	**NS**	**NS**	0.0053 U	0.0045 U
Ethylbenzene	**1**	**41**	0.0011 U	0.0009 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0021 U	0.0018 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.0011 U	0.0009 U
Methyl Acetate	**NS**	**NS**	0.0053 U	0.0045 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.011 U	0.009 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0053 U	0.0045 U
Methylcyclohexane	**NS**	**NS**	0.0021 U	0.0018 U
Methylene Chloride	**0.05**	**100**	0.0053 U	0.0045 U
N-Butylbenzene	**12**	**100**	0.0021 U	0.0018 U
N-Propylbenzene	**3.9**	**100**	0.0021 U	0.0018 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.0011 U	0.0009 U
Sec-Butylbenzene	**11**	**100**	0.0021 U	0.0018 U
Styrene	**NS**	**NS**	0.0021 U	0.0018 U
T-Butylbenzene	**5.9**	**100**	0.0021 U	0.0018 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.0011 U	0.0009 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0017 J	0.0019
Toluene	**0.7**	**100**	0.0011 U	0.0009 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.0011 U	0.0009 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0021 U	0.0018 U
Trichloroethylene (TCE)	**0.47**	**21**	0.0011 U	0.0009 U
Trichlorofluoromethane	**NS**	**NS**	0.0053 U	0.0045 U
Vinyl Chloride	**0.02**	**0.9**	0.0021 U	0.0018 U
Xylenes, Total	**0.26**	**100**	0.0011 U	0.0009 U

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-04 (9.5-10) 20180821 JC72360-1 8/21/2018 3:56:00 PM 1 mg/kg	RI-SB-05 (9.5-11) 20180821 JC72360-2 8/21/2018 4:20:00 PM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.0023 U	0.0021 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0023 U	0.0021 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0057 U	0.0053 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0023 U	0.0021 U
1,1-Dichloroethane	**0.27**	**26**	0.0011 U	0.0011 U
1,1-Dichloroethene	**0.33**	**100**	0.0011 U	0.0011 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0057 U	0.0053 U
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0057 U	0.0053 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0023 U	0.0021 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0023 U	0.0021 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.0011 U	0.0011 U
1,2-Dichlorobenzene	**1.1**	**100**	0.0011 U	0.0011 U
1,2-Dichloroethane	**0.02**	**3.1**	0.0011 U	0.0011 U
1,2-Dichloropropane	**NS**	**NS**	0.0023 U	0.0021 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0023 U	0.0021 U
1,3-Dichlorobenzene	**2.4**	**49**	0.0011 U	0.0011 U
1,4-Dichlorobenzene	**1.8**	**13**	0.0011 U	0.0011 U
2-Hexanone	**NS**	**NS**	0.0057 U	0.0053 U
Acetone	**0.05**	**100**	**0.0529**	0.011 U
Benzene	**0.06**	**4.8**	0.00057 U	0.00053 U
Bromochloromethane	**NS**	**NS**	0.0057 U	0.0053 U
Bromodichloromethane	**NS**	**NS**	0.0023 U	0.0021 U
Bromoform	**NS**	**NS**	0.0057 U	0.0053 U
Bromomethane	**NS**	**NS**	0.0057 U	0.0053 U
Carbon Disulfide	**NS**	**NS**	0.0023 U	0.0021 U
Carbon Tetrachloride	**0.76**	**2.4**	0.0023 U	0.0021 U
Chlorobenzene	**1.1**	**100**	0.0023 U	0.0021 U
Chloroethane	**NS**	**NS**	0.0057 U	0.0053 U
Chloroform	**0.37**	**49**	0.0023 U	0.0021 U
Chloromethane	**NS**	**NS**	0.0057 U	0.0053 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.0011 U	0.0011 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0023 U	0.0021 U
Cyclohexane	**NS**	**NS**	0.0023 U	0.0021 U
Dibromochloromethane	**NS**	**NS**	0.0023 U	0.0021 U
Dichlorodifluoromethane	**NS**	**NS**	0.0057 U	0.0053 U
Ethylbenzene	**1**	**41**	0.0011 U	0.0011 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0023 U	0.0021 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.0011 U	0.0011 U
Methyl Acetate	**NS**	**NS**	0.0057 U	0.0053 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.011 U	0.011 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0057 U	0.0053 U
Methylcyclohexane	**NS**	**NS**	0.0023 U	0.0021 U
Methylene Chloride	**0.05**	**100**	0.0057 U	0.0053 U
N-Butylbenzene	**12**	**100**	0.0023 U	0.0021 U
N-Propylbenzene	**3.9**	**100**	0.0023 U	0.0021 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.0011 U	0.0011 U
Sec-Butylbenzene	**11**	**100**	0.0023 U	0.0021 U
Styrene	**NS**	**NS**	0.0023 U	0.0021 U
T-Butylbenzene	**5.9**	**100**	0.0023 U	0.0021 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.0011 U	0.0011 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0032	0.0021 U
Toluene	**0.7**	**100**	0.0011 U	0.0011 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.0011 U	0.0011 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0023 U	0.0021 U
Trichloroethylene (TCE)	**0.47**	**21**	0.0011 U	0.0011 U
Trichlorofluoromethane	**NS**	**NS**	0.0057 U	0.0053 U
Vinyl Chloride	**0.02**	**0.9**	0.0023 U	0.0021 U
Xylenes, Total	**0.26**	**100**	0.0011 U	0.0011 U

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-06 (0-2) 20180525 JC66764-30 5/25/2018 12:45:00 PM 1 mg/kg	RI-SB-06 (9-11) 20180525 JC66764-31 5/25/2018 12:55:00 PM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.0024 U	0.0022 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0024 U	0.0022 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0059 U	0.0056 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0024 U	0.0022 U
1,1-Dichloroethane	**0.27**	**26**	0.0012 U	0.0011 U
1,1-Dichloroethene	**0.33**	**100**	0.0012 U	0.0011 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0059 UJ	0.0056 UJ
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0059 U	0.0056 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0024 U	0.0022 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0024 U	0.0022 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.0012 U	0.0011 U
1,2-Dichlorobenzene	**1.1**	**100**	0.0012 U	0.0011 U
1,2-Dichloroethane	**0.02**	**3.1**	0.0012 U	0.0011 U
1,2-Dichloropropane	**NS**	**NS**	0.0024 U	0.0022 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0024 U	0.0022 U
1,3-Dichlorobenzene	**2.4**	**49**	0.0012 U	0.0011 U
1,4-Dichlorobenzene	**1.8**	**13**	0.0012 U	0.0011 U
2-Hexanone	**NS**	**NS**	0.0059 U	0.0056 U
Acetone	**0.05**	**100**	0.012 U	0.0227
Benzene	**0.06**	**4.8**	0.00059 U	0.00056 U
Bromochloromethane	**NS**	**NS**	0.0059 U	0.0056 U
Bromodichloromethane	**NS**	**NS**	0.0024 U	0.0022 U
Bromoform	**NS**	**NS**	0.0059 U	0.0056 U
Bromomethane	**NS**	**NS**	0.0059 U	0.0056 U
Carbon Disulfide	**NS**	**NS**	0.0024 U	0.0022 U
Carbon Tetrachloride	**0.76**	**2.4**	0.0024 U	0.0022 U
Chlorobenzene	**1.1**	**100**	0.0024 U	0.0022 U
Chloroethane	**NS**	**NS**	0.0059 U	0.0056 U
Chloroform	**0.37**	**49**	0.0024 U	0.0022 U
Chloromethane	**NS**	**NS**	0.0059 U	0.0056 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.0012 U	0.0011 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0024 U	0.0022 U
Cyclohexane	**NS**	**NS**	0.0024 U	0.0022 U
Dibromochloromethane	**NS**	**NS**	0.0024 U	0.0022 U
Dichlorodifluoromethane	**NS**	**NS**	0.0059 U	0.0056 U
Ethylbenzene	**1**	**41**	0.0012 U	0.0011 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0024 U	0.0022 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.0012 U	0.0011 U
Methyl Acetate	**NS**	**NS**	0.0059 U	0.0056 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.012 U	0.011 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0059 U	0.0056 U
Methylcyclohexane	**NS**	**NS**	0.0024 U	0.0022 U
Methylene Chloride	**0.05**	**100**	0.0059 U	0.0056 U
N-Butylbenzene	**12**	**100**	0.0024 U	0.0022 U
N-Propylbenzene	**3.9**	**100**	0.0024 U	0.0022 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.0012 U	0.0011 U
Sec-Butylbenzene	**11**	**100**	0.0024 U	0.0022 U
Styrene	**NS**	**NS**	0.0024 U	0.0022 U
T-Butylbenzene	**5.9**	**100**	0.0024 U	0.0022 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.0012 U	0.0011 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0024 U	0.0022 U
Toluene	**0.7**	**100**	0.0012 U	0.0011 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.0012 U	0.0011 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0024 U	0.0022 U
Trichloroethylene (TCE)	**0.47**	**21**	0.0012 U	0.0011 U
Trichlorofluoromethane	**NS**	**NS**	0.0059 U	0.0056 U
Vinyl Chloride	**0.02**	**0.9**	0.0024 U	0.0022 U
Xylenes, Total	**0.26**	**100**	0.0012 U	0.0011 U

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-07 (0-2) 20180524 JC66764-6 5/24/2018 12:15:00 PM 1 mg/kg	RI-SB-07 (5-7) 20180524 JC66764-7 5/24/2018 12:26:00 PM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.0021 U	0.0023 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0021 U	0.0023 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0052 U	0.0057 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0021 U	0.0023 U
1,1-Dichloroethane	**0.27**	**26**	0.001 U	0.0011 U
1,1-Dichloroethene	**0.33**	**100**	0.001 U	0.0011 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0052 U	0.0057 U
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0052 U	0.0057 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0021 U	0.0023 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0021 U	0.0023 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.001 U	0.0011 U
1,2-Dichlorobenzene	**1.1**	**100**	0.001 U	0.0011 U
1,2-Dichloroethane	**0.02**	**3.1**	0.001 U	0.0011 U
1,2-Dichloropropane	**NS**	**NS**	0.0021 U	0.0023 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0021 U	0.0023 U
1,3-Dichlorobenzene	**2.4**	**49**	0.001 U	0.0011 U
1,4-Dichlorobenzene	**1.8**	**13**	0.001 U	0.0011 U
2-Hexanone	**NS**	**NS**	0.0052 U	0.0057 U
Acetone	**0.05**	**100**	0.01 U	0.0224
Benzene	**0.06**	**4.8**	0.00052 U	0.00042 J
Bromochloromethane	**NS**	**NS**	0.0052 U	0.0057 U
Bromodichloromethane	**NS**	**NS**	0.0021 U	0.0023 U
Bromoform	**NS**	**NS**	0.0052 U	0.0057 U
Bromomethane	**NS**	**NS**	0.0052 U	0.0057 U
Carbon Disulfide	**NS**	**NS**	0.0021 U	0.0023 U
Carbon Tetrachloride	**0.76**	**2.4**	0.0021 U	0.0023 U
Chlorobenzene	**1.1**	**100**	0.0021 U	0.0023 U
Chloroethane	**NS**	**NS**	0.0052 U	0.0057 U
Chloroform	**0.37**	**49**	0.0021 U	0.0023 U
Chloromethane	**NS**	**NS**	0.0052 U	0.0057 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.001 U	0.0011 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0021 U	0.0023 U
Cyclohexane	**NS**	**NS**	0.0021 U	0.0023 U
Dibromochloromethane	**NS**	**NS**	0.0021 U	0.0023 U
Dichlorodifluoromethane	**NS**	**NS**	0.0052 U	0.0057 U
Ethylbenzene	**1**	**41**	0.002	0.0011 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0021 U	0.0023 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.0125	0.0011 U
Methyl Acetate	**NS**	**NS**	0.0052 U	0.0057 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.01 U	0.011 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0052 U	0.0057 U
Methylcyclohexane	**NS**	**NS**	0.0021 U	0.0023 U
Methylene Chloride	**0.05**	**100**	0.0052 U	0.0057 U
N-Butylbenzene	**12**	**100**	0.0021 U	0.0023 U
N-Propylbenzene	**3.9**	**100**	0.0021 U	0.0023 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.0055	0.0011 U
Sec-Butylbenzene	**11**	**100**	0.0021 U	0.0023 U
Styrene	**NS**	**NS**	0.0021 U	0.0023 U
T-Butylbenzene	**5.9**	**100**	0.0021 U	0.0023 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.001 U	0.0011 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0021 U	0.0023 U
Toluene	**0.7**	**100**	0.001 U	0.0011 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.001 U	0.0011 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0021 U	0.0023 U
Trichloroethylene (TCE)	**0.47**	**21**	0.001 U	0.0011 U
Trichlorofluoromethane	**NS**	**NS**	0.0052 U	0.0057 U
Vinyl Chloride	**0.02**	**0.9**	0.0021 U	0.0023 U
Xylenes, Total	**0.26**	**100**	0.018	0.0011 U

Attached Table 16
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Volatile Organic Compounds

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-07 (8-10) 20180524 JC66764-8 5/24/2018 12:31:00 PM 1 mg/kg	RI-SB-08 (0-2) 20180524 JC66764-18 5/24/2018 2:05:00 PM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.0024 U	0.002 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0024 U	0.002 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0061 U	0.005 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0024 U	0.002 U
1,1-Dichloroethane	**0.27**	**26**	0.0012 U	0.00099 U
1,1-Dichloroethene	**0.33**	**100**	0.0012 U	0.00099 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0061 U	0.005 U
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0061 U	0.005 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0024 U	0.002 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0024 U	0.002 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.0012 U	0.00099 U
1,2-Dichlorobenzene	**1.1**	**100**	0.0012 U	0.00099 U
1,2-Dichloroethane	**0.02**	**3.1**	0.0012 U	0.00099 U
1,2-Dichloropropane	**NS**	**NS**	0.0024 U	0.002 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0024 U	0.002 U
1,3-Dichlorobenzene	**2.4**	**49**	0.0012 U	0.00099 U
1,4-Dichlorobenzene	**1.8**	**13**	0.0012 U	0.00099 U
2-Hexanone	**NS**	**NS**	0.0061 U	0.005 U
Acetone	**0.05**	**100**	0.012 U	0.0099 U
Benzene	**0.06**	**4.8**	0.00061 U	0.0005 U
Bromochloromethane	**NS**	**NS**	0.0061 U	0.005 U
Bromodichloromethane	**NS**	**NS**	0.0024 U	0.002 U
Bromoform	**NS**	**NS**	0.0061 U	0.005 U
Bromomethane	**NS**	**NS**	0.0061 U	0.005 U
Carbon Disulfide	**NS**	**NS**	0.0024 U	0.002 U
Carbon Tetrachloride	**0.76**	**2.4**	0.0024 U	0.002 U
Chlorobenzene	**1.1**	**100**	0.0024 U	0.002 U
Chloroethane	**NS**	**NS**	0.0061 U	0.005 U
Chloroform	**0.37**	**49**	0.0024 U	0.002 U
Chloromethane	**NS**	**NS**	0.0061 U	0.005 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.0012 U	0.00099 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0024 U	0.002 U
Cyclohexane	**NS**	**NS**	0.0024 U	0.002 U
Dibromochloromethane	**NS**	**NS**	0.0024 U	0.002 U
Dichlorodifluoromethane	**NS**	**NS**	0.0061 U	0.005 U
Ethylbenzene	**1**	**41**	0.0012 U	0.00099 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0024 U	0.002 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.0012 U	0.00099 U
Methyl Acetate	**NS**	**NS**	0.0061 U	0.005 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.012 U	0.0099 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0061 U	0.005 U
Methylcyclohexane	**NS**	**NS**	0.0024 U	0.002 U
Methylene Chloride	**0.05**	**100**	0.0061 U	0.005 U
N-Butylbenzene	**12**	**100**	0.0024 U	0.002 U
N-Propylbenzene	**3.9**	**100**	0.0024 U	0.002 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.0012 U	0.00099 U
Sec-Butylbenzene	**11**	**100**	0.0024 U	0.002 U
Styrene	**NS**	**NS**	0.0024 U	0.002 U
T-Butylbenzene	**5.9**	**100**	0.0024 U	0.002 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.0012 U	0.00099 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0024 U	0.002 U
Toluene	**0.7**	**100**	0.0012 U	0.00099 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.0012 U	0.00099 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0024 U	0.002 U
Trichloroethylene (TCE)	**0.47**	**21**	0.0012 U	0.00099 U
Trichlorofluoromethane	**NS**	**NS**	0.0061 U	0.005 U
Vinyl Chloride	**0.02**	**0.9**	0.0024 U	0.002 U
Xylenes, Total	**0.26**	**100**	0.0012 U	0.00099 U

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-08 (7-9) 20180524 JC66764-19 5/24/2018 2:10:00 PM 1 mg/kg	RI-SB-09 (0-2) 20180524 JC66764-14 5/24/2018 2:40:00 PM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.0026 U	0.0019 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0026 U	0.0019 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0064 U	0.0049 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0026 U	0.0019 U
1,1-Dichloroethane	**0.27**	**26**	0.0013 U	0.00097 U
1,1-Dichloroethene	**0.33**	**100**	0.0013 U	0.00097 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0064 U	0.0049 U
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0064 U	0.0049 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0026 U	0.0019 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0026 U	0.0019 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.0013 U	0.00097 U
1,2-Dichlorobenzene	**1.1**	**100**	0.0013 U	0.00097 U
1,2-Dichloroethane	**0.02**	**3.1**	0.0013 U	0.00097 U
1,2-Dichloropropane	**NS**	**NS**	0.0026 U	0.0019 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0026 U	0.0019 U
1,3-Dichlorobenzene	**2.4**	**49**	0.0013 U	0.00097 U
1,4-Dichlorobenzene	**1.8**	**13**	0.0013 U	0.00097 U
2-Hexanone	**NS**	**NS**	0.0064 U	0.0049 U
Acetone	**0.05**	**100**	0.0174	0.025
Benzene	**0.06**	**4.8**	0.00058 J	0.00049 U
Bromochloromethane	**NS**	**NS**	0.0064 U	0.0049 U
Bromodichloromethane	**NS**	**NS**	0.0026 U	0.0019 U
Bromoform	**NS**	**NS**	0.0064 U	0.0049 U
Bromomethane	**NS**	**NS**	0.0064 U	0.0049 U
Carbon Disulfide	**NS**	**NS**	0.0026 U	0.0019 U
Carbon Tetrachloride	**0.76**	**2.4**	0.0026 U	0.0019 U
Chlorobenzene	**1.1**	**100**	0.0026 U	0.0019 U
Chloroethane	**NS**	**NS**	0.0064 U	0.0049 U
Chloroform	**0.37**	**49**	0.0026 U	0.0019 U
Chloromethane	**NS**	**NS**	0.0064 U	0.0049 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.0013 U	0.00097 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0026 U	0.0019 U
Cyclohexane	**NS**	**NS**	0.0026 U	0.0019 U
Dibromochloromethane	**NS**	**NS**	0.0026 U	0.0019 U
Dichlorodifluoromethane	**NS**	**NS**	0.0064 U	0.0049 U
Ethylbenzene	**1**	**41**	0.0013 U	0.00097 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0026 U	0.0019 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.0013 U	0.00097 U
Methyl Acetate	**NS**	**NS**	0.0064 U	0.0049 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.013 U	0.0097 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0064 U	0.0049 U
Methylcyclohexane	**NS**	**NS**	0.0026 U	0.0019 U
Methylene Chloride	**0.05**	**100**	0.0064 U	0.0049 U
N-Butylbenzene	**12**	**100**	0.0026 U	0.0019 U
N-Propylbenzene	**3.9**	**100**	0.0026 U	0.0019 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.0013 U	0.00097 U
Sec-Butylbenzene	**11**	**100**	0.0026 U	0.0019 U
Styrene	**NS**	**NS**	0.0026 U	0.0019 U
T-Butylbenzene	**5.9**	**100**	0.0026 U	0.0019 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.0013 U	0.00097 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0026 U	0.0019 U
Toluene	**0.7**	**100**	0.0013 U	0.00097 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.0013 U	0.00097 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0026 U	0.0019 U
Trichloroethylene (TCE)	**0.47**	**21**	0.0013 U	0.00097 U
Trichlorofluoromethane	**NS**	**NS**	0.0064 U	0.0049 U
Vinyl Chloride	**0.02**	**0.9**	0.0026 U	0.0019 U
Xylenes, Total	**0.26**	**100**	0.0013 U	0.00097 U

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-X01 (0-2) 20180524 JC66764-15 5/24/2018 2:40:00 PM 1 mg/kg	RI-SB-09 (7-9) 20180524 JC66764-16 5/24/2018 3:10:00 PM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.0021 U	0.0027 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0021 U	0.0027 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0053 U	0.0068 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0021 U	0.0027 U
1,1-Dichloroethane	**0.27**	**26**	0.0011 U	0.0014 U
1,1-Dichloroethene	**0.33**	**100**	0.0011 U	0.0014 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0053 U	0.0068 U
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0053 U	0.0068 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0021 U	0.0027 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0021 U	0.0027 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.0011 U	0.0014 U
1,2-Dichlorobenzene	**1.1**	**100**	0.0011 U	0.0014 U
1,2-Dichloroethane	**0.02**	**3.1**	0.0011 U	0.0014 U
1,2-Dichloropropane	**NS**	**NS**	0.0021 U	0.0027 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0021 U	0.0027 U
1,3-Dichlorobenzene	**2.4**	**49**	0.0011 U	0.0014 U
1,4-Dichlorobenzene	**1.8**	**13**	0.0011 U	0.0014 U
2-Hexanone	**NS**	**NS**	0.0053 U	0.0068 U
Acetone	**0.05**	**100**	0.0419	0.0353
Benzene	**0.06**	**4.8**	0.00053 U	0.00016 J
Bromochloromethane	**NS**	**NS**	0.0053 U	0.0068 U
Bromodichloromethane	**NS**	**NS**	0.0021 U	0.0027 U
Bromoform	**NS**	**NS**	0.0053 U	0.0068 U
Bromomethane	**NS**	**NS**	0.0053 U	0.0068 U
Carbon Disulfide	**NS**	**NS**	0.0018 J	0.003
Carbon Tetrachloride	**0.76**	**2.4**	0.0021 U	0.0027 U
Chlorobenzene	**1.1**	**100**	0.0021 U	0.0027 U
Chloroethane	**NS**	**NS**	0.0053 U	0.0068 U
Chloroform	**0.37**	**49**	0.0021 U	0.0027 U
Chloromethane	**NS**	**NS**	0.0053 U	0.0068 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.0011 U	0.0014 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0021 U	0.0027 U
Cyclohexane	**NS**	**NS**	0.0021 U	0.0027 U
Dibromochloromethane	**NS**	**NS**	0.0021 U	0.0027 U
Dichlorodifluoromethane	**NS**	**NS**	0.0053 U	0.0068 U
Ethylbenzene	**1**	**41**	0.0011 U	0.0014 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0021 U	0.0027 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.0011 U	0.0014 U
Methyl Acetate	**NS**	**NS**	0.0053 U	0.0068 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.011 U	0.014 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0053 U	0.0068 U
Methylcyclohexane	**NS**	**NS**	0.0021 U	0.0027 U
Methylene Chloride	**0.05**	**100**	0.0053 U	0.0068 U
N-Butylbenzene	**12**	**100**	0.0021 U	0.0027 U
N-Propylbenzene	**3.9**	**100**	0.0021 U	0.0027 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.00034 J	0.0014 U
Sec-Butylbenzene	**11**	**100**	0.0021 U	0.0027 U
Styrene	**NS**	**NS**	0.0021 U	0.0027 U
T-Butylbenzene	**5.9**	**100**	0.0021 U	0.0027 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.0011 U	0.0014 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0021 U	0.0027 U
Toluene	**0.7**	**100**	0.0011 U	0.0014 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.0011 U	0.0014 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0021 U	0.0027 U
Trichloroethylene (TCE)	**0.47**	**21**	0.0011 U	0.0014 U
Trichlorofluoromethane	**NS**	**NS**	0.0053 U	0.0068 U
Vinyl Chloride	**0.02**	**0.9**	0.0021 U	0.0027 U
Xylenes, Total	**0.26**	**100**	0.00034 J	0.0014 U

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-10 (9.5-11) 20180821 JC72360-3 8/21/2018 11:43:00 AM 1 mg/kg	RI-SB-X03 (9.5-11) 20180821 JC72360-4 8/21/2018 11:45:00 AM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.002 U	0.0022 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.002 U	0.0022 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0051 U	0.0055 U
1,1,2-Trichloroethane	**NS**	**NS**	0.002 U	0.0022 U
1,1-Dichloroethane	**0.27**	**26**	0.001 U	0.0011 U
1,1-Dichloroethene	**0.33**	**100**	0.001 U	0.0011 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0051 U	0.0055 U
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0051 U	0.0055 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.002 U	0.0022 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.002 U	0.0022 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.001 U	0.0011 U
1,2-Dichlorobenzene	**1.1**	**100**	0.001 U	0.0011 U
1,2-Dichloroethane	**0.02**	**3.1**	0.001 U	0.0011 U
1,2-Dichloropropane	**NS**	**NS**	0.002 U	0.0022 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.002 U	0.0022 U
1,3-Dichlorobenzene	**2.4**	**49**	0.001 U	0.0011 U
1,4-Dichlorobenzene	**1.8**	**13**	0.001 U	0.0011 U
2-Hexanone	**NS**	**NS**	0.0051 U	0.0055 U
Acetone	**0.05**	**100**	0.0148	0.0148
Benzene	**0.06**	**4.8**	0.00051 U	0.00055 U
Bromochloromethane	**NS**	**NS**	0.0051 U	0.0055 U
Bromodichloromethane	**NS**	**NS**	0.002 U	0.0022 U
Bromoform	**NS**	**NS**	0.0051 U	0.0055 U
Bromomethane	**NS**	**NS**	0.0051 U	0.0055 U
Carbon Disulfide	**NS**	**NS**	0.0015 J	0.002 J
Carbon Tetrachloride	**0.76**	**2.4**	0.002 U	0.0022 U
Chlorobenzene	**1.1**	**100**	0.002 U	0.0022 U
Chloroethane	**NS**	**NS**	0.0051 U	0.0055 U
Chloroform	**0.37**	**49**	0.002 U	0.0022 U
Chloromethane	**NS**	**NS**	0.0051 U	0.0055 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.001 U	0.0011 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.002 U	0.0022 U
Cyclohexane	**NS**	**NS**	0.002 U	0.0022 U
Dibromochloromethane	**NS**	**NS**	0.002 U	0.0022 U
Dichlorodifluoromethane	**NS**	**NS**	0.0051 U	0.0055 U
Ethylbenzene	**1**	**41**	0.001 U	0.0011 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.002 U	0.0022 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.001 U	0.0011 U
Methyl Acetate	**NS**	**NS**	0.0051 U	0.0055 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.01 U	0.011 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0051 U	0.0055 U
Methylcyclohexane	**NS**	**NS**	0.002 U	0.0022 U
Methylene Chloride	**0.05**	**100**	0.0051 U	0.0055 U
N-Butylbenzene	**12**	**100**	0.002 U	0.0022 U
N-Propylbenzene	**3.9**	**100**	0.002 U	0.0022 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.001 U	0.0011 U
Sec-Butylbenzene	**11**	**100**	0.002 U	0.0022 U
Styrene	**NS**	**NS**	0.002 U	0.0022 U
T-Butylbenzene	**5.9**	**100**	0.002 U	0.0022 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.001 U	0.0011 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.002 U	0.0022 U
Toluene	**0.7**	**100**	0.001 U	0.0011 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.001 U	0.0011 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.002 U	0.0022 U
Trichloroethylene (TCE)	**0.47**	**21**	0.001 U	0.0011 U
Trichlorofluoromethane	**NS**	**NS**	0.0051 U	0.0055 U
Vinyl Chloride	**0.02**	**0.9**	0.002 U	0.0022 U
Xylenes, Total	**0.26**	**100**	0.001 U	0.0011 U

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-13 (0-2) 20180525 JC66764-32 5/25/2018 1:40:00 PM 1 mg/kg	RI-SB-13 (8-10) 20180525 JC66764-33 5/25/2018 2:00:00 PM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.0023 U	0.0018 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0023 U	0.0018 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0058 U	0.0046 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0023 U	0.0018 U
1,1-Dichloroethane	**0.27**	**26**	0.0012 U	0.00092 U
1,1-Dichloroethene	**0.33**	**100**	0.0012 U	0.00092 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0058 UJ	0.0046 UJ
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0058 U	0.0046 UJ
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0023 U	0.0018 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0023 U	0.0018 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.0012 U	0.00092 U
1,2-Dichlorobenzene	**1.1**	**100**	0.0012 U	0.00092 U
1,2-Dichloroethane	**0.02**	**3.1**	0.0012 U	0.00092 U
1,2-Dichloropropane	**NS**	**NS**	0.0023 U	0.0018 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0023 U	0.0018 U
1,3-Dichlorobenzene	**2.4**	**49**	0.0012 U	0.00092 U
1,4-Dichlorobenzene	**1.8**	**13**	0.0012 U	0.00092 U
2-Hexanone	**NS**	**NS**	0.0058 U	0.0046 U
Acetone	**0.05**	**100**	0.012 U	0.0092 U
Benzene	**0.06**	**4.8**	0.00058 U	0.00046 U
Bromochloromethane	**NS**	**NS**	0.0058 U	0.0046 U
Bromodichloromethane	**NS**	**NS**	0.0023 U	0.0018 U
Bromoform	**NS**	**NS**	0.0058 U	0.0046 U
Bromomethane	**NS**	**NS**	0.0058 U	0.0046 U
Carbon Disulfide	**NS**	**NS**	0.0023 U	0.0018 U
Carbon Tetrachloride	**0.76**	**2.4**	0.0023 U	0.0018 U
Chlorobenzene	**1.1**	**100**	0.0023 U	0.0018 U
Chloroethane	**NS**	**NS**	0.0058 U	0.0046 U
Chloroform	**0.37**	**49**	0.0023 U	0.0018 U
Chloromethane	**NS**	**NS**	0.0058 U	0.0046 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.0012 U	0.00092 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0023 U	0.0018 U
Cyclohexane	**NS**	**NS**	0.0023 U	0.0018 U
Dibromochloromethane	**NS**	**NS**	0.0023 U	0.0018 U
Dichlorodifluoromethane	**NS**	**NS**	0.0058 U	0.0046 U
Ethylbenzene	**1**	**41**	0.0012 U	0.00092 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0023 U	0.0018 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.0012 U	0.00092 U
Methyl Acetate	**NS**	**NS**	0.0058 U	0.0046 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.012 U	0.0092 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0058 U	0.0046 U
Methylcyclohexane	**NS**	**NS**	0.0023 U	0.0018 U
Methylene Chloride	**0.05**	**100**	0.0058 U	0.0025 J
N-Butylbenzene	**12**	**100**	0.0023 U	0.0018 U
N-Propylbenzene	**3.9**	**100**	0.0023 U	0.0018 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.0012 U	0.00092 U
Sec-Butylbenzene	**11**	**100**	0.0023 U	0.0018 U
Styrene	**NS**	**NS**	0.0023 U	0.0018 U
T-Butylbenzene	**5.9**	**100**	0.0023 U	0.0018 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.0012 U	0.00092 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0023 U	0.0018 U
Toluene	**0.7**	**100**	0.0012 U	0.00092 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.0012 U	0.00092 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0023 U	0.0018 U
Trichloroethylene (TCE)	**0.47**	**21**	0.0012 U	0.00092 U
Trichlorofluoromethane	**NS**	**NS**	0.0058 U	0.0046 U
Vinyl Chloride	**0.02**	**0.9**	0.0023 U	0.0018 U
Xylenes, Total	**0.26**	**100**	0.0012 U	0.00092 U

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-14 (0-2) 20180525 JC66764-34 5/25/2018 2:40:00 PM 1 mg/kg	RI-SB-14 (7-9) 20180525 JC66764-35 5/25/2018 2:45:00 PM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.0023 U	0.0023 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0023 U	0.0023 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0057 U	0.0056 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0023 U	0.0023 U
1,1-Dichloroethane	**0.27**	**26**	0.0011 U	0.0011 U
1,1-Dichloroethene	**0.33**	**100**	0.0011 U	0.0011 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0057 UJ	0.0056 UJ
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0057 UJ	0.0056 UJ
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0023 U	0.0023 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0023 U	0.0023 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.0011 U	0.0011 U
1,2-Dichlorobenzene	**1.1**	**100**	0.0011 U	0.0011 U
1,2-Dichloroethane	**0.02**	**3.1**	0.0011 U	0.0011 U
1,2-Dichloropropane	**NS**	**NS**	0.0023 U	0.0023 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0023 U	0.0023 U
1,3-Dichlorobenzene	**2.4**	**49**	0.0011 U	0.0011 U
1,4-Dichlorobenzene	**1.8**	**13**	0.0011 U	0.0011 U
2-Hexanone	**NS**	**NS**	0.0057 U	0.0056 U
Acetone	**0.05**	**100**	0.011 U	0.0105 J
Benzene	**0.06**	**4.8**	0.00017 J	0.00056 U
Bromochloromethane	**NS**	**NS**	0.0057 U	0.0056 U
Bromodichloromethane	**NS**	**NS**	0.0023 U	0.0023 U
Bromoform	**NS**	**NS**	0.0057 U	0.0056 U
Bromomethane	**NS**	**NS**	0.0057 U	0.0056 U
Carbon Disulfide	**NS**	**NS**	0.0023 U	0.0007 J
Carbon Tetrachloride	**0.76**	**2.4**	0.0023 U	0.0023 U
Chlorobenzene	**1.1**	**100**	0.0023 U	0.0023 U
Chloroethane	**NS**	**NS**	0.0057 U	0.0056 U
Chloroform	**0.37**	**49**	0.0023 U	0.0023 U
Chloromethane	**NS**	**NS**	0.0057 U	0.0056 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.0011 U	0.0011 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0023 U	0.0023 U
Cyclohexane	**NS**	**NS**	0.0023 U	0.0023 U
Dibromochloromethane	**NS**	**NS**	0.0023 U	0.0023 U
Dichlorodifluoromethane	**NS**	**NS**	0.0057 U	0.0056 U
Ethylbenzene	**1**	**41**	0.0011 U	0.0011 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0023 U	0.0023 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.0011 U	0.0011 U
Methyl Acetate	**NS**	**NS**	0.0057 U	0.0056 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.011 U	0.011 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0057 U	0.0056 U
Methylcyclohexane	**NS**	**NS**	0.0023 U	0.0023 U
Methylene Chloride	**0.05**	**100**	0.0057 U	0.0056 U
N-Butylbenzene	**12**	**100**	0.0023 U	0.0023 U
N-Propylbenzene	**3.9**	**100**	0.0023 U	0.0023 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.0011 U	0.0011 U
Sec-Butylbenzene	**11**	**100**	0.0023 U	0.0023 U
Styrene	**NS**	**NS**	0.0023 U	0.0023 U
T-Butylbenzene	**5.9**	**100**	0.0023 U	0.0023 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.0011 U	0.0011 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0023 U	0.0023 U
Toluene	**0.7**	**100**	0.0011 U	0.0011 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.0011 U	0.0011 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0023 U	0.0023 U
Trichloroethylene (TCE)	**0.47**	**21**	0.0011 U	0.0011 U
Trichlorofluoromethane	**NS**	**NS**	0.0057 U	0.0056 U
Vinyl Chloride	**0.02**	**0.9**	0.0023 U	0.0023 U
Xylenes, Total	**0.26**	**100**	0.0011 U	0.0011 U

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-15 (0-2) 20180524 JC66764-12 5/24/2018 2:20:00 PM 1 mg/kg	RI-SB-15 (8-10) 20180524 JC66764-13 5/24/2018 2:25:00 PM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.0018 U	0.0023 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0018 U	0.0023 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0045 U	0.0057 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0018 U	0.0023 U
1,1-Dichloroethane	**0.27**	**26**	0.0009 U	0.0011 U
1,1-Dichloroethene	**0.33**	**100**	0.0009 U	0.0011 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0045 U	0.0057 U
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0045 U	0.0057 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0018 U	0.0023 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0018 U	0.0023 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.0009 U	0.0011 U
1,2-Dichlorobenzene	**1.1**	**100**	0.0009 U	0.0011 U
1,2-Dichloroethane	**0.02**	**3.1**	0.0009 U	0.0011 U
1,2-Dichloropropane	**NS**	**NS**	0.0018 U	0.0023 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0018 U	0.0023 U
1,3-Dichlorobenzene	**2.4**	**49**	0.0009 U	0.0011 U
1,4-Dichlorobenzene	**1.8**	**13**	0.0009 U	0.0011 U
2-Hexanone	**NS**	**NS**	0.0045 U	0.0057 U
Acetone	**0.05**	**100**	0.009 U	0.011 U
Benzene	**0.06**	**4.8**	0.00045 U	0.00057 U
Bromochloromethane	**NS**	**NS**	0.0045 U	0.0057 U
Bromodichloromethane	**NS**	**NS**	0.0018 U	0.0023 U
Bromoform	**NS**	**NS**	0.0045 U	0.0057 U
Bromomethane	**NS**	**NS**	0.0045 U	0.0057 U
Carbon Disulfide	**NS**	**NS**	0.0018 U	0.0023 U
Carbon Tetrachloride	**0.76**	**2.4**	0.0018 U	0.0023 U
Chlorobenzene	**1.1**	**100**	0.0018 U	0.0023 U
Chloroethane	**NS**	**NS**	0.0045 U	0.0057 U
Chloroform	**0.37**	**49**	0.0018 U	0.0023 U
Chloromethane	**NS**	**NS**	0.0045 U	0.0057 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.0009 U	0.0011 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0018 U	0.0023 U
Cyclohexane	**NS**	**NS**	0.0018 U	0.0023 U
Dibromochloromethane	**NS**	**NS**	0.0018 U	0.0023 U
Dichlorodifluoromethane	**NS**	**NS**	0.0045 U	0.0057 U
Ethylbenzene	**1**	**41**	0.0009 U	0.0011 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0018 U	0.0023 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.00058 J	0.0011 U
Methyl Acetate	**NS**	**NS**	0.0045 U	0.0057 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.009 U	0.011 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0045 U	0.0057 U
Methylcyclohexane	**NS**	**NS**	0.0018 U	0.0023 U
Methylene Chloride	**0.05**	**100**	0.0045 U	0.0057 U
N-Butylbenzene	**12**	**100**	0.0018 U	0.0023 U
N-Propylbenzene	**3.9**	**100**	0.0018 U	0.0023 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.00025 J	0.0011 U
Sec-Butylbenzene	**11**	**100**	0.0018 U	0.0023 U
Styrene	**NS**	**NS**	0.0018 U	0.0023 U
T-Butylbenzene	**5.9**	**100**	0.0018 U	0.0023 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.0009 U	0.0011 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0018 U	0.0023 U
Toluene	**0.7**	**100**	0.0009 U	0.0011 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.0009 U	0.0011 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0018 U	0.0023 U
Trichloroethylene (TCE)	**0.47**	**21**	0.0009 U	0.0011 U
Trichlorofluoromethane	**NS**	**NS**	0.0045 U	0.0057 U
Vinyl Chloride	**0.02**	**0.9**	0.0018 U	0.0023 U
Xylenes, Total	**0.26**	**100**	0.00083 J	0.0011 U

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-16 (0-2) 20180525 JC66764-22 5/25/2018 8:25:00 AM 1 mg/kg	RI-SB-16 (8-10) 20180525 JC66764-23 5/25/2018 8:30:00 AM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.0022 U	0.0024 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0022 U	0.0024 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0055 U	0.006 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0022 U	0.0024 U
1,1-Dichloroethane	**0.27**	**26**	0.0011 U	0.0012 U
1,1-Dichloroethene	**0.33**	**100**	0.0011 U	0.0012 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0055 UJ	0.006 UJ
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0055 U	0.006 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0022 U	0.0024 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0022 U	0.0024 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.0011 U	0.0012 U
1,2-Dichlorobenzene	**1.1**	**100**	0.0011 U	0.0012 U
1,2-Dichloroethane	**0.02**	**3.1**	0.0011 U	0.0012 U
1,2-Dichloropropane	**NS**	**NS**	0.0022 U	0.0024 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0022 U	0.0024 U
1,3-Dichlorobenzene	**2.4**	**49**	0.0011 U	0.0012 U
1,4-Dichlorobenzene	**1.8**	**13**	0.0011 U	0.0012 U
2-Hexanone	**NS**	**NS**	0.0055 U	0.006 U
Acetone	**0.05**	**100**	0.0102 J	0.0228
Benzene	**0.06**	**4.8**	0.00055 U	0.0006 U
Bromochloromethane	**NS**	**NS**	0.0055 U	0.006 U
Bromodichloromethane	**NS**	**NS**	0.0022 U	0.0024 U
Bromoform	**NS**	**NS**	0.0055 U	0.006 U
Bromomethane	**NS**	**NS**	0.0055 U	0.006 U
Carbon Disulfide	**NS**	**NS**	0.0022 U	0.0024 U
Carbon Tetrachloride	**0.76**	**2.4**	0.0022 U	0.0024 U
Chlorobenzene	**1.1**	**100**	0.0022 U	0.0024 U
Chloroethane	**NS**	**NS**	0.0055 U	0.006 U
Chloroform	**0.37**	**49**	0.0022 U	0.0024 U
Chloromethane	**NS**	**NS**	0.0055 U	0.006 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.0011 U	0.0012 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0022 U	0.0024 U
Cyclohexane	**NS**	**NS**	0.0022 U	0.0024 U
Dibromochloromethane	**NS**	**NS**	0.0022 U	0.0024 U
Dichlorodifluoromethane	**NS**	**NS**	0.0055 U	0.006 U
Ethylbenzene	**1**	**41**	0.0011 U	0.0012 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0022 U	0.0024 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.0011 U	0.0012 U
Methyl Acetate	**NS**	**NS**	0.0055 U	0.006 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.011 U	0.012 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0055 U	0.006 U
Methylcyclohexane	**NS**	**NS**	0.0022 U	0.0024 U
Methylene Chloride	**0.05**	**100**	0.0055 U	0.006 U
N-Butylbenzene	**12**	**100**	0.0022 U	0.0024 U
N-Propylbenzene	**3.9**	**100**	0.0022 U	0.0024 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.0011 U	0.0012 U
Sec-Butylbenzene	**11**	**100**	0.0022 U	0.0024 U
Styrene	**NS**	**NS**	0.0022 U	0.0024 U
T-Butylbenzene	**5.9**	**100**	0.0022 U	0.0024 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.0011 U	0.0012 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0022 U	0.0024 U
Toluene	**0.7**	**100**	0.0011 U	0.0012 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.0011 U	0.0012 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0022 U	0.0024 U
Trichloroethylene (TCE)	**0.47**	**21**	0.0011 U	0.0012 U
Trichlorofluoromethane	**NS**	**NS**	0.0055 U	0.006 U
Vinyl Chloride	**0.02**	**0.9**	0.0022 U	0.0024 U
Xylenes, Total	**0.26**	**100**	0.0011 U	0.0012 U

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-17 (0-2) 20180525 JC66764-24 5/25/2018 8:55:00 AM 1 mg/kg	RI-SB-17 (8-10) 20180525 JC66764-25 5/25/2018 9:00:00 AM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.0019 U	0.002 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0019 U	0.002 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0048 U	0.005 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0019 U	0.002 U
1,1-Dichloroethane	**0.27**	**26**	0.00095 U	0.001 U
1,1-Dichloroethene	**0.33**	**100**	0.00095 U	0.001 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0048 UJ	0.005 UJ
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0048 U	0.005 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0019 U	0.002 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0019 U	0.002 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.00095 U	0.001 U
1,2-Dichlorobenzene	**1.1**	**100**	0.00095 U	0.001 U
1,2-Dichloroethane	**0.02**	**3.1**	0.00095 U	0.001 U
1,2-Dichloropropane	**NS**	**NS**	0.0019 U	0.002 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0019 U	0.002 U
1,3-Dichlorobenzene	**2.4**	**49**	0.00095 U	0.001 U
1,4-Dichlorobenzene	**1.8**	**13**	0.00095 U	0.001 U
2-Hexanone	**NS**	**NS**	0.0048 U	0.005 U
Acetone	**0.05**	**100**	0.0213	0.014
Benzene	**0.06**	**4.8**	0.00048 U	0.0005 U
Bromochloromethane	**NS**	**NS**	0.0048 U	0.005 U
Bromodichloromethane	**NS**	**NS**	0.0019 U	0.002 U
Bromoform	**NS**	**NS**	0.0048 U	0.005 U
Bromomethane	**NS**	**NS**	0.0048 U	0.005 U
Carbon Disulfide	**NS**	**NS**	0.0019 U	0.002 U
Carbon Tetrachloride	**0.76**	**2.4**	0.0019 U	0.002 U
Chlorobenzene	**1.1**	**100**	0.0019 U	0.002 U
Chloroethane	**NS**	**NS**	0.0048 U	0.005 U
Chloroform	**0.37**	**49**	0.0019 U	0.002 U
Chloromethane	**NS**	**NS**	0.0048 U	0.005 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.00095 U	0.001 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0019 U	0.002 U
Cyclohexane	**NS**	**NS**	0.0019 U	0.002 U
Dibromochloromethane	**NS**	**NS**	0.0019 U	0.002 U
Dichlorodifluoromethane	**NS**	**NS**	0.0048 U	0.005 U
Ethylbenzene	**1**	**41**	0.00095 U	0.001 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0019 U	0.002 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.00095 U	0.001 U
Methyl Acetate	**NS**	**NS**	0.0048 U	0.005 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.0095 U	0.01 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0048 U	0.005 U
Methylcyclohexane	**NS**	**NS**	0.0019 U	0.002 U
Methylene Chloride	**0.05**	**100**	0.0048 U	0.005 U
N-Butylbenzene	**12**	**100**	0.0019 U	0.002 U
N-Propylbenzene	**3.9**	**100**	0.0019 U	0.002 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.00095 U	0.001 U
Sec-Butylbenzene	**11**	**100**	0.0019 U	0.002 U
Styrene	**NS**	**NS**	0.0019 U	0.002 U
T-Butylbenzene	**5.9**	**100**	0.0019 U	0.002 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.00095 U	0.001 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0019 U	0.002 U
Toluene	**0.7**	**100**	0.00095 U	0.001 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.00095 U	0.001 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0019 U	0.002 U
Trichloroethylene (TCE)	**0.47**	**21**	0.00095 U	0.001 U
Trichlorofluoromethane	**NS**	**NS**	0.0048 U	0.005 U
Vinyl Chloride	**0.02**	**0.9**	0.0019 U	0.002 U
Xylenes, Total	**0.26**	**100**	0.00095 U	0.001 U

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-18 (0-2) 20180525 JC66764-26 5/25/2018 9:30:00 AM 1 mg/kg	RI-SB-18 (8-10) 20180525 JC66764-27 5/25/2018 9:40:00 AM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.0023 U	0.0019 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0023 U	0.0019 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0057 U	0.0048 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0023 U	0.0019 U
1,1-Dichloroethane	**0.27**	**26**	0.0011 U	0.00096 U
1,1-Dichloroethene	**0.33**	**100**	0.0011 U	0.00096 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0057 UJ	0.0048 UJ
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0057 U	0.0048 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0023 U	0.0019 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0023 U	0.0019 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.0011 U	0.00096 U
1,2-Dichlorobenzene	**1.1**	**100**	0.0011 U	0.00096 U
1,2-Dichloroethane	**0.02**	**3.1**	0.0011 U	0.00096 U
1,2-Dichloropropane	**NS**	**NS**	0.0023 U	0.0019 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0023 U	0.0019 U
1,3-Dichlorobenzene	**2.4**	**49**	0.0011 U	0.00096 U
1,4-Dichlorobenzene	**1.8**	**13**	0.0011 U	0.00096 U
2-Hexanone	**NS**	**NS**	0.0057 U	0.0048 U
Acetone	**0.05**	**100**	0.011 U	0.0123
Benzene	**0.06**	**4.8**	0.00057 U	0.00048 U
Bromochloromethane	**NS**	**NS**	0.0057 U	0.0048 U
Bromodichloromethane	**NS**	**NS**	0.0023 U	0.0019 U
Bromoform	**NS**	**NS**	0.0057 U	0.0048 U
Bromomethane	**NS**	**NS**	0.0057 U	0.0048 U
Carbon Disulfide	**NS**	**NS**	0.0023 U	0.0019 U
Carbon Tetrachloride	**0.76**	**2.4**	0.0023 U	0.0019 U
Chlorobenzene	**1.1**	**100**	0.0023 U	0.0019 U
Chloroethane	**NS**	**NS**	0.0057 U	0.0048 U
Chloroform	**0.37**	**49**	0.0023 U	0.0019 U
Chloromethane	**NS**	**NS**	0.0057 U	0.0048 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.0011 U	0.00096 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0023 U	0.0019 U
Cyclohexane	**NS**	**NS**	0.0023 U	0.0019 U
Dibromochloromethane	**NS**	**NS**	0.0023 U	0.0019 U
Dichlorodifluoromethane	**NS**	**NS**	0.0057 U	0.0048 U
Ethylbenzene	**1**	**41**	0.0011 U	0.00096 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0023 U	0.0019 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.0011 U	0.00096 U
Methyl Acetate	**NS**	**NS**	0.0057 U	0.0048 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.011 U	0.0096 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0057 U	0.0048 U
Methylcyclohexane	**NS**	**NS**	0.0023 U	0.0019 U
Methylene Chloride	**0.05**	**100**	0.0057 U	0.0048 U
N-Butylbenzene	**12**	**100**	0.0023 U	0.0019 U
N-Propylbenzene	**3.9**	**100**	0.0023 U	0.0019 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.0011 U	0.00096 U
Sec-Butylbenzene	**11**	**100**	0.0023 U	0.0019 U
Styrene	**NS**	**NS**	0.0023 U	0.0019 U
T-Butylbenzene	**5.9**	**100**	0.0023 U	0.0019 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.0011 U	0.00096 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0023 U	0.0019 U
Toluene	**0.7**	**100**	0.0011 U	0.00096 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.0011 U	0.00096 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0023 U	0.0019 U
Trichloroethylene (TCE)	**0.47**	**21**	0.0011 U	0.00096 U
Trichlorofluoromethane	**NS**	**NS**	0.0057 U	0.0048 U
Vinyl Chloride	**0.02**	**0.9**	0.0023 U	0.0019 U
Xylenes, Total	**0.26**	**100**	0.0011 U	0.00096 U

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-19 (0-2) 20180524 JC66764-9 5/24/2018 1:15:00 PM 1 mg/kg	RI-SB-19 (7-9) 20180524 JC66764-10 5/24/2018 1:20:00 PM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.0019 U	0.0023 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0019 U	0.0023 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0047 U	0.0057 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0019 U	0.0023 U
1,1-Dichloroethane	**0.27**	**26**	0.00095 U	0.0011 U
1,1-Dichloroethene	**0.33**	**100**	0.00095 U	0.0011 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0047 U	0.0057 U
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0047 U	0.0057 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0019 U	0.0023 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0019 U	0.0023 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.00095 U	0.0011 U
1,2-Dichlorobenzene	**1.1**	**100**	0.00095 U	0.0011 U
1,2-Dichloroethane	**0.02**	**3.1**	0.00095 U	0.0011 U
1,2-Dichloropropane	**NS**	**NS**	0.0019 U	0.0023 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0019 U	0.0023 U
1,3-Dichlorobenzene	**2.4**	**49**	0.00095 U	0.0011 U
1,4-Dichlorobenzene	**1.8**	**13**	0.00095 U	0.0011 U
2-Hexanone	**NS**	**NS**	0.0047 U	0.0057 U
Acetone	**0.05**	**100**	0.0095 U	0.0392
Benzene	**0.06**	**4.8**	0.00047 U	0.00015 J
Bromochloromethane	**NS**	**NS**	0.0047 U	0.0057 U
Bromodichloromethane	**NS**	**NS**	0.0019 U	0.0023 U
Bromoform	**NS**	**NS**	0.0047 U	0.0057 U
Bromomethane	**NS**	**NS**	0.0047 U	0.0057 U
Carbon Disulfide	**NS**	**NS**	0.0019 U	0.0023 U
Carbon Tetrachloride	**0.76**	**2.4**	0.0019 U	0.0023 U
Chlorobenzene	**1.1**	**100**	0.0019 U	0.0023 U
Chloroethane	**NS**	**NS**	0.0047 U	0.0057 U
Chloroform	**0.37**	**49**	0.0019 U	0.0023 U
Chloromethane	**NS**	**NS**	0.0047 U	0.0057 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.00095 U	0.0011 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0019 U	0.0023 U
Cyclohexane	**NS**	**NS**	0.0019 U	0.0023 U
Dibromochloromethane	**NS**	**NS**	0.0019 U	0.0023 U
Dichlorodifluoromethane	**NS**	**NS**	0.0047 U	0.0057 U
Ethylbenzene	**1**	**41**	0.00095 U	0.0011 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0019 U	0.0023 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.00095 U	0.0011 U
Methyl Acetate	**NS**	**NS**	0.0047 U	0.0057 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.0095 U	0.011 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0047 U	0.0057 U
Methylcyclohexane	**NS**	**NS**	0.0019 U	0.0023 U
Methylene Chloride	**0.05**	**100**	0.0047 U	0.0057 U
N-Butylbenzene	**12**	**100**	0.0019 U	0.0023 U
N-Propylbenzene	**3.9**	**100**	0.0019 U	0.0023 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.00095 U	0.0011 U
Sec-Butylbenzene	**11**	**100**	0.0019 U	0.0023 U
Styrene	**NS**	**NS**	0.0019 U	0.0023 U
T-Butylbenzene	**5.9**	**100**	0.0019 U	0.0023 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.00095 U	0.0011 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0019 U	0.0023 U
Toluene	**0.7**	**100**	0.00095 U	0.0011 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.00095 U	0.0011 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0019 U	0.0023 U
Trichloroethylene (TCE)	**0.47**	**21**	0.00095 U	0.0011 U
Trichlorofluoromethane	**NS**	**NS**	0.0047 U	0.0057 U
Vinyl Chloride	**0.02**	**0.9**	0.0019 U	0.0023 U
Xylenes, Total	**0.26**	**100**	0.00095 U	0.0011 U

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-20 (0-2) 20180525 JC66764-28 5/25/2018 10:20:00 AM 1 mg/kg	RI-SB-20 (8-10) 20180525 JC66764-29 5/25/2018 10:30:00 AM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.002 U	0.002 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.002 U	0.002 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0049 U	0.005 U
1,1,2-Trichloroethane	**NS**	**NS**	0.002 U	0.002 U
1,1-Dichloroethane	**0.27**	**26**	0.00098 U	0.001 U
1,1-Dichloroethene	**0.33**	**100**	0.00098 U	0.001 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0049 UJ	0.005 UJ
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0049 U	0.005 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.002 U	0.002 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.002 U	0.002 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.00098 U	0.001 U
1,2-Dichlorobenzene	**1.1**	**100**	0.00098 U	0.001 U
1,2-Dichloroethane	**0.02**	**3.1**	0.00098 U	0.001 U
1,2-Dichloropropane	**NS**	**NS**	0.002 U	0.002 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.002 U	0.002 U
1,3-Dichlorobenzene	**2.4**	**49**	0.00098 U	0.001 U
1,4-Dichlorobenzene	**1.8**	**13**	0.00098 U	0.001 U
2-Hexanone	**NS**	**NS**	0.0049 U	0.005 U
Acetone	**0.05**	**100**	0.0098 U	0.0222
Benzene	**0.06**	**4.8**	0.00049 U	0.0005 U
Bromochloromethane	**NS**	**NS**	0.0049 U	0.005 U
Bromodichloromethane	**NS**	**NS**	0.002 U	0.002 U
Bromoform	**NS**	**NS**	0.0049 U	0.005 U
Bromomethane	**NS**	**NS**	0.0049 U	0.005 U
Carbon Disulfide	**NS**	**NS**	0.002 U	0.002 U
Carbon Tetrachloride	**0.76**	**2.4**	0.002 U	0.002 U
Chlorobenzene	**1.1**	**100**	0.002 U	0.002 U
Chloroethane	**NS**	**NS**	0.0049 U	0.005 U
Chloroform	**0.37**	**49**	0.002 U	0.002 U
Chloromethane	**NS**	**NS**	0.0049 U	0.005 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.00098 U	0.001 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.002 U	0.002 U
Cyclohexane	**NS**	**NS**	0.002 U	0.002 U
Dibromochloromethane	**NS**	**NS**	0.002 U	0.002 U
Dichlorodifluoromethane	**NS**	**NS**	0.0049 U	0.005 U
Ethylbenzene	**1**	**41**	0.00098 U	0.001 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.002 U	0.002 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.00098 U	0.001 U
Methyl Acetate	**NS**	**NS**	0.0049 U	0.005 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.0098 U	0.01 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0049 U	0.005 U
Methylcyclohexane	**NS**	**NS**	0.002 U	0.002 U
Methylene Chloride	**0.05**	**100**	0.0049 U	0.005 U
N-Butylbenzene	**12**	**100**	0.002 U	0.002 U
N-Propylbenzene	**3.9**	**100**	0.002 U	0.002 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.00098 U	0.001 U
Sec-Butylbenzene	**11**	**100**	0.002 U	0.002 U
Styrene	**NS**	**NS**	0.002 U	0.002 U
T-Butylbenzene	**5.9**	**100**	0.002 U	0.002 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.00098 U	0.001 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.002 U	0.002 U
Toluene	**0.7**	**100**	0.00098 U	0.001 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.00098 U	0.001 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.002 U	0.002 U
Trichloroethylene (TCE)	**0.47**	**21**	0.00098 U	0.001 U
Trichlorofluoromethane	**NS**	**NS**	0.0049 U	0.005 U
Vinyl Chloride	**0.02**	**0.9**	0.002 U	0.002 U
Xylenes, Total	**0.26**	**100**	0.00098 U	0.001 U

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-21 (0-2) 20180525 JC66764-36 5/25/2018 2:15:00 PM 1 mg/kg	RI-SB-X02 (0-2) 20180525 JC66764-38 5/25/2018 2:15:00 PM 1 mg/kg
1,1,1-Trichloroethane	**0.68**	**100**	0.002 U	0.0021 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.002 U	0.0021 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0051 U	0.0051 U
1,1,2-Trichloroethane	**NS**	**NS**	0.002 U	0.0021 U
1,1-Dichloroethane	**0.27**	**26**	0.001 U	0.001 U
1,1-Dichloroethene	**0.33**	**100**	0.001 U	0.001 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0051 UJ	0.0051 U
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0051 U	0.0051 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.002 U	0.0021 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.002 U	0.0021 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.001 U	0.001 U
1,2-Dichlorobenzene	**1.1**	**100**	0.001 U	0.001 U
1,2-Dichloroethane	**0.02**	**3.1**	0.001 U	0.001 U
1,2-Dichloropropane	**NS**	**NS**	0.002 U	0.0021 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.002 U	0.0021 U
1,3-Dichlorobenzene	**2.4**	**49**	0.001 U	0.001 U
1,4-Dichlorobenzene	**1.8**	**13**	0.001 U	0.001 U
2-Hexanone	**NS**	**NS**	0.0051 U	0.0051 U
Acetone	**0.05**	**100**	0.0256	0.0135
Benzene	**0.06**	**4.8**	0.00051 U	0.00051 U
Bromochloromethane	**NS**	**NS**	0.0051 U	0.0051 U
Bromodichloromethane	**NS**	**NS**	0.002 U	0.0021 U
Bromoform	**NS**	**NS**	0.0051 U	0.0051 U
Bromomethane	**NS**	**NS**	0.0051 U	0.0051 U
Carbon Disulfide	**NS**	**NS**	0.002 U	0.0021 U
Carbon Tetrachloride	**0.76**	**2.4**	0.002 U	0.0021 U
Chlorobenzene	**1.1**	**100**	0.002 U	0.0021 U
Chloroethane	**NS**	**NS**	0.0051 U	0.0051 U
Chloroform	**0.37**	**49**	0.002 U	0.0021 U
Chloromethane	**NS**	**NS**	0.0051 U	0.0051 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.001 U	0.001 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.002 U	0.0021 U
Cyclohexane	**NS**	**NS**	0.002 U	0.0021 U
Dibromochloromethane	**NS**	**NS**	0.002 U	0.0021 U
Dichlorodifluoromethane	**NS**	**NS**	0.0051 U	0.0051 U
Ethylbenzene	**1**	**41**	0.001 U	0.001 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.002 U	0.0021 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.001 U	0.001 U
Methyl Acetate	**NS**	**NS**	0.0051 U	0.0051 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.01 U	0.01 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0051 U	0.0051 U
Methylcyclohexane	**NS**	**NS**	0.002 U	0.0021 U
Methylene Chloride	**0.05**	**100**	0.0051 U	0.0051 U
N-Butylbenzene	**12**	**100**	0.002 U	0.0021 U
N-Propylbenzene	**3.9**	**100**	0.002 U	0.0021 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.001 U	0.001 U
Sec-Butylbenzene	**11**	**100**	0.002 U	0.0021 U
Styrene	**NS**	**NS**	0.002 U	0.0021 U
T-Butylbenzene	**5.9**	**100**	0.002 U	0.0021 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.001 U	0.001 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.002 U	0.0021 U
Toluene	**0.7**	**100**	0.001 U	0.001 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.001 U	0.001 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.002 U	0.0021 U
Trichloroethylene (TCE)	**0.47**	**21**	0.001 U	0.001 U
Trichlorofluoromethane	**NS**	**NS**	0.0051 U	0.0051 U
Vinyl Chloride	**0.02**	**0.9**	0.002 U	0.0021 U
Xylenes, Total	**0.26**	**100**	0.001 U	0.001 U

AKRF Sample ID			RI-SB-21 (7.5-9.5) 20180525	RI-FB-01 20180524
Laboratory Sample ID			JC66764-37	JC66764-17
Date Sampled	**NYSDEC UUSCO**	**NYSDEC RRSCO**	5/25/2018 2:30:00 PM	5/24/2018 3:15:00 PM
Dilution Factor			1	1
Unit			mg/kg	ug/l
1,1,1-Trichloroethane	**0.68**	**100**	0.0019 U	1 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	0.0019 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	0.0047 U	5 U
1,1,2-Trichloroethane	**NS**	**NS**	0.0019 U	1 U
1,1-Dichloroethane	**0.27**	**26**	0.00094 U	1 U
1,1-Dichloroethene	**0.33**	**100**	0.00094 U	1 U
1,2,3-Trichlorobenzene	**NS**	**NS**	0.0047 U	1 U
1,2,4-Trichlorobenzene	**NS**	**NS**	0.0047 U	1 U
1,2,4-Trimethylbenzene	**3.6**	**52**	0.0019 U	2 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	0.0019 U	2 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	0.00094 U	1 U
1,2-Dichlorobenzene	**1.1**	**100**	0.00094 U	1 U
1,2-Dichloroethane	**0.02**	**3.1**	0.00094 U	1 U
1,2-Dichloropropane	**NS**	**NS**	0.0019 U	1 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	0.0019 U	2 U
1,3-Dichlorobenzene	**2.4**	**49**	0.00094 U	1 U
1,4-Dichlorobenzene	**1.8**	**13**	0.00094 U	1 U
2-Hexanone	**NS**	**NS**	0.0047 U	5 U
Acetone	**0.05**	**100**	**0.0608**	10 U
Benzene	**0.06**	**4.8**	0.00047 U	0.5 U
Bromochloromethane	**NS**	**NS**	0.0047 U	1 U
Bromodichloromethane	**NS**	**NS**	0.0019 U	1 U
Bromoform	**NS**	**NS**	0.0047 U	1 U
Bromomethane	**NS**	**NS**	0.0047 U	2 U
Carbon Disulfide	**NS**	**NS**	0.00083 J	2 U
Carbon Tetrachloride	**0.76**	**2.4**	0.0019 U	1 U
Chlorobenzene	**1.1**	**100**	0.0019 U	1 U
Chloroethane	**NS**	**NS**	0.0047 U	1 U
Chloroform	**0.37**	**49**	0.0019 U	1 U
Chloromethane	**NS**	**NS**	0.0047 U	1 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	0.00094 U	1 U
Cis-1,3-Dichloropropene	**NS**	**NS**	0.0019 U	1 U
Cyclohexane	**NS**	**NS**	0.0019 U	5 U
Dibromochloromethane	**NS**	**NS**	0.0019 U	1 U
Dichlorodifluoromethane	**NS**	**NS**	0.0047 U	2 U
Ethylbenzene	**1**	**41**	0.00094 U	1 U
Isopropylbenzene (Cumene)	**NS**	**NS**	0.0019 U	1 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	0.00094 U	1 U
Methyl Acetate	**NS**	**NS**	0.0047 U	5 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	0.0101	10 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	0.0047 U	5 U
Methylcyclohexane	**NS**	**NS**	0.0019 U	5 U
Methylene Chloride	**0.05**	**100**	0.0047 U	2 U
N-Butylbenzene	**12**	**100**	0.0019 U	2 U
N-Propylbenzene	**3.9**	**100**	0.0019 U	2 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	0.00094 U	1 U
Sec-Butylbenzene	**11**	**100**	0.0019 U	2 U
Styrene	**NS**	**NS**	0.0019 U	1 U
T-Butylbenzene	**5.9**	**100**	0.0019 U	2 U
Tert-Butyl Methyl Ether	**0.93**	**100**	0.00094 U	1 U
Tetrachloroethylene (PCE)	**1.3**	**19**	0.0019 U	1 U
Toluene	**0.7**	**100**	0.00094 U	1 U
Trans-1,2-Dichloroethene	**0.19**	**100**	0.00094 U	1 U
Trans-1,3-Dichloropropene	**NS**	**NS**	0.0019 U	1 U
Trichloroethylene (TCE)	**0.47**	**21**	0.00094 U	1 U
Trichlorofluoromethane	**NS**	**NS**	0.0047 U	2 U
Vinyl Chloride	**0.02**	**0.9**	0.0019 U	1 U
Xylenes, Total	**0.26**	**100**	0.00094 U	1 U

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-FB-02 20180525 JC66764-21 5/25/2018 3:25:00 PM 1 ug/l	RI-FB-02 20180712 JC69778-4 7/12/2018 11:20:00 AM 1 ug/l
1,1,1-Trichloroethane	**0.68**	**100**	1 U	1 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	5 U	5 U
1,1,2-Trichloroethane	**NS**	**NS**	1 U	1 U
1,1-Dichloroethane	**0.27**	**26**	1 U	1 U
1,1-Dichloroethene	**0.33**	**100**	1 U	1 U
1,2,3-Trichlorobenzene	**NS**	**NS**	1 U	1 U
1,2,4-Trichlorobenzene	**NS**	**NS**	1 U	1 U
1,2,4-Trimethylbenzene	**3.6**	**52**	2 U	2 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	2 U	2 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	1 U	1 U
1,2-Dichlorobenzene	**1.1**	**100**	1 U	1 U
1,2-Dichloroethane	**0.02**	**3.1**	1 U	1 U
1,2-Dichloropropane	**NS**	**NS**	1 U	1 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	2 U	2 U
1,3-Dichlorobenzene	**2.4**	**49**	1 U	1 U
1,4-Dichlorobenzene	**1.8**	**13**	1 U	1 U
2-Hexanone	**NS**	**NS**	5 U	5 U
Acetone	**0.05**	**100**	10 U	10 U
Benzene	**0.06**	**4.8**	0.5 U	0.5 U
Bromochloromethane	**NS**	**NS**	1 U	1 U
Bromodichloromethane	**NS**	**NS**	1 U	1 U
Bromoform	**NS**	**NS**	1 U	1 U
Bromomethane	**NS**	**NS**	2 U	2 U
Carbon Disulfide	**NS**	**NS**	2 U	2 U
Carbon Tetrachloride	**0.76**	**2.4**	1 U	1 U
Chlorobenzene	**1.1**	**100**	1 U	1 U
Chloroethane	**NS**	**NS**	1 U	1 U
Chloroform	**0.37**	**49**	1 U	1 U
Chloromethane	**NS**	**NS**	1 U	1 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	1 U	1 U
Cis-1,3-Dichloropropene	**NS**	**NS**	1 U	1 U
Cyclohexane	**NS**	**NS**	5 U	5 U
Dibromochloromethane	**NS**	**NS**	1 U	1 U
Dichlorodifluoromethane	**NS**	**NS**	2 U	2 U
Ethylbenzene	**1**	**41**	1 U	1 U
Isopropylbenzene (Cumene)	**NS**	**NS**	1 U	1 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	1 U	1 U
Methyl Acetate	**NS**	**NS**	5 U	5 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	10 U	10 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	5 U	5 U
Methylcyclohexane	**NS**	**NS**	5 U	5 U
Methylene Chloride	**0.05**	**100**	2 U	2 U
N-Butylbenzene	**12**	**100**	2 U	2 U
N-Propylbenzene	**3.9**	**100**	2 U	2 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	1 U	1 U
Sec-Butylbenzene	**11**	**100**	2 U	2 U
Styrene	**NS**	**NS**	1 U	1 U
T-Butylbenzene	**5.9**	**100**	2 U	2 U
Tert-Butyl Methyl Ether	**0.93**	**100**	1 U	1 U
Tetrachloroethylene (PCE)	**1.3**	**19**	1 U	1 U
Toluene	**0.7**	**100**	1 U	1 U
Trans-1,2-Dichloroethene	**0.19**	**100**	1 U	1 U
Trans-1,3-Dichloropropene	**NS**	**NS**	1 U	1 U
Trichloroethylene (TCE)	**0.47**	**21**	1 U	1 U
Trichlorofluoromethane	**NS**	**NS**	2 U	2 U
Vinyl Chloride	**0.02**	**0.9**	1 U	1 U
Xylenes, Total	**0.26**	**100**	1 U	1 U

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-FB-03 20180904 JC73086-2 9/4/2018 10:30:00 AM 1 ug/l	RI-FB-04 20181008 JC75512-3 10/8/2018 10:30:00 AM 1 ug/l
1,1,1-Trichloroethane	**0.68**	**100**	1 U	1 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	5 U	5 U
1,1,2-Trichloroethane	**NS**	**NS**	1 U	1 U
1,1-Dichloroethane	**0.27**	**26**	1 U	1 U
1,1-Dichloroethene	**0.33**	**100**	1 U	1 U
1,2,3-Trichlorobenzene	**NS**	**NS**	1 U	1 U
1,2,4-Trichlorobenzene	**NS**	**NS**	1 U	1 U
1,2,4-Trimethylbenzene	**3.6**	**52**	2 U	2 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	2 U	2 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	1 U	1 U
1,2-Dichlorobenzene	**1.1**	**100**	1 U	1 U
1,2-Dichloroethane	**0.02**	**3.1**	1 U	1 U
1,2-Dichloropropane	**NS**	**NS**	1 U	1 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	2 U	2 U
1,3-Dichlorobenzene	**2.4**	**49**	1 U	1 U
1,4-Dichlorobenzene	**1.8**	**13**	1 U	1 U
2-Hexanone	**NS**	**NS**	5 U	5 U
Acetone	**0.05**	**100**	10 U	10 U
Benzene	**0.06**	**4.8**	0.5 U	0.5 U
Bromochloromethane	**NS**	**NS**	1 U	1 U
Bromodichloromethane	**NS**	**NS**	1 U	1 U
Bromoform	**NS**	**NS**	1 U	1 U
Bromomethane	**NS**	**NS**	2 U	2 U
Carbon Disulfide	**NS**	**NS**	2 U	2 U
Carbon Tetrachloride	**0.76**	**2.4**	1 U	1 U
Chlorobenzene	**1.1**	**100**	1 U	1 U
Chloroethane	**NS**	**NS**	1 U	1 U
Chloroform	**0.37**	**49**	1 U	1 U
Chloromethane	**NS**	**NS**	1 U	1 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	1 U	1 U
Cis-1,3-Dichloropropene	**NS**	**NS**	1 U	1 U
Cyclohexane	**NS**	**NS**	5 U	5 U
Dibromochloromethane	**NS**	**NS**	1 U	1 U
Dichlorodifluoromethane	**NS**	**NS**	2 U	2 U
Ethylbenzene	**1**	**41**	1 U	1 U
Isopropylbenzene (Cumene)	**NS**	**NS**	1 U	1 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	1 U	1 U
Methyl Acetate	**NS**	**NS**	5 U	5 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	10 U	10 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	5 U	5 U
Methylcyclohexane	**NS**	**NS**	5 U	5 U
Methylene Chloride	**0.05**	**100**	2 U	2 U
N-Butylbenzene	**12**	**100**	2 U	2 U
N-Propylbenzene	**3.9**	**100**	2 U	2 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	1 U	1 U
Sec-Butylbenzene	**11**	**100**	2 U	2 U
Styrene	**NS**	**NS**	1 U	1 U
T-Butylbenzene	**5.9**	**100**	2 U	2 U
Tert-Butyl Methyl Ether	**0.93**	**100**	1 U	1 U
Tetrachloroethylene (PCE)	**1.3**	**19**	1 U	1 U
Toluene	**0.7**	**100**	1 U	1 U
Trans-1,2-Dichloroethene	**0.19**	**100**	1 U	1 U
Trans-1,3-Dichloropropene	**NS**	**NS**	1 U	1 U
Trichloroethylene (TCE)	**0.47**	**21**	1 U	1 U
Trichlorofluoromethane	**NS**	**NS**	2 U	2 U
Vinyl Chloride	**0.02**	**0.9**	1 U	1 U
Xylenes, Total	**0.26**	**100**	1 U	1 U

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-TB-01 20180524 JC66764-11 5/24/2018 3:15:00 PM 1 ug/l	RI-TB-02 20180525 JC66764-20 5/25/2018 3:25:00 PM 1 ug/l
1,1,1-Trichloroethane	**0.68**	**100**	1 U	1 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	5 U	5 U
1,1,2-Trichloroethane	**NS**	**NS**	1 U	1 U
1,1-Dichloroethane	**0.27**	**26**	1 U	1 U
1,1-Dichloroethene	**0.33**	**100**	1 U	1 U
1,2,3-Trichlorobenzene	**NS**	**NS**	1 U	1 U
1,2,4-Trichlorobenzene	**NS**	**NS**	1 U	1 U
1,2,4-Trimethylbenzene	**3.6**	**52**	2 U	2 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	2 U	2 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	1 U	1 U
1,2-Dichlorobenzene	**1.1**	**100**	1 U	1 U
1,2-Dichloroethane	**0.02**	**3.1**	1 U	1 U
1,2-Dichloropropane	**NS**	**NS**	1 U	1 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	2 U	2 U
1,3-Dichlorobenzene	**2.4**	**49**	1 U	1 U
1,4-Dichlorobenzene	**1.8**	**13**	1 U	1 U
2-Hexanone	**NS**	**NS**	5 U	5 U
Acetone	**0.05**	**100**	10 U	10 U
Benzene	**0.06**	**4.8**	0.5 U	0.5 U
Bromochloromethane	**NS**	**NS**	1 U	1 U
Bromodichloromethane	**NS**	**NS**	1 U	1 U
Bromoform	**NS**	**NS**	1 U	1 U
Bromomethane	**NS**	**NS**	2 U	2 U
Carbon Disulfide	**NS**	**NS**	2 U	2 U
Carbon Tetrachloride	**0.76**	**2.4**	1 U	1 U
Chlorobenzene	**1.1**	**100**	1 U	1 U
Chloroethane	**NS**	**NS**	1 U	1 U
Chloroform	**0.37**	**49**	1 U	1 U
Chloromethane	**NS**	**NS**	1 U	1 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	1 U	1 U
Cis-1,3-Dichloropropene	**NS**	**NS**	1 U	1 U
Cyclohexane	**NS**	**NS**	5 U	5 U
Dibromochloromethane	**NS**	**NS**	1 U	1 U
Dichlorodifluoromethane	**NS**	**NS**	2 U	2 U
Ethylbenzene	**1**	**41**	1 U	1 U
Isopropylbenzene (Cumene)	**NS**	**NS**	1 U	1 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	1 U	1 U
Methyl Acetate	**NS**	**NS**	5 U	5 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	10 U	10 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	5 U	5 U
Methylcyclohexane	**NS**	**NS**	5 U	5 U
Methylene Chloride	**0.05**	**100**	2 U	2 U
N-Butylbenzene	**12**	**100**	2 U	2 U
N-Propylbenzene	**3.9**	**100**	2 U	2 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	1 U	1 U
Sec-Butylbenzene	**11**	**100**	2 U	2 U
Styrene	**NS**	**NS**	1 U	1 U
T-Butylbenzene	**5.9**	**100**	2 U	2 U
Tert-Butyl Methyl Ether	**0.93**	**100**	1 U	1 U
Tetrachloroethylene (PCE)	**1.3**	**19**	1 U	1 U
Toluene	**0.7**	**100**	1 U	1 U
Trans-1,2-Dichloroethene	**0.19**	**100**	1 U	1 U
Trans-1,3-Dichloropropene	**NS**	**NS**	1 U	1 U
Trichloroethylene (TCE)	**0.47**	**21**	1 U	1 U
Trichlorofluoromethane	**NS**	**NS**	2 U	2 U
Vinyl Chloride	**0.02**	**0.9**	1 U	1 U
Xylenes, Total	**0.26**	**100**	1 U	1 U

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-TB-04 20181008 JC75512-4 10/8/2018 11:41:00 AM 1 ug/l
1,1,1-Trichloroethane	**0.68**	**100**	1 U
1,1,2,2-Tetrachloroethane	**NS**	**NS**	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**NS**	**NS**	5 U
1,1,2-Trichloroethane	**NS**	**NS**	1 U
1,1-Dichloroethane	**0.27**	**26**	1 U
1,1-Dichloroethene	**0.33**	**100**	1 U
1,2,3-Trichlorobenzene	**NS**	**NS**	1 U
1,2,4-Trichlorobenzene	**NS**	**NS**	1 U
1,2,4-Trimethylbenzene	**3.6**	**52**	2 U
1,2-Dibromo-3-Chloropropane	**NS**	**NS**	2 U
1,2-Dibromoethane (Ethylene Dibromide)	**NS**	**NS**	1 U
1,2-Dichlorobenzene	**1.1**	**100**	1 U
1,2-Dichloroethane	**0.02**	**3.1**	1 U
1,2-Dichloropropane	**NS**	**NS**	1 U
1,3,5-Trimethylbenzene (Mesitylene)	**8.4**	**52**	2 U
1,3-Dichlorobenzene	**2.4**	**49**	1 U
1,4-Dichlorobenzene	**1.8**	**13**	1 U
2-Hexanone	**NS**	**NS**	5 U
Acetone	**0.05**	**100**	10 U
Benzene	**0.06**	**4.8**	0.5 U
Bromochloromethane	**NS**	**NS**	1 U
Bromodichloromethane	**NS**	**NS**	1 U
Bromoform	**NS**	**NS**	1 U
Bromomethane	**NS**	**NS**	2 U
Carbon Disulfide	**NS**	**NS**	2 U
Carbon Tetrachloride	**0.76**	**2.4**	1 U
Chlorobenzene	**1.1**	**100**	1 U
Chloroethane	**NS**	**NS**	1 U
Chloroform	**0.37**	**49**	1 U
Chloromethane	**NS**	**NS**	1 U
Cis-1,2-Dichloroethylene	**0.25**	**100**	1 U
Cis-1,3-Dichloropropene	**NS**	**NS**	1 U
Cyclohexane	**NS**	**NS**	5 U
Dibromochloromethane	**NS**	**NS**	1 U
Dichlorodifluoromethane	**NS**	**NS**	2 U
Ethylbenzene	**1**	**41**	1 U
Isopropylbenzene (Cumene)	**NS**	**NS**	1 U
M,P-Xylene (Sum Of Isomers)	**NS**	**NS**	1 U
Methyl Acetate	**NS**	**NS**	5 U
Methyl Ethyl Ketone (2-Butanone)	**0.12**	**100**	10 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	**NS**	**NS**	5 U
Methylcyclohexane	**NS**	**NS**	5 U
Methylene Chloride	**0.05**	**100**	2 U
N-Butylbenzene	**12**	**100**	2 U
N-Propylbenzene	**3.9**	**100**	2 U
O-Xylene (1,2-Dimethylbenzene)	**NS**	**NS**	1 U
Sec-Butylbenzene	**11**	**100**	2 U
Styrene	**NS**	**NS**	1 U
T-Butylbenzene	**5.9**	**100**	2 U
Tert-Butyl Methyl Ether	**0.93**	**100**	1 U
Tetrachloroethylene (PCE)	**1.3**	**19**	1 U
Toluene	**0.7**	**100**	1 U
Trans-1,2-Dichloroethene	**0.19**	**100**	1 U
Trans-1,3-Dichloropropene	**NS**	**NS**	1 U
Trichloroethylene (TCE)	**0.47**	**21**	1 U
Trichlorofluoromethane	**NS**	**NS**	2 U
Vinyl Chloride	**0.02**	**0.9**	1 U
Xylenes, Total	**0.26**	**100**	1 U

Attached Table 17
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-01 (0-2) 20180524 JC66764-3 5/24/2018 10:30 1 mg/kg	RI-SB-01 (0-2) 20180524 JC66764-3 5/24/2018 10:30:00 AM 2 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.18 U	NA
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.036 U	NA
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.18 UJ	NA
2,4,5-Trichlorophenol	**NS**	**NS**	0.18 U	NA
2,4,6-Trichlorophenol	**NS**	**NS**	0.18 U	NA
2,4-Dichlorophenol	**NS**	**NS**	0.18 U	NA
2,4-Dimethylphenol	**NS**	**NS**	0.18 U	NA
2,4-Dinitrophenol	**NS**	**NS**	0.18 U	NA
2,4-Dinitrotoluene	**NS**	**NS**	0.036 U	NA
2,6-Dinitrotoluene	**NS**	**NS**	0.036 U	NA
2-Chloronaphthalene	**NS**	**NS**	0.072 U	NA
2-Chlorophenol	**NS**	**NS**	0.072 U	NA
2-Methylnaphthalene	**NS**	**NS**	0.033 J	NA
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.072 U	NA
2-Nitroaniline	**NS**	**NS**	0.18 U	NA
2-Nitrophenol	**NS**	**NS**	0.18 U	NA
3,3'-Dichlorobenzidine	**NS**	**NS**	0.072 U	NA
3-Nitroaniline	**NS**	**NS**	0.18 U	NA
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.18 U	NA
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.072 U	NA
4-Chloro-3-Methylphenol	**NS**	**NS**	0.18 U	NA
4-Chloroaniline	**NS**	**NS**	0.18 U	NA
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.072 U	NA
4-Nitroaniline	**NS**	**NS**	0.18 U	NA
4-Nitrophenol	**NS**	**NS**	0.36 U	NA
Acenaphthene	**20**	**100**	0.193	NA
Acenaphthylene	**100**	**100**	0.193	NA
Acetophenone	**NS**	**NS**	0.18 U	NA
Anthracene	**100**	**100**	0.658	NA
Atrazine	**NS**	**NS**	0.072 U	NA
Benzaldehyde	**NS**	**NS**	0.18 U	NA
Benzo(a)Anthracene	**1**	**1**	**2.6**	NA
Benzo(a)Pyrene	**1**	**1**	**2.62**	NA
Benzo(b)Fluoranthene	**1**	**1**	**2.94**	NA
Benzo(g,h,i)Perylene	**100**	**100**	1.98	NA
Benzo(k)Fluoranthene	**0.8**	**3.9**	**0.942**	NA
Benzyl Butyl Phthalate	**NS**	**NS**	0.072 U	NA
Biphenyl (Diphenyl)	**NS**	**NS**	0.0167 J	NA
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.072 U	NA
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.072 U	NA
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.072 U	NA
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.072 U	NA
Caprolactam	**NS**	**NS**	0.072 U	NA
Carbazole	**NS**	**NS**	0.186	NA
Chrysene	**1**	**3.9**	**2.59**	NA
Dibenz(a,h)Anthracene	**0.33**	**0.33**	**0.475**	NA
Dibenzofuran	**7**	**59**	0.0993	NA
Diethyl Phthalate	**NS**	**NS**	0.072 U	NA
Dimethyl Phthalate	**NS**	**NS**	0.072 U	NA
Di-N-Butyl Phthalate	**NS**	**NS**	0.072 U	NA
Di-N-Octylphthalate	**NS**	**NS**	0.072 U	NA
Fluoranthene	**100**	**100**	NA	4.63 D
Fluorene	**30**	**100**	0.152	NA
Hexachlorobenzene	**0.33**	**1.2**	0.072 U	NA
Hexachlorobutadiene	**NS**	**NS**	0.036 U	NA
Hexachlorocyclopentadiene	**NS**	**NS**	0.36 U	NA
Hexachloroethane	**NS**	**NS**	0.18 U	NA
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	**1.73**	NA
Isophorone	**NS**	**NS**	0.072 U	NA
Naphthalene	**12**	**100**	0.103	NA
Nitrobenzene	**NS**	**NS**	0.072 U	NA
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.072 U	NA
N-Nitrosodiphenylamine	**NS**	**NS**	0.18 U	NA
Pentachlorophenol	**0.8**	**6.7**	0.14 U	NA
Phenanthrene	**100**	**100**	2.33	NA
Phenol	**0.33**	**100**	0.072 U	NA
Pyrene	**100**	**100**	NA	4.7 D

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-01 (5-7) 20180524 JC66764-4 5/24/2018 10:35:00 AM 1 mg/kg	RI-SB-01 (5-7) 20180524 JC66764-4 5/24/2018 10:35:00 AM 5 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.19 U	NA
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.038 U	NA
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.19 UJ	NA
2,4,5-Trichlorophenol	**NS**	**NS**	0.19 U	NA
2,4,6-Trichlorophenol	**NS**	**NS**	0.19 U	NA
2,4-Dichlorophenol	**NS**	**NS**	0.19 U	NA
2,4-Dimethylphenol	**NS**	**NS**	0.19 U	NA
2,4-Dinitrophenol	**NS**	**NS**	0.19 U	NA
2,4-Dinitrotoluene	**NS**	**NS**	0.038 U	NA
2,6-Dinitrotoluene	**NS**	**NS**	0.038 U	NA
2-Chloronaphthalene	**NS**	**NS**	0.076 U	NA
2-Chlorophenol	**NS**	**NS**	0.076 U	NA
2-Methylnaphthalene	**NS**	**NS**	0.257	NA
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.076 U	NA
2-Nitroaniline	**NS**	**NS**	0.19 U	NA
2-Nitrophenol	**NS**	**NS**	0.19 U	NA
3,3'-Dichlorobenzidine	**NS**	**NS**	0.076 U	NA
3-Nitroaniline	**NS**	**NS**	0.19 U	NA
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.19 U	NA
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.076 U	NA
4-Chloro-3-Methylphenol	**NS**	**NS**	0.19 U	NA
4-Chloroaniline	**NS**	**NS**	0.19 U	NA
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.076 U	NA
4-Nitroaniline	**NS**	**NS**	0.19 U	NA
4-Nitrophenol	**NS**	**NS**	0.38 U	NA
Acenaphthene	**20**	**100**	0.972	NA
Acenaphthylene	**100**	**100**	0.425	NA
Acetophenone	**NS**	**NS**	0.19 U	NA
Anthracene	**100**	**100**	2.65	NA
Atrazine	**NS**	**NS**	0.076 U	NA
Benzaldehyde	**NS**	**NS**	0.19 U	NA
Benzo(a)Anthracene	**1**	**1**	NA	**5.88 D**
Benzo(a)Pyrene	**1**	**1**	NA	**5.07 D**
Benzo(b)Fluoranthene	**1**	**1**	NA	**5.09 D**
Benzo(g,h,i)Perylene	**100**	**100**	3.53	NA
Benzo(k)Fluoranthene	**0.8**	**3.9**	**1.66**	NA
Benzyl Butyl Phthalate	**NS**	**NS**	0.076 U	NA
Biphenyl (Diphenyl)	**NS**	**NS**	0.0926	NA
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.076 U	NA
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.076 U	NA
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.076 U	NA
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.076 U	NA
Caprolactam	**NS**	**NS**	0.076 U	NA
Carbazole	**NS**	**NS**	0.717	NA
Chrysene	**1**	**3.9**	NA	**5.86 D**
Dibenz(a,h)Anthracene	**0.33**	**0.33**	**0.876**	NA
Dibenzofuran	**7**	**59**	0.625	NA
Diethyl Phthalate	**NS**	**NS**	0.076 U	NA
Dimethyl Phthalate	**NS**	**NS**	0.076 U	NA
Di-N-Butyl Phthalate	**NS**	**NS**	0.076 U	NA
Di-N-Octylphthalate	**NS**	**NS**	0.076 U	NA
Fluoranthene	**100**	**100**	NA	11.9 D
Fluorene	**30**	**100**	1.15	NA
Hexachlorobenzene	**0.33**	**1.2**	0.076 U	NA
Hexachlorobutadiene	**NS**	**NS**	0.038 U	NA
Hexachlorocyclopentadiene	**NS**	**NS**	0.38 U	NA
Hexachloroethane	**NS**	**NS**	0.19 U	NA
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	**2.92**	NA
Isophorone	**NS**	**NS**	0.076 U	NA
Naphthalene	**12**	**100**	0.524	NA
Nitrobenzene	**NS**	**NS**	0.076 U	NA
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.076 U	NA
N-Nitrosodiphenylamine	**NS**	**NS**	0.19 U	NA
Pentachlorophenol	**0.8**	**6.7**	0.15 U	NA
Phenanthrene	**100**	**100**	NA	14 D
Phenol	**0.33**	**100**	0.076 U	NA
Pyrene	**100**	**100**	NA	13.8 D

Attached Table 17
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-01 (9-11) 20180524 JC66764-5 5/24/2018 10:45:00 AM 1 mg/kg	RI-SB-01 (9-11) 20180524 JC66764-5 5/24/2018 10:45:00 AM 5 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.19 U	NA
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.038 U	NA
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.19 UJ	NA
2,4,5-Trichlorophenol	**NS**	**NS**	0.19 U	NA
2,4,6-Trichlorophenol	**NS**	**NS**	0.19 U	NA
2,4-Dichlorophenol	**NS**	**NS**	0.19 U	NA
2,4-Dimethylphenol	**NS**	**NS**	0.19 U	NA
2,4-Dinitrophenol	**NS**	**NS**	0.19 U	NA
2,4-Dinitrotoluene	**NS**	**NS**	0.038 U	NA
2,6-Dinitrotoluene	**NS**	**NS**	0.038 U	NA
2-Chloronaphthalene	**NS**	**NS**	0.076 U	NA
2-Chlorophenol	**NS**	**NS**	0.076 U	NA
2-Methylnaphthalene	**NS**	**NS**	0.316	NA
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.076 U	NA
2-Nitroaniline	**NS**	**NS**	0.19 U	NA
2-Nitrophenol	**NS**	**NS**	0.19 U	NA
3,3'-Dichlorobenzidine	**NS**	**NS**	0.076 U	NA
3-Nitroaniline	**NS**	**NS**	0.19 U	NA
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.19 U	NA
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.076 U	NA
4-Chloro-3-Methylphenol	**NS**	**NS**	0.19 U	NA
4-Chloroaniline	**NS**	**NS**	0.19 U	NA
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.076 U	NA
4-Nitroaniline	**NS**	**NS**	0.19 U	NA
4-Nitrophenol	**NS**	**NS**	0.38 U	NA
Acenaphthene	**20**	**100**	0.737	NA
Acenaphthylene	**100**	**100**	0.353	NA
Acetophenone	**NS**	**NS**	0.028 J	NA
Anthracene	**100**	**100**	1.82	NA
Atrazine	**NS**	**NS**	0.076 U	NA
Benzaldehyde	**NS**	**NS**	0.19 U	NA
Benzo(a)Anthracene	**1**	**1**	**2.99**	NA
Benzo(a)Pyrene	**1**	**1**	**3.04**	NA
Benzo(b)Fluoranthene	**1**	**1**	**2.95**	NA
Benzo(g,h,i)Perylene	**100**	**100**	2.21	NA
Benzo(k)Fluoranthene	**0.8**	**3.9**	**0.887**	NA
Benzyl Butyl Phthalate	**NS**	**NS**	0.076 U	NA
Biphenyl (Diphenyl)	**NS**	**NS**	0.107	NA
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.076 U	NA
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.076 U	NA
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.076 U	NA
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.076 U	NA
Caprolactam	**NS**	**NS**	0.076 U	NA
Carbazole	**NS**	**NS**	0.429	NA
Chrysene	**1**	**3.9**	**2.99**	NA
Dibenz(a,h)Anthracene	**0.33**	**0.33**	**0.514**	NA
Dibenzofuran	**7**	**59**	0.581	NA
Diethyl Phthalate	**NS**	**NS**	0.076 U	NA
Dimethyl Phthalate	**NS**	**NS**	0.076 U	NA
Di-N-Butyl Phthalate	**NS**	**NS**	0.076 U	NA
Di-N-Octylphthalate	**NS**	**NS**	0.076 U	NA
Fluoranthene	**100**	**100**	NA	6.87 D
Fluorene	**30**	**100**	0.986	NA
Hexachlorobenzene	**0.33**	**1.2**	0.076 U	NA
Hexachlorobutadiene	**NS**	**NS**	0.038 U	NA
Hexachlorocyclopentadiene	**NS**	**NS**	0.38 U	NA
Hexachloroethane	**NS**	**NS**	0.19 U	NA
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	**1.74**	NA
Isophorone	**NS**	**NS**	0.076 U	NA
Naphthalene	**12**	**100**	0.78	NA
Nitrobenzene	**NS**	**NS**	0.076 U	NA
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.076 U	NA
N-Nitrosodiphenylamine	**NS**	**NS**	0.19 U	NA
Pentachlorophenol	**0.8**	**6.7**	0.15 U	NA
Phenanthrene	**100**	**100**	NA	8.26 D
Phenol	**0.33**	**100**	0.076 U	NA
Pyrene	**100**	**100**	NA	7.68 D

AKRF Sample ID			RI-SB-02 (0-2) 20180524	RI-SB-02 (7.5-9.5) 20180524
Laboratory Sample ID			JC66764-1	JC66764-2
Date Sampled	**NYSDEC UUSCO**	**NYSDEC RRSCO**	5/24/2018 9:00:00 AM	5/24/2018 9:05:00 AM
Dilution Factor			1	1
Unit			mg/kg	mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.18 U	0.19 U
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.036 U	0.037 U
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.18 UJ	0.19 UJ
2,4,5-Trichlorophenol	**NS**	**NS**	0.18 U	0.19 U
2,4,6-Trichlorophenol	**NS**	**NS**	0.18 U	0.19 U
2,4-Dichlorophenol	**NS**	**NS**	0.18 U	0.19 U
2,4-Dimethylphenol	**NS**	**NS**	0.18 U	0.19 U
2,4-Dinitrophenol	**NS**	**NS**	0.18 U	0.19 U
2,4-Dinitrotoluene	**NS**	**NS**	0.036 U	0.037 U
2,6-Dinitrotoluene	**NS**	**NS**	0.036 U	0.037 U
2-Chloronaphthalene	**NS**	**NS**	0.072 U	0.074 U
2-Chlorophenol	**NS**	**NS**	0.072 U	0.074 U
2-Methylnaphthalene	**NS**	**NS**	0.036 U	0.037 U
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.072 U	0.074 U
2-Nitroaniline	**NS**	**NS**	0.18 U	0.19 U
2-Nitrophenol	**NS**	**NS**	0.18 U	0.19 U
3,3'-Dichlorobenzidine	**NS**	**NS**	0.072 U	0.074 U
3-Nitroaniline	**NS**	**NS**	0.18 U	0.19 U
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.18 U	0.19 U
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.072 U	0.074 U
4-Chloro-3-Methylphenol	**NS**	**NS**	0.18 U	0.19 U
4-Chloroaniline	**NS**	**NS**	0.18 U	0.19 U
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.072 U	0.074 U
4-Nitroaniline	**NS**	**NS**	0.18 U	0.19 U
4-Nitrophenol	**NS**	**NS**	0.36 U	0.37 U
Acenaphthene	**20**	**100**	0.0301 J	0.0221 J
Acenaphthylene	**100**	**100**	0.0218 J	0.144
Acetophenone	**NS**	**NS**	0.18 U	0.19 U
Anthracene	**100**	**100**	0.0726	0.106
Atrazine	**NS**	**NS**	0.072 U	0.074 U
Benzaldehyde	**NS**	**NS**	0.18 U	0.19 U
Benzo(a)Anthracene	**1**	**1**	0.404	0.335
Benzo(a)Pyrene	**1**	**1**	0.421	0.354
Benzo(b)Fluoranthene	**1**	**1**	0.455	0.415
Benzo(g,h,i)Perylene	**100**	**100**	0.333	0.373
Benzo(k)Fluoranthene	**0.8**	**3.9**	0.181	0.165
Benzyl Butyl Phthalate	**NS**	**NS**	0.072 U	0.074 U
Biphenyl (Diphenyl)	**NS**	**NS**	0.072 U	0.074 U
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.072 U	0.074 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.072 U	0.074 U
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.072 U	0.074 U
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.072 U	0.132
Caprolactam	**NS**	**NS**	0.072 U	0.074 U
Carbazole	**NS**	**NS**	0.0298 J	0.0622 J
Chrysene	**1**	**3.9**	0.391	0.366
Dibenz(a,h)Anthracene	**0.33**	**0.33**	0.0755	0.0853
Dibenzofuran	**7**	**59**	0.072 U	0.074 U
Diethyl Phthalate	**NS**	**NS**	0.072 U	0.074 U
Dimethyl Phthalate	**NS**	**NS**	0.072 U	0.074 U
Di-N-Butyl Phthalate	**NS**	**NS**	0.072 U	0.074 U
Di-N-Octylphthalate	**NS**	**NS**	0.072 U	0.074 U
Fluoranthene	**100**	**100**	0.619	0.523
Fluorene	**30**	**100**	0.0201 J	0.0281 J
Hexachlorobenzene	**0.33**	**1.2**	0.072 U	0.074 U
Hexachlorobutadiene	**NS**	**NS**	0.036 U	0.037 U
Hexachlorocyclopentadiene	**NS**	**NS**	0.36 U	0.37 U
Hexachloroethane	**NS**	**NS**	0.18 U	0.19 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	0.274	0.286
Isophorone	**NS**	**NS**	0.072 U	0.074 U
Naphthalene	**12**	**100**	0.036 U	0.0147 J
Nitrobenzene	**NS**	**NS**	0.072 U	0.074 U
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.072 U	0.074 U
N-Nitrosodiphenylamine	**NS**	**NS**	0.18 U	0.19 U
Pentachlorophenol	**0.8**	**6.7**	0.14 U	0.15 U
Phenanthrene	**100**	**100**	0.318	0.362
Phenol	**0.33**	**100**	0.072 U	0.074 U
Pyrene	**100**	**100**	0.765	0.488

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-03 (0-2) 20181008 JC75512-5 10/8/2018 8:45:00 AM 1 mg/kg	RI-SB-03 (8.5-10.5) 20181008 JC75512-1 10/8/2018 9:00:00 AM 2 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.18 U	0.43 U
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.036 U	0.086 U
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.18 U	0.43 U
2,4,5-Trichlorophenol	**NS**	**NS**	0.18 U	0.43 U
2,4,6-Trichlorophenol	**NS**	**NS**	0.18 U	0.43 U
2,4-Dichlorophenol	**NS**	**NS**	0.18 U	0.43 U
2,4-Dimethylphenol	**NS**	**NS**	0.18 U	0.43 U
2,4-Dinitrophenol	**NS**	**NS**	0.18 U	0.43 U
2,4-Dinitrotoluene	**NS**	**NS**	0.036 U	0.086 U
2,6-Dinitrotoluene	**NS**	**NS**	0.036 U	0.086 U
2-Chloronaphthalene	**NS**	**NS**	0.072 U	0.17 U
2-Chlorophenol	**NS**	**NS**	0.072 U	0.17 U
2-Methylnaphthalene	**NS**	**NS**	0.0107 J	0.0397 JD
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.072 U	0.17 U
2-Nitroaniline	**NS**	**NS**	0.18 U	0.43 U
2-Nitrophenol	**NS**	**NS**	0.18 U	0.43 U
3,3'-Dichlorobenzidine	**NS**	**NS**	0.072 U	0.17 U
3-Nitroaniline	**NS**	**NS**	0.18 U	0.43 U
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.18 U	0.43 U
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.072 U	0.17 U
4-Chloro-3-Methylphenol	**NS**	**NS**	0.18 U	0.43 U
4-Chloroaniline	**NS**	**NS**	0.18 U	0.43 U
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.072 U	0.17 U
4-Nitroaniline	**NS**	**NS**	0.18 U	0.43 U
4-Nitrophenol	**NS**	**NS**	0.36 U	0.86 U
Acenaphthene	**20**	**100**	0.0951	0.293 D
Acenaphthylene	**100**	**100**	0.0519	0.0564 JDL
Acetophenone	**NS**	**NS**	0.18 U	0.43 U
Anthracene	**100**	**100**	0.285	0.763 D
Atrazine	**NS**	**NS**	0.072 U	0.17 U
Benzaldehyde	**NS**	**NS**	0.18 U	0.43 U
Benzo(a)Anthracene	**1**	**1**	**1.56**	**1.77 D**
Benzo(a)Pyrene	**1**	**1**	**1.54**	**1.66 D**
Benzo(b)Fluoranthene	**1**	**1**	**1.7**	**1.61 D**
Benzo(g,h,i)Perylene	**100**	**100**	0.817	1.1 D
Benzo(k)Fluoranthene	**0.8**	**3.9**	0.726	0.658 D
Benzyl Butyl Phthalate	**NS**	**NS**	0.072 U	0.17 U
Biphenyl (Diphenyl)	**NS**	**NS**	0.072 U	0.0149 JD
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.072 U	0.17 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.072 U	0.17 U
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.072 U	0.17 U
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.072 U	0.17 U
Caprolactam	**NS**	**NS**	0.072 U	0.17 U
Carbazole	**NS**	**NS**	0.0928	0.173 D
Chrysene	**1**	**3.9**	**1.41**	**1.76 D**
Dibenz(a,h)Anthracene	**0.33**	**0.33**	0.231	0.245 D
Dibenzofuran	**7**	**59**	0.0282 J	0.11 JD
Diethyl Phthalate	**NS**	**NS**	0.072 U	0.17 U
Dimethyl Phthalate	**NS**	**NS**	0.072 U	0.17 U
Di-N-Butyl Phthalate	**NS**	**NS**	0.072 U	0.17 U
Di-N-Octylphthalate	**NS**	**NS**	0.072 U	0.17 U
Fluoranthene	**100**	**100**	2.46	2.98 D
Fluorene	**30**	**100**	0.0672	0.192 D
Hexachlorobenzene	**0.33**	**1.2**	0.072 U	0.17 U
Hexachlorobutadiene	**NS**	**NS**	0.036 U	0.086 U
Hexachlorocyclopentadiene	**NS**	**NS**	0.36 U	0.86 U
Hexachloroethane	**NS**	**NS**	0.18 U	0.43 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	**0.922**	**1.05 D**
Isophorone	**NS**	**NS**	0.072 U	0.17 U
Naphthalene	**12**	**100**	0.0148 J	0.0347 JD
Nitrobenzene	**NS**	**NS**	0.072 U	0.17 U
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.072 U	0.17 U
N-Nitrosodiphenylamine	**NS**	**NS**	0.18 U	0.43 UJ
Pentachlorophenol	**0.8**	**6.7**	0.14 U	0.35 U
Phenanthrene	**100**	**100**	1.04	2.79 D
Phenol	**0.33**	**100**	0.072 U	0.17 U
Pyrene	**100**	**100**	2.8	4.42 D

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-X04 (8.5-10.5) 20181008 JC75512-2 10/8/2018 12:00:00 PM 2 mg/kg	RI-SB-04 (9.5-10) 20180821 JC72360-1 8/21/2018 3:56:00 PM 1 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.38 U	0.19 U
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.075 U	0.038 U
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.38 U	0.19 UJ
2,4,5-Trichlorophenol	**NS**	**NS**	0.38 U	0.19 UJ
2,4,6-Trichlorophenol	**NS**	**NS**	0.38 U	0.19 UJ
2,4-Dichlorophenol	**NS**	**NS**	0.38 U	0.19 UJ
2,4-Dimethylphenol	**NS**	**NS**	0.38 U	0.19 UJ
2,4-Dinitrophenol	**NS**	**NS**	0.38 U	0.19 UJ
2,4-Dinitrotoluene	**NS**	**NS**	0.075 U	0.038 U
2,6-Dinitrotoluene	**NS**	**NS**	0.075 U	0.038 U
2-Chloronaphthalene	**NS**	**NS**	0.15 U	0.075 U
2-Chlorophenol	**NS**	**NS**	0.15 U	0.075 UJ
2-Methylnaphthalene	**NS**	**NS**	0.0323 JD	0.033 J
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.15 U	0.075 UJ
2-Nitroaniline	**NS**	**NS**	0.38 U	0.19 U
2-Nitrophenol	**NS**	**NS**	0.38 U	0.19 UJ
3,3'-Dichlorobenzidine	**NS**	**NS**	0.15 U	0.075 U
3-Nitroaniline	**NS**	**NS**	0.38 U	0.19 U
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.38 U	0.19 UJ
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.15 U	0.075 U
4-Chloro-3-Methylphenol	**NS**	**NS**	0.38 U	0.19 UJ
4-Chloroaniline	**NS**	**NS**	0.38 U	0.19 U
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.15 U	0.075 U
4-Nitroaniline	**NS**	**NS**	0.38 U	0.19 U
4-Nitrophenol	**NS**	**NS**	0.75 U	0.38 UJ
Acenaphthene	**20**	**100**	0.22 D	0.0488
Acenaphthylene	**100**	**100**	0.107 JD	0.0197 J
Acetophenone	**NS**	**NS**	0.38 U	0.19 U
Anthracene	**100**	**100**	0.605 D	0.0891
Atrazine	**NS**	**NS**	0.15 U	0.075 U
Benzaldehyde	**NS**	**NS**	0.38 U	0.19 U
Benzo(a)Anthracene	**1**	**1**	**1.93 D**	0.431
Benzo(a)Pyrene	**1**	**1**	**1.9 D**	0.423
Benzo(b)Fluoranthene	**1**	**1**	**1.84 D**	0.448
Benzo(g,h,i)Perylene	**100**	**100**	1.26 D	0.297
Benzo(k)Fluoranthene	**0.8**	**3.9**	0.686 D	0.18
Benzyl Butyl Phthalate	**NS**	**NS**	0.15 U	0.075 U
Biphenyl (Diphenyl)	**NS**	**NS**	0.0135 JD	0.012 J
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.15 U	0.075 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.15 U	0.075 U
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.15 U	0.075 U
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.15 U	0.075 U
Caprolactam	**NS**	**NS**	0.15 U	0.075 U
Carbazole	**NS**	**NS**	0.0936 JD	0.0304 J
Chrysene	**1**	**3.9**	**1.88 D**	0.512
Dibenz(a,h)Anthracene	**0.33**	**0.33**	0.287 D	0.0588
Dibenzofuran	**7**	**59**	0.0737 JD	0.0307 J
Diethyl Phthalate	**NS**	**NS**	0.15 U	0.075 U
Dimethyl Phthalate	**NS**	**NS**	0.15 U	0.075 U
Di-N-Butyl Phthalate	**NS**	**NS**	0.15 U	0.075 U
Di-N-Octylphthalate	**NS**	**NS**	0.15 U	0.075 U
Fluoranthene	**100**	**100**	2.87 D	0.885
Fluorene	**30**	**100**	0.165 D	0.0421
Hexachlorobenzene	**0.33**	**1.2**	0.15 U	0.075 U
Hexachlorobutadiene	**NS**	**NS**	0.075 U	0.038 U
Hexachlorocyclopentadiene	**NS**	**NS**	0.75 U	0.38 U
Hexachloroethane	**NS**	**NS**	0.38 U	0.19 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	**1.26 D**	0.28
Isophorone	**NS**	**NS**	0.15 U	0.075 U
Naphthalene	**12**	**100**	0.0303 JD	0.0221 J
Nitrobenzene	**NS**	**NS**	0.15 U	0.075 U
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.15 U	0.075 U
N-Nitrosodiphenylamine	**NS**	**NS**	0.38 UJ	0.19 U
Pentachlorophenol	**0.8**	**6.7**	0.3 U	0.15 UJ
Phenanthrene	**100**	**100**	2.33 D	0.883
Phenol	**0.33**	**100**	0.15 U	0.075 UJ
Pyrene	**100**	**100**	4.55 D	1.04

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-05 (9.5-11) 20180821 JC72360-2 8/21/2018 4:20:00 PM 1 mg/kg	RI-SB-06 (0-2) 20180525 JC66764-30 5/25/2018 12:45:00 PM 1 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.18 U	0.21 U
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.036 U	0.042 U
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.18 U	0.21 U
2,4,5-Trichlorophenol	**NS**	**NS**	0.18 U	0.21 U
2,4,6-Trichlorophenol	**NS**	**NS**	0.18 U	0.21 U
2,4-Dichlorophenol	**NS**	**NS**	0.18 U	0.21 U
2,4-Dimethylphenol	**NS**	**NS**	0.18 UJ	0.21 U
2,4-Dinitrophenol	**NS**	**NS**	0.18 U	0.21 U
2,4-Dinitrotoluene	**NS**	**NS**	0.036 U	0.042 U
2,6-Dinitrotoluene	**NS**	**NS**	0.036 U	0.042 U
2-Chloronaphthalene	**NS**	**NS**	0.072 U	0.083 U
2-Chlorophenol	**NS**	**NS**	0.072 U	0.083 U
2-Methylnaphthalene	**NS**	**NS**	0.0101 J	0.105
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.072 U	0.083 U
2-Nitroaniline	**NS**	**NS**	0.18 U	0.21 U
2-Nitrophenol	**NS**	**NS**	0.18 U	0.21 U
3,3'-Dichlorobenzidine	**NS**	**NS**	0.072 U	0.083 U
3-Nitroaniline	**NS**	**NS**	0.18 U	0.21 U
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.18 U	0.21 U
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.072 U	0.083 U
4-Chloro-3-Methylphenol	**NS**	**NS**	0.18 U	0.21 U
4-Chloroaniline	**NS**	**NS**	0.18 U	0.21 U
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.072 U	0.083 U
4-Nitroaniline	**NS**	**NS**	0.18 U	0.21 U
4-Nitrophenol	**NS**	**NS**	0.36 U	0.42 U
Acenaphthene	**20**	**100**	0.034 J	0.791
Acenaphthylene	**100**	**100**	0.0184 J	0.369
Acetophenone	**NS**	**NS**	0.18 U	0.21 U
Anthracene	**100**	**100**	0.114	1.61
Atrazine	**NS**	**NS**	0.072 U	0.083 U
Benzaldehyde	**NS**	**NS**	0.18 U	0.21 U
Benzo(a)Anthracene	**1**	**1**	0.429	NA
Benzo(a)Pyrene	**1**	**1**	0.463	NA
Benzo(b)Fluoranthene	**1**	**1**	0.465	NA
Benzo(g,h,i)Perylene	**100**	**100**	0.327	3.62
Benzo(k)Fluoranthene	**0.8**	**3.9**	0.184	NA
Benzyl Butyl Phthalate	**NS**	**NS**	0.072 U	0.083 U
Biphenyl (Diphenyl)	**NS**	**NS**	0.072 U	0.042 J
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.072 U	0.083 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.072 U	0.083 U
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.072 U	0.083 U
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.072 U	0.0485 J
Caprolactam	**NS**	**NS**	0.072 U	0.083 U
Carbazole	**NS**	**NS**	0.0265 J	0.663
Chrysene	**1**	**3.9**	0.422	NA
Dibenz(a,h)Anthracene	**0.33**	**0.33**	0.0736	**1.11**
Dibenzofuran	**7**	**59**	0.0186 J	0.335
Diethyl Phthalate	**NS**	**NS**	0.072 U	0.083 U
Dimethyl Phthalate	**NS**	**NS**	0.072 U	0.083 U
Di-N-Butyl Phthalate	**NS**	**NS**	0.072 U	0.083 U
Di-N-Octylphthalate	**NS**	**NS**	0.072 U	0.083 U
Fluoranthene	**100**	**100**	0.736	NA
Fluorene	**30**	**100**	0.0261 J	0.652
Hexachlorobenzene	**0.33**	**1.2**	0.072 U	0.083 U
Hexachlorobutadiene	**NS**	**NS**	0.036 U	0.042 U
Hexachlorocyclopentadiene	**NS**	**NS**	0.36 U	0.42 U
Hexachloroethane	**NS**	**NS**	0.18 U	0.21 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	0.303	**3.16**
Isophorone	**NS**	**NS**	0.072 U	0.083 U
Naphthalene	**12**	**100**	0.0122 J	0.204
Nitrobenzene	**NS**	**NS**	0.072 U	0.083 U
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.072 U	0.083 U
N-Nitrosodiphenylamine	**NS**	**NS**	0.18 U	0.21 U
Pentachlorophenol	**0.8**	**6.7**	0.14 UJ	0.17 U
Phenanthrene	**100**	**100**	0.419	NA
Phenol	**0.33**	**100**	0.072 U	0.083 U
Pyrene	**100**	**100**	0.813	NA

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-06 (0-2) 20180525 JC66764-30 5/25/2018 12:45:00 PM 5 mg/kg	RI-SB-06 (9-11) 20180525 JC66764-31 5/25/2018 12:55:00 PM 1 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	NA	0.17 U
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	NA	0.034 U
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	NA	0.17 U
2,4,5-Trichlorophenol	**NS**	**NS**	NA	0.17 U
2,4,6-Trichlorophenol	**NS**	**NS**	NA	0.17 U
2,4-Dichlorophenol	**NS**	**NS**	NA	0.17 U
2,4-Dimethylphenol	**NS**	**NS**	NA	0.17 U
2,4-Dinitrophenol	**NS**	**NS**	NA	0.17 U
2,4-Dinitrotoluene	**NS**	**NS**	NA	0.034 U
2,6-Dinitrotoluene	**NS**	**NS**	NA	0.034 U
2-Chloronaphthalene	**NS**	**NS**	NA	0.069 U
2-Chlorophenol	**NS**	**NS**	NA	0.069 U
2-Methylnaphthalene	**NS**	**NS**	NA	0.0332 J
2-Methylphenol (O-Cresol)	**0.33**	**100**	NA	0.069 U
2-Nitroaniline	**NS**	**NS**	NA	0.17 U
2-Nitrophenol	**NS**	**NS**	NA	0.17 U
3,3'-Dichlorobenzidine	**NS**	**NS**	NA	0.069 U
3-Nitroaniline	**NS**	**NS**	NA	0.17 U
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	NA	0.17 U
4-Bromophenyl Phenyl Ether	**NS**	**NS**	NA	0.069 U
4-Chloro-3-Methylphenol	**NS**	**NS**	NA	0.17 U
4-Chloroaniline	**NS**	**NS**	NA	0.17 U
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	NA	0.069 U
4-Nitroaniline	**NS**	**NS**	NA	0.17 U
4-Nitrophenol	**NS**	**NS**	NA	0.34 U
Acenaphthene	**20**	**100**	NA	0.0969
Acenaphthylene	**100**	**100**	NA	0.023 J
Acetophenone	**NS**	**NS**	NA	0.17 U
Anthracene	**100**	**100**	NA	0.253
Atrazine	**NS**	**NS**	NA	0.069 U
Benzaldehyde	**NS**	**NS**	NA	0.17 U
Benzo(a)Anthracene	**1**	**1**	**5.73 D**	0.499
Benzo(a)Pyrene	**1**	**1**	**5.23 D**	0.436
Benzo(b)Fluoranthene	**1**	**1**	**6.19 D**	0.492
Benzo(g,h,i)Perylene	**100**	**100**	NA	0.309
Benzo(k)Fluoranthene	**0.8**	**3.9**	**2.38 D**	0.183
Benzyl Butyl Phthalate	**NS**	**NS**	NA	0.069 U
Biphenyl (Diphenyl)	**NS**	**NS**	NA	0.013 J
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	NA	0.069 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	NA	0.069 U
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	NA	0.069 U
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	NA	0.069 U
Caprolactam	**NS**	**NS**	NA	0.069 U
Carbazole	**NS**	**NS**	NA	0.0972
Chrysene	**1**	**3.9**	**5.22 D**	0.48
Dibenz(a,h)Anthracene	**0.33**	**0.33**	NA	0.0713
Dibenzofuran	**7**	**59**	NA	0.0843
Diethyl Phthalate	**NS**	**NS**	NA	0.069 U
Dimethyl Phthalate	**NS**	**NS**	NA	0.069 U
Di-N-Butyl Phthalate	**NS**	**NS**	NA	0.069 U
Di-N-Octylphthalate	**NS**	**NS**	NA	0.069 U
Fluoranthene	**100**	**100**	8.64 D	0.989
Fluorene	**30**	**100**	NA	0.114
Hexachlorobenzene	**0.33**	**1.2**	NA	0.069 U
Hexachlorobutadiene	**NS**	**NS**	NA	0.034 U
Hexachlorocyclopentadiene	**NS**	**NS**	NA	0.34 U
Hexachloroethane	**NS**	**NS**	NA	0.17 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	NA	0.243
Isophorone	**NS**	**NS**	NA	0.069 U
Naphthalene	**12**	**100**	NA	0.0868
Nitrobenzene	**NS**	**NS**	NA	0.069 U
N-Nitrosodi-N-Propylamine	**NS**	**NS**	NA	0.069 U
N-Nitrosodiphenylamine	**NS**	**NS**	NA	0.17 U
Pentachlorophenol	**0.8**	**6.7**	NA	0.14 U
Phenanthrene	**100**	**100**	6.09 D	1.19
Phenol	**0.33**	**100**	NA	0.069 U
Pyrene	**100**	**100**	9.16 D	1.04

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-07 (0-2) 20180524 JC66764-6 5/24/2018 12:15:00 PM 2 mg/kg	RI-SB-07 (0-2) 20180524 JC66764-6 5/24/2018 12:15:00 PM 20 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.37 U	NA
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.074 U	NA
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.37 UJ	NA
2,4,5-Trichlorophenol	**NS**	**NS**	0.37 U	NA
2,4,6-Trichlorophenol	**NS**	**NS**	0.37 U	NA
2,4-Dichlorophenol	**NS**	**NS**	0.37 U	NA
2,4-Dimethylphenol	**NS**	**NS**	0.37 U	NA
2,4-Dinitrophenol	**NS**	**NS**	0.37 U	NA
2,4-Dinitrotoluene	**NS**	**NS**	0.074 U	NA
2,6-Dinitrotoluene	**NS**	**NS**	0.074 U	NA
2-Chloronaphthalene	**NS**	**NS**	0.15 U	NA
2-Chlorophenol	**NS**	**NS**	0.15 U	NA
2-Methylnaphthalene	**NS**	**NS**	0.703 D	NA
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.15 U	NA
2-Nitroaniline	**NS**	**NS**	0.37 U	NA
2-Nitrophenol	**NS**	**NS**	0.37 U	NA
3,3'-Dichlorobenzidine	**NS**	**NS**	0.15 U	NA
3-Nitroaniline	**NS**	**NS**	0.37 U	NA
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.37 U	NA
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.15 U	NA
4-Chloro-3-Methylphenol	**NS**	**NS**	0.37 U	NA
4-Chloroaniline	**NS**	**NS**	0.37 U	NA
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.15 U	NA
4-Nitroaniline	**NS**	**NS**	0.37 U	NA
4-Nitrophenol	**NS**	**NS**	0.74 U	NA
Acenaphthene	**20**	**100**	4.49 D	NA
Acenaphthylene	**100**	**100**	0.404 D	NA
Acetophenone	**NS**	**NS**	0.37 U	NA
Anthracene	**100**	**100**	7.24 D	NA
Atrazine	**NS**	**NS**	0.15 U	NA
Benzaldehyde	**NS**	**NS**	0.37 U	NA
Benzo(a)Anthracene	**1**	**1**	NA	**31.8 D**
Benzo(a)Pyrene	**1**	**1**	NA	**28.4 D**
Benzo(b)Fluoranthene	**1**	**1**	NA	**33.9 D**
Benzo(g,h,i)Perylene	**100**	**100**	NA	19.4 D
Benzo(k)Fluoranthene	**0.8**	**3.9**	NA	**12.8 D**
Benzyl Butyl Phthalate	**NS**	**NS**	0.15 U	NA
Biphenyl (Diphenyl)	**NS**	**NS**	0.277 D	NA
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.15 U	NA
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.15 U	NA
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.15 U	NA
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.15 U	NA
Caprolactam	**NS**	**NS**	0.15 U	NA
Carbazole	**NS**	**NS**	3.56 D	NA
Chrysene	**1**	**3.9**	NA	**31 D**
Dibenz(a,h)Anthracene	**0.33**	**0.33**	NA	**5.11 D**
Dibenzofuran	**7**	**59**	2.06 D	NA
Diethyl Phthalate	**NS**	**NS**	0.15 U	NA
Dimethyl Phthalate	**NS**	**NS**	0.15 U	NA
Di-N-Butyl Phthalate	**NS**	**NS**	0.15 U	NA
Di-N-Octylphthalate	**NS**	**NS**	0.15 U	NA
Fluoranthene	**100**	**100**		58.4 D
Fluorene	**30**	**100**	3.34 D	NA
Hexachlorobenzene	**0.33**	**1.2**	0.15 U	NA
Hexachlorobutadiene	**NS**	**NS**	0.074 U	NA
Hexachlorocyclopentadiene	**NS**	**NS**	0.74 U	NA
Hexachloroethane	**NS**	**NS**	0.37 U	NA
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	NA	**17.4 D**
Isophorone	**NS**	**NS**	0.15 U	NA
Naphthalene	**12**	**100**	1.48 D	NA
Nitrobenzene	**NS**	**NS**	0.15 U	NA
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.15 U	NA
N-Nitrosodiphenylamine	**NS**	**NS**	0.37 U	NA
Pentachlorophenol	**0.8**	**6.7**	0.29 U	NA
Phenanthrene	**100**	**100**	NA	42.4 D
Phenol	**0.33**	**100**	0.15 U	NA
Pyrene	**100**	**100**	NA	57.2 D

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-07 (5-7) 20180524 JC66764-7 5/24/2018 12:26:00 PM 1 mg/kg	RI-SB-07 (5-7) 20180524 JC66764-7 5/24/2018 12:26:00 PM 2 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.19 U	NA
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.037 U	NA
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.19 UJ	NA
2,4,5-Trichlorophenol	**NS**	**NS**	0.19 U	NA
2,4,6-Trichlorophenol	**NS**	**NS**	0.19 U	NA
2,4-Dichlorophenol	**NS**	**NS**	0.19 U	NA
2,4-Dimethylphenol	**NS**	**NS**	0.19 U	NA
2,4-Dinitrophenol	**NS**	**NS**	0.19 U	NA
2,4-Dinitrotoluene	**NS**	**NS**	0.037 U	NA
2,6-Dinitrotoluene	**NS**	**NS**	0.037 U	NA
2-Chloronaphthalene	**NS**	**NS**	0.074 U	NA
2-Chlorophenol	**NS**	**NS**	0.074 U	NA
2-Methylnaphthalene	**NS**	**NS**	0.116	NA
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.074 U	NA
2-Nitroaniline	**NS**	**NS**	0.19 U	NA
2-Nitrophenol	**NS**	**NS**	0.19 U	NA
3,3'-Dichlorobenzidine	**NS**	**NS**	0.074 U	NA
3-Nitroaniline	**NS**	**NS**	0.19 U	NA
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.19 U	NA
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.074 U	NA
4-Chloro-3-Methylphenol	**NS**	**NS**	0.19 U	NA
4-Chloroaniline	**NS**	**NS**	0.19 U	NA
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.074 U	NA
4-Nitroaniline	**NS**	**NS**	0.19 U	NA
4-Nitrophenol	**NS**	**NS**	0.37 U	NA
Acenaphthene	**20**	**100**	0.492	NA
Acenaphthylene	**100**	**100**	0.184	NA
Acetophenone	**NS**	**NS**	0.19 U	NA
Anthracene	**100**	**100**	1.06	NA
Atrazine	**NS**	**NS**	0.074 U	NA
Benzaldehyde	**NS**	**NS**	0.19 U	NA
Benzo(a)Anthracene	**1**	**1**	**3.09**	NA
Benzo(a)Pyrene	**1**	**1**	**3.08**	NA
Benzo(b)Fluoranthene	**1**	**1**	**3.18**	NA
Benzo(g,h,i)Perylene	**100**	**100**	2.21	NA
Benzo(k)Fluoranthene	**0.8**	**3.9**	**1.35**	NA
Benzyl Butyl Phthalate	**NS**	**NS**	0.074 U	NA
Biphenyl (Diphenyl)	**NS**	**NS**	0.0418 J	NA
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.074 U	NA
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.074 U	NA
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.074 U	NA
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.074 U	NA
Caprolactam	**NS**	**NS**	0.074 U	NA
Carbazole	**NS**	**NS**	0.392	NA
Chrysene	**1**	**3.9**	**3.08**	NA
Dibenz(a,h)Anthracene	**0.33**	**0.33**	**0.619**	NA
Dibenzofuran	**7**	**59**	0.263	NA
Diethyl Phthalate	**NS**	**NS**	0.074 U	NA
Dimethyl Phthalate	**NS**	**NS**	0.074 U	NA
Di-N-Butyl Phthalate	**NS**	**NS**	0.074 U	NA
Di-N-Octylphthalate	**NS**	**NS**	0.074 U	NA
Fluoranthene	**100**	**100**	NA	4.85 D
Fluorene	**30**	**100**	0.442	NA
Hexachlorobenzene	**0.33**	**1.2**	0.074 U	NA
Hexachlorobutadiene	**NS**	**NS**	0.037 U	NA
Hexachlorocyclopentadiene	**NS**	**NS**	0.37 U	NA
Hexachloroethane	**NS**	**NS**	0.19 U	NA
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	**1.92**	NA
Isophorone	**NS**	**NS**	0.074 U	NA
Naphthalene	**12**	**100**	0.257	NA
Nitrobenzene	**NS**	**NS**	0.074 U	NA
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.074 U	NA
N-Nitrosodiphenylamine	**NS**	**NS**	0.19 U	NA
Pentachlorophenol	**0.8**	**6.7**	0.15 U	NA
Phenanthrene	**100**	**100**	NA	4.47 D
Phenol	**0.33**	**100**	0.074 U	NA
Pyrene	**100**	**100**	NA	5.26 D

Attached Table 17
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-07 (8-10) 20180524 JC66764-8 5/24/2018 12:31:00 PM 1 mg/kg	RI-SB-08 (0-2) 20180524 JC66764-18 5/24/2018 2:05:00 PM 1 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.19 U	0.18 U
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.039 U	0.036 U
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.19 UJ	0.18 UJ
2,4,5-Trichlorophenol	**NS**	**NS**	0.19 U	0.18 U
2,4,6-Trichlorophenol	**NS**	**NS**	0.19 U	0.18 U
2,4-Dichlorophenol	**NS**	**NS**	0.19 U	0.18 U
2,4-Dimethylphenol	**NS**	**NS**	0.19 U	0.18 U
2,4-Dinitrophenol	**NS**	**NS**	0.19 U	0.18 U
2,4-Dinitrotoluene	**NS**	**NS**	0.039 U	0.036 U
2,6-Dinitrotoluene	**NS**	**NS**	0.039 U	0.036 U
2-Chloronaphthalene	**NS**	**NS**	0.078 U	0.072 U
2-Chlorophenol	**NS**	**NS**	0.078 U	0.072 U
2-Methylnaphthalene	**NS**	**NS**	0.0477	0.0736
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.078 U	0.072 U
2-Nitroaniline	**NS**	**NS**	0.19 U	0.18 U
2-Nitrophenol	**NS**	**NS**	0.19 U	0.18 U
3,3'-Dichlorobenzidine	**NS**	**NS**	0.078 U	0.072 U
3-Nitroaniline	**NS**	**NS**	0.19 U	0.18 U
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.19 U	0.18 U
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.078 U	0.072 U
4-Chloro-3-Methylphenol	**NS**	**NS**	0.19 U	0.18 U
4-Chloroaniline	**NS**	**NS**	0.19 U	0.18 U
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.078 U	0.072 U
4-Nitroaniline	**NS**	**NS**	0.19 U	0.18 U
4-Nitrophenol	**NS**	**NS**	0.39 U	0.36 U
Acenaphthene	**20**	**100**	0.248	0.604
Acenaphthylene	**100**	**100**	0.111	0.207
Acetophenone	**NS**	**NS**	0.19 U	0.18 U
Anthracene	**100**	**100**	0.62	1.35
Atrazine	**NS**	**NS**	0.078 U	0.072 U
Benzaldehyde	**NS**	**NS**	0.19 U	0.18 U
Benzo(a)Anthracene	**1**	**1**	**1.56**	NA
Benzo(a)Pyrene	**1**	**1**	**1.37**	NA
Benzo(b)Fluoranthene	**1**	**1**	**1.39**	NA
Benzo(g,h,i)Perylene	**100**	**100**	1.07	3.31
Benzo(k)Fluoranthene	**0.8**	**3.9**	0.542	**2.11**
Benzyl Butyl Phthalate	**NS**	**NS**	0.078 U	0.072 U
Biphenyl (Diphenyl)	**NS**	**NS**	0.0198 J	0.0321 J
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.078 U	0.072 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.078 U	0.072 U
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.078 U	0.072 U
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.078 U	0.072 U
Caprolactam	**NS**	**NS**	0.078 U	0.072 U
Carbazole	**NS**	**NS**	0.27	0.523
Chrysene	**1**	**3.9**	**1.51**	NA
Dibenz(a,h)Anthracene	**0.33**	**0.33**	0.241	**1.11**
Dibenzofuran	**7**	**59**	0.141	0.258
Diethyl Phthalate	**NS**	**NS**	0.078 U	0.072 U
Dimethyl Phthalate	**NS**	**NS**	0.078 U	0.072 U
Di-N-Butyl Phthalate	**NS**	**NS**	0.078 U	0.072 U
Di-N-Octylphthalate	**NS**	**NS**	0.078 U	0.072 U
Fluoranthene	**100**	**100**	2.79	NA
Fluorene	**30**	**100**	0.23	0.465
Hexachlorobenzene	**0.33**	**1.2**	0.078 U	0.072 U
Hexachlorobutadiene	**NS**	**NS**	0.039 U	0.036 U
Hexachlorocyclopentadiene	**NS**	**NS**	0.39 U	0.36 U
Hexachloroethane	**NS**	**NS**	0.19 U	0.18 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	**0.849**	**3.11**
Isophorone	**NS**	**NS**	0.078 U	0.072 U
Naphthalene	**12**	**100**	0.0947	0.13
Nitrobenzene	**NS**	**NS**	0.078 U	0.072 U
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.078 U	0.072 U
N-Nitrosodiphenylamine	**NS**	**NS**	0.19 U	0.18 U
Pentachlorophenol	**0.8**	**6.7**	0.16 U	0.14 U
Phenanthrene	**100**	**100**	3.1	NA
Phenol	**0.33**	**100**	0.078 U	0.072 U
Pyrene	**100**	**100**	3.26	NA

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-08 (0-2) 20180524 JC66764-18 5/24/2018 2:05:00 PM 5 mg/kg	RI-SB-08 (7-9) 20180524 JC66764-19 5/24/2018 2:10:00 PM 1 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	NA	0.19 U
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	NA	0.037 U
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	NA	0.19 UJ
2,4,5-Trichlorophenol	**NS**	**NS**	NA	0.19 U
2,4,6-Trichlorophenol	**NS**	**NS**	NA	0.19 U
2,4-Dichlorophenol	**NS**	**NS**	NA	0.19 U
2,4-Dimethylphenol	**NS**	**NS**	NA	0.19 U
2,4-Dinitrophenol	**NS**	**NS**	NA	0.19 U
2,4-Dinitrotoluene	**NS**	**NS**	NA	0.037 U
2,6-Dinitrotoluene	**NS**	**NS**	NA	0.037 U
2-Chloronaphthalene	**NS**	**NS**	NA	0.075 U
2-Chlorophenol	**NS**	**NS**	NA	0.075 U
2-Methylnaphthalene	**NS**	**NS**	NA	0.262
2-Methylphenol (O-Cresol)	**0.33**	**100**	NA	0.075 U
2-Nitroaniline	**NS**	**NS**	NA	0.19 U
2-Nitrophenol	**NS**	**NS**	NA	0.19 U
3,3'-Dichlorobenzidine	**NS**	**NS**	NA	0.075 U
3-Nitroaniline	**NS**	**NS**	NA	0.19 U
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	NA	0.19 U
4-Bromophenyl Phenyl Ether	**NS**	**NS**	NA	0.075 U
4-Chloro-3-Methylphenol	**NS**	**NS**	NA	0.19 U
4-Chloroaniline	**NS**	**NS**	NA	0.19 U
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	NA	0.075 U
4-Nitroaniline	**NS**	**NS**	NA	0.19 U
4-Nitrophenol	**NS**	**NS**	NA	0.37 U
Acenaphthene	**20**	**100**	NA	0.66
Acenaphthylene	**100**	**100**	NA	0.99
Acetophenone	**NS**	**NS**	NA	0.19 U
Anthracene	**100**	**100**	NA	1.74
Atrazine	**NS**	**NS**	NA	0.075 U
Benzaldehyde	**NS**	**NS**	NA	0.19 U
Benzo(a)Anthracene	**1**	**1**	**5.02 D**	NA
Benzo(a)Pyrene	**1**	**1**	**4.39 D**	NA
Benzo(b)Fluoranthene	**1**	**1**	**5.43 D**	NA
Benzo(g,h,i)Perylene	**100**	**100**	NA	NA
Benzo(k)Fluoranthene	**0.8**	**3.9**	NA	**2.21**
Benzyl Butyl Phthalate	**NS**	**NS**	NA	0.075 U
Biphenyl (Diphenyl)	**NS**	**NS**	NA	0.0887
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	NA	0.075 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	NA	0.075 U
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	NA	0.075 U
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	NA	0.075 U
Caprolactam	**NS**	**NS**	NA	0.075 U
Carbazole	**NS**	**NS**	NA	1.07
Chrysene	**1**	**3.9**	**4.71 D**	NA
Dibenz(a,h)Anthracene	**0.33**	**0.33**	NA	**1.07**
Dibenzofuran	**7**	**59**	NA	0.602
Diethyl Phthalate	**NS**	**NS**	NA	0.075 U
Dimethyl Phthalate	**NS**	**NS**	NA	0.075 U
Di-N-Butyl Phthalate	**NS**	**NS**	NA	0.075 U
Di-N-Octylphthalate	**NS**	**NS**	NA	0.075 U
Fluoranthene	**100**	**100**	9.32 D	NA
Fluorene	**30**	**100**	NA	0.92
Hexachlorobenzene	**0.33**	**1.2**	NA	0.075 U
Hexachlorobutadiene	**NS**	**NS**	NA	0.037 U
Hexachlorocyclopentadiene	**NS**	**NS**	NA	0.37 U
Hexachloroethane	**NS**	**NS**	NA	0.19 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	NA	**3.4**
Isophorone	**NS**	**NS**	NA	0.075 U
Naphthalene	**12**	**100**	NA	0.526
Nitrobenzene	**NS**	**NS**	NA	0.075 U
N-Nitrosodi-N-Propylamine	**NS**	**NS**	NA	0.075 U
N-Nitrosodiphenylamine	**NS**	**NS**	NA	0.19 U
Pentachlorophenol	**0.8**	**6.7**	NA	0.15 U
Phenanthrene	**100**	**100**	5.69 D	NA
Phenol	**0.33**	**100**	NA	0.0235 J
Pyrene	**100**	**100**	8.97 D	NA

Attached Table 17
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-08 (7-9) 20180524 JC66764-19 5/24/2018 2:10:00 PM 5 mg/kg	RI-SB-09 (0-2) 20180524 JC66764-14 5/24/2018 2:40:00 PM 5 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	NA	0.91 U
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	NA	0.18 U
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	NA	0.91 UJ
2,4,5-Trichlorophenol	**NS**	**NS**	NA	0.91 U
2,4,6-Trichlorophenol	**NS**	**NS**	NA	0.91 U
2,4-Dichlorophenol	**NS**	**NS**	NA	0.91 U
2,4-Dimethylphenol	**NS**	**NS**	NA	0.91 U
2,4-Dinitrophenol	**NS**	**NS**	NA	0.91 R
2,4-Dinitrotoluene	**NS**	**NS**	NA	0.18 U
2,6-Dinitrotoluene	**NS**	**NS**	NA	0.18 U
2-Chloronaphthalene	**NS**	**NS**	NA	0.36 U
2-Chlorophenol	**NS**	**NS**	NA	0.36 U
2-Methylnaphthalene	**NS**	**NS**	NA	0.153 JD
2-Methylphenol (O-Cresol)	**0.33**	**100**	NA	0.36 U
2-Nitroaniline	**NS**	**NS**	NA	0.91 U
2-Nitrophenol	**NS**	**NS**	NA	0.91 U
3,3'-Dichlorobenzidine	**NS**	**NS**	NA	0.36 U
3-Nitroaniline	**NS**	**NS**	NA	0.91 U
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	NA	0.91 R
4-Bromophenyl Phenyl Ether	**NS**	**NS**	NA	0.36 U
4-Chloro-3-Methylphenol	**NS**	**NS**	NA	0.91 U
4-Chloroaniline	**NS**	**NS**	NA	0.91 U
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	NA	0.36 U
4-Nitroaniline	**NS**	**NS**	NA	0.91 U
4-Nitrophenol	**NS**	**NS**	NA	1.8 U
Acenaphthene	**20**	**100**	NA	4.55 D
Acenaphthylene	**100**	**100**	NA	0.351 D
Acetophenone	**NS**	**NS**	NA	0.91 U
Anthracene	**100**	**100**	NA	8.29 D
Atrazine	**NS**	**NS**	NA	0.36 U
Benzaldehyde	**NS**	**NS**	NA	0.91 U
Benzo(a)Anthracene	**1**	**1**	**4.82 D**	**17.6 D**
Benzo(a)Pyrene	**1**	**1**	**4.44 D**	**17.1 D**
Benzo(b)Fluoranthene	**1**	**1**	**5.12 D**	**17.3 D**
Benzo(g,h,i)Perylene	**100**	**100**	3.43 D	10.6 D
Benzo(k)Fluoranthene	**0.8**	**3.9**	NA	**7.88 D**
Benzyl Butyl Phthalate	**NS**	**NS**	NA	0.36 U
Biphenyl (Diphenyl)	**NS**	**NS**	NA	0.0991 JD
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	NA	0.36 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	NA	0.36 U
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	NA	0.36 U
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	NA	0.36 U
Caprolactam	**NS**	**NS**	NA	0.36 U
Carbazole	**NS**	**NS**	NA	0.867 D
Chrysene	**1**	**3.9**	**4.93 D**	**17.5 D**
Dibenz(a,h)Anthracene	**0.33**	**0.33**	NA	**3.36 D**
Dibenzofuran	**7**	**59**	NA	2.65 D
Diethyl Phthalate	**NS**	**NS**	NA	0.36 U
Dimethyl Phthalate	**NS**	**NS**	NA	0.36 U
Di-N-Butyl Phthalate	**NS**	**NS**	NA	0.36 U
Di-N-Octylphthalate	**NS**	**NS**	NA	0.36 U
Fluoranthene	**100**	**100**	10.6 D	NA
Fluorene	**30**	**100**	NA	1.13 D
Hexachlorobenzene	**0.33**	**1.2**	NA	0.36 U
Hexachlorobutadiene	**NS**	**NS**	NA	0.18 U
Hexachlorocyclopentadiene	**NS**	**NS**	NA	1.8 R
Hexachloroethane	**NS**	**NS**	NA	0.91 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	NA	**9.98 D**
Isophorone	**NS**	**NS**	NA	0.36 U
Naphthalene	**12**	**100**	NA	0.439 D
Nitrobenzene	**NS**	**NS**	NA	0.36 U
N-Nitrosodi-N-Propylamine	**NS**	**NS**	NA	0.36 U
N-Nitrosodiphenylamine	**NS**	**NS**	NA	0.91 U
Pentachlorophenol	**0.8**	**6.7**	NA	0.73 U
Phenanthrene	**100**	**100**	9.55 D	8.52 JL
Phenol	**0.33**	**100**	NA	0.36 U
Pyrene	**100**	**100**	10 D	NA

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-09 (0-2) 20180524 JC66764-14 5/24/2018 2:40:00 PM 10 mg/kg	RI-SB-X01 (0-2) 20180524 JC66764-15 5/24/2018 2:40:00 PM 2 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	NA	0.36 U
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	NA	0.073 U
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	NA	0.36 UJ
2,4,5-Trichlorophenol	**NS**	**NS**	NA	0.36 U
2,4,6-Trichlorophenol	**NS**	**NS**	NA	0.36 U
2,4-Dichlorophenol	**NS**	**NS**	NA	0.36 U
2,4-Dimethylphenol	**NS**	**NS**	NA	0.36 U
2,4-Dinitrophenol	**NS**	**NS**	NA	0.36 U
2,4-Dinitrotoluene	**NS**	**NS**	NA	0.073 U
2,6-Dinitrotoluene	**NS**	**NS**	NA	0.073 U
2-Chloronaphthalene	**NS**	**NS**	NA	0.15 U
2-Chlorophenol	**NS**	**NS**	NA	0.15 U
2-Methylnaphthalene	**NS**	**NS**	NA	0.233 D
2-Methylphenol (O-Cresol)	**0.33**	**100**	NA	0.15 U
2-Nitroaniline	**NS**	**NS**	NA	0.36 U
2-Nitrophenol	**NS**	**NS**	NA	0.36 U
3,3'-Dichlorobenzidine	**NS**	**NS**	NA	0.15 U
3-Nitroaniline	**NS**	**NS**	NA	0.36 U
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	NA	0.36 U
4-Bromophenyl Phenyl Ether	**NS**	**NS**	NA	0.15 U
4-Chloro-3-Methylphenol	**NS**	**NS**	NA	0.36 U
4-Chloroaniline	**NS**	**NS**	NA	0.36 U
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	NA	0.15 U
4-Nitroaniline	**NS**	**NS**	NA	0.36 U
4-Nitrophenol	**NS**	**NS**	NA	0.73 U
Acenaphthene	**20**	**100**	NA	4.86 D
Acenaphthylene	**100**	**100**	NA	0.345 D
Acetophenone	**NS**	**NS**	NA	0.36 U
Anthracene	**100**	**100**	NA	NA
Atrazine	**NS**	**NS**	NA	0.15 U
Benzaldehyde	**NS**	**NS**	NA	0.36 U
Benzo(a)Anthracene	**1**	**1**	NA	NA
Benzo(a)Pyrene	**1**	**1**	NA	NA
Benzo(b)Fluoranthene	**1**	**1**	NA	NA
Benzo(g,h,i)Perylene	**100**	**100**	NA	NA
Benzo(k)Fluoranthene	**0.8**	**3.9**	NA	NA
Benzyl Butyl Phthalate	**NS**	**NS**	NA	0.15 U
Biphenyl (Diphenyl)	**NS**	**NS**	NA	0.135 JD
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	NA	0.15 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	NA	0.15 U
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	NA	0.15 U
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	NA	0.15 U
Caprolactam	**NS**	**NS**	NA	0.15 U
Carbazole	**NS**	**NS**	NA	1.37 D
Chrysene	**1**	**3.9**	NA	NA
Dibenz(a,h)Anthracene	**0.33**	**0.33**	NA	**5.97 D**
Dibenzofuran	**7**	**59**	NA	2.74 D
Diethyl Phthalate	**NS**	**NS**	NA	0.15 U
Dimethyl Phthalate	**NS**	**NS**	NA	0.15 U
Di-N-Butyl Phthalate	**NS**	**NS**	NA	0.15 U
Di-N-Octylphthalate	**NS**	**NS**	NA	0.15 U
Fluoranthene	**100**	**100**	35.4 D	NA
Fluorene	**30**	**100**	NA	1.78 D
Hexachlorobenzene	**0.33**	**1.2**	NA	0.15 U
Hexachlorobutadiene	**NS**	**NS**	NA	0.073 U
Hexachlorocyclopentadiene	**NS**	**NS**	NA	0.73 U
Hexachloroethane	**NS**	**NS**	NA	0.36 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	NA	NA
Isophorone	**NS**	**NS**	NA	0.15 U
Naphthalene	**12**	**100**	NA	0.615 D
Nitrobenzene	**NS**	**NS**	NA	0.15 U
N-Nitrosodi-N-Propylamine	**NS**	**NS**	NA	0.15 U
N-Nitrosodiphenylamine	**NS**	**NS**	NA	0.36 U
Pentachlorophenol	**0.8**	**6.7**	NA	0.29 U
Phenanthrene	**100**	**100**	NA	NA
Phenol	**0.33**	**100**	NA	0.15 U
Pyrene	**100**	**100**	33.6 D	NA

AKRF Sample ID			RI-SB-X01 (0-2) 20180524	RI-SB-09 (7-9) 20180524
Laboratory Sample ID			JC66764-15	JC66764-16
Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	5/24/2018 2:40:00 PM	5/24/2018 3:10:00 PM
Dilution Factor			20	1
Unit			mg/kg	mg/kg
1,2,4,5-Tetrachlorobenzene	NS	NS	NA	0.19 U
1,4-Dioxane (P-Dioxane)	0.1	13	NA	0.039 U
2,3,4,6-Tetrachlorophenol	NS	NS	NA	0.19 U
2,4,5-Trichlorophenol	NS	NS	NA	0.19 U
2,4,6-Trichlorophenol	NS	NS	NA	0.19 U
2,4-Dichlorophenol	NS	NS	NA	0.19 U
2,4-Dimethylphenol	NS	NS	NA	0.19 U
2,4-Dinitrophenol	NS	NS	NA	0.19 U
2,4-Dinitrotoluene	NS	NS	NA	0.039 U
2,6-Dinitrotoluene	NS	NS	NA	0.039 U
2-Chloronaphthalene	NS	NS	NA	0.077 U
2-Chlorophenol	NS	NS	NA	0.077 U
2-Methylnaphthalene	NS	NS	NA	0.0129 J
2-Methylphenol (O-Cresol)	0.33	100	NA	0.077 U
2-Nitroaniline	NS	NS	NA	0.19 U
2-Nitrophenol	NS	NS	NA	0.19 U
3,3'-Dichlorobenzidine	NS	NS	NA	0.077 U
3-Nitroaniline	NS	NS	NA	0.19 U
4,6-Dinitro-2-Methylphenol	NS	NS	NA	0.19 U
4-Bromophenyl Phenyl Ether	NS	NS	NA	0.077 U
4-Chloro-3-Methylphenol	NS	NS	NA	0.19 U
4-Chloroaniline	NS	NS	NA	0.19 U
4-Chlorophenyl Phenyl Ether	NS	NS	NA	0.077 U
4-Nitroaniline	NS	NS	NA	0.19 U
4-Nitrophenol	NS	NS	NA	0.39 U
Acenaphthene	20	100	NA	0.0569
Acenaphthylene	100	100	NA	0.289
Acetophenone	NS	NS	NA	0.19 U
Anthracene	100	100	12.9 D	0.336
Atrazine	NS	NS	NA	0.077 U
Benzaldehyde	NS	NS	NA	0.19 U
Benzo(a)Anthracene	1	1	**28.3 D**	0.817
Benzo(a)Pyrene	1	1	**24.5 D**	0.777
Benzo(b)Fluoranthene	1	1	**28.4 D**	0.956
Benzo(g,h,i)Perylene	100	100	14 D	0.902
Benzo(k)Fluoranthene	0.8	3.9	**10.1 D**	0.364
Benzyl Butyl Phthalate	NS	NS	NA	0.077 U
Biphenyl (Diphenyl)	NS	NS	NA	0.007 J
Bis(2-Chloroethoxy) Methane	NS	NS	NA	0.077 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	NS	NS	NA	0.077 U
Bis(2-Chloroisopropyl) Ether	NS	NS	NA	0.077 U
Bis(2-Ethylhexyl) Phthalate	NS	NS	NA	0.077 U
Caprolactam	NS	NS	NA	0.077 U
Carbazole	NS	NS	NA	0.112
Chrysene	1	3.9	**25.2 D**	0.888
Dibenz(a,h)Anthracene	0.33	0.33	NA	0.208
Dibenzofuran	7	59	NA	0.0436 J
Diethyl Phthalate	NS	NS	NA	0.077 U
Dimethyl Phthalate	NS	NS	NA	0.077 U
Di-N-Butyl Phthalate	NS	NS	NA	0.077 U
Di-N-Octylphthalate	NS	NS	NA	0.077 U
Fluoranthene	100	100	55.3 D	1.38
Fluorene	30	100	NA	0.067
Hexachlorobenzene	0.33	1.2	NA	0.077 U
Hexachlorobutadiene	NS	NS	NA	0.039 U
Hexachlorocyclopentadiene	NS	NS	NA	0.39 U
Hexachloroethane	NS	NS	NA	0.19 U
Indeno(1,2,3-c,d)Pyrene	0.5	0.5	**12.9 D**	**0.626**
Isophorone	NS	NS	NA	0.077 U
Naphthalene	12	100	NA	0.0271 J
Nitrobenzene	NS	NS	NA	0.077 U
N-Nitrosodi-N-Propylamine	NS	NS	NA	0.077 U
N-Nitrosodiphenylamine	NS	NS	NA	0.19 U
Pentachlorophenol	0.8	6.7	NA	0.15 U
Phenanthrene	100	100	18.2 D	0.957
Phenol	0.33	100	NA	0.077 U
Pyrene	100	100	52.1 D	1.23

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-10 (9.5-11) 20180821 JC72360-3 8/21/2018 11:43:00 AM 1 mg/kg	RI-SB-X03 (9.5-11) 20180821 JC72360-4 8/21/2018 11:45:00 AM 1 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.19 U	0.19 U
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.038 U	0.039 U
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.19 U	0.19 U
2,4,5-Trichlorophenol	**NS**	**NS**	0.19 U	0.19 U
2,4,6-Trichlorophenol	**NS**	**NS**	0.19 U	0.19 U
2,4-Dichlorophenol	**NS**	**NS**	0.19 U	0.19 U
2,4-Dimethylphenol	**NS**	**NS**	0.19 UJ	0.19 UJ
2,4-Dinitrophenol	**NS**	**NS**	0.19 U	0.19 U
2,4-Dinitrotoluene	**NS**	**NS**	0.038 U	0.039 U
2,6-Dinitrotoluene	**NS**	**NS**	0.038 U	0.039 U
2-Chloronaphthalene	**NS**	**NS**	0.075 U	0.077 U
2-Chlorophenol	**NS**	**NS**	0.075 U	0.077 U
2-Methylnaphthalene	**NS**	**NS**	0.0333 J	0.0262 J
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.075 U	0.077 U
2-Nitroaniline	**NS**	**NS**	0.19 U	0.19 U
2-Nitrophenol	**NS**	**NS**	0.19 U	0.19 U
3,3'-Dichlorobenzidine	**NS**	**NS**	0.075 U	0.077 U
3-Nitroaniline	**NS**	**NS**	0.19 U	0.19 U
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.19 U	0.19 U
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.075 U	0.077 U
4-Chloro-3-Methylphenol	**NS**	**NS**	0.19 U	0.19 U
4-Chloroaniline	**NS**	**NS**	0.19 U	0.19 U
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.075 U	0.077 U
4-Nitroaniline	**NS**	**NS**	0.19 U	0.19 U
4-Nitrophenol	**NS**	**NS**	0.38 U	0.39 U
Acenaphthene	**20**	**100**	0.2	0.289
Acenaphthylene	**100**	**100**	0.0392 JL	0.0938 J
Acetophenone	**NS**	**NS**	0.19 U	0.19 U
Anthracene	**100**	**100**	0.53	0.507
Atrazine	**NS**	**NS**	0.075 U	0.077 U
Benzaldehyde	**NS**	**NS**	0.19 U	0.0234 J
Benzo(a)Anthracene	**1**	**1**	**1.01**	**1.08**
Benzo(a)Pyrene	**1**	**1**	0.917	**1.02**
Benzo(b)Fluoranthene	**1**	**1**	**1.02**	**1.16**
Benzo(g,h,i)Perylene	**100**	**100**	0.594	0.674
Benzo(k)Fluoranthene	**0.8**	**3.9**	0.392	0.421
Benzyl Butyl Phthalate	**NS**	**NS**	0.075 U	0.077 U
Biphenyl (Diphenyl)	**NS**	**NS**	0.075 U	0.077 U
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.075 U	0.077 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.075 U	0.077 U
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.075 U	0.077 U
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.075 U	0.077 U
Caprolactam	**NS**	**NS**	0.075 U	0.077 U
Carbazole	**NS**	**NS**	0.108	0.0929
Chrysene	**1**	**3.9**	0.967	**1.06**
Dibenz(a,h)Anthracene	**0.33**	**0.33**	0.149	0.193
Dibenzofuran	**7**	**59**	0.105	0.0747 J
Diethyl Phthalate	**NS**	**NS**	0.075 U	0.077 U
Dimethyl Phthalate	**NS**	**NS**	0.075 U	0.077 U
Di-N-Butyl Phthalate	**NS**	**NS**	0.075 U	0.077 U
Di-N-Octylphthalate	**NS**	**NS**	0.075 U	0.077 U
Fluoranthene	**100**	**100**	2	1.99
Fluorene	**30**	**100**	0.244	0.176
Hexachlorobenzene	**0.33**	**1.2**	0.075 U	0.077 U
Hexachlorobutadiene	**NS**	**NS**	0.038 U	0.039 U
Hexachlorocyclopentadiene	**NS**	**NS**	0.38 U	0.39 U
Hexachloroethane	**NS**	**NS**	0.19 U	0.19 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	**0.607**	**0.694**
Isophorone	**NS**	**NS**	0.075 U	0.077 U
Naphthalene	**12**	**100**	0.0339 J	0.0307 J
Nitrobenzene	**NS**	**NS**	0.075 U	0.077 U
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.075 U	0.077 U
N-Nitrosodiphenylamine	**NS**	**NS**	0.19 U	0.19 U
Pentachlorophenol	**0.8**	**6.7**	0.15 UJ	0.15 UJ
Phenanthrene	**100**	**100**	1.79	1.42
Phenol	**0.33**	**100**	0.075 U	0.077 U
Pyrene	**100**	**100**	1.87	1.94

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-13 (0-2) 20180525 JC66764-32 5/25/2018 1:40:00 PM 1 mg/kg	RI-SB-13 (8-10) 20180525 JC66764-33 5/25/2018 2:00:00 PM 1 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.19 U	0.18 U
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.039 U	0.036 U
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.19 U	0.18 U
2,4,5-Trichlorophenol	**NS**	**NS**	0.19 U	0.18 U
2,4,6-Trichlorophenol	**NS**	**NS**	0.19 U	0.18 U
2,4-Dichlorophenol	**NS**	**NS**	0.19 U	0.18 U
2,4-Dimethylphenol	**NS**	**NS**	0.19 U	0.18 U
2,4-Dinitrophenol	**NS**	**NS**	0.19 U	0.18 U
2,4-Dinitrotoluene	**NS**	**NS**	0.039 U	0.036 U
2,6-Dinitrotoluene	**NS**	**NS**	0.039 U	0.036 U
2-Chloronaphthalene	**NS**	**NS**	0.078 U	0.073 U
2-Chlorophenol	**NS**	**NS**	0.078 U	0.073 U
2-Methylnaphthalene	**NS**	**NS**	0.039 U	0.0362
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.078 U	0.073 U
2-Nitroaniline	**NS**	**NS**	0.19 U	0.18 U
2-Nitrophenol	**NS**	**NS**	0.19 U	0.18 U
3,3'-Dichlorobenzidine	**NS**	**NS**	0.078 U	0.073 U
3-Nitroaniline	**NS**	**NS**	0.19 U	0.18 U
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.19 U	0.18 U
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.078 U	0.073 U
4-Chloro-3-Methylphenol	**NS**	**NS**	0.19 U	0.18 U
4-Chloroaniline	**NS**	**NS**	0.19 U	0.18 U
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.078 U	0.073 U
4-Nitroaniline	**NS**	**NS**	0.19 U	0.18 U
4-Nitrophenol	**NS**	**NS**	0.39 U	0.36 U
Acenaphthene	**20**	**100**	0.039 U	0.208
Acenaphthylene	**100**	**100**	0.0316 J	0.0669
Acetophenone	**NS**	**NS**	0.19 U	0.18 U
Anthracene	**100**	**100**	0.0449	0.442
Atrazine	**NS**	**NS**	0.078 U	0.073 U
Benzaldehyde	**NS**	**NS**	0.19 U	0.18 U
Benzo(a)Anthracene	**1**	**1**	0.154	**1.13**
Benzo(a)Pyrene	**1**	**1**	0.187	1
Benzo(b)Fluoranthene	**1**	**1**	0.246	**1.11**
Benzo(g,h,i)Perylene	**100**	**100**	0.157	0.743
Benzo(k)Fluoranthene	**0.8**	**3.9**	0.0775	0.448
Benzyl Butyl Phthalate	**NS**	**NS**	0.078 U	0.073 U
Biphenyl (Diphenyl)	**NS**	**NS**	0.078 U	0.0152 J
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.078 U	0.073 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.078 U	0.073 U
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.078 U	0.073 U
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.526	0.073 U
Caprolactam	**NS**	**NS**	0.078 U	0.073 U
Carbazole	**NS**	**NS**	0.0163 J	0.159
Chrysene	**1**	**3.9**	0.176	**1.13**
Dibenz(a,h)Anthracene	**0.33**	**0.33**	0.0393	0.2
Dibenzofuran	**7**	**59**	0.078 U	0.0932
Diethyl Phthalate	**NS**	**NS**	0.078 U	0.073 U
Dimethyl Phthalate	**NS**	**NS**	0.078 U	0.073 U
Di-N-Butyl Phthalate	**NS**	**NS**	0.078 U	0.073 U
Di-N-Octylphthalate	**NS**	**NS**	0.078 U	0.073 U
Fluoranthene	**100**	**100**	0.26	1.75
Fluorene	**30**	**100**	0.039 U	0.176
Hexachlorobenzene	**0.33**	**1.2**	0.078 U	0.073 U
Hexachlorobutadiene	**NS**	**NS**	0.039 U	0.036 U
Hexachlorocyclopentadiene	**NS**	**NS**	0.39 U	0.36 U
Hexachloroethane	**NS**	**NS**	0.19 U	0.18 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	0.13	**0.616**
Isophorone	**NS**	**NS**	0.078 U	0.073 U
Naphthalene	**12**	**100**	0.039 U	0.0564
Nitrobenzene	**NS**	**NS**	0.078 U	0.073 U
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.078 U	0.073 U
N-Nitrosodiphenylamine	**NS**	**NS**	0.19 U	0.18 U
Pentachlorophenol	**0.8**	**6.7**	0.16 U	0.15 U
Phenanthrene	**100**	**100**	0.157	1.68
Phenol	**0.33**	**100**	0.078 U	0.073 U
Pyrene	**100**	**100**	0.295	2

Attached Table 17
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-14 (0-2) 20180525 JC66764-34 5/25/2018 2:40:00 PM 1 mg/kg	RI-SB-14 (0-2) 20180525 JC66764-34 5/25/2018 2:40:00 PM 5 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.18 U	NA
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.037 U	NA
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.18 U	NA
2,4,5-Trichlorophenol	**NS**	**NS**	0.18 U	NA
2,4,6-Trichlorophenol	**NS**	**NS**	0.18 U	NA
2,4-Dichlorophenol	**NS**	**NS**	0.18 U	NA
2,4-Dimethylphenol	**NS**	**NS**	0.18 U	NA
2,4-Dinitrophenol	**NS**	**NS**	0.18 U	NA
2,4-Dinitrotoluene	**NS**	**NS**	0.037 U	NA
2,6-Dinitrotoluene	**NS**	**NS**	0.037 U	NA
2-Chloronaphthalene	**NS**	**NS**	0.074 U	NA
2-Chlorophenol	**NS**	**NS**	0.074 U	NA
2-Methylnaphthalene	**NS**	**NS**	0.156	NA
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.074 U	NA
2-Nitroaniline	**NS**	**NS**	0.18 U	NA
2-Nitrophenol	**NS**	**NS**	0.18 U	NA
3,3'-Dichlorobenzidine	**NS**	**NS**	0.074 U	NA
3-Nitroaniline	**NS**	**NS**	0.18 U	NA
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.18 U	NA
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.074 U	NA
4-Chloro-3-Methylphenol	**NS**	**NS**	0.18 U	NA
4-Chloroaniline	**NS**	**NS**	0.18 U	NA
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.074 U	NA
4-Nitroaniline	**NS**	**NS**	0.18 U	NA
4-Nitrophenol	**NS**	**NS**	0.37 U	NA
Acenaphthene	**20**	**100**	1.22	NA
Acenaphthylene	**100**	**100**	0.207	NA
Acetophenone	**NS**	**NS**	0.18 U	NA
Anthracene	**100**	**100**	2.58	NA
Atrazine	**NS**	**NS**	0.074 U	NA
Benzaldehyde	**NS**	**NS**	0.18 U	NA
Benzo(a)Anthracene	**1**	**1**	NA	**7.22 D**
Benzo(a)Pyrene	**1**	**1**	NA	**6.04 D**
Benzo(b)Fluoranthene	**1**	**1**	NA	**7.37 D**
Benzo(g,h,i)Perylene	**100**	**100**	NA	4.03 D
Benzo(k)Fluoranthene	**0.8**	**3.9**	NA	**2.53 D**
Benzyl Butyl Phthalate	**NS**	**NS**	0.074 U	NA
Biphenyl (Diphenyl)	**NS**	**NS**	0.061 J	NA
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.074 U	NA
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.074 U	NA
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.074 U	NA
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.09	NA
Caprolactam	**NS**	**NS**	0.074 U	NA
Carbazole	**NS**	**NS**	0.993	NA
Chrysene	**1**	**3.9**	NA	**6.78 D**
Dibenz(a,h)Anthracene	**0.33**	**0.33**	**1.37**	NA
Dibenzofuran	**7**	**59**	0.511	NA
Diethyl Phthalate	**NS**	**NS**	0.074 U	NA
Dimethyl Phthalate	**NS**	**NS**	0.074 U	NA
Di-N-Butyl Phthalate	**NS**	**NS**	2.12	NA
Di-N-Octylphthalate	**NS**	**NS**	0.074 U	NA
Fluoranthene	**100**	**100**	NA	11.4 D
Fluorene	**30**	**100**	1.1	NA
Hexachlorobenzene	**0.33**	**1.2**	0.074 U	NA
Hexachlorobutadiene	**NS**	**NS**	0.037 U	NA
Hexachlorocyclopentadiene	**NS**	**NS**	0.37 U	NA
Hexachloroethane	**NS**	**NS**	0.18 U	NA
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	NA	**3.49 D**
Isophorone	**NS**	**NS**	0.074 U	NA
Naphthalene	**12**	**100**	0.269	NA
Nitrobenzene	**NS**	**NS**	0.074 U	NA
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.074 U	NA
N-Nitrosodiphenylamine	**NS**	**NS**	0.18 U	NA
Pentachlorophenol	**0.8**	**6.7**	0.15 U	NA
Phenanthrene	**100**	**100**	NA	9.34 D
Phenol	**0.33**	**100**	0.074 U	NA
Pyrene	**100**	**100**	NA	11.9 D

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-14 (7-9) 20180525 JC66764-35 5/25/2018 2:45:00 PM 1 mg/kg	RI-SB-15 (0-2) 20180524 JC66764-12 5/24/2018 2:20:00 PM 1 mg/kg
1,2,4,5-Tetrachlorobenzene	NS	NS	0.19 U	0.18 U
1,4-Dioxane (P-Dioxane)	0.1	13	0.038 U	0.037 U
2,3,4,6-Tetrachlorophenol	NS	NS	0.19 U	0.18 UJ
2,4,5-Trichlorophenol	NS	NS	0.19 U	0.18 U
2,4,6-Trichlorophenol	NS	NS	0.19 U	0.18 U
2,4-Dichlorophenol	NS	NS	0.19 U	0.18 U
2,4-Dimethylphenol	NS	NS	0.19 U	0.18 U
2,4-Dinitrophenol	NS	NS	0.19 U	0.18 U
2,4-Dinitrotoluene	NS	NS	0.038 U	0.037 U
2,6-Dinitrotoluene	NS	NS	0.038 U	0.037 U
2-Chloronaphthalene	NS	NS	0.076 U	0.074 U
2-Chlorophenol	NS	NS	0.076 U	0.074 U
2-Methylnaphthalene	NS	NS	0.0407	0.021 J
2-Methylphenol (O-Cresol)	0.33	100	0.076 U	0.074 U
2-Nitroaniline	NS	NS	0.19 U	0.18 U
2-Nitrophenol	NS	NS	0.19 U	0.18 U
3,3'-Dichlorobenzidine	NS	NS	0.076 U	0.074 U
3-Nitroaniline	NS	NS	0.19 U	0.18 U
4,6-Dinitro-2-Methylphenol	NS	NS	0.19 U	0.18 U
4-Bromophenyl Phenyl Ether	NS	NS	0.076 U	0.074 U
4-Chloro-3-Methylphenol	NS	NS	0.19 U	0.18 U
4-Chloroaniline	NS	NS	0.19 U	0.18 U
4-Chlorophenyl Phenyl Ether	NS	NS	0.076 U	0.074 U
4-Nitroaniline	NS	NS	0.19 U	0.18 U
4-Nitrophenol	NS	NS	0.38 U	0.37 U
Acenaphthene	20	100	0.0677	0.204
Acenaphthylene	100	100	0.176	0.26
Acetophenone	NS	NS	0.19 U	0.18 U
Anthracene	100	100	0.317	0.621
Atrazine	NS	NS	0.076 U	0.074 U
Benzaldehyde	NS	NS	0.19 U	0.18 U
Benzo(a)Anthracene	1	1	0.722	3.49
Benzo(a)Pyrene	1	1	0.731	3.56
Benzo(b)Fluoranthene	1	1	0.922	NA
Benzo(g,h,i)Perylene	100	100	0.64	2.49
Benzo(k)Fluoranthene	0.8	3.9	0.324	1.59
Benzyl Butyl Phthalate	NS	NS	0.076 U	0.074 U
Biphenyl (Diphenyl)	NS	NS	0.0142 J	0.0101 J
Bis(2-Chloroethoxy) Methane	NS	NS	0.076 U	0.074 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	NS	NS	0.076 U	0.074 U
Bis(2-Chloroisopropyl) Ether	NS	NS	0.076 U	0.074 U
Bis(2-Ethylhexyl) Phthalate	NS	NS	0.295	0.074 U
Caprolactam	NS	NS	0.076 U	0.074 U
Carbazole	NS	NS	0.112	0.245
Chrysene	1	3.9	0.827	NA
Dibenz(a,h)Anthracene	0.33	0.33	0.147	0.751
Dibenzofuran	7	59	0.0485 J	0.0766
Diethyl Phthalate	NS	NS	0.076 U	0.074 U
Dimethyl Phthalate	NS	NS	0.076 U	0.074 U
Di-N-Butyl Phthalate	NS	NS	0.076 U	0.074 U
Di-N-Octylphthalate	NS	NS	0.076 U	0.074 U
Fluoranthene	100	100	1.12	NA
Fluorene	30	100	0.0763	0.15
Hexachlorobenzene	0.33	1.2	0.076 U	0.074 U
Hexachlorobutadiene	NS	NS	0.038 U	0.037 U
Hexachlorocyclopentadiene	NS	NS	0.38 U	0.37 U
Hexachloroethane	NS	NS	0.19 U	0.18 U
Indeno(1,2,3-c,d)Pyrene	0.5	0.5	0.517	2.29
Isophorone	NS	NS	0.076 U	0.074 U
Naphthalene	12	100	0.0502	0.0436
Nitrobenzene	NS	NS	0.076 U	0.074 U
N-Nitrosodi-N-Propylamine	NS	NS	0.076 U	0.074 U
N-Nitrosodiphenylamine	NS	NS	0.19 U	0.18 U
Pentachlorophenol	0.8	6.7	0.15 U	0.15 U
Phenanthrene	100	100	0.774	2.41
Phenol	0.33	100	0.076 U	0.074 U
Pyrene	100	100	1.27	NA

Attached Table 17
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-15 (0-2) 20180524 JC66764-12 5/24/2018 2:20:00 PM 2 mg/kg	RI-SB-15 (8-10) 20180524 JC66764-13 5/24/2018 2:25:00 PM 1 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	NA	0.19 U
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	NA	0.038 U
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	NA	0.19 UJ
2,4,5-Trichlorophenol	**NS**	**NS**	NA	0.19 U
2,4,6-Trichlorophenol	**NS**	**NS**	NA	0.19 U
2,4-Dichlorophenol	**NS**	**NS**	NA	0.19 U
2,4-Dimethylphenol	**NS**	**NS**	NA	0.19 U
2,4-Dinitrophenol	**NS**	**NS**	NA	0.19 U
2,4-Dinitrotoluene	**NS**	**NS**	NA	0.038 U
2,6-Dinitrotoluene	**NS**	**NS**	NA	0.038 U
2-Chloronaphthalene	**NS**	**NS**	NA	0.076 U
2-Chlorophenol	**NS**	**NS**	NA	0.076 U
2-Methylnaphthalene	**NS**	**NS**	NA	0.0496
2-Methylphenol (O-Cresol)	**0.33**	**100**	NA	0.076 U
2-Nitroaniline	**NS**	**NS**	NA	0.19 U
2-Nitrophenol	**NS**	**NS**	NA	0.19 U
3,3'-Dichlorobenzidine	**NS**	**NS**	NA	0.076 U
3-Nitroaniline	**NS**	**NS**	NA	0.19 U
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	NA	0.19 U
4-Bromophenyl Phenyl Ether	**NS**	**NS**	NA	0.076 U
4-Chloro-3-Methylphenol	**NS**	**NS**	NA	0.19 U
4-Chloroaniline	**NS**	**NS**	NA	0.19 U
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	NA	0.076 U
4-Nitroaniline	**NS**	**NS**	NA	0.19 U
4-Nitrophenol	**NS**	**NS**	NA	0.38 U
Acenaphthene	**20**	**100**	NA	0.248
Acenaphthylene	**100**	**100**	NA	0.225
Acetophenone	**NS**	**NS**	NA	0.19 U
Anthracene	**100**	**100**	NA	0.588
Atrazine	**NS**	**NS**	NA	0.076 U
Benzaldehyde	**NS**	**NS**	NA	0.19 U
Benzo(a)Anthracene	**1**	**1**	NA	**1.69**
Benzo(a)Pyrene	**1**	**1**	NA	**1.62**
Benzo(b)Fluoranthene	**1**	**1**	**4.34 D**	**1.84**
Benzo(g,h,i)Perylene	**100**	**100**	NA	1.36
Benzo(k)Fluoranthene	**0.8**	**3.9**	NA	0.673
Benzyl Butyl Phthalate	**NS**	**NS**	NA	0.076 U
Biphenyl (Diphenyl)	**NS**	**NS**	NA	0.019 J
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	NA	0.076 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	NA	0.076 U
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	NA	0.076 U
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	NA	0.076 U
Caprolactam	**NS**	**NS**	NA	0.076 U
Carbazole	**NS**	**NS**	NA	0.36
Chrysene	**1**	**3.9**	**3.9 D**	**1.79**
Dibenz(a,h)Anthracene	**0.33**	**0.33**	NA	0.317
Dibenzofuran	**7**	**59**	NA	0.152
Diethyl Phthalate	**NS**	**NS**	NA	0.076 U
Dimethyl Phthalate	**NS**	**NS**	NA	0.076 U
Di-N-Butyl Phthalate	**NS**	**NS**	NA	0.076 U
Di-N-Octylphthalate	**NS**	**NS**	NA	0.076 U
Fluoranthene	**100**	**100**	5.15 D	3.13
Fluorene	**30**	**100**	NA	0.236
Hexachlorobenzene	**0.33**	**1.2**	NA	0.076 U
Hexachlorobutadiene	**NS**	**NS**	NA	0.038 U
Hexachlorocyclopentadiene	**NS**	**NS**	NA	0.38 U
Hexachloroethane	**NS**	**NS**	NA	0.19 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	NA	**1.11**
Isophorone	**NS**	**NS**	NA	0.076 U
Naphthalene	**12**	**100**	NA	0.131
Nitrobenzene	**NS**	**NS**	NA	0.076 U
N-Nitrosodi-N-Propylamine	**NS**	**NS**	NA	0.076 U
N-Nitrosodiphenylamine	**NS**	**NS**	NA	0.19 U
Pentachlorophenol	**0.8**	**6.7**	NA	0.15 U
Phenanthrene	**100**	**100**	NA	2.84
Phenol	**0.33**	**100**	NA	0.076 U
Pyrene	**100**	**100**	5.34 D	3.07

AKRF Sample ID	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-16 (0-2) 20180525	RI-SB-16 (8-10) 20180525
Laboratory Sample ID			JC66764-22	JC66764-23
Date Sampled			5/25/2018 8:25:00 AM	5/25/2018 8:30:00 AM
Dilution Factor			2	1
Unit			mg/kg	mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.37 U	0.19 U
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.075 U	0.038 U
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.37 U	0.19 U
2,4,5-Trichlorophenol	**NS**	**NS**	0.37 U	0.19 U
2,4,6-Trichlorophenol	**NS**	**NS**	0.37 U	0.19 U
2,4-Dichlorophenol	**NS**	**NS**	0.37 U	0.19 U
2,4-Dimethylphenol	**NS**	**NS**	0.37 U	0.19 U
2,4-Dinitrophenol	**NS**	**NS**	0.37 U	0.19 U
2,4-Dinitrotoluene	**NS**	**NS**	0.075 U	0.038 U
2,6-Dinitrotoluene	**NS**	**NS**	0.075 U	0.038 U
2-Chloronaphthalene	**NS**	**NS**	0.15 U	0.076 U
2-Chlorophenol	**NS**	**NS**	0.15 U	0.076 U
2-Methylnaphthalene	**NS**	**NS**	0.075 U	0.0304 J
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.15 U	0.076 U
2-Nitroaniline	**NS**	**NS**	0.37 U	0.19 U
2-Nitrophenol	**NS**	**NS**	0.37 U	0.19 U
3,3'-Dichlorobenzidine	**NS**	**NS**	0.15 U	0.076 U
3-Nitroaniline	**NS**	**NS**	0.37 U	0.19 U
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.37 U	0.19 U
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.15 U	0.076 U
4-Chloro-3-Methylphenol	**NS**	**NS**	0.37 U	0.19 U
4-Chloroaniline	**NS**	**NS**	0.37 U	0.19 U
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.15 U	0.076 U
4-Nitroaniline	**NS**	**NS**	0.37 U	0.19 U
4-Nitrophenol	**NS**	**NS**	0.75 U	0.38 U
Acenaphthene	**20**	**100**	0.0478 JD	0.088
Acenaphthylene	**100**	**100**	0.0802 D	0.0986
Acetophenone	**NS**	**NS**	0.37 U	0.19 U
Anthracene	**100**	**100**	0.135 D	0.359
Atrazine	**NS**	**NS**	0.15 U	0.076 U
Benzaldehyde	**NS**	**NS**	0.37 U	0.19 U
Benzo(a)Anthracene	**1**	**1**	0.557 D	**2.16**
Benzo(a)Pyrene	**1**	**1**	0.566 D	**2.15**
Benzo(b)Fluoranthene	**1**	**1**	0.68 D	**2.63**
Benzo(g,h,i)Perylene	**100**	**100**	0.463 D	1.66
Benzo(k)Fluoranthene	**0.8**	**3.9**	0.208 D	**0.84**
Benzyl Butyl Phthalate	**NS**	**NS**	0.15 U	0.076 U
Biphenyl (Diphenyl)	**NS**	**NS**	0.15 U	0.076 U
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.15 U	0.076 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.15 U	0.076 U
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.15 U	0.076 U
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	4.03 D	0.076 U
Caprolactam	**NS**	**NS**	0.15 U	0.076 U
Carbazole	**NS**	**NS**	0.0425 JD	0.135
Chrysene	**1**	**3.9**	0.571 D	**1.9**
Dibenz(a,h)Anthracene	**0.33**	**0.33**	0.106 D	**0.447**
Dibenzofuran	**7**	**59**	0.15 U	0.0487 J
Diethyl Phthalate	**NS**	**NS**	0.15 U	0.076 U
Dimethyl Phthalate	**NS**	**NS**	0.15 U	0.076 U
Di-N-Butyl Phthalate	**NS**	**NS**	0.15 U	0.076 U
Di-N-Octylphthalate	**NS**	**NS**	0.15 U	0.076 U
Fluoranthene	**100**	**100**	0.92 D	3.3
Fluorene	**30**	**100**	0.0398 JD	0.077
Hexachlorobenzene	**0.33**	**1.2**	0.15 U	0.076 U
Hexachlorobutadiene	**NS**	**NS**	0.075 U	0.038 U
Hexachlorocyclopentadiene	**NS**	**NS**	0.75 U	0.38 U
Hexachloroethane	**NS**	**NS**	0.37 U	0.19 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	0.342 D	**1.42**
Isophorone	**NS**	**NS**	0.15 U	0.076 U
Naphthalene	**12**	**100**	0.0294 JD	0.0781
Nitrobenzene	**NS**	**NS**	0.15 U	0.076 U
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.15 U	0.076 U
N-Nitrosodiphenylamine	**NS**	**NS**	0.37 U	0.19 U
Pentachlorophenol	**0.8**	**6.7**	0.3 U	0.15 U
Phenanthrene	**100**	**100**	0.596 D	1.57
Phenol	**0.33**	**100**	0.15 U	0.076 U
Pyrene	**100**	**100**	1.06 D	3.37

Attached Table 17
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-17 (0-2) 20180525 JC66764-24 5/25/2018 8:55:00 AM 1 mg/kg	RI-SB-17 (0-2) 20180525 JC66764-24 5/25/2018 8:55:00 AM 20 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.19 U	NA
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.038 U	NA
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.19 U	NA
2,4,5-Trichlorophenol	**NS**	**NS**	0.19 U	NA
2,4,6-Trichlorophenol	**NS**	**NS**	0.19 U	NA
2,4-Dichlorophenol	**NS**	**NS**	0.19 U	NA
2,4-Dimethylphenol	**NS**	**NS**	0.19 U	NA
2,4-Dinitrophenol	**NS**	**NS**	0.19 U	NA
2,4-Dinitrotoluene	**NS**	**NS**	0.038 U	NA
2,6-Dinitrotoluene	**NS**	**NS**	0.038 U	NA
2-Chloronaphthalene	**NS**	**NS**	0.076 U	NA
2-Chlorophenol	**NS**	**NS**	0.076 U	NA
2-Methylnaphthalene	**NS**	**NS**	0.4	NA
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.076 U	NA
2-Nitroaniline	**NS**	**NS**	0.19 U	NA
2-Nitrophenol	**NS**	**NS**	0.19 U	NA
3,3'-Dichlorobenzidine	**NS**	**NS**	0.076 U	NA
3-Nitroaniline	**NS**	**NS**	0.19 U	NA
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.19 U	NA
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.076 U	NA
4-Chloro-3-Methylphenol	**NS**	**NS**	0.19 U	NA
4-Chloroaniline	**NS**	**NS**	0.19 U	NA
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.076 U	NA
4-Nitroaniline	**NS**	**NS**	0.19 U	NA
4-Nitrophenol	**NS**	**NS**	0.38 U	NA
Acenaphthene	**20**	**100**	3.01	NA
Acenaphthylene	**100**	**100**	0.282	NA
Acetophenone	**NS**	**NS**	0.19 U	NA
Anthracene	**100**	**100**	NA	7.9 D
Atrazine	**NS**	**NS**	0.076 U	NA
Benzaldehyde	**NS**	**NS**	0.19 U	NA
Benzo(a)Anthracene	**1**	**1**	NA	**13.3 D**
Benzo(a)Pyrene	**1**	**1**	NA	**11.7 D**
Benzo(b)Fluoranthene	**1**	**1**	NA	**12 D**
Benzo(g,h,i)Perylene	**100**	**100**	NA	8.21 D
Benzo(k)Fluoranthene	**0.8**	**3.9**	NA	**3.87 D**
Benzyl Butyl Phthalate	**NS**	**NS**	0.076 U	NA
Biphenyl (Diphenyl)	**NS**	**NS**	0.227	NA
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.076 U	NA
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.076 U	NA
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.076 U	NA
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.076 U	NA
Caprolactam	**NS**	**NS**	0.076 U	NA
Carbazole	**NS**	**NS**	1.24	NA
Chrysene	**1**	**3.9**	NA	**12.6 D**
Dibenz(a,h)Anthracene	**0.33**	**0.33**	**2.97**	NA
Dibenzofuran	**7**	**59**	0.933	NA
Diethyl Phthalate	**NS**	**NS**	0.076 U	NA
Dimethyl Phthalate	**NS**	**NS**	0.076 U	NA
Di-N-Butyl Phthalate	**NS**	**NS**	0.076 U	NA
Di-N-Octylphthalate	**NS**	**NS**	0.076 U	NA
Fluoranthene	**100**	**100**	NA	23.3 D
Fluorene	**30**	**100**	2.58	NA
Hexachlorobenzene	**0.33**	**1.2**	0.076 U	NA
Hexachlorobutadiene	**NS**	**NS**	0.038 U	NA
Hexachlorocyclopentadiene	**NS**	**NS**	0.38 U	NA
Hexachloroethane	**NS**	**NS**	0.19 U	NA
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	NA	**6.29 D**
Isophorone	**NS**	**NS**	0.076 U	NA
Naphthalene	**12**	**100**	0.497	NA
Nitrobenzene	**NS**	**NS**	0.076 U	NA
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.076 U	NA
N-Nitrosodiphenylamine	**NS**	**NS**	0.19 U	NA
Pentachlorophenol	**0.8**	**6.7**	0.15 U	NA
Phenanthrene	**100**	**100**	NA	29.1 D
Phenol	**0.33**	**100**	0.076 U	NA
Pyrene	**100**	**100**	NA	32.5 D

Attached Table 17
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-17 (8-10) 20180525 JC66764-25 5/25/2018 9:00:00 AM 1 mg/kg	RI-SB-17 (8-10) 20180525 JC66764-25 5/25/2018 9:00:00 AM 5 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.19 U	NA
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.039 U	NA
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.19 U	NA
2,4,5-Trichlorophenol	**NS**	**NS**	0.19 U	NA
2,4,6-Trichlorophenol	**NS**	**NS**	0.19 U	NA
2,4-Dichlorophenol	**NS**	**NS**	0.19 U	NA
2,4-Dimethylphenol	**NS**	**NS**	0.19 U	NA
2,4-Dinitrophenol	**NS**	**NS**	0.19 U	NA
2,4-Dinitrotoluene	**NS**	**NS**	0.039 U	NA
2,6-Dinitrotoluene	**NS**	**NS**	0.039 U	NA
2-Chloronaphthalene	**NS**	**NS**	0.077 U	NA
2-Chlorophenol	**NS**	**NS**	0.077 U	NA
2-Methylnaphthalene	**NS**	**NS**	0.161	NA
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.077 U	NA
2-Nitroaniline	**NS**	**NS**	0.19 U	NA
2-Nitrophenol	**NS**	**NS**	0.19 U	NA
3,3'-Dichlorobenzidine	**NS**	**NS**	0.077 U	NA
3-Nitroaniline	**NS**	**NS**	0.19 U	NA
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.19 U	NA
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.077 U	NA
4-Chloro-3-Methylphenol	**NS**	**NS**	0.19 U	NA
4-Chloroaniline	**NS**	**NS**	0.19 U	NA
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.077 U	NA
4-Nitroaniline	**NS**	**NS**	0.19 U	NA
4-Nitrophenol	**NS**	**NS**	0.39 U	NA
Acenaphthene	**20**	**100**	0.977	NA
Acenaphthylene	**100**	**100**	0.0779	NA
Acetophenone	**NS**	**NS**	0.19 U	NA
Anthracene	**100**	**100**	1.88	NA
Atrazine	**NS**	**NS**	0.077 U	NA
Benzaldehyde	**NS**	**NS**	0.19 U	NA
Benzo(a)Anthracene	**1**	**1**	NA	**4.58 D**
Benzo(a)Pyrene	**1**	**1**	**3.78**	NA
Benzo(b)Fluoranthene	**1**	**1**	NA	**4.69 D**
Benzo(g,h,i)Perylene	**100**	**100**	2.5	NA
Benzo(k)Fluoranthene	**0.8**	**3.9**	NA	**1.46 D**
Benzyl Butyl Phthalate	**NS**	**NS**	0.077 U	NA
Biphenyl (Diphenyl)	**NS**	**NS**	0.0576 J	NA
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.077 U	NA
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.077 U	NA
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.077 U	NA
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.077 U	NA
Caprolactam	**NS**	**NS**	0.077 U	NA
Carbazole	**NS**	**NS**	0.871	NA
Chrysene	**1**	**3.9**	NA	**4.15 D**
Dibenz(a,h)Anthracene	**0.33**	**0.33**	**0.788**	NA
Dibenzofuran	**7**	**59**	0.484	NA
Diethyl Phthalate	**NS**	**NS**	0.077 U	NA
Dimethyl Phthalate	**NS**	**NS**	0.077 U	NA
Di-N-Butyl Phthalate	**NS**	**NS**	0.077 U	NA
Di-N-Octylphthalate	**NS**	**NS**	0.077 U	NA
Fluoranthene	**100**	**100**	NA	7.62 D
Fluorene	**30**	**100**	0.888	NA
Hexachlorobenzene	**0.33**	**1.2**	0.077 U	NA
Hexachlorobutadiene	**NS**	**NS**	0.039 U	NA
Hexachlorocyclopentadiene	**NS**	**NS**	0.39 U	NA
Hexachloroethane	**NS**	**NS**	0.19 U	NA
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	**2.24**	NA
Isophorone	**NS**	**NS**	0.077 U	NA
Naphthalene	**12**	**100**	0.34	NA
Nitrobenzene	**NS**	**NS**	0.077 U	NA
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.077 U	NA
N-Nitrosodiphenylamine	**NS**	**NS**	0.19 U	NA
Pentachlorophenol	**0.8**	**6.7**	0.15 U	NA
Phenanthrene	**100**	**100**	NA	6.66 D
Phenol	**0.33**	**100**	0.077 U	NA
Pyrene	**100**	**100**	NA	7.67 D

Attached Table 17
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-18 (0-2) 20180525 JC66764-26 5/25/2018 9:30:00 AM 5 mg/kg	RI-SB-18 (0-2) 20180525 JC66764-26 5/25/2018 9:30:00 AM 25 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.92 U	NA
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.18 U	NA
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.92 U	NA
2,4,5-Trichlorophenol	**NS**	**NS**	0.92 U	NA
2,4,6-Trichlorophenol	**NS**	**NS**	0.92 U	NA
2,4-Dichlorophenol	**NS**	**NS**	0.92 U	NA
2,4-Dimethylphenol	**NS**	**NS**	0.92 U	NA
2,4-Dinitrophenol	**NS**	**NS**	0.92 U	NA
2,4-Dinitrotoluene	**NS**	**NS**	0.18 U	NA
2,6-Dinitrotoluene	**NS**	**NS**	0.18 U	NA
2-Chloronaphthalene	**NS**	**NS**	0.37 U	NA
2-Chlorophenol	**NS**	**NS**	0.37 U	NA
2-Methylnaphthalene	**NS**	**NS**	1.32 D	NA
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.37 U	NA
2-Nitroaniline	**NS**	**NS**	0.92 U	NA
2-Nitrophenol	**NS**	**NS**	0.92 U	NA
3,3'-Dichlorobenzidine	**NS**	**NS**	0.37 U	NA
3-Nitroaniline	**NS**	**NS**	0.92 U	NA
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.92 U	NA
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.37 U	NA
4-Chloro-3-Methylphenol	**NS**	**NS**	0.92 U	NA
4-Chloroaniline	**NS**	**NS**	0.92 U	NA
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.37 U	NA
4-Nitroaniline	**NS**	**NS**	0.92 U	NA
4-Nitrophenol	**NS**	**NS**	1.8 U	NA
Acenaphthene	**20**	**100**	6.79 D	NA
Acenaphthylene	**100**	**100**	0.557 D	NA
Acetophenone	**NS**	**NS**	0.92 U	NA
Anthracene	**100**	**100**	12.3 D	NA
Atrazine	**NS**	**NS**	0.37 U	NA
Benzaldehyde	**NS**	**NS**	0.92 U	NA
Benzo(a)Anthracene	**1**	**1**	NA	**31.3 D**
Benzo(a)Pyrene	**1**	**1**	NA	**25.8 D**
Benzo(b)Fluoranthene	**1**	**1**	NA	**31.1 D**
Benzo(g,h,i)Perylene	**100**	**100**	18.2 D	NA
Benzo(k)Fluoranthene	**0.8**	**3.9**	NA	**13.3 D**
Benzyl Butyl Phthalate	**NS**	**NS**	0.37 U	NA
Biphenyl (Diphenyl)	**NS**	**NS**	0.471 D	NA
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.37 U	NA
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.37 U	NA
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.37 U	NA
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.37 U	NA
Caprolactam	**NS**	**NS**	0.37 U	NA
Carbazole	**NS**	**NS**	6.08 D	NA
Chrysene	**1**	**3.9**	NA	**29.8 D**
Dibenz(a,h)Anthracene	**0.33**	**0.33**	**6.42 D**	NA
Dibenzofuran	**7**	**59**	3.74 D	NA
Diethyl Phthalate	**NS**	**NS**	0.37 U	NA
Dimethyl Phthalate	**NS**	**NS**	0.37 U	NA
Di-N-Butyl Phthalate	**NS**	**NS**	0.37 U	NA
Di-N-Octylphthalate	**NS**	**NS**	0.37 U	NA
Fluoranthene	**100**	**100**	NA	52.3 D
Fluorene	**30**	**100**	5.86 D	NA
Hexachlorobenzene	**0.33**	**1.2**	0.37 U	NA
Hexachlorobutadiene	**NS**	**NS**	0.18 U	NA
Hexachlorocyclopentadiene	**NS**	**NS**	1.8 U	NA
Hexachloroethane	**NS**	**NS**	0.92 U	NA
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	**17 D**	NA
Isophorone	**NS**	**NS**	0.37 U	NA
Naphthalene	**12**	**100**	3.36 D	NA
Nitrobenzene	**NS**	**NS**	0.37 U	NA
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.37 U	NA
N-Nitrosodiphenylamine	**NS**	**NS**	0.92 U	NA
Pentachlorophenol	**0.8**	**6.7**	0.73 U	NA
Phenanthrene	**100**	**100**	NA	45.5 D
Phenol	**0.33**	**100**	0.37 U	NA
Pyrene	**100**	**100**	NA	54.3 D

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-18 (8-10) 20180525 JC66764-27 5/25/2018 9:40:00 AM 1 mg/kg	RI-SB-18 (8-10) 20180525 JC66764-27 5/25/2018 9:40:00 AM 2 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.18 U	NA
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.036 U	NA
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.18 U	NA
2,4,5-Trichlorophenol	**NS**	**NS**	0.18 U	NA
2,4,6-Trichlorophenol	**NS**	**NS**	0.18 U	NA
2,4-Dichlorophenol	**NS**	**NS**	0.18 U	NA
2,4-Dimethylphenol	**NS**	**NS**	0.18 U	NA
2,4-Dinitrophenol	**NS**	**NS**	0.18 U	NA
2,4-Dinitrotoluene	**NS**	**NS**	0.036 U	NA
2,6-Dinitrotoluene	**NS**	**NS**	0.036 U	NA
2-Chloronaphthalene	**NS**	**NS**	0.072 U	NA
2-Chlorophenol	**NS**	**NS**	0.072 U	NA
2-Methylnaphthalene	**NS**	**NS**	0.136	NA
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.072 U	NA
2-Nitroaniline	**NS**	**NS**	0.18 U	NA
2-Nitrophenol	**NS**	**NS**	0.18 U	NA
3,3'-Dichlorobenzidine	**NS**	**NS**	0.072 U	NA
3-Nitroaniline	**NS**	**NS**	0.18 U	NA
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.18 U	NA
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.072 U	NA
4-Chloro-3-Methylphenol	**NS**	**NS**	0.18 U	NA
4-Chloroaniline	**NS**	**NS**	0.18 U	NA
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.072 U	NA
4-Nitroaniline	**NS**	**NS**	0.18 U	NA
4-Nitrophenol	**NS**	**NS**	0.36 U	NA
Acenaphthene	**20**	**100**	0.487	NA
Acenaphthylene	**100**	**100**	0.0555	NA
Acetophenone	**NS**	**NS**	0.18 U	NA
Anthracene	**100**	**100**	1.11	NA
Atrazine	**NS**	**NS**	0.072 U	NA
Benzaldehyde	**NS**	**NS**	0.18 U	NA
Benzo(a)Anthracene	**1**	**1**	**2.33**	NA
Benzo(a)Pyrene	**1**	**1**	**2.12**	NA
Benzo(b)Fluoranthene	**1**	**1**	**2.49**	NA
Benzo(g,h,i)Perylene	**100**	**100**	1.6	NA
Benzo(k)Fluoranthene	**0.8**	**3.9**	**0.837**	NA
Benzyl Butyl Phthalate	**NS**	**NS**	0.072 U	NA
Biphenyl (Diphenyl)	**NS**	**NS**	0.0531 J	NA
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.072 U	NA
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.072 U	NA
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.072 U	NA
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.072 U	NA
Caprolactam	**NS**	**NS**	0.072 U	NA
Carbazole	**NS**	**NS**	0.386	NA
Chrysene	**1**	**3.9**	**2.26**	NA
Dibenz(a,h)Anthracene	**0.33**	**0.33**	**0.397**	NA
Dibenzofuran	**7**	**59**	0.359	NA
Diethyl Phthalate	**NS**	**NS**	0.072 U	NA
Dimethyl Phthalate	**NS**	**NS**	0.072 U	NA
Di-N-Butyl Phthalate	**NS**	**NS**	0.072 U	NA
Di-N-Octylphthalate	**NS**	**NS**	0.072 U	NA
Fluoranthene	**100**	**100**	NA	4.56 D
Fluorene	**30**	**100**	0.478	NA
Hexachlorobenzene	**0.33**	**1.2**	0.072 U	NA
Hexachlorobutadiene	**NS**	**NS**	0.036 U	NA
Hexachlorocyclopentadiene	**NS**	**NS**	0.36 U	NA
Hexachloroethane	**NS**	**NS**	0.18 U	NA
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	**1.35**	NA
Isophorone	**NS**	**NS**	0.072 U	NA
Naphthalene	**12**	**100**	0.436	NA
Nitrobenzene	**NS**	**NS**	0.072 U	NA
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.072 U	NA
N-Nitrosodiphenylamine	**NS**	**NS**	0.18 U	NA
Pentachlorophenol	**0.8**	**6.7**	0.14 U	NA
Phenanthrene	**100**	**100**	NA	4.55 D
Phenol	**0.33**	**100**	0.072 U	NA
Pyrene	**100**	**100**	NA	4.63 D

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-19 (0-2) 20180524 JC66764-9 5/24/2018 1:15:00 PM 1 mg/kg	RI-SB-19 (7-9) 20180524 JC66764-10 5/24/2018 1:20:00 PM 1 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.18 U	0.18 U
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.036 U	0.036 U
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.18 UJ	0.18 R
2,4,5-Trichlorophenol	**NS**	**NS**	0.18 U	0.18 R
2,4,6-Trichlorophenol	**NS**	**NS**	0.18 U	0.18 R
2,4-Dichlorophenol	**NS**	**NS**	0.18 U	0.18 R
2,4-Dimethylphenol	**NS**	**NS**	0.18 U	0.18 R
2,4-Dinitrophenol	**NS**	**NS**	0.18 U	0.18 R
2,4-Dinitrotoluene	**NS**	**NS**	0.036 U	0.036 U
2,6-Dinitrotoluene	**NS**	**NS**	0.036 U	0.036 U
2-Chloronaphthalene	**NS**	**NS**	0.072 U	0.073 U
2-Chlorophenol	**NS**	**NS**	0.072 U	0.073 R
2-Methylnaphthalene	**NS**	**NS**	0.0176 J	0.0592
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.072 U	0.073 R
2-Nitroaniline	**NS**	**NS**	0.18 U	0.18 U
2-Nitrophenol	**NS**	**NS**	0.18 U	0.18 R
3,3'-Dichlorobenzidine	**NS**	**NS**	0.072 U	0.073 U
3-Nitroaniline	**NS**	**NS**	0.18 U	0.18 U
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.18 U	0.18 R
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.072 U	0.073 U
4-Chloro-3-Methylphenol	**NS**	**NS**	0.18 U	0.18 R
4-Chloroaniline	**NS**	**NS**	0.18 U	0.18 U
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.072 U	0.073 U
4-Nitroaniline	**NS**	**NS**	0.18 U	0.18 U
4-Nitrophenol	**NS**	**NS**	0.36 U	0.36 R
Acenaphthene	**20**	**100**	0.127	0.236
Acenaphthylene	**100**	**100**	0.1	0.136
Acetophenone	**NS**	**NS**	0.18 U	0.18 U
Anthracene	**100**	**100**	0.345	0.545
Atrazine	**NS**	**NS**	0.072 U	0.073 U
Benzaldehyde	**NS**	**NS**	0.18 U	0.18 U
Benzo(a)Anthracene	**1**	**1**	**1.85**	**1.49**
Benzo(a)Pyrene	**1**	**1**	**1.73**	**1.39**
Benzo(b)Fluoranthene	**1**	**1**	**2.09**	**1.4**
Benzo(g,h,i)Perylene	**100**	**100**	1.36	1.14
Benzo(k)Fluoranthene	**0.8**	**3.9**	0.643	0.518
Benzyl Butyl Phthalate	**NS**	**NS**	0.072 U	0.073 U
Biphenyl (Diphenyl)	**NS**	**NS**	0.0074 J	0.0221 J
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.072 U	0.073 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.072 U	0.073 U
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.072 U	0.073 U
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.072 U	0.073 U
Caprolactam	**NS**	**NS**	0.072 U	0.073 U
Carbazole	**NS**	**NS**	0.127	0.195
Chrysene	**1**	**3.9**	**1.98**	**1.58**
Dibenz(a,h)Anthracene	**0.33**	**0.33**	0.328	0.251
Dibenzofuran	**7**	**59**	0.0323 J	0.14
Diethyl Phthalate	**NS**	**NS**	0.072 U	0.073 U
Dimethyl Phthalate	**NS**	**NS**	0.072 U	0.073 U
Di-N-Butyl Phthalate	**NS**	**NS**	0.072 U	0.073 U
Di-N-Octylphthalate	**NS**	**NS**	0.072 U	0.073 U
Fluoranthene	**100**	**100**	2.57	2.51
Fluorene	**30**	**100**	0.0728	0.208
Hexachlorobenzene	**0.33**	**1.2**	0.072 U	0.073 U
Hexachlorobutadiene	**NS**	**NS**	0.036 U	0.036 U
Hexachlorocyclopentadiene	**NS**	**NS**	0.36 U	0.36 U
Hexachloroethane	**NS**	**NS**	0.18 U	0.18 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	**1.13**	**0.883**
Isophorone	**NS**	**NS**	0.072 U	0.073 U
Naphthalene	**12**	**100**	0.0318 J	0.14
Nitrobenzene	**NS**	**NS**	0.072 U	0.073 U
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.072 U	0.073 U
N-Nitrosodiphenylamine	**NS**	**NS**	0.18 U	0.18 U
Pentachlorophenol	**0.8**	**6.7**	0.14 U	0.15 R
Phenanthrene	**100**	**100**	1.4	2.93
Phenol	**0.33**	**100**	0.072 U	0.073 R
Pyrene	**100**	**100**	2.55	2.81

AKRF Sample ID			RI-SB-20 (0-2) 20180525	RI-SB-20 (0-2) 20180525
Laboratory Sample ID			JC66764-28	JC66764-28
Date Sampled	**NYSDEC UUSCO**	**NYSDEC RRSCO**	5/25/2018 10:20:00 AM	5/25/2018 10:20:00 AM
Dilution Factor			1	5
Unit			mg/kg	mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.18 U	NA
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.036 U	NA
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.18 U	NA
2,4,5-Trichlorophenol	**NS**	**NS**	0.18 U	NA
2,4,6-Trichlorophenol	**NS**	**NS**	0.18 U	NA
2,4-Dichlorophenol	**NS**	**NS**	0.18 U	NA
2,4-Dimethylphenol	**NS**	**NS**	0.18 U	NA
2,4-Dinitrophenol	**NS**	**NS**	0.18 U	NA
2,4-Dinitrotoluene	**NS**	**NS**	0.036 U	NA
2,6-Dinitrotoluene	**NS**	**NS**	0.036 U	NA
2-Chloronaphthalene	**NS**	**NS**	0.073 U	NA
2-Chlorophenol	**NS**	**NS**	0.073 U	NA
2-Methylnaphthalene	**NS**	**NS**	0.149	NA
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.073 U	NA
2-Nitroaniline	**NS**	**NS**	0.18 U	NA
2-Nitrophenol	**NS**	**NS**	0.18 U	NA
3,3'-Dichlorobenzidine	**NS**	**NS**	0.073 U	NA
3-Nitroaniline	**NS**	**NS**	0.18 U	NA
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.18 U	NA
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.073 U	NA
4-Chloro-3-Methylphenol	**NS**	**NS**	0.18 U	NA
4-Chloroaniline	**NS**	**NS**	0.18 U	NA
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.073 U	NA
4-Nitroaniline	**NS**	**NS**	0.18 U	NA
4-Nitrophenol	**NS**	**NS**	0.36 U	NA
Acenaphthene	**20**	**100**	1.34	NA
Acenaphthylene	**100**	**100**	0.128 J	NA
Acetophenone	**NS**	**NS**	0.18 U	NA
Anthracene	**100**	**100**	2.53	NA
Atrazine	**NS**	**NS**	0.073 U	NA
Benzaldehyde	**NS**	**NS**	0.18 U	NA
Benzo(a)Anthracene	**1**	**1**	NA	**8.25 D**
Benzo(a)Pyrene	**1**	**1**	NA	**7.05 D**
Benzo(b)Fluoranthene	**1**	**1**	NA	**8.75 D**
Benzo(g,h,i)Perylene	**100**	**100**	NA	4.64 D
Benzo(k)Fluoranthene	**0.8**	**3.9**	NA	**3.07 D**
Benzyl Butyl Phthalate	**NS**	**NS**	0.073 U	NA
Biphenyl (Diphenyl)	**NS**	**NS**	0.0623 J	NA
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.073 U	NA
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.073 U	NA
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.073 U	NA
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.073 U	NA
Caprolactam	**NS**	**NS**	0.073 U	NA
Carbazole	**NS**	**NS**	1.11	NA
Chrysene	**1**	**3.9**	NA	**7.9 D**
Dibenz(a,h)Anthracene	**0.33**	**0.33**	**1.49**	NA
Dibenzofuran	**7**	**59**	0.491	NA
Diethyl Phthalate	**NS**	**NS**	0.073 U	NA
Dimethyl Phthalate	**NS**	**NS**	0.073 U	NA
Di-N-Butyl Phthalate	**NS**	**NS**	0.073 U	NA
Di-N-Octylphthalate	**NS**	**NS**	0.073 U	NA
Fluoranthene	**100**	**100**	NA	12.6 D
Fluorene	**30**	**100**	0.991	NA
Hexachlorobenzene	**0.33**	**1.2**	0.073 U	NA
Hexachlorobutadiene	**NS**	**NS**	0.036 U	NA
Hexachlorocyclopentadiene	**NS**	**NS**	0.36 U	NA
Hexachloroethane	**NS**	**NS**	0.18 U	NA
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	NA	**4.16 D**
Isophorone	**NS**	**NS**	0.073 U	NA
Naphthalene	**12**	**100**	0.303	NA
Nitrobenzene	**NS**	**NS**	0.073 U	NA
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.073 U	NA
N-Nitrosodiphenylamine	**NS**	**NS**	0.18 U	NA
Pentachlorophenol	**0.8**	**6.7**	0.15 U	NA
Phenanthrene	**100**	**100**	NA	10 D
Phenol	**0.33**	**100**	0.073 U	NA
Pyrene	**100**	**100**	NA	13 D

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-20 (8-10) 20180525 JC66764-29 5/25/2018 10:30:00 AM 1 mg/kg	RI-SB-21 (0-2) 20180525 JC66764-36 5/25/2018 2:15:00 PM 1 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.18 U	0.18 U
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.036 U	0.037 U
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.18 U	0.18 U
2,4,5-Trichlorophenol	**NS**	**NS**	0.18 U	0.18 U
2,4,6-Trichlorophenol	**NS**	**NS**	0.18 U	0.18 U
2,4-Dichlorophenol	**NS**	**NS**	0.18 U	0.18 U
2,4-Dimethylphenol	**NS**	**NS**	0.18 U	0.18 U
2,4-Dinitrophenol	**NS**	**NS**	0.18 U	0.18 U
2,4-Dinitrotoluene	**NS**	**NS**	0.036 U	0.037 U
2,6-Dinitrotoluene	**NS**	**NS**	0.036 U	0.037 U
2-Chloronaphthalene	**NS**	**NS**	0.073 U	0.074 U
2-Chlorophenol	**NS**	**NS**	0.073 U	0.074 U
2-Methylnaphthalene	**NS**	**NS**	0.036 U	0.037 U
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.073 U	0.074 U
2-Nitroaniline	**NS**	**NS**	0.18 U	0.18 U
2-Nitrophenol	**NS**	**NS**	0.18 U	0.18 U
3,3'-Dichlorobenzidine	**NS**	**NS**	0.073 U	0.074 U
3-Nitroaniline	**NS**	**NS**	0.18 U	0.18 U
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.18 U	0.18 U
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.073 U	0.074 U
4-Chloro-3-Methylphenol	**NS**	**NS**	0.18 U	0.18 U
4-Chloroaniline	**NS**	**NS**	0.18 U	0.18 U
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.073 U	0.074 U
4-Nitroaniline	**NS**	**NS**	0.18 U	0.18 U
4-Nitrophenol	**NS**	**NS**	0.36 U	0.37 U
Acenaphthene	**20**	**100**	0.036 U	0.0289 J
Acenaphthylene	**100**	**100**	0.0806	0.0591
Acetophenone	**NS**	**NS**	0.18 U	0.18 U
Anthracene	**100**	**100**	0.0514	0.117 JL
Atrazine	**NS**	**NS**	0.073 U	0.074 U
Benzaldehyde	**NS**	**NS**	0.18 U	0.18 U
Benzo(a)Anthracene	**1**	**1**	0.106	0.577 JL
Benzo(a)Pyrene	**1**	**1**	0.117	0.588 JL
Benzo(b)Fluoranthene	**1**	**1**	0.133	0.682 JL
Benzo(g,h,i)Perylene	**100**	**100**	0.17	0.48 JL
Benzo(k)Fluoranthene	**0.8**	**3.9**	0.0534	0.294 JL
Benzyl Butyl Phthalate	**NS**	**NS**	0.073 U	0.074 U
Biphenyl (Diphenyl)	**NS**	**NS**	0.073 U	0.074 U
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.073 U	0.074 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.073 U	0.074 U
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.073 U	0.074 U
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.073 U	0.074 U
Caprolactam	**NS**	**NS**	0.073 U	0.074 U
Carbazole	**NS**	**NS**	0.0227 J	0.0311 JL
Chrysene	**1**	**3.9**	0.111	0.576
Dibenz(a,h)Anthracene	**0.33**	**0.33**	0.0292 J	0.127
Dibenzofuran	**7**	**59**	0.073 U	0.074 U
Diethyl Phthalate	**NS**	**NS**	0.073 U	0.074 U
Dimethyl Phthalate	**NS**	**NS**	0.073 U	0.074 U
Di-N-Butyl Phthalate	**NS**	**NS**	0.073 U	0.074 U
Di-N-Octylphthalate	**NS**	**NS**	0.073 U	0.074 U
Fluoranthene	**100**	**100**	0.163	0.765 JL
Fluorene	**30**	**100**	0.036 U	0.0271 JL
Hexachlorobenzene	**0.33**	**1.2**	0.073 U	0.074 U
Hexachlorobutadiene	**NS**	**NS**	0.036 U	0.037 U
Hexachlorocyclopentadiene	**NS**	**NS**	0.36 U	0.37 U
Hexachloroethane	**NS**	**NS**	0.18 U	0.18 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	0.107	0.382 JL
Isophorone	**NS**	**NS**	0.073 U	0.074 U
Naphthalene	**12**	**100**	0.036 U	0.0123 J
Nitrobenzene	**NS**	**NS**	0.073 U	0.074 U
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.073 U	0.074 U
N-Nitrosodiphenylamine	**NS**	**NS**	0.18 U	0.18 U
Pentachlorophenol	**0.8**	**6.7**	0.15 U	0.15 U
Phenanthrene	**100**	**100**	0.115	0.347 JL
Phenol	**0.33**	**100**	0.073 U	0.074 U
Pyrene	**100**	**100**	0.175	0.901 JL

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-X02 (0-2) 20180525 JC66764-38 5/25/2018 2:15:00 PM 1 mg/kg	RI-SB-21 (7.5-9.5) 20180525 JC66764-37 5/25/2018 2:30:00 PM 1 mg/kg
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	0.19 U	0.18 U
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	0.038 U	0.037 U
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	0.19 U	0.18 U
2,4,5-Trichlorophenol	**NS**	**NS**	0.19 U	0.18 U
2,4,6-Trichlorophenol	**NS**	**NS**	0.19 U	0.18 U
2,4-Dichlorophenol	**NS**	**NS**	0.19 U	0.18 U
2,4-Dimethylphenol	**NS**	**NS**	0.19 U	0.18 U
2,4-Dinitrophenol	**NS**	**NS**	0.19 U	0.18 U
2,4-Dinitrotoluene	**NS**	**NS**	0.038 U	0.037 U
2,6-Dinitrotoluene	**NS**	**NS**	0.038 U	0.037 U
2-Chloronaphthalene	**NS**	**NS**	0.075 U	0.073 U
2-Chlorophenol	**NS**	**NS**	0.075 U	0.073 U
2-Methylnaphthalene	**NS**	**NS**	0.0161 J	0.125
2-Methylphenol (O-Cresol)	**0.33**	**100**	0.075 U	0.073 U
2-Nitroaniline	**NS**	**NS**	0.19 U	0.18 U
2-Nitrophenol	**NS**	**NS**	0.19 U	0.18 U
3,3'-Dichlorobenzidine	**NS**	**NS**	0.075 U	0.073 U
3-Nitroaniline	**NS**	**NS**	0.19 U	0.18 U
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	0.19 U	0.18 U
4-Bromophenyl Phenyl Ether	**NS**	**NS**	0.075 U	0.073 U
4-Chloro-3-Methylphenol	**NS**	**NS**	0.19 U	0.18 U
4-Chloroaniline	**NS**	**NS**	0.19 U	0.18 U
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	0.075 U	0.073 U
4-Nitroaniline	**NS**	**NS**	0.19 U	0.18 U
4-Nitrophenol	**NS**	**NS**	0.38 U	0.37 U
Acenaphthene	**20**	**100**	0.0676	0.23
Acenaphthylene	**100**	**100**	0.118	0.13
Acetophenone	**NS**	**NS**	0.19 U	0.18 U
Anthracene	**100**	**100**	0.241	0.537
Atrazine	**NS**	**NS**	0.075 U	0.073 U
Benzaldehyde	**NS**	**NS**	0.19 U	0.18 U
Benzo(a)Anthracene	**1**	**1**	**1.04**	0.865
Benzo(a)Pyrene	**1**	**1**	**1.07**	0.809
Benzo(b)Fluoranthene	**1**	**1**	**1.23**	0.905
Benzo(g,h,i)Perylene	**100**	**100**	0.824	0.615
Benzo(k)Fluoranthene	**0.8**	**3.9**	0.51	0.308
Benzyl Butyl Phthalate	**NS**	**NS**	0.075 U	0.073 U
Biphenyl (Diphenyl)	**NS**	**NS**	0.075 U	0.0408 J
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	0.075 U	0.073 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	0.075 U	0.073 U
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	0.075 U	0.073 U
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	0.075 U	0.073 U
Caprolactam	**NS**	**NS**	0.075 U	0.073 U
Carbazole	**NS**	**NS**	0.078	0.0822
Chrysene	**1**	**3.9**	0.99	0.864
Dibenz(a,h)Anthracene	**0.33**	**0.33**	0.227	0.154
Dibenzofuran	**7**	**59**	0.0288 J	0.17
Diethyl Phthalate	**NS**	**NS**	0.075 U	0.073 U
Dimethyl Phthalate	**NS**	**NS**	0.075 U	0.073 U
Di-N-Butyl Phthalate	**NS**	**NS**	0.075 U	0.073 U
Di-N-Octylphthalate	**NS**	**NS**	0.075 U	0.073 U
Fluoranthene	**100**	**100**	1.37	1.92
Fluorene	**30**	**100**	0.0623	0.153
Hexachlorobenzene	**0.33**	**1.2**	0.075 U	0.073 U
Hexachlorobutadiene	**NS**	**NS**	0.038 U	0.037 U
Hexachlorocyclopentadiene	**NS**	**NS**	0.38 U	0.37 U
Hexachloroethane	**NS**	**NS**	0.19 U	0.18 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	**0.682**	0.493
Isophorone	**NS**	**NS**	0.075 U	0.073 U
Naphthalene	**12**	**100**	0.0218 J	0.126
Nitrobenzene	**NS**	**NS**	0.075 U	0.073 U
N-Nitrosodi-N-Propylamine	**NS**	**NS**	0.075 U	0.073 U
N-Nitrosodiphenylamine	**NS**	**NS**	0.19 U	0.18 U
Pentachlorophenol	**0.8**	**6.7**	0.15 U	0.15 U
Phenanthrene	**100**	**100**	0.707	0.989
Phenol	**0.33**	**100**	0.075 U	0.073 U
Pyrene	**100**	**100**	1.56	2.13

AKRF Sample ID			RI-FB-01 20180524	RI-FB-02 20180525
Laboratory Sample ID			JC66764-17	JC66764-21
Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	5/24/2018 3:15:00 PM	5/25/2018 3:25:00 PM
Dilution Factor			1	1
Unit			ug/l	ug/l
1,2,4,5-Tetrachlorobenzene	**NS**	**NS**	2 U	1.9 U
1,4-Dioxane (P-Dioxane)	**0.1**	**13**	1 U	0.95 U
2,3,4,6-Tetrachlorophenol	**NS**	**NS**	5 U	4.8 UJ
2,4,5-Trichlorophenol	**NS**	**NS**	5 U	4.8 U
2,4,6-Trichlorophenol	**NS**	**NS**	5 U	4.8 U
2,4-Dichlorophenol	**NS**	**NS**	2 U	1.9 U
2,4-Dimethylphenol	**NS**	**NS**	5 U	4.8 U
2,4-Dinitrophenol	**NS**	**NS**	5 U	4.8 U
2,4-Dinitrotoluene	**NS**	**NS**	1 UJ	0.95 UJ
2,6-Dinitrotoluene	**NS**	**NS**	1 U	0.95 UJ
2-Chloronaphthalene	**NS**	**NS**	2 U	1.9 U
2-Chlorophenol	**NS**	**NS**	5 U	4.8 U
2-Methylnaphthalene	**NS**	**NS**	1 U	0.95 U
2-Methylphenol (O-Cresol)	**0.33**	**100**	2 U	1.9 U
2-Nitroaniline	**NS**	**NS**	5 U	4.8 U
2-Nitrophenol	**NS**	**NS**	5 U	4.8 U
3,3'-Dichlorobenzidine	**NS**	**NS**	2 U	1.9 U
3-Nitroaniline	**NS**	**NS**	5 U	4.8 U
4,6-Dinitro-2-Methylphenol	**NS**	**NS**	5 U	4.8 U
4-Bromophenyl Phenyl Ether	**NS**	**NS**	2 U	1.9 U
4-Chloro-3-Methylphenol	**NS**	**NS**	5 U	4.8 U
4-Chloroaniline	**NS**	**NS**	5 U	4.8 U
4-Chlorophenyl Phenyl Ether	**NS**	**NS**	2 UJ	1.9 U
4-Nitroaniline	**NS**	**NS**	5 U	4.8 U
4-Nitrophenol	**NS**	**NS**	10 U	9.5 UJ
Acenaphthene	**20**	**100**	1 U	0.95 U
Acenaphthylene	**100**	**100**	1 U	0.95 U
Acetophenone	**NS**	**NS**	2 U	1.9 U
Anthracene	**100**	**100**	1 U	0.95 U
Atrazine	**NS**	**NS**	2 U	1.9 U
Benzaldehyde	**NS**	**NS**	5 U	4.8 U
Benzo(a)Anthracene	**1**	**1**	1 U	0.95 U
Benzo(a)Pyrene	**1**	**1**	1 U	0.95 U
Benzo(b)Fluoranthene	**1**	**1**	1 U	0.95 U
Benzo(g,h,i)Perylene	**100**	**100**	1 U	0.95 U
Benzo(k)Fluoranthene	**0.8**	**3.9**	1 U	0.95 U
Benzyl Butyl Phthalate	**NS**	**NS**	2 U	1.9 U
Biphenyl (Diphenyl)	**NS**	**NS**	1 U	0.95 U
Bis(2-Chloroethoxy) Methane	**NS**	**NS**	2 U	1.9 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	**NS**	**NS**	2 U	1.9 U
Bis(2-Chloroisopropyl) Ether	**NS**	**NS**	2 U	1.9 U
Bis(2-Ethylhexyl) Phthalate	**NS**	**NS**	2 U	1.9 U
Caprolactam	**NS**	**NS**	2 U	1.9 U
Carbazole	**NS**	**NS**	1 U	0.95 U
Chrysene	**1**	**3.9**	1 U	0.95 U
Dibenz(a,h)Anthracene	**0.33**	**0.33**	1 U	0.95 U
Dibenzofuran	**7**	**59**	5 U	4.8 U
Diethyl Phthalate	**NS**	**NS**	2 U	1.9 U
Dimethyl Phthalate	**NS**	**NS**	2 U	1.9 U
Di-N-Butyl Phthalate	**NS**	**NS**	2 U	1.9 U
Di-N-Octylphthalate	**NS**	**NS**	2 U	1.9 U
Fluoranthene	**100**	**100**	1 U	0.95 U
Fluorene	**30**	**100**	1 U	0.95 U
Hexachlorobenzene	**0.33**	**1.2**	1 U	0.95 U
Hexachlorobutadiene	**NS**	**NS**	1 U	0.95 U
Hexachlorocyclopentadiene	**NS**	**NS**	10 U	9.5 U
Hexachloroethane	**NS**	**NS**	2 U	1.9 U
Indeno(1,2,3-c,d)Pyrene	**0.5**	**0.5**	1 U	0.95 U
Isophorone	**NS**	**NS**	2 U	1.9 U
Naphthalene	**12**	**100**	1 U	0.95 U
Nitrobenzene	**NS**	**NS**	2 U	1.9 U
N-Nitrosodi-N-Propylamine	**NS**	**NS**	2 U	1.9 U
N-Nitrosodiphenylamine	**NS**	**NS**	5 U	4.8 U
Pentachlorophenol	**0.8**	**6.7**	4 U	3.8 U
Phenanthrene	**100**	**100**	1 U	0.95 U
Phenol	**0.33**	**100**	2 U	1.9 U
Pyrene	**100**	**100**	1 U	0.95 U

Attached Table 17
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-FB-04 20181008 JC75512-3 10/8/2018 10:30:00 AM 1 ug/l
1,2,4,5-Tetrachlorobenzene	NS	NS	2 U
1,4-Dioxane (P-Dioxane)	0.1	13	1 U
2,3,4,6-Tetrachlorophenol	NS	NS	5 U
2,4,5-Trichlorophenol	NS	NS	5 U
2,4,6-Trichlorophenol	NS	NS	5 U
2,4-Dichlorophenol	NS	NS	2 U
2,4-Dimethylphenol	NS	NS	5 UJ
2,4-Dinitrophenol	NS	NS	5 U
2,4-Dinitrotoluene	NS	NS	1 U
2,6-Dinitrotoluene	NS	NS	1 U
2-Chloronaphthalene	NS	NS	2 U
2-Chlorophenol	NS	NS	5 U
2-Methylnaphthalene	NS	NS	1 U
2-Methylphenol (O-Cresol)	0.33	100	2 U
2-Nitroaniline	NS	NS	5 U
2-Nitrophenol	NS	NS	5 U
3,3'-Dichlorobenzidine	NS	NS	2 U
3-Nitroaniline	NS	NS	5 U
4,6-Dinitro-2-Methylphenol	NS	NS	5 U
4-Bromophenyl Phenyl Ether	NS	NS	2 U
4-Chloro-3-Methylphenol	NS	NS	5 U
4-Chloroaniline	NS	NS	5 U
4-Chlorophenyl Phenyl Ether	NS	NS	2 U
4-Nitroaniline	NS	NS	5 U
4-Nitrophenol	NS	NS	10 U
Acenaphthene	20	100	1 U
Acenaphthylene	100	100	1 U
Acetophenone	NS	NS	2 U
Anthracene	100	100	1 U
Atrazine	NS	NS	2 U
Benzaldehyde	NS	NS	5 U
Benzo(a)Anthracene	1	1	0.24 J
Benzo(a)Pyrene	1	1	1 UJ
Benzo(b)Fluoranthene	1	1	1 U
Benzo(g,h,i)Perylene	100	100	1 U
Benzo(k)Fluoranthene	0.8	3.9	1 U
Benzyl Butyl Phthalate	NS	NS	2 U
Biphenyl (Diphenyl)	NS	NS	1 U
Bis(2-Chloroethoxy) Methane	NS	NS	2 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	NS	NS	2 U
Bis(2-Chloroisopropyl) Ether	NS	NS	2 U
Bis(2-Ethylhexyl) Phthalate	NS	NS	2 U
Caprolactam	NS	NS	2 U
Carbazole	NS	NS	1 U
Chrysene	1	3.9	1 U
Dibenz(a,h)Anthracene	0.33	0.33	1 U
Dibenzofuran	7	59	5 U
Diethyl Phthalate	NS	NS	2 U
Dimethyl Phthalate	NS	NS	2 U
Di-N-Butyl Phthalate	NS	NS	2 U
Di-N-Octylphthalate	NS	NS	2 U
Fluoranthene	100	100	1 U
Fluorene	30	100	1 U
Hexachlorobenzene	0.33	1.2	1 U
Hexachlorobutadiene	NS	NS	1 U
Hexachlorocyclopentadiene	NS	NS	10 U
Hexachloroethane	NS	NS	2 U
Indeno(1,2,3-c,d)Pyrene	0.5	0.5	1 U
Isophorone	NS	NS	2 U
Naphthalene	12	100	1 U
Nitrobenzene	NS	NS	2 U
N-Nitrosodi-N-Propylamine	NS	NS	2 U
N-Nitrosodiphenylamine	NS	NS	5 U
Pentachlorophenol	0.8	6.7	4 U
Phenanthrene	100	100	1 U
Phenol	0.33	100	2 U
Pyrene	100	100	1 U

Attached Table 18
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Pesticides

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-01 (0-2) 20180524 JC66764-3 5/24/2018 10:30:00 AM 1 mg/kg	RI-SB-01 (5-7) 20180524 JC66764-4 5/24/2018 10:35:00 AM 1 mg/kg	RI-SB-01 (5-7) 20180524 JC66764-4 5/24/2018 10:35:00 AM 10 mg/kg
Aldrin	**0.005**	**0.097**	0.000072 U	0.000074 U	NA
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.000072 U	0.000074 U	NA
Alpha Endosulfan	**NS**	**NS**	0.000072 U	0.000074 U	NA
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.000072 U	0.000074 U	NA
Beta Endosulfan	**NS**	**NS**	0.000072 U	0.000074 U	NA
cis-Chlordane	**0.094**	**4.2**	0.000072 U	0.000074 U	NA
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.000072 U	0.000074 U	NA
Dieldrin	**0.005**	**0.2**	0.000072 U	0.000074 U	NA
Endosulfan Sulfate	**NS**	**NS**	0.000072 U	0.000074 U	NA
Endrin	**0.014**	**11**	0.000072 U	0.000074 U	NA
Endrin Aldehyde	**NS**	**NS**	0.000072 U	0.000074 U	NA
Endrin Ketone	**NS**	**NS**	0.000072 U	0.000074 U	NA
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.000072 U	0.000074 U	NA
Heptachlor	**0.042**	**2.1**	0.000072 U	0.000074 U	NA
Heptachlor Epoxide	**NS**	**NS**	0.000072 U	0.000074 U	NA
Methoxychlor	**NS**	**NS**	0.000140 U	0.00015 U	NA
P,P'-DDD	**0.0033**	**13**	0.000072 U	0.000074 U	NA
P,P'-DDE	**0.0033**	**8.9**	**0.006100 JK**	NA	**0.02 JKD**
P,P'-DDT	**0.0033**	**7.9**	0.000072 U	NA	**0.0457 JKD**
Toxaphene	**NS**	**NS**	0.001800 U	0.0019 U	NA
trans-Chlordane	**NS**	**NS**	0.000072 U	0.000074 U	NA

Attached Table 18
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Pesticides

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-01 (9-11) 20180524 JC66764-5 5/24/2018 10:45:00 AM 1 mg/kg	RI-SB-01 (9-11) 20180524 JC66764-5 5/24/2018 10:45:00 AM 5 mg/kg	RI-SB-02 (0-2) 20180524 JC66764-1 5/24/2018 9:00:00 AM 1 mg/kg
Aldrin	**0.005**	**0.097**	0.000071 U	NA	0.000071 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.000071 U	NA	0.000071 U
Alpha Endosulfan	**NS**	**NS**	0.000071 U	NA	0.000071 U
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.000071 U	NA	0.000071 U
Beta Endosulfan	**NS**	**NS**	0.000071 U	NA	0.000071 U
cis-Chlordane	**0.094**	**4.2**	0.000071 U	NA	0.000071 U
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.000071 U	NA	0.000071 U
Dieldrin	**0.005**	**0.2**	0.0017 JKN	NA	0.000071 U
Endosulfan Sulfate	**NS**	**NS**	0.000071 U	NA	0.000071 U
Endrin	**0.014**	**11**	0.000071 U	NA	0.000071 U
Endrin Aldehyde	**NS**	**NS**	0.000071 U	NA	0.000071 U
Endrin Ketone	**NS**	**NS**	0.000071 U	NA	0.000071 U
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.000071 U	NA	0.000071 U
Heptachlor	**0.042**	**2.1**	0.000071 U	NA	0.000071 U
Heptachlor Epoxide	**NS**	**NS**	0.000071 U	NA	0.000071 U
Methoxychlor	**NS**	**NS**	0.00014 U	NA	0.00014 U
P,P'-DDD	**0.0033**	**13**	0.000071 U	NA	0.0023 JK
P,P'-DDE	**0.0033**	**8.9**	0.0015 JKN	NA	0.0025 JK
P,P'-DDT	**0.0033**	**7.9**	NA	**0.0037 JKND**	**0.0043 JKN**
Toxaphene	**NS**	**NS**	0.0018 U	NA	0.0018 U
trans-Chlordane	**NS**	**NS**	0.000071 U	NA	0.000071 U

Attached Table 18
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Pesticides

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-02 (7.5-9.5) 20180524 JC66764-2 5/24/2018 9:05:00 AM 1 mg/kg	RI-SB-02 (7.5-9.5) 20180524 JC66764-2 5/24/2018 9:05:00 AM 10 mg/kg	RI-SB-03 (0-2) 20181008 JC75512-5 10/8/2018 8:45:00 AM 1 mg/kg
Aldrin	**0.005**	**0.097**	0.000075 U	NA	0.000071 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.000075 U	NA	0.000071 U
Alpha Endosulfan	**NS**	**NS**	0.000075 U	NA	0.000071 U
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.000075 U	NA	0.000071 U
Beta Endosulfan	**NS**	**NS**	0.000075 U	NA	0.000071 U
cis-Chlordane	**0.094**	**4.2**	0.0028 JK	NA	0.00034 JK
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.000075 U	NA	0.000071 U
Dieldrin	**0.005**	**0.2**	0.000075 U	NA	0.00069 JK
Endosulfan Sulfate	**NS**	**NS**	0.000075 U	NA	0.000071 U
Endrin	**0.014**	**11**	0.000075 U	NA	0.000071 U
Endrin Aldehyde	**NS**	**NS**	0.000075 U	NA	0.000071 U
Endrin Ketone	**NS**	**NS**	0.000075 U	NA	0.000071 U
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.000075 U	NA	0.000071 U
Heptachlor	**0.042**	**2.1**	0.000075 U	NA	0.000071 U
Heptachlor Epoxide	**NS**	**NS**	0.000075 U	NA	0.000071 U
Methoxychlor	**NS**	**NS**	0.00015 U	NA	0.00014 U
P,P'-DDD	**0.0033**	**13**	NA	0.0026 JKDN	0.000071 U
P,P'-DDE	**0.0033**	**8.9**	NA	**0.0082 JKD**	0.0014 JK
P,P'-DDT	**0.0033**	**7.9**	NA	**0.0357 JKD**	0.0031 JK
Toxaphene	**NS**	**NS**	0.0019 U	NA	0.0018 U
trans-Chlordane	**NS**	**NS**	0.0021 JK	NA	0.00051 JKN

Attached Table 18
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Pesticides

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-03 (8.5-10.5) 20181008 JC75512-1 10/8/2018 9:00:00 AM 1 mg/kg	RI-SB-X04 (8.5-10.5) 20181008 JC75512-2 10/8/2018 12:00:00 PM 1 mg/kg	RI-SB-04 (9.5-10) 20180821 JC72360-1 8/21/2018 3:56:00 PM 1 mg/kg
Aldrin	**0.005**	**0.097**	0.000085 U	0.000074 U	0.000069 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.000085 U	0.000074 U	0.000069 U
Alpha Endosulfan	**NS**	**NS**	0.000085 U	0.000074 U	0.000069 U
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.000085 U	0.000074 U	0.000069 U
Beta Endosulfan	**NS**	**NS**	0.000085 U	0.000074 U	0.000069 U
cis-Chlordane	**0.094**	**4.2**	0.000085 U	0.000074 U	0.0011 J
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.000085 U	0.000074 U	0.000069 U
Dieldrin	**0.005**	**0.2**	0.000085 U	0.000074 U	0.000069 U
Endosulfan Sulfate	**NS**	**NS**	0.000085 U	0.000074 U	0.000069 U
Endrin	**0.014**	**11**	0.000085 U	0.000074 U	0.000069 U
Endrin Aldehyde	**NS**	**NS**	0.000085 U	0.000074 U	0.000069 U
Endrin Ketone	**NS**	**NS**	0.000085 U	0.000074 U	0.000069 U
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.000085 U	0.000074 U	0.000069 U
Heptachlor	**0.042**	**2.1**	0.000085 U	0.000074 U	0.000069 U
Heptachlor Epoxide	**NS**	**NS**	0.000085 U	0.000074 U	0.000069 U
Methoxychlor	**NS**	**NS**	0.00017 U	0.00015 U	0.00014 U
P,P'-DDD	**0.0033**	**13**	0.0012 JKN	0.0024 JKN	0.000069 U
P,P'-DDE	**0.0033**	**8.9**	0.0004 JKN	0.00067 JK	0.00012 J
P,P'-DDT	**0.0033**	**7.9**	0.0022 JKN	0.0017 JKN	0.00056 J
Toxaphene	**NS**	**NS**	0.0021 U	0.0019 U	0.0017 U
trans-Chlordane	**NS**	**NS**	0.000085 U	0.00028 JK	0.00092

Attached Table 18
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Pesticides

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-05 (9.5-11) 20180821 JC72360-2 8/21/2018 4:20:00 PM 1 mg/kg	RI-SB-06 (0-2) 20180525 JC66764-30 5/25/2018 12:45:00 PM 1 mg/kg	RI-SB-06 (0-2) 20180525 JC66764-30 5/25/2018 12:45:00 PM 10 mg/kg
Aldrin	**0.005**	**0.097**	0.000076 U	0.000081 U	NA
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.000076 U	0.000081 U	NA
Alpha Endosulfan	**NS**	**NS**	0.000076 U	0.000081 U	NA
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.000076 U	0.000081 U	NA
Beta Endosulfan	**NS**	**NS**	0.000076 U	0.000081 U	NA
cis-Chlordane	**0.094**	**4.2**	0.00059 J	NA	0.013 JKD
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.000076 U	0.000081 U	NA
Dieldrin	**0.005**	**0.2**	0.000076 U	0.000081 U	NA
Endosulfan Sulfate	**NS**	**NS**	0.000076 U	0.000081 U	NA
Endrin	**0.014**	**11**	0.000076 U	0.000081 U	NA
Endrin Aldehyde	**NS**	**NS**	0.000076 U	0.000081 U	NA
Endrin Ketone	**NS**	**NS**	0.000076 U	0.000081 U	NA
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.000076 U	0.000081 U	NA
Heptachlor	**0.042**	**2.1**	0.000076 U	0.000081 U	NA
Heptachlor Epoxide	**NS**	**NS**	0.000076 U	0.000081 U	NA
Methoxychlor	**NS**	**NS**	0.00015 U	0.00016 U	NA
P,P'-DDD	**0.0033**	**13**	0.000076 U	NA	**0.0057 JKD**
P,P'-DDE	**0.0033**	**8.9**	0.0002 J	NA	**0.0229 JKD**
P,P'-DDT	**0.0033**	**7.9**	0.00042 JN	NA	**0.0253 JKD**
Toxaphene	**NS**	**NS**	0.0019 U	0.002 U	NA
trans-Chlordane	**NS**	**NS**	0.0008	NA	0.0122 JKD

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-06 (9-11) 20180525 JC66764-31 5/25/2018 12:55:00 PM 1 mg/kg	RI-SB-06 (9-11) 20180525 JC66764-31 5/25/2018 12:55:00 PM 10 mg/kg	RI-SB-07 (0-2) 20180524 JC66764-6 5/24/2018 12:15:00 PM 1 mg/kg
Aldrin	**0.005**	**0.097**	0.000069 U	NA	0.000069 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.000069 U	NA	0.000069 U
Alpha Endosulfan	**NS**	**NS**	0.000069 U	NA	0.000069 U
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.000069 U	NA	0.000069 U
Beta Endosulfan	**NS**	**NS**	0.000069 U	NA	0.000069 U
cis-Chlordane	**0.094**	**4.2**	0.000069 U	NA	0.000069 U
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.000069 U	NA	0.000069 U
Dieldrin	**0.005**	**0.2**	0.000069 U	NA	0.000069 U
Endosulfan Sulfate	**NS**	**NS**	0.000069 U	NA	0.000069 U
Endrin	**0.014**	**11**	0.000069 U	NA	0.000069 U
Endrin Aldehyde	**NS**	**NS**	0.000069 U	NA	0.000069 U
Endrin Ketone	**NS**	**NS**	0.000069 U	NA	0.000069 U
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.000069 U	NA	0.000069 U
Heptachlor	**0.042**	**2.1**	0.000069 U	NA	0.000069 U
Heptachlor Epoxide	**NS**	**NS**	0.000069 U	NA	0.000069 U
Methoxychlor	**NS**	**NS**	0.00014 U	NA	0.00014 U
P,P'-DDD	**0.0033**	**13**	0.000069 U	NA	0.000069 U
P,P'-DDE	**0.0033**	**8.9**	NA	**0.0057 JKDN**	NA
P,P'-DDT	**0.0033**	**7.9**	NA	**0.0126 JKD**	0.0033 JKN
Toxaphene	**NS**	**NS**	0.0017 U	NA	0.0017 U
trans-Chlordane	**NS**	**NS**	0.000069 U	NA	0.000069 U

Attached Table 18
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Pesticides

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-07 (0-2) 20180524 JC66764-6 5/24/2018 12:15:00 PM 10 mg/kg	RI-SB-07 (5-7) 20180524 JC66764-7 5/24/2018 12:26:00 PM 1 mg/kg	RI-SB-07 (5-7) 20180524 JC66764-7 5/24/2018 12:26:00 PM 10 mg/kg
Aldrin	**0.005**	**0.097**	NA	0.000073 U	NA
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	NA	0.000073 U	NA
Alpha Endosulfan	**NS**	**NS**	NA	0.000073 U	NA
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	NA	0.000073 U	NA
Beta Endosulfan	**NS**	**NS**	NA	0.000073 U	NA
cis-Chlordane	**0.094**	**4.2**	NA	0.000073 U	NA
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	NA	0.000073 U	NA
Dieldrin	**0.005**	**0.2**	NA	0.00085 JKN	NA
Endosulfan Sulfate	**NS**	**NS**	NA	0.000073 U	NA
Endrin	**0.014**	**11**	NA	0.000073 U	NA
Endrin Aldehyde	**NS**	**NS**	NA	0.000073 U	NA
Endrin Ketone	**NS**	**NS**	NA	0.000073 U	NA
Gamma Bhc (Lindane)	**0.1**	**1.3**	NA	0.000073 U	NA
Heptachlor	**0.042**	**2.1**	NA	0.000073 U	NA
Heptachlor Epoxide	**NS**	**NS**	NA	0.00044 JKN	NA
Methoxychlor	**NS**	**NS**	NA	0.00015 U	NA
P,P'-DDD	**0.0033**	**13**	NA	0.000073 U	NA
P,P'-DDE	**0.0033**	**8.9**	**0.0062 JKD**	0.0019 JK	NA
P,P'-DDT	**0.0033**	**7.9**	NA	NA	**0.0081 JKD**
Toxaphene	**NS**	**NS**	NA	0.0018 U	NA
trans-Chlordane	**NS**	**NS**	NA	0.00059 JKN	NA

Attached Table 18
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Pesticides

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-07 (8-10) 20180524 JC66764-8 5/24/2018 12:31:00 PM 1 mg/kg	RI-SB-07 (8-10) 20180524 JC66764-8 5/24/2018 12:31:00 PM 10 mg/kg	RI-SB-08 (0-2) 20180524 JC66764-18 5/24/2018 2:05:00 PM 1 mg/kg
Aldrin	**0.005**	**0.097**	0.000079 U	NA	0.000074 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.000079 U	NA	0.000074 U
Alpha Endosulfan	**NS**	**NS**	0.000079 U	NA	0.000074 U
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.000079 U	NA	0.000074 U
Beta Endosulfan	**NS**	**NS**	0.000079 U	NA	0.000074 U
cis-Chlordane	**0.094**	**4.2**	0.002 JK	NA	0.0054 JK
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.000079 U	NA	0.000074 U
Dieldrin	**0.005**	**0.2**	0.0018 JKN	NA	0.000074 U
Endosulfan Sulfate	**NS**	**NS**	0.000079 U	NA	0.000074 U
Endrin	**0.014**	**11**	0.000079 U	NA	0.000074 U
Endrin Aldehyde	**NS**	**NS**	0.000079 U	NA	0.000074 U
Endrin Ketone	**NS**	**NS**	0.000079 U	NA	0.000074 U
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.000079 U	NA	0.000074 U
Heptachlor	**0.042**	**2.1**	0.000079 U	NA	0.000074 U
Heptachlor Epoxide	**NS**	**NS**	0.000079 U	NA	0.000074 U
Methoxychlor	**NS**	**NS**	0.00016 U	NA	0.00015 U
P,P'-DDD	**0.0033**	**13**	0.000079 U	NA	0.000074 U
P,P'-DDE	**0.0033**	**8.9**	**0.0064 JK**	NA	NA
P,P'-DDT	**0.0033**	**7.9**	NA	**0.0466 JKD**	**0.0065 JKN**
Toxaphene	**NS**	**NS**	0.002 U	NA	0.0019 U
trans-Chlordane	**NS**	**NS**	0.0046 JK	NA	NA

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-08 (0-2) 20180524 JC66764-18 5/24/2018 2:05:00 PM 10 mg/kg	RI-SB-08 (7-9) 20180524 JC66764-19 5/24/2018 2:10:00 PM 1 mg/kg	RI-SB-08 (7-9) 20180524 JC66764-19 5/24/2018 2:10:00 PM 10 mg/kg
Aldrin	**0.005**	**0.097**	NA	0.000075 U	NA
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	NA	0.000075 U	NA
Alpha Endosulfan	**NS**	**NS**	NA	0.000075 U	NA
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	NA	0.000075 U	NA
Beta Endosulfan	**NS**	**NS**	NA	0.000075 U	NA
cis-Chlordane	**0.094**	**4.2**	NA	0.0044 JK	NA
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	NA	0.000075 U	NA
Dieldrin	**0.005**	**0.2**	NA	0.0032 JKN	NA
Endosulfan Sulfate	**NS**	**NS**	NA	0.000075 U	NA
Endrin	**0.014**	**11**	NA	0.000075 U	NA
Endrin Aldehyde	**NS**	**NS**	NA	0.000075 U	NA
Endrin Ketone	**NS**	**NS**	NA	0.000075 U	NA
Gamma Bhc (Lindane)	**0.1**	**1.3**	NA	0.000075 U	NA
Heptachlor	**0.042**	**2.1**	NA	0.000075 U	NA
Heptachlor Epoxide	**NS**	**NS**	NA	0.0012 JKN	NA
Methoxychlor	**NS**	**NS**	NA	0.00015 U	NA
P,P'-DDD	**0.0033**	**13**	NA	0.000075 U	NA
P,P'-DDE	**0.0033**	**8.9**	0.0026 JKDN	**0.0045 JKN**	NA
P,P'-DDT	**0.0033**	**7.9**	NA	0.0029 JKN	NA
Toxaphene	**NS**	**NS**	NA	0.0019 U	NA
trans-Chlordane	**NS**	**NS**	0.0029 JKDN	NA	0.0035 JKD

Attached Table 18
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Pesticides

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-09 (0-2) 20180524 JC66764-14 5/24/2018 2:40:00 PM 1 mg/kg	RI-SB-X01 (0-2) 20180524 JC66764-15 5/24/2018 2:40:00 PM 1 mg/kg	RI-SB-X01 (0-2) 20180524 JC66764-15 5/24/2018 2:40:00 PM 10 mg/kg
Aldrin	**0.005**	**0.097**	0.000073 U	0.000071 U	NA
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.000073 UJ	0.000071 U	NA
Alpha Endosulfan	**NS**	**NS**	0.000073 U	0.000071 U	NA
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.000073 U	0.000071 U	NA
Beta Endosulfan	**NS**	**NS**	0.000073 U	0.000071 U	NA
cis-Chlordane	**0.094**	**4.2**	0.000073 U	0.000071 U	NA
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.000073 U	0.000071 U	NA
Dieldrin	**0.005**	**0.2**	0.000073 UJ	0.0027 JK	NA
Endosulfan Sulfate	**NS**	**NS**	0.000073 U	0.000071 U	NA
Endrin	**0.014**	**11**	0.000073 U	0.000071 U	NA
Endrin Aldehyde	**NS**	**NS**	0.000073 U	0.000071 U	NA
Endrin Ketone	**NS**	**NS**	0.000073 U	0.000071 U	NA
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.000073 U	0.000071 U	NA
Heptachlor	**0.042**	**2.1**	0.000073 U	0.000071 U	NA
Heptachlor Epoxide	**NS**	**NS**	0.000073 U	0.000071 U	NA
Methoxychlor	**NS**	**NS**	0.00015 U	0.00014 U	NA
P,P'-DDD	**0.0033**	**13**	0.000073 UJ	NA	**0.0045 JKD**
P,P'-DDE	**0.0033**	**8.9**	**0.0036 JKN**	NA	**0.01 JKD**
P,P'-DDT	**0.0033**	**7.9**	0.000073 UJ	0.0018 JKN	NA
Toxaphene	**NS**	**NS**	0.0018 U	0.0018 U	NA
trans-Chlordane	**NS**	**NS**	0.000073 U	0.000071 U	NA

Attached Table 18
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Pesticides

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-09 (7-9) 20180524 JC66764-16 5/24/2018 3:10:00 PM 1 mg/kg	RI-SB-09 (7-9) 20180524 JC66764-16 5/24/2018 3:10:00 PM 10 mg/kg	RI-SB-10 (9.5-11) 20180821 JC72360-3 8/21/2018 11:43:00 AM 1 mg/kg
Aldrin	**0.005**	**0.097**	0.000077 U	NA	0.000079 UJ
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.000077 U	NA	0.000079 UJ
Alpha Endosulfan	**NS**	**NS**	0.000077 U	NA	0.000079 UJ
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.000077 U	NA	0.000079 UJ
Beta Endosulfan	**NS**	**NS**	0.000077 U	NA	0.000079 UJ
cis-Chlordane	**0.094**	**4.2**	0.0034 JK	NA	0.000079 UJ
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.000077 U	NA	0.000079 UJ
Dieldrin	**0.005**	**0.2**	0.0013 JK	NA	0.000079 UJ
Endosulfan Sulfate	**NS**	**NS**	0.000077 U	NA	0.000079 UJ
Endrin	**0.014**	**11**	0.000077 U	NA	0.000079 UJ
Endrin Aldehyde	**NS**	**NS**	0.000077 U	NA	0.000079 UJ
Endrin Ketone	**NS**	**NS**	0.000077 U	NA	0.000079 UJ
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.000077 U	NA	0.000079 UJ
Heptachlor	**0.042**	**2.1**	0.000077 U	NA	0.000079 UJ
Heptachlor Epoxide	**NS**	**NS**	0.00085 JK	NA	0.000079 UJ
Methoxychlor	**NS**	**NS**	0.00015 U	NA	0.00016 UJ
P,P'-DDD	**0.0033**	**13**	0.0029 JK	NA	0.000079 UJ
P,P'-DDE	**0.0033**	**8.9**	NA	**0.0114 JKD**	0.00026 JL
P,P'-DDT	**0.0033**	**7.9**	NA	**0.0533 JKD**	0.0011 JL
Toxaphene	**NS**	**NS**	0.0019 U	NA	0.002 UJ
trans-Chlordane	**NS**	**NS**	0.0046 JK	NA	0.000079 UJ

Attached Table 18
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Pesticides

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-X03 (9.5-11) 20180821 JC72360-4 8/21/2018 11:45:00 AM 1 mg/kg	RI-SB-13 (0-2) 20180525 JC66764-32 5/25/2018 1:40:00 PM 1 mg/kg	RI-SB-13 (8-10) 20180525 JC66764-33 5/25/2018 2:00:00 PM 1 mg/kg
Aldrin	**0.005**	**0.097**	0.000078 UJ	0.000078 U	0.000071 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.000078 UJ	0.000078 U	0.000071 U
Alpha Endosulfan	**NS**	**NS**	0.000078 UJ	0.000078 U	0.000071 U
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.000078 UJ	0.000078 U	0.000071 U
Beta Endosulfan	**NS**	**NS**	0.000078 UJ	0.000078 U	0.000071 U
cis-Chlordane	**0.094**	**4.2**	0.000078 UJ	0.0008 JK	0.000071 U
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.000078 UJ	0.000078 U	0.000071 U
Dieldrin	**0.005**	**0.2**	0.00045 JL	0.00098 JK	0.000071 U
Endosulfan Sulfate	**NS**	**NS**	0.000078 UJ	0.000078 U	0.000071 U
Endrin	**0.014**	**11**	0.000078 UJ	0.000078 U	0.000071 U
Endrin Aldehyde	**NS**	**NS**	0.000078 UJ	0.000078 U	0.000071 U
Endrin Ketone	**NS**	**NS**	0.000078 UJ	0.000078 U	0.000071 U
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.000078 UJ	0.000078 U	0.000071 U
Heptachlor	**0.042**	**2.1**	0.000078 UJ	0.000078 U	0.000071 U
Heptachlor Epoxide	**NS**	**NS**	0.000078 UJ	0.000078 U	0.000071 U
Methoxychlor	**NS**	**NS**	0.00016 UJ	0.00016 U	0.00014 U
P,P'-DDD	**0.0033**	**13**	0.00056 JL	0.000078 U	0.000071 U
P,P'-DDE	**0.0033**	**8.9**	0.00043 JL	0.0012 JK	0.0018 JK
P,P'-DDT	**0.0033**	**7.9**	0.0018 JL	0.003 JKN	0.002 JKN
Toxaphene	**NS**	**NS**	0.002 UJ	0.0019 U	0.0018 U
trans-Chlordane	**NS**	**NS**	0.000078 UJ	0.00029 JK	0.000071 U

Attached Table 18
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Pesticides

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-14 (0-2) 20180525 JC66764-34 5/25/2018 2:40:00 PM 1 mg/kg	RI-SB-14 (0-2) 20180525 JC66764-34 5/25/2018 2:40:00 PM 10 mg/kg	RI-SB-14 (7-9) 20180525 JC66764-35 5/25/2018 2:45:00 PM 1 mg/kg
Aldrin	**0.005**	**0.097**	0.000067 U	NA	0.000074 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.000067 U	NA	0.000074 U
Alpha Endosulfan	**NS**	**NS**	0.000067 U	NA	0.000074 U
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.000067 U	NA	0.000074 U
Beta Endosulfan	**NS**	**NS**	0.000067 U	NA	0.000074 U
cis-Chlordane	**0.094**	**4.2**	0.0034 JK	NA	0.0045 JK
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.000067 U	NA	0.000074 U
Dieldrin	**0.005**	**0.2**	0.000067 U	NA	0.000074 U
Endosulfan Sulfate	**NS**	**NS**	0.000067 U	NA	0.000074 U
Endrin	**0.014**	**11**	0.000067 U	NA	0.000074 U
Endrin Aldehyde	**NS**	**NS**	0.000067 U	NA	0.000074 U
Endrin Ketone	**NS**	**NS**	0.000067 U	NA	0.000074 U
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.000067 U	NA	0.000074 U
Heptachlor	**0.042**	**2.1**	0.000067 U	NA	0.000074 U
Heptachlor Epoxide	**NS**	**NS**	0.000067 U	NA	0.000074 U
Methoxychlor	**NS**	**NS**	0.00013 U	NA	0.00015 U
P,P'-DDD	**0.0033**	**13**	0.000067 U	NA	0.000074 U
P,P'-DDE	**0.0033**	**8.9**	NA	**0.0052 JKD**	**0.0035 JK**
P,P'-DDT	**0.0033**	**7.9**	0.000067 U	NA	**0.0064 JKN**
Toxaphene	**NS**	**NS**	0.0017 U	NA	0.0019 U
trans-Chlordane	**NS**	**NS**	NA	0.0056 JKD	0.0062 JK

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-15 (0-2) 20180524 JC66764-12 5/24/2018 2:20:00 PM 1 mg/kg	RI-SB-15 (0-2) 20180524 JC66764-12 5/24/2018 2:20:00 PM 10 mg/kg	RI-SB-15 (8-10) 20180524 JC66764-13 5/24/2018 2:25:00 PM 1 mg/kg
Aldrin	**0.005**	**0.097**	0.000074 U	NA	0.000077 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.000074 U	NA	0.000077 U
Alpha Endosulfan	**NS**	**NS**	0.000074 U	NA	0.000077 U
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.000074 U	NA	0.000077 U
Beta Endosulfan	**NS**	**NS**	0.000074 U	NA	0.000077 U
cis-Chlordane	**0.094**	**4.2**	0.000074 U	NA	0.000077 U
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.000074 U	NA	0.0021 JK
Dieldrin	**0.005**	**0.2**	0.0023 JKN	NA	0.000077 U
Endosulfan Sulfate	**NS**	**NS**	0.000074 U	NA	0.000077 U
Endrin	**0.014**	**11**	0.000074 U	NA	0.000077 U
Endrin Aldehyde	**NS**	**NS**	0.000074 U	NA	0.000077 U
Endrin Ketone	**NS**	**NS**	0.000074 U	NA	0.000077 U
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.000074 U	NA	0.000077 U
Heptachlor	**0.042**	**2.1**	0.000074 U	NA	0.000077 U
Heptachlor Epoxide	**NS**	**NS**	0.00081 JK	NA	0.000077 U
Methoxychlor	**NS**	**NS**	0.00015 U	NA	0.00015 U
P,P'-DDD	**0.0033**	**13**	0.000074 U	NA	0.000077 U
P,P'-DDE	**0.0033**	**8.9**	0.0028 JK	NA	0.0025 JK
P,P'-DDT	**0.0033**	**7.9**	NA	**0.0118 JKD**	**0.0043 JKN**
Toxaphene	**NS**	**NS**	0.0018 U	NA	0.0019 U
trans-Chlordane	**NS**	**NS**	0.000074 U	NA	0.000077 U

Attached Table 18
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Pesticides

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-16 (0-2) 20180525 JC66764-22 5/25/2018 8:25:00 AM 1 mg/kg	RI-SB-16 (8-10) 20180525 JC66764-23 5/25/2018 8:30:00 AM 1 mg/kg	RI-SB-16 (8-10) 20180525 JC66764-23 5/25/2018 8:30:00 AM 100 mg/kg
Aldrin	**0.005**	**0.097**	0.000073 U	0.000076 U	NA
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.000073 U	0.000076 U	NA
Alpha Endosulfan	**NS**	**NS**	0.000073 U	0.000076 U	NA
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.000073 U	0.000076 U	NA
Beta Endosulfan	**NS**	**NS**	0.000073 U	0.000076 U	NA
cis-Chlordane	**0.094**	**4.2**	0.000073 U	0.0052 J	NA
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.000073 U	0.000076 U	NA
Dieldrin	**0.005**	**0.2**	0.000073 U	0.0026 J	NA
Endosulfan Sulfate	**NS**	**NS**	0.000073 U	0.000076 U	NA
Endrin	**0.014**	**11**	0.000073 U	0.000076 U	NA
Endrin Aldehyde	**NS**	**NS**	0.000073 U	0.000076 U	NA
Endrin Ketone	**NS**	**NS**	0.000073 U	0.000076 U	NA
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.000073 U	0.000076 U	NA
Heptachlor	**0.042**	**2.1**	0.000073 U	0.000076 U	NA
Heptachlor Epoxide	**NS**	**NS**	0.000073 U	0.00029 JN	NA
Methoxychlor	**NS**	**NS**	0.00015 U	0.00015 U	NA
P,P'-DDD	**0.0033**	**13**	0.000073 U	NA	**0.133 JD**
P,P'-DDE	**0.0033**	**8.9**	0.00084 JK	NA	**0.153 JD**
P,P'-DDT	**0.0033**	**7.9**	0.0016 JK	NA	**0.571 JD**
Toxaphene	**NS**	**NS**	0.0018 U	0.0019 U	NA
trans-Chlordane	**NS**	**NS**	0.000073 U	0.0039 J	NA

Attached Table 18
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Pesticides

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-17 (0-2) 20180525 JC66764-24 5/25/2018 8:55:00 AM 1 mg/kg	RI-SB-17 (8-10) 20180525 JC66764-25 5/25/2018 9:00:00 AM 1 mg/kg	RI-SB-18 (0-2) 20180525 JC66764-26 5/25/2018 9:30:00 AM 1 mg/kg
Aldrin	**0.005**	**0.097**	0.000072 U	0.000077 U	0.000071 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.000072 U	0.000077 U	0.000071 U
Alpha Endosulfan	**NS**	**NS**	0.000072 U	0.000077 U	0.000071 U
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.000072 U	0.000077 U	0.000071 U
Beta Endosulfan	**NS**	**NS**	0.000072 U	0.000077 U	0.000071 U
cis-Chlordane	**0.094**	**4.2**	0.000072 U	0.0013 JK	0.000071 U
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.000072 U	0.000077 U	0.000071 U
Dieldrin	**0.005**	**0.2**	0.000072 U	0.000077 U	0.000071 U
Endosulfan Sulfate	**NS**	**NS**	0.000072 U	0.000077 U	0.000071 U
Endrin	**0.014**	**11**	0.000072 U	0.000077 U	0.000071 U
Endrin Aldehyde	**NS**	**NS**	0.000072 U	0.000077 U	0.000071 U
Endrin Ketone	**NS**	**NS**	0.000072 U	0.000077 U	0.000071 U
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.000072 U	0.000077 U	0.000071 U
Heptachlor	**0.042**	**2.1**	0.000072 U	0.000077 U	0.000071 U
Heptachlor Epoxide	**NS**	**NS**	0.000072 U	0.000077 U	0.000071 U
Methoxychlor	**NS**	**NS**	0.00014 U	0.00015 U	0.00014 U
P,P'-DDD	**0.0033**	**13**	0.000072 U	0.000077 U	0.000071 U
P,P'-DDE	**0.0033**	**8.9**	0.002 JK	0.0026 JK	NA
P,P'-DDT	**0.0033**	**7.9**	0.000072 U	**0.0055 JKN**	NA
Toxaphene	**NS**	**NS**	0.0018 U	0.0019 U	0.0018 U
trans-Chlordane	**NS**	**NS**	0.000072 U	0.0016 JK	0.000071 U

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-18 (0-2) 20180525 JC66764-26 5/25/2018 9:30:00 AM 20 mg/kg	RI-SB-18 (8-10) 20180525 JC66764-27 5/25/2018 9:40:00 AM 1 mg/kg	RI-SB-19 (0-2) 20180524 JC66764-9 5/24/2018 1:15:00 PM 1 mg/kg
Aldrin	**0.005**	**0.097**	NA	0.000068 U	0.000074 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	NA	0.000068 U	0.000074 U
Alpha Endosulfan	**NS**	**NS**	NA	0.000068 U	0.000074 U
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	NA	0.000068 U	0.000074 U
Beta Endosulfan	**NS**	**NS**	NA	0.000068 U	0.000074 U
cis-Chlordane	**0.094**	**4.2**	NA	0.000068 U	0.000074 U
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	NA	0.000068 U	0.000074 U
Dieldrin	**0.005**	**0.2**	NA	0.000068 U	0.000074 U
Endosulfan Sulfate	**NS**	**NS**	NA	0.000068 U	0.000074 U
Endrin	**0.014**	**11**	NA	0.000068 U	0.000074 U
Endrin Aldehyde	**NS**	**NS**	NA	0.000068 U	0.000074 U
Endrin Ketone	**NS**	**NS**	NA	0.000068 U	0.000074 U
Gamma Bhc (Lindane)	**0.1**	**1.3**	NA	0.000068 U	0.000074 U
Heptachlor	**0.042**	**2.1**	NA	0.000068 U	0.000074 U
Heptachlor Epoxide	**NS**	**NS**	NA	0.000068 U	0.000074 U
Methoxychlor	**NS**	**NS**	NA	0.00014 U	0.000150 U
P,P'-DDD	**0.0033**	**13**	NA	0.000068 U	0.000074 U
P,P'-DDE	**0.0033**	**8.9**	**0.0086 JKD**	0.00053 JK	0.0016 JK
P,P'-DDT	**0.0033**	**7.9**	**0.0118 JKDN**	0.000068 U	**0.0034 JKN**
Toxaphene	**NS**	**NS**	NA	0.0017 U	0.0019 U
trans-Chlordane	**NS**	**NS**	NA	0.000068 U	0.0015 JK

Attached Table 18
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Pesticides

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-19 (7-9) 20180524 JC66764-10 5/24/2018 1:20:00 PM 1 mg/kg	RI-SB-20 (0-2) 20180525 JC66764-28 5/25/2018 10:20:00 AM 1 mg/kg	RI-SB-20 (0-2) 20180525 JC66764-28 5/25/2018 10:20:00 AM 10 mg/kg
Aldrin	**0.005**	**0.097**	0.000071 U	0.000067 U	NA
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.000071 U	0.000067 U	NA
Alpha Endosulfan	**NS**	**NS**	0.000071 U	0.000067 U	NA
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.000071 U	0.000067 U	NA
Beta Endosulfan	**NS**	**NS**	0.000071 U	0.000067 U	NA
cis-Chlordane	**0.094**	**4.2**	0.000071 U	0.0012 JKN	NA
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.000071 U	0.000067 U	NA
Dieldrin	**0.005**	**0.2**	0.001 JK	0.000067 U	NA
Endosulfan Sulfate	**NS**	**NS**	0.000071 U	0.000067 U	NA
Endrin	**0.014**	**11**	0.000071 U	0.000067 U	NA
Endrin Aldehyde	**NS**	**NS**	0.000071 U	0.000067 U	NA
Endrin Ketone	**NS**	**NS**	0.000071 U	0.000067 U	NA
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.000071 U	0.000067 U	NA
Heptachlor	**0.042**	**2.1**	0.000071 U	0.000067 U	NA
Heptachlor Epoxide	**NS**	**NS**	0.000071 U	0.000067 U	NA
Methoxychlor	**NS**	**NS**	0.00014 U	0.00013 U	NA
P,P'-DDD	**0.0033**	**13**	0.000071 U	0.000067 U	NA
P,P'-DDE	**0.0033**	**8.9**	0.0031 JK	NA	**0.0096 JKD**
P,P'-DDT	**0.0033**	**7.9**	**0.0067 JK**	NA	**0.0114 JKDN**
Toxaphene	**NS**	**NS**	0.0018 U	0.0017 U	NA
trans-Chlordane	**NS**	**NS**	0.000071 U	0.000067 U	NA

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-20 (8-10) 20180525 JC66764-29 5/25/2018 10:30:00 AM 1 mg/kg	RI-SB-21 (0-2) 20180525 JC66764-36 5/25/2018 2:15:00 PM 1 mg/kg	RI-SB-X02 (0-2) 20180525 JC66764-38 5/25/2018 2:15:00 PM 1 mg/kg
Aldrin	**0.005**	**0.097**	0.000072 U	0.000074 U	0.000072 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.000072 U	0.000074 U	0.00013 JK
Alpha Endosulfan	**NS**	**NS**	0.000072 U	0.000074 U	0.000072 U
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.000072 U	0.000074 U	0.000072 U
Beta Endosulfan	**NS**	**NS**	0.000072 U	0.000074 U	0.000072 U
cis-Chlordane	**0.094**	**4.2**	0.0031 J	0.0015 JK	0.0012 JK
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.000072 U	0.000074 U	0.000072 U
Dieldrin	**0.005**	**0.2**	0.000072 U	0.000074 U	0.000072 U
Endosulfan Sulfate	**NS**	**NS**	0.000072 U	0.000074 U	0.000072 U
Endrin	**0.014**	**11**	0.000072 U	0.000074 U	0.000072 U
Endrin Aldehyde	**NS**	**NS**	0.000072 U	0.000074 U	0.000072 U
Endrin Ketone	**NS**	**NS**	0.000072 U	0.000074 U	0.000072 U
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.000072 U	0.000074 U	0.000072 U
Heptachlor	**0.042**	**2.1**	0.000072 U	0.000074 U	0.000072 U
Heptachlor Epoxide	**NS**	**NS**	0.000072 U	0.000074 U	0.000072 U
Methoxychlor	**NS**	**NS**	0.00014 U	0.00015 UJ	0.00014 U
P,P'-DDD	**0.0033**	**13**	0.000072 U	0.000074 U	0.000072 U
P,P'-DDE	**0.0033**	**8.9**	**0.0043**	0.0017 JK	0.0013 JK
P,P'-DDT	**0.0033**	**7.9**	**0.0052**	0.000074 U	0.0018 JKN
Toxaphene	**NS**	**NS**	0.0018 U	0.0019 U	0.0018 U
trans-Chlordane	**NS**	**NS**	0.0028	0.0015 JK	0.0012 JK

Attached Table 18
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Pesticides

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-21 (7.5-9.5) 20180525 JC66764-37 5/25/2018 2:30:00 PM 1 mg/kg	RI-FB-01 20180524 JC66764-17 5/24/2018 3:15:00 PM 1 ug/l	RI-FB-02 20180525 JC66764-21 5/25/2018 3:25:00 PM 1 ug/l
Aldrin	**0.005**	**0.097**	0.000072 U	0.001 U	0.001 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.000072 U	0.001 U	0.001 U
Alpha Endosulfan	**NS**	**NS**	0.000072 U	0.001 U	0.001 U
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.000072 U	0.001 U	0.001 U
Beta Endosulfan	**NS**	**NS**	0.000072 U	0.001 U	0.001 U
cis-Chlordane	**0.094**	**4.2**	0.0011 JK	0.001 U	0.001 U
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.000072 U	0.001 U	0.001 U
Dieldrin	**0.005**	**0.2**	0.00045 JK	0.001 U	0.001 U
Endosulfan Sulfate	**NS**	**NS**	0.000072 U	0.001 U	0.001 U
Endrin	**0.014**	**11**	0.000072 U	0.001 U	0.001 U
Endrin Aldehyde	**NS**	**NS**	0.000072 U	0.001 U	0.001 U
Endrin Ketone	**NS**	**NS**	0.000072 U	0.001 U	0.001 U
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.000072 U	0.001 U	0.001 U
Heptachlor	**0.042**	**2.1**	0.000072 U	0.001 U	0.001 U
Heptachlor Epoxide	**NS**	**NS**	0.000072 U	0.001 U	0.001 U
Methoxychlor	**NS**	**NS**	0.00014 U	0.002 U	0.002 U
P,P'-DDD	**0.0033**	**13**	0.000072 U	0.001 U	0.001 U
P,P'-DDE	**0.0033**	**8.9**	0.0025 JK	0.001 U	0.001 U
P,P'-DDT	**0.0033**	**7.9**	0.0022 JKN	0.001 U	0.001 U
Toxaphene	**NS**	**NS**	0.0018 U	0.025 U	0.025 U
trans-Chlordane	**NS**	**NS**	0.0016 JK	0.001 U	0.001 U

Attached Table 18
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Pesticides

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-FB-04 20181008 JC75512-3 10/8/2018 10:30:00 AM 1 ug/l
Aldrin	**0.005**	**0.097**	0.001 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.02**	**0.48**	0.001 U
Alpha Endosulfan	**NS**	**NS**	0.001 U
Beta Bhc (Beta Hexachlorocyclohexane)	**0.036**	**0.36**	0.001 U
Beta Endosulfan	**NS**	**NS**	0.001 U
cis-Chlordane	**0.094**	**4.2**	0.001 U
Delta BHC (Delta Hexachlorocyclohexane)	**0.04**	**100**	0.001 U
Dieldrin	**0.005**	**0.2**	0.001 U
Endosulfan Sulfate	**NS**	**NS**	0.001 U
Endrin	**0.014**	**11**	0.001 U
Endrin Aldehyde	**NS**	**NS**	0.001 U
Endrin Ketone	**NS**	**NS**	0.001 U
Gamma Bhc (Lindane)	**0.1**	**1.3**	0.001 U
Heptachlor	**0.042**	**2.1**	0.001 U
Heptachlor Epoxide	**NS**	**NS**	0.001 U
Methoxychlor	**NS**	**NS**	0.002 U
P,P'-DDD	**0.0033**	**13**	0.001 U
P,P'-DDE	**0.0033**	**8.9**	0.001 U
P,P'-DDT	**0.0033**	**7.9**	0.001 U
Toxaphene	**NS**	**NS**	0.025 U
trans-Chlordane	**NS**	**NS**	0.001 U

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-01 (0-2) 20180524 JC66764-3 5/24/2018 10:30:00 AM 1 mg/kg	RI-SB-01 (5-7) 20180524 JC66764-4 5/24/2018 10:35:00 AM 1 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.0036 U	0.0038 U
PCB-1221 (Aroclor 1221)	NS	NS	0.0036 U	0.0038 U
PCB-1232 (Aroclor 1232)	NS	NS	0.0036 U	0.0038 U
PCB-1242 (Aroclor 1242)	NS	NS	0.0036 U	0.0038 U
PCB-1248 (Aroclor 1248)	NS	NS	0.0036 U	0.0038 U
PCB-1254 (Aroclor 1254)	NS	NS	0.0036 U	0.139 JKN
PCB-1260 (Aroclor 1260)	NS	NS	0.0036 U	0.0038 U
PCB-1262 (Aroclor 1262)	NS	NS	0.0036 U	0.0038 U
PCB-1268 (Aroclor 1268)	NS	NS	0.0036 U	0.0038 U
Total PCBs	0.1	1.	0.0036 U	**0.139 JKN**

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1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-01 (9-11) 20180524 JC66764-5 5/24/2018 10:45:00 AM 1 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.0038 U
PCB-1221 (Aroclor 1221)	NS	NS	0.0038 U
PCB-1232 (Aroclor 1232)	NS	NS	0.0038 U
PCB-1242 (Aroclor 1242)	NS	NS	0.0038 U
PCB-1248 (Aroclor 1248)	NS	NS	0.0038 U
PCB-1254 (Aroclor 1254)	NS	NS	0.0744 JK
PCB-1260 (Aroclor 1260)	NS	NS	0.0038 U
PCB-1262 (Aroclor 1262)	NS	NS	0.0038 U
PCB-1268 (Aroclor 1268)	NS	NS	0.0038 U
Total PCBs	0.1	1.	0.0744 JK

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-02 (0-2) 20180524 JC66764-1 5/24/2018 9:00:00 AM 1 mg/kg	RI-SB-02 (7.5-9.5) 20180524 JC66764-2 5/24/2018 9:05:00 AM 1 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.0036 U	0.0038 U
PCB-1221 (Aroclor 1221)	NS	NS	0.0036 U	0.0038 U
PCB-1232 (Aroclor 1232)	NS	NS	0.0036 U	0.0038 U
PCB-1242 (Aroclor 1242)	NS	NS	0.0036 U	0.0038 U
PCB-1248 (Aroclor 1248)	NS	NS	0.0083 J	0.0641 J
PCB-1254 (Aroclor 1254)	NS	NS	0.0211	0.0309 JN
PCB-1260 (Aroclor 1260)	NS	NS	0.0036 U	0.0038 U
PCB-1262 (Aroclor 1262)	NS	NS	0.0036 U	0.0038 U
PCB-1268 (Aroclor 1268)	NS	NS	0.0036 U	0.0038 U
Total PCBs	0.1	1.	0.029 J	0.095 JN

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-03 (0-2) 20181008 JC75512-5 10/8/2018 8:45:00 AM 1 mg/kg	RI-SB-03 (8.5-10.5) 20181008 JC75512-1 10/8/2018 9:00:00 AM 1 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.0036 U	0.0041 U
PCB-1221 (Aroclor 1221)	NS	NS	0.0036 U	0.0041 U
PCB-1232 (Aroclor 1232)	NS	NS	0.0036 U	0.0041 U
PCB-1242 (Aroclor 1242)	NS	NS	0.0036 U	0.0041 U
PCB-1248 (Aroclor 1248)	NS	NS	0.0036 U	0.0041 U
PCB-1254 (Aroclor 1254)	NS	NS	0.0036 U	0.0041 U
PCB-1260 (Aroclor 1260)	NS	NS	0.0036 U	0.0041 U
PCB-1262 (Aroclor 1262)	NS	NS	0.0036 U	0.0041 U
PCB-1268 (Aroclor 1268)	NS	NS	0.0036 U	0.0041 U
Total PCBs	0.1	1.	0.0036 U	0.0041 U

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-X04 (8.5-10.5) 20181008 JC75512-2 10/8/2018 12:00:00 PM 1 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.0037 U
PCB-1221 (Aroclor 1221)	NS	NS	0.0037 U
PCB-1232 (Aroclor 1232)	NS	NS	0.0037 U
PCB-1242 (Aroclor 1242)	NS	NS	0.0037 U
PCB-1248 (Aroclor 1248)	NS	NS	0.0037 U
PCB-1254 (Aroclor 1254)	NS	NS	0.0037 U
PCB-1260 (Aroclor 1260)	NS	NS	0.0037 U
PCB-1262 (Aroclor 1262)	NS	NS	0.0037 U
PCB-1268 (Aroclor 1268)	NS	NS	0.0037 U
Total PCBs	0.1	1.	0.0037 U

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1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-04 (9.5-10) 20180821 JC72360-1 8/21/2018 3:56:00 PM 1 mg/kg	RI-SB-05 (9.5-11) 20180821 JC72360-2 8/21/2018 4:20:00 PM 1 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.0037 UJ	0.0035 UJ
PCB-1221 (Aroclor 1221)	NS	NS	0.0037 UJ	0.0035 UJ
PCB-1232 (Aroclor 1232)	NS	NS	0.0037 UJ	0.0035 UJ
PCB-1242 (Aroclor 1242)	NS	NS	0.0037 UJ	0.0035 UJ
PCB-1248 (Aroclor 1248)	NS	NS	0.0037 UJ	0.0035 UJ
PCB-1254 (Aroclor 1254)	NS	NS	0.0037 UJ	0.0035 UJ
PCB-1260 (Aroclor 1260)	NS	NS	0.0037 UJ	0.0035 UJ
PCB-1262 (Aroclor 1262)	NS	NS	0.0037 UJ	0.0035 UJ
PCB-1268 (Aroclor 1268)	NS	NS	0.0037 UJ	0.0035 UJ
Total PCBs	0.1	1.	0.0037 UJ	0.0035 UJ

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1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-06 (0-2) 20180525 JC66764-30 5/25/2018 12:45:00 PM 10 mg/kg	RI-SB-06 (9-11) 20180525 JC66764-31 5/25/2018 12:55:00 PM 1 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.041 U	0.0034 U
PCB-1221 (Aroclor 1221)	NS	NS	0.041 U	0.0034 U
PCB-1232 (Aroclor 1232)	NS	NS	0.041 U	0.0034 U
PCB-1242 (Aroclor 1242)	NS	NS	0.041 U	0.0034 U
PCB-1248 (Aroclor 1248)	NS	NS	0.041 U	0.0034 U
PCB-1254 (Aroclor 1254)	NS	NS	0.041 U	0.0034 U
PCB-1260 (Aroclor 1260)	NS	NS	0.041 U	0.0034 U
PCB-1262 (Aroclor 1262)	NS	NS	0.041 U	0.0034 U
PCB-1268 (Aroclor 1268)	NS	NS	0.041 U	0.0034 U
Total PCBs	0.1	1.	0.041 U	0.0034 U

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-07 (0-2) 20180524 JC66764-6 5/24/2018 12:15:00 PM 1 mg/kg	RI-SB-07 (5-7) 20180524 JC66764-7 5/24/2018 12:26:00 PM 1 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.0034 U	0.0035 U
PCB-1221 (Aroclor 1221)	NS	NS	0.0034 U	0.0035 U
PCB-1232 (Aroclor 1232)	NS	NS	0.0034 U	0.0035 U
PCB-1242 (Aroclor 1242)	NS	NS	0.0034 U	0.0035 U
PCB-1248 (Aroclor 1248)	NS	NS	0.0034 U	0.0035 U
PCB-1254 (Aroclor 1254)	NS	NS	0.127 JK	0.0642 JK
PCB-1260 (Aroclor 1260)	NS	NS	0.0034 U	0.0035 U
PCB-1262 (Aroclor 1262)	NS	NS	0.0034 U	0.0035 U
PCB-1268 (Aroclor 1268)	NS	NS	0.0034 U	0.0035 U
Total PCBs	0.1	1.	**0.127 JK**	0.0642 JK

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-07 (8-10) 20180524 JC66764-8 5/24/2018 12:31:00 PM 1 mg/kg	RI-SB-08 (0-2) 20180524 JC66764-18 5/24/2018 2:05:00 PM 1 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.0035 U	0.0037 U
PCB-1221 (Aroclor 1221)	NS	NS	0.0035 U	0.0037 U
PCB-1232 (Aroclor 1232)	NS	NS	0.0035 U	0.0037 U
PCB-1242 (Aroclor 1242)	NS	NS	0.0035 U	0.0037 U
PCB-1248 (Aroclor 1248)	NS	NS	0.0035 U	0.0037 U
PCB-1254 (Aroclor 1254)	NS	NS	0.0035 U	0.0037 U
PCB-1260 (Aroclor 1260)	NS	NS	0.0035 U	0.0037 U
PCB-1262 (Aroclor 1262)	NS	NS	0.0035 U	0.0037 U
PCB-1268 (Aroclor 1268)	NS	NS	0.0035 U	0.0037 U
Total PCBs	0.1	1.	0.0035 U	0.0037 U

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-08 (7-9) 20180524 JC66764-19 5/24/2018 2:10:00 PM 1 mg/kg	RI-SB-09 (0-2) 20180524 JC66764-14 5/24/2018 2:40:00 PM 10 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.0036 U	0.034 U
PCB-1221 (Aroclor 1221)	NS	NS	0.0036 U	0.034 U
PCB-1232 (Aroclor 1232)	NS	NS	0.0036 U	0.034 U
PCB-1242 (Aroclor 1242)	NS	NS	0.0036 U	0.034 U
PCB-1248 (Aroclor 1248)	NS	NS	0.0036 U	0.034 U
PCB-1254 (Aroclor 1254)	NS	NS	0.0036 U	0.034 U
PCB-1260 (Aroclor 1260)	NS	NS	0.0036 U	0.034 U
PCB-1262 (Aroclor 1262)	NS	NS	0.0036 U	0.034 U
PCB-1268 (Aroclor 1268)	NS	NS	0.0036 U	0.034 U
Total PCBs	0.1	1.	0.0036 U	0.034 U

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-X01 (0-2) 20180524 JC66764-15 5/24/2018 2:40:00 PM 10 mg/kg	RI-SB-09 (7-9) 20180524 JC66764-16 5/24/2018 3:10:00 PM 10 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.035 U	0.036 U
PCB-1221 (Aroclor 1221)	NS	NS	0.035 U	0.036 U
PCB-1232 (Aroclor 1232)	NS	NS	0.035 U	0.036 U
PCB-1242 (Aroclor 1242)	NS	NS	0.035 U	0.036 U
PCB-1248 (Aroclor 1248)	NS	NS	0.035 U	0.036 U
PCB-1254 (Aroclor 1254)	NS	NS	0.035 U	0.036 U
PCB-1260 (Aroclor 1260)	NS	NS	0.035 U	0.036 U
PCB-1262 (Aroclor 1262)	NS	NS	0.035 U	0.036 U
PCB-1268 (Aroclor 1268)	NS	NS	0.035 U	0.036 U
Total PCBs	0.1	1.	0.035 U	0.036 U

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-10 (9.5-11) 20180821 JC72360-3 8/21/2018 11:43:00 AM 1 mg/kg	RI-SB-X03 (9.5-11) 20180821 JC72360-4 8/21/2018 11:45:00 AM 1 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.0039 UJ	0.004 UJ
PCB-1221 (Aroclor 1221)	NS	NS	0.0039 UJ	0.004 UJ
PCB-1232 (Aroclor 1232)	NS	NS	0.0039 UJ	0.004 UJ
PCB-1242 (Aroclor 1242)	NS	NS	0.0039 UJ	0.004 UJ
PCB-1248 (Aroclor 1248)	NS	NS	0.0039 UJ	0.004 UJ
PCB-1254 (Aroclor 1254)	NS	NS	0.0039 UJ	0.004 UJ
PCB-1260 (Aroclor 1260)	NS	NS	0.0039 UJ	0.004 UJ
PCB-1262 (Aroclor 1262)	NS	NS	0.0039 UJ	0.004 UJ
PCB-1268 (Aroclor 1268)	NS	NS	0.0039 UJ	0.004 UJ
Total PCBs	0.1	1.	0.0039 UJ	0.004 UJ

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-13 (0-2) 20180525 JC66764-32 5/25/2018 1:40:00 PM 10 mg/kg	RI-SB-13 (8-10) 20180525 JC66764-33 5/25/2018 2:00:00 PM 1 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.037 U	0.0037 U
PCB-1221 (Aroclor 1221)	NS	NS	0.037 U	0.0037 U
PCB-1232 (Aroclor 1232)	NS	NS	0.037 U	0.0037 U
PCB-1242 (Aroclor 1242)	NS	NS	0.037 U	0.0037 U
PCB-1248 (Aroclor 1248)	NS	NS	0.037 U	0.0037 U
PCB-1254 (Aroclor 1254)	NS	NS	0.0966 JKN	0.0037 U
PCB-1260 (Aroclor 1260)	NS	NS	0.037 U	0.0037 U
PCB-1262 (Aroclor 1262)	NS	NS	0.037 U	0.0037 U
PCB-1268 (Aroclor 1268)	NS	NS	0.037 U	0.0037 U
Total PCBs	0.1	1.	0.0966 JKN	0.0037 U

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-14 (0-2) 20180525 JC66764-34 5/25/2018 2:40:00 PM 10 mg/kg	RI-SB-14 (7-9) 20180525 JC66764-35 5/25/2018 2:45:00 PM 1 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.036 U	0.0036 U
PCB-1221 (Aroclor 1221)	NS	NS	0.036 U	0.0036 U
PCB-1232 (Aroclor 1232)	NS	NS	0.036 U	0.0036 U
PCB-1242 (Aroclor 1242)	NS	NS	0.036 U	0.0036 U
PCB-1248 (Aroclor 1248)	NS	NS	0.036 U	0.0036 U
PCB-1254 (Aroclor 1254)	NS	NS	0.036 U	0.0036 U
PCB-1260 (Aroclor 1260)	NS	NS	0.036 U	0.0036 U
PCB-1262 (Aroclor 1262)	NS	NS	0.036 U	0.0036 U
PCB-1268 (Aroclor 1268)	NS	NS	0.036 U	0.0036 U
Total PCBs	0.1	1.	0.036 U	0.0036 U

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-15 (0-2) 20180524 JC66764-12 5/24/2018 2:20:00 PM 10 mg/kg	RI-SB-15 (8-10) 20180524 JC66764-13 5/24/2018 2:25:00 PM 1 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.035 U	0.0038 U
PCB-1221 (Aroclor 1221)	NS	NS	0.035 U	0.0038 U
PCB-1232 (Aroclor 1232)	NS	NS	0.035 U	0.0038 U
PCB-1242 (Aroclor 1242)	NS	NS	0.035 U	0.0038 U
PCB-1248 (Aroclor 1248)	NS	NS	0.035 U	0.0038 U
PCB-1254 (Aroclor 1254)	NS	NS	0.035 U	0.0038 U
PCB-1260 (Aroclor 1260)	NS	NS	0.035 U	0.0038 U
PCB-1262 (Aroclor 1262)	NS	NS	0.035 U	0.0038 U
PCB-1268 (Aroclor 1268)	NS	NS	0.035 U	0.0038 U
Total PCBs	0.1	1.	0.035 U	0.0038 U

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-16 (0-2) 20180525 JC66764-22 5/25/2018 8:25:00 AM 1 mg/kg	RI-SB-16 (8-10) 20180525 JC66764-23 5/25/2018 8:30:00 AM 10 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.0035 U	0.039 U
PCB-1221 (Aroclor 1221)	NS	NS	0.0035 U	0.039 U
PCB-1232 (Aroclor 1232)	NS	NS	0.0035 U	0.039 U
PCB-1242 (Aroclor 1242)	NS	NS	0.0035 U	0.039 U
PCB-1248 (Aroclor 1248)	NS	NS	0.0035 U	0.039 U
PCB-1254 (Aroclor 1254)	NS	NS	0.0035 U	0.039 U
PCB-1260 (Aroclor 1260)	NS	NS	0.0035 U	0.039 U
PCB-1262 (Aroclor 1262)	NS	NS	0.0035 U	0.039 U
PCB-1268 (Aroclor 1268)	NS	NS	0.0035 U	0.039 U
Total PCBs	0.1	1.	0.0035 U	0.039 U

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-17 (0-2) 20180525 JC66764-24 5/25/2018 8:55:00 AM 1 mg/kg	RI-SB-17 (8-10) 20180525 JC66764-25 5/25/2018 9:00:00 AM 1 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.0037 U	0.0037 U
PCB-1221 (Aroclor 1221)	NS	NS	0.0037 U	0.0037 U
PCB-1232 (Aroclor 1232)	NS	NS	0.0037 U	0.0037 U
PCB-1242 (Aroclor 1242)	NS	NS	0.0037 U	0.0037 U
PCB-1248 (Aroclor 1248)	NS	NS	0.0037 U	0.0037 U
PCB-1254 (Aroclor 1254)	NS	NS	0.0037 U	0.0037 U
PCB-1260 (Aroclor 1260)	NS	NS	0.0037 U	0.0037 U
PCB-1262 (Aroclor 1262)	NS	NS	0.0037 U	0.0037 U
PCB-1268 (Aroclor 1268)	NS	NS	0.0037 U	0.0037 U
Total PCBs	0.1	1.	0.0037 U	0.0037 U

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-18 (0-2) 20180525 JC66764-26 5/25/2018 9:30:00 AM 1 mg/kg	RI-SB-18 (8-10) 20180525 JC66764-27 5/25/2018 9:40:00 AM 1 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.0034 U	0.0036 U
PCB-1221 (Aroclor 1221)	NS	NS	0.0034 U	0.0036 U
PCB-1232 (Aroclor 1232)	NS	NS	0.0034 U	0.0036 U
PCB-1242 (Aroclor 1242)	NS	NS	0.0034 U	0.0036 U
PCB-1248 (Aroclor 1248)	NS	NS	0.0034 U	0.0036 U
PCB-1254 (Aroclor 1254)	NS	NS	0.0034 U	0.0036 U
PCB-1260 (Aroclor 1260)	NS	NS	0.0034 U	0.0036 U
PCB-1262 (Aroclor 1262)	NS	NS	0.0034 U	0.0036 U
PCB-1268 (Aroclor 1268)	NS	NS	0.0034 U	0.0036 U
Total PCBs	0.1	1.	0.0034 U	0.0036 U

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-19 (0-2) 20180524 JC66764-9 5/24/2018 1:15:00 PM 10 mg/kg	RI-SB-19 (7-9) 20180524 JC66764-10 5/24/2018 1:20:00 PM 1 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.036 U	0.0036 U
PCB-1221 (Aroclor 1221)	NS	NS	0.036 U	0.0036 U
PCB-1232 (Aroclor 1232)	NS	NS	0.036 U	0.0036 U
PCB-1242 (Aroclor 1242)	NS	NS	0.036 U	0.0036 U
PCB-1248 (Aroclor 1248)	NS	NS	0.036 U	0.0036 U
PCB-1254 (Aroclor 1254)	NS	NS	0.036 U	0.0036 U
PCB-1260 (Aroclor 1260)	NS	NS	0.036 U	0.0036 U
PCB-1262 (Aroclor 1262)	NS	NS	0.036 U	0.0036 U
PCB-1268 (Aroclor 1268)	NS	NS	0.036 U	0.0036 U
Total PCBs	0.1	1.	0.036 U	0.0036 U

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-20 (0-2) 20180525 JC66764-28 5/25/2018 10:20:00 AM 10 mg/kg	RI-SB-20 (8-10) 20180525 JC66764-29 5/25/2018 10:30:00 AM 10 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.035 U	0.036 U
PCB-1221 (Aroclor 1221)	NS	NS	0.035 U	0.036 U
PCB-1232 (Aroclor 1232)	NS	NS	0.035 U	0.036 U
PCB-1242 (Aroclor 1242)	NS	NS	0.035 U	0.036 U
PCB-1248 (Aroclor 1248)	NS	NS	0.035 U	0.036 U
PCB-1254 (Aroclor 1254)	NS	NS	0.035 U	0.036 U
PCB-1260 (Aroclor 1260)	NS	NS	0.035 U	0.036 U
PCB-1262 (Aroclor 1262)	NS	NS	0.035 U	0.036 U
PCB-1268 (Aroclor 1268)	NS	NS	0.035 U	0.036 U
Total PCBs	0.1	1.	0.035 U	0.036 U

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-21 (0-2) 20180525 JC66764-36 5/25/2018 2:15:00 PM 10 mg/kg	RI-SB-X02 (0-2) 20180525 JC66764-38 5/25/2018 2:15:00 PM 10 mg/kg
PCB-1016 (Aroclor 1016)	NS	NS	0.037 U	0.035 U
PCB-1221 (Aroclor 1221)	NS	NS	0.037 U	0.035 U
PCB-1232 (Aroclor 1232)	NS	NS	0.037 U	0.035 U
PCB-1242 (Aroclor 1242)	NS	NS	0.037 U	0.035 U
PCB-1248 (Aroclor 1248)	NS	NS	0.037 U	0.035 U
PCB-1254 (Aroclor 1254)	NS	NS	0.037 U	0.035 U
PCB-1260 (Aroclor 1260)	NS	NS	0.037 U	0.035 U
PCB-1262 (Aroclor 1262)	NS	NS	0.037 U	0.035 U
PCB-1268 (Aroclor 1268)	NS	NS	0.037 U	0.035 U
Total PCBs	0.1	1.	0.037 U	0.035 U

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-21 (7.5-9.5) 20180525 JC66764-37 5/25/2018 2:30:00 PM 10 mg/kg	RI-FB-01 20180524 JC66764-17 5/24/2018 3:15:00 PM 1 ug/l
PCB-1016 (Aroclor 1016)	NS	NS	0.036 U	0.05 U
PCB-1221 (Aroclor 1221)	NS	NS	0.036 U	0.05 U
PCB-1232 (Aroclor 1232)	NS	NS	0.036 U	0.05 U
PCB-1242 (Aroclor 1242)	NS	NS	0.036 U	0.05 U
PCB-1248 (Aroclor 1248)	NS	NS	0.036 U	0.05 U
PCB-1254 (Aroclor 1254)	NS	NS	0.036 U	0.05 U
PCB-1260 (Aroclor 1260)	NS	NS	0.036 U	0.05 U
PCB-1262 (Aroclor 1262)	NS	NS	0.036 U	0.05 U
PCB-1268 (Aroclor 1268)	NS	NS	0.036 U	0.05 U
Total PCBs	0.1	1.	0.036 U	0.05 U

Attached Table 19
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Polychlorinated Biphenyls

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-FB-02 20180525 JC66764-21 5/25/2018 3:25:00 PM 1 ug/l	RI-FB-04 20181008 JC75512-3 10/8/2018 10:30:00 AM 1 ug/l
PCB-1016 (Aroclor 1016)	NS	NS	0.05 U	0.05 U
PCB-1221 (Aroclor 1221)	NS	NS	0.05 U	0.05 U
PCB-1232 (Aroclor 1232)	NS	NS	0.05 U	0.05 U
PCB-1242 (Aroclor 1242)	NS	NS	0.05 U	0.05 U
PCB-1248 (Aroclor 1248)	NS	NS	0.05 U	0.05 U
PCB-1254 (Aroclor 1254)	NS	NS	0.05 U	0.05 U
PCB-1260 (Aroclor 1260)	NS	NS	0.05 U	0.05 U
PCB-1262 (Aroclor 1262)	NS	NS	0.05 U	0.05 U
PCB-1268 (Aroclor 1268)	NS	NS	0.05 U	0.05 U
Total PCBs	0.1	1.	0.05 U	0.05 U

Attached Table 20
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Metals

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-03 (0-2) 20181008 JC75512-5 10/8/2018 8:45:00 AM 1 mg/kg	RI-SB-03 (8.5-10.5) 20181008 JC75512-1 10/8/2018 9:00:00 AM 1 mg/kg	RI-SB-03 (8.5-10.5) 20181008 JC75512-1 10/8/2018 9:00:00 AM 2 mg/kg	RI-SB-X04 (8.5-10.5) 20181008 JC75512-2 10/8/2018 12:00:00 PM 1 mg/kg
Aluminum	**NS**	**NS**	6240	9460 JK	NA	8930 JK
Antimony	**NS**	**NS**	2.1 U	2.7 UJ	NA	2.3 UJ
Arsenic	**13**	**16**	4.3	6.5	NA	5.3
Barium	**350**	**400**	161	130	NA	105
Beryllium	**7.2**	**72**	0.35	0.41	NA	0.39
Cadmium	**2.5**	**4.3**	0.53 U	0.67 U	NA	0.57 U
Calcium	**NS**	**NS**	10900	NA	38500 D	NA
Chromium, Hexavalent	**1**	**110**	**1.1**	0.86	NA	0.87
Chromium, Total	**30**	**180**	18.9	24	NA	21
Cobalt	**NS**	**NS**	5.3 U	7.9	NA	7.3
Copper	**50**	**270**	28.2	35.3	NA	37.7
Iron	**NS**	**NS**	16800	17800	NA	15000
Lead	**63**	**400**	**203**	**274**	NA	**179**
Magnesium	**NS**	**NS**	3650	6300 JK	NA	5560 JK
Manganese	**1600**	**2000**	171	307	NA	265
Mercury	**0.18**	**0.81**	**0.23**	**0.66**	NA	**0.61**
Nickel	**30**	**310**	12.6	18.7	NA	18.4
Potassium	**NS**	**NS**	1160	3190	NA	3110
Selenium	**3.9**	**180**	2.1 U	2.7 U	NA	2.3 U
Silver	**2**	**180**	0.53 U	0.67 U	NA	0.57 U
Sodium	**NS**	**NS**	1100 U	1300 U	NA	1100 U
Thallium	**NS**	**NS**	1.1 U	1.3 U	NA	1.1 U
Vanadium	**NS**	**NS**	24.3	28.2	NA	26
Zinc	**109**	**10000**	**139**	**141**	NA	99.2

Attached Table 20
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Metals

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-X04 (8.5-10.5) 20181008 JC75512-2 10/8/2018 12:00:00 PM 2 mg/kg	RI-SB-04 (9.5-10) 20180821 JC72360-1 8/21/2018 3:56:00 PM 1 mg/kg	RI-SB-04 (9.5-10) 20180821 JC72360-1 8/21/2018 3:56:00 PM 2 mg/kg	RI-SB-04 (9.5-10) 20180821 JC72360-1 8/21/2018 3:56:00 PM 5 mg/kg
Aluminum	**NS**	**NS**	NA	7300	NA	NA
Antimony	**NS**	**NS**	NA	20.3	NA	NA
Arsenic	**13**	**16**	NA	**48.1**	NA	NA
Barium	**350**	**400**	NA	116	NA	NA
Beryllium	**7.2**	**72**	NA	0.26	NA	NA
Cadmium	**2.5**	**4.3**	NA	1.6	NA	NA
Calcium	**NS**	**NS**	27100 D	NA	44200 D	NA
Chromium, Hexavalent	**1**	**110**	NA	1	NA	NA
Chromium, Total	**30**	**180**	NA	22.3	NA	NA
Cobalt	**NS**	**NS**	NA	7.8	NA	NA
Copper	**50**	**270**	NA	NA	**284 D**	NA
Iron	**NS**	**NS**	NA	NA	37800 D	NA
Lead	**63**	**400**	NA	NA	**682 D**	NA
Magnesium	**NS**	**NS**	NA	4350	NA	NA
Manganese	**1600**	**2000**	NA	NA	247 D	NA
Mercury	**0.18**	**0.81**	NA	NA	NA	**2.5 D**
Nickel	**30**	**310**	NA	26.1	NA	NA
Potassium	**NS**	**NS**	NA	1200 U	NA	NA
Selenium	**3.9**	**180**	NA	NA	4.6 U	NA
Silver	**2**	**180**	NA	NA	**2.3 D**	NA
Sodium	**NS**	**NS**	NA	1200 U	NA	NA
Thallium	**NS**	**NS**	NA	NA	2.3 U	NA
Vanadium	**NS**	**NS**	NA	20.4	NA	NA
Zinc	**109**	**10000**	NA	**872**	NA	NA

Attached Table 20
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Metals

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-05 (9.5-11) 20180821 JC72360-2 8/21/2018 4:20:00 PM 1 mg/kg	RI-SB-05 (9.5-11) 20180821 JC72360-2 8/21/2018 4:20:00 PM 2 mg/kg	RI-SB-06 (0-2) 20180525 JC66764-30 5/25/2018 12:45:00 PM 1 mg/kg	RI-SB-06 (9-11) 20180525 JC66764-31 5/25/2018 12:55:00 PM 1 mg/kg
Aluminum	**NS**	**NS**	8840	NA	9980	9670
Antimony	**NS**	**NS**	5.9	NA	2.5 U	2.2 U
Arsenic	**13**	**16**	10.9	NA	7.3	10.6
Barium	**350**	**400**	114	NA	194	172
Beryllium	**7.2**	**72**	0.27	NA	0.51	0.42
Cadmium	**2.5**	**4.3**	1.6	NA	0.64 U	1.2
Calcium	**NS**	**NS**	NA	28100 D	19000	16800
Chromium, Hexavalent	**1**	**110**	0.46 U	NA	**3**	0.44
Chromium, Total	**30**	**180**	21.6	NA	21.6	19.3
Cobalt	**NS**	**NS**	7.6	NA	7.3	8.6
Copper	**50**	**270**	**135**	NA	**51.5**	35.1
Iron	**NS**	**NS**	21600	NA	23800	19100
Lead	**63**	**400**	**302**	NA	**236**	**431**
Magnesium	**NS**	**NS**	4730	NA	8430	4440
Manganese	**1600**	**2000**	273	NA	395	279
Mercury	**0.18**	**0.81**	**0.6**	NA	0.16	**0.4**
Nickel	**30**	**310**	19.4	NA	21.7	19.5
Potassium	**NS**	**NS**	1970	NA	1950	2810
Selenium	**3.9**	**180**	2.3 U	NA	2.5 U	2.2 U
Silver	**2**	**180**	0.94	NA	0.64 U	0.54 U
Sodium	**NS**	**NS**	1200 U	NA	1300 U	1100 U
Thallium	**NS**	**NS**	1.2 U	NA	1.3 U	1.1 U
Vanadium	**NS**	**NS**	21.6	NA	42.5	33.7
Zinc	**109**	**10000**	**753**	NA	**305**	**480**

Attached Table 20
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Metals

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-07 (0-2) 20180524 JC66764-6 5/24/2018 12:15:00 PM 1 mg/kg	RI-SB-07 (0-2) 20180524 JC66764-6 5/24/2018 12:15:00 PM 5 mg/kg	RI-SB-07 (0-2) 20180524 JC66764-6R 5/24/2018 12:15:00 PM 5 mg/kg	RI-SB-07 (5-7) 20180524 JC66764-7 5/24/2018 12:26:00 PM 1 mg/kg
Aluminum	**NS**	**NS**	8090	NA	NA	11100
Antimony	**NS**	**NS**	2.3 U	NA	NA	2.3 U
Arsenic	**13**	**16**	10.6	NA	NA	**13.3**
Barium	**350**	**400**	206	NA	NA	201
Beryllium	**7.2**	**72**	0.49	NA	NA	0.49
Cadmium	**2.5**	**4.3**	0.82	NA	NA	0.76
Calcium	**NS**	**NS**	NA	59600 D	NA	29900
Chromium, Hexavalent	**1**	**110**	0.78	NA	NA	0.73
Chromium, Total	**30**	**180**	16.4	NA	NA	**127**
Cobalt	**NS**	**NS**	5.8 U	NA	NA	8.7
Copper	**50**	**270**	**70.9**	NA	NA	**78.2**
Iron	**NS**	**NS**	16000	NA	NA	23600
Lead	**63**	**400**	NA	**2410 D**	0.5 U	**370**
Magnesium	**NS**	**NS**	21800	NA	NA	9680
Manganese	**1600**	**2000**	268	NA	NA	371
Mercury	**0.18**	**0.81**	**0.28**	NA	NA	**0.7**
Nickel	**30**	**310**	16.9	NA	NA	**36.4**
Potassium	**NS**	**NS**	1630	NA	NA	3150
Selenium	**3.9**	**180**	2.3 U	NA	NA	2.3 U
Silver	**2**	**180**	**2.8**	NA	NA	**4.3**
Sodium	**NS**	**NS**	1200 U	NA	NA	1100 U
Thallium	**NS**	**NS**	1.2 U	NA	NA	1.1 U
Vanadium	**NS**	**NS**	42.5	NA	NA	34.9
Zinc	**109**	**10000**	**178**	NA	NA	**193**

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-07 (8-10) 20180524 JC66764-8 5/24/2018 12:31:00 PM 1 mg/kg	RI-SB-07 (8-10) 20180524 JC66764-8 5/24/2018 12:31:00 PM 10 mg/kg	RI-SB-07 (8-10) 20180524 JC66764-8R 5/24/2018 12:31:00 PM 5 mg/kg	RI-SB-08 (0-2) 20180524 JC66764-18 5/24/2018 2:05:00 PM 1 mg/kg
Aluminum	**NS**	**NS**	5100	NA	NA	8170
Antimony	**NS**	**NS**	2.5 U	NA	NA	2.1 U
Arsenic	**13**	**16**	7.3	NA	NA	5.2
Barium	**350**	**400**	**511**	NA	NA	196
Beryllium	**7.2**	**72**	0.27	NA	NA	0.4
Cadmium	**2.5**	**4.3**	1.1	NA	NA	0.53 U
Calcium	**NS**	**NS**	NA	76600 D	NA	6400
Chromium, Hexavalent	**1**	**110**	**1.1**	NA	NA	0.66
Chromium, Total	**30**	**180**	12.4	NA	NA	15.5
Cobalt	**NS**	**NS**	6.1 U	NA	NA	6.7
Copper	**50**	**270**	14.3	NA	NA	39.9
Iron	**NS**	**NS**	8910	NA	NA	16400
Lead	**63**	**400**	NA	**4400 D**	1.8 D	**262**
Magnesium	**NS**	**NS**	4740	NA	NA	3490
Manganese	**1600**	**2000**	271	NA	NA	265
Mercury	**0.18**	**0.81**	**0.33**	NA	NA	**0.49**
Nickel	**30**	**310**	8.5	NA	NA	16
Potassium	**NS**	**NS**	1200 U	NA	NA	1700
Selenium	**3.9**	**180**	2.5 U	NA	NA	2.1 U
Silver	**2**	**180**	1.5	NA	NA	0.53 U
Sodium	**NS**	**NS**	1200 U	NA	NA	1100 U
Thallium	**NS**	**NS**	1.2 U	NA	NA	1.1 U
Vanadium	**NS**	**NS**	17.8	NA	NA	25.6
Zinc	**109**	**10000**	**241**	NA	NA	**315**

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-08 (7-9) 20180524 JC66764-19 5/24/2018 2:10:00 PM 1 mg/kg	RI-SB-08 (7-9) 20180524 JC66764-19 5/24/2018 2:10:00 PM 3 mg/kg	RI-SB-08 (7-9) 20180524 JC66764-19 5/24/2018 2:10:00 PM 5 mg/kg	RI-SB-09 (0-2) 20180524 JC66764-14 5/24/2018 2:40:00 PM 1 mg/kg
Aluminum	**NS**	**NS**	7190	NA	NA	9820 J
Antimony	**NS**	**NS**	2.3 U	NA	NA	2.3 UJ
Arsenic	**13**	**16**	6	NA	NA	6
Barium	**350**	**400**	**815**	NA	NA	224
Beryllium	**7.2**	**72**	0.34	NA	NA	0.53
Cadmium	**2.5**	**4.3**	0.57 U	NA	NA	0.65
Calcium	**NS**	**NS**	NA	NA	61800 D	25800
Chromium, Hexavalent	**1**	**110**	1	NA	NA	0.44 UJ
Chromium, Total	**30**	**180**	17.8	NA	NA	23.8
Cobalt	**NS**	**NS**	5.7 U	NA	NA	6.9
Copper	**50**	**270**	20.8	NA	NA	**128 J**
Iron	**NS**	**NS**	13500	NA	NA	19300
Lead	**63**	**400**	NA	**1900 D**	NA	**261 J**
Magnesium	**NS**	**NS**	3680	NA	NA	11500
Manganese	**1600**	**2000**	289	NA	NA	282 J
Mercury	**0.18**	**0.81**	**0.46**	NA	NA	**0.37**
Nickel	**30**	**310**	11.9	NA	NA	21.2
Potassium	**NS**	**NS**	1360	NA	NA	2000
Selenium	**3.9**	**180**	2.3 U	NA	NA	2.3 U
Silver	**2**	**180**	0.81	NA	NA	0.57 U
Sodium	**NS**	**NS**	1100 U	NA	NA	1100 U
Thallium	**NS**	**NS**	1.1 U	NA	NA	1.1 U
Vanadium	**NS**	**NS**	23.6	NA	NA	43.6
Zinc	**109**	**10000**	**398**	NA	NA	**190**

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-X01 (0-2) 20180524 JC66764-15 5/24/2018 2:40:00 PM 1 mg/kg	RI-SB-X01 (0-2) 20180524 JC66764-15 5/24/2018 2:40:00 PM 2 mg/kg	RI-SB-09 (7-9) 20180524 JC66764-16 5/24/2018 3:10:00 PM 1 mg/kg	RI-SB-09 (7-9) 20180524 JC66764-16 5/24/2018 3:10:00 PM 3 mg/kg
Aluminum	**NS**	**NS**	9120	NA	5110	NA
Antimony	**NS**	**NS**	2.3 U	NA	2.3 U	NA
Arsenic	**13**	**16**	7	NA	4.7	NA
Barium	**350**	**400**	248	NA	**468**	NA
Beryllium	**7.2**	**72**	0.31	NA	0.35	NA
Cadmium	**2.5**	**4.3**	0.75	NA	0.62	NA
Calcium	**NS**	**NS**	NA	38000 D	NA	NA
Chromium, Hexavalent	**1**	**110**	0.45 U	NA	**10.5**	NA
Chromium, Total	**30**	**180**	20.5	NA	24.7	NA
Cobalt	**NS**	**NS**	6.3	NA	5.8 U	NA
Copper	**50**	**270**	**64.9**	NA	23.6	NA
Iron	**NS**	**NS**	15700	NA	9750	NA
Lead	**63**	**400**	**268**	NA	NA	**2040 D**
Magnesium	**NS**	**NS**	14000	NA	5070	NA
Manganese	**1600**	**2000**	354	NA	254	NA
Mercury	**0.18**	**0.81**	**0.43**	NA	**0.54**	NA
Nickel	**30**	**310**	17.9	NA	12.6	NA
Potassium	**NS**	**NS**	1950	NA	1230	NA
Selenium	**3.9**	**180**	2.3 U	NA	2.3 U	NA
Silver	**2**	**180**	0.57 U	NA	0.58 U	NA
Sodium	**NS**	**NS**	1100 U	NA	1200 U	NA
Thallium	**NS**	**NS**	1.1 U	NA	1.2 U	NA
Vanadium	**NS**	**NS**	39.2	NA	23.1	NA
Zinc	**109**	**10000**	**206**	NA	**393**	NA

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-09 (7-9) 20180524 JC66764-16 5/24/2018 3:10:00 PM 5 mg/kg	RI-SB-09 (7-9) 20180524 JC66764-16R 5/24/2018 3:10:00 PM 5 mg/kg	RI-SB-10 (9.5-11) 20180821 JC72360-3 8/21/2018 11:43:00 AM 1 mg/kg	RI-SB-10 (9.5-11) 20180821 JC72360-3 8/21/2018 11:43:00 AM 2 mg/kg
Aluminum	**NS**	**NS**	NA	NA	10700 JK	NA
Antimony	**NS**	**NS**	NA	NA	2.5 UJ	NA
Arsenic	**13**	**16**	NA	NA	6.6 J	NA
Barium	**350**	**400**	NA	NA	124 J	NA
Beryllium	**7.2**	**72**	NA	NA	0.36	NA
Cadmium	**2.5**	**4.3**	NA	NA	0.63 U	NA
Calcium	**NS**	**NS**	71000 D	NA	14500 J	NA
Chromium, Hexavalent	**1**	**110**	NA	NA	0.49 UJ	NA
Chromium, Total	**30**	**180**	NA	NA	22.9 J	NA
Cobalt	**NS**	**NS**	NA	NA	8.4	NA
Copper	**50**	**270**	NA	NA	**67.4 J**	NA
Iron	**NS**	**NS**	NA	NA	18200 J	NA
Lead	**63**	**400**	NA	1.7 D	**265 J**	NA
Magnesium	**NS**	**NS**	NA	NA	5010 JL	NA
Manganese	**1600**	**2000**	NA	NA	266	NA
Mercury	**0.18**	**0.81**	NA	NA	NA	**1 JD**
Nickel	**30**	**310**	NA	NA	29.5 J	NA
Potassium	**NS**	**NS**	NA	NA	2470 J	NA
Selenium	**3.9**	**180**	NA	NA	2.5 U	NA
Silver	**2**	**180**	NA	NA	0.63 U	NA
Sodium	**NS**	**NS**	NA	NA	1300 U	NA
Thallium	**NS**	**NS**	NA	NA	1.3 U	NA
Vanadium	**NS**	**NS**	NA	NA	30.8 J	NA
Zinc	**109**	**10000**	NA	NA	**155 J**	NA

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-X03 (9.5-11) 20180821 JC72360-4 8/21/2018 11:45:00 AM 1 mg/kg	RI-SB-13 (0-2) 20180525 JC66764-32 5/25/2018 1:40:00 PM 1 mg/kg	RI-SB-13 (8-10) 20180525 JC66764-33 5/25/2018 2:00:00 PM 1 mg/kg	RI-SB-13 (8-10) 20180525 JC66764-33 5/25/2018 2:00:00 PM 2 mg/kg
Aluminum	**NS**	**NS**	6080 J	6380	10900	NA
Antimony	**NS**	**NS**	2.5 U	2.4 U	2.2 U	NA
Arsenic	**13**	**16**	4 J	3.2	9.4	NA
Barium	**350**	**400**	82.5 J	77.1	244	NA
Beryllium	**7.2**	**72**	0.3	0.26	0.56	NA
Cadmium	**2.5**	**4.3**	0.63 U	0.6 U	0.54 U	NA
Calcium	**NS**	**NS**	20900 J	28200	NA	33300 D
Chromium, Hexavalent	**1**	**110**	0.49 U	1	**1.4**	NA
Chromium, Total	**30**	**180**	14.6 J	15.6	**222**	NA
Cobalt	**NS**	**NS**	6.3 U	6 U	33.7	NA
Copper	**50**	**270**	45 J	26.2	**70**	NA
Iron	**NS**	**NS**	10900 J	10800	23600	NA
Lead	**63**	**400**	**646 J**	**84.8**	**296**	NA
Magnesium	**NS**	**NS**	4330	5270	13700	NA
Manganese	**1600**	**2000**	314	183	570	NA
Mercury	**0.18**	**0.81**	**0.31 J**	**0.31**	0.035 U	NA
Nickel	**30**	**310**	19.6 J	13.7	**551**	NA
Potassium	**NS**	**NS**	1560 J	1340	2030	NA
Selenium	**3.9**	**180**	2.5 U	2.4 U	2.2 U	NA
Silver	**2**	**180**	0.63 U	0.6 U	0.54 U	NA
Sodium	**NS**	**NS**	1300 U	1200 U	1100 U	NA
Thallium	**NS**	**NS**	1.3 U	1.2 U	1.1 U	NA
Vanadium	**NS**	**NS**	17	23.4	34.9	NA
Zinc	**109**	**10000**	**110**	105	**184**	NA

Attached Table 20
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Metals

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-14 (0-2) 20180525 JC66764-34 5/25/2018 2:40:00 PM 1 mg/kg	RI-SB-14 (0-2) 20180525 JC66764-34 5/25/2018 2:40:00 PM 2 mg/kg	RI-SB-14 (7-9) 20180525 JC66764-35 5/25/2018 2:45:00 PM 1 mg/kg	RI-SB-15 (0-2) 20180524 JC66764-12 5/24/2018 2:20:00 PM 1 mg/kg
Aluminum	**NS**	**NS**	8630	NA	9540	10100
Antimony	**NS**	**NS**	2.2 U	NA	2.4 U	2.3 U
Arsenic	**13**	**16**	7.1	NA	4.9	8.7
Barium	**350**	**400**	164	NA	333	181
Beryllium	**7.2**	**72**	0.44	NA	0.44	0.51
Cadmium	**2.5**	**4.3**	0.55 U	NA	0.59 U	0.6
Calcium	**NS**	**NS**	16800	NA	26700	6390
Chromium, Hexavalent	**1**	**110**	0.72	NA	0.57	0.64
Chromium, Total	**30**	**180**	27.1	NA	17.8	21.8
Cobalt	**NS**	**NS**	7.8	NA	7.4	7.2
Copper	**50**	**270**	**54.9**	NA	36.3	36.6
Iron	**NS**	**NS**	16900	NA	16900	16900
Lead	**63**	**400**	**304**	NA	**453**	**302**
Magnesium	**NS**	**NS**	4430	NA	4200	4030
Manganese	**1600**	**2000**	325	NA	285	291
Mercury	**0.18**	**0.81**	NA	**0.95 D**	**0.6**	**0.59**
Nickel	**30**	**310**	**33.5**	NA	18.5	27.2
Potassium	**NS**	**NS**	1690	NA	2620	1610
Selenium	**3.9**	**180**	2.2 U	NA	2.4 U	2.3 U
Silver	**2**	**180**	0.55 U	NA	0.59 U	**3.1**
Sodium	**NS**	**NS**	1100 U	NA	1200 U	1100 U
Thallium	**NS**	**NS**	1.1 U	NA	1.2 U	1.1 U
Vanadium	**NS**	**NS**	33.5	NA	29	29.2
Zinc	**109**	**10000**	**199**	NA	**224**	**181**

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1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Metals

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-15 (8-10) 20180524 JC66764-13 5/24/2018 2:25:00 PM 1 mg/kg	RI-SB-15 (8-10) 20180524 JC66764-13 5/24/2018 2:25:00 PM 2 mg/kg	RI-SB-15 (8-10) 20180524 JC66764-13 5/24/2018 2:25:00 PM 3 mg/kg	RI-SB-15 (8-10) 20180524 JC66764-13R 5/24/2018 2:25:00 PM 5 mg/kg
Aluminum	**NS**	**NS**	6030	NA	NA	NA
Antimony	**NS**	**NS**	2.4 U	NA	NA	NA
Arsenic	**13**	**16**	8.9	NA	NA	NA
Barium	**350**	**400**	NA	NA	**2050 D**	NA
Beryllium	**7.2**	**72**	0.3	NA	NA	NA
Cadmium	**2.5**	**4.3**	0.69	NA	NA	NA
Calcium	**NS**	**NS**	NA	NA	71400 D	NA
Chromium, Hexavalent	**1**	**110**	0.74	NA	NA	NA
Chromium, Total	**30**	**180**	12.6	NA	NA	NA
Cobalt	**NS**	**NS**	6 U	NA	NA	NA
Copper	**50**	**270**	21.5	NA	NA	NA
Iron	**NS**	**NS**	11400	NA	NA	NA
Lead	**63**	**400**	NA	NA	**1760 D**	1.4 D
Magnesium	**NS**	**NS**	4210	NA	NA	NA
Manganese	**1600**	**2000**	219	NA	NA	NA
Mercury	**0.18**	**0.81**	NA	**1.2 D**	NA	NA
Nickel	**30**	**310**	11	NA	NA	NA
Potassium	**NS**	**NS**	1270	NA	NA	NA
Selenium	**3.9**	**180**	2.4 U	NA	NA	NA
Silver	**2**	**180**	**2.4**	NA	NA	NA
Sodium	**NS**	**NS**	1200 U	NA	NA	NA
Thallium	**NS**	**NS**	1.2 U	NA	NA	NA
Vanadium	**NS**	**NS**	19.8	NA	NA	NA
Zinc	**109**	**10000**	NA	NA	**1320 D**	NA

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1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Metals

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-16 (0-2) 20180525 JC66764-22 5/25/2018 8:25:00 AM 1 mg/kg	RI-SB-16 (0-2) 20180525 JC66764-22 5/25/2018 8:25:00 AM 3 mg/kg	RI-SB-16 (0-2) 20180525 JC66764-22 5/25/2018 8:25:00 AM 5 mg/kg	RI-SB-16 (8-10) 20180525 JC66764-23 5/25/2018 8:30:00 AM 1 mg/kg
Aluminum	**NS**	**NS**	9610	NA	NA	6030
Antimony	**NS**	**NS**	3.1	NA	NA	2.4
Arsenic	**13**	**16**	NA	**22.4 D**	NA	6.2
Barium	**350**	**400**	270	NA	NA	NA
Beryllium	**7.2**	**72**	0.5	NA	NA	0.32
Cadmium	**2.5**	**4.3**	0.77	NA	NA	NA
Calcium	**NS**	**NS**	19400	NA	NA	NA
Chromium, Hexavalent	**1**	**110**	**1.6**	NA	NA	**2.5**
Chromium, Total	**30**	**180**	24.7	NA	NA	21.8
Cobalt	**NS**	**NS**	8.8	NA	NA	7.6
Copper	**50**	**270**	NA	**197 D**	NA	28.4
Iron	**NS**	**NS**	NA	NA	NA	15200
Lead	**63**	**400**	NA	**530 D**	NA	**622**
Magnesium	**NS**	**NS**	3720	NA	NA	9690
Manganese	**1600**	**2000**	NA	388 D	NA	278
Mercury	**0.18**	**0.81**	NA	NA	**2.2 D**	NA
Nickel	**30**	**310**	27.3	NA	NA	17.9
Potassium	**NS**	**NS**	1950	NA	NA	1350
Selenium	**3.9**	**180**	NA	6.5 U	NA	2.4 U
Silver	**2**	**180**	NA	1.6 U	NA	NA
Sodium	**NS**	**NS**	1100 U	NA	NA	1200 U
Thallium	**NS**	**NS**	1.1 U	NA	NA	1.2 U
Vanadium	**NS**	**NS**	60.4	NA	NA	35.9
Zinc	**109**	**10000**	**439**	NA	NA	NA

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-16 (8-10) 20180525 JC66764-23 5/25/2018 8:30:00 AM 5 mg/kg	RI-SB-17 (0-2) 20180525 JC66764-24 5/25/2018 8:55:00 AM 1 mg/kg	RI-SB-17 (8-10) 20180525 JC66764-25 5/25/2018 9:00:00 AM 1 mg/kg	RI-SB-18 (0-2) 20180525 JC66764-26 5/25/2018 9:30:00 AM 1 mg/kg
Aluminum	**NS**	**NS**	NA	9830	10000	9650
Antimony	**NS**	**NS**	NA	2.4 U	2.2 U	2.1 U
Arsenic	**13**	**16**	NA	6	4.9	8.5
Barium	**350**	**400**	**4990 D**	259	121	305
Beryllium	**7.2**	**72**	NA	0.51	0.47	0.55
Cadmium	**2.5**	**4.3**	3 U	0.6 U	0.56 U	0.87
Calcium	**NS**	**NS**	83300 D	12800	8810	NA
Chromium, Hexavalent	**1**	**110**	NA	0.46 U	0.46 U	**1.5**
Chromium, Total	**30**	**180**	NA	18.6	18.3	23.2
Cobalt	**NS**	**NS**	NA	6.4	7.3	7
Copper	**50**	**270**	NA	48.9	29.3	**105**
Iron	**NS**	**NS**	NA	17000	16200	24100
Lead	**63**	**400**	NA	**326**	**177**	**520**
Magnesium	**NS**	**NS**	NA	4850	3230	11000
Manganese	**1600**	**2000**	NA	376	233	442
Mercury	**0.18**	**0.81**	**1.6 D**	**0.59**	**0.43**	**0.81**
Nickel	**30**	**310**	NA	15	16.6	25.1
Potassium	**NS**	**NS**	NA	1520	1430	1370
Selenium	**3.9**	**180**	NA	2.4 U	2.2 U	2.1 U
Silver	**2**	**180**	3 U	0.6 U	0.56 U	0.53 U
Sodium	**NS**	**NS**	NA	1200 U	1100 U	1100 U
Thallium	**NS**	**NS**	NA	1.2 U	1.1 U	1.1 U
Vanadium	**NS**	**NS**	NA	39.3	26.2	59.7
Zinc	**109**	**10000**	**2430 D**	**210**	**149**	**385**

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-18 (0-2) 20180525 JC66764-26 5/25/2018 9:30:00 AM 2 mg/kg	RI-SB-18 (8-10) 20180525 JC66764-27 5/25/2018 9:40:00 AM 1 mg/kg	RI-SB-18 (8-10) 20180525 JC66764-27 5/25/2018 9:40:00 AM 2 mg/kg	RI-SB-19 (0-2) 20180524 JC66764-9 5/24/2018 1:15:00 PM 1 mg/kg
Aluminum	**NS**	**NS**	NA	7980	NA	11200
Antimony	**NS**	**NS**	NA	2.2 U	NA	3.1
Arsenic	**13**	**16**	NA	3.2	NA	**16.5**
Barium	**350**	**400**	NA	90.8	NA	174
Beryllium	**7.2**	**72**	NA	0.42	NA	0.53
Cadmium	**2.5**	**4.3**	NA	0.54 U	NA	1.4
Calcium	**NS**	**NS**	36400 D	NA	31400 D	15400
Chromium, Hexavalent	**1**	**110**	NA	0.44 U	NA	**1.3**
Chromium, Total	**30**	**180**	NA	14.3	NA	27.2
Cobalt	**NS**	**NS**	NA	5.4 U	NA	9.6
Copper	**50**	**270**	NA	18.4	NA	**102**
Iron	**NS**	**NS**	NA	11600	NA	27600
Lead	**63**	**400**	NA	**87.8**	NA	**393**
Magnesium	**NS**	**NS**	NA	8950	NA	5130
Manganese	**1600**	**2000**	NA	374	NA	343
Mercury	**0.18**	**0.81**	NA	**0.85**	NA	**0.67**
Nickel	**30**	**310**	NA	11.5	NA	**30.3**
Potassium	**NS**	**NS**	NA	1410	NA	2960
Selenium	**3.9**	**180**	NA	2.2 U	NA	2.3 U
Silver	**2**	**180**	NA	0.54 U	NA	**5.4**
Sodium	**NS**	**NS**	NA	1100 U	NA	1100 U
Thallium	**NS**	**NS**	NA	1.1 U	NA	1.1 U
Vanadium	**NS**	**NS**	NA	21.3	NA	32.6
Zinc	**109**	**10000**	NA	66.3	NA	**435**

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-19 (7-9) 20180524 JC66764-10 5/24/2018 1:20:00 PM 1 mg/kg	RI-SB-19 (7-9) 20180524 JC66764-10 5/24/2018 1:20:00 PM 2 mg/kg	RI-SB-19 (7-9) 20180524 JC66764-10 5/24/2018 1:20:00 PM 5 mg/kg	RI-SB-20 (0-2) 20180525 JC66764-28 5/25/2018 10:20:00 AM 1 mg/kg
Aluminum	**NS**	**NS**	7680	NA	NA	8330
Antimony	**NS**	**NS**	2.7	NA	NA	2.1 U
Arsenic	**13**	**16**	8.4	NA	NA	10
Barium	**350**	**400**	253	NA	NA	NA
Beryllium	**7.2**	**72**	0.39	NA	NA	0.5
Cadmium	**2.5**	**4.3**	0.84	NA	NA	0.57
Calcium	**NS**	**NS**	NA	NA	54300 D	12700
Chromium, Hexavalent	**1**	**110**	**1.1**	NA	NA	0.53
Chromium, Total	**30**	**180**	20.5	NA	NA	21.5
Cobalt	**NS**	**NS**	6	NA	NA	5.5
Copper	**50**	**270**	**62.3**	NA	NA	**56.3**
Iron	**NS**	**NS**	13700	NA	NA	14400
Lead	**63**	**400**	**866**	NA	NA	NA
Magnesium	**NS**	**NS**	7780	NA	NA	4130
Manganese	**1600**	**2000**	239	NA	NA	382
Mercury	**0.18**	**0.81**	NA	**1.1 D**	NA	**0.4**
Nickel	**30**	**310**	22.9	NA	NA	14.7
Potassium	**NS**	**NS**	1570	NA	NA	1770
Selenium	**3.9**	**180**	2.3 U	NA	NA	2.1 U
Silver	**2**	**180**	**2.5**	NA	NA	0.53 U
Sodium	**NS**	**NS**	1100 U	NA	NA	1100 U
Thallium	**NS**	**NS**	1.1 U	NA	NA	1.1 U
Vanadium	**NS**	**NS**	20.4	NA	NA	31.4
Zinc	**109**	**10000**	**264**	NA	NA	**322**

Attached Table 20
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Metals

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-20 (0-2) 20180525 JC66764-28 5/25/2018 10:20:00 AM 5 mg/kg	RI-SB-20 (8-10) 20180525 JC66764-29 5/25/2018 10:30:00 AM 1 mg/kg	RI-SB-20 (8-10) 20180525 JC66764-29 5/25/2018 10:30:00 AM 3 mg/kg	RI-SB-21 (0-2) 20180525 JC66764-36 5/25/2018 2:15:00 PM 1 mg/kg
Aluminum	**NS**	**NS**	NA	11200	NA	8580 J
Antimony	**NS**	**NS**	NA	2.2 U	NA	2.2 U
Arsenic	**13**	**16**	NA	2.9	NA	3.6
Barium	**350**	**400**	**2620 D**	270	NA	266 J
Beryllium	**7.2**	**72**	NA	0.39	NA	0.43
Cadmium	**2.5**	**4.3**	NA	1	NA	0.54 U
Calcium	**NS**	**NS**	NA	NA	44900 D	NA
Chromium, Hexavalent	**1**	**110**	NA	**3.7**	NA	0.45 UJ
Chromium, Total	**30**	**180**	NA	21.3	NA	21.3
Cobalt	**NS**	**NS**	NA	8.6	NA	7.3
Copper	**50**	**270**	NA	34.4	NA	40.4
Iron	**NS**	**NS**	NA	17800	NA	16000
Lead	**63**	**400**	**1290 D**	**256**	NA	**275 J**
Magnesium	**NS**	**NS**	NA	13500	NA	16600
Manganese	**1600**	**2000**	NA	292	NA	269
Mercury	**0.18**	**0.81**	NA	0.17	NA	**0.33 JL**
Nickel	**30**	**310**	NA	20.5	NA	17.8
Potassium	**NS**	**NS**	NA	2280	NA	2060
Selenium	**3.9**	**180**	NA	2.2 U	NA	2.2 U
Silver	**2**	**180**	NA	0.55 U	NA	0.54 U
Sodium	**NS**	**NS**	NA	1100 U	NA	1100 U
Thallium	**NS**	**NS**	NA	1.1 U	NA	1.1 U
Vanadium	**NS**	**NS**	NA	34.8	NA	30.9
Zinc	**109**	**10000**	NA	**224**	NA	**160**

Attached Table 20
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
Metals

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**NYSDEC UUSCO**	**NYSDEC RRSCO**	RI-SB-21 (0-2) 20180525 JC66764-36 5/25/2018 2:15:00 PM 2 mg/kg	RI-SB-X02 (0-2) 20180525 JC66764-38 5/25/2018 2:15:00 PM 1 mg/kg	RI-SB-21 (7.5-9.5) 20180525 JC66764-37 5/25/2018 2:30:00 PM 1 mg/kg	RI-FB-01 20180524 JC66764-17 5/24/2018 3:15:00 PM 1 ug/l
Aluminum	**NS**	**NS**	NA	9020	10600	200 U
Antimony	**NS**	**NS**	NA	2.3 U	2.3 U	6 U
Arsenic	**13**	**16**	NA	5.2	9.3	3 U
Barium	**350**	**400**	NA	107 JL	205	200 U
Beryllium	**7.2**	**72**	NA	0.43	0.48	1 U
Cadmium	**2.5**	**4.3**	NA	0.56 U	0.57 U	3 U
Calcium	**NS**	**NS**	31900 D	14900	16300	5000 U
Chromium, Hexavalent	**1**	**110**	NA	0.76	0.44 U	10 U
Chromium, Total	**30**	**180**	NA	22	25.9	10 U
Cobalt	**NS**	**NS**	NA	7.6	10.2	50 U
Copper	**50**	**270**	NA	36.2	**74.1**	10 U
Iron	**NS**	**NS**	NA	16500	22100	100 U
Lead	**63**	**400**	NA	**164 JL**	**367**	3 U
Magnesium	**NS**	**NS**	NA	9570	5240	5000 U
Manganese	**1600**	**2000**	NA	281	298	15 U
Mercury	**0.18**	**0.81**	NA	**0.69**	**0.25**	0.2 U
Nickel	**30**	**310**	NA	20	**92.5**	10 U
Potassium	**NS**	**NS**	NA	1930	3100	10000 U
Selenium	**3.9**	**180**	NA	2.3 U	2.3 U	10 U
Silver	**2**	**180**	NA	0.56 U	0.57 U	10 U
Sodium	**NS**	**NS**	NA	1100 U	1100 U	10000 U
Thallium	**NS**	**NS**	NA	1.1 U	1.1 U	10 U
Vanadium	**NS**	**NS**	NA	29.8	34.8	50 U
Zinc	**109**	**10000**	NA	**126**	**233**	20 U

AKRF Sample ID Laboratory Sample ID Date Sampled Dilution Factor Unit	NYSDEC UUSCO	NYSDEC RRSCO	RI-FB-02 20180525 JC66764-21 5/25/2018 3:25:00 PM 1 ug/l	RI-FB-04 20181008 JC75512-3 10/8/2018 10:30:00 AM 1 ug/l
Aluminum	**NS**	**NS**	200 U	200 U
Antimony	**NS**	**NS**	6 U	6 U
Arsenic	**13**	**16**	3 U	3 U
Barium	**350**	**400**	200 U	200 U
Beryllium	**7.2**	**72**	1 U	1 U
Cadmium	**2.5**	**4.3**	3 U	3 U
Calcium	**NS**	**NS**	5000 U	5000 U
Chromium, Hexavalent	**1**	**110**	10 U	10 U
Chromium, Total	**30**	**180**	10 U	10 U
Cobalt	**NS**	**NS**	50 U	50 U
Copper	**50**	**270**	10 U	10 U
Iron	**NS**	**NS**	100 U	100 U
Lead	**63**	**400**	3 U	3 U
Magnesium	**NS**	**NS**	5000 U	5000 U
Manganese	**1600**	**2000**	15 U	15 U
Mercury	**0.18**	**0.81**	0.2 U	0.2 U
Nickel	**30**	**310**	10 U	10 U
Potassium	**NS**	**NS**	10000 U	10000 U
Selenium	**3.9**	**180**	10 U	10 U
Silver	**2**	**180**	10 U	10 U
Sodium	**NS**	**NS**	10000 U	10000 U
Thallium	**NS**	**NS**	10 U	10 U
Vanadium	**NS**	**NS**	50 U	50 U
Zinc	**109**	**10000**	20 U	20 U

Attached Table 21
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Analytical Results
TCLP Lead

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Dilution Factor** **Unit**	**Hazardous Threshold**	RI-SB-07 (0-2) 20180524 JC66764-6R 5/24/2018 12:15:00 PM 5 mg/l	RI-SB-07 (8-10) 20180524 JC66764-8R 5/24/2018 12:31:00 PM 5 mg/l	RI-SB-09 (7-9) 20180524 JC66764-16R 5/24/2018 3:10:00 PM 5 mg/l	RI-SB-15 (8-10) 20180524 JC66764-13R 5/24/2018 2:25:00 PM 5 mg/l
Lead	5	0.5 U	1.8 D	1.7 D	1.4 D

Attached Table 22
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Volatile Organic Compounds

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Unit** **Dilution Factor**	**NYSDEC TOGS**	RI-MW-01 20180712 JC69778-1 7/12/2018 1:15:00 PM ug/l 1	RI-MW-02 20180712 JC69778-2 7/12/2018 9:25:00 AM ug/l 1	RI-MW-X02 20180712 JC69778-3 7/12/2018 9:30:00 AM ug/l 1	RI-MW-03 20181015 JC75965-1 10/15/2018 3:50:00 PM ug/l 1	RI-MW-X04 20181015 JC75965-2 10/15/2018 4:00:00 PM ug/l 1
1,1,1-Trichloroethane	5.00	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	5.00	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	5.00	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	1.00	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	5.00	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	5.00	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	5.00	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	5.00	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	5.00	2 U	2 U	2 U	2 U	2 U
1,2-Dibromo-3-Chloropropane	0.0400	2 U	2 U	2 U	2 U	2 U
1,2-Dibromoethane (Ethylene Dibromide)	0.000600	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	3.00	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.600	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1.00	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene (Mesitylene)	5.00	2 U	2 U	2 U	2 U	2 U
1,3-Dichlorobenzene	3.00	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	3.00	1 U	1 U	1 U	1 U	1 U
2-Hexanone	50.0	5 U	5 U	5 U	5 U	5 U
Acetone	50.0	10 U	10 U	10 U	10 U	10 U
Benzene	**1.00**	0.5 U	**4**	**5.2**	0.5 U	0.5 U
Bromochloromethane	5.00	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	50.0	1 U	1 U	1 U	1 U	1 U
Bromoform	50.0	1 U	1 U	1 U	1 U	1 U
Bromomethane	5.00	2 U	2 U	2 U	2 U	2 U
Carbon Disulfide	60.0	2 U	2 U	2 U	2 U	2 U
Carbon Tetrachloride	5.00	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	5.00	1 U	1 U	1 U	1 U	1 U
Chloroethane	5.00	1 U	1 U	1 U	1 U	1 U
Chloroform	7.00	1 U	1 U	1 U	1 U	1 U
Chloromethane	5.00	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethylene	5.00	1 U	1 U	1 U	1 U	1 U
Cis-1,3-Dichloropropene	NS	1 U	1 U	1 U	1 U	1 U
Cyclohexane	NS	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	50.0	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	5.00	2 U	2 U	2 U	2 U	2 U
Ethylbenzene	5.00	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene (Cumene)	**5.00**	1 U	1 U	1 U	1 U	1 U
M,P-Xylene (Sum Of Isomers)	NS	1 U	1 U	1 U	1 U	1 U
Methyl Acetate	NS	5 U	5 U	5 U	5 U	5 U
Methyl Ethyl Ketone (2-Butanone)	50.0	10 U	10 U	10 U	10 U	10 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	5 U	5 U	5 U	5 U	5 U
Methylcyclohexane	NS	5 U	5 U	5 U	5 U	5 U
Methylene Chloride	5.00	2 U	2 U	2 U	2 U	2 U
N-Butylbenzene	5.00	2 U	2 U	2 U	2 U	2 U
N-Propylbenzene	5.00	2 U	2 U	2 U	2 U	2 U
O-Xylene (1,2-Dimethylbenzene)	5.00	1 U	0.22 J	0.23 J	1 U	1 U
Sec-Butylbenzene	5.00	2 U	2 U	2 U	2 U	2 U
Styrene	5.00	1 U	1 U	1 U	1 U	1 U
T-Butylbenzene	5.00	2 U	2 U	2 U	2 U	2 U
Tert-Butyl Methyl Ether	10.0	1 U	1 U	1 U	1 U	1 U
Tetrachloroethylene (PCE)	5.00	1 U	1 U	1 U	1 U	1 U
Toluene	5.00	1 U	0.93 J	1.1	1 U	1 U
Trans-1,2-Dichloroethene	5.00	1 U	1 U	1 U	1 U	1 U
Trans-1,3-Dichloropropene	NS	1 U	1 U	1 U	1 U	1 U
Trichloroethylene (TCE)	5.00	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane	5.00	2 U	2 U	2 U	2 U	2 U
Vinyl Chloride	2.00	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	NS	1 U	0.54 J	0.61 J	1 U	1 U

AKRF Sample ID		RI-MW-04 20180906	RI-MW-05 20180906	RI-MW-X03 20180906	RI-MW-B12 20180904	RI-FB-01 20180524
Laboratory Sample ID		JC73086-7	JC73086-4	JC73086-5	JC73086-3	JC66764-17
Date Sampled	**NYSDEC TOGS**	9/6/2018 11:35:00 AM	9/6/2018 2:00:00 PM	9/6/2018 4:00:00 PM	9/4/2018 3:35:00 PM	5/24/2018 3:15:00 PM
Unit		ug/l	ug/l	ug/l	ug/l	ug/l
Dilution Factor		1	1	1	1	1
1,1,1-Trichloroethane	5.00	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	5.00	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	5.00	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	1.00	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	5.00	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	5.00	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	5.00	1 UJ	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	5.00	1 UJ	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	5.00	2 U	3.1	3.9	2.1	2 U
1,2-Dibromo-3-Chloropropane	0.0400	2 U	2 U	2 U	2 U	2 U
1,2-Dibromoethane (Ethylene Dibromide)	0.000600	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	3.00	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.600	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1.00	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene (Mesitylene)	5.00	2 U	2 U	2 U	2 U	2 U
1,3-Dichlorobenzene	3.00	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	3.00	1 U	1 U	1 U	1 U	1 U
2-Hexanone	50.0	5 U	5 U	5 U	5 U	5 U
Acetone	50.0	10.7	10 U	10 U	10 U	10 U
Benzene	**1.00**	0.5 U	0.5 U	0.49 J	0.5 U	0.5 U
Bromochloromethane	5.00	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	50.0	1 U	1 U	1 U	1 U	1 U
Bromoform	50.0	1 U	1 U	1 U	1 U	1 U
Bromomethane	5.00	2 U	2 U	2 UJ	2 U	2 U
Carbon Disulfide	60.0	1.1 J	2 U	2 U	2 U	2 U
Carbon Tetrachloride	5.00	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	5.00	1 U	1 U	1 U	1 U	1 U
Chloroethane	5.00	1 U	1 U	1 U	1 U	1 U
Chloroform	7.00	1 U	1 U	1 U	1 U	1 U
Chloromethane	5.00	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethylene	5.00	1 U	1 U	1 U	1 U	1 U
Cis-1,3-Dichloropropene	NS	1 U	1 U	1 U	1 U	1 U
Cyclohexane	NS	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	50.0	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	5.00	2 U	2 U	2 U	2 U	2 U
Ethylbenzene	5.00	1 U	1 U	1 U	0.62 J	1 U
Isopropylbenzene (Cumene)	**5.00**	1 U	**7.8**	**8.8**	1 U	1 U
M,P-Xylene (Sum Of Isomers)	NS	1 U	0.88 J	1.2	0.89 J	1 U
Methyl Acetate	NS	5 U	5 U	5 U	5 U	5 U
Methyl Ethyl Ketone (2-Butanone)	50.0	10 U	10 U	10 U	10 U	10 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	5 U	5 U	5 U	5 U	5 U
Methylcyclohexane	NS	5 U	5 U	5 U	5 U	5 U
Methylene Chloride	5.00	2 U	2 U	2 U	2 U	2 U
N-Butylbenzene	5.00	2 U	2 U	2 U	2 U	2 U
N-Propylbenzene	5.00	2 U	2 U	2 U	2 U	2 U
O-Xylene (1,2-Dimethylbenzene)	5.00	1 U	1.5	2	1.2	1 U
Sec-Butylbenzene	5.00	2 U	2 U	2 U	2 U	2 U
Styrene	5.00	1 U	1 U	1 U	1 U	1 U
T-Butylbenzene	5.00	2 U	2 U	2 U	2 U	2 U
Tert-Butyl Methyl Ether	10.0	1 U	1 U	1 U	1 U	1 U
Tetrachloroethylene (PCE)	5.00	1 U	1 U	1 U	1 U	1 U
Toluene	5.00	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	5.00	1 U	1 U	1 U	1 U	1 U
Trans-1,3-Dichloropropene	NS	1 U	1 U	1 U	1 U	1 U
Trichloroethylene (TCE)	5.00	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane	5.00	2 U	2 U	2 U	2 U	2 U
Vinyl Chloride	2.00	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	NS	1 U	2.4	3.2	2.1	1 U

AKRF Sample ID		RI-FB-02 20180525	RI-FB-02 20180712	RI-FB-03 20180904
Laboratory Sample ID		JC66764-21	JC69778-4	JC73086-2
Date Sampled	**NYSDEC TOGS**	5/25/2018 3:25:00 PM	7/12/2018 11:20:00 AM	9/4/2018 10:30:00 AM
Unit		ug/l	ug/l	ug/l
Dilution Factor		1	1	1
1,1,1-Trichloroethane	5.00	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	5.00	1 U	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	5.00	5 U	5 U	5 U
1,1,2-Trichloroethane	1.00	1 U	1 U	1 U
1,1-Dichloroethane	5.00	1 U	1 U	1 U
1,1-Dichloroethene	5.00	1 U	1 U	1 U
1,2,3-Trichlorobenzene	5.00	1 U	1 U	1 U
1,2,4-Trichlorobenzene	5.00	1 U	1 U	1 U
1,2,4-Trimethylbenzene	5.00	2 U	2 U	2 U
1,2-Dibromo-3-Chloropropane	0.0400	2 U	2 U	2 U
1,2-Dibromoethane (Ethylene Dibromide)	0.000600	1 U	1 U	1 U
1,2-Dichlorobenzene	3.00	1 U	1 U	1 U
1,2-Dichloroethane	0.600	1 U	1 U	1 U
1,2-Dichloropropane	1.00	1 U	1 U	1 U
1,3,5-Trimethylbenzene (Mesitylene)	5.00	2 U	2 U	2 U
1,3-Dichlorobenzene	3.00	1 U	1 U	1 U
1,4-Dichlorobenzene	3.00	1 U	1 U	1 U
2-Hexanone	50.0	5 U	5 U	5 U
Acetone	50.0	10 U	10 U	10 U
Benzene	**1.00**	0.5 U	0.5 U	0.5 U
Bromochloromethane	5.00	1 U	1 U	1 U
Bromodichloromethane	50.0	1 U	1 U	1 U
Bromoform	50.0	1 U	1 U	1 U
Bromomethane	5.00	2 U	2 U	2 U
Carbon Disulfide	60.0	2 U	2 U	2 U
Carbon Tetrachloride	5.00	1 U	1 U	1 U
Chlorobenzene	5.00	1 U	1 U	1 U
Chloroethane	5.00	1 U	1 U	1 U
Chloroform	7.00	1 U	1 U	1 U
Chloromethane	5.00	1 U	1 U	1 U
Cis-1,2-Dichloroethylene	5.00	1 U	1 U	1 U
Cis-1,3-Dichloropropene	NS	1 U	1 U	1 U
Cyclohexane	NS	5 U	5 U	5 U
Dibromochloromethane	50.0	1 U	1 U	1 U
Dichlorodifluoromethane	5.00	2 U	2 U	2 U
Ethylbenzene	5.00	1 U	1 U	1 U
Isopropylbenzene (Cumene)	**5.00**	1 U	1 U	1 U
M,P-Xylene (Sum Of Isomers)	NS	1 U	1 U	1 U
Methyl Acetate	NS	5 U	5 U	5 U
Methyl Ethyl Ketone (2-Butanone)	50.0	10 U	10 U	10 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	5 U	5 U	5 U
Methylcyclohexane	NS	5 U	5 U	5 U
Methylene Chloride	5.00	2 U	2 U	2 U
N-Butylbenzene	5.00	2 U	2 U	2 U
N-Propylbenzene	5.00	2 U	2 U	2 U
O-Xylene (1,2-Dimethylbenzene)	5.00	1 U	1 U	1 U
Sec-Butylbenzene	5.00	2 U	2 U	2 U
Styrene	5.00	1 U	1 U	1 U
T-Butylbenzene	5.00	2 U	2 U	2 U
Tert-Butyl Methyl Ether	10.0	1 U	1 U	1 U
Tetrachloroethylene (PCE)	5.00	1 U	1 U	1 U
Toluene	5.00	1 U	1 U	1 U
Trans-1,2-Dichloroethene	5.00	1 U	1 U	1 U
Trans-1,3-Dichloropropene	NS	1 U	1 U	1 U
Trichloroethylene (TCE)	5.00	1 U	1 U	1 U
Trichlorofluoromethane	5.00	2 U	2 U	2 U
Vinyl Chloride	2.00	1 U	1 U	1 U
Xylenes, Total	NS	1 U	1 U	1 U

AKRF Sample ID		RI-FB-04 20181008	RI-FB-04 20181015	RI-TB-01 20180524	RI-TB-02 20180525	RI-TB-02 20180712
Laboratory Sample ID		JC75512-3	JC75965-3	JC66764-11	JC66764-20	JC69778-5
Date Sampled	**NYSDEC TOGS**	10/8/2018 10:30:00 AM	10/15/2018 4:10:00 PM	5/24/2018 3:15:00 PM	5/25/2018 3:25:00 PM	7/12/2018 11:20:00 AM
Unit		ug/l	ug/l	ug/l	ug/l	ug/l
Dilution Factor		1	1	1	1	1
1,1,1-Trichloroethane	5.00	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	5.00	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	5.00	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	1.00	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	5.00	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	5.00	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	5.00	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	5.00	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	5.00	2 U	2 U	2 U	2 U	2 U
1,2-Dibromo-3-Chloropropane	0.0400	2 U	2 U	2 U	2 U	2 U
1,2-Dibromoethane (Ethylene Dibromide)	0.000600	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	3.00	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.600	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1.00	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene (Mesitylene)	5.00	2 U	2 U	2 U	2 U	2 U
1,3-Dichlorobenzene	3.00	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	3.00	1 U	1 U	1 U	1 U	1 U
2-Hexanone	50.0	5 U	5 U	5 U	5 U	5 U
Acetone	50.0	10 U	10 U	10 U	10 U	10 U
Benzene	**1.00**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	5.00	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	50.0	1 U	1 U	1 U	1 U	1 U
Bromoform	50.0	1 U	1 U	1 U	1 U	1 U
Bromomethane	5.00	2 U	2 U	2 U	2 U	2 U
Carbon Disulfide	60.0	2 U	2 U	2 U	2 U	2 U
Carbon Tetrachloride	5.00	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	5.00	1 U	1 U	1 U	1 U	1 U
Chloroethane	5.00	1 U	1 U	1 U	1 U	1 U
Chloroform	7.00	1 U	1 U	1 U	1 U	1 U
Chloromethane	5.00	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethylene	5.00	1 U	1 U	1 U	1 U	1 U
Cis-1,3-Dichloropropene	NS	1 U	1 U	1 U	1 U	1 U
Cyclohexane	NS	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	50.0	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	5.00	2 U	2 U	2 U	2 U	2 U
Ethylbenzene	5.00	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene (Cumene)	**5.00**	1 U	1 U	1 U	1 U	1 U
M,P-Xylene (Sum Of Isomers)	NS	1 U	1 U	1 U	1 U	1 U
Methyl Acetate	NS	5 U	5 U	5 U	5 U	5 U
Methyl Ethyl Ketone (2-Butanone)	50.0	10 U	10 U	10 U	10 U	10 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	5 U	5 U	5 U	5 U	5 U
Methylcyclohexane	NS	5 U	5 U	5 U	5 U	5 U
Methylene Chloride	5.00	2 U	2 U	2 U	2 U	2 U
N-Butylbenzene	5.00	2 U	2 U	2 U	2 U	2 U
N-Propylbenzene	5.00	2 U	2 U	2 U	2 U	2 U
O-Xylene (1,2-Dimethylbenzene)	5.00	1 U	1 U	1 U	1 U	1 U
Sec-Butylbenzene	5.00	2 U	2 U	2 U	2 U	2 U
Styrene	5.00	1 U	1 U	1 U	1 U	1 U
T-Butylbenzene	5.00	2 U	2 U	2 U	2 U	2 U
Tert-Butyl Methyl Ether	10.0	1 U	1 U	1 U	1 U	1 U
Tetrachloroethylene (PCE)	5.00	1 U	1 U	1 U	1 U	1 U
Toluene	5.00	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	5.00	1 U	1 U	1 U	1 U	1 U
Trans-1,3-Dichloropropene	NS	1 U	1 U	1 U	1 U	1 U
Trichloroethylene (TCE)	5.00	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane	5.00	2 U	2 U	2 U	2 U	2 U
Vinyl Chloride	2.00	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	NS	1 U	1 U	1 U	1 U	1 U

AKRF Sample ID **Laboratory Sample ID** **Date Sampled** **Unit** **Dilution Factor**	**NYSDEC TOGS**	RI-TB-03 20180906 JC73086-6 9/6/2018 4:00:00 PM ug/l 1	RI-TB-04 20181008 JC75512-4 10/8/2018 11:41:00 AM ug/l 1
1,1,1-Trichloroethane	5.00	1 U	1 U
1,1,2,2-Tetrachloroethane	5.00	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	5.00	5 U	5 U
1,1,2-Trichloroethane	1.00	1 U	1 U
1,1-Dichloroethane	5.00	1 U	1 U
1,1-Dichloroethene	5.00	1 U	1 U
1,2,3-Trichlorobenzene	5.00	1 U	1 U
1,2,4-Trichlorobenzene	5.00	1 U	1 U
1,2,4-Trimethylbenzene	5.00	2 U	2 U
1,2-Dibromo-3-Chloropropane	0.0400	2 U	2 U
1,2-Dibromoethane (Ethylene Dibromide)	0.000600	1 U	1 U
1,2-Dichlorobenzene	3.00	1 U	1 U
1,2-Dichloroethane	0.600	1 U	1 U
1,2-Dichloropropane	1.00	1 U	1 U
1,3,5-Trimethylbenzene (Mesitylene)	5.00	2 U	2 U
1,3-Dichlorobenzene	3.00	1 U	1 U
1,4-Dichlorobenzene	3.00	1 U	1 U
2-Hexanone	50.0	5 U	5 U
Acetone	50.0	10 U	10 U
Benzene	**1.00**	0.5 U	0.5 U
Bromochloromethane	5.00	1 U	1 U
Bromodichloromethane	50.0	1 U	1 U
Bromoform	50.0	1 U	1 U
Bromomethane	5.00	2 U	2 U
Carbon Disulfide	60.0	2 U	2 U
Carbon Tetrachloride	5.00	1 U	1 U
Chlorobenzene	5.00	1 U	1 U
Chloroethane	5.00	1 U	1 U
Chloroform	7.00	1 U	1 U
Chloromethane	5.00	1 U	1 U
Cis-1,2-Dichloroethylene	5.00	1 U	1 U
Cis-1,3-Dichloropropene	NS	1 U	1 U
Cyclohexane	NS	5 U	5 U
Dibromochloromethane	50.0	1 U	1 U
Dichlorodifluoromethane	5.00	2 U	2 U
Ethylbenzene	5.00	1 U	1 U
Isopropylbenzene (Cumene)	**5.00**	1 U	1 U
M,P-Xylene (Sum Of Isomers)	NS	1 U	1 U
Methyl Acetate	NS	5 U	5 U
Methyl Ethyl Ketone (2-Butanone)	50.0	10 U	10 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NS	5 U	5 U
Methylcyclohexane	NS	5 U	5 U
Methylene Chloride	5.00	2 U	2 U
N-Butylbenzene	5.00	2 U	2 U
N-Propylbenzene	5.00	2 U	2 U
O-Xylene (1,2-Dimethylbenzene)	5.00	1 U	1 U
Sec-Butylbenzene	5.00	2 U	2 U
Styrene	5.00	1 U	1 U
T-Butylbenzene	5.00	2 U	2 U
Tert-Butyl Methyl Ether	10.0	1 U	1 U
Tetrachloroethylene (PCE)	5.00	1 U	1 U
Toluene	5.00	1 U	1 U
Trans-1,2-Dichloroethene	5.00	1 U	1 U
Trans-1,3-Dichloropropene	NS	1 U	1 U
Trichloroethylene (TCE)	5.00	1 U	1 U
Trichlorofluoromethane	5.00	2 U	2 U
Vinyl Chloride	2.00	1 U	1 U
Xylenes, Total	NS	1 U	1 U

AKRF Sample ID		RI-MW-01 20180712	RI-MW-02 20180712	RI-MW-X02 20180712	RI-MW-03 20181015	RI-MW-X04 20181015	RI-MW-04 20180906
Laboratory Sample ID		JC69778-1	JC69778-2	JC69778-3	JC75965-1	JC75965-2	JC73086-7
Date Sampled	NYSDEC TOGS	7/12/2018 1:15:00 PM	7/12/2018 9:25:00 AM	7/12/2018 9:30:00 AM	10/15/2018 3:50:00 PM	10/15/2018 4:00:00 PM	9/6/2018 11:35:00 AM
Unit		ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Dilution Factor		1	1	1	1	1	1
1,2,4,5-Tetrachlorobenzene	5.00	2.1 U	2 U	2 U	2.2 U	2 U	2 U
1,4-Dioxane (P-Dioxane)	NS	1.1 U	1 U	1 U	0.11 U	0.1 U	1 U
2,3,4,6-Tetrachlorophenol	NS	5.3 U	5 U	5 U	5.6 U	5 U	5 UJ
2,4,5-Trichlorophenol	NS	5.3 U	5 U	5 U	5.6 U	5 U	5 U
2,4,6-Trichlorophenol	NS	5.3 U	5 U	5 U	5.6 U	5 U	5 U
2,4-Dichlorophenol	5.00	2.1 U	2 U	2 U	2.2 U	2 U	2 U
2,4-Dimethylphenol	50.0	5.3 U	5 U	5 U	5.6 U	5 U	5 UJ
2,4-Dinitrophenol	10.0	5.3 U	5 U	5 U	5.6 U	5 U	5 U
2,4-Dinitrotoluene	5.00	1.1 U	1 U	1 U	1.1 U	1 U	1 U
2,6-Dinitrotoluene	5.00	1.1 U	1 U	1 U	1.1 U	1 U	1 U
2-Chloronaphthalene	10.0	2.1 U	2 U	2 U	2.2 U	2 U	2 U
2-Chlorophenol	NS	5.3 U	5 U	5 U	5.6 U	5 U	5 U
2-Methylnaphthalene	NS	1.1 U	1 U	1 U	1.1 U	1 U	1 U
2-Methylphenol (O-Cresol)	NS	2.1 U	2 UJ	2 U	2.2 U	2 U	2 U
2-Nitroaniline	5.00	5.3 U	5 U	5 U	5.6 U	5 U	5 U
2-Nitrophenol	NS	5.3 U	5 U	5 U	5.6 U	5 U	5 U
3,3'-Dichlorobenzidine	5.00	2.1 U	2 U	2 U	2.2 U	2 U	2 U
3-Nitroaniline	5.00	5.3 U	5 U	5 U	5.6 U	5 U	5 U
4,6-Dinitro-2-Methylphenol	NS	5.3 U	5 U	5 U	5.6 U	5 U	5 U
4-Bromophenyl Phenyl Ether	NS	2.1 U	2 U	2 U	2.2 U	2 U	2 U
4-Chloro-3-Methylphenol	NS	5.3 U	5 U	5 U	5.6 U	5 U	5 U
4-Chloroaniline	5.00	5.3 U	5 U	5 U	5.6 U	5 U	5 U
4-Chlorophenyl Phenyl Ether	NS	2.1 U	2 U	2 U	2.2 U	2 U	2 U
4-Nitroaniline	5.00	5.3 U	5 U	5 U	5.6 U	5 U	5 U
4-Nitrophenol	NS	11 U	10 U	10 U	11 U	10 U	10 U
Acenaphthene	20.0	1.1 U	1 U	1 U	0.25 J	1 U	1 U
Acenaphthylene	NS	1.1 U	1 U	1 U	1.1 U	1 U	1 U
Acetophenone	NS	2.1 U	2 UJ	2 U	2.2 U	2 U	2 U
Anthracene	50.0	1.1 U	1 U	1 U	1.1 U	1 U	1 U
Atrazine	7.50	2.1 U	2 U	2 U	2.2 U	2 U	2 U
Benzaldehyde	NS	5.3 U	5 U	5 U	5.6 U	5 U	5 U
Benzo(a)Anthracene	0.00200	1.1 U	1 U	1 U	1.1 U	1 U	1 U
Benzo(a)Pyrene	ND	1.1 U	1 U	1 U	1.1 U	1 U	1 U
Benzo(b)Fluoranthene	0.00200	1.1 U	1 U	1 U	1.1 U	1 U	1 U
Benzo(g,h,i)Perylene	NS	1.1 U	1 U	1 U	1.1 U	1 U	1 U
Benzo(k)Fluoranthene	0.00200	1.1 U	1 U	1 U	1.1 U	1 U	1 U
Benzyl Butyl Phthalate	50.0	2.1 U	2 U	2 U	2.2 U	2 U	2 U
Biphenyl (Diphenyl)	5.00	1.1 U	1 U	1 U	0.68 J	1 U	1 U
Bis(2-Chloroethoxy) Methane	5.00	2.1 U	2 U	2 U	2.2 U	2 U	2 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	1.00	2.1 U	2 U	2 U	2.2 U	2 U	2 U
Bis(2-Chloroisopropyl) Ether	5.00	2.1 U	2 U	2 U	2.2 U	2 U	2 U
Bis(2-Ethylhexyl) Phthalate	5.00	2.1 U	2 U	2 U	2.2 U	2 U	2 U
Caprolactam	NS	2.1 U	2 U	2 U	2.2 U	2 U	14.4 J
Carbazole	NS	1.1 U	1 U	1 U	1.1 U	1 U	1 U
Chrysene	0.00200	1.1 U	1 U	1 U	1.1 U	1 U	1 U
Dibenz(a,h)Anthracene	NS	1.1 U	1 U	1 U	1.1 U	1 U	1 U
Dibenzofuran	NS	5.3 U	5 U	5 U	5.6 U	5 U	5 U
Diethyl Phthalate	50.0	2.1 U	2 U	2 U	2.2 U	2 U	2 U
Dimethyl Phthalate	50.0	2.1 U	2 U	2 U	2.2 U	2 U	2 U
Di-N-Butyl Phthalate	50.0	2.1 U	2 U	2 U	2.2 U	2 U	2 U
Di-N-Octylphthalate	50.0	2.1 U	2 U	2 U	2.2 U	2 U	2 U
Fluoranthene	50.0	1.1 U	1 U	1 U	1.1 U	1 U	1 U
Fluorene	50.0	1.1 U	1 U	1 U	0.3 J	1 U	1 U
Hexachlorobenzene	0.0400	1.1 U	1 U	1 U	1.1 U	1 U	1 U
Hexachlorobutadiene	0.500	1.1 U	1 U	1 U	1.1 U	1 U	1 UJ
Hexachlorocyclopentadiene	5.00	11 U	10 U	10 U	11 U	10 U	10 UJ
Hexachloroethane	5.00	2.1 U	2 U	2 U	2.2 U	2 U	2 U
Indeno(1,2,3-c,d)Pyrene	0.00200	1.1 U	1 U	1 U	1.1 U	1 U	1 U
Isophorone	50.0	2.1 U	2 U	2 U	2.2 U	2 U	2 UJ
Naphthalene	10.0	1.1 U	1 U	1 U	1.1 U	1 U	1 U
Nitrobenzene	0.400	2.1 U	2 UJ	2 U	2.2 U	2 U	2 UJ
N-Nitrosodi-N-Propylamine	NS	2.1 U	2 U	2 U	2.2 U	2 U	2 UJ
N-Nitrosodiphenylamine	50.0	5.3 U	5 U	5 U	5.6 U	5 U	5 U
Pentachlorophenol	NS	4.2 U	4 U	4 U	4.5 U	4 U	4 UJ
Phenanthrene	50.0	1.1 U	1 U	1 U	0.83 J	0.47 J	1 U
Phenol	1.00	2.1 U	2 U	2 U	2.2 U	2 U	2 U
Pyrene	50.0	1.1 U	1 U	1 U	1.1 U	1 U	1 U

AKRF Sample ID		RI-MW-05 20180906	RI-MW-X03 20180906	RI-MW-B12 20180904	RI-FB-01 20180524	RI-FB-02 20180525	RI-FB-02 20180712
Laboratory Sample ID		JC73086-4	JC73086-5	JC73086-3	JC66764-17	JC66764-21	JC69778-4
Date Sampled	NYSDEC TOGS	9/6/2018 2:00:00 PM	9/6/2018 4:00:00 PM	9/4/2018 3:35:00 PM	5/24/2018 3:15:00 PM	5/25/2018 3:25:00 PM	7/12/2018 11:20:00 AM
Unit		ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Dilution Factor		1	1	1	1	1	1
1,2,4,5-Tetrachlorobenzene	5.00	2 U	2 U	2 U	2 U	1.9 U	2.1 U
1,4-Dioxane (P-Dioxane)	NS	1 U	1 U	0.99 U	1 U	0.95 U	1.1 U
2,3,4,6-Tetrachlorophenol	NS	5.1 UJ	5.1 UJ	5 U	5 U	4.8 UJ	5.3 U
2,4,5-Trichlorophenol	NS	5.1 U	5.1 U	5 U	5 U	4.8 U	5.3 U
2,4,6-Trichlorophenol	NS	5.1 U	5.1 U	5 U	5 U	4.8 U	5.3 U
2,4-Dichlorophenol	5.00	2 U	2 U	2 U	2 U	1.9 U	2.1 U
2,4-Dimethylphenol	50.0	5.1 UJ	5.1 UJ	5 UJ	5 U	4.8 U	5.3 U
2,4-Dinitrophenol	10.0	5.1 U	5.1 U	5 U	5 U	4.8 U	5.3 U
2,4-Dinitrotoluene	5.00	1 U	1 U	0.99 U	1 UJ	0.95 UJ	1.1 U
2,6-Dinitrotoluene	5.00	1 U	1 U	0.99 U	1 U	0.95 UJ	1.1 U
2-Chloronaphthalene	10.0	2 U	2 U	2 U	2 U	1.9 U	2.1 U
2-Chlorophenol	NS	5.1 U	5.1 U	5 U	5 U	4.8 U	5.3 U
2-Methylnaphthalene	NS	15.1	13.2	6.8	1 U	0.95 U	1.1 U
2-Methylphenol (O-Cresol)	NS	2 U	2 U	2 U	2 U	1.9 U	2.1 U
2-Nitroaniline	5.00	5.1 U	5.1 U	5 U	5 U	4.8 U	5.3 U
2-Nitrophenol	NS	5.1 U	5.1 U	5 U	5 U	4.8 U	5.3 U
3,3'-Dichlorobenzidine	5.00	2 U	2 U	2 U	2 U	1.9 U	2.1 U
3-Nitroaniline	5.00	5.1 U	5.1 U	5 U	5 U	4.8 U	5.3 U
4,6-Dinitro-2-Methylphenol	NS	5.1 U	5.1 U	5 U	5 U	4.8 U	5.3 U
4-Bromophenyl Phenyl Ether	NS	2 U	2 U	2 U	2 U	1.9 U	2.1 U
4-Chloro-3-Methylphenol	NS	5.1 U	5.1 U	5 U	5 U	4.8 U	5.3 U
4-Chloroaniline	5.00	5.1 U	5.1 U	5 U	5 U	4.8 U	5.3 U
4-Chlorophenyl Phenyl Ether	NS	2 U	2 U	2 U	2 UJ	1.9 U	2.1 U
4-Nitroaniline	5.00	5.1 U	5.1 U	5 U	5 U	4.8 U	5.3 U
4-Nitrophenol	NS	10 U	10 U	9.9 U	10 U	9.5 UJ	11 U
Acenaphthene	20.0	**21.1**	**21.1**	8.4	1 U	0.95 U	1.1 U
Acenaphthylene	NS	1 U	1 U	0.99 U	1 U	0.95 U	1.1 U
Acetophenone	NS	2 U	2 U	2 U	2 U	1.9 U	2.1 U
Anthracene	50.0	1.4	1.4	0.68 J	1 U	0.95 U	1.1 U
Atrazine	7.50	2 U	2 U	2 UJ	2 U	1.9 U	2.1 U
Benzaldehyde	NS	5.1 U	5.1 U	5 U	5 U	4.8 U	5.3 U
Benzo(a)Anthracene	0.00200	1 U	1 U	**0.39 J**	1 U	0.95 U	1.1 U
Benzo(a)Pyrene	ND	1 U	1 U	**0.4 J**	1 U	0.95 U	1.1 U
Benzo(b)Fluoranthene	0.00200	1 U	1 U	**0.46 J**	1 U	0.95 U	1.1 U
Benzo(g,h,i)Perylene	NS	1 U	1 U	0.99 U	1 U	0.95 U	1.1 U
Benzo(k)Fluoranthene	0.00200	1 U	1 U	0.99 U	1 U	0.95 U	1.1 U
Benzyl Butyl Phthalate	50.0	2 U	2 U	2 U	2 U	1.9 U	2.1 U
Biphenyl (Diphenyl)	5.00	1.2	1.1	0.53 J	1 U	0.95 U	1.1 U
Bis(2-Chloroethoxy) Methane	5.00	2 U	2 U	2 U	2 U	1.9 U	2.1 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	1.00	2 U	2 U	2 U	2 U	1.9 U	2.1 U
Bis(2-Chloroisopropyl) Ether	5.00	2 U	2 U	2 U	2 U	1.9 U	2.1 U
Bis(2-Ethylhexyl) Phthalate	5.00	2 U	2 U	2 U	2 U	1.9 U	2.1 U
Caprolactam	NS	2 UJ	6 J	2 U	2 U	1.9 U	2.1 U
Carbazole	NS	7.8	7.7	1.3	1 U	0.95 U	1.1 U
Chrysene	0.00200	1 U	1 U	**0.39 J**	1 U	0.95 U	1.1 U
Dibenz(a,h)Anthracene	NS	1 U	1 U	0.99 U	1 U	0.95 U	1.1 U
Dibenzofuran	NS	6.5	6	5.2	5 U	4.8 U	5.3 U
Diethyl Phthalate	50.0	2 U	2 U	2 U	2 U	1.9 U	2.1 U
Dimethyl Phthalate	50.0	2 U	2 U	2 U	2 U	1.9 U	2.1 U
Di-N-Butyl Phthalate	50.0	2 U	2 U	2 U	2 U	1.9 U	2.1 U
Di-N-Octylphthalate	50.0	2 U	2 U	2 U	2 U	1.9 U	2.1 U
Fluoranthene	50.0	1.3	1.3	1.4	1 U	0.95 U	1.1 U
Fluorene	50.0	9.7	9.3	7.4	1 U	0.95 U	1.1 U
Hexachlorobenzene	0.0400	1 U	1 U	0.99 U	1 U	0.95 U	1.1 U
Hexachlorobutadiene	0.500	1 UJ	1 UJ	0.99 UJ	1 U	0.95 U	1.1 U
Hexachlorocyclopentadiene	5.00	10 UJ	10 UJ	9.9 U	10 U	9.5 U	11 U
Hexachloroethane	5.00	2 U	2 U	2 UJ	2 U	1.9 U	2.1 U
Indeno(1,2,3-c,d)Pyrene	0.00200	1 U	1 U	0.99 U	1 U	0.95 U	1.1 U
Isophorone	50.0	2 UJ	2 UJ	2 U	2 U	1.9 U	2.1 U
Naphthalene	10.0	**22.4**	**20.4**	6	1 U	0.95 U	1.1 U
Nitrobenzene	0.400	2 UJ	2 UJ	2 U	2 U	1.9 U	2.1 U
N-Nitrosodi-N-Propylamine	NS	2 UJ	2 UJ	2 U	2 U	1.9 U	2.1 U
N-Nitrosodiphenylamine	50.0	5.1 U	5.1 U	5 U	5 U	4.8 U	5.3 U
Pentachlorophenol	NS	4.1 UJ	4 UJ	4 U	4 U	3.8 U	4.2 U
Phenanthrene	50.0	7.9	7.7	7.1	1 U	0.95 U	1.1 U
Phenol	1.00	2 U	2 U	2 U	2 U	1.9 U	2.1 U
Pyrene	50.0	0.8 J	0.68 J	1.2	1 U	0.95 U	1.1 U

AKRF Sample ID		RI-FB-03 20180904	RI-FB-04 20181008	RI-FB-04 20181015
Laboratory Sample ID		JC73086-2	JC75512-3	JC75965-3
Date Sampled	NYSDEC TOGS	9/4/2018 10:30:00 AM	10/8/2018 10:30:00 AM	10/15/2018 4:10:00 PM
Unit		ug/l	ug/l	ug/l
Dilution Factor		1	1	1
1,2,4,5-Tetrachlorobenzene	5.00	1.9 U	2 U	2 U
1,4-Dioxane (P-Dioxane)	NS	0.96 U	1 U	0.098 U
2,3,4,6-Tetrachlorophenol	NS	4.8 U	5 U	4.9 U
2,4,5-Trichlorophenol	NS	4.8 U	5 U	4.9 U
2,4,6-Trichlorophenol	NS	4.8 U	5 U	4.9 U
2,4-Dichlorophenol	5.00	1.9 U	2 U	2 U
2,4-Dimethylphenol	50.0	4.8 UJ	5 UJ	4.9 U
2,4-Dinitrophenol	10.0	4.8 U	5 U	4.9 U
2,4-Dinitrotoluene	5.00	0.96 U	1 U	0.98 U
2,6-Dinitrotoluene	5.00	0.96 U	1 U	0.98 U
2-Chloronaphthalene	10.0	1.9 U	2 U	2 U
2-Chlorophenol	NS	4.8 U	5 U	4.9 U
2-Methylnaphthalene	NS	0.96 U	1 U	0.98 U
2-Methylphenol (O-Cresol)	NS	1.9 U	2 U	2 U
2-Nitroaniline	5.00	4.8 U	5 U	4.9 U
2-Nitrophenol	NS	4.8 U	5 U	4.9 U
3,3'-Dichlorobenzidine	5.00	1.9 U	2 U	2 U
3-Nitroaniline	5.00	4.8 U	5 U	4.9 U
4,6-Dinitro-2-Methylphenol	NS	4.8 U	5 U	4.9 U
4-Bromophenyl Phenyl Ether	NS	1.9 U	2 U	2 U
4-Chloro-3-Methylphenol	NS	4.8 U	5 U	4.9 U
4-Chloroaniline	5.00	4.8 U	5 U	4.9 U
4-Chlorophenyl Phenyl Ether	NS	1.9 U	2 U	2 U
4-Nitroaniline	5.00	4.8 U	5 U	4.9 U
4-Nitrophenol	NS	9.6 U	10 U	9.8 U
Acenaphthene	20.0	0.96 U	1 U	0.98 U
Acenaphthylene	NS	0.96 U	1 U	0.98 U
Acetophenone	NS	1.9 U	2 U	2 U
Anthracene	50.0	0.96 U	1 U	0.98 U
Atrazine	7.50	1.9 UJ	2 U	2 U
Benzaldehyde	NS	4.8 U	5 U	4.9 U
Benzo(a)Anthracene	0.00200	0.96 U	**0.24 J**	0.98 U
Benzo(a)Pyrene	ND	0.96 U	1 UJ	0.98 U
Benzo(b)Fluoranthene	0.00200	0.96 U	1 U	0.98 U
Benzo(g,h,i)Perylene	NS	0.96 U	1 U	0.98 U
Benzo(k)Fluoranthene	0.00200	0.96 U	1 U	0.98 U
Benzyl Butyl Phthalate	50.0	1.9 U	2 U	2 U
Biphenyl (Diphenyl)	5.00	0.96 U	1 U	0.98 U
Bis(2-Chloroethoxy) Methane	5.00	1.9 U	2 U	2 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	1.00	1.9 U	2 U	2 U
Bis(2-Chloroisopropyl) Ether	5.00	1.9 U	2 U	2 U
Bis(2-Ethylhexyl) Phthalate	5.00	1.9 U	2 U	2 U
Caprolactam	NS	1.9 U	2 U	2 U
Carbazole	NS	0.96 U	1 U	0.98 U
Chrysene	0.00200	0.96 U	1 U	0.98 U
Dibenz(a,h)Anthracene	NS	0.96 U	1 U	0.98 U
Dibenzofuran	NS	4.8 U	5 U	4.9 U
Diethyl Phthalate	50.0	1.9 U	2 U	2 U
Dimethyl Phthalate	50.0	1.9 U	2 U	2 U
Di-N-Butyl Phthalate	50.0	1.9 U	2 U	2 U
Di-N-Octylphthalate	50.0	1.9 U	2 U	2 U
Fluoranthene	50.0	0.96 U	1 U	0.98 U
Fluorene	50.0	0.96 U	1 U	0.98 U
Hexachlorobenzene	0.0400	0.96 U	1 U	0.98 U
Hexachlorobutadiene	0.500	0.96 UJ	1 U	0.98 U
Hexachlorocyclopentadiene	5.00	9.6 U	10 U	9.8 U
Hexachloroethane	5.00	1.9 UJ	2 U	2 U
Indeno(1,2,3-c,d)Pyrene	0.00200	0.96 U	1 U	0.98 U
Isophorone	50.0	1.9 U	2 U	2 U
Naphthalene	10.0	0.96 U	1 U	0.98 U
Nitrobenzene	0.400	1.9 U	2 U	2 U
N-Nitrosodi-N-Propylamine	NS	1.9 U	2 U	2 U
N-Nitrosodiphenylamine	50.0	4.8 U	5 U	4.9 U
Pentachlorophenol	NS	3.8 U	4 U	3.9 U
Phenanthrene	50.0	0.96 U	1 U	0.98 U
Phenol	1.00	1.9 U	2 U	2 U
Pyrene	50.0	0.96 U	1 U	0.98 U

Attached Table 24
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Pesticides

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	NYSDEC TOGS	RI-MW-01 20180712 JC69778-1 7/12/2018 1:15:00 PM ug/l 1	RI-MW-02 20180712 JC69778-2 7/12/2018 9:25:00 AM ug/l 5	RI-MW-X02 20180712 JC69778-3 7/12/2018 9:30:00 AM ug/l 5
Aldrin	**ND**	0.001 U	0.0051 U	0.0049 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.0100**	0.001 U	0.0051 U	0.0049 U
Alpha Endosulfan	**NS**	0.001 U	0.0051 U	0.0049 U
Beta Bhc (Beta Hexachlorocyclohexane)	**0.0400**	0.001 U	0.0051 U	0.0049 U
Beta Endosulfan	**NS**	0.001 U	0.0051 U	0.0049 U
cis-Chlordane	**NS**	0.001 U	0.0051 U	0.0049 U
Delta BHC (Delta Hexachlorocyclohexane)	**0.0400**	0.001 U	0.0051 U	0.0049 U
Dieldrin	**0.00400**	0.001 U	0.0051 U	0.0049 U
Endosulfan Sulfate	**NS**	0.001 U	0.0051 U	0.0049 U
Endrin	**ND**	0.001 U	0.0051 U	0.0049 U
Endrin Aldehyde	**5.00**	0.001 U	0.0051 UJ	0.0049 U
Endrin Ketone	**5.00**	0.001 U	0.0051 U	0.0049 U
Gamma Bhc (Lindane)	**0.0500**	0.001 U	0.0051 U	0.0049 U
Heptachlor	**0.0400**	0.001 U	0.0051 U	0.0049 U
Heptachlor Epoxide	**0.0300**	0.001 U	0.0051 U	0.0049 U
Methoxychlor	**35.0**	0.002 U	0.01 U	0.0098 U
P,P'-DDD	**0.300**	0.001 U	0.0051 U	0.0049 U
P,P'-DDE	**0.200**	0.001 U	0.0051 U	0.0049 U
P,P'-DDT	**0.200**	0.001 U	0.0051 U	0.0049 U
Toxaphene	**0.0600**	0.025 U	0.13 U	0.12 U
trans-Chlordane	**NS**	0.001 U	0.0051 U	0.0049 U

Attached Table 24
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Pesticides

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	NYSDEC TOGS	RI-MW-03 20181015 JC75965-1 10/15/2018 3:50:00 PM ug/l 1	RI-MW-X04 20181015 JC75965-2 10/15/2018 4:00:00 PM ug/l 1	RI-MW-04 20180906 JC73086-7 9/6/2018 11:35:00 AM ug/l 1	RI-MW-05 20180906 JC73086-4 9/6/2018 2:00:00 PM ug/l 1	RI-MW-X03 20180906 JC73086-5 9/6/2018 4:00:00 PM ug/l 1
Aldrin	**ND**	0.001 U	0.001 U	0.001 U	0.0011 U	0.0011 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.0100**	0.001 U	0.001 U	0.001 U	0.0011 U	0.0011 U
Alpha Endosulfan	**NS**	0.001 U	0.001 U	0.001 U	0.0011 U	0.0011 U
Beta Bhc (Beta Hexachlorocyclohexane)	**0.0400**	0.001 U	0.001 U	0.001 U	0.0011 U	0.0011 U
Beta Endosulfan	**NS**	0.001 U	0.001 U	0.001 U	0.0011 U	0.0011 U
cis-Chlordane	**NS**	0.001 U	0.001 U	0.001 U	0.0011 U	0.0011 U
Delta BHC (Delta Hexachlorocyclohexane)	**0.0400**	0.001 U	0.001 U	0.001 U	0.0011 U	0.0011 U
Dieldrin	**0.00400**	0.001 U	0.001 U	0.001 U	0.0011 U	0.0011 U
Endosulfan Sulfate	**NS**	0.001 U	0.001 U	0.001 U	0.0011 U	0.0011 U
Endrin	**ND**	0.001 U	0.001 U	0.001 U	0.0011 U	0.0011 U
Endrin Aldehyde	**5.00**	0.001 U	0.001 U	0.001 U	0.0011 U	0.0011 U
Endrin Ketone	**5.00**	0.001 U	0.001 U	0.001 U	0.0011 U	0.0011 U
Gamma Bhc (Lindane)	**0.0500**	0.001 U	0.001 U	0.0037 J	0.0011 UJ	0.0047 J
Heptachlor	**0.0400**	0.00097 J	0.001 U	0.001 U	0.0011 U	0.0011 U
Heptachlor Epoxide	**0.0300**	0.001 U	0.001 U	0.001 U	0.0011 U	0.0011 U
Methoxychlor	**35.0**	0.002 U	0.002 U	0.002 U	0.0021 U	0.0021 U
P,P'-DDD	**0.300**	0.001 U	0.001 U	0.001 U	0.0011 U	0.0011 U
P,P'-DDE	**0.200**	0.001 U	0.001 U	0.001 U	0.0011 U	0.0011 U
P,P'-DDT	**0.200**	0.001 U	0.001 U	0.001 U	0.0011 U	0.0011 U
Toxaphene	**0.0600**	0.025 U	0.025 U	0.025 U	0.026 U	0.026 U
trans-Chlordane	**NS**	0.001 U	0.001 U	0.001 U	0.0011 U	0.0011 U

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	NYSDEC TOGS	RI-MW-B12 20180904 JC73086-3 9/4/2018 3:35:00 PM ug/l 1	RI-FB-01 20180524 JC66764-17 5/24/2018 3:15:00 PM ug/l 1	RI-FB-02 20180525 JC66764-21 5/25/2018 3:25:00 PM ug/l 1	RI-FB-02 20180712 JC69778-4 7/12/2018 11:20:00 AM ug/l 1	RI-FB-03 20180904 JC73086-2 9/4/2018 10:30:00 AM ug/l 1
Aldrin	**ND**	0.001 U	0.001 U	0.001 U	0.0011 U	0.00096 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.0100**	0.001 U	0.001 U	0.001 U	0.0011 U	0.00096 U
Alpha Endosulfan	**NS**	0.001 U	0.001 U	0.001 U	0.0011 U	0.00096 U
Beta Bhc (Beta Hexachlorocyclohexane)	**0.0400**	0.001 U	0.001 U	0.001 U	0.0011 U	0.00096 U
Beta Endosulfan	**NS**	0.001 U	0.001 U	0.001 U	0.0011 U	0.00096 U
cis-Chlordane	**NS**	0.001 U	0.001 U	0.001 U	0.0011 U	0.00096 U
Delta BHC (Delta Hexachlorocyclohexane)	**0.0400**	0.001 U	0.001 U	0.001 U	0.0011 U	0.00096 U
Dieldrin	**0.00400**	0.001 U	0.001 U	0.001 U	0.0011 U	0.00096 U
Endosulfan Sulfate	**NS**	0.001 UJ	0.001 U	0.001 U	0.0011 U	0.00096 UJ
Endrin	**ND**	0.001 UJ	0.001 U	0.001 U	0.0011 U	0.00096 UJ
Endrin Aldehyde	**5.00**	0.001 U	0.001 U	0.001 U	0.0011 U	0.00096 U
Endrin Ketone	**5.00**	0.001 U	0.001 U	0.001 U	0.0011 U	0.00096 U
Gamma Bhc (Lindane)	**0.0500**	0.001 UJ	0.001 U	0.001 U	0.0011 U	0.00096 UJ
Heptachlor	**0.0400**	0.001 UJ	0.001 U	0.001 U	0.0011 U	0.00096 UJ
Heptachlor Epoxide	**0.0300**	0.001 U	0.001 U	0.001 U	0.0011 U	0.00096 U
Methoxychlor	**35.0**	0.002 U	0.002 U	0.002 U	0.0021 U	0.0019 U
P,P'-DDD	**0.300**	0.001 UJ	0.001 U	0.001 U	0.0011 U	0.00096 UJ
P,P'-DDE	**0.200**	0.001 U	0.001 U	0.001 U	0.0011 U	0.00096 U
P,P'-DDT	**0.200**	0.001 U	0.001 U	0.001 U	0.0011 U	0.00096 U
Toxaphene	**0.0600**	0.026 U	0.025 U	0.025 U	0.026 U	0.024 U
trans-Chlordane	**NS**	0.001 U	0.001 U	0.001 U	0.0011 U	0.00096 U

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	NYSDEC TOGS	RI-FB-04 20181008 JC75512-3 10/8/2018 10:30:00 AM ug/l 1	RI-FB-04 20181015 JC75965-3 10/15/2018 4:10:00 PM ug/l 1
Aldrin	**ND**	0.001 U	0.001 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	**0.0100**	0.001 U	0.001 U
Alpha Endosulfan	**NS**	0.001 U	0.001 U
Beta Bhc (Beta Hexachlorocyclohexane)	**0.0400**	0.001 U	0.001 U
Beta Endosulfan	**NS**	0.001 U	0.001 U
cis-Chlordane	**NS**	0.001 U	0.001 U
Delta BHC (Delta Hexachlorocyclohexane)	**0.0400**	0.001 U	0.001 U
Dieldrin	**0.00400**	0.001 U	0.001 U
Endosulfan Sulfate	**NS**	0.001 U	0.001 U
Endrin	**ND**	0.001 U	0.001 U
Endrin Aldehyde	**5.00**	0.001 U	0.001 U
Endrin Ketone	**5.00**	0.001 U	0.001 U
Gamma Bhc (Lindane)	**0.0500**	0.001 U	0.001 U
Heptachlor	**0.0400**	0.001 U	0.001 U
Heptachlor Epoxide	**0.0300**	0.001 U	0.001 U
Methoxychlor	**35.0**	0.002 U	0.002 U
P,P'-DDD	**0.300**	0.001 U	0.001 U
P,P'-DDE	**0.200**	0.001 U	0.001 U
P,P'-DDT	**0.200**	0.001 U	0.001 U
Toxaphene	**0.0600**	0.025 U	0.025 U
trans-Chlordane	**NS**	0.001 U	0.001 U

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	NYSDEC TOGS	RI-MW-01 20180712 JC69778-1 7/12/2018 1:15:00 PM ug/l 1	RI-MW-02 20180712 JC69778-2 7/12/2018 9:25:00 AM ug/l 1	RI-MW-X02 20180712 JC69778-3 7/12/2018 9:30:00 AM ug/l 1	RI-MW-03 20181015 JC75965-1 10/15/2018 3:50:00 PM ug/l 1
PCB-1016 (Aroclor 1016)	**NS**	0.05 U	0.05 U	0.05 U	0.05 U
PCB-1221 (Aroclor 1221)	**NS**	0.05 U	0.05 U	0.05 U	0.05 U
PCB-1232 (Aroclor 1232)	**NS**	0.05 U	0.05 U	0.05 U	0.05 U
PCB-1242 (Aroclor 1242)	**NS**	0.05 U	0.05 U	0.05 U	0.05 U
PCB-1248 (Aroclor 1248)	**NS**	0.05 U	0.05 U	0.05 U	0.05 U
PCB-1254 (Aroclor 1254)	**NS**	0.05 U	0.05 U	0.05 U	0.05 U
PCB-1260 (Aroclor 1260)	**NS**	0.05 U	0.05 U	0.05 U	0.05 U
PCB-1262 (Aroclor 1262)	**NS**	0.05 U	0.05 U	0.05 U	0.05 U
PCB-1268 (Aroclor 1268)	**NS**	0.05 U	0.05 U	0.05 U	0.05 U

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	NYSDEC TOGS	RI-MW-X04 20181015 JC75965-2 10/15/2018 4:00:00 PM ug/l 1	RI-MW-04 20180906 JC73086-7 9/6/2018 11:35:00 AM ug/l 1	RI-MW-05 20180906 JC73086-4 9/6/2018 2:00:00 PM ug/l 1	RI-MW-X03 20180906 JC73086-5 9/6/2018 4:00:00 PM ug/l 1
PCB-1016 (Aroclor 1016)	**NS**	0.05 U	0.05 U	0.053 U	0.053 U
PCB-1221 (Aroclor 1221)	**NS**	0.05 U	0.05 U	0.053 U	0.053 U
PCB-1232 (Aroclor 1232)	**NS**	0.05 U	0.05 U	0.053 U	0.053 U
PCB-1242 (Aroclor 1242)	**NS**	0.05 U	0.05 U	0.053 U	0.053 U
PCB-1248 (Aroclor 1248)	**NS**	0.05 U	0.05 U	0.053 U	0.053 U
PCB-1254 (Aroclor 1254)	**NS**	0.05 U	0.05 U	0.053 U	0.053 U
PCB-1260 (Aroclor 1260)	**NS**	0.05 U	0.05 U	0.053 U	0.053 U
PCB-1262 (Aroclor 1262)	**NS**	0.05 U	0.05 U	0.053 U	0.053 U
PCB-1268 (Aroclor 1268)	**NS**	0.05 U	0.05 U	0.053 U	0.053 U

Attached Table 25
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Semivolatile Organic Compounds

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	NYSDEC TOGS	RI-MW-B12 20180904 JC73086-3 9/4/2018 3:35:00 PM ug/l 1	RI-FB-01 20180524 JC66764-17 5/24/2018 3:15:00 PM ug/l 1	RI-FB-02 20180525 JC66764-21 5/25/2018 3:25:00 PM ug/l 1	RI-FB-02 20180712 JC69778-4 7/12/2018 11:20:00 AM ug/l 1
PCB-1016 (Aroclor 1016)	**NS**	0.051 U	0.05 U	0.05 U	0.05 U
PCB-1221 (Aroclor 1221)	**NS**	0.051 U	0.05 U	0.05 U	0.05 U
PCB-1232 (Aroclor 1232)	**NS**	0.051 U	0.05 U	0.05 U	0.05 U
PCB-1242 (Aroclor 1242)	**NS**	0.051 U	0.05 U	0.05 U	0.05 U
PCB-1248 (Aroclor 1248)	**NS**	0.051 U	0.05 U	0.05 U	0.05 U
PCB-1254 (Aroclor 1254)	**NS**	0.051 U	0.05 U	0.05 U	0.05 U
PCB-1260 (Aroclor 1260)	**NS**	0.051 U	0.05 U	0.05 U	0.05 U
PCB-1262 (Aroclor 1262)	**NS**	0.051 U	0.05 U	0.05 U	0.05 U
PCB-1268 (Aroclor 1268)	**NS**	0.051 U	0.05 U	0.05 U	0.05 U

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	NYSDEC TOGS	RI-FB-03 20180904 JC73086-2 9/4/2018 10:30:00 AM ug/l 1	RI-FB-04 20181008 JC75512-3 10/8/2018 10:30:00 AM ug/l 1	RI-FB-04 20181015 JC75965-3 10/15/2018 4:10:00 PM ug/l 1
PCB-1016 (Aroclor 1016)	**NS**	0.048 U	0.05 U	0.05 U
PCB-1221 (Aroclor 1221)	**NS**	0.048 U	0.05 U	0.05 U
PCB-1232 (Aroclor 1232)	**NS**	0.048 U	0.05 U	0.05 U
PCB-1242 (Aroclor 1242)	**NS**	0.048 U	0.05 U	0.05 U
PCB-1248 (Aroclor 1248)	**NS**	0.048 U	0.05 U	0.05 U
PCB-1254 (Aroclor 1254)	**NS**	0.048 U	0.05 U	0.05 U
PCB-1260 (Aroclor 1260)	**NS**	0.048 UJ	0.05 U	0.05 U
PCB-1262 (Aroclor 1262)	**NS**	0.048 U	0.05 U	0.05 U
PCB-1268 (Aroclor 1268)	**NS**	0.048 U	0.05 U	0.05 U

Attached Table 26
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Total (Unfiltered) Metals

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	NYSDEC TOGS	RI-MW-01 20180712 JC69778-1 7/12/2018 1:15:00 PM ug/l 1	RI-MW-01 20180712 JC69778-1 7/12/2018 1:15:00 PM ug/l 3
Aluminum	**NS**	200 U	NA
Antimony	**3.00**	6 U	NA
Arsenic	**25.0**	20	NA
Barium	**1000**	200 U	NA
Beryllium	**3.00**	1 U	NA
Cadmium	**5.00**	3 U	NA
Calcium	**NS**	NA	233000 D
Chromium, Total	**50.0**	10 U	NA
Cobalt	**NS**	50 U	NA
Copper	**200**	10 U	NA
Iron	**300**	**813**	NA
Lead	**25.0**	21.2	NA
Magnesium	**35000**	20200	NA
Manganese	**300**	**1130**	NA
Mercury	**0.700**	0.2 U	NA

Attached Table 26
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Total (Unfiltered) Metals

RI-MW-02 20180712 JC69778-2 7/12/2018 9:25:00 AM ug/l 1	RI-MW-02 20180712 JC69778-2 7/12/2018 9:25:00 AM ug/l 5	RI-MW-X02 20180712 JC69778-3 7/12/2018 9:30:00 AM ug/l 1
200 U	NA	200 U
6 U	NA	6 U
10.1	NA	10.7
200 U	NA	200 U
1 U	NA	1 U
3 U	NA	3 U
NA	281000 D	NA
10 U	NA	10 U
50 U	NA	50 U
10 U	NA	10 U
3400	NA	**3450**
3 U	NA	3 U
79000	NA	**79300**
1010	NA	**1020**
0.2 UJ	NA	**3.9**

Attached Table 26
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Total (Unfiltered) Metals

RI-MW-X02 20180712 JC69778-3 7/12/2018 9:30:00 AM ug/l 5	RI-MW-03 20181015 JC75965-1 10/15/2018 3:50:00 PM ug/l 1	RI-MW-X04 20181015 JC75965-2 10/15/2018 4:00:00 PM ug/l 1
NA	200 U	200 U
NA	6 U	6 U
NA	3.6	3 U
NA	200 U	200 U
NA	1 U	1 U
NA	3 U	3 U
271000 D	164000	163000
NA	10 U	10 U
NA	50 U	50 U
NA	10 U	10 U
NA	**702**	**693**
NA	3 U	3 U
NA	**49300**	**48000**
NA	**752**	**779**
NA	0.2 U	0.2 U

Attached Table 26
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Total (Unfiltered) Metals

RI-MW-04 20180906 JC73086-7 9/6/2018 11:35:00 AM ug/l 1	RI-MW-04 20180906 JC73086-7 9/6/2018 11:35:00 AM ug/l 5	RI-MW-05 20180906 JC73086-4 9/6/2018 2:00:00 PM ug/l 1
8960	NA	378
6 U	NA	6 U
365 JL	NA	**492**
355	NA	281
1 U	NA	1 U
3 U	NA	3 U
116000	NA	116000
23.8	NA	10 U
50 U	NA	50 U
126	NA	10 U
18000	NA	**4520**
	217 D	11.5 J
73400	NA	**43700**
660	NA	**359**
0.59	NA	0.2 U

Attached Table 26
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Total (Unfiltered) Metals

RI-MW-X03 20180906 JC73086-5 9/6/2018 4:00:00 PM ug/l 1	RI-MW-B12 20180904 JC73086-3 9/4/2018 3:35:00 PM ug/l 1	RI-MW-B12 20180904 JC73086-3 9/4/2018 3:35:00 PM ug/l 5
362	6810	NA
6 U	6 U	NA
493	**86.7**	NA
289	**1220**	NA
1 U	1 U	NA
3 U	3 U	NA
119000	NA	223000 D
10 U	13.5	NA
50 U	50 U	NA
10 U	96.9	NA
5070	**48600**	NA
7.2 J		**122 D**
44700	**90000**	NA
381	**877**	NA
0.2 U	0.27	NA

Attached Table 26
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Total (Unfiltered) Metals

RI-FB-01 20180524 JC66764-17 5/24/2018 3:15:00 PM ug/l 1	RI-FB-02 20180525 JC66764-21 5/25/2018 3:25:00 PM ug/l 1	RI-FB-02 20180712 JC69778-4 7/12/2018 11:20:00 AM ug/l 1
200 U	200 U	200 U
6 U	6 U	6 U
3 U	3 U	3 U
200 U	200 U	200 U
1 U	1 U	1 U
3 U	3 U	3 U
5000 U	5000 U	5000 U
10 U	10 U	10 U
50 U	50 U	50 U
10 U	10 U	10 U
100 U	100 U	100 U
3 U	3 U	3 U
5000 U	5000 U	5000 U
15 U	15 U	15 U
0.2 U	0.2 U	0.2 U

Attached Table 26
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Total (Unfiltered) Metals

RI-FB-03 20180904 JC73086-2 9/4/2018 10:30:00 AM ug/l 1	RI-FB-04 20181008 JC75512-3 10/8/2018 10:30:00 AM ug/l 1	RI-FB-04 20181015 JC75965-3 10/15/2018 4:10:00 PM ug/l 1
200 U	200 U	200 U
6 U	6 U	6 U
3 U	3 U	3 U
200 U	200 U	200 U
1 U	1 U	1 U
3 U	3 U	3 U
5000 U	5000 U	5000 U
10 U	10 U	10 U
50 U	50 U	50 U
10 U	10 U	10 U
100 U	100 U	100 U
3 U	3 U	3 U
5000 U	5000 U	5000 U
15 U	15 U	15 U
0.2 U	0.2 U	0.2 U

Attached Table 27
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Dissolved (Filtered) Metals

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	NYSDEC TOGS	RI-MW-01 20180712 JC69778-1F 7/12/2018 1:15:00 PM ug/l 1	RI-MW-01 20180712 JC69778-1F 7/12/2018 1:15:00 PM ug/l 3	RI-MW-02 20180712 JC69778-2F 7/12/2018 9:25:00 AM ug/l 1	RI-MW-02 20180712 JC69778-2F 7/12/2018 9:25:00 AM ug/l 5	RI-MW-X02 20180712 JC69778-3F 7/12/2018 9:30:00 AM ug/l 1
Aluminum	**NS**	200 U	NA	200 U	NA	200 U
Antimony	**3.00**	6 U	NA	6 U	NA	6 U
Arsenic	**25.0**	20.8	NA	10.3	NA	9.1
Barium	**1000**	200 U	NA	200 U	NA	200 U
Beryllium	**3.00**	1 U	NA	1 U	NA	1 U
Cadmium	**5.00**	3 U	NA	3 U	NA	3 U
Calcium	**NS**	NA	228000 D	NA	269000 D	NA
Chromium, Total	**50.0**	10 U	NA	10 U	NA	10 U
Cobalt	**NS**	50 U	NA	50 U	NA	50 U
Copper	**200**	10 U	NA	10 U	NA	10 U
Iron	**300**	**794**	NA	**2520**	NA	**2520**
Lead	**25.0**	3 U	NA	3 U	NA	3 U
Magnesium	**35000**	20000	NA	**77500**	NA	**74800**
Manganese	**300**	**1170**	NA	**962**	NA	**935**
Mercury	**0.700**	0.2 U	NA	0.2 U	NA	0.2 U

Attached Table 27
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Dissolved (Filtered) Metals

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	NYSDEC TOGS	RI-MW-X02 20180712 JC69778-3F 7/12/2018 9:30:00 AM ug/l 5	RI-MW-03 20181015 JC75965-1F 10/15/2018 3:50:00 PM ug/l 1	RI-MW-X04 20181015 JC75965-2F 10/15/2018 4:00:00 PM ug/l 1	RI-MW-04 20180906 JC73086-7F 9/6/2018 11:35:00 AM ug/l 1	RI-MW-05 20180906 JC73086-4F 9/6/2018 2:00:00 PM ug/l 1
Aluminum	**NS**	NA	200 U	200 U	200 U	200 U
Antimony	**3.00**	NA	6 U	6 U	6 U	6 U
Arsenic	**25.0**	NA	3 U	3 U	**480**	**447**
Barium	**1000**	NA	200 U	200 U	279	244
Beryllium	**3.00**	NA	1 U	1 U	1 U	1 U
Cadmium	**5.00**	NA	3 U	3 U	3 U	3 U
Calcium	**NS**	259000 D	164000	161000	117000	110000
Chromium, Total	**50.0**	NA	10 U	10 U	10 U	10 U
Cobalt	**NS**	NA	50 U	50 U	50 U	50 U
Copper	**200**	NA	10 U	10 U	10 U	10 U
Iron	**300**	NA	**643**	**630**	**3970**	**4020**
Lead	**25.0**	NA	3 U	3 U	3 U	3 U
Magnesium	**35000**	NA	**48700**	**47200**	**44800**	**41600**
Manganese	**300**	NA	**723**	**721**	**358**	**377**
Mercury	**0.700**	NA	0.2 U	0.2 U	0.2 U	0.2 U

Attached Table 27
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Dissolved (Filtered) Metals

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	NYSDEC TOGS	RI-MW-X03 20180906 JC73086-5F 9/6/2018 4:00:00 PM ug/l 1	RI-MW-B12 20180904 JC73086-3F 9/4/2018 3:35:00 PM ug/l 1	RI-MW-B12 20180904 JC73086-3F 9/4/2018 3:35:00 PM ug/l 5
Aluminum	**NS**	200 U	200 U	NA
Antimony	**3.00**	6 U	6 U	NA
Arsenic	**25.0**	**464**	19	NA
Barium	**1000**	277	**1250**	NA
Beryllium	**3.00**	1 U	1 U	NA
Cadmium	**5.00**	3 U	3 U	NA
Calcium	**NS**	120000	NA	268000 D
Chromium, Total	**50.0**	10 U	10 U	NA
Cobalt	**NS**	50 U	50 U	NA
Copper	**200**	10 U	10 U	NA
Iron	**300**	**3830**	**21200**	NA
Lead	**25.0**	3 U	3 U	NA
Magnesium	**35000**	**46400**	**109000**	NA
Manganese	**300**	**387**	**933**	NA
Mercury	**0.700**	0.2 U	0.2 U	NA

Attached Table 28
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Perfulorinated Compounds

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	DWHAL	RI-MW-01 20180608 JC67755-1A 6/8/2018 2:15:00 PM ng/l 1	RI-MW-02 20180608 JC67755-2A 6/8/2018 10:43:00 AM ng/l 1
6:2 Fluorotelomer sulfonate	**NS**	8 U	8 U
8:2 Fluorotelomer sulfonate	**NS**	8 U	8 U
N-ethyl perfluorooctanesulfonamidoacetic acid	**NS**	20 U	20 U
N-methyl perfluorooctanesulfonamidoacetic acid	**NS**	20 U	20 U
Perfluorobutanesulfonic acid	**NS**	3.35	12.1
Perfluorobutanoic acid	**NS**	11.5	8.29
Perfluorodecanesulfonic acid	**NS**	4 U	4 U
Perfluorodecanoic acid	**NS**	4 U	4 U
Perfluorododecanoic acid	**NS**	4 U	4 U
Perfluoroheptanesulfonic acid	**NS**	4 U	4 U
Perfluoroheptanoic acid	**NS**	1.22 J	3.52
Perfluorohexanesulfonic acid	**NS**	2.17	3.06
Perfluorohexanoic acid	**NS**	2.01 J	2.64 J
Perfluorononanoic acid	**NS**	1.14 J	2 U
Perfluorooctanesulfonic acid	**NS**	10.1	9.5
Perfluorooctanoic acid	**NS**	6.98	19.5
Perfluoropentanoic acid	**NS**	3.22 J	3.67 J
Perfluorotetradecanoic acid	**NS**	4 U	4 U
Perfluorotridecanoic acid	**NS**	4 U	4 U
Perfluoroundecanoic acid	**NS**	4 U	4 U
Perfluroroctanesulfonamide	**NS**	4 U	4 UJ
Total PFAS	**70**	41.690 J	62.280 J

Attached Table 28
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Perfulorinated Compounds

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	DWHAL	RI-MW-X01 20180608 JC67755-3A 6/8/2018 10:48:00 AM ng/l 1	RI-MW-03 20181015 JC75965-1A 10/15/2018 3:50:00 PM ng/l 1
6:2 Fluorotelomer sulfonate	NS	7.7 U	8 U
8:2 Fluorotelomer sulfonate	NS	7.7 U	8 U
N-ethyl perfluorooctanesulfonamidoacetic acid	NS	19 U	20 U
N-methyl perfluorooctanesulfonamidoacetic acid	NS	19 U	20 U
Perfluorobutanesulfonic acid	NS	12.1	3.83
Perfluorobutanoic acid	NS	7.96	7.85 J
Perfluorodecanesulfonic acid	NS	3.8 U	4 U
Perfluorodecanoic acid	NS	3.8 U	2.84 J
Perfluorododecanoic acid	NS	3.8 U	4 U
Perfluoroheptanesulfonic acid	NS	3.8 U	4 U
Perfluoroheptanoic acid	NS	3.22	8.24
Perfluorohexanesulfonic acid	NS	2.56	2.95
Perfluorohexanoic acid	NS	3.04 J	6.33
Perfluorononanoic acid	NS	1.1 J	5.27
Perfluorooctanesulfonic acid	NS	7.56	57.8
Perfluorooctanoic acid	NS	19.8	33.6
Perfluoropentanoic acid	NS	3.57 J	7.33
Perfluorotetradecanoic acid	NS	3.8 U	4 U
Perfluorotridecanoic acid	NS	3.8 U	4 U
Perfluoroundecanoic acid	NS	3.8 U	4 U
Perfluroroctanesulfonamide	NS	3.8 U	4 U
Total PFAS	70	60.910 J	136.040 J

Attached Table 28
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Perfulorinated Compounds

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	DWHAL	RI-MW-X04 20181015 JC75965-2A 10/15/2018 4:00:00 PM ng/l 1	RI-MW-04 20180906 JC73086-7 9/6/2018 11:35:00 AM ng/l 1
6:2 Fluorotelomer sulfonate	**NS**	8 U	12 U
8:2 Fluorotelomer sulfonate	**NS**	8 U	12 U
N-ethyl perfluorooctanesulfonamidoacetic acid	**NS**	20 U	29 U
N-methyl perfluorooctanesulfonamidoacetic acid	**NS**	20 U	29 U
Perfluorobutanesulfonic acid	**NS**	3.91	NA
Perfluorobutanoic acid	**NS**	7.93 J	6.57 J
Perfluorodecanesulfonic acid	**NS**	4 U	5.9 U
Perfluorodecanoic acid	**NS**	3.05 J	5.9 U
Perfluorododecanoic acid	**NS**	4 U	5.9 U
Perfluoroheptanesulfonic acid	**NS**	1.29 J	5.9 U
Perfluoroheptanoic acid	**NS**	8.23	2.9 U
Perfluorohexanesulfonic acid	**NS**	3.61	2.9 U
Perfluorohexanoic acid	**NS**	6.29	NA
Perfluorononanoic acid	**NS**	5.15	2.9 U
Perfluorooctanesulfonic acid	**NS**	58	2.9 U
Perfluorooctanoic acid	**NS**	33.2	2.9 U
Perfluoropentanoic acid	**NS**	7.72	NA
Perfluorotetradecanoic acid	**NS**	4 U	5.9 U
Perfluorotridecanoic acid	**NS**	4 U	5.9 U
Perfluoroundecanoic acid	**NS**	4 U	5.9 U
Perfluroroctanesulfonamide	**NS**	4 U	5.9 U
Total PFAS	**70**	138.380 J	6.57 J

Attached Table 28
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Perfulorinated Compounds

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	DWHAL	RI-MW-04 20180906 JC73086-7 9/6/2018 11:35:00 AM ng/l 10	RI-MW-05 20180906 JC73086-4 9/6/2018 2:00:00 PM ng/l 1
6:2 Fluorotelomer sulfonate	**NS**	NA	8.3 U
8:2 Fluorotelomer sulfonate	**NS**	NA	8.3 U
N-ethyl perfluorooctanesulfonamidoacetic acid	**NS**	NA	21 U
N-methyl perfluorooctanesulfonamidoacetic acid	**NS**	NA	21 U
Perfluorobutanesulfonic acid	**NS**	29 U	2.93
Perfluorobutanoic acid	**NS**	NA	17.2
Perfluorodecanesulfonic acid	**NS**	NA	4.2 U
Perfluorodecanoic acid	**NS**	NA	4.2 U
Perfluorododecanoic acid	**NS**	NA	4.2 U
Perfluoroheptanesulfonic acid	**NS**	NA	4.2 U
Perfluoroheptanoic acid	**NS**	NA	12.9
Perfluorohexanesulfonic acid	**NS**	NA	1.66 J
Perfluorohexanoic acid	**NS**	59 U	26.7
Perfluorononanoic acid	**NS**	NA	1.34 J
Perfluorooctanesulfonic acid	**NS**	NA	9.44
Perfluorooctanoic acid	**NS**	NA	19.4
Perfluoropentanoic acid	**NS**	59 U	36.8
Perfluorotetradecanoic acid	**NS**	NA	4.2 U
Perfluorotridecanoic acid	**NS**	NA	4.2 U
Perfluoroundecanoic acid	**NS**	NA	4.2 U
Perfluroroctanesulfonamide	**NS**	NA	4.2 U
Total PFAS	**70**	29 U	128.37 J

Attached Table 28
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Perfulorinated Compounds

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	DWHAL	RI-MW-X03 20180906 JC73086-5 9/6/2018 4:00:00 PM ng/l 1	RI-MW-B12 20180904 JC73086-3 9/4/2018 3:35:00 PM ng/l 1
6:2 Fluorotelomer sulfonate	**NS**	8.3 U	8 U
8:2 Fluorotelomer sulfonate	**NS**	8.3 U	8 U
N-ethyl perfluorooctanesulfonamidoacetic acid	**NS**	21 U	20 U
N-methyl perfluorooctanesulfonamidoacetic acid	**NS**	21 U	20 U
Perfluorobutanesulfonic acid	**NS**	2.68	2 UJ
Perfluorobutanoic acid	**NS**	18.4	7.04 J
Perfluorodecanesulfonic acid	**NS**	4.2 U	4 U
Perfluorodecanoic acid	**NS**	4.2 U	1.1 J
Perfluorododecanoic acid	**NS**	4.2 U	4 UJ
Perfluoroheptanesulfonic acid	**NS**	4.2 U	4 U
Perfluoroheptanoic acid	**NS**	13.5	6.08
Perfluorohexanesulfonic acid	**NS**	2.44	3.11
Perfluorohexanoic acid	**NS**	30.4	9.54
Perfluorononanoic acid	**NS**	1.45 J	1.56 J
Perfluorooctanesulfonic acid	**NS**	10.9	32.8
Perfluorooctanoic acid	**NS**	21.7	14.5
Perfluoropentanoic acid	**NS**	35.6	16.8
Perfluorotetradecanoic acid	**NS**	4.2 U	4 U
Perfluorotridecanoic acid	**NS**	4.2 U	4 UJ
Perfluoroundecanoic acid	**NS**	4.2 U	4 UJ
Perfluroroctanesulfonamide	**NS**	4.2 U	4 U
Total PFAS	**70**	137.07 J	92.53 J

Attached Table 28
1675-1679 Westchester Avenue, Bronx, New York
RI Groundwater Analytical Results
Perfulorinated Compounds

AKRF Sample ID Laboratory Sample ID Date Sampled Unit Dilution Factor	DWHAL	RI-FB-01 20180608 JC67755-4A 6/8/2018 12:30:00 PM ng/l 1	RI-FB-03 20180904 JC73086-2 9/4/2018 10:30:00 AM ng/l 1
6:2 Fluorotelomer sulfonate	**NS**	7.7 U	8 U
8:2 Fluorotelomer sulfonate	**NS**	7.7 U	8 U
N-ethyl perfluorooctanesulfonamidoacetic acid	**NS**	19 U	20 U
N-methyl perfluorooctanesulfonamidoacetic acid	**NS**	19 U	20 U
Perfluorobutanesulfonic acid	**NS**	1.9 U	2 U
Perfluorobutanoic acid	**NS**	7.7 U	8 U
Perfluorodecanesulfonic acid	**NS**	3.8 U	4 U
Perfluorodecanoic acid	**NS**	3.8 U	4 U
Perfluorododecanoic acid	**NS**	3.8 U	4 U
Perfluoroheptanesulfonic acid	**NS**	3.8 U	4 U
Perfluoroheptanoic acid	**NS**	1.9 U	2 U
Perfluorohexanesulfonic acid	**NS**	1.9 U	2 U
Perfluorohexanoic acid	**NS**	3.8 U	4 U
Perfluorononanoic acid	**NS**	1.9 U	2 U
Perfluorooctanesulfonic acid	**NS**	1.9 U	2 U
Perfluorooctanoic acid	**NS**	1.9 U	2 U
Perfluoropentanoic acid	**NS**	1.48 J	4 U
Perfluorotetradecanoic acid	**NS**	3.8 U	4 U
Perfluorotridecanoic acid	**NS**	3.8 U	4 U
Perfluoroundecanoic acid	**NS**	3.8 U	4 U
Perfluroroctanesulfonamide	**NS**	3.8 U	4 U
Total PFAS	**70**	1.48 J	2 U

Attached Table 29
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Vapor Analytical Results
VOCs

Sample ID Date Sampled Lab Sample ID Unit	SV-1 20170808 8/8/2017 JC48642-1 $\mu g/m^3$	SV-2 20170921 9/21/2017 JC51383-1 $\mu g/m^3$
1,1,1-Trichloroethane	0.55 U	0.55 U
1,1,2,2-Tetrachloroethane	0.69 U	0.69 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.77 U	0.77 U
1,1,2-Trichloroethane	0.55 U	0.55 U
1,1-Dichloroethane	0.81 U	0.81 U
1,1-Dichloroethene	0.79 U	0.79 U
1,2,4-Trimethylbenzene	6.4	81.6
1,2-Dibromoethane (Ethylene Dibromide)	0.77 U	0.77
1,2-Dichloroethane	0.81 U	0.81 U
1,2-Dichloropropane	0.92 U	0.92 U
1,2-Dichlorotetrafluoroethane	0.7 U	0.7 U
1,3,5-Trimethylbenzene (Mesitylene)	1.9	22
1,3-Butadiene	0.44 U	0.44 U
1,4-Dioxane (P-Dioxane)	0.72 U	0.72 U
2,2,4-Trimethylpentane	10	13
2-Chlorotoluene	1 U	1 U
2-Hexanone	22	98.6
4-Ethyltoluene	2.2	23
Acetone	295	1,290
Allyl Chloride (3-Chloropropene)	0.63 U	0.63 U
Benzene	4.5	14
Benzyl Chloride	1 U	1 U
Bromodichloromethane	0.67 U	0.67 U
Bromoform	0.41 U	0.41 U
Bromomethane	0.78 U	0.78 U
Carbon Disulfide	9.3	37.4
Carbon Tetrachloride	0.25 U	0.25 U
Chlorobenzene	0.92 U	0.92 U
Chloroethane	0.53 U	0.53 U
Chloroform	0.88 J	4.3
Chloromethane	0.81	0.41 U
Cis-1,2-Dichloroethylene	0.79 U	0.79 U
Cis-1,3-Dichloropropene	0.91 U	0.91 U
Cyclohexane	0.96	6.9
Dibromochloromethane	0.85 U	0.85 U
Dichlorodifluoromethane	2.4	2.4
Ethanol	34.7	20.9
Ethyl Acetate	0.72 U	0.72 U
Ethylbenzene	7.4	25
Isopropanol	7.1	2.7
Methyl Ethyl Ketone (2-Butanone)	105	263
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	0.94	4.1
Methylene Chloride	0.69 U	0.69 U
N-Heptane	4.5	26
N-Hexane	5.6	34
O-Xylene (1,2-Dimethylbenzene)	9.6	39
Styrene	7.7	23
Tert-Butyl Alcohol	11	10
Tert-Butyl Methyl Ether	0.72 U	0.72 U
Tetrachloroethylene (PCE)	20	80
Tetrahydrofuran	6.2	3.2
Toluene	30	60.7
Trans-1,2-Dichloroethene	0.79 U	1.3
Trans-1,3-Dichloropropene	0.91 U	0.91 U
Trichloroethylene (TCE)	0.97	1.5
Trichlorofluoromethane	1.3	1.7
Vinyl Acetate	0.7 U	0.7 U
Vinyl Bromide	0.87 U	0.87 U
Vinyl Chloride	0.1 U	0.28
Xylenes, Total	38	135

Attached Table 29
1675-1679 Westchester Avenue, Bronx, New York
SI Soil Vapor Analytical Results
VOCs

Sample ID Date Sampled Lab Sample ID Unit	SV-3 20170808 8/8/2017 JC48642-2 µg/m³	SV-7 20170921 9/21/2017 JC51383-2 µg/m³	SV-8 20170921 9/21/2017 JC51383-3 µg/m³	AA-1 20170808 8/8/2017 JC48642-3 µg/m³
1,1,1-Trichloroethane	0.55 U	0.82	2.4	0.55 U
1,1,2,2-Tetrachloroethane	0.69 U	0.69 U	0.69 U	0.69 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.77 U	0.77 U	0.77 U	0.77 U
1,1,2-Trichloroethane	0.55 U	0.55 U	0.55 U	0.55 U
1,1-Dichloroethane	0.81 U	0.81 U	0.81 U	0.81 U
1,1-Dichloroethene	0.79 U	0.79 U	0.79 U	0.79 U
1,2,4-Trimethylbenzene	1.6	55.6	70.8	0.98 U
1,2-Dibromoethane (Ethylene Dibromide)	0.77 U	0.77 U	0.77 U	0.77 U
1,2-Dichloroethane	0.81 U	0.81 U	0.81 U	0.81 U
1,2-Dichloropropane	0.92 U	0.92 U	0.92 U	0.92 U
1,2-Dichlorotetrafluoroethane	0.7 U	0.7 U	0.7 U	0.7 U
1,3,5-Trimethylbenzene (Mesitylene)	0.54 J	16	20	0.98 U
1,3-Butadiene	0.44 U	7.7	0.44 U	0.44 U
1,4-Dioxane (P-Dioxane)	0.72 U	0.72 U	0.72 U	0.72 U
2,2,4-Trimethylpentane	6.1	21	22	0.93 U
2-Chlorotoluene	1 U	1 U	1 U	1 U
2-Hexanone	10	126	77.7	0.82 U
4-Ethyltoluene	0.54 J	17	22	0.98 U
Acetone	182	964	967	19
Allyl Chloride (3-Chloropropene)	0.63 U	0.63 U	0.63 U	0.63 U
Benzene	6.1	11	17	0.38 J
Benzyl Chloride	1 U	1 U	1 U	1 U
Bromodichloromethane	0.67 U	0.67 U	0.67 U	0.67 U
Bromoform	0.41 U	0.41 U	0.41 U	0.41 U
Bromomethane	0.78 U	0.78 U	0.78 U	0.78 U
Carbon Disulfide	3	22	33	0.62 U
Carbon Tetrachloride	0.25 U	0.25 U	0.25 U	0.25 U
Chlorobenzene	0.92 U	0.92 U	0.92 U	0.92 U
Chloroethane	0.53 U	0.53 U	0.53 U	0.53 U
Chloroform	0.98 U	2.6	5.4	0.98 U
Chloromethane	0.66	0.56	0.41 U	1.2
Cis-1,2-Dichloroethylene	0.79 U	0.79 U	0.79 U	0.79 U
Cis-1,3-Dichloropropene	0.91 U	0.91 U	0.91 U	0.91 U
Cyclohexane	1.4	12	20	0.69 U
Dibromochloromethane	0.85 U	0.85 U	0.85 U	0.85 U
Dichlorodifluoromethane	2.3	3	0.99 U	2.5
Ethanol	27.7	30.7	18	11
Ethyl Acetate	0.72 U	5.8	4	0.72 U
Ethylbenzene	3	33	38	0.87 U
Isopropanol	4.4	8.8	0.49 U	2.9
Methyl Ethyl Ketone (2-Butanone)	62.2	170	158	1.7
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	0.82 U	3.8	7	0.82 U
Methylene Chloride	0.69 U	0.69 U	0.69 U	0.69 U
N-Heptane	3.6	23	35	0.82 U
N-Hexane	4.9	31	77.9	0.7 U
O-Xylene (1,2-Dimethylbenzene)	3.5	47.3	54.7	0.87 U
Styrene	2	23	27	0.85 U
Tert-Butyl Alcohol	5.5	25	10	0.58 J
Tert-Butyl Methyl Ether	0.72 U	0.72 U	0.72 U	0.72 U
Tetrachloroethylene (PCE)	14	110	220	0.88
Tetrahydrofuran	2.3	4.4	5.3	0.59 U
Toluene	20	82.2	99.1	0.72 J
Trans-1,2-Dichloroethene	0.79 U	2.7	0.79 U	0.79 U
Trans-1,3-Dichloropropene	0.91 U	0.91 U	0.91 U	0.91 U
Trichloroethylene (TCE)	0.39	7.5	0.81	6.4
Trichlorofluoromethane	1.3	2	0.56 U	1.2
Vinyl Acetate	0.7 U	0.7 U	0.7 U	0.7 U
Vinyl Bromide	0.87 U	0.87 U	0.87 U	0.87 U
Vinyl Chloride	0.1 U	0.1 U	0.1 U	0.1 U
Xylenes, Total	15	162	187	0.87 U

Attached Table 30
1675-1679 Westchester Avenue, Bronx, New York
RI Soil Vapor Analytical Results
Perfulorinated Compounds

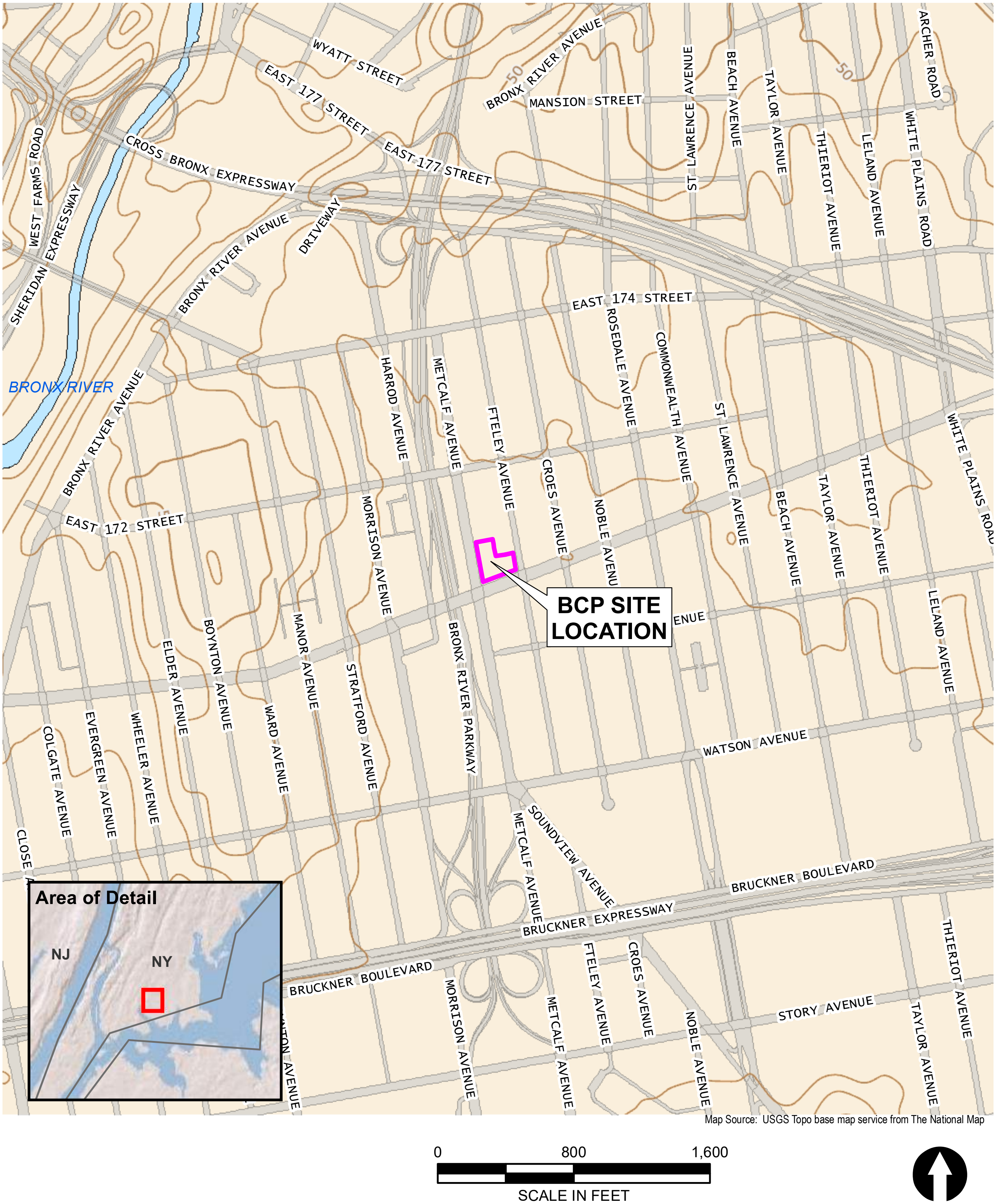
AKRF Sample ID	RI-SV-01 20180529		RI-SV-02 20180529		RI-SV-03 20181009		RI-SV-04 20180821		RI-SV-05 20180821		RI-SV-06 20180529	
Laboratory Sample ID	JC66764-44		JC66764-41		JC75599-1		JC72365-1		JC72365-2		JC66764-43	
Date Sampled	5/29/2018		5/29/2018		10/9/2018		8/21/2018		8/21/2018		5/29/2018	
Unit	ug/m^3		ug/m^3		ug/m^3		ug/m^3		ug/m^3		ug/m^3	
Dilution Factor	1		1		1		1		1		1	
Compound	Conc	Q	Conc	Q	Conc	Q	Conc	Q	Conc	Q	Conc	Q
1,1,1-Trichloroethane	11	U	2.7	U	4.4	U	1.1	U	0.55	U	5.5	U
1,1,2,2-Tetrachloroethane	14	U	3.4	U	5.5	U	1.4	U	0.69	U	6.9	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	15	U	3.8	U	6.1	U	1.5	U	0.77	U	7.7	U
1,1,2-Trichloroethane	11	U	2.7	U	4.4	U	1.1	U	0.55	U	5.5	U
1,1-Dichloroethane	16	U	4	U	6.5	U	1.6	U	0.81	U	8.1	U
1,1-Dichloroethene	3.2	U	0.79	U	1.3	U	0.32	U	0.16	U	1.6	U
1,2,4-Trichlorobenzene	15	U	3.7	U	5.9	U	1.5	UJ	0.74	UJ	7.4	U
1,2,4-Trimethylbenzene	20	U	6.4		76.2		11		24		9.8	U
1,2-Dibromoethane (Ethylene Dibromide)	15	U	18		6.1	U	1.5	U	0.77	U	37	
1,2-Dichlorobenzene	4.8	U	1.2	U	1.9	U	0.48	U	0.24	U	2.4	U
1,2-Dichloroethane	16	U	4	U	6.5	U	1.6	U	0.81	U	8.1	U
1,2-Dichloropropane	18	U	4.6	U	7.4	U	1.8	U	0.92	U	9.2	U
1,2-Dichlorotetrafluoroethane	14	U	3.5	U	5.6	U	1.4	U	0.7	U	7	U
1,3,5-Trimethylbenzene (Mesitylene)	20	U	4.9	U	22		3.3		7.9		9.8	U
1,3-Butadiene	8.8	U	2.2	U	12		0.88	U	0.44	U	4.4	U
1,3-Dichlorobenzene	12	U	3	U	4.8	U	1.2	U	2.3		6	U
1,4-Dichlorobenzene	12	U	3	U	4.8	U	1.7		4.1		6	U
2,2,4-Trimethylpentane	19	U	4.7	U	23		19		32		9.3	U
2-Chlorotoluene	21	U	5.2	U	8.3	U	2.1	U	1	U	10	U
2-Hexanone	108		43.8		6.5	U	9		15		47.4	
4-Ethyltoluene	20	U	4.9	U	28		3		6.9		9.8	U
Acetone	1350		1110	D	59.4		96.7		133	D	841	
Allyl Chloride (3-Chloropropene)	13	U	3.1	U	5	U	1.3	U	0.63	U	6.3	U
Benzene	13	U	3.2	U	95.8		5.8		12		6.4	U
Benzyl Chloride	21	U	5.2	U	8.2	UJ	2.1	U	1	U	10	U
Bromodichloromethane	13	U	3.3	U	5.4	U	1.3	U	0.67	U	6.7	U
Bromoform	8.3	U	2.1	U	3.3	U	0.83	U	0.41	U	4.1	U
Bromomethane	16	U	3.9	U	6.2	U	1.6	U	0.78	U	7.8	U
Carbon Disulfide	12	U	8.7		17		4.7		3		6.2	U
Carbon Tetrachloride	5	U	1.3	U	2	U	0.5	U	0.25	U	2.5	U
Chlorobenzene	18	U	4.6	U	7.4	U	1.8	U	5.5		9.2	U
Chloroethane	11	U	2.6	U	4.2	U	1.1	U	0.53	U	5.3	U
Chloroform	20	U	4.9	U	7.8		21		53.7		9.8	U
Chloromethane	8.3	U	2.1	U	3.3	U	0.83	U	0.41	U	4.1	U
Cis-1,2-Dichloroethylene	3.2	U	0.79	U	1.3	U	4.4		1.4		1.6	U
Cis-1,3-Dichloropropene	18	U	4.5	U	7.3	U	1.8	U	0.91	U	9.1	U
Cyclohexane	14	U	3.4	U	29		2.2		3.4		6.9	U
Dibromochloromethane	17	U	4.3	U	6.8	U	1.7	U	0.85	U	8.5	U
Dichlorodifluoromethane	20	U	4.9	U	7.9	U	2.6		2.7		9.9	U
Ethanol	70.3		50.1		45.6		51.8		55.6		53.5	
Ethyl Acetate	14	U	5		5.8	U	1.4	U	0.72	U	7.2	U
Ethylbenzene	17	U	4.3	U	83.8		7.4		39		8.7	U
Hexachlorobutadiene	19	U	4.8	U	7.7	U	1.9	UJ	0.96	UJ	9.6	U
Isopropanol	43.3		25.3		8.1		6.1		7.1	J	24	
M,P-Xylene (Sum Of Isomers)	17	U	12		298		31		188		9.6	
Methyl Ethyl Ketone (2-Butanone)	12	U	2.9	U	58.7		37.5		67.5		5.9	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	16	U	4.1	U	6.6	U	4		4.5		8.2	U
Methylene Chloride	14	U	3.5	U	5.6	U	10		2.3		11	
N-Heptane	16	U	4.1	U	141		7		23		8.2	U
N-Hexane	14	U	3.5	U	180		17		47.2		7	U
O-Xylene (1,2-Dimethylbenzene)	17	U	5.6		99.9		11		110		8.7	U
Styrene	17	U	4.3	U	6.8	U	1.8		10		8.5	U
Tert-Butyl Alcohol	22		24		4.9	U	18		17		27	
Tert-Butyl Methyl Ether	14	U	3.6	U	5.8	U	1.4	U	0.72	U	7.2	U
Tetrachloroethylene (PCE)	31		12		1020		424		269		16	
Tetrahydrofuran	12	U	2.9	U	4.7	U	2.9		5.9		5.9	U
Toluene	15	U	6.8		355		29		54.6		7.5	U
Trans-1,2-Dichloroethene	16	U	4	U	6.3	U	1.6	U	0.79	U	7.9	U
Trans-1,3-Dichloropropene	18	U	4.5	U	7.3	U	1.8	U	0.91	U	9.1	U
Trichloroethylene (TCE)	4.3	U	1.1	U	7		61.3		30		2.1	U
Trichlorofluoromethane	11	U	2.8	U	4.5	U	3.1		2.5		5.6	U
Vinyl Acetate	14	U	4.6		5.6	U	1.4	U	0.7	U	7	U
Vinyl Bromide	17	U	4.4	U	7	U	1.7	U	0.87	U	8.7	U
Vinyl Chloride	2	U	0.51	U	0.82	U	0.2	U	0.1	U	1	U
Xylenes, Total	17	U	17		398		43		297		9.6	

AKRF Sample ID	RI-SV-07 20180802	RI-SV-08 20180529	RI-SV-09 20180802	RI-SV-10 20180529	RI-SV-11 20180529
Laboratory Sample ID	JC71312-1	JC66764-42	JC71312-2	JC66764-40	JC66764-39
Date Sampled	8/2/2018	5/29/2018	8/2/2018	5/29/2018	5/29/2018
Unit	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3
Dilution Factor	1.52	1	1.58	1	1
Compound	Conc Q	Conc Q	Conc Q	Conc Q	Conc Q
1,1,1-Trichloroethane	2.2 U	2.7 U	8.7 U	5.5 U	11 U
1,1,2,2-Tetrachloroethane	2.7 U	3.4 U	11 U	6.9 U	14 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	3.1 U	3.8 U	12 U	7.7 U	15 U
1,1,2-Trichloroethane	2.2 U	2.7 U	8.7 U	5.5 U	11 U
1,1-Dichloroethane	3.2 U	4 U	13 U	8.1 U	16 U
1,1-Dichloroethene	0.63 U	0.79 U	2.5 U	1.6 U	3.2 U
1,2,4-Trichlorobenzene	3 U	3.7 U	12 U	7.4 U	15 U
1,2,4-Trimethylbenzene	7.9 D	5.4	16 U	10	20 U
1,2-Dibromoethane (Ethylene Dibromide)	3.1 U	3.8 U	12 U	7.7 U	15 U
1,2-Dichlorobenzene	0.96 U	1.2 U	3.8 U	2.4 U	4.8 U
1,2-Dichloroethane	3.2 U	4 U	13 U	8.1 U	16 U
1,2-Dichloropropane	3.7 U	4.6 U	15 U	9.2 U	18 U
1,2-Dichlorotetrafluoroethane	2.8 U	3.5 U	11 U	7 U	14 U
1,3,5-Trimethylbenzene (Mesitylene)	3.5 JD	4.9 U	16 U	9.8 U	20 U
1,3-Butadiene	1.8 U	2.2 U	75.9 D	4.4 U	8.8 U
1,3-Dichlorobenzene	12 D	3 U	23 D	6 U	12 U
1,4-Dichlorobenzene	2.4 U	3 U	9.6 U	6 U	12 U
2,2,4-Trimethylpentane	4.3 D	4.7 U	15 U	9.3 U	19 U
2-Chlorotoluene	4.1 U	5.2 U	17 U	10 U	21 U
2-Hexanone	14 D	36	13 U	91.6	49.5
4-Ethyltoluene	3.9 U	4.9 U	16 U	9.8 U	20 U
Acetone	143 D	758 D	7.6 U	1880 D	1040
Allyl Chloride (3-Chloropropene)	2.5 U	3.1 U	10 U	6.3 U	13 U
Benzene	8.9 D	3.2 U	48.9 D	6.4 U	13 U
Benzyl Chloride	4.1 UJ	5.2 U	16 UJ	10 U	21 U
Bromodichloromethane	2.7 U	3.3 U	11 U	6.7 U	13 U
Bromoform	1.7 UJ	2.1 U	6.5 UJ	4.1 U	8.3 U
Bromomethane	3.1 U	3.9 U	12 U	7.8 U	16 U
Carbon Disulfide	8.1 D	3.1 U	80 D	6.2 U	12 U
Carbon Tetrachloride	1 U	1.3 U	4 U	2.5 U	5 U
Chlorobenzene	2.9 JD	4.6 U	15 U	9.2 U	18 U
Chloroethane	2.1 U	2.6 U	8.4 U	5.3 U	11 U
Chloroform	2.9 JD	4.9 U	16 U	9.8 U	20 U
Chloromethane	1.3 JD	2.1 U	6.6 U	4.1 U	8.3 U
Cis-1,2-Dichloroethylene	0.63 U	0.79 U	2.5 U	1.6 U	3.2 U
Cis-1,3-Dichloropropene	3.6 U	4.5 U	15 U	9.1 U	18 U
Cyclohexane	4.1 D	3.4 U	21 D	6.9 U	14 U
Dibromochloromethane	3.4 U	4.3 U	14 U	8.5 U	17 U
Dichlorodifluoromethane	4 U	4.9 U	16 U	9.9 U	20 U
Ethanol	203 D	44.5	76.5 D	68.8	49.6
Ethyl Acetate	9 D	3.6 U	12 U	7.2 U	14 U
Ethylbenzene	16 D	4.3 U	11 JD	8.7 U	17 U
Hexachlorobutadiene	3.8 U	4.8 U	15 U	9.6 U	19 U
Isopropanol	8.4 D	24	8.1 D	61	27.8
M,P-Xylene (Sum Of Isomers)	115 D	9.6	58.6 D	11	17 U
Methyl Ethyl Ketone (2-Butanone)	27 D	2.9 U	37.5 D	5.9 U	12 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	8.2 D	4.1 U	13 U	8.2 U	16 U
Methylene Chloride	2.8 U	3.5 U	11 U	6.9 U	14 U
N-Heptane	14 D	4.1 U	1330 D	8.2 U	16 U
N-Hexane	17 D	3.5 U	2590 D	7 U	14 U
O-Xylene (1,2-Dimethylbenzene)	120 D	4.8	53.4 D	8.7 U	17 U
Styrene	7.2 D	4.3 U	14 U	8.5 U	17 U
Tert-Butyl Alcohol	49.4 D	23	21 D	50.6	23
Tert-Butyl Methyl Ether	2.9 U	3.6 U	12 U	7.2 U	14 U
Tetrachloroethylene (PCE)	84.1 D	4.1	51 D	121	62
Tetrahydrofuran	8 D	2.9 U	4.7 JD	5.9 U	12 U
Toluene	22 D	7.2	37 D	7.5	15 U
Trans-1,2-Dichloroethene	3.2 U	4 U	13 U	7.9 U	16 U
Trans-1,3-Dichloropropene	3.6 U	4.5 U	15 U	9.1 U	18 U
Trichloroethylene (TCE)	0.86 U	1.1 U	7.5 D	2.1 U	4.3 U
Trichlorofluoromethane	2.2 U	2.8 U	9 U	5.6 U	11 U
Vinyl Acetate	2.8 U	3.9	11 U	9.5	14 U
Vinyl Bromide	3.5 U	4.4 U	14 U	8.7 U	17 U
Vinyl Chloride	0.41 U	0.51 U	1.6 U	1 U	2 U
Xylenes, Total	235 D	15	112 D	11	17 U

Attached Tables 5-29
1675 Apartments
1675-1679 Westchester Avenue
Bronx, New York
Notes

DATA QUALIFIERS		
NS	:	The NYSDEC has not established a UUSCO and/or RRSCO for the analyte.
U	:	The analyte was analyzed for, but was not detected above the laboratory reporting limit.
J	:	The analyte was detected at a concentration above the laboratory reporting limit; the reported concentration is approximate and may be inaccurate or imprecise.
UJ	:	The analyte was not detected above the laboratory reporting limit. The reported concentration is approximate and may be inaccurate or imprecise.
JL	:	The analyte was detected at a concentration above the laboratory reporting limit; the reported concentration is approximate and may be inaccurate or imprecise and biased low.
D	:	The analyte was detected as the result of a diluted analysis.
R	:	The reported data is unusable and is rejected due to serious definiciences meeting quality assurance/quality control (QA/QC) criteria. The analyte may or may not be present in the sample.
JK	:	The analyte was detected at a concentration above the laboratory reporting limit; the reported concentration is approximate and may be inaccurate or imprecise and biased high.
JKN	:	The analyte was detected at a concentration above the laboratory reporting limit with presumtive evidence to make a tentative identification; the reported concentration is proportional to the dilution factor and may be exaggerated.
JKD	:	The analyte was detected at a concentration above the laboratory reporting limit in a diluted analysis; the reported concentration is proportional to the dilution factor and may be exaggerated.
mg/kg	:	milligrams per kilogram = parts per million (ppm)
$\mu g/m^3$	:	micrograms per cubic meter
µg/L	:	micrograms per Liter = parts per billion (ppb)
ng/L	:	nanograms per Liter = parts per trillion (ppt)
SOIL		
Part 375 Soil Cleanup Objectives	:	Soil Cleanup Objectives listed in NYSDEC (New York State Department of Environmental Conservation) "Part 375" Regulations (6 NYCRR Part 375).
Exceedances of NYSDEC Unrestricted Use Soil Cleanup Objectives (RRSCOs) are presented in bold font. Exceedances of NYSDEC Restricted Residential Soil Cleanup Objectives (RRSCOs) are presented in gray shading.		
Sample RI-SB-X01 (0-2) 20180524 is a blind duplicate of sample RI-SB-09 (0-2) 20180524. Sample RI-SB-X03 (9.5-11) 20180821 is a blind duplicate of sample RI-SB-10 (9.5-11) 20180821. Sample RI-SB-X02 (0-2) 20180525 is a blind duplicate of sample RI-SB-21 (0-2) 20180525. Sample RI-SB-X02 (8.5-10.5) 20181008 is a blind duplicate of sample RI-SB-03 (8.5-10.5) 20181008.		
GROUNDWATER		
NYSDEC Technical & Operational Guidance	:	New York State Department of Environmental Conservation (NYSDEC) Technical and Operational Guidance Series (TOGS) (1.1.1): Class GA Ambient Water Quality Standards (AWQS) and Guidance Values.
Sample RI-MW-X01 20180608 is a blind duplicate of sample RI-MW-02 20180608 for PFCs only. Sample RI-MW-X02 20180712 is a blind duplicate of sample RI-MW-02 20180712 for VOCs, SVOCs, PCBs, pesticides, and TAL metals only. Sample RI-MW-X03 20180906 is a blind duplicate of sample RI-MW-05 20180906. Sample RI-MW-X04 20181015 is a blind duplicate of sample RI-MW-03 20181015.		
Exceedances of NYSDEC TOGS values are presented in bold font.		
SOIL VAPOR		
NYSDOH Soil Vapor Intrusion Matrix	:	NYSDOH Sub-Slab Vapor Concentration which may require monitoring or mitigation as presented in the Matrix A, Matrix B, and Matrix C tables of the Final Guidance in the State of New York, dated October 2006 ("NYSDOH Vapor Intrusion Guidance Document"), updated May 2017.
$\mu g/m^3$	:	micrograms per cubic meter

FIGURES



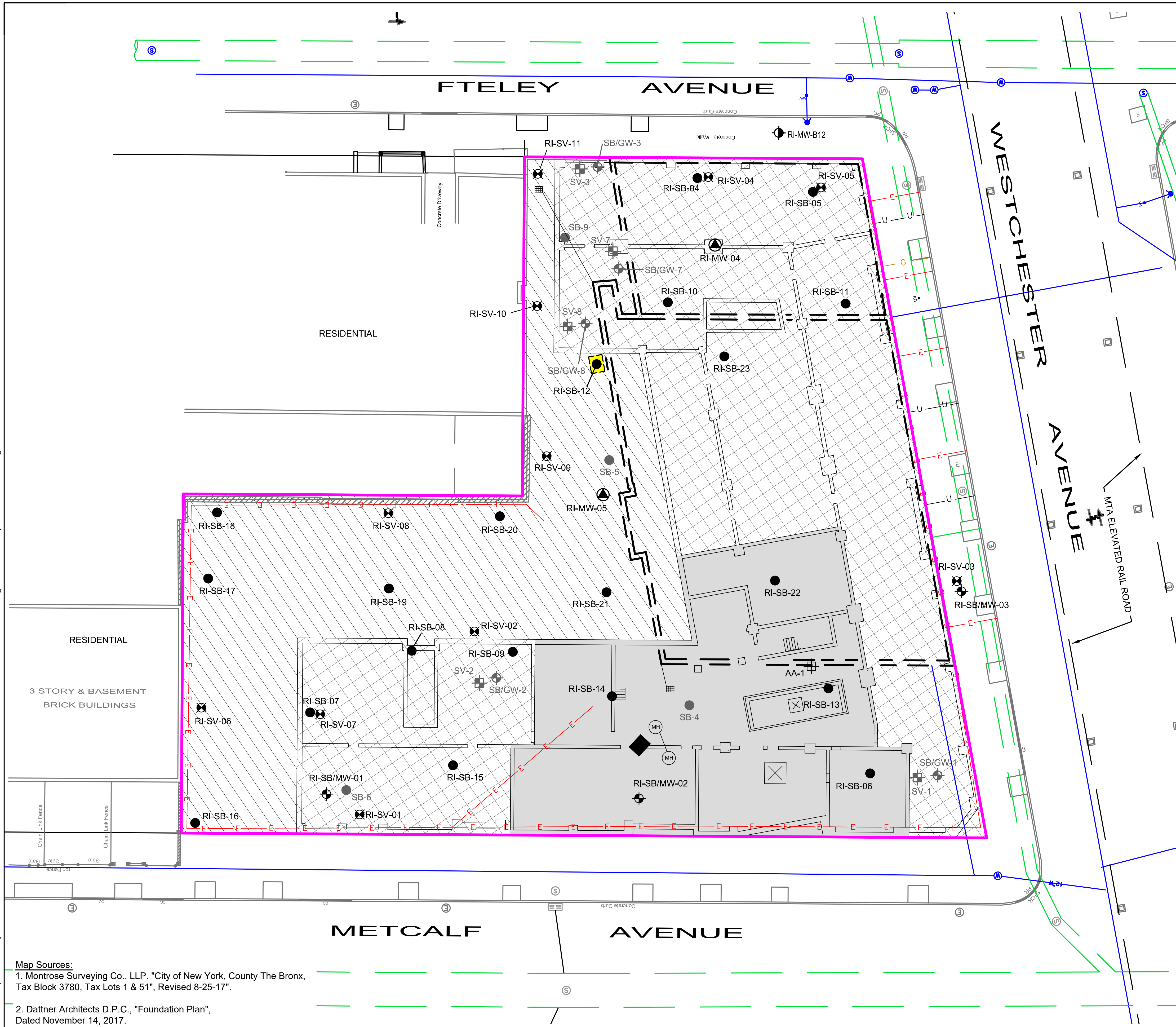
©2018 AKRF W:\Projects\170250 - 1675-1679 WESTCHESTER AVENUE\Technical\GIS and Graphics\hazmat\170250 Fig 1 Site Location BCP.mxd10/30/2018 3:22:09 PM mveilleux

AKRF
440 Park Avenue South, New York, NY 10016

1675 Apartments
1675-1679 Westchester Avenue
Bronx, New York

BCP SITE LOCATION

DATE	10/30/2018
PROJECT NO.	170250
FIGURE	1



LEGEND

- BCP SITE BOUNDARY
- REMEDIAL INVESTIGATION SOIL BORING LOCATION (AKRF, 2018)
- REMEDIAL INVESTIGATION TEMPORARY SOIL VAPOR POINT LOCATION (AKRF, 2018)
- REMEDIAL INVESTIGATION SOIL BORING/GROUNDWATER MONITORING WELL LOCATION (AKRF, 2018)
- REMEDIAL INVESTIGATION MONITORING WELL LOCATION (AKRF, 2018)
- SUBSURFACE INVESTIGATION SOIL BORING LOCATION (AKRF, 2017)
- SUBSURFACE INVESTIGATION TEMPORARY SOIL VAPOR POINT LOCATION (AKRF, 2017)
- SUBSURFACE INVESTIGATION SOIL BORING/TEMPORARY GROUNDWATER MONITORING WELL LOCATION (AKRF, 2017)
- SUBSURFACE INVESTIGATION AMBIENT AIR SAMPLE LOCATION (AKRF, 2017)
- GEOTECHNICAL GROUNDWATER MONITORING WELL LOCATION (HALEY AND ALDRICH, 2017)
- FORMER BUILDING FOOTPRINT
- PROPOSED NEW BUILDING CELLAR
- PROPOSED NEW BUILDING CRAWL SPACE
- PROPOSED COURTYARD
- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION - REMOVED NOVEMBER 2014
- SEWER LINE (SURVEY)
- WATER LINE (SURVEY/GEOPHYSICAL)
- E — E ELECTRIC LINE (SURVEY/GEOPHYSICAL)
- U — U UNKNOWN UTILITY (GEOPHYSICAL)
- G NATURAL GAS (GEOPHYSICAL)
- DRAIN AND SUBTERRANEAN LEADER (GEOPHYSICAL)
- MH MANHOLE (GEOPHYSICAL)
- ANOMALY INDICATIVE OF SUBSURFACE DISTURBANCE (GEOPHYSICAL)

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1675 Apartments
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Bronx, New York

SITE AND SAMPLE LOCATION PLAN

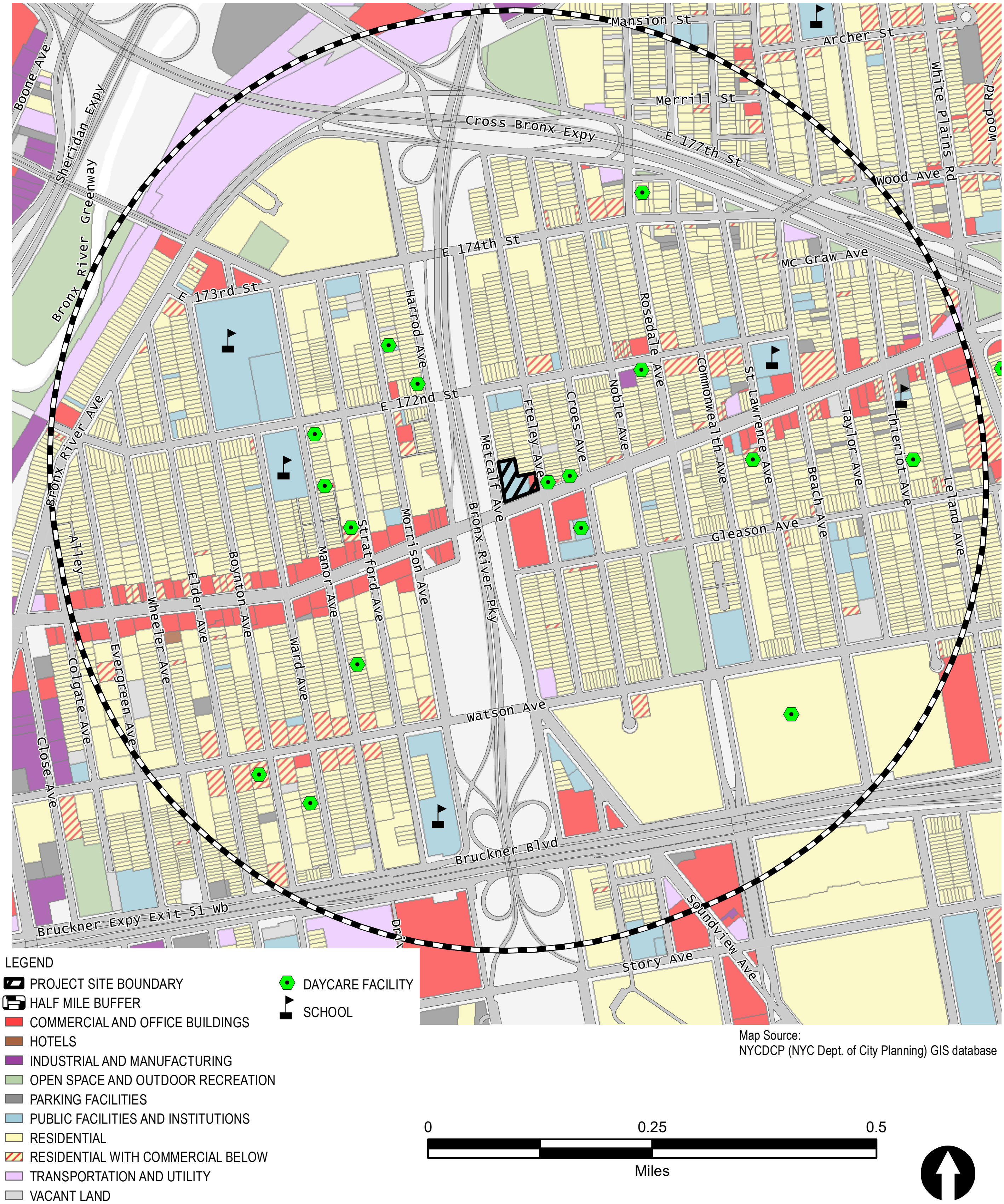
DATE
11/29/2018

PROJECT NO.
170250

FIGURE
2

Map Sources:
1. Montrose Surveying Co., LLP. "City of New York, County The Bronx, Tax Block 3780, Tax Lots 1 & 51", Revised 8-25-17".

2. Dattner Architects D.P.C., "Foundation Plan", Dated November 14, 2017.



LEGEND

- PROJECT SITE BOUNDARY
- HALF MILE BUFFER
- COMMERCIAL AND OFFICE BUILDINGS
- HOTELS
- INDUSTRIAL AND MANUFACTURING
- OPEN SPACE AND OUTDOOR RECREATION
- PARKING FACILITIES
- PUBLIC FACILITIES AND INSTITUTIONS
- RESIDENTIAL
- RESIDENTIAL WITH COMMERCIAL BELOW
- TRANSPORTATION AND UTILITY
- VACANT LAND
- VACANT BUILDING
- UNDER CONSTRUCTION
- DAYCARE FACILITY
- SCHOOL

AKRF
440 Park Avenue South, New York, NY 10016

1675 Apartments
1675-1679 Westchester Avenue
Bronx, New York

SURROUNDING LAND USE AND SENSITIVE RECEPTORS

DATE
10/30/2018
PROJECT NO.
170250
FIGURE
3

AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	SB-3 (0-2) 20170807 / 8/7/2017	SB-3 (6-7) 20170807 / 8/7/2017
SVOCs				
Benzo(A)Anthracene	1	1	NE	3.81 D
Benzo(A)Pyrene	1	1	1.02	3.78 D
Benzo(B)Fluoranthene	1	1	1.28	4.01 D
Benzo(K)Fluoranthene	0.8	3.9	NE	1.67 D
Chrysene	1	3.9	NE	3.58 D
Dibenz(A,H)Anthracene	0.33	0.33	NE	0.832
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	0.754	2.64
Pesticides				
P,P'-DDE	0.0033	8.9	NE	0.0095
Metals				
Arsenic	13	16	NE	51.3
Chromium, Hexavalent	1	110	NE	1.1
Chromium, Trivalent	30	180	NE	36.2
Copper	50	270	62.5	245
Lead	63	400	310	498 D
Mercury	0.18	0.81	1.1 D	3.9 D
Nickel	30	310	NE	58.5
Zinc	109	10,000	188	576

AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	SB-9 (0-2) 20170921 / 9/21/2017	SB-9 (7-9) 20170921 / 9/21/2017
SVOCs				
Benzo(A)Anthracene	1	1	4.53 D	NE
Benzo(A)Pyrene	1	1	4.15 D	NE
Benzo(B)Fluoranthene	1	1	5.3 D	NE
Benzo(K)Fluoranthene	0.8	3.9	1.78	NE
Chrysene	1	3.9	4.2 D	NE
Dibenz(A,H)Anthracene	0.33	0.33	0.895	NE
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	3	0.552
Metals				
Arsenic	13	16	13.6	NE
Chromium, Hexavalent	1	110	31.6	NE
Copper	50	270	75.1	72.7
Lead	63	400	459	174
Mercury	0.18	0.81	0.55	0.34
Nickel	30	310	40.3	NE
Zinc	109	10,000	285	267
PCBs				
Total PCBs	0.1	1	0.104	NE

AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	SB-7 (0-2) 20170921 / 9/21/2017	SB-7 (11-13) 20170921 / 9/21/2017
SVOCs				
Benzo(A)Anthracene	1	1	5.38 D	4.88 D
Benzo(A)Pyrene	1	1	5.07 D	3.52
Benzo(B)Fluoranthene	1	1	5.8 D	4.84 D
Benzo(K)Fluoranthene	0.8	3.9	1.97 D	1.67
Chrysene	1	3.9	5.62 D	3.85
Dibenz(A,H)Anthracene	0.33	0.33	1.15 D	0.65
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	3.09 D	2.27
Pesticides				
P,P'-DDE	0.0033	8.9	NE	0.0057
PCBs				
Total PCBs	0.1	1	NE	0.121
Metals				
Arsenic	13	16	NE	17.1
Copper	50	270	65.1	57.2
Lead	63	400	719	544
Mercury	0.18	0.81	0.74	0.31
Zinc	109	10,000	265	222

AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	SB-8 (0-2) 20170921 / 9/21/2017	SB-8 (7-9) 20170921 / 9/21/2017
SVOCs				
4-Methylphenol (P-Cresol)	0.33	NS	NE	0.42
Benzo(A)Anthracene	1	1	2.7	27.8 D
Benzo(A)Pyrene	1	1	2.84	23.7 D
Benzo(B)Fluoranthene	1	1	3.26	27.8 D
Benzo(K)Fluoranthene	0.8	3.9	1.3	9.97 D
Chrysene	1	3.9	2.78	26.5 D
Dibenz(A,H)Anthracene	0.33	0.33	0.557	4.25 D
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	2.11	13 D
Pesticides				
P,P'-DDD	0.0033	13	0.0267 D	NE
P,P'-DDE	0.0033	8.9	0.0538 D	0.0042
P,P'-DDT	0.0033	7.9	0.0111 D	NE
Metals				
Barium	350	400	413	880
Chromium, Hexavalent	1	110	NE	1.3
Copper	50	270	NE	89.3
Lead	63	400	2,300 D	3,430 D
Mercury	0.18	0.81	0.26	1.2 D
Zinc	109	10,000	234	431

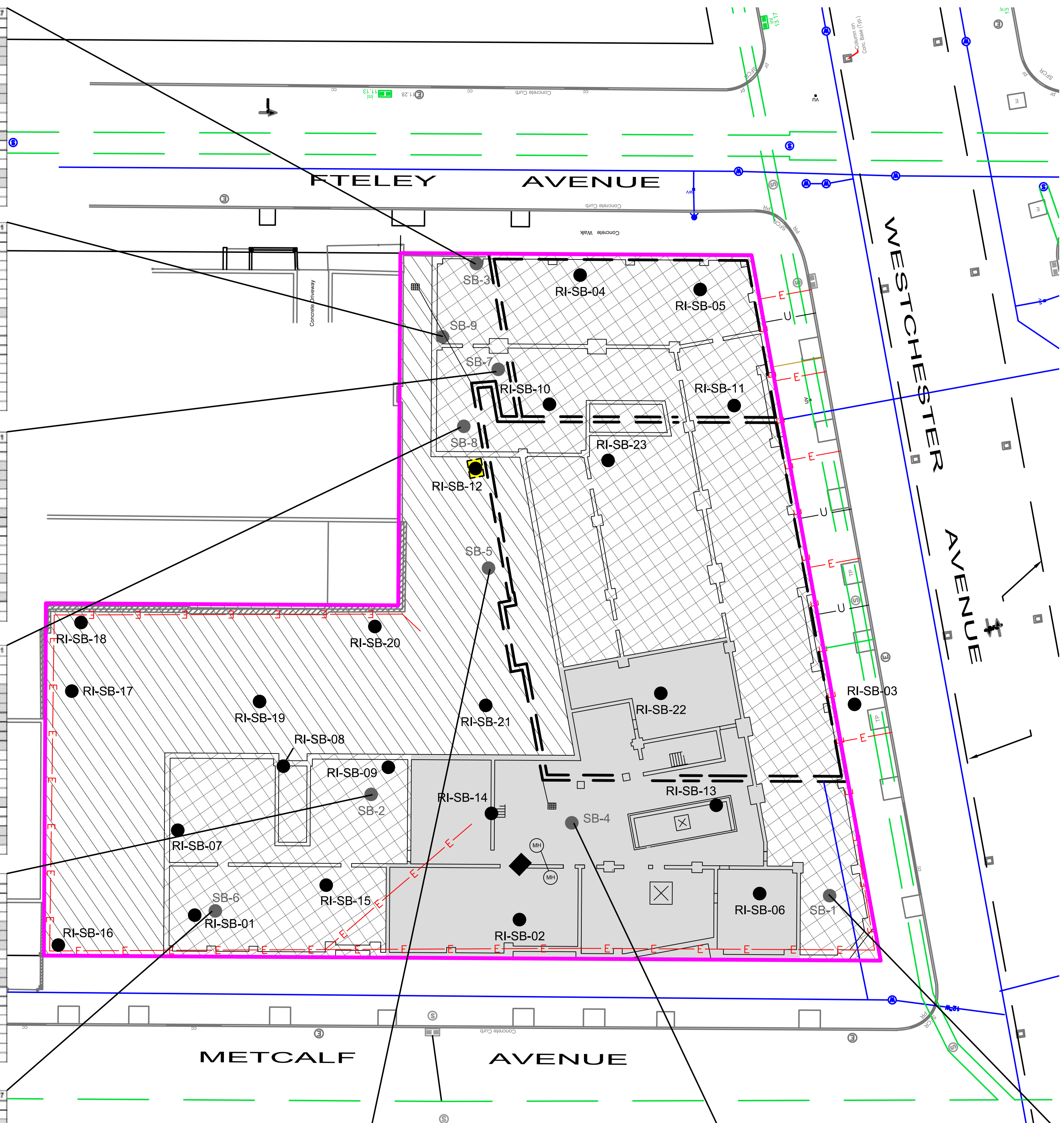
AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	SB-2 (0-2) 20170807 / 8/7/2017	SB-2 (3-5) 20170807 / 8/7/2017
VOCs				
Acetone	0.05	100	NE	0.0681
SVOCs				
Benzo(A)Anthracene	1	1	25.2 D	1.57
Benzo(A)Pyrene	1	1	21.5 D	1.85
Benzo(B)Fluoranthene	1	1	24.5 D	2.11
Benzo(K)Fluoranthene	0.8	3.9	9.63 D	NE
Chrysene	1	3.9	22.3 D	1.7
Dibenz(A,H)Anthracene	0.33	0.33	3.01 D	0.335
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	13.1 D	1.32
Pesticides				
P,P'-DDD	0.0033	13	NE	0.0067
P,P'-DDE	0.0033	8.9	0.0091	NE
Metals				
Copper	50	270	56.3	NE
Lead	63	400	236	244
Mercury	0.18	0.81	0.27	0.52
Zinc	109	10,000	147	162

AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	SB-6 (0-2) 20170807 / 8/7/2017	SB-6 (13-15) 20170807 / 8/7/2017
SVOCs				
Benzo(A)Anthracene	1	1	1.42	1.12
Benzo(A)Pyrene	1	1	1.5	NE
Benzo(B)Fluoranthene	1	1	1.79	1.11
Chrysene	1	3.9	1.4	1.1
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	1.05	0.627
Pesticides				
Dieldrin	0.005	0.2	NE	0.0053
P,P'-DDE	0.0033	8.9	NE	0.0099
P,P'-DDT	0.0033	7.9	0.0074	0.0251
PCBs				
Total PCBs	0.1	1	NE	0.472
Metals				
Copper	50	270	61.6	NE
Lead	63	400	280	1,520 D
Mercury	0.18	0.81	0.62	1.2 D
Zinc	109	10,000	248	287

AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	SB-5 (0-2) 20170807 / 8/7/2017	SB-5 (11-12) 20170807 / 8/7/2017
SVOCs				
Benzo(A)Anthracene	1	1	7.34 D	1.32
Benzo(A)Pyrene	1	1	6.51 D	1.27
Benzo(B)Fluoranthene	1	1	8.34 D	1.61
Benzo(K)Fluoranthene	0.8	3.9	2.74 D	NE
Chrysene	1	3.9	6.6 D	1.44
Dibenz(A,H)Anthracene	0.33	0.33	1.95	NE
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	4.15 D	0.903
Pesticides				
P,P'-DDD	0.0033	13	NE	0.0099
P,P'-DDE	0.0033	8.9	0.0066	NE
P,P'-DDT	0.0033	7.9	0.0105	0.0076
Metals				
Chromium, Hexavalent	1	110	1.3	NE
Copper	50	270	91.9	115
Lead	63	400	254	381
Mercury	0.18	0.81	0.25	0.97
Zinc	109	10,000	224	395

AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	SB-4 (0-2) 20170807 / 8/7/2017	SB-4 (13-15) 20170807 / 8/7/2017
SVOCs				
Benzo(A)Anthracene	1	1	3.3	NE
Benzo(A)Pyrene	1	1	3.12	NE
Benzo(B)Fluoranthene	1	1	3.25 D	NE
Benzo(K)Fluoranthene	0.8	3.9	1.07 D	NE
Chrysene	1	3.9	3.3	NE
Dibenz(A,H)Anthracene	0.33	0.33	0.57	NE
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	2.21	NE
Pesticides				
P,P'-DDD	0.0033	13	NE	0.0176
P,P'-DDE	0.0033	8.9	0.0037	0.0094
P,P'-DDT	0.0033	7.9	0.0071	0.0202
Metals				
Barium	350	400	NE	899
Lead	63	400	283	2,130 D
Mercury	0.18	0.81	3.7 D	NE
Zinc	109	10,000	195	831

AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	SB-1 (0-2) 20170807 / 8/7/2017	SB-1 (14-15) 20170807 / 8/7/2017
SVOCs				
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	NE	0.503
Pesticides				
P,P'-DDE	0.0033	8.9	0.0044	NE
P,P'-DDT	0.0033	7.9	0.0212	NE
Metals				
Cadmium	2.5	4.3	2.8	NE
Copper	50	270	60.5	106
Lead	63	400	637	278
Mercury	0.18	0.81	0.57	0.66
Nickel	30	310	30.2	NE
Zinc	109	10,000	193	202



LEGEND

- BCP SITE BOUNDARY
- SUBSURFACE INVESTIGATION SOIL BORING LOCATION (AKRF, 2017)
- REMEDIAL INVESTIGATION SOIL BORING LOCATION (AKRF, 2018)
- FORMER BUILDING FOOTPRINT
- PROPOSED NEW BUILDING CELLAR
- PROPOSED NEW BUILDING CRAWL SPACE
- PROPOSED COURTYARD
- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION - REMOVED NOVEMBER 2014
- SEWER LINE (SURVEY)
- WATER LINE (SURVEY/GEOPHYSICAL)
- ELECTRIC LINE (SURVEY/GEOPHYSICAL)
- UNKNOWN UTILITY (GEOPHYSICAL)
- NATURAL GAS (GEOPHYSICAL)
- DRAIN AND SUBTERRANEAN LEADER (GEOPHYSICAL)
- MANHOLE (GEOPHYSICAL)
- ANOMALY INDICATIVE OF SUBSURFACE DISTURBANCE (GEOPHYSICAL)

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

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.

D: The reported concentration is the result of a diluted sample analysis.

NE : The analyte was not detected at a concentration above its UUSCO or RRSCO.

mg/kg: milligrams per kilogram = parts per million (ppm)

All results are presented in mg/kg.

Sample results for soil samples collected during AKRF's 2017 Subsurface Investigation are shown.

Sample results for soil samples collected during AKRF's 2018 Remedial Investigation are shown on Figures 4b and 4c.

Map Sources:
1. Montrose Surveying Co., LLP. "City of New York, County The Bronx, Tax Block 3780, Tax Lots 1 & 51", Revised 8-25-17".

2. Dattner Architects D.P.C., "Foundation Plan", Dated November 14, 2017.

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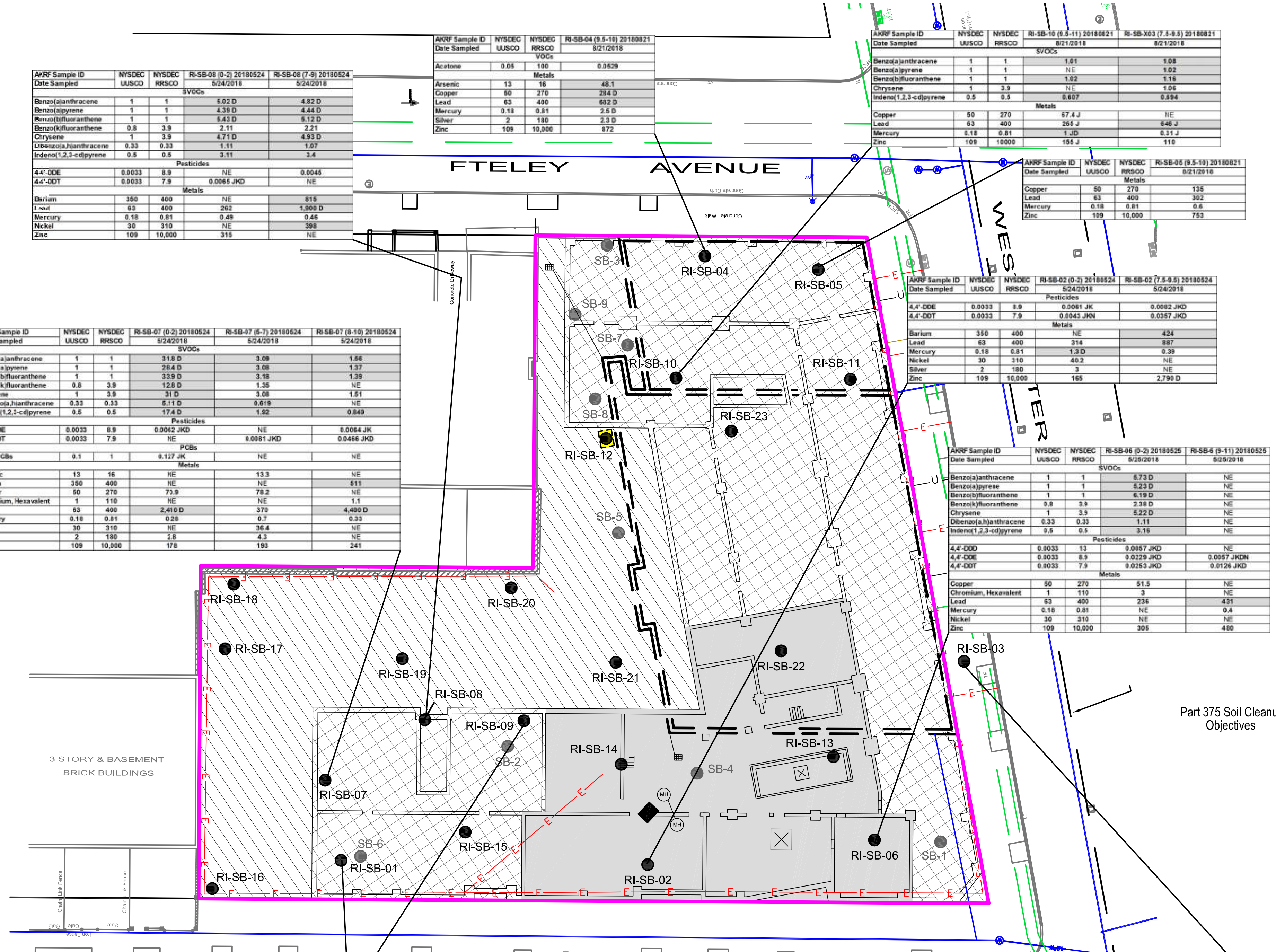
SUBSURFACE INVESTIGATION SOIL SAMPLE CONCENTRATIONS ABOVE NYSDEC UUSCOs AND RRSCOs

DATE
11/29/2018

PROJECT NO.
170250

FIGURE
4a



AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-08 (0-2) 20180524 / 5/24/2018	RI-SB-08 (7-9) 20180524 / 5/24/2018
SVOCs				
Benzo(a)anthracene	1	1	5.02 D	4.82 D
Benzo(a)pyrene	1	1	4.39 D	4.44 D
Benzo(b)fluoranthene	1	1	5.43 D	5.12 D
Benzo(k)fluoranthene	0.8	3.9	2.11	2.21
Chrysene	1	3.9	4.71 D	4.93 D
Dibenzo(a,h)anthracene	0.33	0.33	1.11	1.07
Indeno(1,2,3-cd)pyrene	0.5	0.5	3.11	3.4
Pesticides				
4,4'-DDE	0.0033	8.9	NE	0.0045
4,4'-DDT	0.0033	7.9	0.0065 JKD	NE
Metals				
Barium	350	400	NE	815
Lead	63	400	262	1,900 D
Mercury	0.18	0.81	0.49	0.46
Nickel	30	310	NE	398
Zinc	109	10,000	315	NE

AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-04 (9.5-10) 20180821 / 8/21/2018
VOCs			
Acetone	0.05	100	0.0529
Metals			
Arsenic	13	16	48.1
Copper	50	270	284 D
Lead	63	400	602 D
Mercury	0.18	0.81	2.5 D
Silver	2	180	2.3 D
Zinc	109	10,000	872

AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-10 (9.5-11) 20180821 / 8/21/2018	RI-SB-X03 (7.5-9.5) 20180821 / 8/21/2018
SVOCs				
Benzo(a)anthracene	1	1	1.01	1.08
Benzo(a)pyrene	1	1	NE	1.02
Benzo(b)fluoranthene	1	1	1.02	1.16
Chrysene	1	3.9	NE	1.06
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.607	0.694
Metals				
Copper	50	270	67.4 J	NE
Lead	63	400	265 J	646 J
Mercury	0.18	0.81	1 JD	0.31 J
Zinc	109	10000	155 J	110

AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-05 (9.5-10) 20180821 / 8/21/2018
Metals			
Copper	50	270	135
Lead	63	400	302
Mercury	0.18	0.81	0.6
Zinc	109	10,000	753

AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-07 (0-2) 20180524 / 5/24/2018	RI-SB-07 (5-7) 20180524 / 5/24/2018	RI-SB-07 (8-10) 20180524 / 5/24/2018
SVOCs					
Benzo(a)anthracene	1	1	31.8 D	3.09	1.66
Benzo(a)pyrene	1	1	28.4 D	3.08	1.37
Benzo(b)fluoranthene	1	1	33.9 D	3.18	1.39
Benzo(k)fluoranthene	0.8	3.9	12.8 D	1.35	NE
Chrysene	1	3.9	31 D	3.08	1.51
Dibenzo(a,h)anthracene	0.33	0.33	5.11 D	0.619	NE
Indeno(1,2,3-cd)pyrene	0.5	0.5	17.4 D	1.92	0.849
Pesticides					
4,4'-DDE	0.0033	8.9	0.0062 JKD	NE	0.0064 JK
4,4'-DDT	0.0033	7.9	NE	0.0081 JKD	0.0466 JKD
PCBs					
Total PCBs	0.1	1	0.127 JK	NE	NE
Metals					
Arsenic	13	16	NE	13.3	NE
Barium	350	400	NE	NE	511
Copper	50	270	70.9	78.2	NE
Chromium, Hexavalent	1	110	NE	NE	1.1
Lead	63	400	2,410 D	370	4,400 D
Mercury	0.18	0.81	0.28	0.7	0.33
Nickel	30	310	NE	36.4	NE
Silver	2	180	2.8	4.3	NE
Zinc	109	10,000	178	193	241

AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-02 (0-2) 20180524 / 5/24/2018	RI-SB-02 (7.5-9.5) 20180524 / 5/24/2018
Pesticides				
4,4'-DDE	0.0033	8.9	0.0061 JK	0.0082 JKD
4,4'-DDT	0.0033	7.9	0.0043 JKN	0.0357 JKD
Metals				
Barium	350	400	NE	424
Lead	63	400	314	887
Mercury	0.18	0.81	1.3 D	0.39
Nickel	30	310	40.2	NE
Silver	2	180	3	NE
Zinc	109	10,000	165	2,790 D

AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-06 (0-2) 20180525 / 5/25/2018	RI-SB-6 (9-11) 20180525 / 5/25/2018
SVOCs				
Benzo(a)anthracene	1	1	6.73 D	NE
Benzo(a)pyrene	1	1	5.23 D	NE
Benzo(b)fluoranthene	1	1	6.19 D	NE
Benzo(k)fluoranthene	0.8	3.9	2.38 D	NE
Chrysene	1	3.9	5.22 D	NE
Dibenzo(a,h)anthracene	0.33	0.33	1.11	NE
Indeno(1,2,3-cd)pyrene	0.5	0.5	3.16	NE
Pesticides				
4,4'-DDD	0.0033	13	0.0057 JKD	NE
4,4'-DDE	0.0033	8.9	0.0229 JKD	0.0057 JKDN
4,4'-DDT	0.0033	7.9	0.0253 JKD	0.0126 JKD
Metals				
Copper	50	270	51.5	NE
Chromium, Hexavalent	1	110	3	NE
Lead	63	400	236	431
Mercury	0.18	0.81	NE	0.4
Nickel	30	310	NE	NE
Zinc	109	10,000	305	480

AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-01 (0-2) 20180524 / 5/24/2018	RI-SB-01 (5-7) 20180524 / 5/24/2018	RI-SB-01 (9-11) 20180524 / 5/24/2018
SVOCs					
Benzo(a)anthracene	1	1	2.6	5.88 D	2.99
Benzo(a)pyrene	1	1	2.62	5.07 D	3.04 D
Benzo(b)fluoranthene	1	1	2.94	5.09 D	2.95
Benzo(k)fluoranthene	0.8	3.9	0.942	1.66	0.887
Chrysene	1	3.9	2.59	5.86 D	2.99
Dibenzo(a,h)anthracene	0.33	0.33	0.475	0.876	0.614
Indeno(1,2,3-cd)pyrene	0.5	0.5	1.73	2.92	1.74
Pesticides					
4,4'-DDE	0.0033	8.9	0.0061 JK	0.02 JKD	NE
4,4'-DDT	0.0033	7.9	NE	0.0457 JKD	0.0037 JKND
PCBs					
Total PCBs	0.1	1	NE	0.139 JKN	NE
Metals					
Chromium, Hexavalent	1	110	NE	1.1	NE
Lead	63	400	305	1,330 D	311
Mercury	0.18	0.81	0.53	8.9 D	1.3 D
Silver	2	180	3.2	2.5	3
Zinc	109	10,000	205	334	154

AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-09 (0-2) 20180524 / 5/24/2018	RI-SB-X01 (0-2) 20180524 / 5/24/2018	RI-SB-09 (7-9) 20180524 / 5/24/2018
SVOCs					
Benzo(a)anthracene	1	1	17.6D	28.3 D	NE
Benzo(a)pyrene	1	1	17.1 D	24.5 D	NE
Benzo(b)fluoranthene	1	1	17.3	28.4 D	NE
Benzo(k)fluoranthene	0.8	3.9	7.88 D	10.1 D	NE
Chrysene	1	3.9	17.5 D	25.2 D	NE
Dibenzo(a,h)anthracene	0.33	0.33	3.36 D	5.97 D	NE
Indeno(1,2,3-cd)pyrene	0.5	0.5	9.98 D	12.9 D	0.626
Pesticides					
4,4'-DDD	0.0033	13	NE	0.0045 JKD	NE
4,4'-DDE	0.0033	8.9	0.0036 JKN	0.01 JKD	0.0114 JKD
4,4'-DDT	0.0033	7.9	NE	NE	0.0533 JKD
Metals					
Barium	350	400	NE	NE	468
Copper	50	270	128 J	64.9	NE
Chromium, Hexavalent	1	110	NE	NE	10.5
Lead	63	400	261	268	2040 D
Mercury	0.18	0.81	0.37	0.43	0.54
Zinc	109	10000	190	206	393

AKRF Sample ID / Date Sampled	NYSDEC UUSCO	NYSDEC RRSCO	RI-SB-03 (0-2) 20181008 / 10/8/2018	RI-SB-03 (8.5-10.5) 20181008 / 10/8/2018	RI-SB-X04 (8.5-10.5) 20181008 / 10/8/2018
SVOCs					
Benzo(a)Anthracene	1	1	1.66	1.77 D	1.93 D
Benzo(a)Pyrene	1	1	1.54	1.66 D	1.9 D
Benzo(b)Fluoranthene	1	1	1.7	1.61 D	1.84 D
Chrysene	1	3.9	1.41	1.76 D	1.88 D
Indeno(1,2,3-c,d)pyrene	0.5	0.5	0.922	1.05 D	1.26 D
Metals					
Hexavalent Chromium	1	110	1.1	NE	NE
Lead	63	400	203	274	179
Mercury	0.18	0.81	0.23	0.66	0.61
Zinc	109	10,000	139	141	NE

LEGEND

- BCP SITE BOUNDARY
- SUBSURFACE INVESTIGATION SOIL BORING LOCATION (AKRF, 2017)
- REMEDIAL INVESTIGATION SOIL BORING LOCATION (AKRF, 2018)
- FORMER BUILDING FOOTPRINT
- PROPOSED NEW BUILDING CELLAR
- PROPOSED NEW BUILDING CRAWL SPACE
- PROPOSED COURTYARD
- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION - REMOVED NOVEMBER 2014
- SEWER LINE (SURVEY)
- WATER LINE (SURVEY/GEOPHYSICAL)
- E — E ELECTRIC LINE (SURVEY/GEOPHYSICAL)
- U — U UNKNOWN UTILITY (GEOPHYSICAL)
- G NATURAL GAS (GEOPHYSICAL)
- DRAIN AND SUBTERRANEAN LEADER (GEOPHYSICAL)
- MH MANHOLE (GEOPHYSICAL)
- ANOMALY INDICATIVE OF SUBSURFACE DISTURBANCE (GEOPHYSICAL)

Part 375 Soil Cleanup Objectives

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

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.

J: The analyte was detected at a concentration above the laboratory reporting limit; the reported concentration is approximate and may be inaccurate or imprecise.

D: The reported concentration is the result of a diluted sample analysis.

NE : The analyte was not detected at a concentration above its UUSCO or RRSCO.

JK: The analyte was detected at a concentration above the laboratory reporting limit; the reported concentration is approximate and may be inaccurate or imprecise and biased high.

JD: The reported concentration is proportional to the dilution factor and may be exaggerated and is approximate and may be inaccurate or imprecise.

JKD: The analyte was detected at a concentration above the laboratory reporting limit in a diluted analysis; the reported concentration is proportional to the dilution factor and may be exaggerated.

JKN: The analyte was detected at a concentration above the laboratory reporting limit with presumtive evidence to make a tentative identification; the reported concentration is proportional to the dilution factor and may be exaggerated.

JKND: The analyte was detected at a concentration above the laboratory reporting limit with presumtive evidence to make a tentative identification in a diluted analysis; the reported concentration is proportional to the dilution factor and may be exaggerated.

mg/kg: milligrams per kilogram = parts per million (ppm)

All results are presented in mg/kg.

Sample results for soil samples collected during AKRF's 2018 Remedial Investigation from soil borings RI-SB-01 through RI-SB-10 are shown.
Sample results for soil samples collected during AKRF's 2017 Subsurface Investigation are shown on Figure 4a.
Sample results for soil samples collected during AKRF's 2018 Remedial Investigation from soil borings RI-SB-13 through RI-SB-21 are shown on Figure 4c.

Soil sample RI-SB-X01 (0-2) 20180524 is a blind duplicate of sample RI-SB-09 (0-2) 20180524.

Soil sample RI-SB-X03 (7.5-9.5) 20180821 is a blind duplicate of sample RI-SB-10 (9.5-11) 20180821.

Soil sample RI-SB-X04 (8.5-10.5) 20181008 is a blind duplicate of sample RI-SB-03 (8.5-10.5) 20181008.

Map Sources:
1. Montrose Surveying Co., LLP. "City of New York, County The Bronx, Tax Block 3780, Tax Lots 1 & 51", Revised 8-25-17".

2. Dattner Architects D.P.C., "Foundation Plan", Dated November 14, 2017.

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1675 Apartments
1675-1679 Westchester Avenue
Bronx, New York

REMEDIAL INVESTIGATION SUBSURFACE SOIL SAMPLE CONCENTRATIONS ABOVE UUSCOs AND RRSCOs - SOIL BORINGS RI-SB-01 THROUGH RI-SB-10

DATE
12/26/2018
PROJECT NO.
170250
FIGURE
4b

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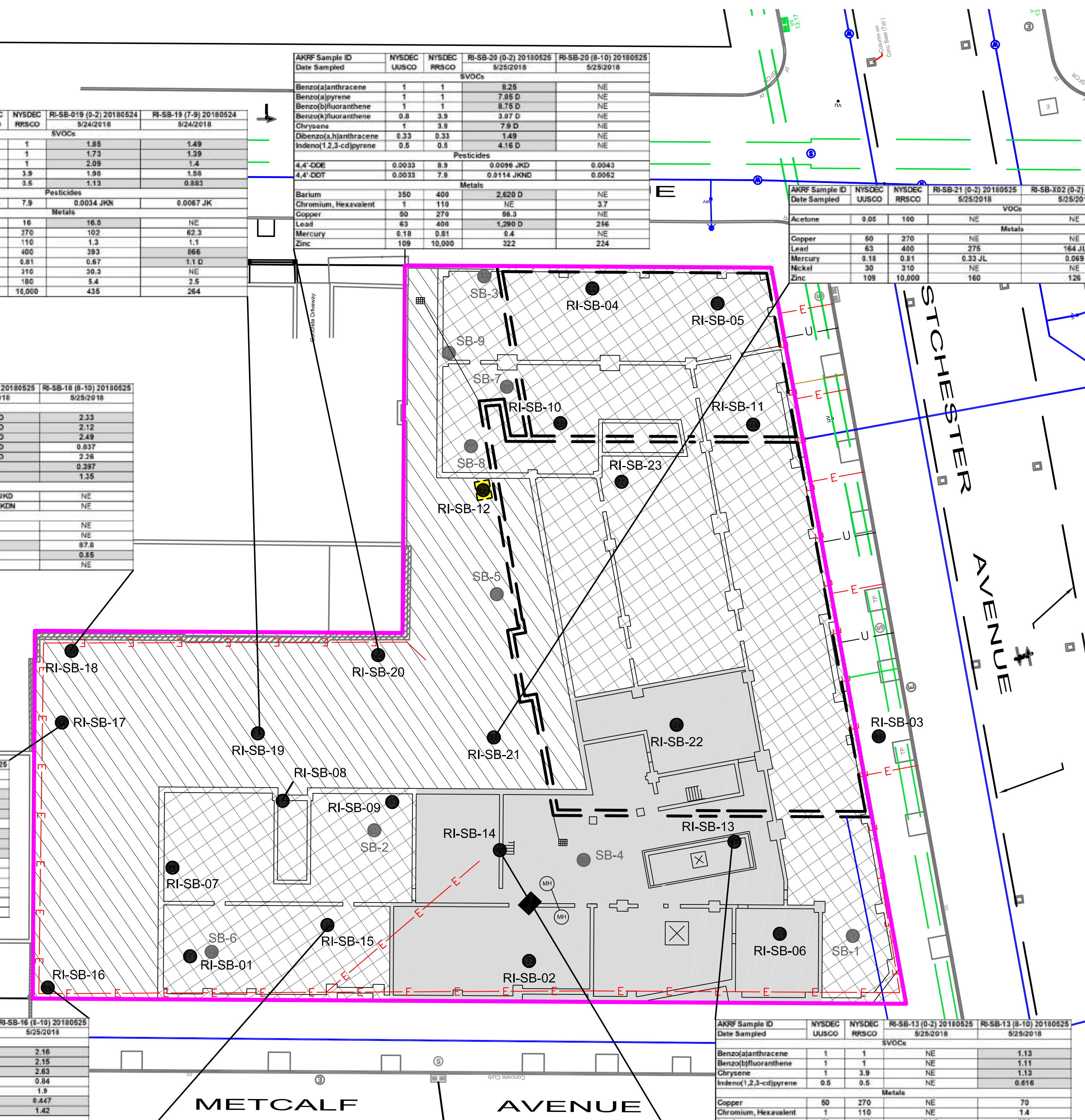


AKRF Sample ID	NYSDEC	NYSDEC	RI-SB-019 (0-2) 20180524	RI-SB-19 (7-9) 20180524
Date Sampled	UUSCO	RRSCO	5/24/2018	5/24/2018
SVOCs				
Benzo(a)anthracene	1	1	1.85	1.49
Benzo(a)pyrene	1	1	1.73	1.39
Benzo(b)fluoranthene	1	1	2.09	1.4
Chrysene	1	3.9	1.98	1.56
Indeno(1,2,3-cd)pyrene	0.5	0.5	1.13	0.883
Pesticides				
4,4'-DDT	0.0033	7.9	0.0034 JKN	0.0067 JK
Metals				
Arsenic	13	16	16.5	NE
Copper	50	270	102	62.3
Chromium, Hexavalent	1	110	1.3	1.1
Lead	63	400	393	866
Mercury	0.18	0.81	0.67	1.1 D
Nickel	30	310	30.3	NE
Silver	2	180	5.4	2.5
Zinc	109	10,000	435	264

AKRF Sample ID	NYSDEC	NYSDEC	RI-SB-20 (0-2) 20180525	RI-SB-20 (8-10) 20180525
Date Sampled	UUSCO	RRSCO	5/25/2018	5/25/2018
SVOCs				
Benzo(a)anthracene	1	1	8.25	NE
Benzo(a)pyrene	1	1	7.05 D	NE
Benzo(b)fluoranthene	1	1	8.75 D	NE
Benzo(k)fluoranthene	0.8	3.9	3.07 D	NE
Chrysene	1	3.9	7.9 D	NE
Dibenzo(a,h)anthracene	0.33	0.33	1.49	NE
Indeno(1,2,3-cd)pyrene	0.5	0.5	4.16 D	NE
Pesticides				
4,4'-DDE	0.0033	8.9	0.0096 JKD	0.0043
4,4'-DDT	0.0033	7.9	0.0114 JKND	0.0052
Metals				
Barium	350	400	2,620 D	NE
Chromium, Hexavalent	1	110	NE	3.7
Copper	50	270	56.3	NE
Lead	63	400	1,290 D	256
Mercury	0.18	0.81	0.4	NE
Zinc	109	10,000	322	224

AKRF Sample ID	NYSDEC	NYSDEC	RI-SB-21 (0-2) 20180525	RI-SB-X02 (0-2) 20180525	RI-SB-21 7.5-9.5) 20180525
Date Sampled	UUSCO	RRSCO	5/25/2018	5/25/2018	5/25/2018
VOCs					
Acetone	0.05	100	NE	NE	0.0608
Metals					
Copper	50	270	NE	NE	74.1
Lead	63	400	275	164 JL	367
Mercury	0.18	0.81	0.33 JL	0.069	0.25
Nickel	30	310	NE	NE	92.5
Zinc	109	10,000	160	126	233

AKRF Sample ID	NYSDEC	NYSDEC	RI-SB-18 (0-2) 20180525	RI-SB-18 (8-10) 20180525
Date Sampled	UUSCO	RRSCO	5/25/2018	5/25/2018
SVOCs				
Benzo(a)anthracene	1	1	31.3 D	2.33
Benzo(a)pyrene	1	1	25.8 D	2.12
Benzo(b)fluoranthene	1	1	31.1 D	2.49
Benzo(k)fluoranthene	0.8	3.9	13.3 D	0.837
Chrysene	1	3.9	29.8 D	2.26
Dibenzo(a,h)anthracene	0.33	0.33	6.42	0.397
Indeno(1,2,3-cd)pyrene	0.5	0.5	17	1.35
Pesticides				
4,4'-DDE	0.0033	8.9	0.0086 JKD	NE
4,4'-DDT	0.0033	7.9	0.0118 JKDN	NE
Metals				
Copper	50	270	105	NE
Chromium, Hexavalent	1	110	1.5	NE
Lead	63	400	520	87.8
Mercury	0.18	0.81	0.81	0.85
Zinc	109	10,000	385	NE

AKRF Sample ID	NYSDEC	NYSDEC	RI-SB-17 (0-2) 20180525	RI-SB-17 (8-10) 20180525
Date Sampled	UUSCO	RRSCO	5/25/2018	5/25/2018
SVOCs				
Benzo(a)anthracene	1	1	13.3 D	4.58 D
Benzo(a)pyrene	1	1	11.7 D	3.78
Benzo(b)fluoranthene	1	1	12 D	4.69 D
Benzo(k)fluoranthene	0.8	3.9	3.87 D	1.46 D
Chrysene	1	3.9	12.6 D	4.15 D
Dibenzo(a,h)anthracene	0.33	0.33	2.97	0.788
Indeno(1,2,3-cd)pyrene	0.5	0.5	6.29	2.24
Pesticides				
4,4'-DDT	0.0033	7.9	NE	0.0055 JKN
Metals				
Lead	63	400	326	177
Mercury	0.18	0.81	0.59	0.43
Zinc	109	10,000	210	149

AKRF Sample ID	NYSDEC	NYSDEC	RI-SB-16 (0-2) 20180525	RI-SB-16 (8-10) 20180525
Date Sampled	UUSCO	RRSCO	5/25/2018	5/25/2018
SVOCs				
Benzo(a)anthracene	1	1	NE	2.16
Benzo(a)pyrene	1	1	NE	2.15
Benzo(b)fluoranthene	1	1	NE	2.63
Benzo(k)fluoranthene	0.8	3.9	NE	0.84
Chrysene	1	3.9	NE	1.9
Dibenzo(a,h)anthracene	0.33	0.33	NE	0.447
Indeno(1,2,3-cd)pyrene	0.5	0.5	NE	1.42
Pesticides				
4,4'-DDD	0.0033	13	NE	0.133 JD
4,4'-DDE	0.0033	8.9	NE	0.153 JD
4,4'-DDT	0.0033	7.9	NE	0.571 JD
Metals				
Arsenic	13	16	22.4 D	6.2
Barium	350	400	270	4,990 D
Copper	50	270	197 D	28.4
Chromium, Hexavalent	1	110	1.6	2.5
Lead	63	400	630 D	622
Mercury	0.18	0.81	2.2 D	1.6 D
Zinc	109	10,000	439	2,430 D

AKRF Sample ID	NYSDEC	NYSDEC	RI-SB-15 (0-2) 20180524	RI-SB-15 (8-10) 20180524
Date Sampled	UUSCO	RRSCO	5/24/2018	5/24/2018
SVOCs				
Benzo(a)anthracene	1	1	3.49	1.69
Benzo(a)pyrene	1	1	3.56	1.62
Benzo(b)fluoranthene	1	1	4.34 D	1.84
Benzo(k)fluoranthene	0.8	3.9	1.59	NE
Chrysene	1	3.9	3.9 D	1.79
Dibenzo(a,h)anthracene	0.33	0.33	0.751	NE
Indeno(1,2,3-cd)pyrene	0.5	0.5	2.29	1.11
Pesticides				
4,4'-DDT	0.0033	7.9	0.0118	0.0043 JKN
Metals				
Barium	350	400	NE	2,050 D
Lead	63	400	302	1,760 D
Mercury	0.18	0.81	0.59	1.2 D
Silver	2	180	3.1	2.4
Zinc	109	10,000	181	1,320 D

AKRF Sample ID	NYSDEC	NYSDEC	RI-SB-13 (0-2) 20180525	RI-SB-13 (8-10) 20180525
Date Sampled	UUSCO	RRSCO	5/25/2018	5/25/2018
SVOCs				
Benzo(a)anthracene	1	1	NE	1.13
Benzo(b)fluoranthene	1	1	NE	1.11
Chrysene	1	3.9	NE	1.13
Indeno(1,2,3-cd)pyrene	0.5	0.5	NE	0.616
Metals				
Copper	50	270	NE	70
Chromium, Hexavalent	1	110	NE	1.4
Lead	63	400	84.8	296
Mercury	0.18	0.81	0.31	NE
Nickel	30	310	NE	551
Zinc	109	10000	NE	184

AKRF Sample ID	NYSDEC	NYSDEC	RI-SB-14 (0-2) 20180525	RI-SB-14 (7-9) 20180525
Date Sampled	UUSCO	RRSCO	5/25/2018	5/25/2018
SVOCs				
Benzo(a)anthracene	1	1	7.22 D	NE
Benzo(a)pyrene	1	1	6.04 D	NE
Benzo(b)fluoranthene	1	1	7.37 D	NE
Benzo(k)fluoranthene	0.8	3.9	2.53 D	NE
Chrysene	1	3.9	6.78 D	NE
Dibenzo(a,h)anthracene	0.33	0.33	1.37	NE
Indeno(1,2,3-cd)pyrene	0.5	0.5	3.49 D	0.517
Pesticides				
4,4'-DDE	0.0033	8.9	0.0052 JKD	0.0035 JK
4,4'-DDT	0.0033	7.9	NE	0.0064 JKN
Metals				
Copper	50	270	54.9	NE
Lead	63	400	304	453
Mercury	0.18	0.81	0.95 D	0.6
Nickel	30	310	33.5	NE
Zinc	109	10,000	199	224

LEGEND

- BCP SITE BOUNDARY
- SUBSURFACE INVESTIGATION SOIL BORING LOCATION (AKRF, 2017)
- REMEDIAL INVESTIGATION SOIL BORING LOCATION (AKRF, 2018)
- FORMER BUILDING FOOTPRINT
- PROPOSED NEW BUILDING CELLAR
- PROPOSED NEW BUILDING CRAWL SPACE
- PROPOSED COURTYARD
- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION - REMOVED NOVEMBER 2014
- SEWER LINE (SURVEY)
- WATER LINE (SURVEY/GEOPHYSICAL)
- E — E ELECTRIC LINE (SURVEY/GEOPHYSICAL)
- U — U UNKNOWN UTILITY (GEOPHYSICAL)
- G NATURAL GAS (GEOPHYSICAL)
- DRAIN AND SUBTERRANEAN LEADER (GEOPHYSICAL)
- MH MANHOLE (GEOPHYSICAL)
- ANOMALY INDICATIVE OF SUBSURFACE DISTURBANCE (GEOPHYSICAL)

Part 375 Soil Cleanup Objectives

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

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.

D: The reported concentration is the result of a diluted sample analysis.

NE : The analyte was not detected at a concentration above its UUSCO or RRSCO.

JK: The analyte was detected at a concentration above the laboratory reporting limit; the reported concentration is approximate and may be inaccurate or imprecise and biased high.

JD: The reported concentration is proportional to the dilution factor and may be exaggerated and is approximate and may be inaccurate or imprecise.

JL: The analyte was detected at a concentration above the laboratory reporting limit; the reported concentration is approximate and may be inaccurate or imprecise and biased low.

JKD: The analyte was detected at a concentration above the laboratory reporting limit in a diluted analysis; the reported concentration is proportional to the dilution factor and may be exaggerated.

JKN: The analyte was detected at a concentration above the laboratory reporting limit with presumtive evidence to make a tentative identification; the reported concentration is proportional to the dilution factor and may be exaggerated.

JKND: The analyte was detected at a concentration above the laboratory reporting limit with presumtive evidence to make a tentative identification in a diluted analysis; the reported concentration is proportional to the dilution factor and may be exaggerated.

mg/kg: milligrams per kilogram = parts per million (ppm)

All results are presented in mg/kg.

Sample results for soil samples collected during AKRF's 2018 Remedial Investigation from soil borings RI-SB-13 through RI-SB-21 are shown.
Sample results for soil samples collected during AKRF's 2017 Subsurface Investigation are shown on Figure 4a.
Sample results for soil samples collected during AKRF's 2018 Remedial Investigation from soil borings RI-SB-01 through RI-SB-10 are shown on Figure 4b.

Soil sample RI-SB-X02 0-2) 20180525 is a blind duplicate of sample RI-SB-21 (0-2) 20180525.

0 20 40 80

SCALE IN FEET

Map Sources:
1. Montrose Surveying Co., LLP. "City of New York, County The Bronx, Tax Block 3780, Tax Lots 1 & 51", Revised 8-25-17".

2. Dattner Architects D.P.C., "Foundation Plan", Dated November 14, 2017.

AKRF
440 Park Avenue South, New York, NY 10016

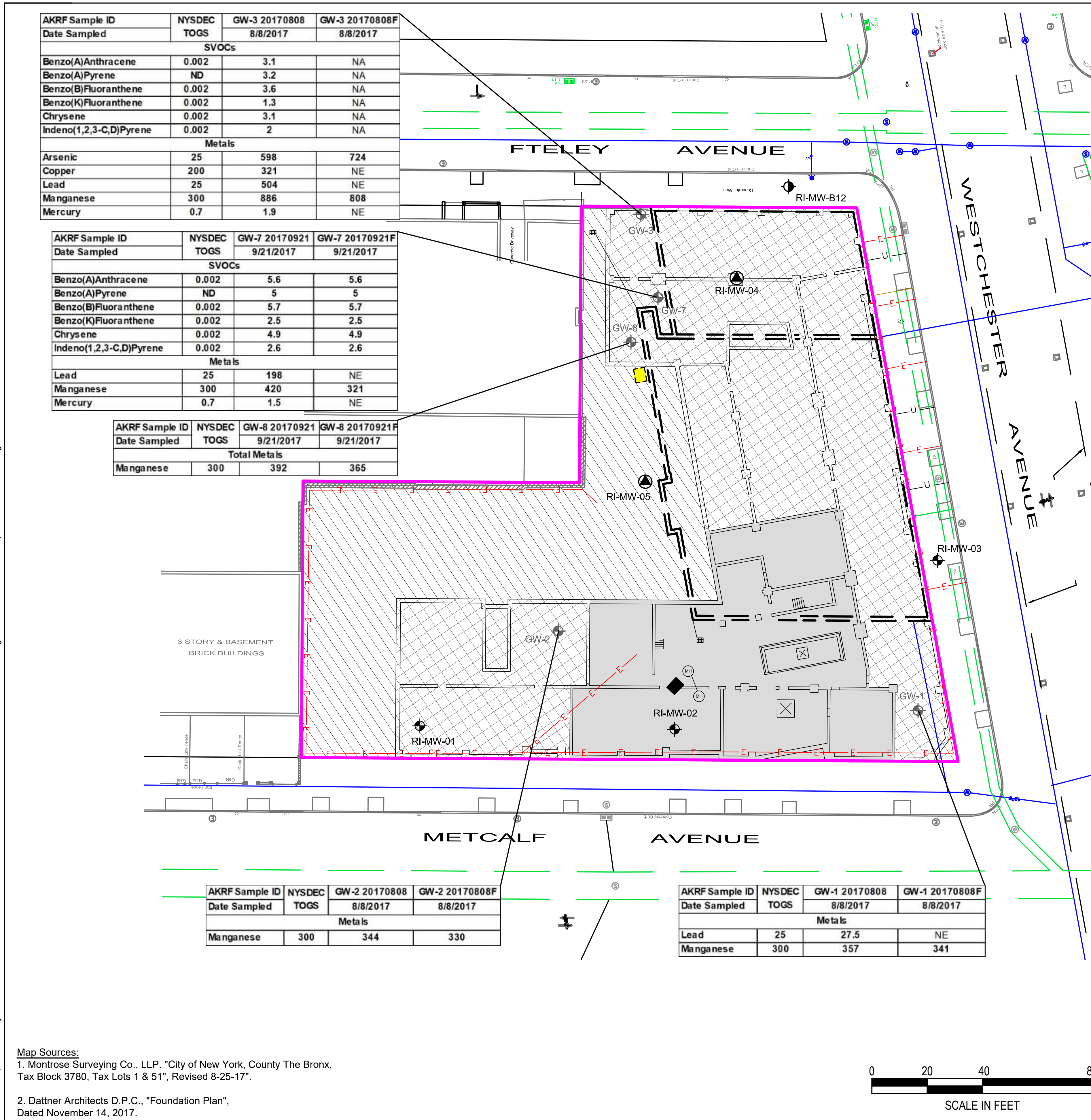
1675 Apartments
1675-1679 Westchester Avenue
Bronx, New York

REMEDIAL INVESTIGATION SUBSURFACE SOIL SAMPLE CONCENTRATIONS ABOVE UUSCOs AND RRSCOs - SOIL BORINGS RI-SB-13 THROUGH RI-SB-21

DATE
12/26/2018

PROJECT NO.
170250

FIGURE
4c



AKRF Sample ID	NYSDEC	GW-3 20170808	GW-3 20170808F
Date Sampled	TOGS	8/8/2017	8/8/2017
SVOCs			
Benzo(A)Anthracene	0.002	3.1	NA
Benzo(A)Pyrene	ND	3.2	NA
Benzo(B)Fluoranthene	0.002	3.6	NA
Benzo(K)Fluoranthene	0.002	1.3	NA
Chrysene	0.002	3.1	NA
Indeno(1,2,3-C,D)Pyrene	0.002	2	NA
Metals			
Arsenic	25	598	724
Copper	200	321	NE
Lead	25	504	NE
Manganese	300	886	808
Mercury	0.7	1.9	NE

AKRF Sample ID	NYSDEC	GW-7 20170921	GW-7 20170921F
Date Sampled	TOGS	9/21/2017	9/21/2017
SVOCs			
Benzo(A)Anthracene	0.002	5.6	5.6
Benzo(A)Pyrene	ND	5	5
Benzo(B)Fluoranthene	0.002	5.7	5.7
Benzo(K)Fluoranthene	0.002	2.5	2.5
Chrysene	0.002	4.9	4.9
Indeno(1,2,3-C,D)Pyrene	0.002	2.6	2.6
Metals			
Lead	25	198	NE
Manganese	300	420	321
Mercury	0.7	1.5	NE

AKRF Sample ID	NYSDEC	GW-8 20170921	GW-8 20170921F
Date Sampled	TOGS	9/21/2017	9/21/2017
Total Metals			
Manganese	300	392	365

AKRF Sample ID	NYSDEC	GW-2 20170808	GW-2 20170808F
Date Sampled	TOGS	8/8/2017	8/8/2017
Metals			
Manganese	300	344	330

AKRF Sample ID	NYSDEC	GW-1 20170808	GW-1 20170808F
Date Sampled	TOGS	8/8/2017	8/8/2017
Metals			
Lead	25	27.5	NE
Manganese	300	357	341

LEGEND

- BCP SITE BOUNDARY
- REMEDIAL INVESTIGATION MONITORING WELL LOCATION (AKRF, 2018)
- GEOTECHNICAL GROUNDWATER MONITORING WELL LOCATION (HALEY AND ALDRICH, 2017)
- SUBSURFACE INVESTIGATION TEMPORARY GROUNDWATER MONITORING WELL LOCATION (AKRF, 2017)
- FORMER BUILDING FOOTPRINT
- PROPOSED NEW BUILDING CELLAR
- PROPOSED NEW BUILDING CRAWL SPACE
- PROPOSED COURTYARD
- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION - REMOVED NOVEMBER 2014
- SEWER LINE (SURVEY)
- WATER LINE (SURVEY/GEOPHYSICAL)
- E — E ELECTRIC LINE (SURVEY/GEOPHYSICAL)
- U — U UNKNOWN UTILITY (GEOPHYSICAL)
- G NATURAL GAS (GEOPHYSICAL)
- DRAIN AND SUBTERRANEAN LEADER (GEOPHYSICAL)
- MH MANHOLE (GEOPHYSICAL)
- ANOMALY INDICATIVE OF SUBSURFACE DISTURBANCE (GEOPHYSICAL)

NYSDEC Technical & Operational Guidance Series (TOGS): New York State Department of Environmental Conservation(NYSDEC) Technical and Operational Guidance Series (TOGS) (1.1.1): Class GA Ambient Water Quality Standards (AWQS) and Guidance Values.

ND: The standard is a non-detectable concentration by the approved analytical method.

NE : The reported value does not exceed the respective TOGS.

NA: The compound was not analyzed for the compound indicated.

µg/L: micrograms per Liter = parts per billion (ppb)

All results presented in µg/L.

Sample results for groundwater samples collected during AKRF's 2017 Subsurface Investigation are shown.

Sample results for groundwater samples collected during AKRF's 2018 Remedial Investigation are shown on Figure 5b.

Only exceedances of TOGS are shown.

Map Sources:
1. Montrose Surveying Co., LLP. "City of New York, County The Bronx, Tax Block 3780, Tax Lots 1 & 51", Revised 8-25-17".

2. Dattner Architects D.P.C., "Foundation Plan", Dated November 14, 2017.

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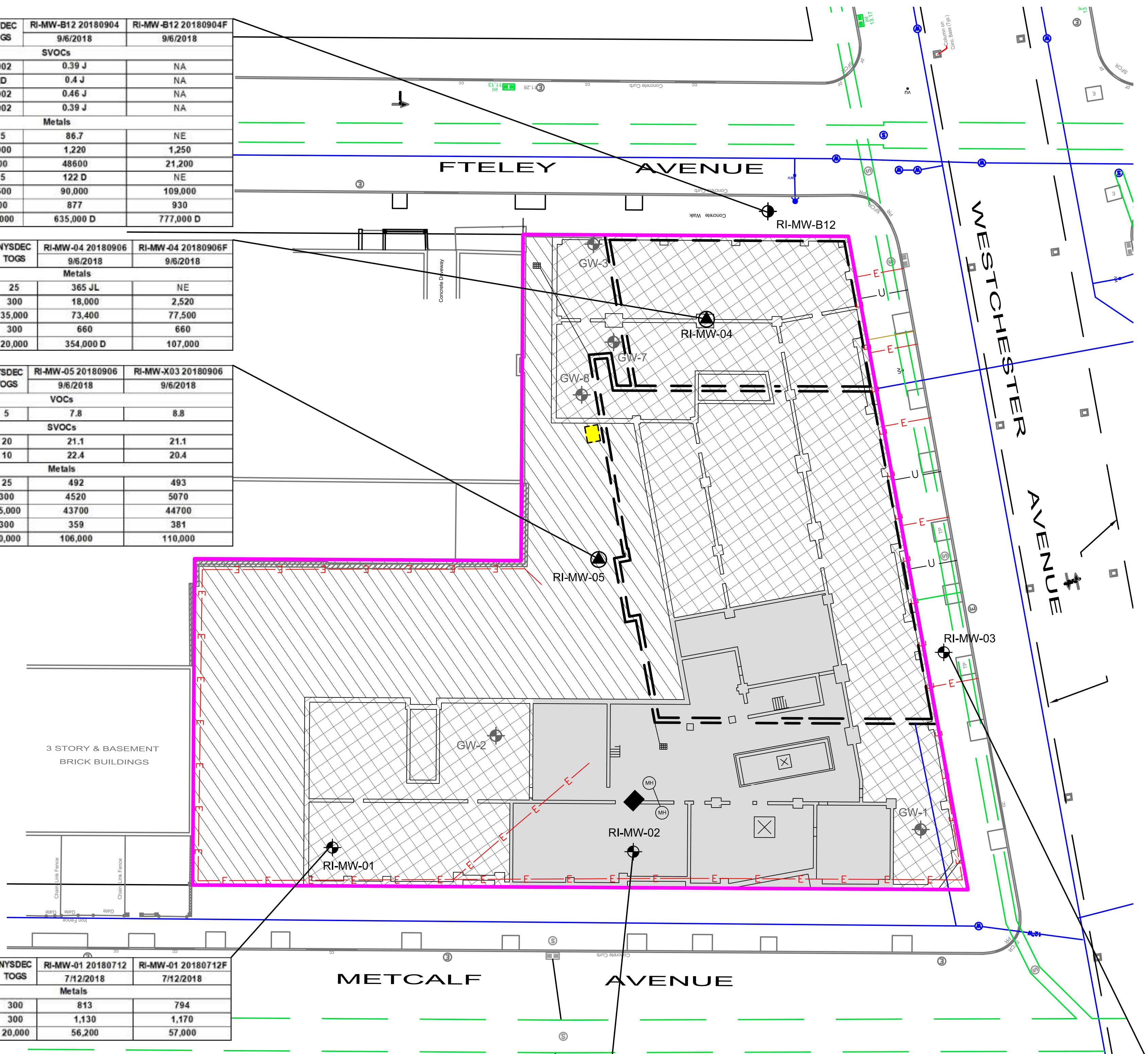
SUBSURFACE INVESTIGATION GROUNDWATER SAMPLE CONCENTRATIONS ABOVE NYSDEC TOGS

DATE 11/29/2018
PROJECT NO. 170250
FIGURE 5a



AKRF Sample ID	NYSDEC TOGS	RI-MW-B12 20180904	RI-MW-B12 20180904F
Date Sampled		9/6/2018	9/6/2018
SVOCs			
Benzo(a)Anthracene	0.002	0.39 J	NA
Benzo(a)Pyrene	ND	0.4 J	NA
Benzo(b)Fluoranthene	0.002	0.46 J	NA
Chrysene	0.002	0.39 J	NA
Metals			
Arsenic	25	86.7	NE
Barium	1,000	1,220	1,250
Iron	300	48600	21,200
Lead	25	122 D	NE
Magnesium	3,500	90,000	109,000
Manganese	300	877	930
Sodium	20,000	635,000 D	777,000 D

AKRF Sample ID	NYSDEC TOGS	RI-MW-04 20180906	RI-MW-04 20180906F
Date Sampled		9/6/2018	9/6/2018
Metals			
Arsenic	25	365 JL	NE
Iron	300	18,000	2,520
Magnesium	35,000	73,400	77,500
Manganese	300	660	660
Sodium	20,000	354,000 D	107,000

AKRF Sample ID	NYSDEC TOGS	RI-MW-05 20180906	RI-MW-X03 20180906
Date Sampled		9/6/2018	9/6/2018
VOCs			
Isopropylbenzene	5	7.8	8.8
SVOCs			
Acenaphthylene	20	21.1	21.1
Naphthalene	10	22.4	20.4
Metals			
Arsenic	25	492	493
Iron	300	4520	5070
Magnesium	35,000	43700	44700
Manganese	300	359	381
Sodium	20,000	106,000	110,000

AKRF Sample ID	NYSDEC TOGS	RI-MW-01 20180712	RI-MW-01 20180712F
Date Sampled		7/12/2018	7/12/2018
Metals			
Iron	300	813	794
Manganese	300	1,130	1,170
Sodium	20,000	56,200	57,000

AKRF Sample ID	NYSDEC TOGS	RI-MW-02 20180712	RI-MW-02 20180712F	RI-MW-X02 20180712	RI-MW-X02 20180712F
Date Sampled		7/12/2018	7/12/2018	7/12/2018	7/12/2018
VOCs					
Benzene	1	4	NA	5.2	NA
Metals					
Iron	300	3,400	2,520	3,450	2,520
Magnesium	35,000	79,000	77,500	79,300	74,800
Manganese	300	1010	962	1020	935
Mercury	0.7	NE	NE	3.9	NE
Sodium	20,000	43,600	43,000	43,400	41,300

AKRF Sample ID	NYSDEC TOGS	RI-MW-03 20181015	RI-MW-03 20181015F	RI-MW-X04 20181015	RI-MW-X04 20181015F
Date Sampled		10/15/2018	10/15/2018	10/15/2018	10/15/2018
Metals					
Iron	300	702	643	693	630
Magnesium	35,000	49,300	48,700	48,000	47,200
Manganese	300	752	723	779	721
Sodium	20,000	72,600	71,700	70,800	69,700

LEGEND

- BCP SITE BOUNDARY
- REMEDIAL INVESTIGATION MONITORING WELL LOCATION (AKRF, 2018)
- GEOTECHNICAL GROUNDWATER MONITORING WELL LOCATION (HALEY AND ALDRICH, 2017)
- SUBSURFACE INVESTIGATION TEMPORARY GROUNDWATER MONITORING WELL LOCATION (AKRF, 2017)
- FORMER BUILDING FOOTPRINT
- PROPOSED NEW BUILDING CELLAR
- PROPOSED NEW BUILDING CRAWL SPACE
- PROPOSED COURTYARD
- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION - REMOVED NOVEMBER 2014
- SEWER LINE (SURVEY)
- WATER LINE (SURVEY/GEOPHYSICAL)
- E — E ELECTRIC LINE (SURVEY/GEOPHYSICAL)
- U — U UNKNOWN UTILITY (GEOPHYSICAL)
- G NATURAL GAS (GEOPHYSICAL)
- DRAIN AND SUBTERRANEAN LEADER (GEOPHYSICAL)
- MH MANHOLE (GEOPHYSICAL)
- ANOMALY INDICATIVE OF SUBSURFACE DISTURBANCE (GEOPHYSICAL)

NYSDEC Technical & Operational Guidance Series (TOGS): New York State Department of Environmental Conservation(NYSDEC) Technical and Operational Guidance Series (TOGS) (1.1.1): Class GA Ambient Water Quality Standards (AWQS) and Guidance Values.

D: The reported concentration is the result of a diluted sample analysis.

NE : The compound was not detected at a concentration above its TOGS standard.

NA: The compound was not analyzed for the compound indicated.

JL: The reported concentration is an estimated value and is biased low

μg/L: micrograms per Liter = parts per billion (ppb)

All results presented in μg/L.

Sample results for groundwater samples collected during AKRF's 2018 Remedial Investigation are shown.

Sample results for groundwater samples collected during AKRF's 2017 Subsurface Investigation are shown on Figure 5a.

Groundwater sample RI-MW-X02 20180712 is a blind duplicate of sample RI-MW-02 20180712.

Groundwater sample RI-MW-X03 20180906 is a blind duplicate of sample RI-MW-05 20180906.

Samples noted with an "F" are filtered (dissolved) metals analyses.

Map Sources:
1. Montrose Surveying Co., LLP. "City of New York, County The Bronx, Tax Block 3780, Tax Lots 1 & 51", Revised 8-25-17".

2. Dattner Architects D.P.C., "Foundation Plan", Dated November 14, 2017.

0 20 40 80
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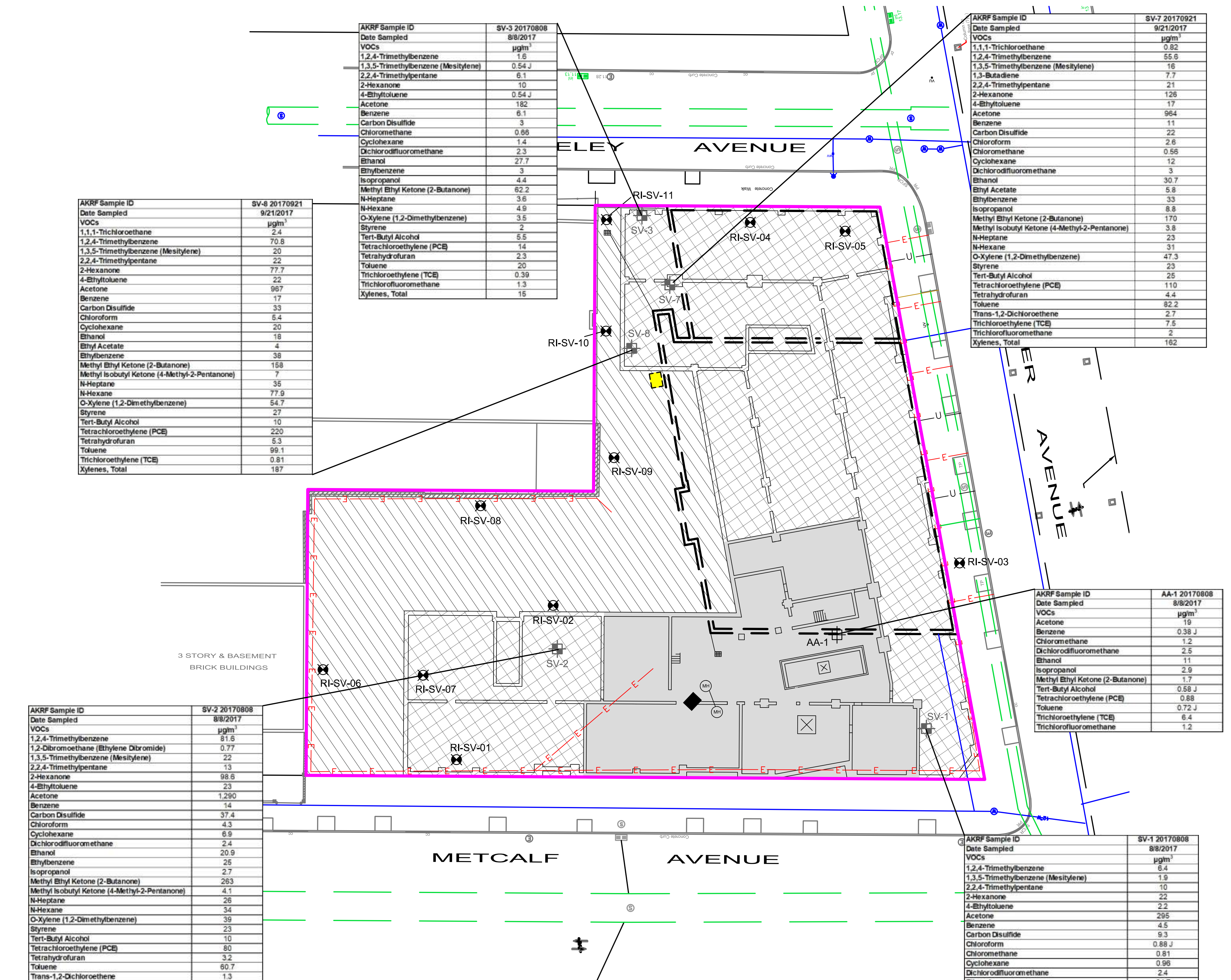
REMEDIAL INVESTIGATION GROUNDWATER SAMPLE CONCENTRATIONS ABOVE NYSDEC TOGS

DATE
11/29/2018

PROJECT NO.
170250

FIGURE
5b



AKRF Sample ID	SV-3 20170808
Date Sampled	8/8/2017
VOCs	μg/m³
1,2,4-Trimethylbenzene	1.6
1,3,5-Trimethylbenzene (Mesitylene)	0.54 J
2,2,4-Trimethylpentane	6.1
2-Hexanone	10
4-Ethyltoluene	0.54 J
Acetone	182
Benzene	6.1
Carbon Disulfide	3
Chloromethane	0.66
Cyclohexane	1.4
Dichlorodifluoromethane	2.3
Ethanol	27.7
Ethylbenzene	3
Isopropanol	4.4
Methyl Ethyl Ketone (2-Butanone)	62.2
N-Heptane	3.6
N-Hexane	4.9
O-Xylene (1,2-Dimethylbenzene)	3.5
Styrene	2
Tert-Butyl Alcohol	5.5
Tetrachloroethylene (PCE)	14
Tetrahydrofuran	2.3
Toluene	20
Trichloroethylene (TCE)	0.39
Trichlorofluoromethane	1.3
Xylenes, Total	15

AKRF Sample ID	SV-8 20170921
Date Sampled	9/21/2017
VOCs	μg/m³
1,1,1-Trichloroethane	2.4
1,2,4-Trimethylbenzene	70.8
1,3,5-Trimethylbenzene (Mesitylene)	20
2,2,4-Trimethylpentane	22
2-Hexanone	77.7
4-Ethyltoluene	22
Acetone	967
Benzene	17
Carbon Disulfide	33
Chloroform	5.4
Cyclohexane	20
Ethanol	18
Ethyl Acetate	4
Ethylbenzene	38
Methyl Ethyl Ketone (2-Butanone)	158
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	7
N-Heptane	35
N-Hexane	77.9
O-Xylene (1,2-Dimethylbenzene)	54.7
Styrene	27
Tert-Butyl Alcohol	10
Tetrachloroethylene (PCE)	220
Tetrahydrofuran	5.3
Toluene	99.1
Trichloroethylene (TCE)	0.81
Xylenes, Total	187

AKRF Sample ID	SV-7 20170921
Date Sampled	9/21/2017
VOCs	μg/m³
1,1,1-Trichloroethane	0.82
1,2,4-Trimethylbenzene	55.6
1,3,5-Trimethylbenzene (Mesitylene)	16
1,3-Butadiene	7.7
2,2,4-Trimethylpentane	21
2-Hexanone	126
4-Ethyltoluene	17
Acetone	964
Benzene	11
Carbon Disulfide	22
Chloroform	2.6
Chloromethane	0.56
Cyclohexane	12
Dichlorodifluoromethane	3
Ethanol	30.7
Ethyl Acetate	5.8
Ethylbenzene	33
Isopropanol	8.8
Methyl Ethyl Ketone (2-Butanone)	170
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	3.8
N-Heptane	23
N-Hexane	31
O-Xylene (1,2-Dimethylbenzene)	47.3
Styrene	23
Tert-Butyl Alcohol	25
Tetrachloroethylene (PCE)	110
Tetrahydrofuran	4.4
Toluene	82.2
Trans-1,2-Dichloroethene	2.7
Trichloroethylene (TCE)	7.5
Trichlorofluoromethane	2
Xylenes, Total	162

AKRF Sample ID	AA-1 20170808
Date Sampled	8/8/2017
VOCs	μg/m³
Acetone	19
Benzene	0.38 J
Chloromethane	1.2
Dichlorodifluoromethane	2.5
Ethanol	11
Isopropanol	2.9
Methyl Ethyl Ketone (2-Butanone)	1.7
Tert-Butyl Alcohol	0.58 J
Tetrachloroethylene (PCE)	0.88
Toluene	0.72 J
Trichloroethylene (TCE)	6.4
Trichlorofluoromethane	1.2

AKRF Sample ID	SV-2 20170808
Date Sampled	8/8/2017
VOCs	μg/m³
1,2,4-Trimethylbenzene	81.6
1,2-Dibromoethane (Ethylene Dibromide)	0.77
1,3,5-Trimethylbenzene (Mesitylene)	22
2,2,4-Trimethylpentane	13
2-Hexanone	98.6
4-Ethyltoluene	23
Acetone	1,290
Benzene	14
Carbon Disulfide	37.4
Chloroform	4.3
Cyclohexane	6.9
Dichlorodifluoromethane	2.4
Ethanol	20.9
Ethylbenzene	25
Isopropanol	2.7
Methyl Ethyl Ketone (2-Butanone)	263
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	4.1
N-Heptane	26
N-Hexane	34
O-Xylene (1,2-Dimethylbenzene)	39
Styrene	23
Tert-Butyl Alcohol	10
Tetrachloroethylene (PCE)	80
Tetrahydrofuran	3.2
Toluene	60.7
Trans-1,2-Dichloroethene	1.3
Trichloroethylene (TCE)	1.5
Trichlorofluoromethane	1.7
Vinyl Chloride	0.28
Xylenes, Total	135

AKRF Sample ID	SV-1 20170808
Date Sampled	8/8/2017
VOCs	μg/m³
1,2,4-Trimethylbenzene	6.4
1,3,5-Trimethylbenzene (Mesitylene)	1.9
2,2,4-Trimethylpentane	10
2-Hexanone	22
4-Ethyltoluene	2.2
Acetone	295
Benzene	4.5
Carbon Disulfide	9.3
Chloroform	0.88 J
Chloromethane	0.81
Cyclohexane	0.96
Dichlorodifluoromethane	2.4
Ethanol	34.7
Ethylbenzene	7.4
Isopropanol	7.1
Methyl Ethyl Ketone (2-Butanone)	105
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	0.94
N-Heptane	4.5
N-Hexane	5.6
O-Xylene (1,2-Dimethylbenzene)	9.6
Styrene	7.7
Tert-Butyl Alcohol	11
Tetrachloroethylene (PCE)	20
Tetrahydrofuran	6.2
Toluene	30
Trichloroethylene (TCE)	0.97
Trichlorofluoromethane	1.3
Xylenes, Total	38

LEGEND

- BCP SITE BOUNDARY
- REMEDIAL INVESTIGATION TEMPORARY SOIL VAPOR POINT LOCATION (AKRF, 2018)
- SUBSURFACE INVESTIGATION TEMPORARY SOIL VAPOR POINT LOCATION (AKRF, 2017)
- SUBSURFACE INVESTIGATION AMBIENT AIR SAMPLE LOCATION (AKRF, 2017)
- FORMER BUILDING FOOTPRINT
- PROPOSED NEW BUILDING CELLAR
- PROPOSED NEW BUILDING CRAWL SPACE
- PROPOSED COURTYARD
- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION - REMOVED NOVEMBER 2014
- SEWER LINE (SURVEY)
- WATER LINE (SURVEY/GEOPHYSICAL)
- ELECTRIC LINE (SURVEY/GEOPHYSICAL)
- UNKNOWN UTILITY (GEOPHYSICAL)
- NATURAL GAS (GEOPHYSICAL)
- DRAIN AND SUBTERRANEAN LEADER (GEOPHYSICAL)
- MANHOLE (GEOPHYSICAL)
- ANOMALY INDICATIVE OF SUBSURFACE DISTURBANCE (GEOPHYSICAL)

J: The reported concentration is an estimated value and may be inaccurate or imprecise.

μg/m³: micrograms per cubic meter

Sample results for soil vapor samples collected during AKRF's 2017 Subsurface Investigation are shown.

Sample results for soil vapor samples collected during AKRF's 2018 Remedial Investigation are shown on Figure 6b.

0 20 40 80
SCALE IN FEET

Map Sources:
1. Montrose Surveying Co., LLP. "City of New York, County The Bronx, Tax Block 3780, Tax Lots 1 & 51", Revised 8-25-17".

2. Dattner Architects D.P.C., "Foundation Plan", Dated November 14, 2017.

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SUBSURFACE INVESTIGATION SOIL VAPOR SAMPLE CONCENTRATIONS

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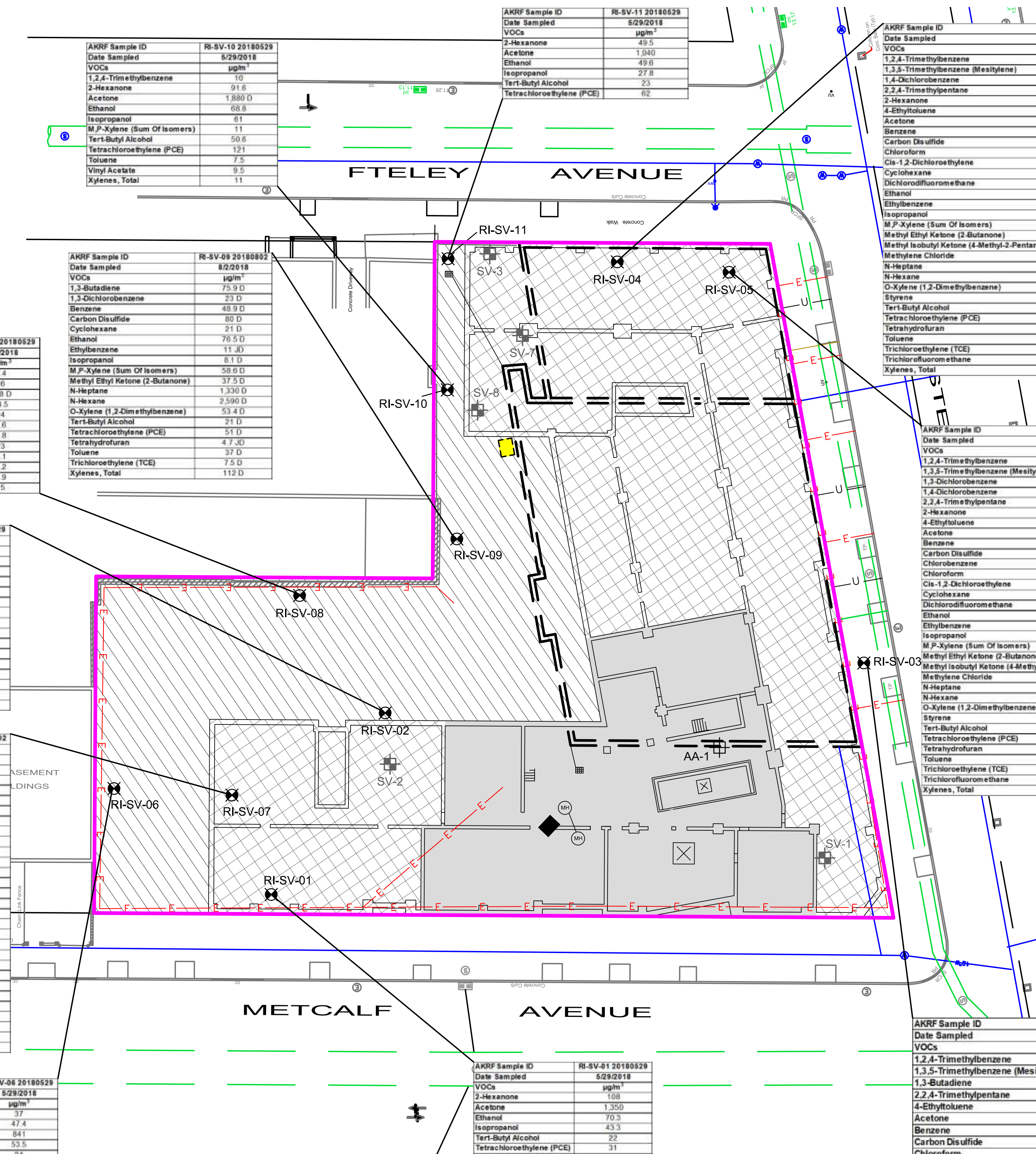
Bronx, New York

DATE
11/29/2018

PROJECT NO.
170250

FIGURE
6a



AKRF Sample ID	RI-SV-10 20180529
Date Sampled	5/29/2018
VOCs	µg/m^3
1,2,4-Trimethylbenzene	10
2-Hexanone	91.6
Acetone	1,880 D
Ethanol	68.8
Isopropanol	61
M,P-Xylene (Sum Of Isomers)	11
Tert-Butyl Alcohol	50.6
Tetrachloroethylene (PCE)	121
Toluene	7.5
Vinyl Acetate	9.5
Xylenes, Total	11

AKRF Sample ID	RI-SV-11 20180529
Date Sampled	5/29/2018
VOCs	µg/m^3
2-Hexanone	49.5
Acetone	1,040
Ethanol	49.6
Isopropanol	27.8
Tert-Butyl Alcohol	23
Tetrachloroethylene (PCE)	62

AKRF Sample ID	RI-SV-04 20180821
Date Sampled	8/21/2018
VOCs	µg/m^3
1,2,4-Trimethylbenzene	11
1,3,5-Trimethylbenzene (Mesitylene)	3.3
1,4-Dichlorobenzene	1.7
2,2,4-Trimethylpentane	19
2-Hexanone	9
4-Ethyltoluene	3
Acetone	96.7
Benzene	5.8
Carbon Disulfide	4.7
Chloroform	21
Cis-1,2-Dichloroethylene	4.4
Cyclohexane	2.2
Dichlorodifluoromethane	2.6
Ethanol	51.8
Ethylbenzene	7.4
Isopropanol	6.1
M,P-Xylene (Sum Of Isomers)	31
Methyl Ethyl Ketone (2-Butanone)	37.5
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	4
Methylene Chloride	10
N-Heptane	7
N-Hexane	17
O-Xylene (1,2-Dimethylbenzene)	11
Styrene	1.8
Tert-Butyl Alcohol	18
Tetrachloroethylene (PCE)	424
Tetrahydrofuran	2.9
Toluene	29
Trichloroethylene (TCE)	61.3
Trichlorofluoromethane	3.1
Xylenes, Total	43

AKRF Sample ID	RI-SV-09 20180802
Date Sampled	8/2/2018
VOCs	µg/m^3
1,3-Butadiene	75.9 D
1,3-Dichlorobenzene	23 D
Benzene	48.9 D
Carbon Disulfide	80 D
Cyclohexane	21 D
Ethanol	76.5 D
Ethylbenzene	11 JD
Isopropanol	8.1 D
M,P-Xylene (Sum Of Isomers)	58.6 D
Methyl Ethyl Ketone (2-Butanone)	37.5 D
N-Heptane	1,330 D
N-Hexane	2,590 D
O-Xylene (1,2-Dimethylbenzene)	53.4 D
Tert-Butyl Alcohol	21 D
Tetrachloroethylene (PCE)	51 D
Tetrahydrofuran	4.7 JD
Toluene	37 D
Trichloroethylene (TCE)	7.5 D
Xylenes, Total	112 D

AKRF Sample ID	RI-SV-08 20180529
Date Sampled	5/29/2018
VOCs	µg/m^3
1,2,4-Trimethylbenzene	5.4
2-Hexanone	36
Acetone	758 D
Ethanol	44.5
Isopropanol	24
M,P-Xylene (Sum Of Isomers)	9.6
O-Xylene (1,2-Dimethylbenzene)	4.8
Tert-Butyl Alcohol	23
Tetrachloroethylene (PCE)	4.1
Toluene	7.2
Vinyl Acetate	3.9
Xylenes, Total	15

AKRF Sample ID	RI-SV-05 20180821
Date Sampled	8/21/2018
VOCs	µg/m^3
1,2,4-Trimethylbenzene	24
1,3,5-Trimethylbenzene (Mesitylene)	7.9
1,3-Dichlorobenzene	2.3
1,4-Dichlorobenzene	4.1
2,2,4-Trimethylpentane	32
2-Hexanone	15
4-Ethyltoluene	6.9
Acetone	133 D
Benzene	12
Carbon Disulfide	3
Chlorobenzene	5.5
Chloroform	53.7
Cis-1,2-Dichloroethylene	1.4
Cyclohexane	3.4
Dichlorodifluoromethane	2.7
Ethanol	55.6
Ethylbenzene	39
Isopropanol	7.1 J
M,P-Xylene (Sum Of Isomers)	188
Methyl Ethyl Ketone (2-Butanone)	67.5
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	4.5
Methylene Chloride	2.3
N-Heptane	23
N-Hexane	47.2
O-Xylene (1,2-Dimethylbenzene)	110
Styrene	10
Tert-Butyl Alcohol	17
Tetrachloroethylene (PCE)	269
Tetrahydrofuran	5.9
Toluene	54.6
Trichloroethylene (TCE)	30
Trichlorofluoromethane	2.5
Xylenes, Total	297

AKRF Sample ID	RI-SV-02 20180529
Date Sampled	5/29/2018
VOCs	µg/m^3
1,2,4-Trimethylbenzene	6.4
1,2-Dibromoethane (Ethylene Dibromide)	18
2-Hexanone	43.8
Acetone	1,110 D
Carbon Disulfide	8.7
Ethanol	50.1
Ethyl Acetate	5
Isopropanol	25.3
M,P-Xylene (Sum Of Isomers)	12
O-Xylene (1,2-Dimethylbenzene)	5.6
Tert-Butyl Alcohol	24
Tetrachloroethylene (PCE)	12
Toluene	6.8
Vinyl Acetate	4.6
Xylenes, Total	17

AKRF Sample ID	RI-SV-07 20180802
Date Sampled	8/2/2018
VOCs	µg/m^3
1,2,4-Trimethylbenzene	7.9 D
1,3,5-Trimethylbenzene (Mesitylene)	3.5 JD
1,3-Dichlorobenzene	12 D
2,2,4-Trimethylpentane	4.3 D
2-Hexanone	14 D
Acetone	143 D
Benzene	8.9 D
Carbon Disulfide	8.1 D
Chlorobenzene	2.9 JD
Chloroform	2.9 JD
Chloromethane	1.3 JD
Cyclohexane	4.1 D
Ethanol	203 D
Ethyl Acetate	9 D
Ethylbenzene	16 D
Isopropanol	8.4 D
M,P-Xylene (Sum Of Isomers)	115 D
Methyl Ethyl Ketone (2-Butanone)	27 D
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	8.2 D
N-Heptane	14 D
N-Hexane	17 D
O-Xylene (1,2-Dimethylbenzene)	120 D
Styrene	7.2 D
Tert-Butyl Alcohol	49.4 D
Tetrachloroethylene (PCE)	84.1 D
Tetrahydrofuran	8 D
Toluene	22 D
Xylenes, Total	235 D

AKRF Sample ID	RI-SV-06 20180529
Date Sampled	5/29/2018
VOCs	µg/m^3
1,2-Dibromoethane (Ethylene Dibromide)	37
2-Hexanone	47.4
Acetone	841
Ethanol	53.5
Isopropanol	24
M,P-Xylene (Sum Of Isomers)	9.6
Methylene Chloride	11
Tert-Butyl Alcohol	27
Tetrachloroethylene (PCE)	16
Xylenes, Total	9.6

AKRF Sample ID	RI-SV-01 20180529
Date Sampled	5/29/2018
VOCs	µg/m^3
2-Hexanone	108
Acetone	1,350
Ethanol	70.3
Isopropanol	43.3
Tert-Butyl Alcohol	22
Tetrachloroethylene (PCE)	31

AKRF Sample ID	RI-SV-03 20181009
Date Sampled	10/9/2018
VOCs	µg/m^3
1,2,4-Trimethylbenzene	76.2
1,3,5-Trimethylbenzene (Mesitylene)	22
1,3-Butadiene	12
2,2,4-Trimethylpentane	23
4-Ethyltoluene	28
Acetone	59.4
Benzene	95.8
Carbon Disulfide	17
Chloroform	7.8
Cyclohexane	29
Ethanol	45.6
Ethylbenzene	83.8
Isopropanol	8.1
M,P-Xylene (Sum Of Isomers)	298
Methyl Ethyl Ketone (2-Butanone)	58.7
N-Heptane	141
N-Hexane	180
O-Xylene (1,2-Dimethylbenzene)	99.9
Tetrachloroethylene (PCE)	1,020
Toluene	355
Trichloroethylene (TCE)	7
Xylenes, Total	398

LEGEND

- BCP SITE BOUNDARY
- REMEDIAL INVESTIGATION TEMPORARY SOIL VAPOR POINT LOCATION (AKRF, 2018)
- SUBSURFACE INVESTIGATION TEMPORARY SOIL VAPOR POINT LOCATION (AKRF, 2017)
- SUBSURFACE INVESTIGATION AMBIENT AIR SAMPLE LOCATION (AKRF, 2017)
- FORMER BUILDING FOOTPRINT
- PROPOSED NEW BUILDING CELLAR
- PROPOSED NEW BUILDING CRAWL SPACE
- PROPOSED COURTYARD
- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION - REMOVED NOVEMBER 2014
- SEWER LINE (SURVEY)
- WATER LINE (SURVEY/GEOPHYSICAL)
- ELECTRIC LINE (SURVEY/GEOPHYSICAL)
- UNKNOWN UTILITY (GEOPHYSICAL)
- NATURAL GAS (GEOPHYSICAL)
- DRAIN AND SUBTERRANEAN LEADER (GEOPHYSICAL)
- MANHOLE (GEOPHYSICAL)
- ANOMALY INDICATIVE OF SUBSURFACE DISTURBANCE (GEOPHYSICAL)

D: The reported concentration is the result of a diluted analysis.

JD: The analyte was not detected above laboratory reporting limit. The reported concentration is approximate and may be inaccurate or imprecise.

µg/m^3: micrograms per cubic meter

Sample results for soil vapor samples collected during AKRF's 2018 Remedial Investigation are shown.

Sample results for soil vapor samples collected during AKRF's 2017 Subsurface Investigation are shown on Figure 6a.

Map Sources:

1. Montrose Surveying Co., LLP. "City of New York, County The Bronx, Tax Block 3780, Tax Lots 1 & 51", Revised 8-25-17".
2. Dattner Architects D.P.C., "Foundation Plan", Dated November 14, 2017.

0 20 40 80

SCALE IN FEET

AKRF

440 Park Avenue South, New York, NY 10016

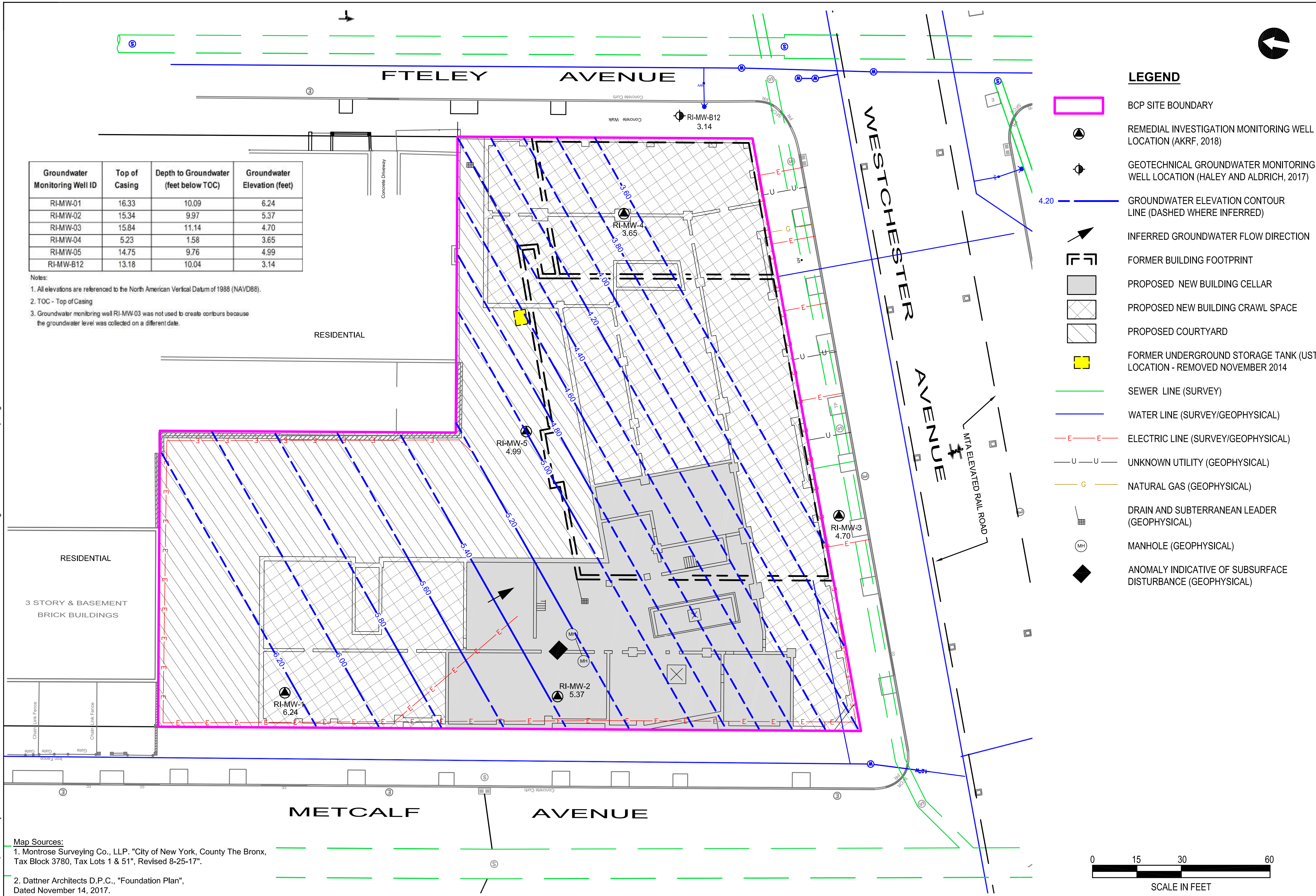
1675 Apartments
1675-1679 Westchester Avenue
Bronx, New York

REMEDIAL INVESTIGATION SOIL VAPOR SAMPLE CONCENTRATIONS

DATE 11/29/2018

PROJECT NO. 170250

FIGURE 6b



Groundwater Monitoring Well ID	Top of Casing	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet)
RI-MW-01	16.33	10.09	6.24
RI-MW-02	15.34	9.97	5.37
RI-MW-03	15.84	11.14	4.70
RI-MW-04	5.23	1.58	3.65
RI-MW-05	14.75	9.76	4.99
RI-MW-B12	13.18	10.04	3.14

Notes:
1. All elevations are referenced to the North American Vertical Datum of 1988 (NAVD88).
2. TOC - Top of Casing
3. Groundwater monitoring well RI-MW-03 was not used to create contours because the groundwater level was collected on a different date.

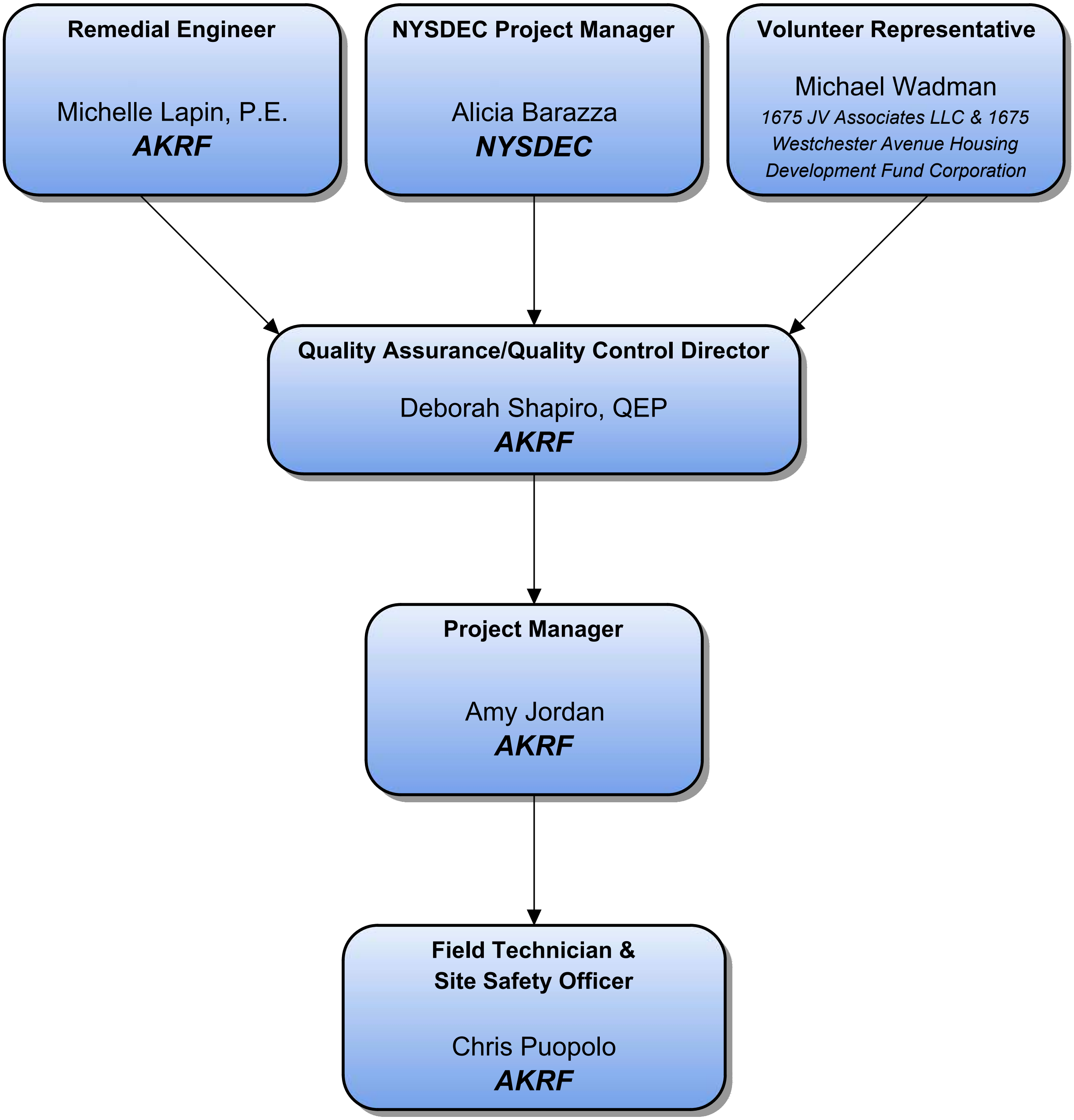
Map Sources:
1. Montrose Surveying Co., LLP. "City of New York, County The Bronx, Tax Block 3780, Tax Lots 1 & 51", Revised 8-25-17".
2. Dattner Architects D.P.C., "Foundation Plan", Dated November 14, 2017.

AKRF
440 Park Avenue South, New York, NY 10016

1675 Apartments
1675-1679 Westchester Avenue
Bronx, New York

GROUNDWATER ELEVATION CONTOUR MAP
SEPTEMBER 4, 2018

DATE
12/26/2018
PROJECT NO.
170250
FIGURE
7

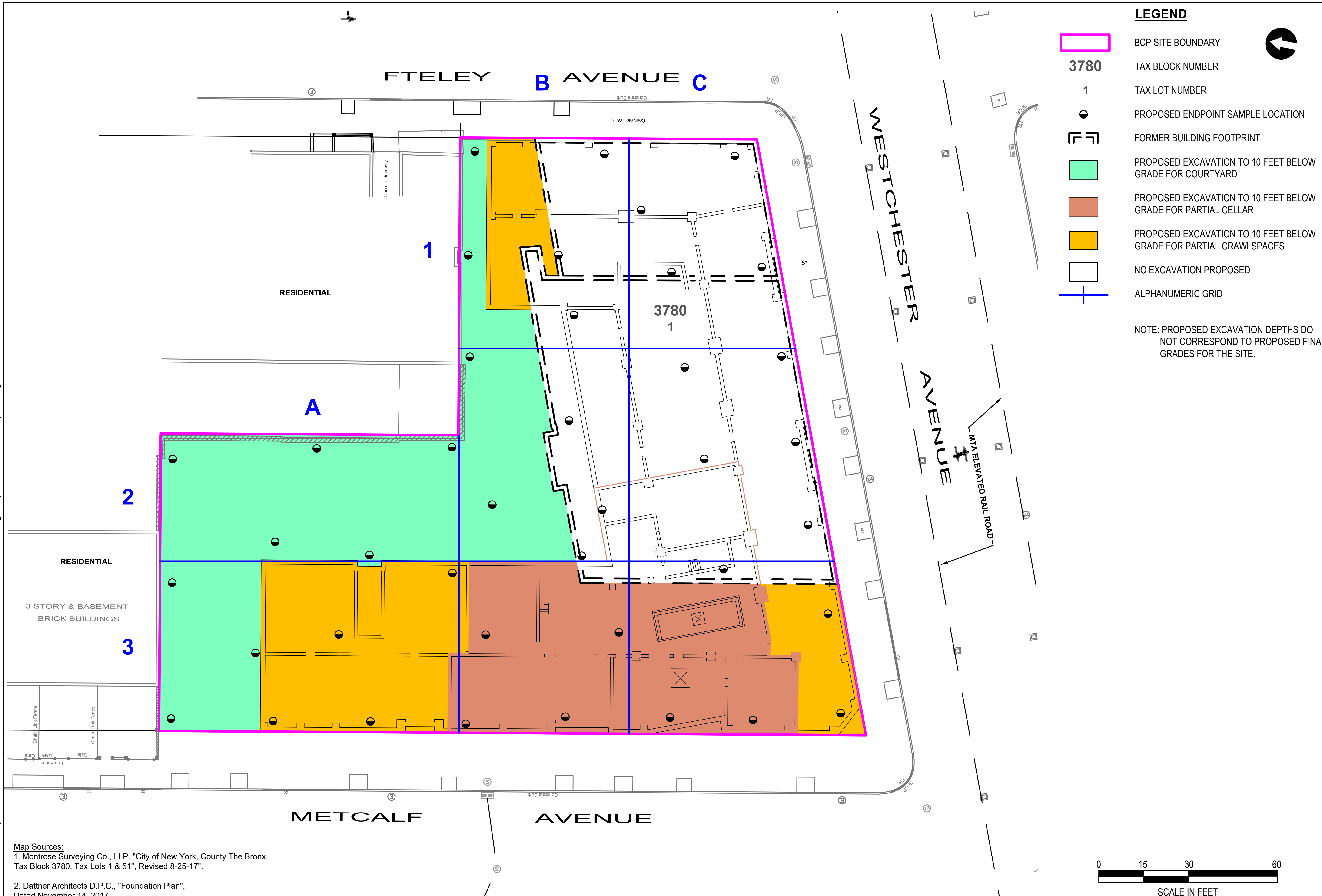


AKRF
440 Park Avenue South, New York, NY 10016

1675 Apartments
1675-1679 Westchester Avenue
Bronx, New York

PROJECT ORGANIZATION CHART

DATE	**11/14/2018**
PROJECT NO.	**170250**
FIGURE	**8**



AKRF
440 Park Avenue South, New York, NY 10016

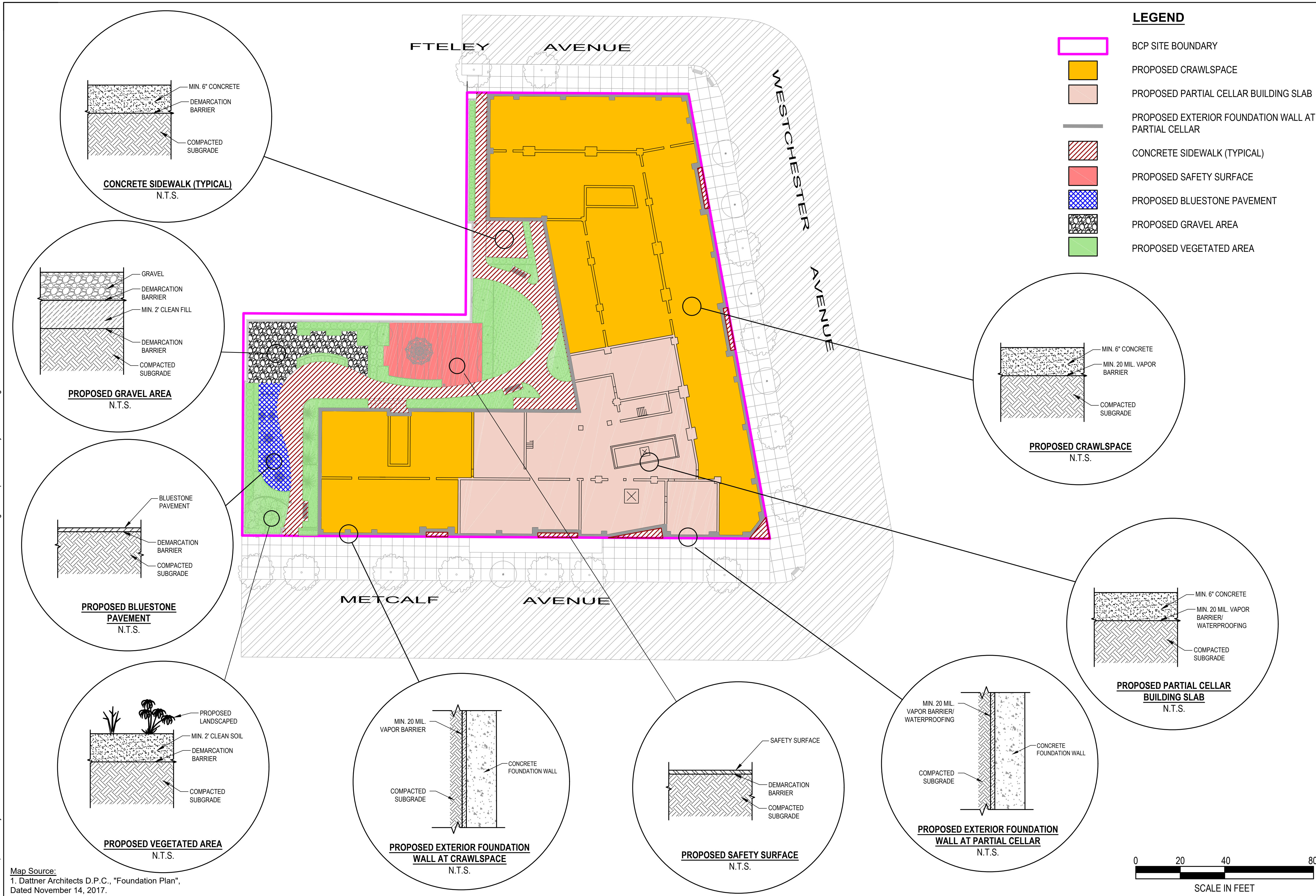
1675 Apartments
1675-1679 Westchester Avenue
Bronx, New York

PROPOSED REMEDIAL EXCAVATION AND ENDPOINT SAMPLE LOCATION PLAN

DATE
12/26/2018

PROJECT NO.
170250

FIGURE
9



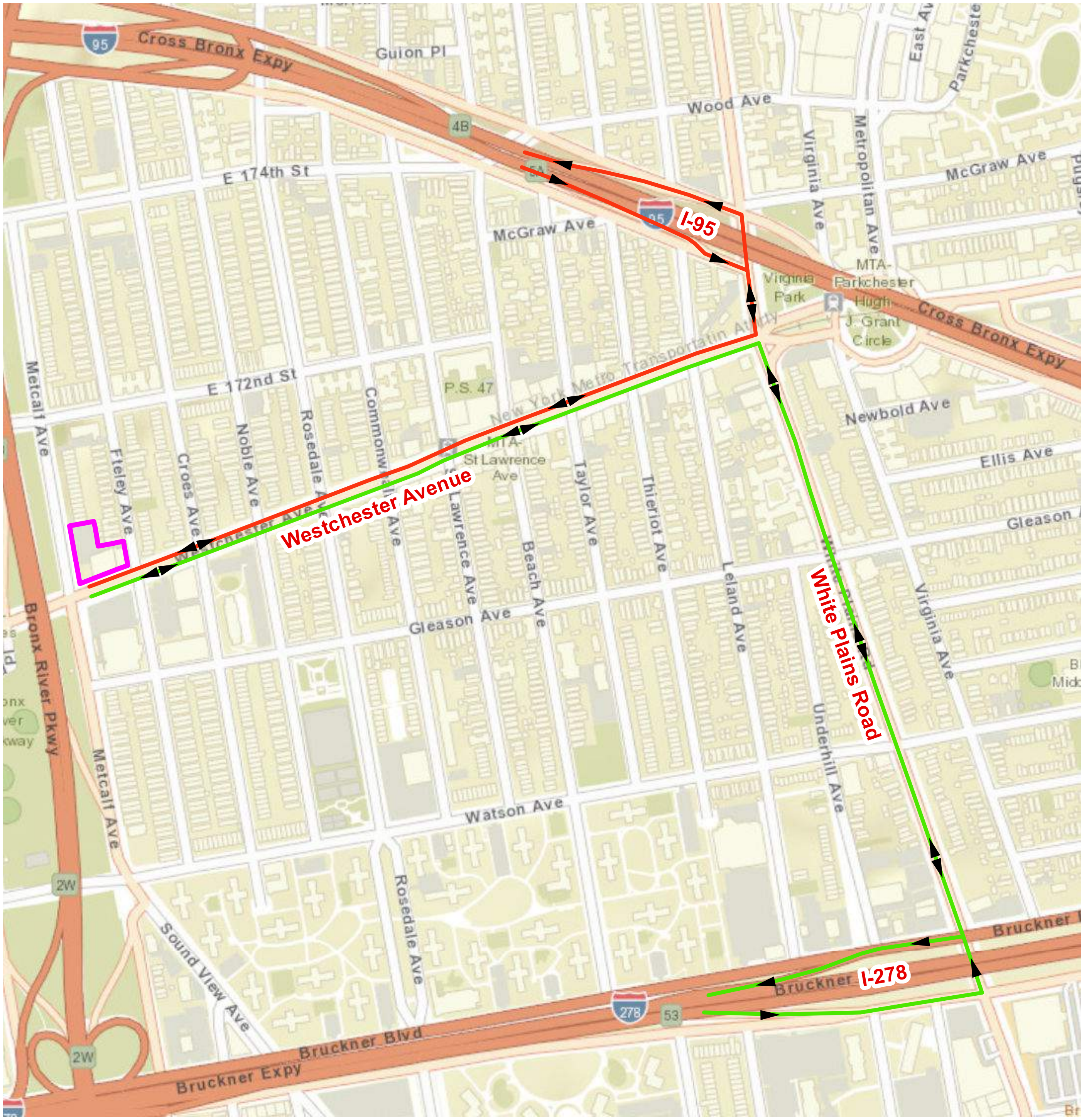
Map Source:
1. Dattner Architects D.P.C., "Foundation Plan", Dated November 14, 2017.

AKRF
440 Park Avenue South, New York, NY 10016

1675 Apartments
1675-1679 Westchester Avenue
Bronx, New York

COMPOSITE COVER SYSTEM PLAN

DATE
12/26/2018
PROJECT NO.
170250
FIGURE
10



Service Layer Credits: ESRC World Street Map 2018

LEGEND

PROJECT SITE BOUNDARY

TRUCK ROUTE TO/FROM I-95

TRUCK ROUTE TO/FROM I-278

0 600 1,200

SCALE IN FEET

AKRF

440 Park Avenue South, New York, NY 10016

1675 Apartments
1675-1679 Westchester Avenue
Bronx, New York

TRUCK ROUTE MAP

DATE
11/14/2018

PROJECT NO.
170250

FIGURE
11

APPENDIX A

STANDARDS, CRITERIA, AND GUIDANCE (SCGS)

1.0 SCGS FOR SITE CHARACTERIZATION AND REMEDIAL INVESTIGATION

The following standards and criteria typically will apply to Site Characterizations and Remedial Investigations conducted in New York State:

- 6 NYCRR Part 371 - Identification and Listing of Hazardous Wastes
- 6 NYCRR Part 375 – Environmental Remediation Programs
- 6 NYCRR Parts 700-706 - Water Quality Standards
- 6 NYCRR Part 182 - Endangered & Threatened Species of Fish & Wildlife
- 6 NYCRR Part 608 - Use and Protection of Waters
- 6 NYCRR Part 661 - Tidal Wetlands - Land Use Regulations
- 6 NYCRR Part 663 - Freshwater Wetlands Maps and Classification
- 6 NYCRR Part 257 - Air Quality Standards
- 10 NYCRR Part 5 of the State Sanitary Code - Drinking Water Supplies (May 1998)
- 29 CFR Part 1910.120 - Hazardous Waste Operations and Emergency Response
- 6 NYCRR Part 175 - Special Licenses and Permits--Definitions and Uniform Procedures

The following guidance typically applies to Site Characterizations and Remedial Investigations conducted in New York State:

- STARS #1 - Petroleum-Contaminated Soil Guidance Policy
- SPOTS #14 - Site Assessments at Bulk Storage Facilities (August 1994)
- TOGS 1.1.1 - Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations
- Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (October 1994)
- Technical Guidance for Screening Contaminated Sediments (January 1999)
- Niagara River Biota Contamination Project: Fish Flesh Criteria for Piscivorous Wildlife (July 1987)
- Wildlife Toxicity Assessment for Cadmium in Soils (May 1999)
- Air Guide 1 - Guidelines for the Control of Toxic Ambient Air Contaminants
- The 10 ppt Health Advisory Guideline for 2,3,7,8-TCDD in Sportfish Flesh
- The 1 ppm Health Advisory Guideline for Cadmium in Sportfish Flesh
- Criteria for the Development of Health Advisories for Sportfish Consumption

- NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006)
- DER Interim Strategy for Groundwater Remediation at Contaminated Sites in New York State

2.0 SCGS FOR REMEDY SELECTION

The following standards and criteria typically apply to the remedy selection process conducted in New York State:

- 6 NYCRR Part 375 - Environmental Remediation Programs
- 6 NYCRR Part 376 - Land Disposal Restrictions
- 6 NYCRR Part 608 - Use and Protection of Waters
- 6 NYCRR Part 661 - Tidal Wetlands - Land Use Regulations
- 6 NYCRR Part 663 - Freshwater Wetlands - Permit Requirements
- 6 NYCRR Parts 700-706 - Water Quality Standards
- 19 NYCRR Part 600 - Waterfront Revitalization and Coastal Resources

The following guidance typically applies to the remedy selection process conducted in New York State:

- TAGM 4044 - Accelerated Remedial Actions at Class 2, Non-RCRA Regulated Landfills (March 1992)
- TAGM 4051 - Early Design Strategy (August 1993)
- Citizen Participation in New York's Hazardous Waste Site Remediation Program: A Guidebook (June 1998)
- TAGM 3028 - "Contained In" Criteria for Environmental Media: Soil Action Levels (August 1997)
- Freshwater Wetlands Regulations - Guidelines on Compensatory Mitigation (October 1993)
- Air Guide 1 - Guidelines for the Control of Toxic Ambient Air Contaminants
- Technical Guidance for Screening Contaminated Sediments (January 1999)
- USEPA Office of Solid Waste and Emergency Response Directive 9355.047FS Presumptive Remedies: Policy and Procedures (September 1993)
- USEPA Office of Solid Waste and Emergency Response Directive 9355.048FS Presumptive Remedies:
- Site Characterization and Technology Selection for CERCLA sites with Volatile Organic Compounds in Soils (September 1993)
- USEPA Office of Solid Waste and Emergency Response Directive 9355.049FS Presumptive Remedy for CERCLA Municipal Landfills (September 1993)

3.0 SCGS FOR UNDERGROUND STORAGE TANK CLOSURE

The following standards and criteria typically apply to UST closures conducted in New York State:

- 6 NYCRR Part 612 - Registration of Petroleum Storage Facilities (February 1992)
- 6 NYCRR Part 613 - Handling and Storage of Petroleum (February 1992)
- 6 NYCRR Part 614 - Standards for New and Substantially Modified Petroleum Storage Tanks (February 1992)
- 6 NYCRR Part 371 - Identification and Listing of Hazardous Wastes (November 1998)
- 6 NYCRR Subpart 374-2 - Standards for the Management of Used Oil
- 6 NYCRR Parts 700-706 - Water Quality Standards
- 40 CFR Part 280 - Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks

The following guidance typically applies to UST closures conducted in New York State:

- STARS #1 - Petroleum-Contaminated Soil Guidance Policy
- STARS #2 - Biocell and Biopile Designs for Small-Scale Petroleum-Contaminated Soil Projects
- SPOTS #14 - Site Assessments at Bulk Storage Facilities (August 1994)
- Spill Response Guidance Manual
- Permanent Closure of Petroleum Storage Tanks
- TAGM 3028 - "Contained In" Criteria for Environmental Media: Soil Action Levels (August 1997)
- TOGS 1.1.1 - Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations
- Air Guide 1 - Guidelines for the Control of Toxic Ambient Air Contaminants
- NYSDOH Environmental Health Manual CSFP-530 - “Individual Water Supplies - Activated Carbon Treatment Systems”

4.0 SCGS FOR REMEDIAL ACTION

The following standards and criteria typically apply to Remedial Actions conducted in New York State:

- 29 CFR Part 1910.120 - Hazardous Waste Operations and Emergency Response
- 40 CFR Part 144 - Underground Injection Control Program
- 10 NYCRR Part 67 – Lead
- 12 NYCRR Part 56 - Industrial Code Rule 56 (Asbestos)

- 6 NYCRR Part 175 - Special Licenses and Permits--Definitions and Uniform Procedures
- 6 NYCRR Part 361 - Siting of Industrial Hazardous Waste Facilities
- 6 NYCRR Part 371 - Identification and Listing of Hazardous Wastes (November 1998)
- 6 NYCRR Part 372 - Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities (November 1998)
- 6 NYCRR Subpart 373-4 - Facility Standards for the Collection of Household Hazardous Waste and Hazardous Waste from Conditionally Exempt Small Quantity Generators (November 1998)
- 6 NYCRR Subpart 374-1 - Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities (November 1998)
- 6 NYCRR Subpart 374-3 - Standards for Universal Waste (November 1998)
- 6 NYCRR Part 375 - Inactive Hazardous Waste Disposal Sites (as amended January 1998)
- 6 NYCRR Part 376 - Land Disposal Restrictions
- 19 NYCRR Part 600 - Waterfront Revitalization and Coastal Resources
- 6 NYCRR Part 608 - Use and Protection of Waters
- 6 NYCRR Part 661 - Tidal Wetlands - Land Use Regulations
- 6 NYCRR Part 663 - Freshwater Wetlands - Permit Requirements
- 6 NYCRR Parts 700-706 - Water Quality Standards (June 1998)
- 6 NYCRR Part 750 through 758 - Implementation of NPDES Program in NYS ("SPDES Regulations")
- Technical Guidance for Screening Contaminated Sediments (January 1999)

The following guidance typically applies to Remedial Actions conducted in New York State:

- TAGM 4013 - Emergency Hazardous Waste Drum Removal/ Surficial Cleanup Procedures (March 1996)
- TAGM 4046 - Determination of Soil Cleanup Objectives and Cleanup Levels (January 1994)
- TAGM 4059 - Making Changes To Selected Remedies (May 1998)
- STARS #1 - Petroleum-Contaminated Soil Guidance Policy
- STARS #2 - Biocell and Biopile Designs for Small-Scale Petroleum-Contaminated Soil Projects
- TAGM 3028 - "Contained In" Criteria for Environmental Media: Soil Action Levels (August 1997)

- Citizen Participation in New York's Hazardous Waste Site Remediation Program: A Guidebook (June 1998)
- TOGS 1.1.1 - Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations
- TOGS 1.3.8 - New Discharges to Publicly Owned Treatment Works
- TOGS 2.1.2 - Underground Injection/Recirculation (UIR) at Groundwater Remediation Sites
- Air Guide 1 - Guidelines for the Control of Toxic Ambient Air Contaminants
- State Coastal Management Policies
- OSWER Directive 9200.4-17 - Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites (November 1997)
- NYSDOH Environmental Health Manual CSFP-530 - "Individual Water Supplies - Activated Carbon Treatment Systems"

5.0 SCGS FOR SITE MANAGEMENT

The following standards and criteria typically apply to Site Management activities conducted in New York State:

- 6 NYCRR Part 175 - Special Licenses and Permits--Definitions and Uniform Procedures

The following guidance typically applies to Site Management activities conducted in New York State:

- Groundwater Monitoring Well Decommissioning Procedures (May 1995)
- The activity is a component of a program selected by a process complying with the public participation requirements of section 1.10, to the extent applicable.
- NYSDOH Environmental Health Manual CSFP-530 - "Individual Water Supplies - Activated Carbon Treatment Systems"

APPENDIX B

SIGNIFICANT THREAT DETERMINATION

APPENDIX C

METES AND BOUNDS

BARGAIN AND SALE DEED WITH COVENANT AGAINST GRANTOR'S ACTS (INDIVIDUAL OR CORPORATION)

FORM 8002 (short version), FORM 8007 (long version)

CAUTION: THIS AGREEMENT SHOULD BE PREPARED BY AN ATTORNEY AND REVIEWED BY ATTORNEYS FOR SELLER AND PURCHASER BEFORE SIGNING.

THIS INDENTURE, made the 1st day of February 2018,

***BETWEEN,* URBAN FACILITIES CORP.**, whose post office address is c/o MarksDiPalermo PLLC, 485 Madison Avenue, 16th Floor, New York, NY 10022,

party of the first part, and

1675 WESTCHESTER AVENUE HOUSING DEVELOPMENT FUND CORPORATION, whose post office address is 902 Broadway, 13th Floor, New York, New York 10010,

party of the second part;

WITNESSETH, that the party of the first part, in consideration of Ten Dollars and No Cents ($10.00), lawful money of the United States, paid by the party of the second part, does hereby grant and release unto the party of the second part, the heirs or successors and assigns of the party of the second part forever;

ALL that certain plot, piece or parcel of land, with the buildings and improvements thereon erected, situate, lying and being more particularly described in Schedule A attached hereto and made a part hereof.

BEING and intended to be the same premises conveyed to the Grantor by Deed dated July 15, 1980, recorded July 17, 1980 in the Office of the City Register, Bronx County, New York, in Reel 422 Page 1300, made by GIT Industries, Inc. and;

BEING also known as: 1679 Westchester Avenue, Bronx, New York 10472.

TOGETHER with all right, title and interest, if any, of the party of the first part in and to any streets and roads abutting the above described premises to the center lines thereof,

TOGETHER with the appurtenances and all the estate and rights of the party of the first part in and to said premises,

TO HAVE AND TO HOLD the premises herein granted unto the party of the second part, the heirs or successors and assigns of the party of the second part forever.

AND the party of the first part, covenants that the party of the first part has not done or suffered anything whereby the said premises have been encumbered in any way whatever, except as aforesaid.

AND the party of the first part, in compliance with Section 13 of the Lien Law, covenants that the party of the first part will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.

The word "party" shall be construed as if it read "parties" whenever the sense of this indenture so requires.

IN WITNESS WHEREOF, the party of the first part has duly executed this deed the day and year first above written.

Urban Facilities Corp.
By: JOANNE Exelbert, President

IN PRESENCE OF:

UNIFORM FORM CERTIFICATE OF ACKNOWLEDGMENT
(Within New York State)

State of New York)
County of New York) ss.:

On the 1 day of February in the year 2018 before me, the undersigned, personally appeared Joanne Exelbert, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledgement to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, execute the instrument.

Tara Stuckey

Signature and Office of individual taking acknowledgment

TARA STUCKEY
Notary Public-State of New York
No. 01ST6080866
New York County EXP 9/23/2018

CHICAGO TITLE INSURANCE COMPANY

CT17-00484-BX

SCHEDULE A DESCRIPTION

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

BEGINNING at the corner formed by the intersection of the northerly side of Westchester Avenue and the westerly side of Fteley Avenue;

RUNNING THENCE westerly along the northerly side of Westchester Avenue, 47.40 feet;

THENCE northerly and parallel with the westerly side of Fteley Avenue 108.48 feet;

THENCE easterly at right angles to the last mentioned course, 46.57 feet to the westerly side of Fteley Avenue;

THENCE southerly along the westerly side of Fteley Avenue, 99.66 feet to the northerly side of Westchester Avenue, said point being the point or place of BEGINNING.

NYC DEPARTMENT OF FINANCE
OFFICE OF THE CITY REGISTER

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

2016052401126001001E48F0

RECORDING AND ENDORSEMENT COVER PAGE

Document ID: 2016052401126001 Document Date: 05-18-2016 Preparation Date: 05-24-2016
Document Type: DEED
Document Page Count: 4

PRESENTER:
CHICAGO TITLE INSURANCE CO. (PICK-UP)
711 THIRD AVE, 5TH FLOOR
CT15-00728-BX (MAF)
NEW YORK, NY 10017
212-880-1200
CTINYRECORDING@CTT.COM

RETURN TO:
CHICAGO TITLE INSURANCE CO. (PICK-UP)
HIRSCHEN SINGER & EPSTEIN LLP
902 BROADWAY, 13TH FLOOR/OLIVER G. CHASE, ESQ.
NEW YORK, NY 10010

PROPERTY DATA

Borough	Block	Lot	Unit	Address
BRONX	3780	1 Entire Lot		1675 WESTCHESTER AVENUE

Property Type: COMMERCIAL REAL ESTATE

CROSS REFERENCE DATA

CRFN______ *or* DocumentID______ *or* ______ Year____ Reel____ Page____ *or* File Number______

PARTIES

GRANTOR/SELLER:
PROMESA RESIDENTIAL HEALTH CARE FACILITY, INC.
300 EAST 175TH STREET
BRONX, NY 10457

GRANTEE/BUYER:
1675 JV ASSOCIATES LLC
902 BROADWAY, 13TH FLOOR
NEW YORK, NY 10010

FEES AND TAXES

Mortgage :		
Mortgage Amount:	$	0.00
Taxable Mortgage Amount:	$	0.00
Exemption:		
TAXES: County (Basic):	$	0.00
City (Additional):	$	0.00
Spec (Additional):	$	0.00
TASF:	$	0.00
MTA:	$	0.00
NYCTA:	$	0.00
Additional MRT:	$	0.00
TOTAL:	$	0.00
Recording Fee:	$	57.00
Affidavit Fee:	$	0.00

Filing Fee:	$	250.00
NYC Real Property Transfer Tax:	$	0.00
NYS Real Estate Transfer Tax:	$	12,800.00

RECORDED OR FILED IN THE OFFICE OF THE CITY REGISTER OF THE CITY OF NEW YORK

Recorded/Filed 06-08-2016 15:39
City Register File No.(CRFN):
2016000193848

Annette M Hill

City Register Official Signature

4

BARGAIN AND SALE DEED

PROMESA RESIDENTIAL HEALTH CARE FACILITY, INC.

TO

1675 JV ASSOCIATES LLC

Block 3780 Lot 1
Bronx, New York

Record and Return to:

Hirschen Singer & Epstein LLP
902 Broadway, 13^{th} Floor
New York, New York 10010
Attn: Oliver G. Chase, Esq.

BARGAIN AND SALE DEED

THIS INDENTURE, made this 18th day of May, 2016

BETWEEN

PROMESA RESIDENTIAL HEALTH CARE FACILITY, INC., a New York not-for-profit corporation with an office at 300 East 175th Street, Bronx, New York 10457 (hereinafter referred to as **"Grantor"),**

and

1675 JV ASSOCIATES LLC, a New York limited liability company, with an office at 902 Broadway, 13th Floor, New York, New York 10010 (hereinafter referred to as **"Grantee")**

WITNESSETH, that the Grantor, in consideration of One Dollar ($1) and other valuable consideration paid by the Grantee does hereby grant and release to Grantee, the heirs or successors and assigns of Grantee forever

ALL that certain plot, piece of land, with the buildings and improvements thereon erected, situate, lying and being in the Borough of the Bronx, County of Bronx, and State of New York, known and designated on the Tax Map of the City of New York for Kings County as Block 3780, Lot 1 and bounded and described as set forth in Schedule "A", annexed hereto and made a part hereof.

TOGETHER with all right, title and interest, if any, of Grantor in and to any streets and roads abutting the above described premises to the center lines thereof; **TOGETHER** with the appurtenances and all the estate and rights of Grantor in and to said premises; **TO HAVE AND TO HOLD** the Premises herein granted to Grantee, the heirs or successors and assigns of Grantee forever.

AND the Grantor, in compliance with Section 13 of the Lien Law, covenants that the Grantor will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the same for any other purpose.

[Signature Page to Follow]

IN WITNESS WHEREOF, the Grantor has duly executed this deed the day and year first above written.

PROMESA RESIDENTIAL HEALTH CARE FACILITY, INC.
("Grantor")

By: ______________________
Name: HECTOR L. DIAZ
Title: PRESIDENT

STATE OF NEW YORK)
) SS.:
COUNTY OF NEW YORK)

On this 13th day of May, 2016, before me, the undersigned, personally appeared Hector Diaz, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person on behalf of which the individual acted, executed the instrument.

____
Notary Public

GIAMARA M. ROSADO
Notary Public, State of New York
Registration #02RO6305162
Qualified In Bronx County
Commission Expires June 2, 2018

Schedule A

LEGAL DESCRIPTION

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

BEGINNING at the corner formed by the intersection of the northerly side of Westchester Avenue and the easterly side of Metcalf Avenue;

THENCE northerly along the easterly side of Metcalf Avenue, 237.52 feet;

THENCE easterly at right angles to the easterly side of Metcalf Avenue, 100 feet;

THENCE southerly at right angles to the last mentioned course, 100 feet;

THENCE easterly at right angles to the last mentioned course, 53.43 feet;

THENCE southerly at right angles to the last mentioned course, 108.48 feet to a point on the northerly side of Westchester Avenue;

THENCE westerly along the northerly side of Westchester Avenue, 156.15 feet to the point or place of BEGINNING

NYC DEPARTMENT OF FINANCE
OFFICE OF THE CITY REGISTER

2016052401126001001S8671

SUPPORTING DOCUMENT COVER PAGE **PAGE 1 OF 1**

Document ID: 2016052401126001 Document Date: 05-18-2016 Preparation Date: 05-24-2016
Document Type: DEED

ASSOCIATED TAX FORM ID: 2016050600003

SUPPORTING DOCUMENTS SUBMITTED:

	Page Count
DEP CUSTOMER REGISTRATION FORM FOR WATER AND SEWER BILLING	1
RP - 5217 REAL PROPERTY TRANSFER REPORT	3

FOR CITY USE ONLY
C1. County Code | C2. Date Deed Recorded (Month / Day / Year)
CITY REGISTER
C3. Book | C4. Page
OR
C5. CRFN

MAY 2 5 2016

REAL PROPERTY TRANSFER REPORT
STATE OF NEW YORK
STATE BOARD OF REAL PROPERTY SERVICES
RP - 5217NYC

PROPERTY INFORMATION

1. Property Location: 1675 (STREET NUMBER) WESTCHESTER AVENUE (STREET NAME) BRONX (BOROUGH) 10472 (ZIP CODE)

2. Buyer Name: 1675 JV ASSOCIATES LLC (LAST NAME / COMPANY) — FIRST NAME
   LAST NAME / COMPANY — FIRST NAME

3. Tax Billing Address: Indicate where future Tax Bills are to be sent if other than buyer address (at bottom of form) — LAST NAME / COMPANY — FIRST NAME
   STREET NUMBER AND STREET NAME — CITY OR TOWN — STATE — ZIP CODE

4. Indicate the number of Assessment Roll parcels transferred on the deed: 1 # of Parcels OR ☐ Part of a Parcel

4A. Planning Board Approval - N/A for NYC
4B. Agricultural District Notice - N/A for NYC

5. Deed Property Size: FRONT FEET X DEPTH OR ACRES

Check the boxes below as they apply:
6. Ownership Type is Condominium ☐
7. New Construction on Vacant Land ☐

8. Seller Name: PROMESA RESIDENTIAL HEALTH CARE FACILITY, INC. (LAST NAME / COMPANY) — FIRST NAME
   LAST NAME / COMPANY — FIRST NAME

9. Check the box below which most accurately describes the use of the property at the time of sale:

A ☐ One Family Residential
B ☐ 2 or 3 Family Residential
C ☐ Residential Vacant Land
D ☐ Non-Residential Vacant Land
E ☑ Commercial
F ☐ Apartment
G ☐ Entertainment / Amusement
H ☐ Community Service
I ☐ Industrial
J ☐ Public Service

SALE INFORMATION

10. Sale Contract Date: 5 / 18 / 2016 (Month / Day / Year)

11. Date of Sale / Transfer: 5 / 18 / 2016 (Month / Day / Year)

12. Full Sale Price $ 3,200,000

(Full Sale Price is the total amount paid for the property including personal property. This payment may be in the form of cash, other property or goods, or the assumption of mortgages or other obligations.) *Please round to the nearest whole dollar amount.*

13. Indicate the value of personal property included in the sale

14. Check one or more of these conditions as applicable to transfer:

A ☐ Sale Between Relatives or Former Relatives
B ☐ Sale Between Related Companies or Partners in Business
C ☐ One of the Buyers is also a Seller
D ☐ Buyer or Seller is Government Agency or Lending Institution
E ☐ Deed Type not Warranty or Bargain and Sale (Specify Below)
F ☐ Sale of Fractional or Less than Fee Interest (Specify Below)
G ☐ Significant Change in Property Between Taxable Status and Sale Dates
H ☐ Sale of Business is Included in Sale Price
I ☐ Other Unusual Factors Affecting Sale Price (Specify Below)
J ☑ None

ASSESSMENT INFORMATION - Data should reflect the latest Final Assessment Roll and Tax Bill

15. Building Class: 1 5

16. Total Assessed Value (of all parcels in transfer): 589,950

17. Borough, Block and Lot / Roll Identifier(s) (If more than three, attach sheet with additional identifier(s))

BRONX 3780 1

201605060000320104

CERTIFICATION	I certify that all of the items of information entered on this form are true and correct (to the best of my knowledge and belief) and understand that the making of any willful false statement of material fact herein will subject me to the provisions of the penal law relative to the making and filing of false instruments.

BUYER

BUYER SIGNATURE	DATE
M W	5/18/16

STREET NUMBER	STREET NAME (AFTER SALE)
902 BROADWAY, 13TH FLOOR	

CITY OR TOWN	STATE	ZIP CODE
NEW YORK	NY	10010

BUYER'S ATTORNEY

LAST NAME	FIRST NAME

AREA CODE	TELEPHONE NUMBER

SELLER

SELLER SIGNATURE	DATE
See attached	

PROMESA RESIDENTIAL HEALTH CARE FACILITY, INC.
a New York not-for-profit corporation

By: ________________
Name: HECTOR L. DIAZ
Title: PRESIDENT

The City of New York
Department of Environmental Protection
Bureau of Customer Services
59-17 Junction Boulevard
Flushing, NY 11373-5108

Customer Registration Form for Water and Sewer Billing

Property and Owner Information:

(1) Property receiving service: BOROUGH: BRONX BLOCK: 3780 LOT: 1

(2) Property Address: 1675 WESTCHESTER AVENUE, BRONX, NY 10472

(3) Owner's Name: 1675 JV ASSOCIATES LLC

Additional Name:

ffirmation:

☑ Your water & sewer bills will be sent to the property address shown above.

ustomer Billing Information:

Please Note:

A. Water and sewer charges are the legal responsibility of the owner of a property receiving water and/or sewer service. The owner's responsibility to pay such charges is not affected by any lease, license or other arrangement, or any assignment of responsibility for payment of such charges. Water and sewer charges constitute a lien on the property until paid. In addition to legal action against the owner, a failure to pay such charges when due may result in foreclosure of the lien by the City of New York, the property being placed in a lien sale by the City or Service Termination.

B. Original bills for water and/or sewer service will be mailed to the owner, **at the property address or to an alternate mailing address**. DEP will provide a duplicate copy of bills to one other party (such as a managing agent), however, any failure or delay by DEP in providing duplicate copies of bills shall in no way relieve the owner from his/her liability to pay all outstanding water and sewer charges. Contact DEP at (718) 595-7000 during business hours or visit www.nyc.gov/dep to provide us with the other party's information.

wner's Approval:

The undersigned certifies that he/she/it is the owner of the property receiving service referenced above; that he/she/it has read and understands Paragraphs A & B under the section captioned "Customer Billing Information"; and that the information supplied by the undersigned on this form is true and complete to the best of his/her/its knowledge.

Print Name of Owner:

Signature: M Wd Date (mm/dd/yyyy) 5/18/2016

Name and Title of Person Signing for Owner, if applicable: Michael Wadman, Auth. Sig.

:S-7CRF-ACRIS REV. 8/08

2016050600003101

APPENDIX D

PROPOSED DEVELOPMENT PLANS

1675 Westchester Avenue

1675 Westchester Avenue
Bronx, NY 10472

1675 JV Associates LLC
902 Broadway, 13th Floor
New York, NY 10010

DattnerArchitects
1385 Broadway, 15th Floor
New York, NY 10018
tel 212 247 2660
www.dattner.com

Structural Engineers
Rodney D. Gibble Consulting Engineers
18 West 21st Street, 3rd Floor
New York, NY 10010

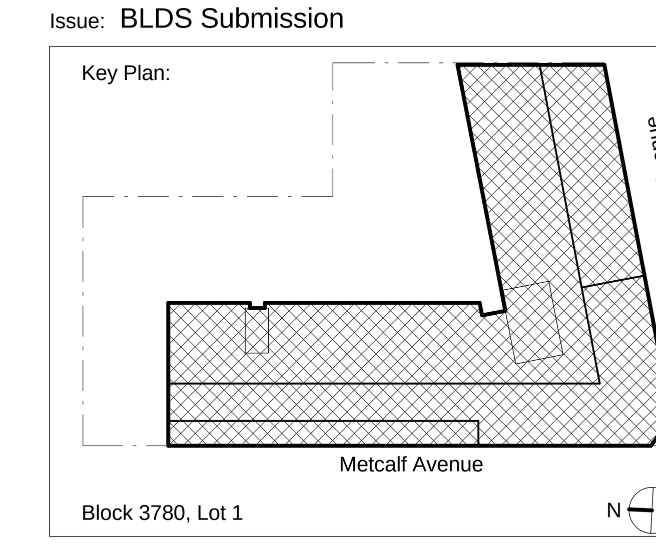
Mechanical/Electrical/Plumbing Engineers
Rodkin Cardinale Consulting Engineers
224 West 29th Street 4th Floor
New York, NY 10001

Landscape Architects
Weintraub Diaz Landscape Architecture, PLLC
19 New Street
Nyack, NY 10960

Sustainable Design Consultant
Bright Power
11 Hanover Square, 21st Floor
New York, NY 10005

Revisions:

Issue: BLDS Submission



Key Plan

Perspective Views

Date	11/16/16
Scale	
Drawn By	Author
Checked By	Checker
Project No.	1534

Seal

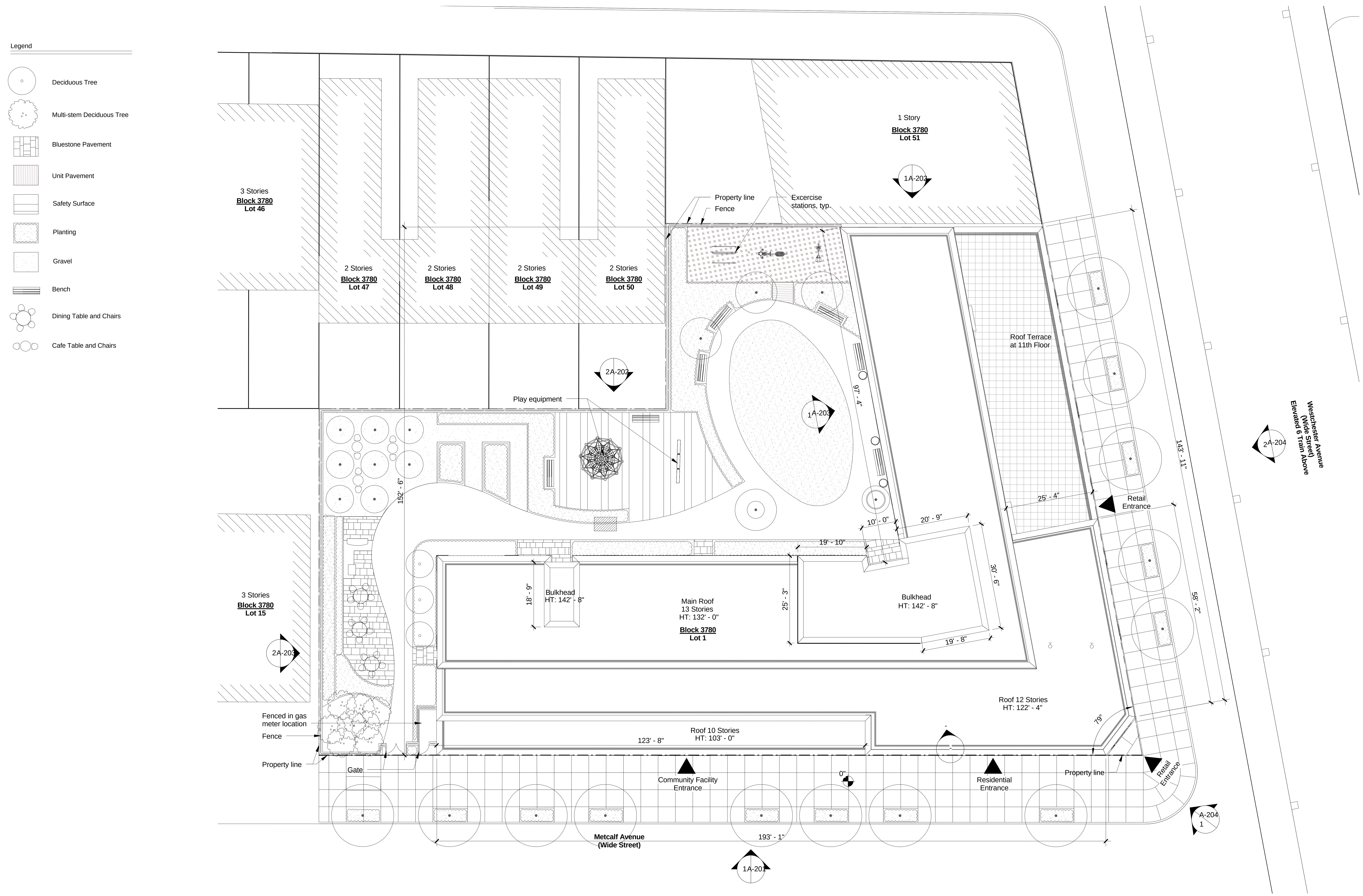
Sheet No.: G-006.00

2 of

1 Northeast View from Westchester Ave.

2 Southwest View from Westchester Avenue

3 South View from Fteley Ave.



1 Site Plan
1/16" = 1'-0"

1675 Westchester Avenue

1675 Westchester Avenue
Bronx, NY 10472

1675 JV Associates LLC
902 Broadway, 13th Floor
New York, NY 10010

Dattner Architects
1385 Broadway, 15th Floor
New York, NY 10018
tel 212 247 2660
www.dattner.com

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Mechanical/Electrical/Plumbing Engineers
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Landscape Architects
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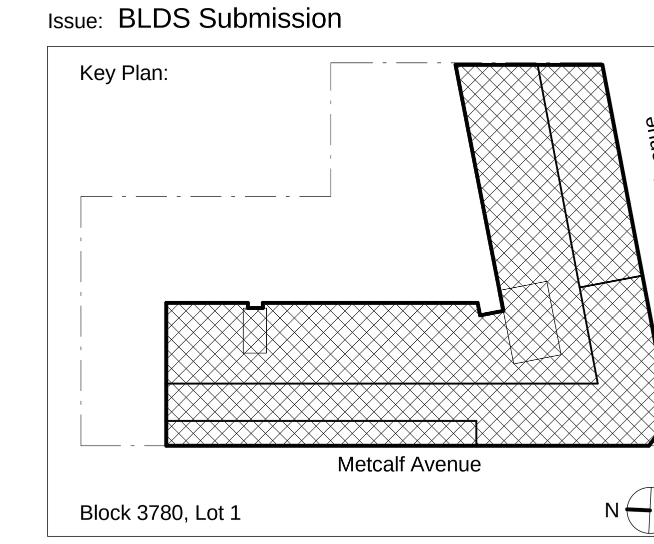
Nyack, NY 10960

Sustainable Design Consultant
Bright Power
11 Hanover Square, 21st Floor
New York, NY 10005

Revisions:

Issue: BLDS Submission



Key Plan

Site Plan

Date	03/17/14
Scale	1/16" = 1'-0"
Drawn By	DA
Checked By	DA
Project No.	1534

Seal

Sheet No.:
3 of
A-001.00

APPENDIX E

PREVIOUS ENVIRONMENTAL REPORTS

APPENDIX F

SANBORN MAPS

1679 Westchester Avenue

1679 Westchester Avenue

Bronx, NY 10472

Inquiry Number: 5023009.3

August 15, 2017

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

08/15/17

Site Name:	Client Name:
1679 Westchester Avenue	AKRF, Inc.
1679 Westchester Avenue	440 Park Avenue, South 7th Floor
Bronx, NY 10472	New York, NY 10016
EDR Inquiry # 5023009.3	Contact: Amy Jordan

EDR®

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by AKRF, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 6C9A-4CFB-A5E7

PO # NA

Project 1679 Westchester Avenue

Maps Provided:

2007	1996	1981	1898
2006	1995	1978	
2005	1993	1977	
2004	1992	1969	
2003	1991	1950	
2002	1989	1928	
2001	1986	1919	
1998	1983	1908	

Sanborn® Library search results

Certification #: 6C9A-4CFB-A5E7

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✔ Library of Congress
- ✔ University Publications of America
- ✔ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Sanborn Sheet Key

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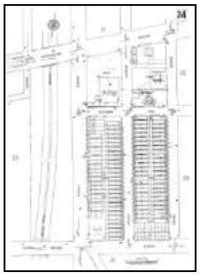
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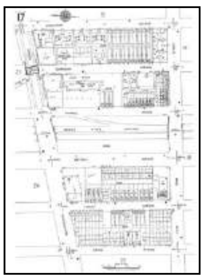
2007


Volume 17, Sheet 25
2007


Volume 17, Sheet 17
2007

2006 Source Sheets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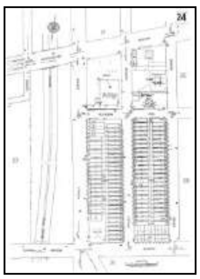
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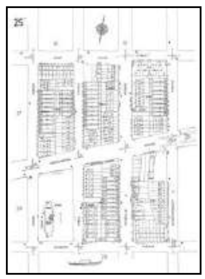
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2005 Source Sheets


Volume 17, Sheet 25
2005


Volume 17, Sheet 17
2005


Volume 17, Sheet 24
2005

2004 Source Sheets


Volume 17, Sheet 17
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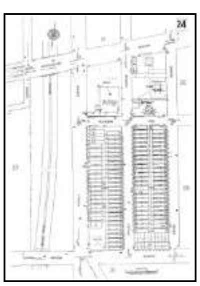
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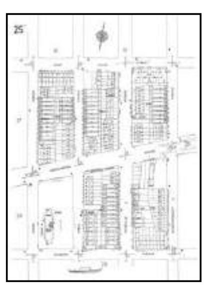
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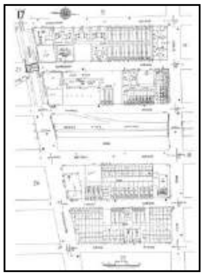
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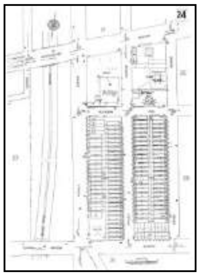
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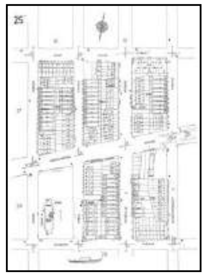
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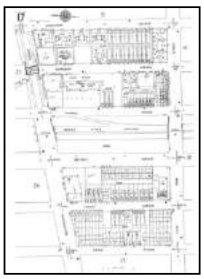
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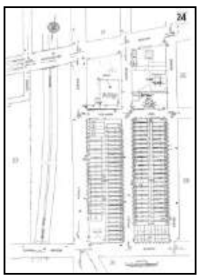
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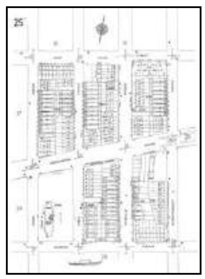
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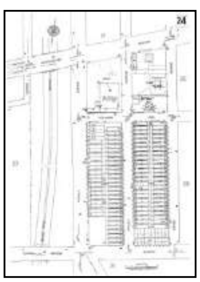
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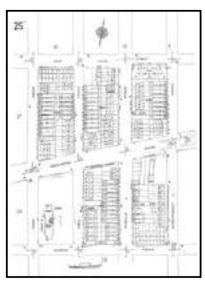
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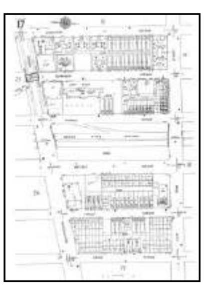
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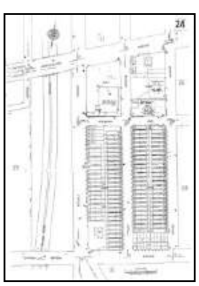
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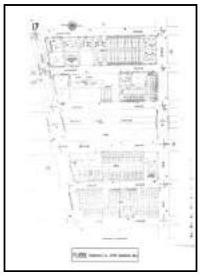
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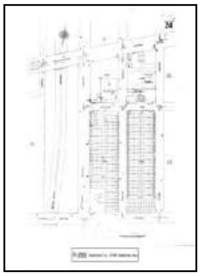
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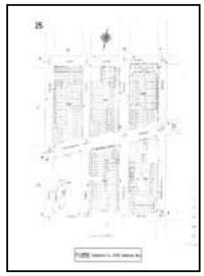
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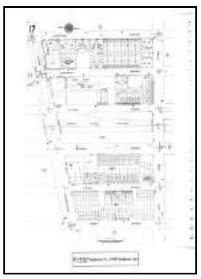
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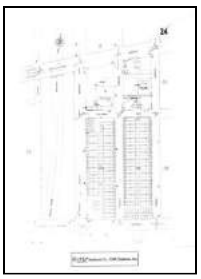
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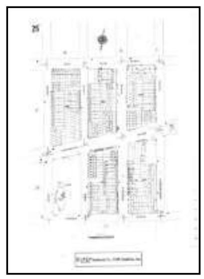
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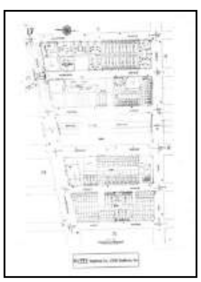
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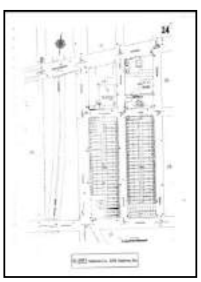
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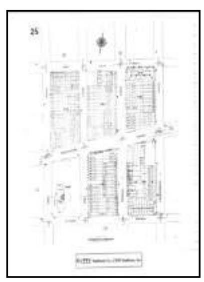
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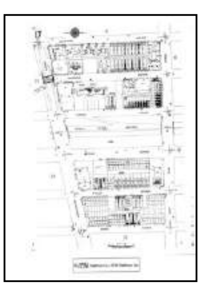
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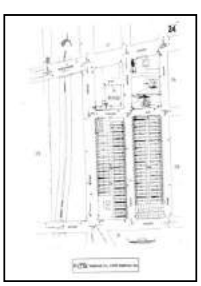
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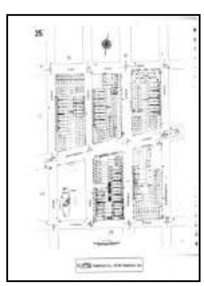
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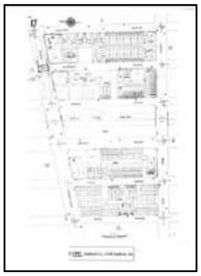

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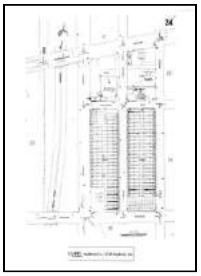
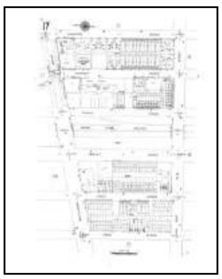


Volume 17, Sheet 24
1991

Volume 17, Sheet 25
1991

1989 Source Sheets



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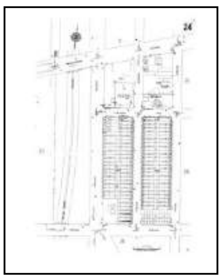

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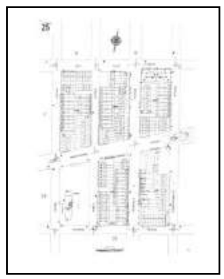

Volume 17, Sheet 25
1989

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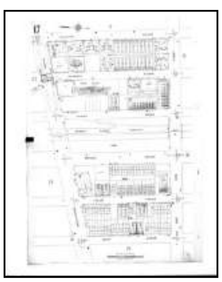

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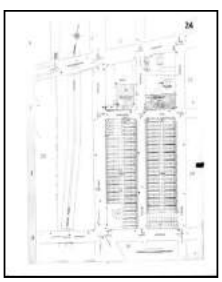

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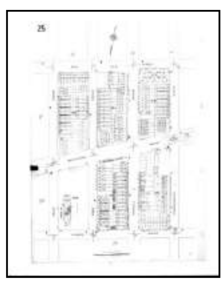

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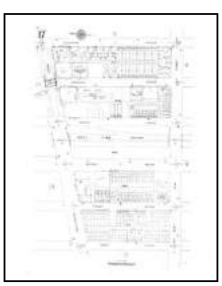

Volume 17, Sheet 17
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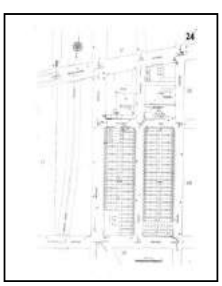

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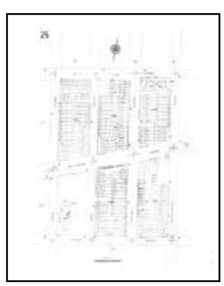

Volume 17, Sheet 25
1983

Sanborn Sheet Key

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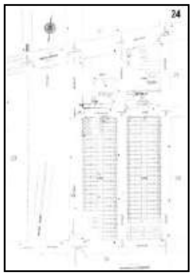
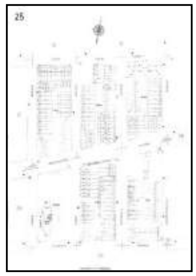
1981 Source Sheets

Volume 17, Sheet 17
1981

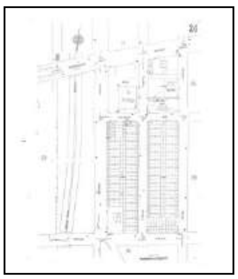


Volume 17, Sheet 24
1981



Volume 17, Sheet 25
1981

1978 Source Sheets



Volume 17, Sheet 24
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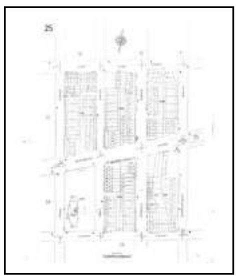

Volume 17, Sheet 25
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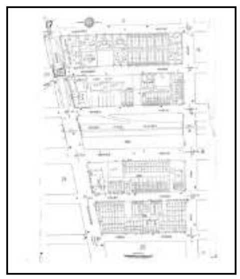
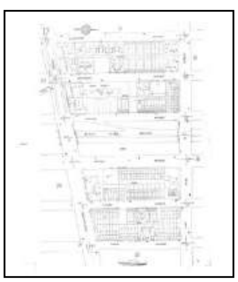


Volume 17, Sheet 17
1978

1977 Source Sheets



Volume 17, Sheet 17
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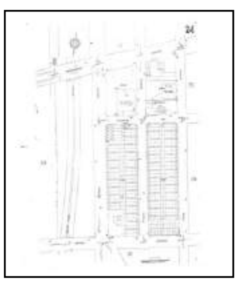

Volume 17, Sheet 24
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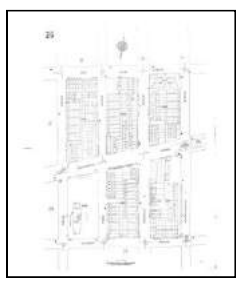
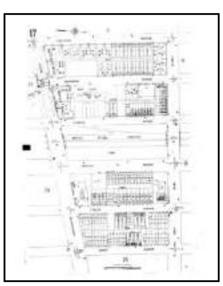
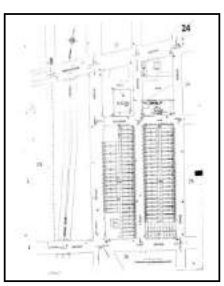


Volume 17, Sheet 25
1977

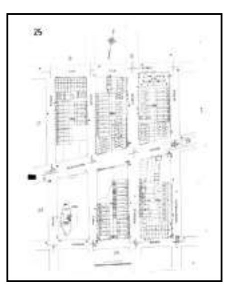
1969 Source Sheets



Volume 17, Sheet 17
1969



Volume 17, Sheet 24
1969



Volume 17, Sheet 25
1969

Sanborn Sheet Key

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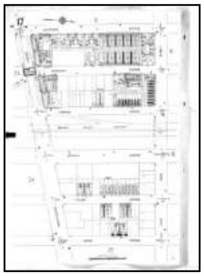
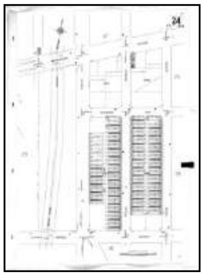
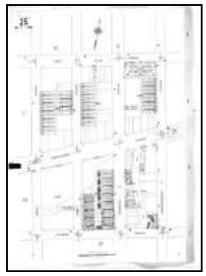
1950 Source Sheets



Volume 17, Sheet 17
1950

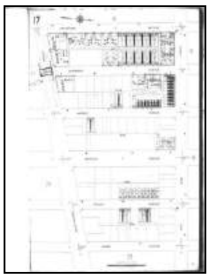


Volume 17, Sheet 24
1950

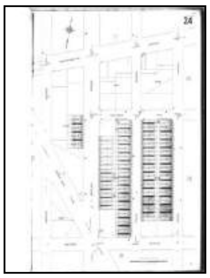


Volume 17, Sheet 25
1950

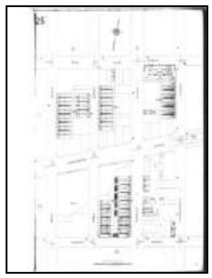
1928 Source Sheets



Volume 17, Sheet 17
1928



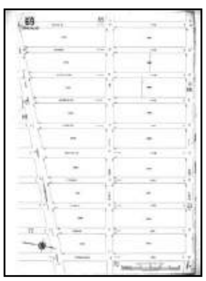
Volume 17, Sheet 24
1928



Volume 17, Sheet 25
1928

1919 Source Sheets

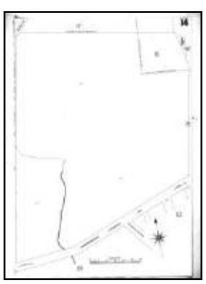
Volume 17, Sheet 68
1919



Volume 17, Sheet 69
1919

Volume 17, Sheet 72
1919

1908 Source Sheets



Volume A, Sheet 14
1908

Volume A, Sheet 53
1908

Volume A, Sheet 56
1908

Sanborn Sheet Key

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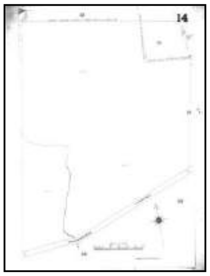
1898 Source Sheets



Volume A, Sheet 14
1898

Volume A, Sheet 56
1898

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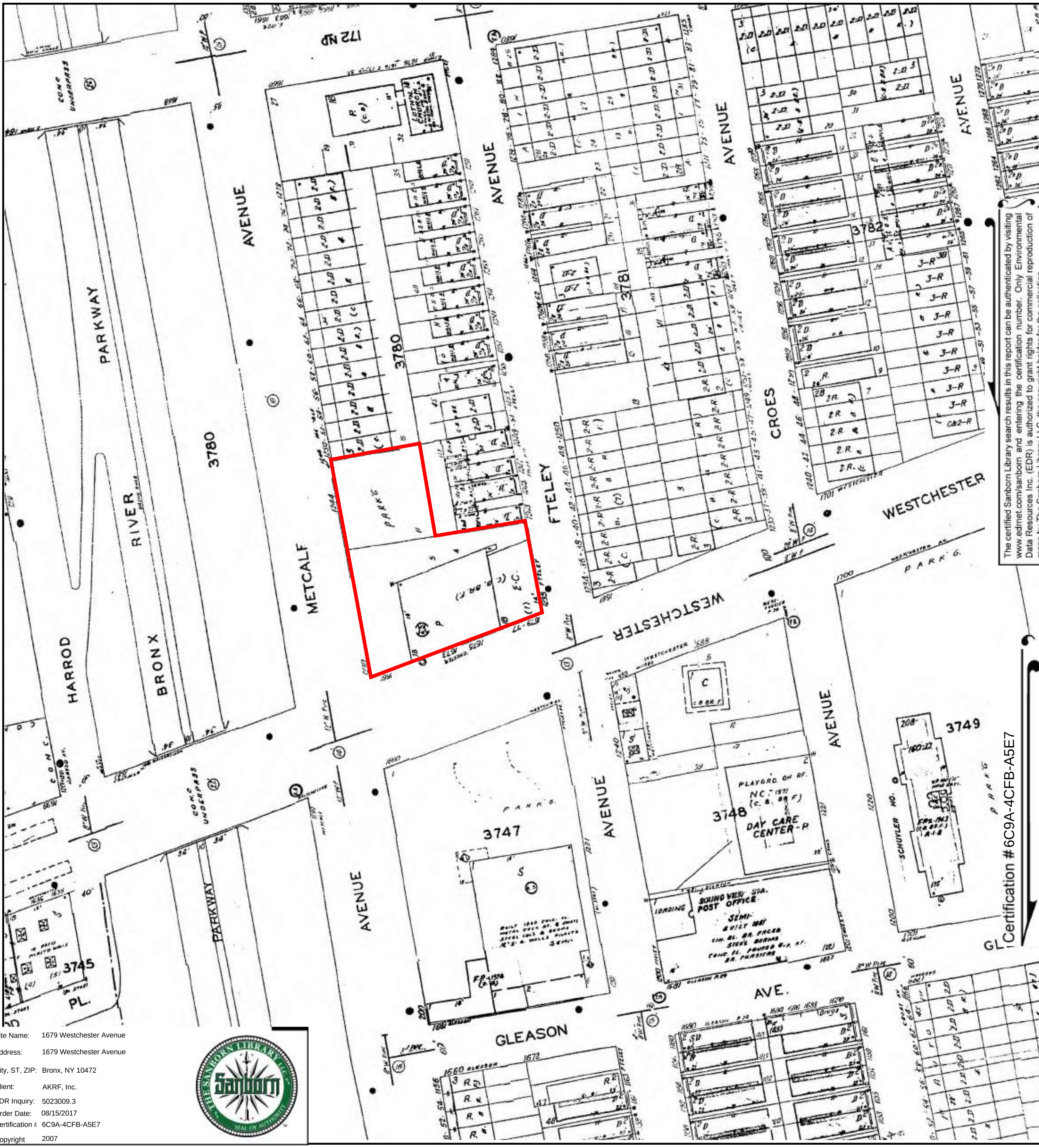
2007



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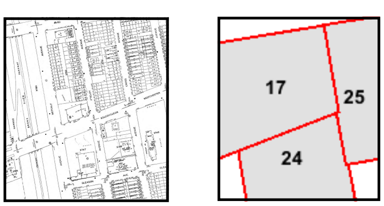

Volume 17, Sheet 17
Volume 17, Sheet 25
Volume 17, Sheet 24

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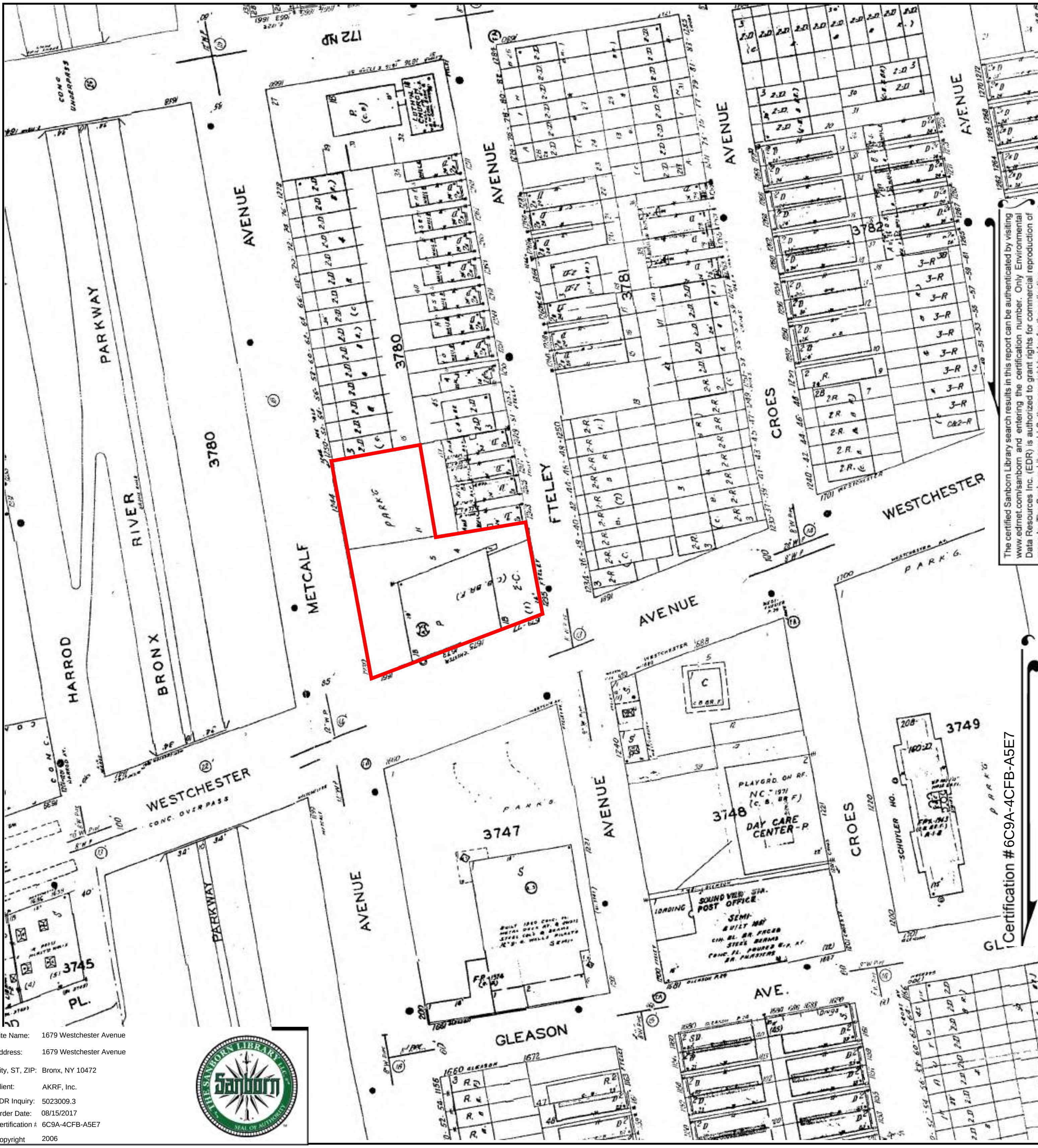
2006



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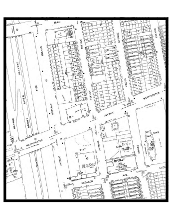

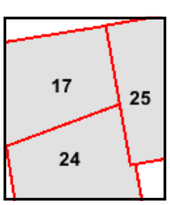

Volume 17, Sheet 25
Volume 17, Sheet 24
Volume 17, Sheet 17

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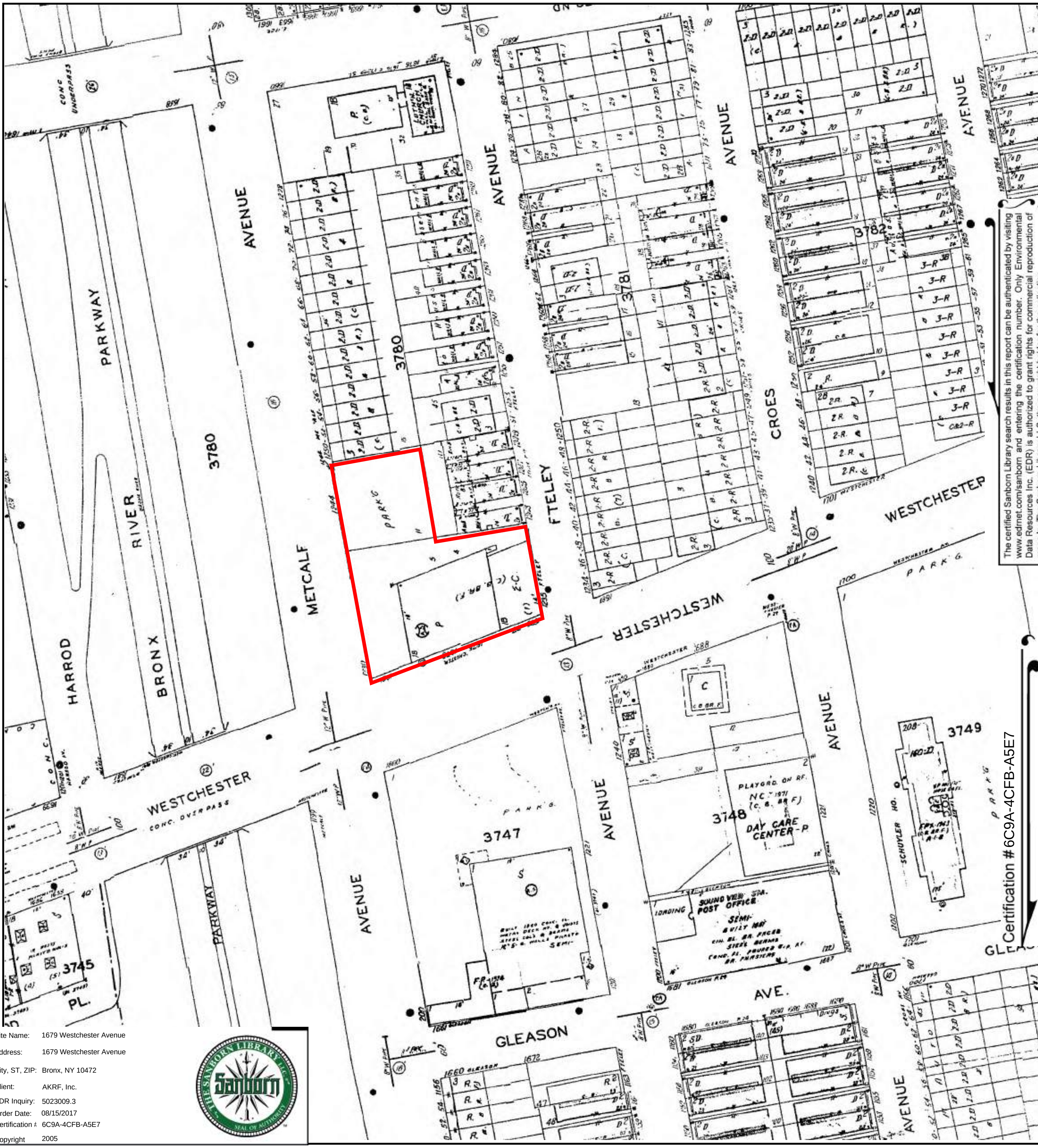
2005



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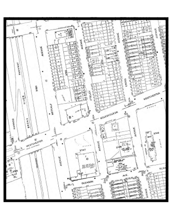

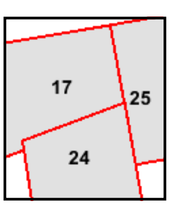

Volume 17, Sheet 24
Volume 17, Sheet 17
Volume 17, Sheet 25

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2004

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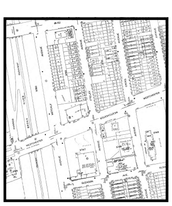

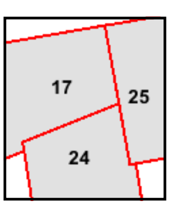

Volume 17, Sheet 25
Volume 17, Sheet 24
Volume 17, Sheet 17

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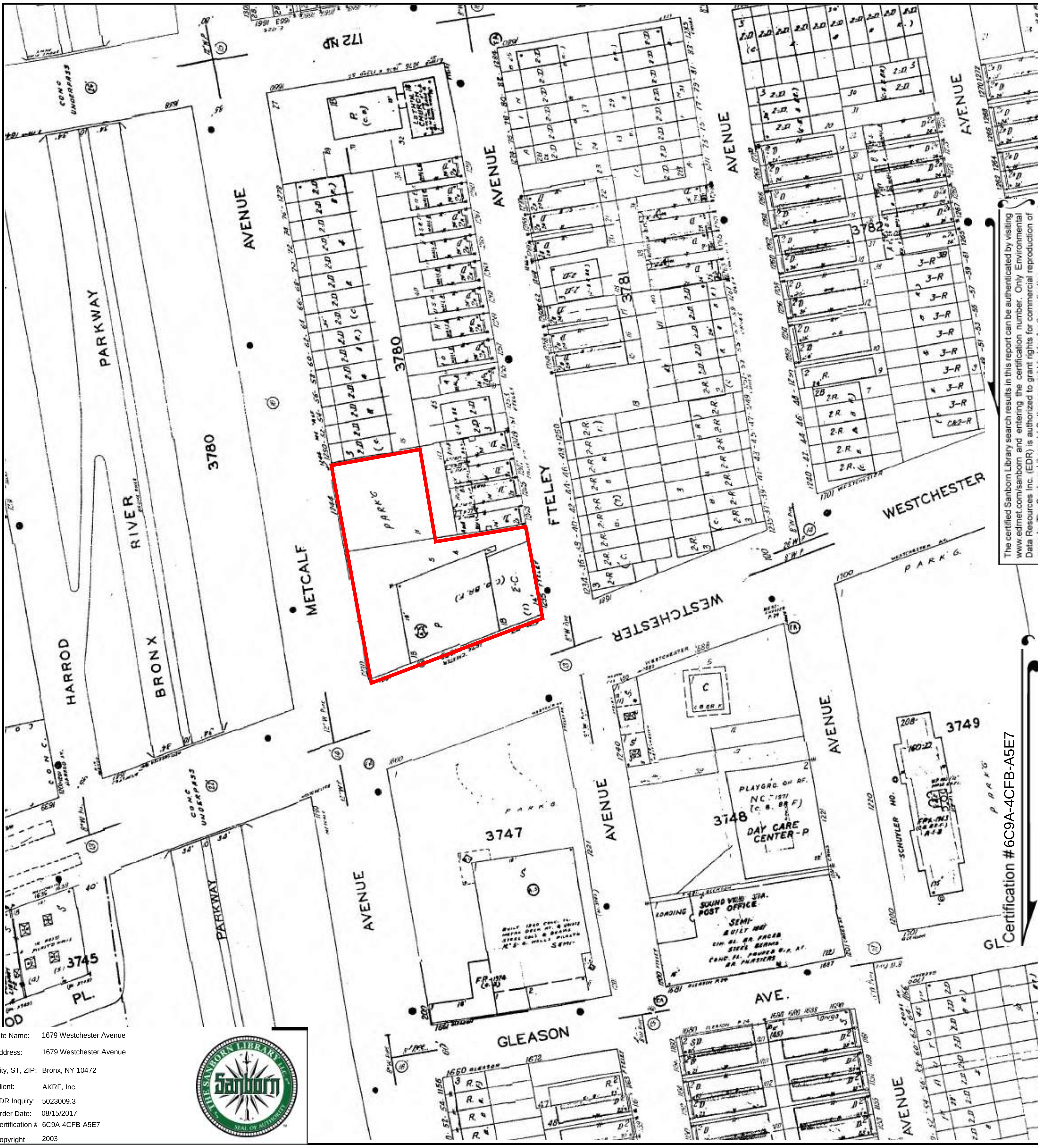
2003



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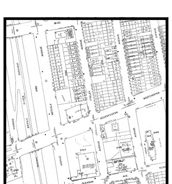

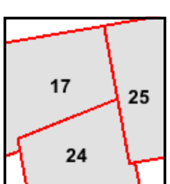

Volume 17, Sheet 25
Volume 17, Sheet 24
Volume 17, Sheet 17

N

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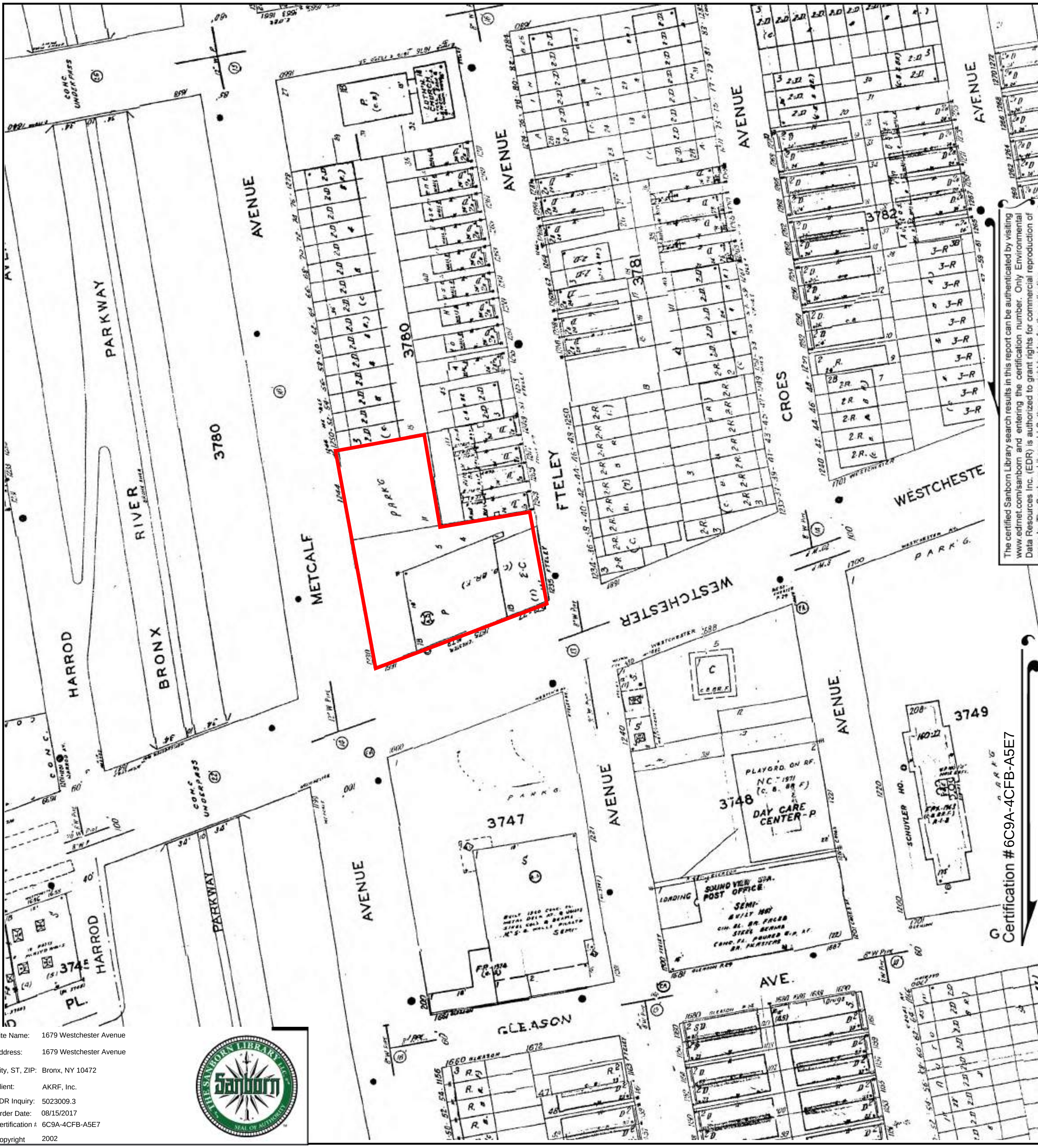
2002



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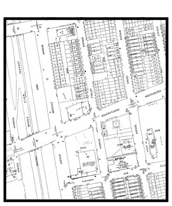

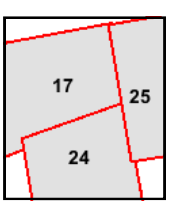

Volume 17, Sheet 25
Volume 17, Sheet 24
Volume 17, Sheet 17

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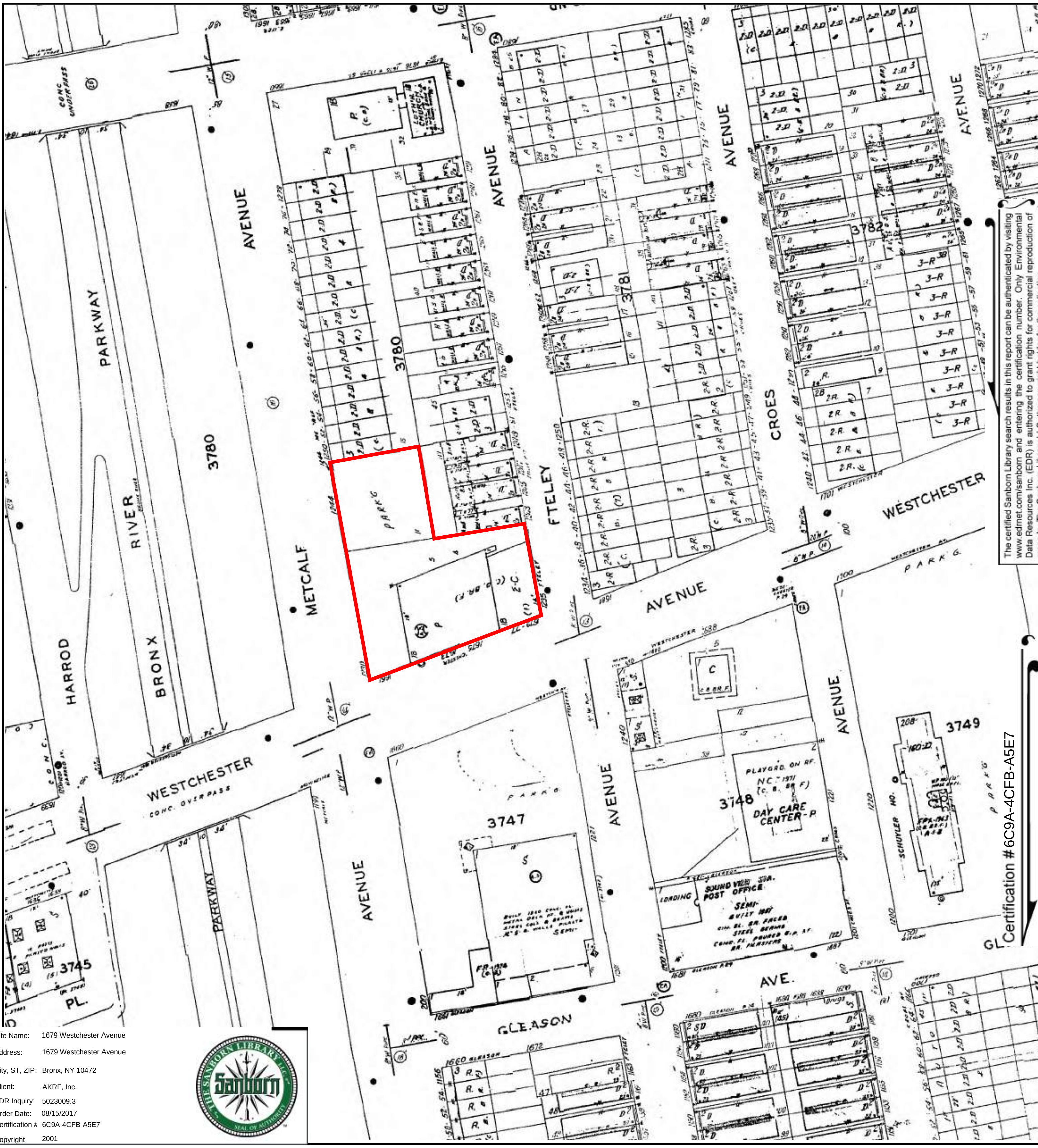
2001



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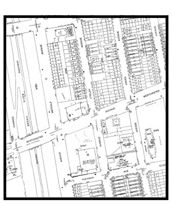

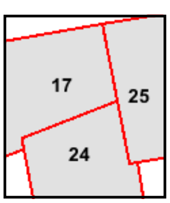

Volume 17, Sheet 25
Volume 17, Sheet 24
Volume 17, Sheet 17

0 Feet 150 300 600

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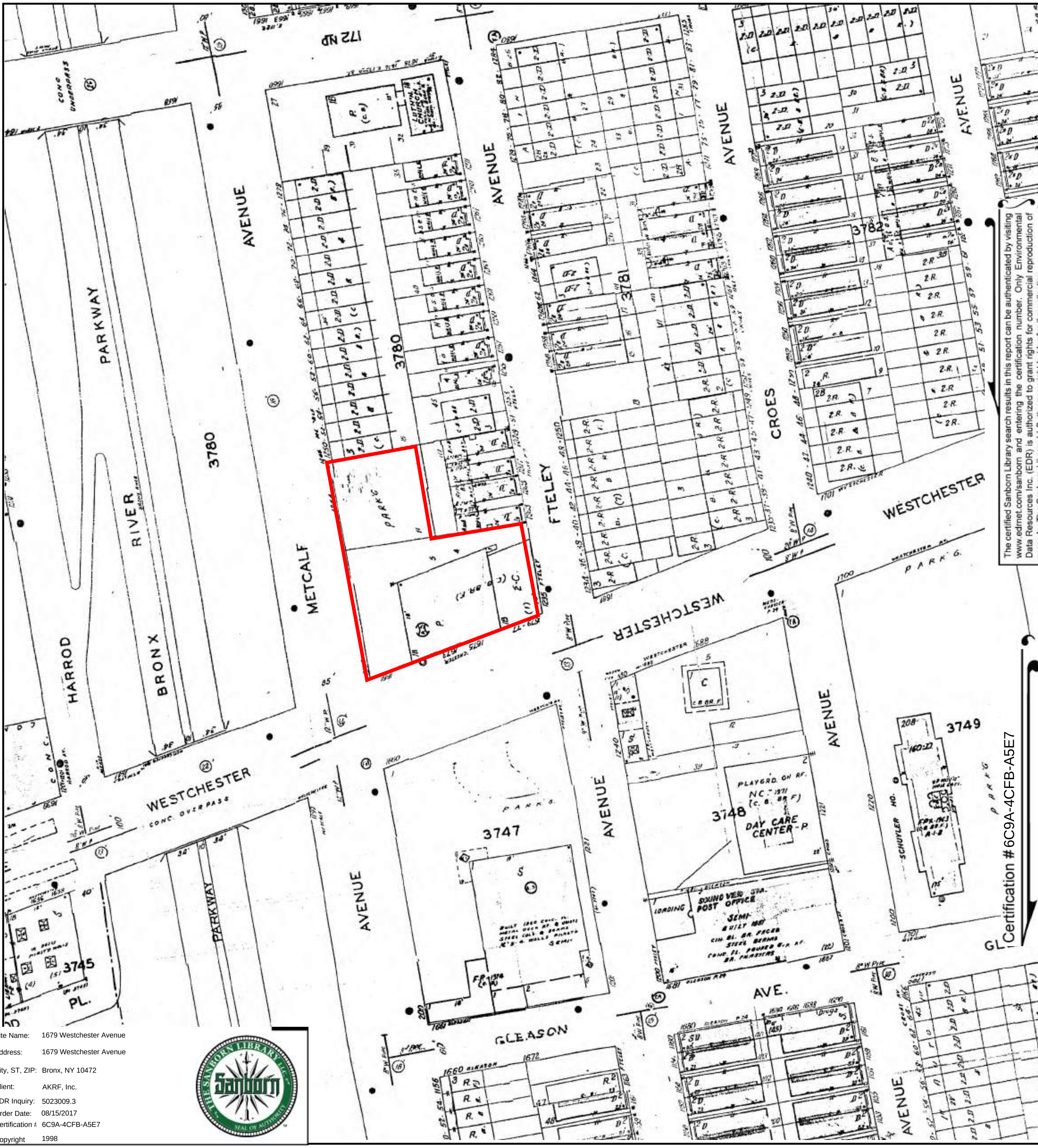
1998



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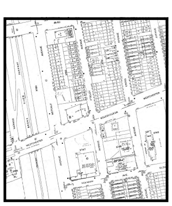

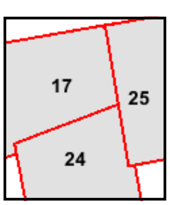

Volume 17, Sheet 25
Volume 17, Sheet 24
Volume 17, Sheet 17

0 Feet 150 300 600

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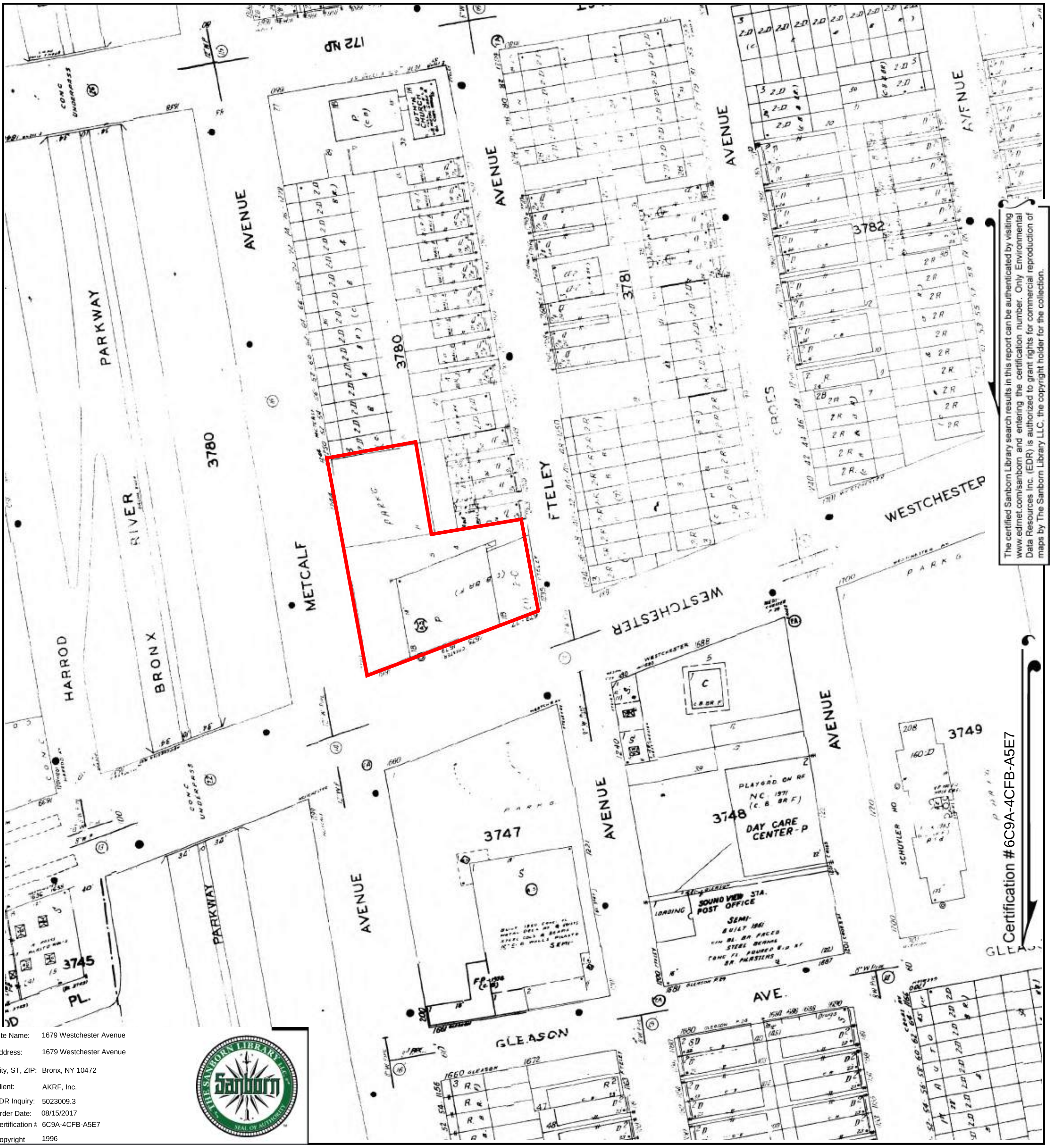
1996



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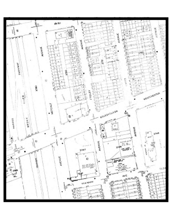

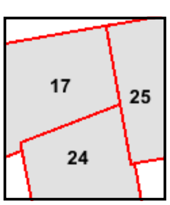

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Volume 17, Sheet 24
Volume 17, Sheet 17

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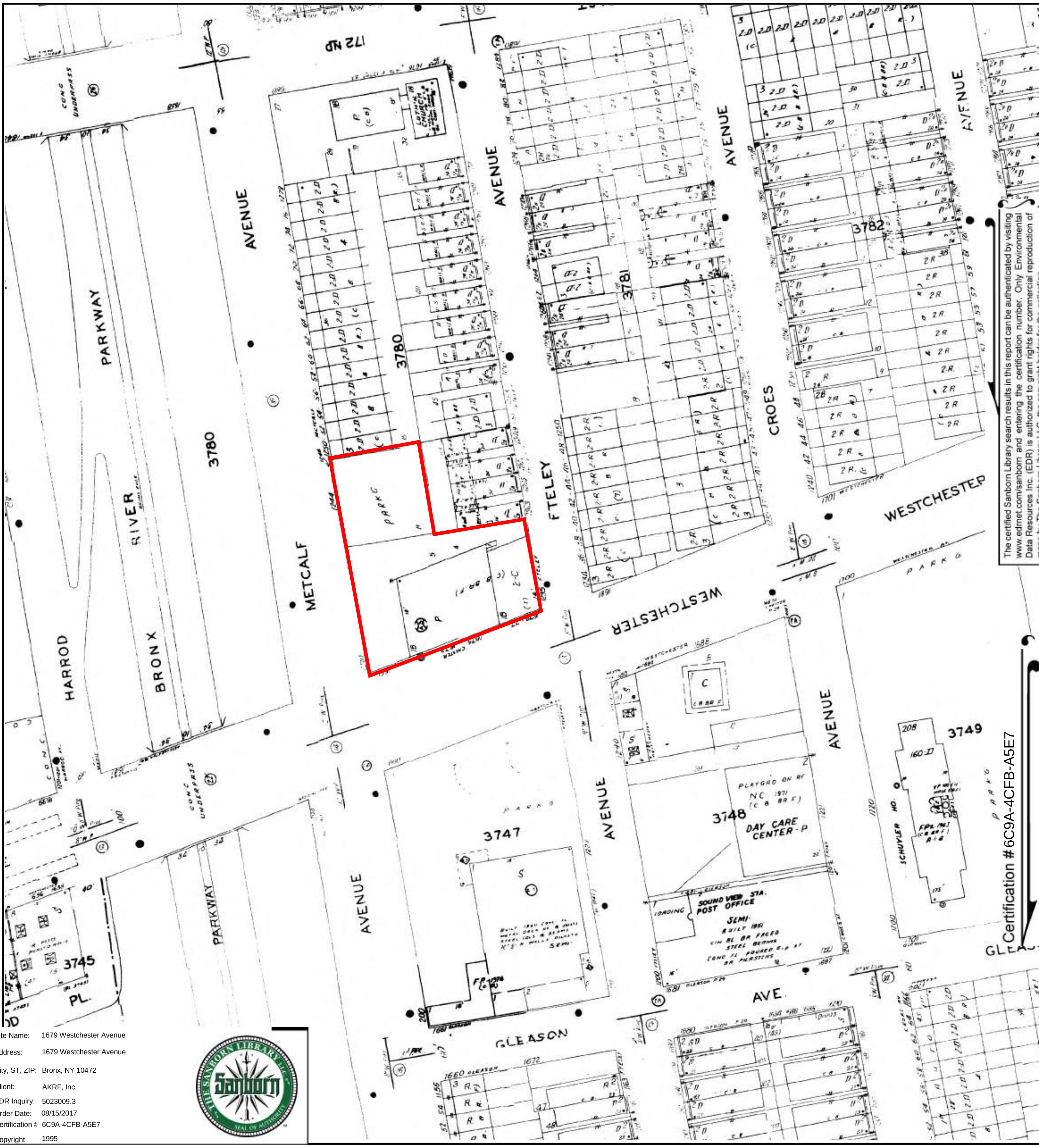
1995



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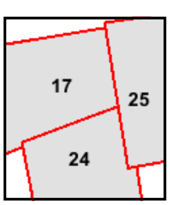

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Volume 17, Sheet 17

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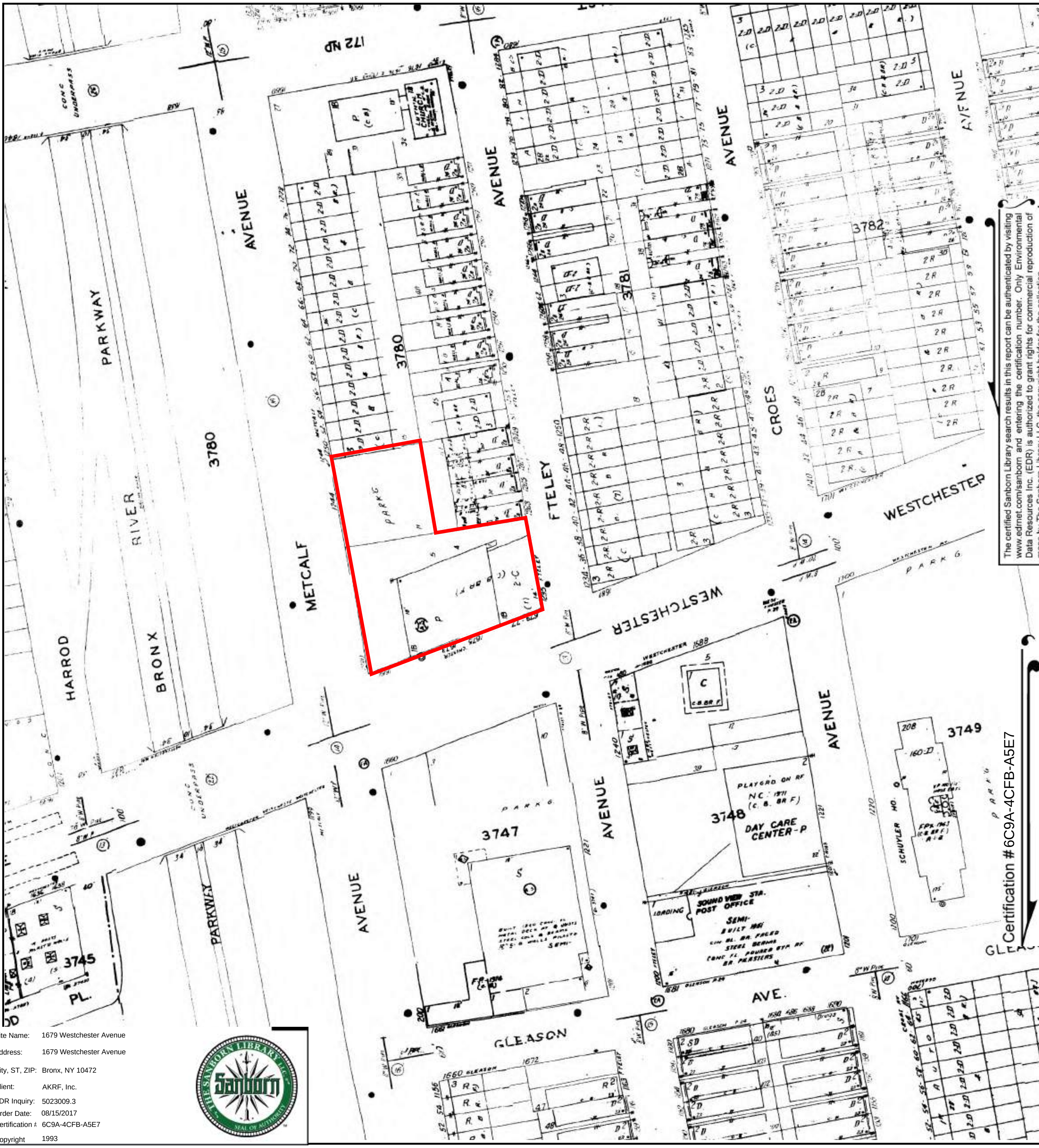
1993



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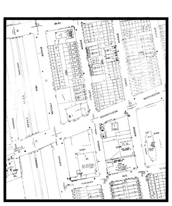

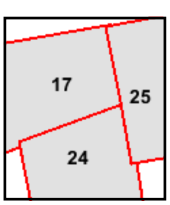

Volume 17, Sheet 25
Volume 17, Sheet 24
Volume 17, Sheet 17

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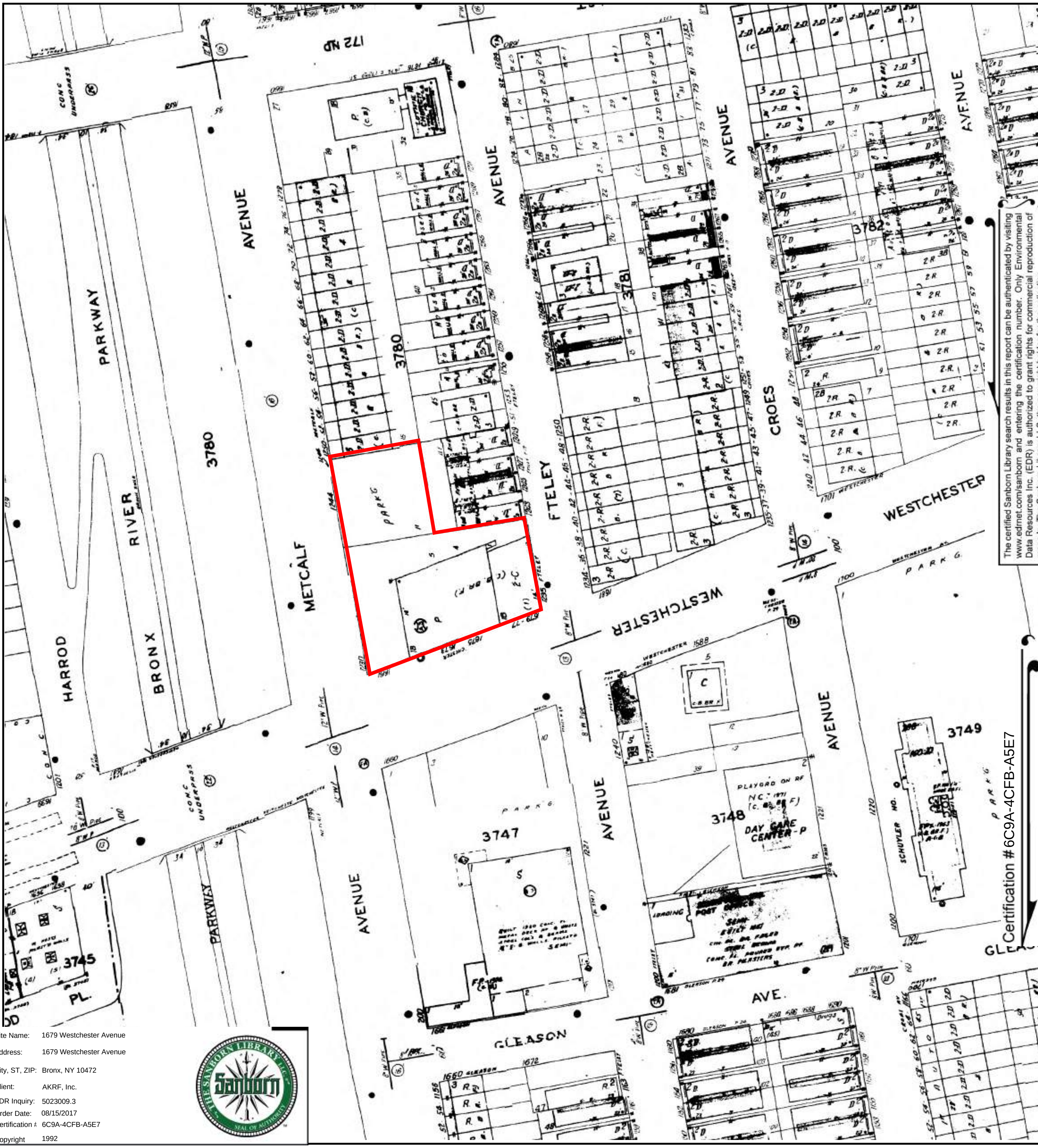
1992



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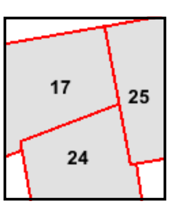

Volume 17, Sheet 25
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Volume 17, Sheet 17

0 Feet 150 300 600

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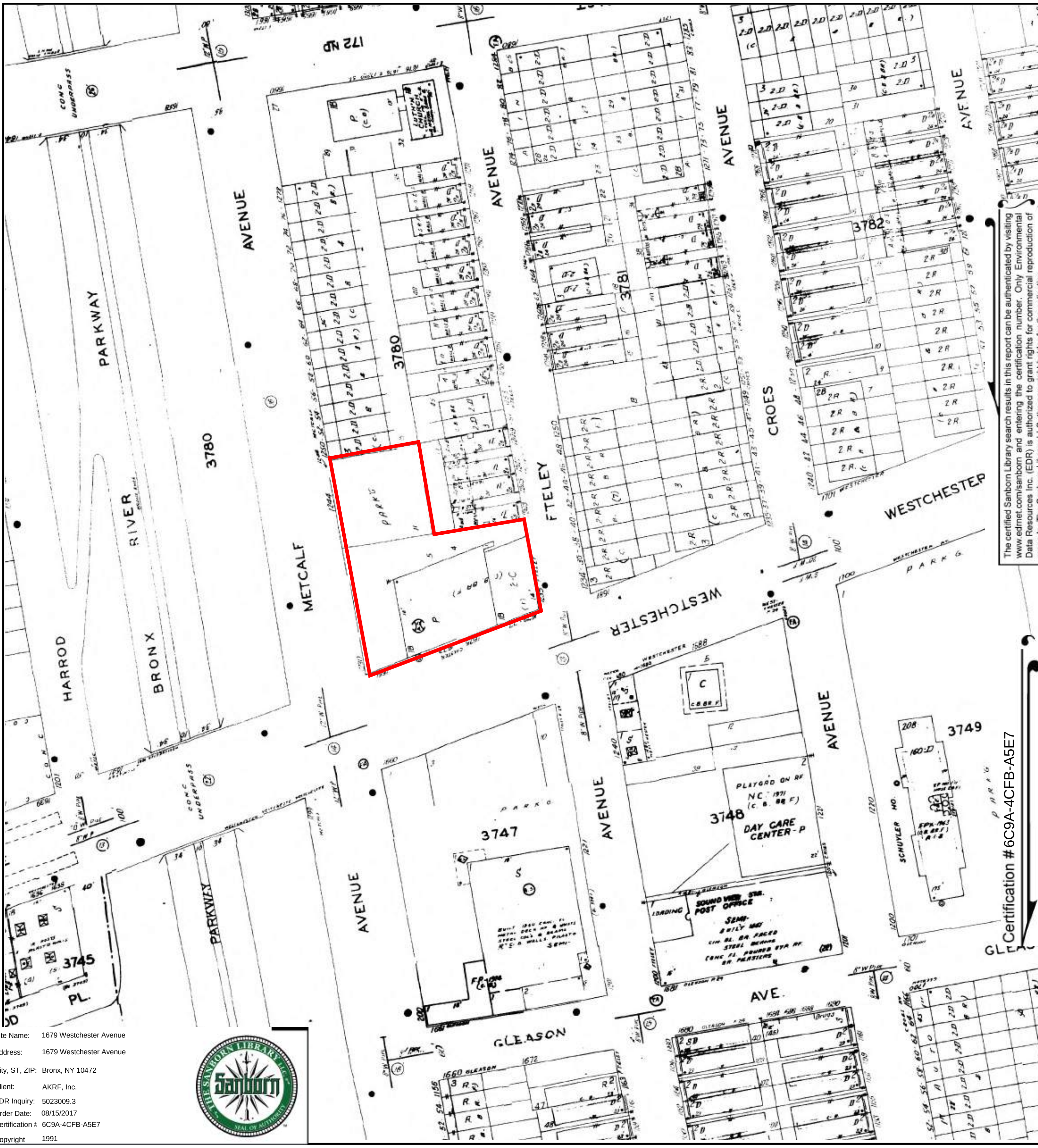
1991



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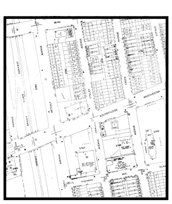

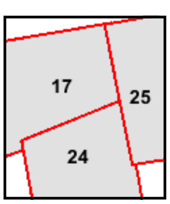

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Volume 17, Sheet 17

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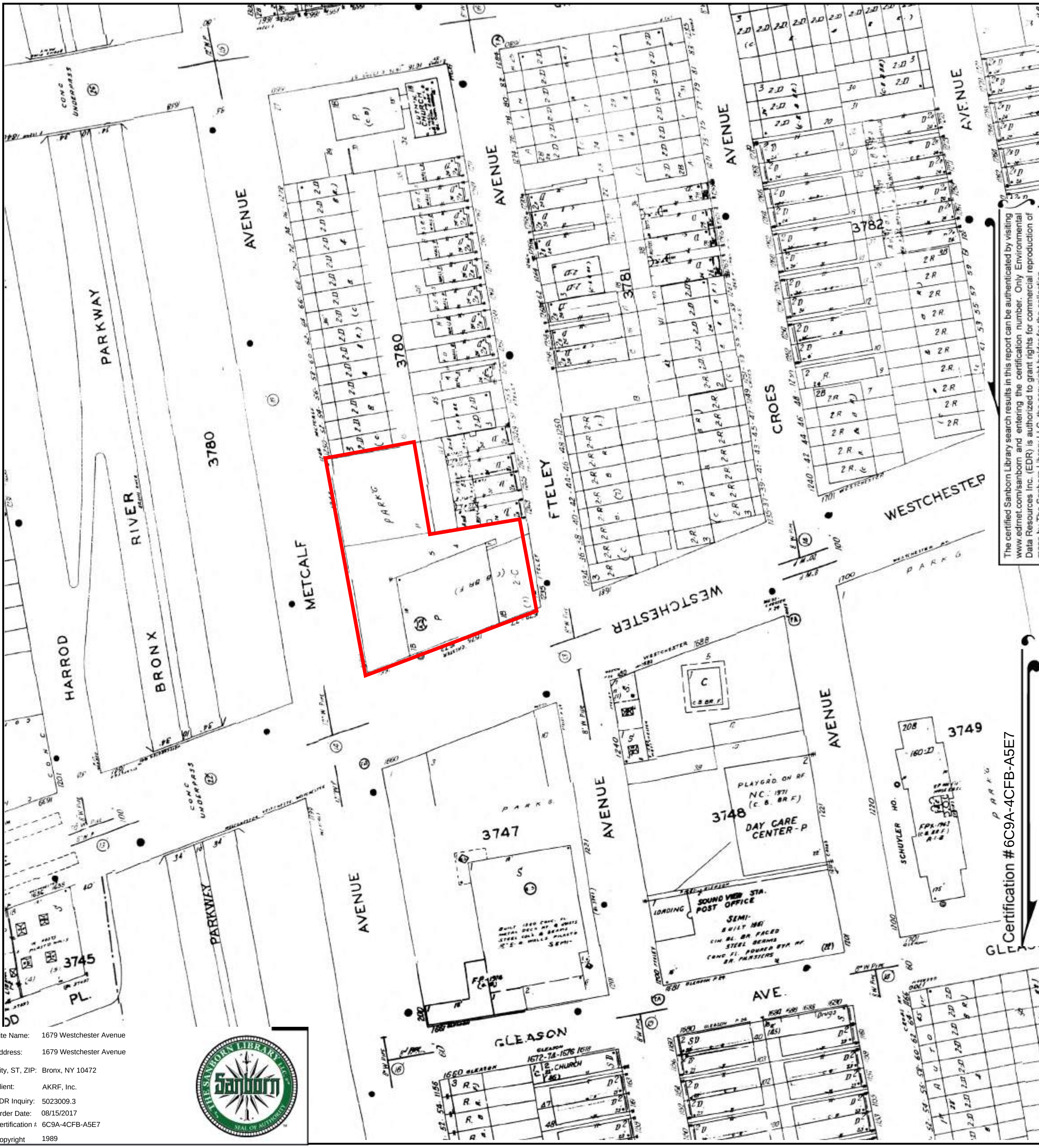

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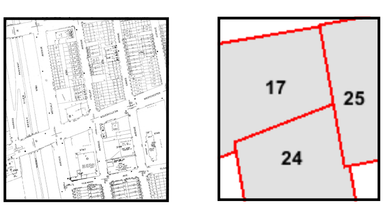

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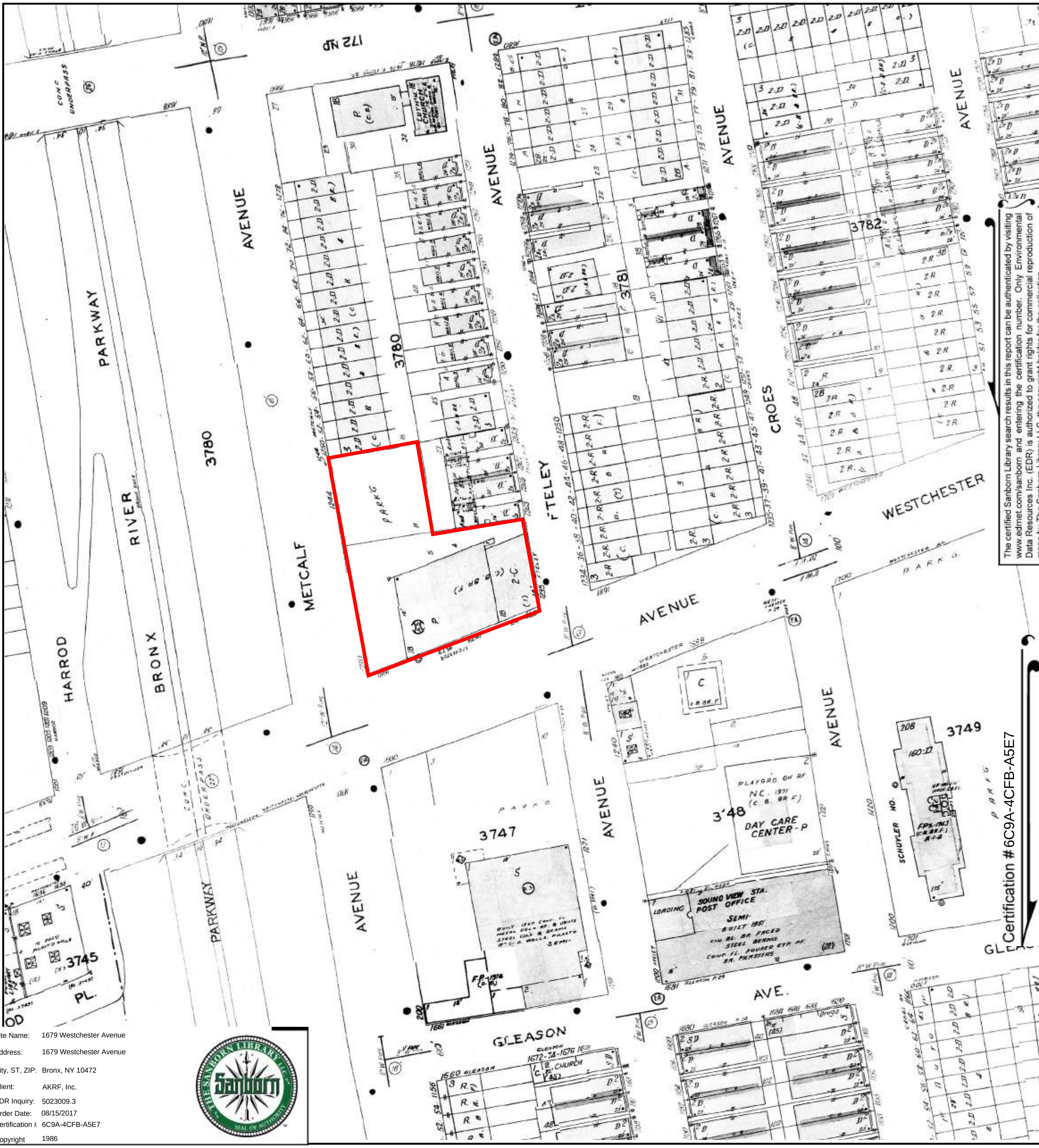

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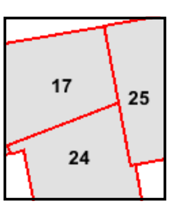

Volume 17, Sheet 25
Volume 17, Sheet 24
Volume 17, Sheet 17

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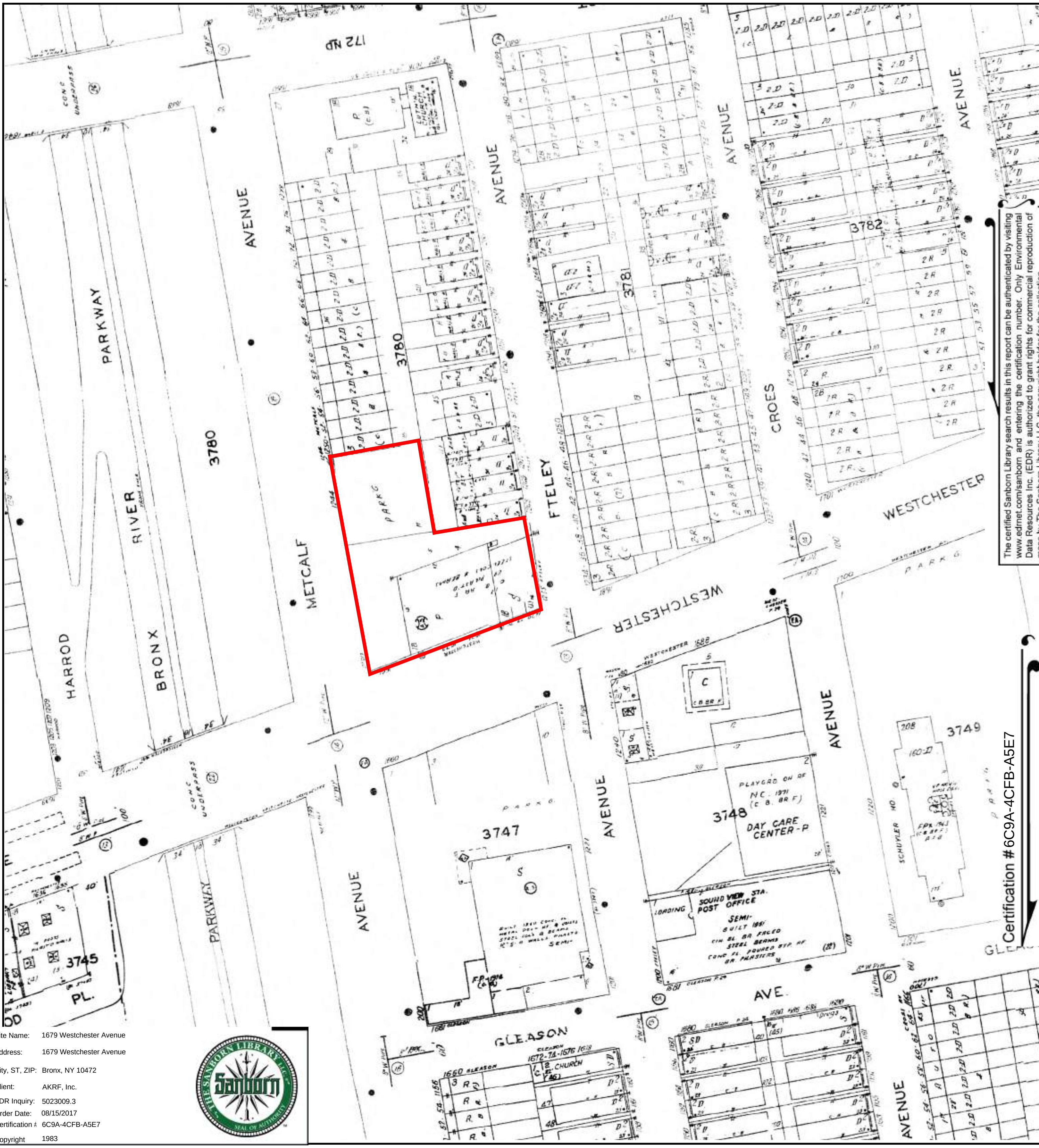

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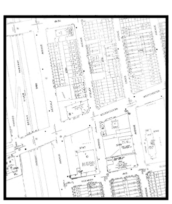

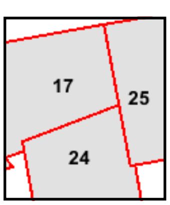

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Volume 17, Sheet 24
Volume 17, Sheet 17

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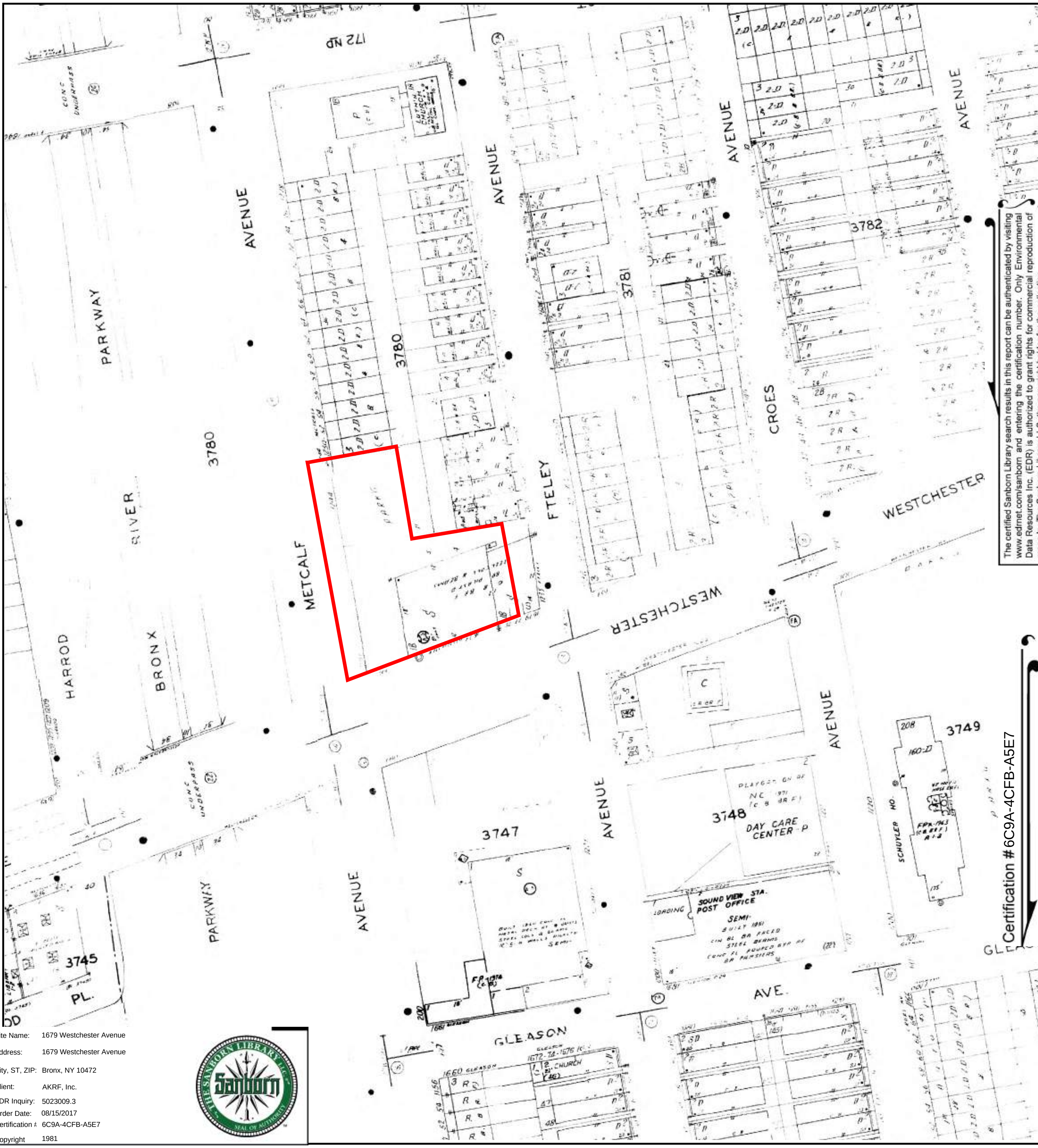

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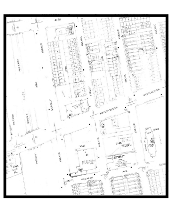

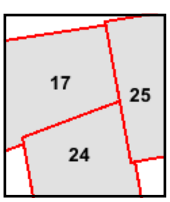

Volume 17, Sheet 25
Volume 17, Sheet 24
Volume 17, Sheet 17

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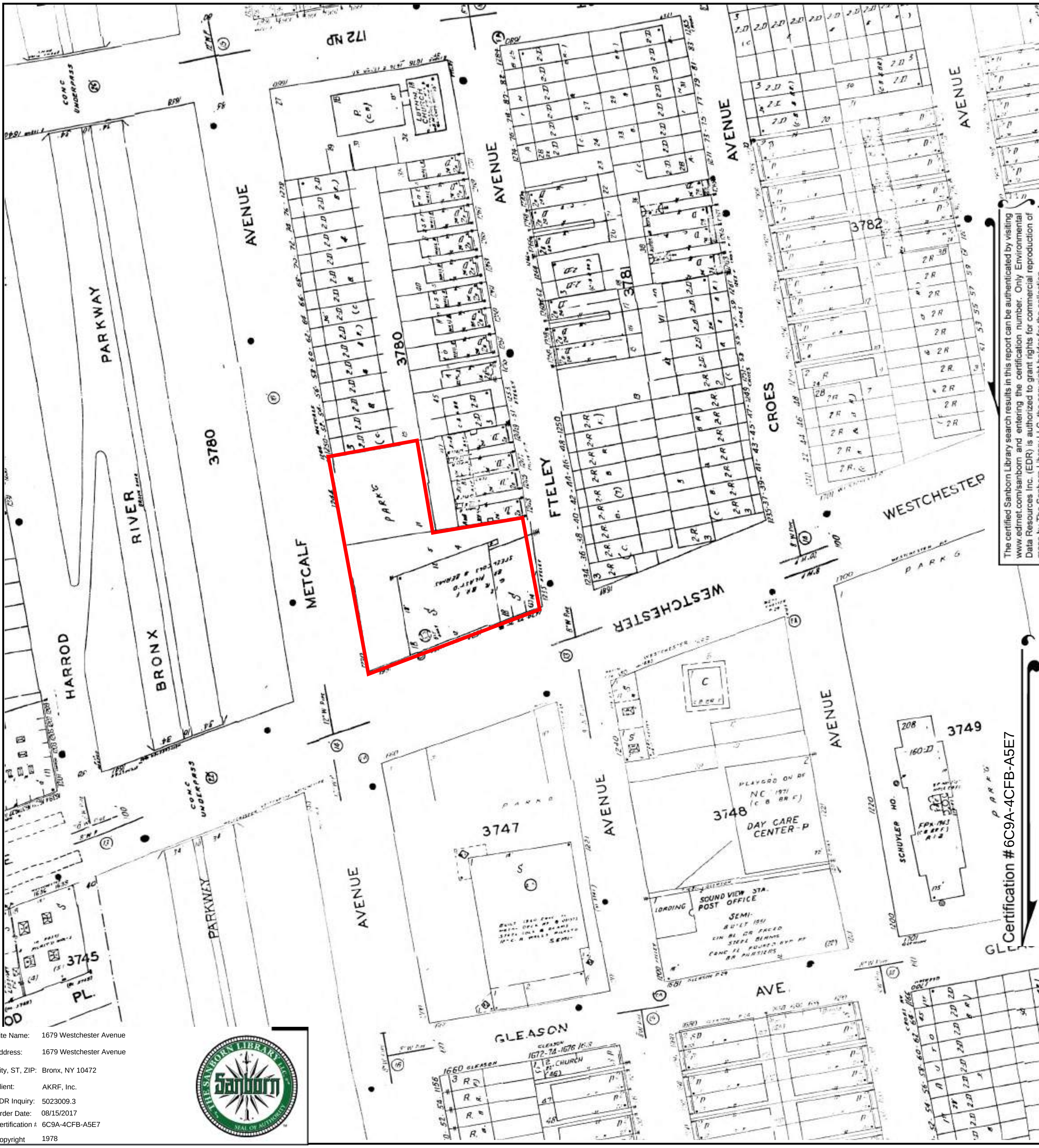

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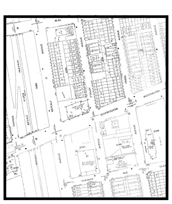

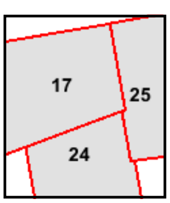

Volume 17, Sheet 17
Volume 17, Sheet 25
Volume 17, Sheet 24

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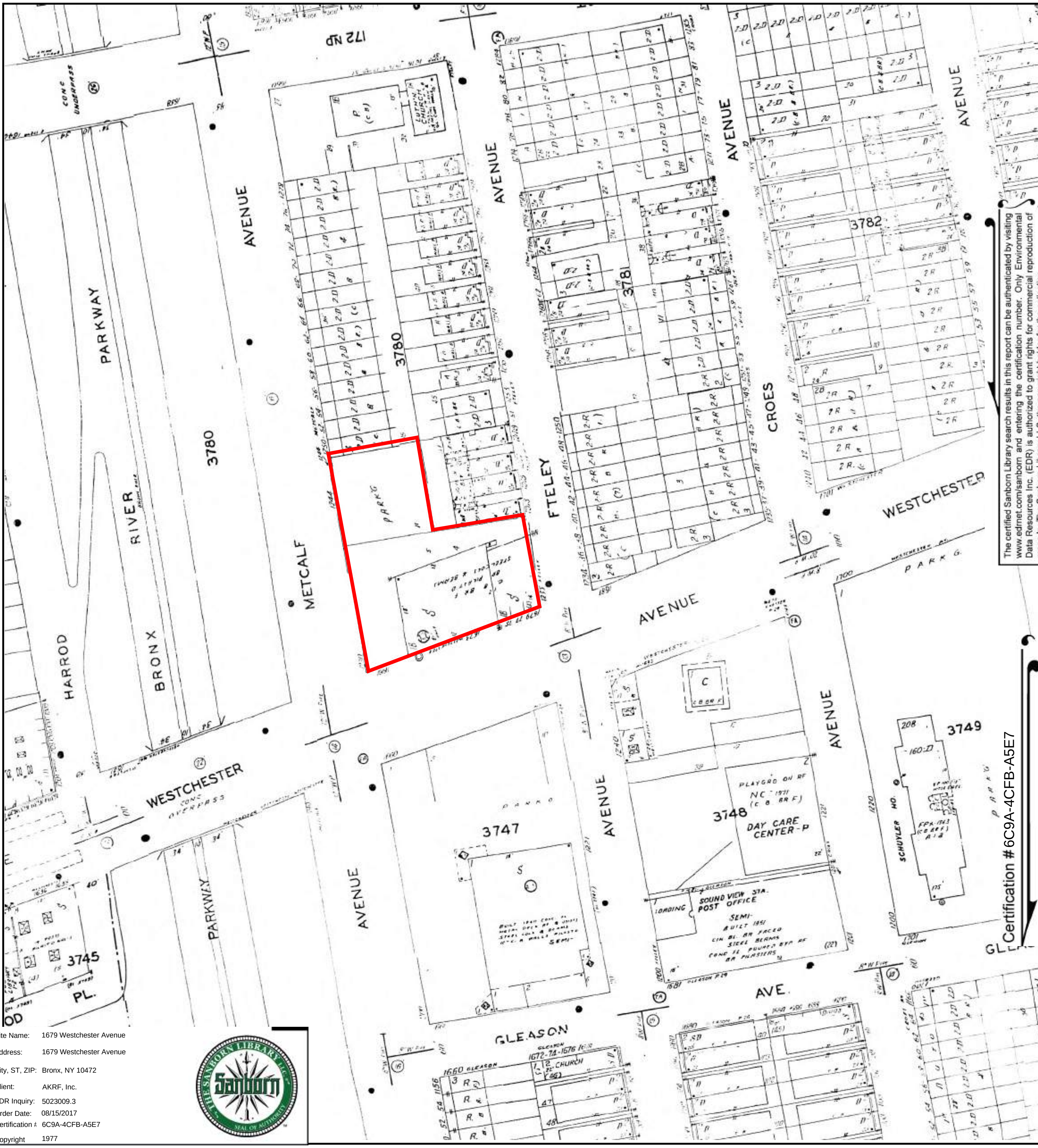

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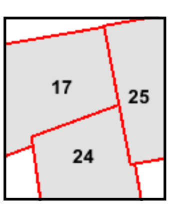

Volume 17, Sheet 25
Volume 17, Sheet 24
Volume 17, Sheet 17

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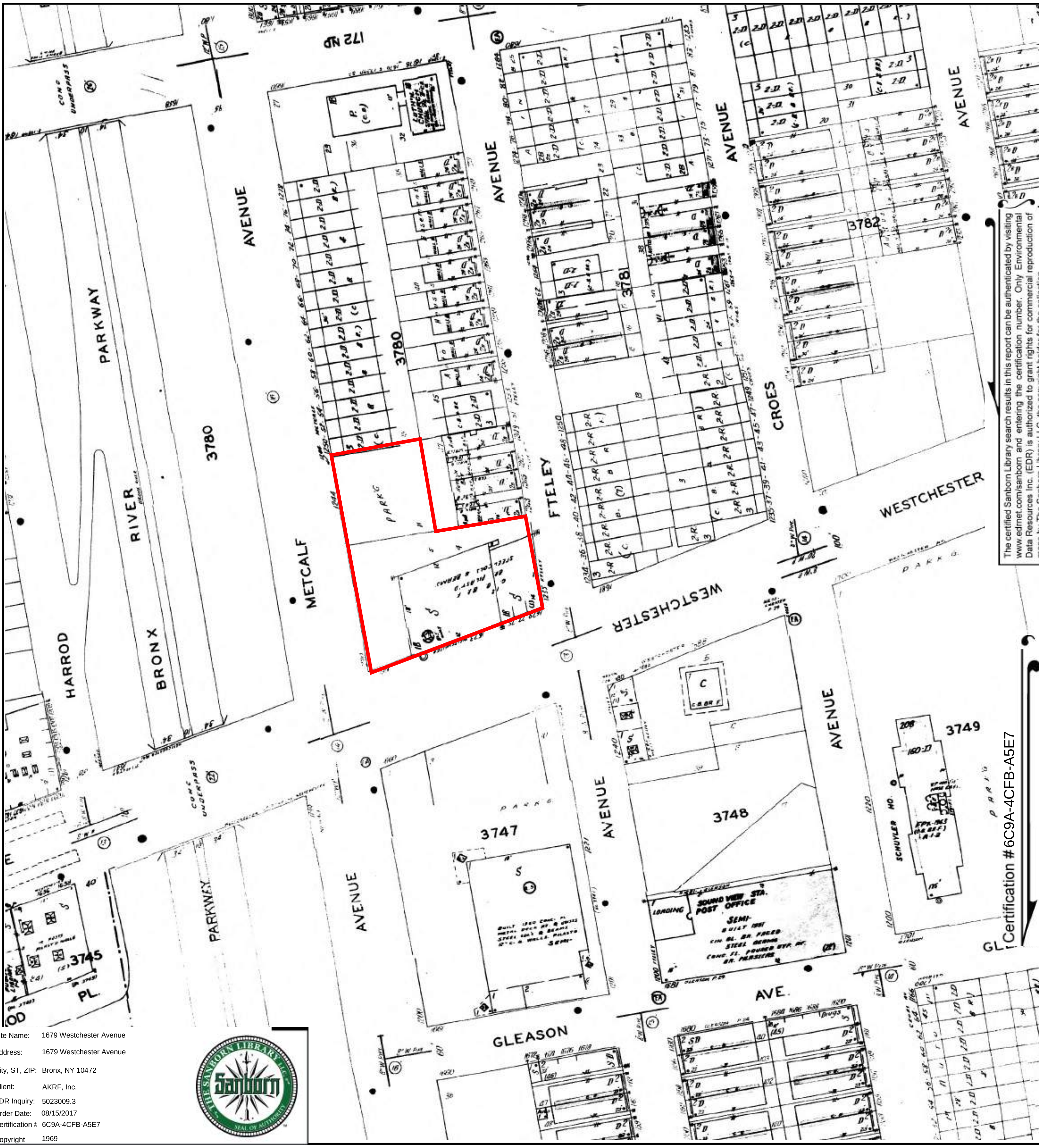

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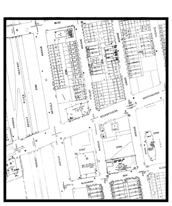

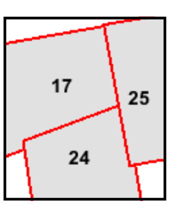

Volume 17, Sheet 25
Volume 17, Sheet 24
Volume 17, Sheet 17

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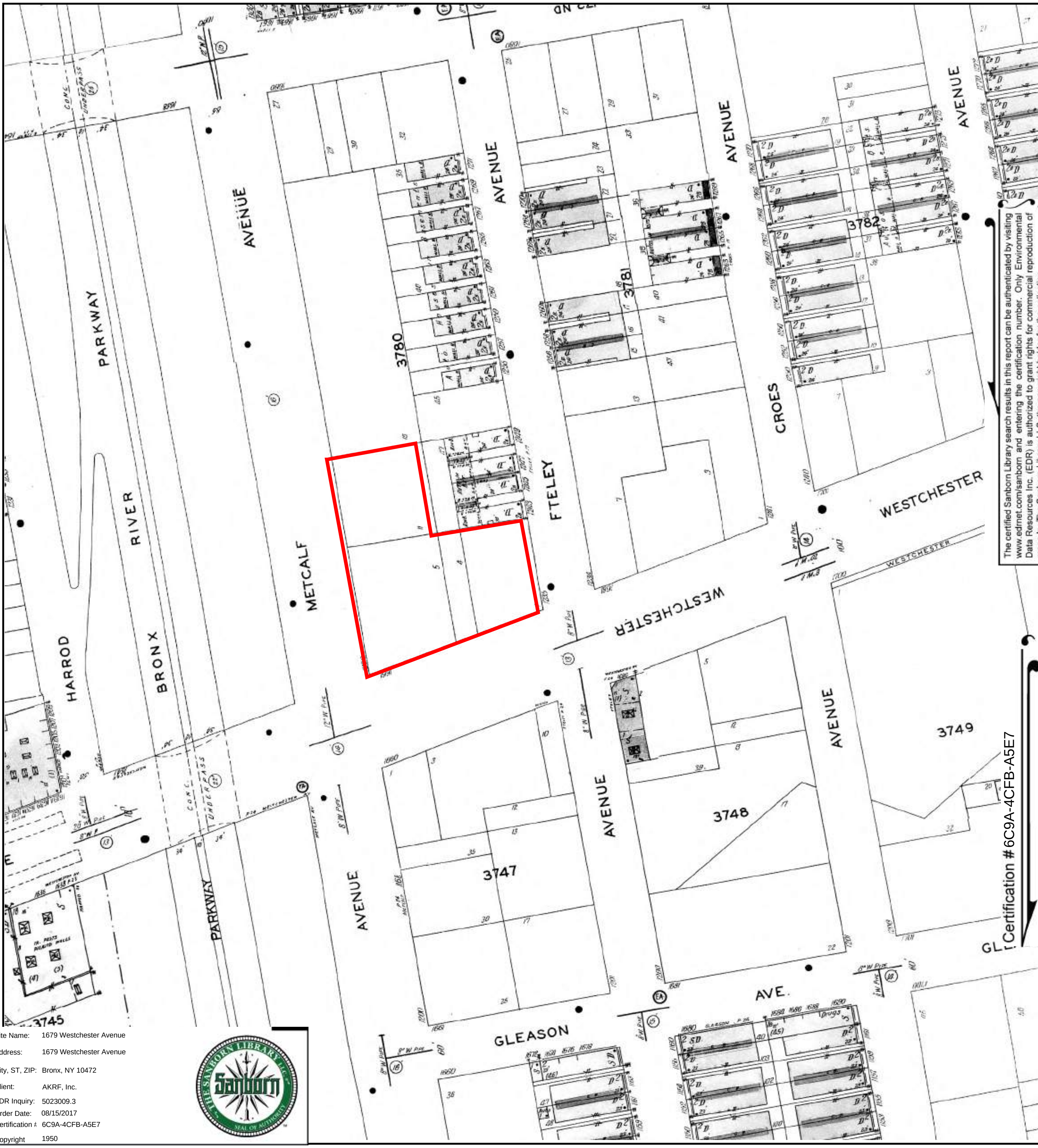

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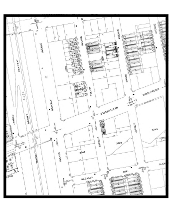

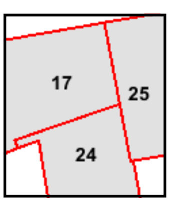

Volume 17, Sheet 25
Volume 17, Sheet 24
Volume 17, Sheet 17

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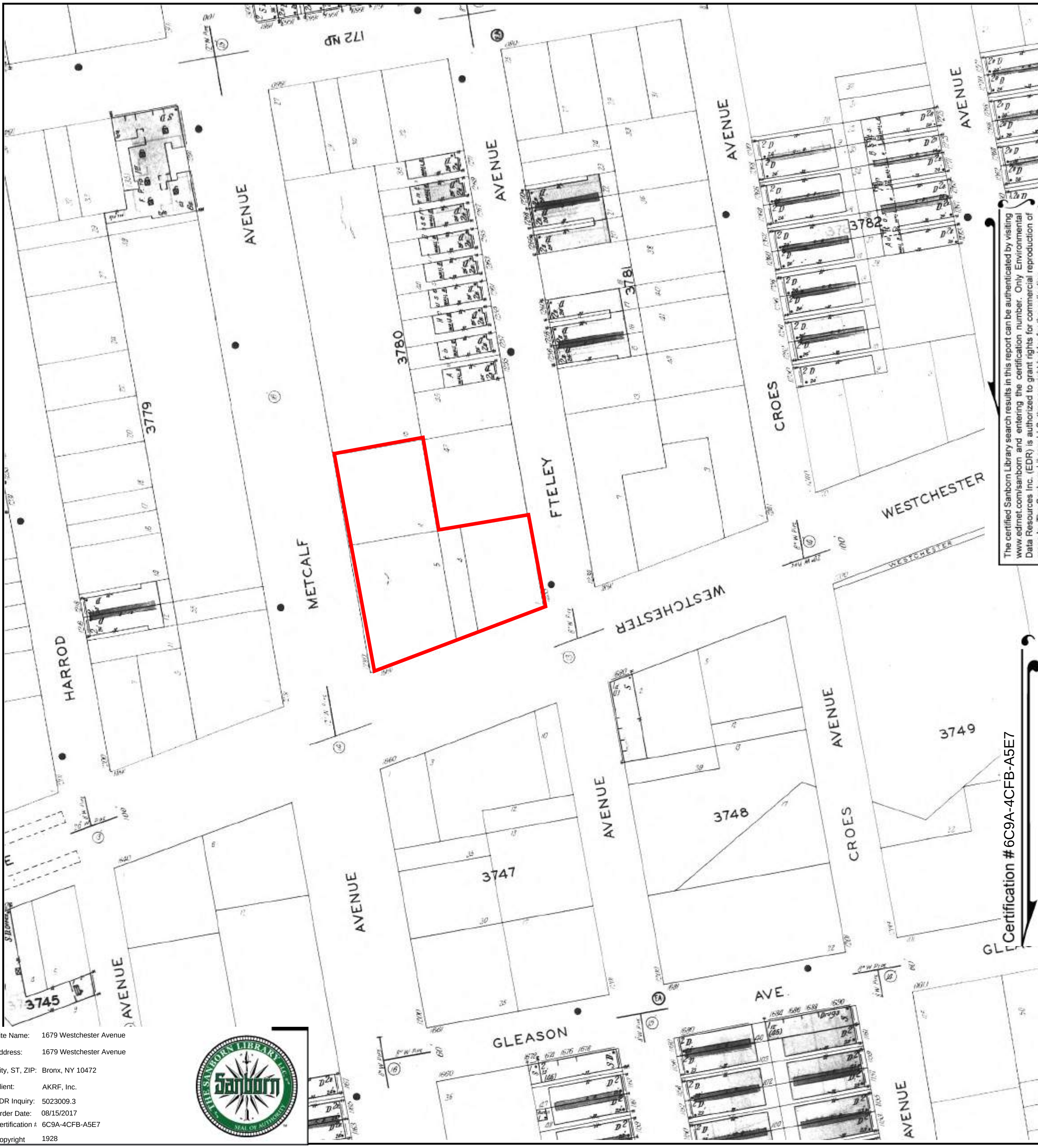

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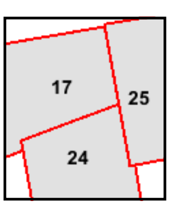

Volume 17, Sheet 25
Volume 17, Sheet 24
Volume 17, Sheet 17

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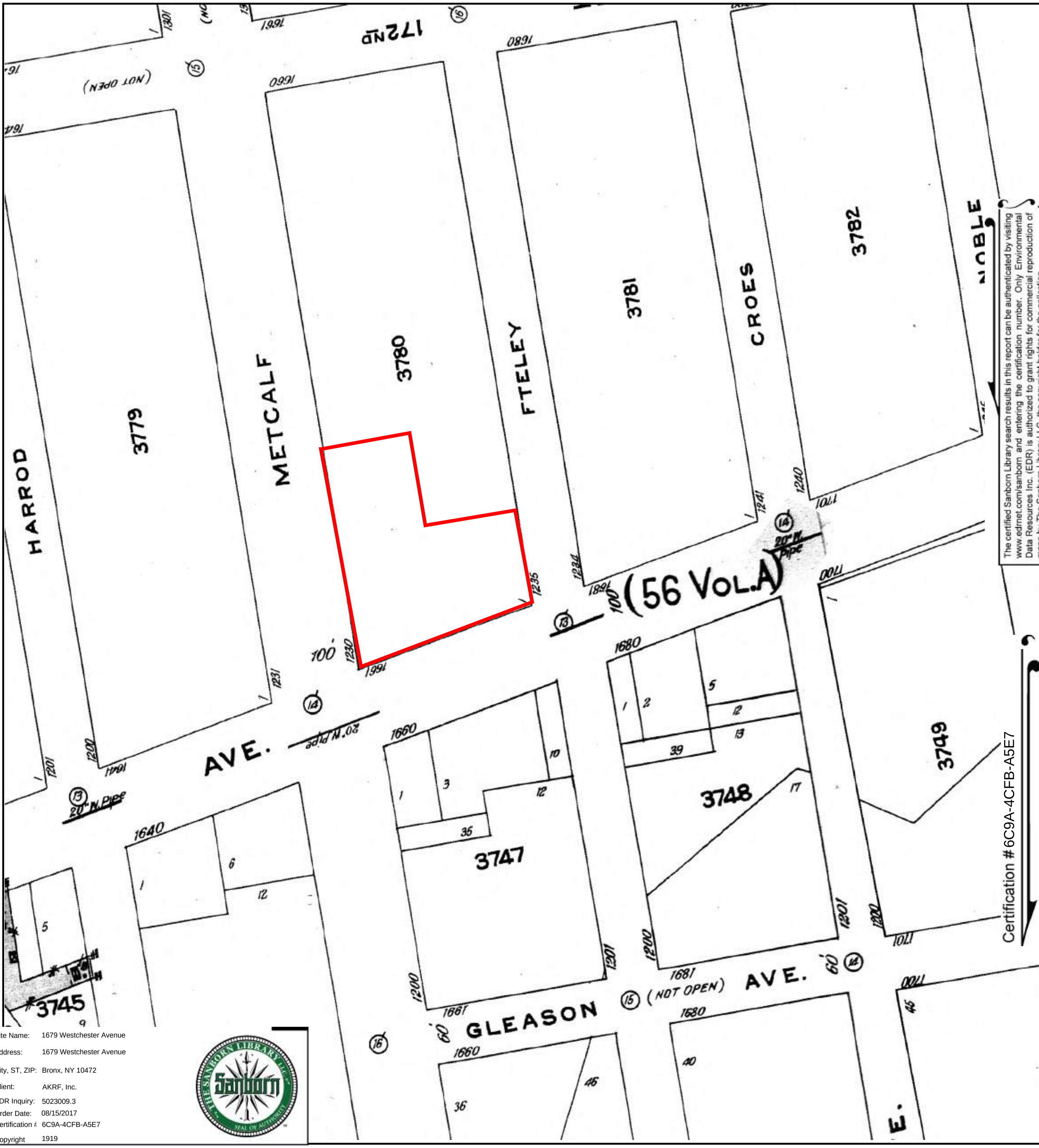

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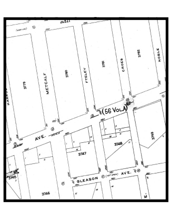

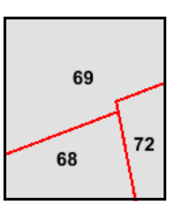

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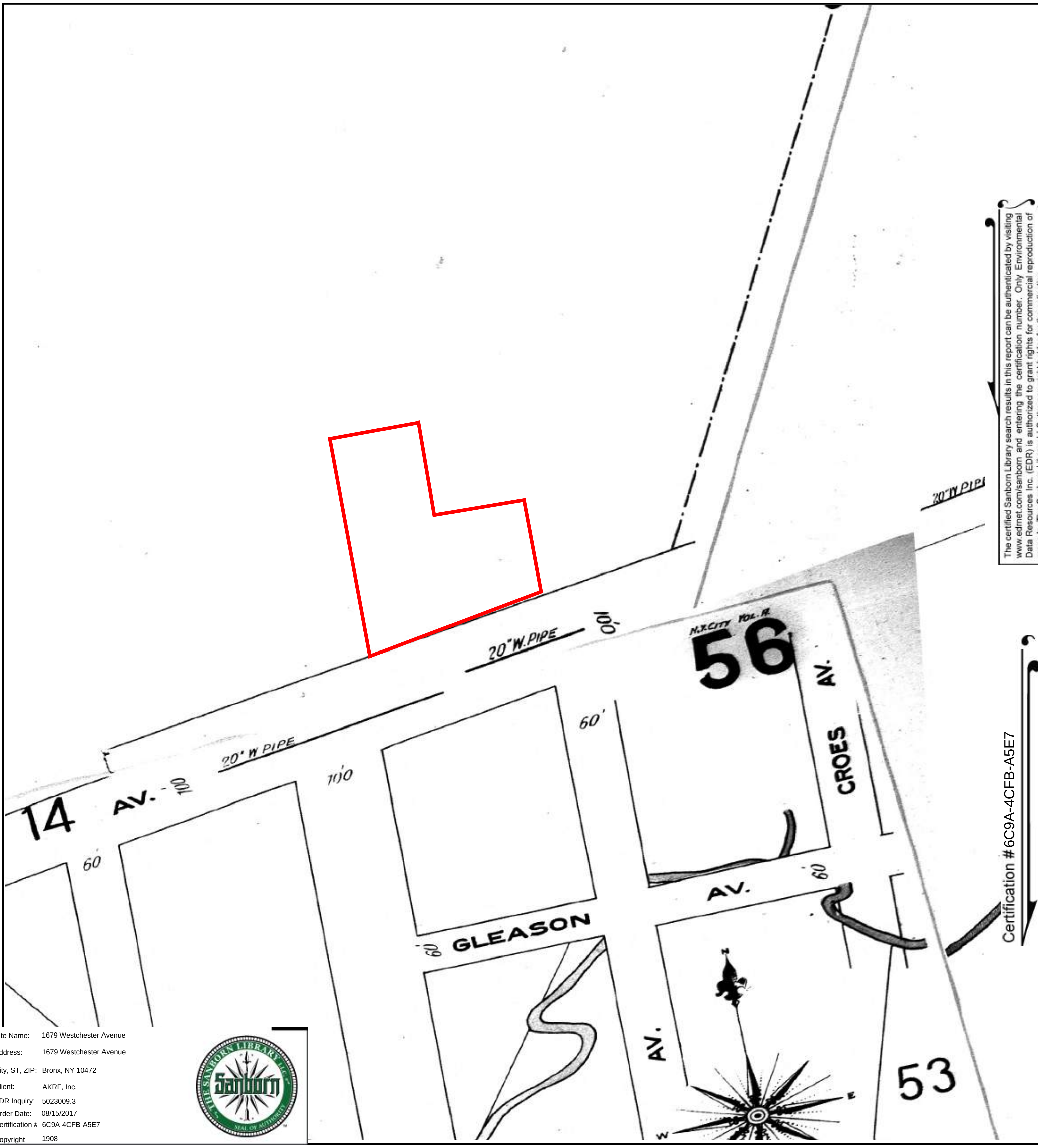

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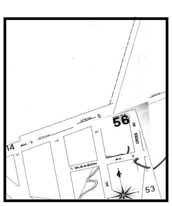

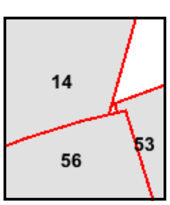

Volume A, Sheet 56
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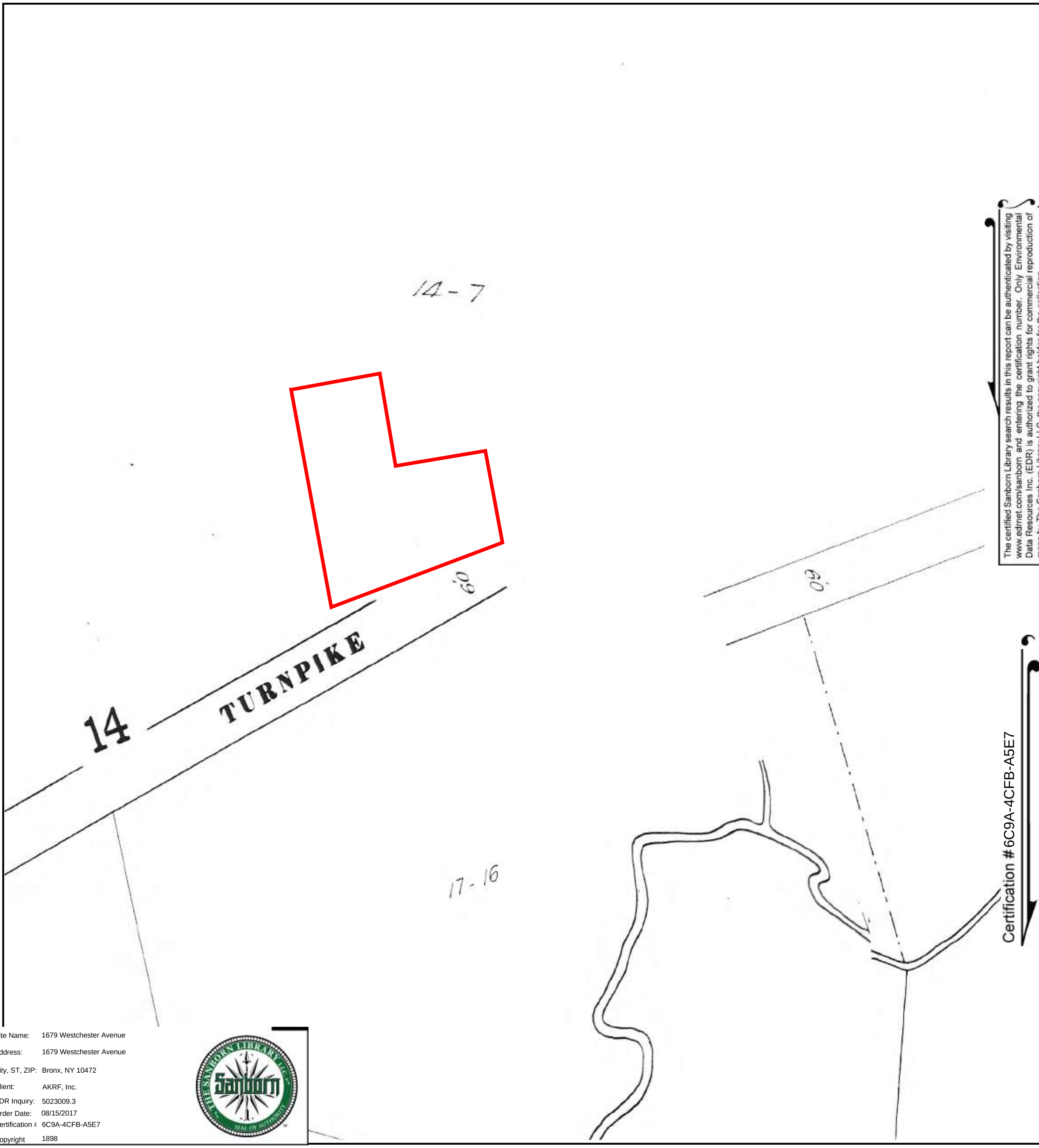

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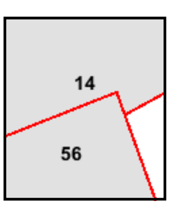

Volume A, Sheet 56
Volume A, Sheet 14

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Appendix G

Quality Assurance Project Plan (QAPP)

1675 APARTMENTS
1675-1679 WESTCHESTER AVENUE
BRONX, NEW YORK

Quality Assurance Project Plan

AKRF Project Number: 170250
BCP Site Number: C203107

Prepared for:

New York State Department of Environmental Conservation
Division of Environmental Remediation, Remedial Bureau B
625 Broadway, 12th Floor
Albany, New York 12233

On Behalf Of:

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902 Broadway, 13th Floor
New York, New York 10010
and
1675 Westchester Avenue Housing Development Fund Corporation
902 Broadway, 13th Floor
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Prepared by:

AKRF, Inc.
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(212) 696-0670

DECEMBER 2018

TABLE OF CONTENTS

1.0 INTRODUCTION ... 1
2.0 PROJECT TEAM ... 1
2.1 Remedial Engineer (RE) ... 1
2.2 Quality Assurance/Quality Control (QA/QC) Officer ... 1
2.3 Project Manager/Project Director ... 1
2.4 Field Team Leader/Technician, Site Safety Officer (SSO), and Alternate ... 2
2.5 Laboratory Quality Assurance/Quality Control (QA/QC) Officer ... 2
3.0 STANDARD OPERATING PROCEDURES (SOPs) ... 2
3.1 Drilling and Sampling Equipment Decontamination ... 2
3.2 Management of Investigation-Derived Waste (IDW) ... 2
4.0 SAMPLING AND LABORATORY PROCEDURES ... 3
4.1 Soil Sampling ... 3
4.2 Groundwater Sampling ... 3
4.3 Soil Vapor Sampling ... 4
4.4 Laboratory Methods ... 5
4.5 Quality Control (QC) Sampling ... 7
4.6 Sample Handling ... 7
4.6.1 Sample Identification ... 7
4.6.1.1. Groundwater Sampling ... 7
4.6.1.2. Waste Classification/Tank Excavation Endpoint/Hotspot Soil Sampling ... 7
4.6.1.3. Endpoint Soil Sampling ... 8
4.6.1.4. Import Soil Sampling ... 8
4.6.1.5. Reuse Soil Sampling ... 9

TABLES

Table 1 – Laboratory Analytical Methods for Analysis Groups
Table 2 – Sample Nomenclature
Table 3 – Waste Classification/Hotspot/Tank Excavation Sample Nomenclature
Table 4 – Endpoint Sample Nomenclature
Table 5 – Import Soil Sample Nomenclature
Table 6 – Reuse Soil Sample Nomenclature

ATTACHMENTS

Attachment A – Resumes for AKRF Remedial Engineer, QA/QC Officer, Project Manager, and Field Team Leader; and Third-Party Data Validator
Attachment B – February 2018 NYSDEC-Issued Emerging Contaminant Sampling Protocol

1.0 INTRODUCTION

This Quality Assurance Project Plan (QAPP) describes the protocols and procedures that will be followed during implementation of all environmental sampling associated with the Remedial Action Work Plan (RAWP) at the 1675 Apartments site (hereafter referred to as the "Site"). The Site is an approximately 36,865-square foot parcel located at 1675-1679 Westchester Avenue in the Soundview neighborhood of the Bronx, New York. The Site is identified as Bronx Borough Block 3780, Lot 1 on the New York City Tax Map.

The Site is a vacant parcel with an asphalt-paved parking area on the northern portion, an unpaved area on the southern portion, underlain by the former Site building cellar slab, and a vegetated area on the southwestern portion of the Site. The Site was formerly developed with an approximately 36,865-square foot, "L-shaped" building fronting Westchester Avenue until its demolition between September and October 2018. Most recently, the Site was occupied by a medical facility on the western portion until 2012, and a dry cleaner and liquor store on the eastern portion until January 2018. The eastern portion of the Site building was demolished in September 2018 and the western portion of the building was demolished in October 2018.

The Site is currently enrolled in the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) (BCP Site No. C203107). The objective of this QAPP is to provide Quality Assurance (QA) and Quality Control (QC) for all environmental investigative, sampling, and remedial activities conducted under the NYSDEC-approved Remedial Action Work Plan (RAWP). Adherence to this QAPP will ensure that defensible data will be obtained during environmental work at the Site.

2.0 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 current 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.

2.1 Remedial Engineer (RE)

Ms. Michelle Lapin, P.E. will serve as the RE for the RAWP. As the RE, Ms. Lapin will oversee the design of all Institutional and Engineering Controls (ICs and ECs) at the Site. Ms. Lapin's resume is included in Attachment A.

2.2 Quality Assurance/Quality Control (QA/QC) Officer

Ms. Deborah Shapiro, QEP will serve as the QA/QC officer for the RAWP. As the QA/QC officer, Ms. Shapiro will be responsible for adherence to this QAPP and will review the procedures with all personnel prior to commencing any fieldwork, and will conduct periodic Site visits to assess implementation of the procedures. Ms. Shapiro's resume is included in Attachment A.

2.3 Project Manager

Ms. Amy Jordan will serve as the project manager/project director for the RAWP. Ms. Jordan 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 owners/Volunteers, and/or the NYSDEC. As project director/project manager, Ms. Jordan will also be responsible for the general oversight of all aspects of the project, including scheduling, budgeting, data management, and field program decision-making. The project manager/project director will communicate regularly with all members of the AKRF and NYSDEC project teams to ensure a smooth flow of information between involved parties. Ms. Jordan's resume is included in Attachment A.

2.4 Field Team Leader/Technician, Site Safety Officer (SSO)

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 RAWP. The field team leader will also act as the field technician and Site safety officer (SSO), and will report to the project manager/project director on a regular basis regarding daily progress and any deviations from the RAWP. The field team leader will be a qualified and responsible person able to act professionally and promptly during environmental work at the Site. Mr. Chris Puopolo will be the field team leader. Mr. Puopolo's resume is included in Attachment A.

2.5 Laboratory Quality Assurance/Quality Control (QA/QC) Officer

The laboratory QA/QC officer will be responsible for QC procedures and checks in the laboratory and ensuring adherence to laboratory protocols. The laboratory 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 Armbruster of Test America Laboratories (TA), the New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP)-certified laboratory that will be employed for all environmental sampling at the Site under the RAWP.

3.0 STANDARD OPERATING PROCEDURES (SOPS)

The following sections describe the SOPs for the remedial activities included in the RAWP. During these operations, safety monitoring will be performed as described in the Health and Safety Plan (HASP), included in Appendix H of the RAWP.

3.1 Drilling and Sampling Equipment Decontamination

All drilling and sampling equipment will be either dedicated or decontaminated between sampling locations. Decontamination will be conducted 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.

3.2 Management of Investigation-Derived Waste (IDW)

IDW will be containerized in New York State Department of Transportation (NYSDOT)-approved 55-gallon drums or disposed of via tri-axel trucks during excavation activities. 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, 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.

4.0 SAMPLING AND LABORATORY PROCEDURES

4.1 Soil Sampling

Soil sampling will be conducted in accordance with Division of Environmental Remediation (DER)-10 and will be generally conducted as follows:

Characterize the sample according to the modified Burmister soil classification system.

Field screen the sample for evidence of contamination (e.g., odors, staining,) using visual and olfactory methods and screen for volatile organic compounds (VOCs) using a photoionization detector (PID) equipped with a 10.6 electron Volt (eV) lamp.

Record sample location, sample depth, and sample observations (evidence of contamination, PID readings, soil classification, etc.) in field logbook and boring log data sheet, if applicable.

Collect an aliquot of soil from each proposed sample location, place in laboratory-supplied glassware, label the sample in accordance with Section 4.6.1 of this QAPP, and place in an ice-filled cooler for shipment to the laboratory.

Complete the chain of custody paperwork and seal the cooler.

4.2 Groundwater Sampling

Groundwater sampling will be conducted in accordance with the United States Environmental Protection Agency (EPA) low flow methodology, Any samples collected for the emerging contaminants 1,4-Dioxane and/or Perfluorinated Compounds (PFCs) will be additionally sampled and handled in accordance with the February 2018 NYSDEC-issued emerging contaminant sampling protocol, included as Attachment B, with the exception that low-density polyethylene (LDPE) sampling bladders will be used, as no industry standard alternative is currently available. Groundwater sampling will be generally conducted as follows:

- Remove the well plug and immediately measure the vapor concentrations in the well headspace with a PID calibrated to the manufacturer’s specifications.
- Measure the depth to water and total well depth, and check for the presence of non-aqueous phase liquid (NAPL) using a bailer. Measure the thickness of NAPL, if any, and record in field book and well log. If present, collect a sample of NAPL using a disposable plastic weighted bailer or similar collection device. Groundwater samples will not be collected from wells containing measurable NAPL.
- Connect dedicated tubing to either a submersible or bladder pump and lower the pump such that the intake of the pump is set at the midpoint 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 Horiba Quanta multi-parameter (or equivalent) meter. Connect tubing to the output of the cell and place the discharge end of the tubing in a five-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 so as 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 and will be no greater than 3.8 liters per minute.

- Transfer discharged water from the 5-gallon buckets to 55-gallon drums designated for well-purge water.
- During purging, collect periodic samples and analyze for water quality indicators (e.g., turbidity, pH, temperature, dissolved oxygen, reduction-oxidation potential, and specific conductivity) with measurements collected approximately every five minutes.
- Continue purging the well until turbidity is less than 50 NTU and water quality indicators have stabilized to the extent practicable. The criteria for stabilization will be three successive readings for the following parameters and criteria:
    - Dissolved Oxygen - +/- 0.3 milligram per Liter (mg/L)
    - Turbidity - <50 nephthalometric turbidity units (NTU)
    - ORP/Eh - +/- 10 millivolts (mV)
    - Specific Conductance - +/- 3% millisievert per centimeter (mS/cm)
    - PH - +/- 0.1 pH units

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 4.4 of this QAPP. Label the containers as described in Section 4.6.1 of this QAPP and place in an ice-filled cooler for shipment to the laboratory.

Collect one final field sample and analyze for turbidity and water quality parameters (pH, temperature, dissolved oxygen, reduction-oxidation potential, and specific conductivity).

Record all measurements (depth to water, depth to NAPL, water quality parameters, turbidity), calculations (well volume), and observations in the project logbook and field data sheet, if applicable.

Once sampling is complete, remove the pump and tubing from the well. Dispose of the dedicated equipment and decontaminate reusable equipment, as described in Section. The purge water will be managed as described in Section 3.2 of this QAPP.

Decontaminate the equipment, as described in Section 3.1 of this QAPP.

4.3 Soil Vapor Sampling

Soil vapor sampling will be conducted in accordance with New York State Department of Health (NYSDOH) Final Guidance on Soil Vapor Intrusion, October 2006. Samples will be collected in either Tedlar® bags or SUMMA® canisters. Soil vapor sampling will be generally conducted as follows:

- Install a shroud over the vapor sampling point tubing and seal to the surface along the perimeter using duct tape or non-VOC putty, as appropriate.
- Puncture the shroud and pull the vapor sampling point tubing through the shroud to allow for sample collection. Seal the puncture as necessary with duct tape or modeling clay.

Pierce a second hole in the shroud, and insert new, dedicated silicone tubing through the hole, connecting the other end of the tubing to the helium tank/canister to allow introduction of the helium tracer gas. Seal the puncture as necessary with duct tape/modeling clay.

Connect the vapor sampling point tubing to the low-flow air pump inlet port. Connect the low-flow air pump discharge port to a Tedlar™ bag.

Calculate and purge the soil gas sampler of approximately three sampling point volumes using the air pump and Tedlar bag. The air withdrawal flow rate will be maintained to the extent practicable at less than 0.2 Liter per minute to better control the physical extent from which soil vapor is being drawn from.

Field screen the sample within the Tedlar™ bag using a calibrated PID and a helium detector (MGD 2002 or equivalent). If elevated concentrations (greater than 1% or 10,000 parts per million) of helium are detected, inspect surface seal, and add hydrated bentonite/modeling clay or make other necessary modifications to reinforce the seal.

After purging the soil gas sampler, disconnect the sampling point tubing from the air pump and plug/cap tubing prior to conducting the vapor sampling.

Following successful testing of the surface seal, the following procedures shall be implemented to collect each soil vapor sample:

- Connect sampling point tubing to the inlet of the SUMMA® canister flow controller/vacuum gauge assembly, which should have been calibrated for sample collection over the sampling period specified in the work plan.
- Open canister valve completely and record the initial reading from the vacuum gauge on the assembled canister. Record the corresponding time on the log sheet and in the field book.
- Begin routine sampling measurement collection. Routine measurements will include time, sample canister vacuum, and ambient PID reading in vicinity of samples. One time measurements include canister and flow controller IDs. Write in required measurements on the canister tags.
- At the end of the sampling period and always prior to the vacuum gauges reaching to 0 vacuum, close the canister valves, remove the flow controller/vacuum gauge assemblies, and cap canisters with threaded caps.

Non-dedicated equipment should be decontaminated between locations.

4.4 Laboratory Methods

Test America Laboratories Inc. of Edison, New Jersey, a NYSDOH ELAP-certified laboratory subcontracted to AKRF, will be used for all chemical analyses in accordance with the DER-10 2.1(b) and 2.1(f) with Category B Deliverables. Table 1 summarizes the laboratory methods that will be used to analyze field samples and the sample container type, preservation, and applicable holding times.

Table 1
Laboratory Analytical Methods for Analysis Groups

Matrix	Analysis	EPA Method	Bottle Type	Preservative	Hold Time
Soil	Volatile Organic Compounds (VOCs)	8260C	3 EnCore® or TerraCore® samplers and 2 oz. plastic jar	≤ 6 ºC	48 hours to extract; 14 days to analyze
	Semivolatile Organic Compounds (SVOCs)	8270D	8 oz. Glass Jar	≤ 6 ºC	14 days to extract; 40 days to analyze
	Total Analyte List (TAL) Metals, and Hexavalent Chromium	6000/7000 Series, 6010C, and 7196A	8 oz. Glass Jar	≤ 6 ºC	6 months holding time; Mercury 28 days holding time; Hexavalent chromium 30 days to extract, 7 days to analyze
	Pesticides	8081B	8 oz. Glass Jar	≤ 6 ºC	14 days to extract; 40 days to analyze
	Polychlorinated Biphenyls (PCBs)	8082A	8 oz. Glass Jar	≤ 6º C	14 days to extract; 40 days to analyze
Groundwater	VOCs	8260C	3 x 40 mL Glass Vials	HCl to pH < 2 and ≤ 6 ºC	14 days to analyze if preserved
	SVOCs	8270D	2,000 mL Amber Jar	≤ 6 ºC	7 days to extract; 40 days to analyze
	1,4-Dioxane	8270D plus Selective Ion Monitoring (SIM); 0.35 µg/L RL	1 L Amber Jar	≤ 6 ºC	7 days to extract; 40 days to analyze
	TAL Metals and Hexavalent Chromium	6000/7000 Series, 6010C, and 7196A	2,000 mL Amber Jar	HNO_3 to pH < 2	6 months for metals; 28 days for mercury; 24 hours for hexavalent chromium
	Pesticides	8081B	2,000 mL Amber Jar	≤ 6 ºC	7 days to extract; 40 days to analyze
	PCBs	8082A	2,000 mL Amber Jar	≤ 6 ºC	7 days to extract; 40 days to analyze
	Per- and polyfluorinated Compounds (PFAS)	Modified 537; 0.2 ng/L RL	3 x 250mL Polypropylene Bottles	≤ 6 ºC, Trizma	14 days to analyze
Soil Vapor	VOCs	TO-15	6 L SUMMA® Canister or Tedlar™ Bag	None	14 days

Notes:
EPA – Environmental Protection Agency
Hg – Mercury
RCRA – Resource Conservation and Recovery Act
RL – Reporting Limit
µg/L – parts per billion
ng/L – parts per trillion
QA/QC samples will be submitted for laboratory analysis at a frequency of 1 QA/QC sample set per 20 samples per media per SDG (minimum).

Sample frequency will be determined based on the field activity being conducted, as described in the RAWP.

4.5 Quality Control (QC) Sampling

In addition to the laboratory analysis of the soil samples, additional analysis will be included for QC measures, as required by the Category B sampling techniques. These samples will include 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 or per sample delivery group (SDG). QC samples will be analyzed for the same parameters as the accompanying samples, with the exception of trip blanks, which will be analyzed for the VOC list only.

4.6 Sample Handling

4.6.1 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 sample nomenclature will consist of the parent sample name only but triplicate sample volume will be collected and the COC comment section will explain that the additional volume is for running the MS/MSD; 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 and the matrix (soil or groundwater). In accordance with NYSDEC Environmental Quality Information System (EQuIS™) protocol, special characters will not be used for sample nomenclature and sample IDs below 10 will be amended with a "0". Sample nomenclature examples are provided in Table 2.

Table 2
Sample Nomenclature

Sample Description	Sample Designation
Groundwater sample collected from monitoring well MW-01 on March 1, 2019	MW-01_20190301
Blind duplicate groundwater sample collected from monitoring well MW-01 on March 1, 2019	MW-X01_20190301
Matrix spike/matrix spike duplicate groundwater sample collected from monitoring well MW-01 on March 1, 2019	MW-01 _20190301
Soil sample collected from soil boring SB-01 from 5 to 7 feet below grade on March 1, 2019	SB-01_5-7_20190301
Trip blank associated with MW-01 collected on March 1, 2019	TB-01 _20190301

4.6.1.1 Groundwater Sampling

In addition to the nomenclature detailed in Section 4.6.1, groundwater samples will be identified by the groundwater monitoring well identification.

4.6.1.2 Waste Classification/Tank Excavation Endpoint/Hotspot Soil Sampling

In addition to the nomenclature detailed in Section 4.6.1, any confirmatory endpoint samples collected from a hotspot or previously unknown UST excavation will be identified by the tank number or grid area, if a hotspot, and the cardinal direction of the sidewalls. The sample(s) collected from the bottom of the excavation will be amended with a "B-", followed by the number of bottom samples collected from the excavation in sequential order. Waste classification samples will be amended with "WC-" and the waste classification grid identification. Five-point composite samples will be amended with "C-" and grab samples to be analyzed for VOCs will be amended with "G-". Additionally, samples will be amended with the depth the sample was collected in feet below grade in parentheses. Table 3 provides examples of the sampling identification scheme for proposed waste classification samples and tank/hotspot endpoint samples.

Table 3
Waste Classification/Tank Excavation/Hot Spot Sample Nomenclature

Sample Description	Sample Designation
Waste classification composite sample collected between grade and 5 feet below grade on December 1, 2018	WC-01-C (0-5) 20181201
Waste classification grab sample collected between grade and 5 feet below grade on December 1, 2018	WC-01-G (0-5) 20181201
Soil sample collected from the northern sidewall of the second tank grave encountered at 4 feet below grade on December 1, 2018	UST-02-N (4) 20181201
Third soil sample collected from the base of the second tank grave encountered at 10 feet below grade on December 1, 2018	UST-02-B3 (10) 20181201

4.6.1.3 Endpoint Soil Sampling

In addition to the nomenclature detailed in Section 4.6.1, soil endpoint samples will be identified with "EP-" and the endpoint sample number in sequential order that the endpoint sample was collected, and the depth below grade the sample was collected from in parentheses. Table 4 provides examples of the sampling identification scheme for the proposed post-excavation endpoint samples.

Table 4
Endpoint Sample Nomenclature

Sample Description	Sample Designation
Excavation endpoint soil sample EP-1 collected from 10 feet below grade on April 1, 2019	EP-01_10_20190401
Matrix spike/matrix spike duplicate sample of excavation endpoint soil sample EP-1 collected from 10 feet below grade on February 1, 2019	EP-01_10 _20190401
First blind duplicate collected with SDG of excavation endpoint soil sample EP-1 collected from two feet below grade on February 1, 2019	EP-X01_10_20190401
First trip blank collected with SDG during the endpoint sampling on February 1, 2019	EP-TB-01_20190401
First field blank collected with SDG during the endpoint sampling on February 1, 2019	EP-FB-01_ 20190401

4.6.1.4 Import Soil Sampling

In addition to the nomenclature detailed in Section 4.6.1, soil import samples will be identified with "ISP-" and the import sample number in sequential order that the import sample was collected. Table 5 provides examples of the sampling identification scheme for import soil samples.

Table 5
Import Soil Sample Nomenclature

Sample Description	Sample Designation
Import soil sample ISP-1 collected on July 1, 2019	ISP-01_20190701
Matrix spike/matrix spike duplicate sample of import soil sample ISP-1 collected on July 1, 2019	ISP-01_ 20190701
Blind duplicate of import soil sample ISP-1 collected on July 1, 2019	ISP-X01_20190701

4.6.1.5 Reuse Soil Sampling

In addition to the nomenclature detailed in Section 4.6.1, soil reuse samples will be identified with "RSP-" and the import sample number in sequential order that the import sample was collected. Table 6 provides examples of the sampling identification scheme for reuse soil samples.

Table 6
Reuse Soil Sample Nomenclature

Sample Description	Sample Designation
Reuse soil sample RSP-1 collected on July 1, 2019	RSP-01_20190701
Matrix spike/matrix spike duplicate sample of reuse soil sample ISP-1 collected on July 1, 2019	RSP-01 _20190701
Blind duplicate of reuse soil sample ISP-1 collected on July 1, 2019	RSP-X01_20190701

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 to await shipment to the laboratory. All samples will be shipped to the laboratory within 24 hours of collection. At the start and end of each workday, field personnel will add ice to the cooler(s) as needed.

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.

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.

- 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.

- Quality Assurance (QA)

  All laboratory analytical data will be reviewed by a third-party validator and a Data Usability Summary Report (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. The third-party data validator's resume is included in Attachment A.

ATTACHMENT A

RESUMES FOR AKRF REMEDIAL ENGINEER, QA/QC OFFICER, PROJECT MANAGER, AND FIELD TEAM LEADER; AND THIRD-PARTY DATA VALIDATOR

MICHELLE LAPIN, P.E.

SENIOR VICE PRESIDENT

Michelle Lapin is a Senior Vice President with more than 30 years of experience in the assessment and remediation of hazardous waste issues. She leads the firm's Hazardous Materials group and offers extensive experience providing strategic planning and management for clients. Ms. Lapin has been responsible for the administration of technical solutions to contaminated soil, groundwater, air and geotechnical problems. Her other 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.

Ms. Lapin's hydrogeologic experience includes groundwater investigations, formulation and administration of groundwater monitoring programs and remediation throughout the Northeast. Her experience with groundwater contamination includes Level B hazardous waste site investigations; leaking underground storage tank studies, including hazardous soil removal and disposal and associated soil and water issues; soil gas/vapor intrusion surveys; and wetlands issues. Ms. Lapin is experienced in coordinating and monitoring field programs concerning hazardous waste cell closures. She has directed hundreds of Phase I, Phase II, and Phase III investigations and remediations, many of them in conjunction with developers, law firms, lending institutions, and national retail chains. She is also experienced in the cleanup of contaminated properties under Brownfield Cleanup Program (BCP) and Voluntary Cleanup Program (VCP) regulations.

BACKGROUND

Education

M.S., Civil Engineering, Syracuse University, 1985
B.S., Civil Engineering, Clarkson University, 1983

Professional Licenses/Certifications

New York State P.E.
State of Connecticut P.E.

Professional Memberships

Member, National Society of Professional Engineers (NSPE), National and CT Chapters
Member, American Society of Civil Engineers (ASCE), National and CT Chapters
Member, Connecticut Business & Industry Association (CBIA), CBIA Environmental Policies Council (EPC)
Member, Environmental Professionals' Organization of Connecticut (EPOC)
Board Member, New York City Brownfield Partnership
Member, NAIOP, a Commercial Real Estate Development Association

Years of Experience

Year started in company: 1994
Year started in industry: 1986

RELEVANT EXPERIENCE

11833, 11934, 11935 Manhattan West, Manhattan, NY - NYC OER and USEPA

AKRF is providing environmental consulting services to Brookfield Office Properties in connection with the Manhattan West development site, which encompasses an entire city-block above the Amtrak approach to Penn Station. The four towers that comprise the Manhattan west development site are being remediated as four different sites under the New York City Mayor's Office of Environmental Remediation (OER), due to an E-Designation for hazardous materials, air quality, and noise attenuation. Ms. Lapin is the Remedial Engineer for the project, and oversees all remedial activities.

20111 85 Jay Street, Brooklyn, NY - NYS Brownfield Redevelopment

AKRF's work includes the preparation and implementation of a NYSDEC-approved Remedial Action Work Plan for this approximately three-acre former industrial site that encompasses an entire city-block. The remediation is being conducted under the NYSDEC Brownfield Cleanup Program, primarily due to high levels of lead associated with former smelting operations. Ms. Lapin is the Remedial Engineer for this project and oversees all remedial activities.

11901 Elton Crossing (Melrose C - Family), Bronx, NY - NYS Brownfield Redevelopment

AKRF's work includes the implementation of the NYSDEC-approved Remedial Action Work Plan for this former industrial property, including: in-situ testing, off-site transport, the closure of two petroleum spills; the registration, removal, and closure of five petroleum storage tanks encountered during excavation; and the delineation of soil contaminants, including hazardous lead, petroleum, and pesticides. Ms. Lapin was the Remedial Engineer for the project, and oversaw all remedial activities.

70004 Yonkers Waterfront Redevelopment Project, Yonkers, NY

For this redevelopment along Yonkers' Hudson River waterfront, Ms. Lapin headed the remedial investigation and remediation work that included Phase I Environmental Site Assessments of 12 parcels, investigations of underground storage tank removals and associated soil remediation, remedial alternatives reports, and remedial work plans for multiple parcels. Several of the city-owned parcels were remediated under a Voluntary Cleanup Agreement; others were administered with state Brownfields grants. Hazardous waste remediation was completed on both brownfield and voluntary clean-up parcels, which enabled construction of mixed-use retail, residential development, and parking.

12492, 12493, 12184 Atlantic Chestnut, Brooklyn, NY

AKRF was retained by Phipps Houses to provide environmental consulting services in connection with the purchase and development 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, 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) for each of the sites to further investigate contaminated media prior to redevelopment, conducted the RIs, and is in the process of preparing the RI Reports (RIRs). Ms. Lapin is the Remedial Engineer for the project, and oversees all remedial activities.

10321 West 61st Street Rezoning/Residential Development, New York, NY

Ms. Lapin directed the firm's hazardous materials work for this mixed-use development in Manhattan. The Algin Management Company hired AKRF to prepare an environmental impact statement (EIS) for the proposed rezoning of the western portion of the block between West 60th and 61st Streets, between Amsterdam and West End Avenues. The purpose of the proposed action was to facilitate the development of two 30-story residential towers with accessory parking spaces, and landscaped open space. The EIS examined a "worst case" condition for rezoning the block, which allowed Algin to build a residential building of approximately 375,000 square feet at their site. The building now contains 475 apartments, 200 accessory parking spaces, a health club, and community facility space. This site, with the services of AKRF, entered into New York State's Brownfield Cleanup Program (BCP). On-site issues included underground storage tanks remaining from previous on-site buildings, petroleum contamination from these tanks and possibly from off-site sources, and other soil contaminants (metals, semi-volatile organic compounds, etc.) from fill materials and previous on-site buildings. AKRF oversaw the adherence to the Construction Health and Safety Plan (HASP), which was submitted to and approved by the New York State Department of Environmental Conservation (NYSDEC), and monitored the waste streams, to ensure that the different types of waste were disposed of at the correct receiving facilities. This oversight also included confirmation and characteristic soil sampling for the receiving facilities and NYSDEC. A "Track 1" Clean up of the majority of the property (the portion including the buildings) was completed and the final Engineering Report was approved by the NYSDEC. AKRF has also completed a smaller portion of the property as a "Track 4" cleanup, which includes a tennis court and landscaped areas. Ms. Lapin continues to manage the annual inspections for the property owner in accordance with the Brownfield Cleanup Agreement.

11160 2477 Third Avenue, Bronx, NY

AKRF conducted the investigation and remediation of the former 2477 Third Avenue gasoline station property under the New York State Department of Environmental Conservation's (NYSDEC's) Brownfield Cleanup Program (BCP). The work included shallow and deep aquifer groundwater testing, delineation of known areas of soil contamination, soil vapor analyses, and investigation and delineation of non-aqueous phase liquid (DNAPL) from past industrial activities. Upon NYSDEC approval of the Remedial Action Work Plan (RAWP), AKRF conducted the removal of the nine on-site underground storage tanks (USTs) and 1,100 tons of petroleum-contaminated soil, the application of six in-situ chemical oxidation (ISCO) groundwater treatments, and the implementation of four Enhanced Fluid Recovery (EFR) events to remove desorbed gasoline-related hydrocarbons in the groundwater. The site received a Certificate of Completion (COC) from the BCP in December 2015 and a Notice of Satisfaction (NOS) in October 2016 from the Mayor's Office of Environmental Remediation (OER) in connection with the hazardous materials E-Designation assigned to the property. Ms. Lapin was the professional engineer of record, responsible for the remediation design elements and overall adherence to the NYSDEC and New York City Office of Environmental Remediation (OER) regulations.

11430 164 Kent Avenue, Brooklyn, NY (AKA Northside Piers and 1 North 4th Place)

The project was a multi-phase development consisting of a large waterfront block in the Williamsburg Rezoning Area. The project site was developed with a mixed-use residential-commercial high rise towers with an esplanade and a pier along the East River. AKRF provided acquisition and development support, including performing Phase I and II environmental site assessments, and preparation of Remedial Action Plans (RAPs) and Construction Health and Safety Plan (CHASPs) for approval by New York City Department of Environmental Protection (DEP) and New York City Mayor's Office of Environmental Remediation (OER). AKRF provided assistance with construction oversight during soil handling activities and managing the Community Air Monitoring Plan (CAMP) activities. To date, closure reports have been prepared and occupancy achieved for three of the four buildings. Ms. Lapin is the Professional Engineer (P.E.) of record for the DEP and OER RAPs, CHASPs and Remedial Closure Reports (RCRs).

11646 443 Greenwich Street, Manhattan, NY

This Site was assigned an E-Designation for hazardous materials (and air quality and noise) during the North Tribeca Rezoning in 2010, which requires environmental testing and, if necessary, remediation to the satisfaction of the New York City Mayor's Office of Environmental Remediation (OER). After years of public opposition to the original redevelopment scheme calling for a boutique hotel, this former manufacturing building and its current developer gained acceptance through the Department of City Planning and the Landmarks Preservation Commission to move forward with redevelopment as residential lofts. The redevelopment process began in 2012 and led to initial re-occupancy in 2016 after overcoming several regulatory challenges while seeking LEED® certification.

Once trichloroethene (TCE) was identified on-site, the typically straight forward assignment of delineating contaminant sources for AKRF became much more complex following the identification of an off-site TCE groundwater plume. Based on the completion of several rounds of additional sampling and investigation activities including a compound specific isotopic analysis (CSIA) of the chlorinated volatile organic compounds (VOCs) detected in the central portion of the Site and the off-site monitor wells south of the Site, the presence of two separate releases (one originating on-site and one originating off-site) of TCE was confirmed. Based on the confirmation that the Site was not the contamination source associated with the off-site plume, the redevelopment of the Site proceeded under the review of the OER, and did not require direct or continued oversight from the New York State Department of Environmental Conservation (NYSDEC). Furthermore, the developer of the Site, who had become the owner, was not deemed responsible to complete additional off-site investigation or remediation associated with the separate, off-site TCE groundwater plume.

For this project, AKRF utilized forensic-based analysis of chlorinated VOC plumes and was one of the first projects that included a groundwater treatment technology managed by the OER in its E-Designation program. The Site also includes an engineered cap to prevent exposure to underlying soil/fill, a vapor barrier/waterproofing system beneath the building slab and along foundation sidewalls, and the operation of an active sub-slab depressurization (SSD) system. The project was awarded the 2017 Environmental Protection award by the New York City Brownfield Partnership. Ms. Lapin was the professional engineer of record, responsible for the remediation design and adherence of the remediation and remediation systems installation and ongoing operation.

12538 Larkin Plaza, Yonkers, NY – Remedial Investigation, Construction Oversight

AKRF assisted RXR Realty with enrolling the 1.1-acre Larkin Plaza site in the New York State Department of Environmental Conservation's (NYSDEC's) Brownfield Cleanup Program (BCP). Since being accepted into the program, AKRF conducted an extensive remedial investigation, prepared the necessary remedial action plans, managed the citizen participation tasks, and is in the process of conducting the remediation in conjunction with NYSDEC oversight. To date, the remedial work has included in-situ chemical oxidation (ISCO) treatments, contaminated soil removal, and petroleum product recovery. AKRF also assisted RXR with various construction-related services, including dewatering discharge permitting, soil disposal characterization testing, and stormwater pollution prevention plan (SWPPP) preparation. AKRF's Cultural Resources department is in the process of preparing a submission to the State Historic Preservation Office (SHPO) on behalf of RXR related to the acquisition of additional public funding sources for the construction project. A Certificate of Completion (COC) from the NYSDEC is anticipated at the end of 2018. Ms. Lapin is the professional engineer of record, responsible for the remediation design elements and adherence to the NYSDEC-approved work plans and remediation design.

REFERENCES

Michael Bogin; Sive, Paget & Riesel, P.C.; 460 Park Avenue, 10th Floor, New York, NY 10022; T: (212) 421-2150; 210; E: mbogin@sprlaw.com

Steve Novenstein; CEO; UOVO; Queens Plaza, 41-54 22nd Street Long Island City, NY 11101; T: (212) 904-0406; E: snovenstein@uovo.org

L. Ryan Kiefer, Sr. Project Manager; Memorial Sloan-Kettering Cancer Center; 307 East 63rd Street, 2nd Floor, New York, NY 10065; T: (646) 888-8449; E: rkiefer@mskcc.org

DEBORAH SHAPIRO, QEP

VICE PRESIDENT

Deborah Shapiro is a 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

AKRF

Relevant Experience

11901 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.

11725,12113, 20435 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.

11731, 11744 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.

11688, 11713 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.

11703 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.

20568 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.

12492, 12493, 12184 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.

AMY JORDAN

GEOSCIENTIST

Amy Jordan is a geoscientist with over six years of environmental consulting experience related to site assessment and remediation from the initial proposal and assessments of properties through post-remedial site management under regulatory oversight of local, state, and federal agencies. Ms. Jordan conducts and manages all aspects of redevelopment projects from the initial proposal and assessments of properties through post-remedial site management under regulatory oversight of local, state, and federal agencies. Ms. Jordan works with non-profit organizations, affordable housing developers, for-profit developers, and government agencies under the regulatory oversight of the New York State Department of Environmental Conservation (NYSDEC), the New York City Department of Environmental Protection (NYCDEP), and the New York City Office of Environmental Remediation (NYCOER). Ms. Jordan manages projects enrolled in the New York State Brownfield Cleanup Program (BCP), the New York City Voluntary Cleanup Program (VCP), NYSDEC petroleum spills program, and NYCOER's E Designation program. Her management skill set is supported by several years of fieldwork, including: oversight of remedial construction activities; soil, groundwater, and soil vapor sampling; Phase I Environmental Site Assessments; Subsurface and Remedial Investigations; design, operation, and maintenance of engineering controls, including sub-slab depressurization and soil vapor extraction systems; oversight and sampling of direct-push, sonic, and hollow stem auger drilling; waste characterization, handling, and disposal; and petroleum bulk storage closure.

BACKGROUND

Education

B.A. Geosciences, Franklin and Marshall College, Lancaster, PA, 2011

M.S. Geology, University of Pennsylvania, Philadelphia, PA, Expected 2020

Licenses/Certifications

40 Hour OSHA HAZWOPER

OSHA 10 Hour Occupational Construction Safety and Health

NYSDEC Erosion and Sediment Control Inspector

Amtrak Track Safety

New York State Asbestos Inspector

Years of Experience

Year started in company: 2012
Year started in industry: 2011

RELEVANT EXPERIENCE

170196 Manhattan West Southeast Tower, Manhattan, New York

AKRF is providing environmental consulting services to Brookfield Office Properties in connection with the Manhattan West development site, which encompasses an entire city-block above the Amtrak approach to Penn Station. The four towers that comprise the Manhattan west development site are being remediated as four different sites under the NYCOER, due to an E Designation for hazardous materials, air quality, and noise attenuation. Ms. Jordan is currently managing the environmental work required for the NYCOER E Designation at the Southeast Tower site. In addition, due to the presence of polychlorinated biphenyls (PCBs) within the subterranean railyard, Ms. Jordan designed and prepared the Self-Implementing Cleanup Plan (SICP) in coordination with the USEPA. Upon approval of the remedial plans, Ms. Jordan oversaw the remediation activities to ensure compliance with the SICP in accordance with the Toxic Substance and Control Act (TSCA); and is preparing to implement the NYCOER RAWP on the street-grade portion of the project.

12306 12 Eckford Street, Brooklyn, New York

AKRF is providing environmental consulting services in connection with the redevelopment of a former manufacturing property into a mix of affordable and market-rate residential units. Ms. Jordan manages the environmental consulting services in connection with the redevelopment of this property into a mix of affordable and market-rate residences in the BCP. For this project, I have developed and conducted several subsurface investigations at the property under the oversight of NYC agencies. Ms. Jordan prepared the BCP application after analytical data identified chlorinated solvent contamination at the property. She designed and conducted a soil vapor extraction (SVE) pilot test, developed and authored a remedial action plan including the design of an SSDS and SVE system, and hazardous waste delineation and disposal. After construction oversight, ongoing remedial monitoring under the oversight of NYSDEC will culminate with a Final Engineering Report (FER).

11901 Elton Crossing (Site C Family), Bronx, New York

AKRF provided environmental consulting services in connection with the purchase and redevelopment of this property into mixed-use commercial space and low-income rental units. Ms. Jordan prepared the Phase I ESA report, conducted several investigations including the installation of bedrock monitoring wells, and a BCP application. Ms. Jordan managed all aspects of the cleanup, including the development of supplemental work plans, the remedial action, and citizen participation documents. She managed the implementation of the remedial action, including petroleum storage tank removal, soil brokering and disposal, and hazardous waste delineation and disposal. She prepared the FER and the Site Management Plan (SMP) for the institutional and engineering controls and authored the winning NYC Big Apple Brownfield Award application for the project in Spring 2017.

12105 3363-3365 Third Avenue, Bronx, New York

AKRF provided environmental consulting services in connection with the proposed affordable housing development at 3363-3365 Third Avenue. The proposed project consists of a residential building with a basement and approximately 30 affordable housing units. Ms. Jordan prepared Phase I ESA for due diligence purposes and to support an application to the New York City Acquisition Fund. The Phase I identified recognized environmental conditions as well as an E- Designation from the Morrisania Rezoning Action. Ms. Jordan is assisting the client with satisfying the E –Designation and has prepared and implemented a Remedial Investigation Work Plan, performed a Remedial Investigation, prepared a Remedial Action Work Plan, and Phase I ESA update for the New York City Acquisition Fund under the regulatory oversight of the New York City Mayor's Office of Environmental Remediation (NYCOER). The Remedial Investigation included soil, soil vapor, groundwater and ambient air sampling. AKRF is preparing the Remedial Action Work Plan for the site and assisted the client with enrollment into NYCOER's Voluntary Cleanup Program. The site is scheduled to break ground in the Spring of 2016.

12492, 12493, 12184 Atlantic Chestnut Lots 1, 2, and 3, Brooklyn, New York

AKRF is providing environmental consulting services in connection with the purchase and redevelopment of an entire city block, from a burned manufacturing facility into three mixed-use commercial and affordable rental unit buildings. Ms. Jordan prepared a Phase I Environmental Site Assessment (ESA), conducted three subsurface investigations, and prepared three BCP Applications. She developed supplemental investigation work plans for the design of remedial actions and to aid in the design of in-situ groundwater treatment related to chlorinated solvent contamination in soil, groundwater, and soil vapor across the three sites. Prior to implementation of the remedial action, Ms. Jordan is designing and preparing three soil vapor extraction (SVE) systems The work will include construction oversight, ongoing remedial monitoring under the oversight of the NYSDEC, and will culminate with a FER.

11703 Brook 156, Bronx, New York

AKRF is providing environmental consulting services to Phipps Houses in connection with the purchase and development of two lots located at 740 Brook Avenue in the Bronx, New York. Before writing the New York State Brownfield Cleanup Program (NYSBCP) application, which was accepted by the State, AKRF prepared a Phase I Environmental Site Assessment (ESA) of the site (a former gasoline service station and railroad) and also conducted Tier 1 Vapor Encroachment Screening to satisfy HUD's vapor intrusion requirements, and prepared a Remedial Investigation Work Plan (RIWP) and a Remedial Investigation (RI) at the site. AKRF prepared a Citizen Participation Plan (CPP), distributed public notices, and prepared a Supplemental Remedial Investigation Work Plan (SRIWP) to further investigate soil, soil vapor, and groundwater at the site prior to redevelopment. Based on the results of the Supplemental Remedial Investigation (SRI), AKRF reported a petroleum spill to NYSDEC. Ms. Jordan prepared the Remedial Action Work Plan (RAWP), which included the design of an active SSDS and an SVE system. Ms. Jordan also acts as the project manager for client and agency correspondence and will oversee implementation of the RAWP.

CHRISTOPHER PUOPLO

FIELD TECHNICIAN

Christopher Puoplo is geologist in AKRF's Hazardous Materials Department. He has experience in groundwater sampling, air monitoring, water disinfection and sampling, lead in water sampling, SWPPP inspections, phase II subsurface investigations, sturgeon monitoring, crewing and driving a motorboat, and construction oversight. Mr. Puoplo is a 2013 graduate of SUNY Oneonta, where he majored in geology.

BACKGROUND

Education

BS Geology, State University of New York, College at Oneonta, Oneonta, NY

Licenses/Certifications

40-Hour OSHA HAZWOPER Certified
10-Hour OSHA Construction Program Certified
DOL Asbestos Project Monitor, Air Technician, and Inspector Certified
SWPPP Certified
TWIC Certified

Years of experience

Year started in company: 2014
Year started in industry: 2014

RELEVANT EXPERIENCE

New York City School Construction Authority: On-Call Environmental Consulting

Under an on-call contract, AKRF provides the New York City School Construction Authority (NYCSCA) with hazardous materials consulting services. Mr. Puoplo performs environmental assessment tasks including lead in drinking water sampling and plumbing disinfection oversight tasks under the current on-call contract.

80305 NY Wheel, Staten Island, NY

Working with the New York City Department of Small Business Services (SBS) as lead agency, AKRF conducted an environmental review for the forthcoming Empire Outlets and New York Observation Wheel (NY Wheel), a mixed-use development situated on a State Voluntary Cleanup Program (VCP) site managed by the New York City Economic Development Corporation (EDC), on the northern Staten Island waterfront. The approximately 60-story NY Wheel will be one of the world's tallest Ferris wheels, while Empire Outlets will be New York City's first outlet mall. The combined project is the largest investment in the borough since the construction of the Verrazano-Narrows Bridge in the 1960s.

AKRF is also providing hazardous materials services and civil engineering services to New York Wheel LLC during construction on the NY Wheel site. Mr. Puoplo has performed construction oversight to ensure compliance with the SMP.

30141 **87 Gedney Way, White Plains NY – Groundwater Sampling**

AKRF was hired by the City of White Plains' Department of Public Works (DPW) to prepare a Site Investigation Work Plan (SIWP) of the 22.7-acre Gedney Way Leaf and Yard Waste Compost Facility. AKRF completed the SIWP and obtained NYSDEC approval on the plan. AKRF also collected of soil, groundwater, soil gas and surface water samples. Closure activities have been completed and New York State Department of Environmental Conservation (NYSDEC) closure approval is pending. As part of ongoing monitoring, Mr. Puoplo screened wells for methane, measured depth to groundwater, and collected groundwater samples from the site.

03399 **Rego Park Home Depot, Queens, NY**

Solvent contamination was encountered during retail development of a former industrial property in Rego Park, Queens, New York. The site work included an extensive investigation and a multi-phase remediation performed under the NYSDEC Voluntary Cleanup Program (VCP). Remediation included removal of aboveground and underground storage tanks (ASTs and USTs) and hotspot soil removal. An AS/SVE groundwater remediation system designed by AKRF was installed as part of the building construction. Mr. Puoplo performed quarterly groundwater monitoring.

all 9 storage deluxe projects? **Storage Deluxe, Various Locations, NY**

AKRF assists Storage Deluxe with the ongoing expansion of their self-storage facilities primarily in the five boroughs of New York City and Westchester County. AKRF provides environmental due diligence services related to their property transactions, including Phase I Environmental Site Assessments (ESAs), Phase II investigations, and geophysical surveys, remediation, as well as consulting on petroleum bulk storage tank management. Mr. Puoplo has assisted Storage Deluxe with asbestos surveys at various properties.

11259 **34 Berry Street, Williamsburg, NY**

AKRF was retained to prepare close-out documentation for this former industrial/warehouse facility in Williamsburg, which was remediated under the New York City Office of Environmental Remediation (OER) E-designation and NYSDEC Spills programs. The closure report, which was based on documentation provided by the environmental contractor, was prepared on an expedited basis so that the developer could obtain a Certificate of Occupancy in time for the scheduled opening of the new building. AKRF is currently providing on-going remediation monitoring services to fulfill NYSDEC Spill closure requirements. For this project, Mr. Puoplo performed monthly/quarterly groundwater monitoring.

40405 **Crestwood 300-308 Columbus Avenue, Tuckahoe, NY – Environmental Monitoring**

Investigation and remediation of the former gasoline filling station is being conducted under the New York State Brownfield Cleanup Program (BCP). AKRF completed a Phase I Environmental Site Assessment, Phase II Subsurface Investigation, and prepared a Remedial Action Plan (RAP) to address subsurface contamination during site redevelopment. For this project, Mr. Puoplo served as an on-site environmental monitor who performed construction oversight and conducted work zone and community air monitoring.

30141 Flushing Industrial Park, Flushing, NY

Investigation and remediation of former garage and filling station is being conducted under the New York State BCP. AKFR conducted a remedial investigation, and prepared and executed a Remedial Action Work Plan (RAWP). For this project, Mr. Puoplo served as a lead on-site environmental monitor who performed construction oversight and conducted work zone and community air monitoring.

11454 **Extell Construction Oversight, Manhattan, NY**

Environmental investigation and remediation of this Site is being conducted under the New York City Voluntary Cleanup Program (VCP) managed by the New York City Mayer's Office of Environmental Remediation (OER). The Site is also subject to environmental review by the NYSDEC. For this project, Mr. Puoplo performed post-remediation groundwater sampling at the site.

12146 **The Crossing at Jamaica Station, Jamaica, NY**

AKRF was retained to prepare close-out documentation for this former industrial/warehouse facility in Williamsburg, which was remediated under the New York City Office of Environmental Remediation (OER) E-designation and NYSDEC Spills programs. The closure report, which was based on documentation provided by the environmental contractor, was prepared on an expedited basis so that the developer could obtain a Certificate of Occupancy in time for the scheduled opening of the new building. For this project, Mr. Puoplo performed monthly/quarterly groundwater monitoring.

20434 **Tappan Zee Bridge, Tarrytown, NY**

AKRF was retained to perform a sturgeon monitoring program with near field monitoring during construction activities at the Tappan Zee Bridge project. For this project, Mr. Puoplo performed sturgeon monitoring and near field data collection, as well as crewing and driving a motor boat.

12546 **29-39 East Fordham Road, Fordham, NY**

AKRF was retained to perform a phase II subsurface investigation, create and implement a remedial action work plan for this commercial building in Fordham which had an aboveground oil storage tank spill, which was remediated under the NYSDEC Spills programs. The spill is still open today. For this project, Mr. Puoplo acted as the primary field person for construction oversight during soil remediation, installation of groundwater monitoring wells, and concrete restoration.

804001 Adelaar Resort (Formerly known as Concord Resort), Thompson, NY

Developed over several years and phases, the Adelaar Resort project will redevelop the historic Concord Resort into a variety of amenities, uses, and experiences. The Adelaar Resort will include a Resort Core with casino hotels and conference facilities, an entertainment village, a family resort area, and a residential village encompassing a total area of over 1,500 acres. AKRF was retained for engineering and remediation oversight. For this project, Mr. Puoplo conducted construction oversight, community and work zone air monitoring during remediation activities, collected soil samples, and performed stormwater pollution prevention plan (SWPPP) inspections. All activities done in accordance with the RAWP, SMP, and SWPPP.

12259 **Marymount School, Manhattan, NY**

AKRF was retained to perform a phase I environmental site assessment (ESA) and phase II subsurface investigation to be submitted to the NYSDEC for the athletic field at Marymount School in Manhattan, NY prior to redevelopment of the field. For this project, Mr. Puoplo performed the phase II subsurface investigation, which included soil boring oversight and logging, temporary monitoring well development, sampling, and subsequent abandonment, and installation and sampling of temporary soil vapor monitoring points.

References

Ms. Saritha Thumma
Industrial and Environmental Hygiene Division
New York City School Construction Authority
30-30 Thompson Avenue
Long Island City, NY 11101
STHUMMA@nycsca.org
Phone: 718-752-5512

Mr. Richard Hope
Commissioner of Public Works
City of White Plains
255 Main Street
White Plains, NY 10601
E: rhope@WhitePlainsny.gov
Phone: (914) 422-1210

Steve Novenstein
Storage Deluxe Realty
26 West 17th Street, Suite 801
New York, NY 10011
T: 212.904.0406
E: snovenstein@storagedeluxe.com

Form **W-9**

(Rev. December 2011)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

Print or type
See Specific Instructions on page 2.

Name (as shown on your income tax return)
L.A.B VALIDATION CORP

Business name/disregarded entity name, if different from above

Check appropriate box for federal tax classification:
☐ Individual/sole proprietor ☐ C Corporation ☒ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶

☐ Other (see instructions) ▶

☐ Exempt payee

Address (number, street, and apt. or suite no.)
14 WEST POINT DRIVE

City, state, and ZIP code
EAST NORTHPORT, New York 11731

Requester's name and address (optional)

List account number(s) here (optional)

Part I **Taxpayer Identification Number (TIN)**

Enter your TIN in the appropriate box. The TIN provided must match the name given on the "Name" line to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number

☐☐☐ – ☐☐ – ☐☐☐☐

Employer identification number

58 - 2381714

Part II **Certification**

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
3. I am a U.S. citizen or other U.S. person (defined below).

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 4.

Sign Here Signature of U.S. person ▶ Lori A. Berger Date ▶ 01/18/13

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),

2. Certify that you are not subject to backup withholding, or

3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

Note. If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.

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

ATTACHMENT B

FEBRUARY 2018 NYSDEC-ISSUED EMERGING CONTAMINANT SAMPLING PROTOCOL

Groundwater Sampling for Emerging Contaminants

February 2018

Issue: NYSDEC has committed to analyzing representative groundwater samples at remediation sites for emerging contaminants (1,4-dioxane and PFAS) as described in the below guidance.

Implementation

NYSDEC project managers will be contacting site owners to schedule sampling for these chemicals. Only groundwater sampling is required. The number of samples required will be similar to the number of samples where "full TAL/TCL sampling" would typically be required in a remedial investigation. If sampling is not feasible (e.g., the site no longer has any monitoring wells in place), sampling may be waived on a site-specific basis after first considering potential sources of these chemicals and whether there are water supplies nearby.

Upon a new site being brought into any program (i.e., SSF, BCP), PFAS and 1,4-dioxane will be incorporated into the investigation of groundwater as part of the standard "full TAL/TCL" sampling. Until an SCO is established for PFAS, soil samples do not need to be analyzed for PFAS unless groundwater contamination is detected. Separate guidance will be developed to address sites where emerging contaminants are found in the groundwater. The analysis currently performed for SVOCs in soil is adequate for evaluation of 1,4-dioxane, which already has an established SCO.

Analysis and Reporting

Labs should provide a full category B deliverable, and a DUSR should be prepared by a data validator.

The work plan should explicitly describe analysis and reporting requirements.

PFAS sample analysis: Samples should be analyzed by an environmental laboratory certified by ELAP to use EPA method 537 or ISO 25101. ELAP does not currently offer certification for PFAS analysis of non-drinking water samples (including groundwater, soil and sediment), so there is no requirement to use an ELAP certified method. The preferred method is the modified EPA Method 537. Labs have been able to achieve reporting limits for PFOA and PFOS of 2 ng/l (part per trillion). If labs are not able to achieve similar reporting limits, the NYSDEC project manager will make case-by-case decisions as to whether the analysis can meet the needs for the specific site.

PFAS sample reporting: DER has developed a PFAS target analyte list (below) with the intent of achieving reporting consistency between labs for commonly reportable analytes. It is expected that reported results for PFAS will include, at a minimum, all the compounds listed. This list may be updated in the future as new information is learned and as labs develop new capabilities. If lab and/or matrix specific issues are encountered for any particular compounds, the NYSDEC project manager will make case-by-case decisions as to whether particular analytes may be temporarily or permanently discontinued from analysis for each site. Any technical lab issues should be brought to the attention of a NYSDEC chemist.

Some sampling using this full PFAS target analyte list is needed to understand the nature of contamination. It may also be critical to differentiate PFAS compounds associated with a site from other sources of these chemicals. Like routine refinements to parameter lists based on investigative findings, the full PFAS target analyte list may not be needed for all sampling intended to define the extent of

Collection of Groundwater Samples for Perfluorooctanoic Acid (PFOA) and Perfluorinated Compounds (PFCs) from Monitoring Wells Sample Protocol

Samples collected using this protocol are intended to be analyzed for perfluorooctanoic acid (PFOA) and other perfluorinated compounds by Modified (Low Level) Test Method 537.

The procedure used must be consistent with the NYSDEC March 1991 Sampling Guidelines and Protocols http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf with the following materials limitations.

At this time acceptable materials for sampling include: stainless steel, high density polyethylene (HDPE), PVC, silicone, acetate and polypropylene. Equipment blanks should be generated at least daily. Additional materials may be acceptable if pre-approved by NYSDEC. Requests to use alternate equipment should include clean equipment blanks. **NOTE: Grunfos pumps and bladder pumps are known to contain PFC materials (e.g. Teflon™ washers for Grunfos pumps and LDPE bladders for bladder pumps).** <u>All sampling equipment components and sample containers should not come in contact with aluminum foil, low density polyethylene (LDPE), glass or polytetrafluoroethylene (PTFE, Teflon™) materials including sample bottle cap liners with a PTFE layer.</u> Standard two step decontamination using detergent and clean water rinse will be performed for equipment that does come in contact with PFC materials. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFC materials must be avoided. Many food and drink packaging materials and “plumbers thread seal tape” contain PFCs.

All clothing worn by sampling personnel must have been laundered multiple times. The sampler must wear nitrile gloves while filling and sealing the sample bottles.

Pre-cleaned sample bottles with closures, coolers, ice, sample labels and a chain of custody form will be provided by the laboratory.

1. Fill two pre-cleaned 500 mL HDPE or polypropylene bottle with the sample.
2. Cap the bottles with an acceptable cap and liner closure system.
3. Label the sample bottles.
4. Fill out the chain of custody.
5. Place in a cooler maintained at 4 ± 2º Celsius.

Collect one equipment blank for every sample batch, not to exceed 20 samples.

Collect one field duplicate for every sample batch, not to exceed 20 samples.

Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, not to exceed 20 samples.

Request appropriate data deliverable (Category A or B) and an electronic data deliverable.

contamination. Project managers may approve a shorter analyte list (e.g., just the UCMR3 list) for some reporting on a case by case basis.

1,4-Dioxane Analysis and Reporting: The method detection limit (MDL) for 1,4-dioxane should be no higher than 0.28 µg/l (ppb). ELAP offers certification for both EPA Methods 8260 and 8270. In order to get the appropriate detection limits, the lab would need to run either of these methods in “selective ion monitoring” (SIM) mode. DER is advising PMS to use 8270, since this method provides a more robust extraction procedure, uses a larger sample volume, and is less vulnerable to interference from chlorinated solvents (we acknowledge that 8260 has been shown to have a higher recovery in some studies).

Full PFAS Target Analyte List

Group	Chemical Name	Abbreviation	CAS Number
Perfluoroalkyl sulfonates	**Perfluorobutanesulfonic acid**	**PFBS**	**375-73-5**
	Perfluorohexanesulfonic acid	**PFHxS**	**355-46-4**
	Perfluoroheptanesulfonic acid	PFHpS	375-92-8
	Perfluorooctanessulfonic acid	**PFOS**	**1763-23-1**
	Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluoroalkyl carboxylates	Perfluorobutanoic acid	PFBA	375-22-4
	Perfluoropentanoic acid	PFPeA	2706-90-3
	Perfluorohexanoic acid	PFHxA	307-24-4
	Perfluoroheptanoic acid	**PFHpA**	**375-85-9**
	Perfluorooctanoic acid	**PFOA**	**335-67-1**
	Perfluorononanoic acid	**PFNA**	**375-95-1**
	Perfluorodecanoic acid	PFDA	335-76-2
	Perfluoroundecanoic acid	PFUA/PFUdA	2058-94-8
	Perfluorododecanoic acid	PFDoA	307-55-1
	Perfluorotridecanoic acid	PFTriA/PFTrDA	72629-94-8
	Perfluorotetradecanoic acid	PFTA/PFTeDA	376-06-7
Fluorinated Telomer Sulfonates	6:2 Fluorotelomer sulfonate	6:2 FTS	27619-97-2
	8:2 Fluorotelomer sulfonate	8:2 FTS	39108-34-4
Perfluorooctane-sulfonamides	Perfluroroctanesulfonamide	FOSA	754-91-6
Perfluorooctane-sulfonamidoacetic acids	N-methyl perfluorooctanesulfonamidoacetic acid	N-MeFOSAA	2355-31-9
	N-ethyl perfluorooctanesulfonamidoacetic acid	N-EtFOSAA	2991-50-6

Bold entries depict the 6 original UCMR3 chemicals

APPENDIX H

HEALTH AND SAFETY PLAN (HASP) AND COMMUNITY AIR MONITORING PLAN (CAMP)

1675 APARTMENTS
1675-1679 WESTCHESTER AVENUE
BRONX, NEW YORK

Health and Safety Plan and Community Air Monitoring Plan

AKRF Project Number: 170250
BCP Site Number: C203107

Prepared for:

New York State Department of Environmental Conservation
Division of Environmental Remediation, Remedial Bureau B
625 Broadway, 12th Floor
Albany, New York 12233

On Behalf Of:

1675 JV Associates LLC
902 Broadway, 13th Floor
New York, New York 10010
and
1675 Westchester Avenue Housing Development Fund Corporation
902 Broadway, 13th Floor
New York, New York 10010

Prepared by:

AKRF, Inc.
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New York, New York 10016
(212) 696-0670

DECEMBER 2018

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 HEALTH AND SAFETY GUIDELINES AND PROCEDURES 3
2.1 Hazard Evaluation 3
2.1.1 Hazards of Concern 3
2.1.2 Physical Characteristics 3
2.1.3 Hazardous Materials 3
2.1.1 Chemicals of Concern 4
2.2 Designated Personnel 5
2.3 Training 5
2.4 Medical Surveillance Program 5
2.5 Site Work Zones 6
2.6 Air Monitoring Program 6
2.6.1 Work Zone Air Monitoring 6
2.6.2 Community Air Monitoring Plan 7
2.6.2.1. Roving Air Monitoring 7
2.6.2.2. Fixed Air Monitoring Stations 8
2.6.2.3. Community Air Monitoring Action Levels 8
2.6.3 Personal Protection Equipment (PPE) 10
2.7 General Work Practices 11
3.0 EMERGENCY PROCEDURES AND EMERGENCY RESPONSE PLAN 12
3.1 Hospital Directions 12
3.2 Emergency Contacts 13
4.0 APPROVAL & ACKNOWLEDGMENTS OF HASP 14

FIGURES

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

TABLES

Table 1 – Hazards of Concern
Table 2 – Physical Characteristics
Table 3 – Hazardous Materials
Table 4 – Chemicals of Concern
Table 5 – Site Work Zones
Table 6 – Work Zone Air Monitoring Action Levels
Table 7 – Personal Protection Equipment Requirements
Table 8 – Hospital Directions
Table 9 – Emergency Contacts

APPENDICES

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

1.0 INTRODUCTION

This Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) describes the protocols and procedures that will be followed during implementation of the Remedial Action Work Plan (RAWP) at the 1675 Apartments site (hereafter referred to as the "Site"). The Site is an approximately 36,865-square foot parcel located at 1675-1679 Westchester Avenue in the Soundview neighborhood of the Bronx, New York and is identified as Bronx Borough Block 3780, Lot 1 on the New York City Tax Map.

The Site is a vacant parcel with an asphalt-paved parking area on the northern portion, an unpaved area on the southern portion, underlain by the former Site building cellar slab, and a vegetated area on the southwestern portion. The Site was formerly developed with an approximately 36,865-square foot, "L-shaped" building fronting Westchester Avenue until its demolition between September and October 2018. Most recently, the Site was occupied by a medical facility on the western portion until 2012, and a dry cleaner and liquor store on the eastern portion until January 2018. The eastern portion of the Site building was demolished in September 2018 and the western portion of the building was demolished in October 2018.

The Site is currently enrolled in the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) (BCP Site No. C203107).

The Site is abutted to the north by residential buildings; to the east by Fteley Avenue, followed by commercial and residential buildings including a daycare facility; to the south by Westchester Avenue and the elevated 6 Metropolitan Transit Authority (MTA) subway tracks, followed by a commercial shopping center; and to the west by Metcalf Avenue, followed by the Bronx River Parkway. The surrounding area is developed primarily with residential and commercial uses.

Historic records indicate that the western portion of the Site (former Lot 1) was undeveloped prior to 1964, when the former Site building was constructed. The western portion of the former building was occupied by several commercial and medical uses until approximately 2012; the building has been vacant since that time. The eastern portion of the Site (former Lot 51) was undeveloped prior to approximately 1969, when the former building was constructed. The eastern portion of the former building was occupied formerly by several commercial uses, including a liquor store, and a dry cleaner since sometime between 1971 and 1975 until January 2018, when the building was vacated. The building was demolished between September and October 2018.

The findings from the (Phase II) Subsurface Investigation (SI) and Remedial Investigation (RI) identified contaminated soil, groundwater, and soil vapor at the Site. The primary contaminants of concern (COCs) at the Site include polycyclic aromatic hydrocarbons (PAHs), pesticides, polychlorinated biphenyls (PCBs), and metals in soil/fill, petroleum-related VOCs, SVOCs, and metals in groundwater, and VOCs in soil vapor.

This HASP and CHASP does not discuss other 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

Table 1
Hazards of Concern

X	Organic Chemicals	X	Inorganic Chemicals		Radiological
	Biological		Explosive/Flammable		Oxygen Deficient Atm.
X	Heat Stress	X	Cold Stress		Carbon Monoxide
Comment: No personnel without confined space entry permits may to enter confined spaces.					

2.1.2 Physical Characteristics

Table 2
Physical Characteristics

X	Liquid	X	Solid		Sludge
X	Vapors		Unknown		Other

2.1.3 Hazardous Materials

Table 3
Hazardous Materials

Chemicals		Solids		Solvents		Oils	
	Acids		Ash		Halogens		Transformer
	Caustics		Asbestos	X	Petroleum		Motor
X	Pesticides		Tailings	X	Chlorinated Solvents		Hydraulic
X	Petroleum	X	Fill Material			X	Gasoline
	Inks					X	Fuel
X	PCBs						Waste
X	Metals						
X	SVOCs						
	Ammonia						

2.1.1 Chemicals of Concern

Table 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].
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].
Chromium	REL: 0.5 mg/m^3 PEL: 1 mg/m^3	Irritation eyes, skin; lung fibrosis (histologic).
Copper	REL: 1 mg/m^3 PEL: 1 mg/m^3	Irritation eyes, nose, pharynx; nasal septum perforation; metallic taste; dermatitis; In Animals: lung, liver, kidney damage; anemia.
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].
Endrin	REL: 0.1 mg/m^3 PEL: 0.1 mg/m^3	Epileptiform convulsions; stupor, headache, dizziness; abdominal discomfort, nausea, vomiting; insomnia; aggressiveness, confusion; drowsiness, lassitude (weakness, exhaustion); anorexia; In Animals: liver damage.
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.
Manganese	REL: 1 mg/m^3 N STEL: 3 mg/m^3 PEL C: 5 mg/m^3	Manganism; asthenia, insomnia, mental confusion; metal fume fever: dry throat, cough, chest tightness, dyspnea (breathing difficulty), rales, flu-like fever; low-back pain; vomiting; malaise (vague feeling of discomfort); lassitude

Chemicals	REL/PEL/STEL (ppm)	Health Hazards
Particulates	PEL = 15 mg/m^3 (total) PEL = 5 mg/m^3 (respirable)	Irritation eyes, skin, throat, upper respiratory system.
Notes: REL = National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limit PEL = OSHA Permissible Exposure Limit STEL = OSHA Short Term Exposure Limit		

The potential health effects from the on-site contaminants listed above are further described 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 this 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 is 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 he/she goes onto the Site. A Site safety meeting will be conducted at the start of the project. 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 contamination, ensure that proper protective equipment 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 Zone is the 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.

Appropriate barriers will be set up to secure the area and prevent any unauthorized personnel from approaching within 15 feet of the work area.

Table 5
Site Work Zones

Task	Exclusion Zone	CRZ	Support Zone
Soil Excavation and Storage Tank Removal Areas (if any)	15 feet from excavation border and excavation equipment or vehicles	15 feet from excavation border and excavation equipment or vehicles	As Needed

2.6 Air Monitoring Program

The purpose of the air monitoring program is to identify any exposure of the field personnel to potential environmental hazards in the soil and soil vapor. Results of the air monitoring will be used to determine the appropriate response action, if needed.

2.6.1 Work Zone Air Monitoring

Real time air monitoring of volatile organic compounds (VOCs) and particulates will be performed in the work zone during all intrusive Site activities. Work zone air monitoring for VOCs will be performed with a photoionization detector (PID). The PID will be calibrated with 100 parts per million (ppm) isobutylene standard in accordance with the manufacturer's instructions at the start of each work day. Work zone air monitoring for particulates will be conducted using a MIE 1000 Personal DataRam or equivalent to measure the concentration of airborne respirable particulates less than 10 micrometers in size (PM_{10}).

The SSO shall set up the equipment and confirm that it is working properly. His/her designee may oversee the air measurements during the day. Measurements will be taken prior to commencement of work and continuously during the work. Measurements will be made as close to the workers as practicable and at the breathing height of the workers. The action levels and required responses are listed in the following table:

Table 6
Work Zone Air Monitoring Action Levels

Instrument	Action Level	Response Action
PID	Less than 5 ppm in breathing zone	Level D or D-Modified
	Between 5 ppm and 10 ppm	Level C
	More than 10 ppm	Stop work. Resume work when readings are less than 50 ppm
Particulate Monitor (MIE 1000 Personal DataRam™ or equivalent)	Less than 1.25 µg/m³ above background in breathing zone	Level D or D-Modified
	More than 1.25 µg/m³ above background in breathing zone	Stop work. Resume work when readings are less than 1.25 µg/m³.
Notes: µg/m³ = micrograms per cubic meter; ppm = parts per million		

2.6.2 Community Air Monitoring Plan

Community air monitoring will be conducted during all intrusive Site activities in compliance with the New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan (CAMP). Real-time air monitoring for VOCs and dust at the perimeter of the exclusion zone will be performed as described below.

2.6.2.1. Roving Air Monitoring

VOC Monitoring

Continuous monitoring for VOCs will be conducted during all ground intrusive activities, including excavation and tank removal activities. 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 PID equipped with a 10.7 electron Volt (eV) lamp capable of calculating 15-minute running average concentrations.

Periodic monitoring for VOCs will be conducted during non-intrusive activities such as the collection of excavation endpoint soil samples. Periodic monitoring may include obtaining measurements upon arrival at a location and upon leaving the location.

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, if any, will also be recorded.

Particulate Monitoring

Continuous monitoring for particulates will be conducted during all ground intrusive activities, which will involve the measurement of respirable dust. Community air monitoring for dust particulates will be conducted using a MIE 1000 Personal DataRam or equivalent to measure the concentration of airborne respirable particulates less than 10 micrometers in size (PM_{10}). The dust monitor will be capable of calculating 15-minute running average concentrations and equipped with an audible alarm to indicate exceedance of action levels. Background readings and any readings that trigger response actions will be recorded in the project logbook, which will be available on site for NYSDOH and/or NYSDEC review.

2.6.2.2. Fixed Air Monitoring Stations

Two 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 (PM_{10}) 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/or NYSDEC review and will be included in the Final Engineering Report (FER).

2.6.2.3. 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 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 100 micrograms per cubic meter ($\mu g/m^3$) 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 150 $\mu g/m^3$ above the background (upwind concentration) and provided that no visible dust is migrating from the work area.
- If particulate levels persist at 150 $\mu g/m^3$ above the background, work must be stopped until dust suppression measures bring particulate levels to below 150 $\mu g/m^3$ above background.

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.

2.6.3 Personal Protection Equipment (PPE)

The PPE required for various kinds of Site investigation 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 this section.

Table 7
Personal Protection Equipment Requirements

LEVEL OF PROTECTION & PPE		All Tasks
Level D (**X**) Steel Toe Shoes (**X**) Hard Hat (within 25 ft. of excavator) (**X**) Work Gloves	(**X**) Safety Glasses ( ) Face Shield (**X**) Ear Plugs (within 25 ft. of excavator) (**X**) Nitrile Gloves (**X**) Tyvek for tank contractor if NAPL present	Yes
Level C ***(in addition to Level D)*** (**X**) Half-Face Respirator (**X**) Full Face Respirator ( ) Full-Face PAPR	( ) Particulate Cartridge ( ) Organic Cartridge (**X**) Dual Organic/ Particulate Cartridge	If PID > 10 ppm or particulate > 5 μg/m^3 in breathing zone
Comments: Cartridges to be changed out at least once per shift unless warranted beforehand (e.g., more difficult to breath or any odors detected). PAPR = powered air purifying respirator		

2.7 General Work Practices

To protect their health and safety, all 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 driven to Lincoln Hospital by on-site personnel. Directions to the hospital are provided below, and a hospital route map is provided as Figure 2. Report forms are provided in Attachment B. Emergency hand signals are provided in Attachment C.

3.1 Hospital Directions

Table 8
Hospital Directions

Hospital Name:	New York City Health and Hospitals/Jacobi
Phone Number:	(718) 718-5000
Address:	1400 Pelham Parkway, Bronx, New York 10461
Directions:	1. Turn right out of the Site, heading north on Metcalf Avenue. 2. Turn right onto East 174th Street. 3. Turn left onto Fteley Avenue. 4. Turn right onto Cross Bronx Expressway. 5. Keep left to stay on Cross Bronx Expressway. 6. Use the right lane to take Bronx River Parkway North (towards White Plains). 7. Merge onto the Bronx River Parkway Northbound. 8. Take Exit 7E on the right for Pelham Parkway and Continue onto Pelham Parkway. 9. The emergency room entrance will be on the right.

3.2 Emergency Contacts

Table 9
Emergency Contacts

Company	Individual Name	Title	Contact Number
AKRF	Michelle Lapin, P.E.	Remedial Engineer	(646) 388-9520 (office)
	Deborah Shapiro, QEP	Project Manager/Project Director	(646) 388-9544 (office)
	Amy Jordan	QA/QC Officer	(646) 388-9864 (office)
	Tim McClintock	Field Team Leader/Site Safety Officer (SSO)	(914) 439-1629 (cell)
1675 JV Associates LLC and 1675 Westchester Avenue Housing Development Fund Corporation	Michael Wadman	Client Representative	(646) 388-8216 (office)
Ambulance, Fire Department & Police Department	-	-	911
NYSDEC Spill Hotline	-	-	800-457-7362

4.0 APPROVAL & ACKNOWLEDGMENTS OF HASP

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.

AFFIDAVIT

I,__________________________(name), of________________________________(company name), have read the Health and Safety Plan (HASP) for 1675 Apartments located at 1675-1679 Westchester Avenue in the Bronx, New York. 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: __________

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Signed: ______________________ Company: ____________________ Date: __________

Signed: ______________________ Company: ____________________ Date: __________

ATTACHMENT A

POTENTIAL HEALTH EFFECTS FROM ON-SITE CONTAMINANTS

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.

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

Agency for Toxic Substances and Disease Registry ToxFAQs **September 1997**

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.

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

CHROMIUM

CAS # 7440-47-3

Division of Toxicology and Environmental Medicine ToxFAQs™ September 2008

This fact sheet answers the most frequently asked health questions (FAQs) about chromium. 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 chromium occurs from ingesting contaminated food or drinking water or breathing contaminated workplace air. Chromium(VI) at high levels can damage the nose and cause cancer. Ingesting high levels of chromium(VI) may result in anemia or damage to the stomach or intestines. Chromium(III) is an essential nutrient. Chromium has been found in at least 1,127 of the 1,669 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is chromium?

Chromium is a naturally occurring element found in rocks, animals, plants, and soil. It can exist in several different forms. Depending on the form it takes, it can be a liquid, solid, or gas. The most common forms are chromium(0), chromium(III), and chromium(VI). No taste or odor is associated with chromium compounds.

The metal chromium, which is the chromium(0) form, is used for making steel. Chromium(VI) and chromium(III) are used for chrome plating, dyes and pigments, leather tanning, and wood preserving.

What happens to chromium when it enters the environment?

- ❏ Chromium can be found in air, soil, and water after release from the manufacture, use, and disposal of chromium-based products, and during the manufacturing process.
- ❏ Chromium does not usually remain in the atmosphere, but is deposited into the soil and water.
- ❏ Chromium can easily change from one form to another in water and soil, depending on the conditions present.
- ❏ Fish do not accumulate much chromium in their bodies from water.

How might I be exposed to chromium?

- ❏ Eating food containing chromium(III).
- ❏ Breathing contaminated workplace air or skin contact during use in the workplace.
- ❏ Drinking contaminated well water.
- ❏ Living near uncontrolled hazardous waste sites containing chromium or industries that use chromium.

How can chromium affect my health?

Chromium(III) is an essential nutrient that helps the body use sugar, protein, and fat.

Breathing high levels of chromium(VI) can cause irritation to the lining of the nose, nose ulcers, runny nose, and breathing problems, such as asthma, cough, shortness of breath, or wheezing. The concentrations of chromium in air that can cause these effects may be different for different types of chromium compounds, with effects occurring at much lower concentrations for chromium(VI) compared to chromium(III).

The main health problems seen in animals following ingestion of chromium(VI) compounds are irritation and ulcers in the stomach and small intestine and anemia. Chromium(III) compounds are much less toxic and do not appear to cause these problems.

Sperm damage and damage to the male reproductive system have also been seen in laboratory animals exposed to chromium(VI).

Skin contact with certain chromium(VI) compounds can cause skin ulcers. Some people are extremely sensitive to chromium(VI) or chromium(III). Allergic reactions consisting of severe redness and swelling of the skin have been noted.

How likely is chromium to cause cancer?

The Department of Health and Human Services (DHHS), the International Agency for Reseach on Cancer (IARC), and the EPA have determined that chromium(VI) compounds are known human carcinogens. In workers, inhalation of chromium(VI) has been shown to cause lung cancer. Chromium(VI) also causes lung cancer in animals. An increase in stomach tumors was observed in humans and animals exposed to chromium(VI) in drinking water.

How can chromium affect children?

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

We do not know if exposure to chromium will result in birth defects or other developmental effects in people. Some developmental effects have been observed in animals exposed to chromium(VI).

How can families reduce the risks of exposure to chromium?

❏ Children should avoid playing in soils near uncontrolled hazardous waste sites where chromium may have been discarded.
❏ Chromium is a component of tobacco smoke. Avoid smoking in enclosed spaces like inside the home or car in order to limit exposure to children and other family members.
❏ Although chromium(III) is an essential nutrient, you should avoid excessive use of dietary supplements containing chromium.

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

Since chromium(III) is an essential element and naturally occurs in food, there will always be some level of chromium in your body. Chromium can be measured in hair, urine, and blood.

Higher than normal levels of chromium in blood or urine may indicate that a person has been exposed to chromium. However, increases in blood and urine chromium levels cannot be used to predict the kind of health effects that might develop from that exposure.

Has the federal government made recommendations to protect human health?

The EPA has determined that exposure to chromium in drinking water at concentrations of 1 mg/L for up to 10 days is not expected to cause any adverse effects in a child.

The FDA has determined that the chromium concentration in bottled drinking water should not exceed 1 mg/L.

The Occupational Health and Safety Administration (OSHA) has limited workers' exposure to an average of 0.0005 mg/m^3 chromium(VI), 0.5 mg/m^3 chromium(III), and 1.0 mg/m^3 chromium(0) for an 8-hour workday, 40-hour workweek.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2008. Toxicological Profile for Chromium (Draft for Public Comment). 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

COPPER
CAS # 7440-50-8

Division of Toxicology ToxFAQs™ September 2002

This fact sheet answers the most frequently asked health questions (FAQs) about copper. 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: Copper is a reddish metal that occurs naturally in the environment. It also occurs naturally in plants and animals. Low levels of copper are essential for maintaining good health. High levels can cause harmful effects such as irritation of the nose, mouth and eyes, vomiting, diarrhea, stomach crumps, and nausea. Copper has been found in at least 884 of the 1,613 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is copper?

Copper is a reddish metal that occurs naturally in rocks, soil, water, and air. Copper also occurs naturally in plants and animals.

Metallic copper can be easily molded or shaped. Metallic copper can be found in the U.S. penny, electrical wiring, and some water pipes. Metallic copper is also found in mixtures (called alloys) with other metals such as brass and bronze. Copper is also found as part of other compounds forming salts. Copper salts occur naturally, but are also manufactured. The most common copper salt is copper sulfate. Most copper compounds are blue-green in color. Copper compounds are commonly used in agriculture to treat plant diseases like mildew, for water treatment and, as preservatives for wood, leather, and fabrics.

What happens to copper when it enters the environment?

❑ Copper can enter the environment from the mining of copper and other metals and from factories that make or use metallic copper or copper compounds.
❑ It can also enter the environment through domestic waste water, combustion of fossil fuels and wastes, wood production, phosphate fertilizer production, and natural sources (e.g., windblown dust from soils, volcanoes, decaying vegetation, forest fires, and sea spray).
❑ Copper in soil strongly attaches to organic material and minerals.
❑ Copper that dissolves in water becomes rapidly bound to particles suspended in the water.
❑ Copper does not typically enter groundwater.
❑ Copper carried by particles emitted from smelters and ore processing plants is carried back to the ground by gravity or in rain or snow.
❑ Copper does not break down in the environment.

How might I be exposed to copper?

❑ Breathing air, drinking water, eating food, and by skin contact with soil, water, or other copper-containing substances.
❑ Some copper in the environment can be taken up by plants and animals.
❑ Higher exposure may occur if your water is corrosive and you have copper plumbing and brass water fixtures. ❑ You may be exposed to higher amounts of copper if you drink water or swim in lakes or reservoirs recently treated with copper to control algae or receive cooling water from a power plant that may have high amounts of dissolved copper.
❑ Using some garden products (e.g., fungicides) to control plant diseases.
❑ Living near bronze and brass production facilities may expose you to higher copper levels in soil.
❑ You may breathe copper-containing dust or have skin contact if you work in the industry of mining copper or

processing the ore. You may breathe high levels if you grind or weld copper metal.

How can copper affect my health?

Copper is essential for good health, but high amounts can be harmful. Long-term exposure to copper dust can irritate your nose, mouth, and eyes, and cause headaches, dizziness, nausea, and diarrhea.

Drinking water with higher than normal levels of copper may cause vomiting, diarrhea, stomach cramps, and nausea. Intentionally high intakes of copper can cause liver and kidney damage and even death.

How likely is copper to cause cancer?

We do not know whether copper can cause cancer in humans. The EPA has determined that copper is not classifiable as to carcinogenicity.

How can copper affect children?

Exposure to high levels of copper will result in the same type of effects in children and adults. Studies in animals suggest that the young children may have more severe effects than adults; we do not know if this would also be true in humans. There is a very small percentage of infants and children who are unusually sensitive to copper.

We do not know if copper can cause birth defects or other developmental effects in humans. Studies in animals suggest that ingestion of high levels of copper may cause a decrease in fetal growth.

How can families reduce the risk of exposure to copper?

- ❑ The greatest potential source of copper exposure is through drinking water, especially in water that is first drawn in the morning after sitting in copper pipes and brass faucets overnight.
- ❑ To reduce exposure, run the water for at least 15-30 seconds before using it.
- ❑ If you are exposed to copper at work, you may carry copper home on your skin, clothes, or tools. You can avoid this by showering, and changing 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 copper?

Copper is normally found in all tissues of the body, blood, urine, feces, hair, and nails. High levels of copper in these samples can show that you have been exposed to higher than normal levels of copper. Tests to measure copper levels in the body are not routinely available at the doctor's office because they require special equipment. These tests cannot tell the extent of exposure or whether you will experience harmful effects.

Has the federal government made recommendations to protect human health?

The EPA has determined that drinking water should not contain more than 1.3 milligrams of copper per liter of water (1.3 mg/L).

The Occupational Safety and Health Administration (OSHA) has set a limit of 0.1 mg per cubic meter (0.1 mg/m^3) of copper fumes (vapor generated from heating copper) and 1 mg/m^3 of copper dusts (fine metallic copper particles) and mists (aerosol of soluble copper) in workroom air during an 8-hour work shift, 40-hour workweek.

The Food and Nutrition Board of the Institute of Medicine recommends dietary allowances (RDAs) of 340 micrograms (340 µg) of copper per day for children aged 1-3 years, 440 µg/day for children aged 4-8 years, 700 µg/day for children aged 9-13 years, 890 µg/day for children aged 14-18 years, and 900 µg/day for adults.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2002. Toxicological Profile for Copper (Draft for Public Comment). 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

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

ENDRIN
CAS # 72-20-8

Agency for Toxic Substances and Disease Registry ToxFAQs September 1997

This fact sheet answers the most frequently asked health questions (FAQs) about endrin. 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 endrin can cause various harmful effects including death and severe central nervous system injury. Swallowing very large amounts of endrin may cause convulsions and kill you in a few minutes or hours. Exposure to high doses may result in headaches, dizziness, nervousness, confusion, nausea, vomiting, and convulsions. No long-term health effects have been noted in workers. Endrin has been found in at least 120 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is endrin?
(Pronounced ĕn′ drĭn)

Endrin is a solid, white, almost odorless substance that was used as a pesticide to control insects, rodents, and birds. Endrin has not been produced or sold for general use in the United States since 1986.

Little is known about the properties of endrin aldehyde (an impurity and breakdown product of endrin) or endrin ketone (a product of endrin when it is exposed to light).

What happens to endrin when it enters the environment?

- ❑ Endrin does not dissolve very well in water. It has been found in groundwater and surface water, but only at very low levels. It is more likely to cling to the bottom sediments of rivers, lakes, and other bodies of water.
- ❑ Endrin is generally not found in the air except when it was applied to fields during agricultural applications.
- ❑ The persistence of endrin in the environment depends highly on local conditions. Some estimates indicate that endrin can stay in soil for over 10 years.
- ❑ Endrin may also be broken down by exposure to high temperatures or light to form primarily endrin ketone and endrin aldehyde.
- ❑ It is not known what happens to endrin aldehyde or endrin ketone once they are released to the environment. However, the amount of endrin broken down to endrin aldehyde or endrin ketone is very small.

How might I be exposed to endrin?

- ❑ You may be exposed to endrin in air, water, or soil if you live near a hazardous waste site.
- ❑ You may be exposed by eating foods that contain endrin.
- ❑ Children living near hazardous waste sites could be exposed to endrin in contaminated soils if they eat dirt.
- ❑ Endrin levels can build up in the tissues of organisms that live in water.
- ❑ Human breast milk may be a route of exposure for nursing infants.

How can endrin affect my health?

Exposure to endrin can cause various harmful effects including death and severe central nervous system (brain and spinal cord) injury. Swallowing large amounts of endrin may cause convulsions and kill you in a few minutes or hours.

Symptoms that may result from endrin poisoning are headaches, dizziness, nervousness, confusion, nausea, vomiting, and convulsions.

No long-term health effects have been noted in workers who have been exposed to endrin by breathing or touching it.

Studies in animals confirm that endrin's main target is the nervous system.

Birth defects, especially abnormal bone formation, have been seen in some animal studies.

How likely is endrin to cause cancer?

In studies using rats, mice, and dogs, endrin did not produce cancer. However, most of these studies did not accurately evaluate the ability of endrin to cause cancer.

No significant excess of cancer has been found in exposed factory workers.

The EPA has determined that endrin is not classifiable as to its human carcinogenicity because there is not enough information to allow classification.

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

If you are exposed to endrin, it can be detected in your blood, breast milk, or fatty tissue. Tests can measure endrin in the blood or fat of people recently exposed. These tests aren't available at most doctors' offices, but can be done at special laboratories that have the right equipment.

Although these tests can be used to confirm that a person has been exposed to endrin, it is not yet possible to use these tests to predict the type or severity of any health effects that might occur.

Has the federal government made recommendations to protect human health?

The EPA's maximum contaminant level (MCL) for endrin in drinking water is 0.0002 milligrams per liter (0.0002 mg/L).

The Occupational Safety and Health Administration (OSHA) has established a limit of 0.1 mg endrin per cubic meter of air (0.1 mg/m^3) for an 8-hour day in a 40-hour workweek.

Glossary

Carcinogenicity: Ability to cause cancer.

CAS: Chemical Abstracts Service.

Dissolve: To disappear gradually.

Long-term: 365 days or longer.

Milligram (mg): One thousandth of a gram.

Pesticide: A substance that kills pests.

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

References

This ToxFAQs information is taken from the 1996 Toxicological Profile for Endrin 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.

FUEL OILS

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

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

Agency for Toxic Substances and Disease Registry ToxFAQs **September 1996**

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 fyōō′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

MANGANESE

CAS # 7439-96-5

Division of Toxicology and Environmental Medicine ToxFAQs™ September 2008

This fact sheet answers the most frequently asked health questions (FAQs) about manganese. 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: Manganese is a trace element and eating a small amount from food or water is needed to stay healthy. Exposure to excess levels of manganese may occur from breathing air, particularly where manganese is used in manufacturing, and from drinking water and eating food. At high levels, it can cause damage to the brain. Manganese has been found in at least 869 of the 1,669 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is manganese?

Manganese is a naturally occurring metal that is found in many types of rocks. Pure manganese is silver-colored, but does not occur naturally. It combines with other substances such as oxygen, sulfur, or chlorine. Manganese occurs naturally in most foods and may be added to some foods.

Manganese is used principally in steel production to improve hardness, stiffness, and strength. It may also be used as an additive in gasoline to improve the octane rating of the gas.

What happens to manganese when it enters the environment?

❑ Manganese can be released to the air, soil, and water from the manufacture, use, and disposal of manganese-based products.
❑ Manganese cannot break down in the environment. It can only change its form or become attached to or separated from particles.
❑ In water, manganese tends to attach to particles in the water or settle into the sediment.
❑ The chemical state of manganese and the type of soil determine how fast it moves through the soil and how much is retained in the soil.
❑ The manganese-containing gasoline additive may degrade in the environment quickly when exposed to sunlight, releasing manganese.

How might I be exposed to manganese?

❑ The primary way you can be exposed to manganese is by eating food or manganese-containing nutritional supplements. Vegetarians who consume foods rich in manganese such as grains, beans and nuts, as well as heavy tea drinkers, may have a higher intake of manganese than the average person.
❑ Certain occupations like welding or working in a factory where steel is made may increase your chances of being exposed to high levels of manganese.
❑ Manganese is routinely contained in groundwater, drinking water, and soil at low levels. Drinking water containing manganese or swimming or bathing in water containing manganese may expose you to low levels of this chemical.

How can manganese affect my health?

Manganese is an essential nutrient, and eating a small amount of it each day is important to stay healthy.

The most common health problems in workers exposed to high levels of manganese involve the nervous system. These health effects include behavioral changes and other nervous system effects, which include movements that may become slow and clumsy. This combination of symptoms when sufficiently severe is referred to as "manganism". Other less severe nervous system effects such as slowed hand movements have been observed in some workers exposed to lower concentrations in the work place.

Nervous system and reproductive effects have been observed in animals after high oral doses of manganese.

How likely is manganese to cause cancer?

The EPA concluded that existing scientific information cannot determine whether or not excess manganese can cause cancer.

How can manganese affect children?

Studies in children have suggested that extremely high levels of manganese exposure may produce undesirable effects on brain development, including changes in behavior and decreases in the ability to learn and remember. We do not know for certain that these changes were caused by manganese alone. We do not know if these changes are temporary or permanent. We do not know whether children are more sensitive than adults to the effects of manganese, but there is some indication from experiments in laboratory animals that they may be.

Studies of manganese workers have not found increases in birth defects or low birth weight in their offspring. No birth defects were observed in animals exposed to manganese.

How can families reduce the risks of exposure to manganese?

❏ Children are not likely to be exposed to harmful amounts of manganese in the diet. However, higher-than-usual amounts of manganese may be absorbed if their diet is low in iron. It is important to provide your child with a well-balanced diet.

❏ Workers exposed to high levels of airborne manganese in certain occupational settings may accumulate manganese dust on their work clothes. Manganese-contaminated work clothing should be removed before getting into your car or entering your home to help reduce the exposure hazard for yourself and your family.

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

Several tests are available to measure manganese in blood, urine, hair, or feces. Because manganese is normally present in our body, some is always found in tissues or fluids.

Because excess manganese is usually removed from the body within a few days, past exposures are difficult to measure with common laboratory tests.

Has the federal government made recommendations to protect human health?

The EPA has determined that exposure to manganese in drinking water at concentrations of 1 mg/L for up to 10 days is not expected to cause any adverse effects in a child.

The EPA has established that lifetime exposure to 0.3 mg/L manganese is not expected to cause any adverse effects.

The FDA has determined that the manganese concentration in bottled drinking water should not exceed 0.05 mg/L.

The Occupational Health and Safety Administration (OSHA) has established a ceiling limit (concentration that should not be exceeded at any time during exposure) of 5 mg/m^3 for manganese in workplace air.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2008. Toxicological Profile for Manganese (Draft for Public Comment). 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.

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MERCURY
CAS # 7439-97-6

Agency for Toxic Substances and Disease Registry ToxFAQs **April 1999**

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.

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NICKEL

CAS # 7440-02-0

Division of Toxicology ToxFAQs™ **August 2005**

This fact sheet answers the most frequently asked health questions (FAQs) about nickel. 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: Nickel is a naturally occurring element. Pure nickel is a hard, silvery-white metal used to make stainless steel and other metal alloys. Skin effects are the most common effects in people who are sensitive to nickel. Workers who breathed very large amounts of nickel compounds developed chronic bronchitis and lung and nasal sinus cancers. Nickel has been found in at least 882 of the 1,662 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is nickel?

Nickel is a very abundant natural element. Pure nickel is a hard, silvery-white metal. Nickel can be combined with other metals, such as iron, copper, chromium, and zinc, to form alloys. These alloys are used to make coins, jewelry, and items such as valves and heat exchangers. Most nickel is used to make stainless steel.

Nickel can combine with other elements such as chlorine, sulfur, and oxygen to form nickel compounds. Many nickel compounds dissolve fairly easy in water and have a green color. Nickel compounds are used for nickel plating, to color ceramics, to make some batteries, and as substances known as catalysts that increase the rate of chemical reactions.

Nickel is found in all soil and is emitted from volcanoes. Nickel is also found in meteorites and on the ocean floor. Nickel and its compounds have no characteristic odor or taste.

What happens to nickel when it enters the environment?

❏ Nickel is released into the atmosphere by industries that make or use nickel, nickel alloys, or nickel compounds. It is also released into the atmosphere by oil-burning power plants, coal-burning power plants, and trash incinerators.

❏ In the air, it attaches to small particles of dust that settle to the ground or are taken out of the air in rain or snow; this usually takes many days.

❏ Nickel released in industrial waste water ends up in soil or sediment where it strongly attaches to particles containing iron or manganese.

❏ Nickel does not appear to accumulate in fish or in other animals used as food.

How might I be exposed to nickel?

❏ By eating food containing nickel, which is the major source of exposure for most people.

❏ By skin contact with soil, bath or shower water, or metals containing nickel, as well as by handling coins or touching jewelry containing nickel.

❏ By drinking water that contains small amounts of nickel.

❏ By breathing air or smoking tobacco containing nickel.

❏ Higher exposure may occur if you work in industries that process or use nickel.

How can nickel affect my health?

The most common harmful health effect of nickel in humans is an allergic reaction. Approximately 10-20% of the population is sensitive to nickel. People can become sensitive to nickel when jewelry or other things containing it are in direct contact with the skin for a long time. Once a person is sensitized to nickel, further contact with the metal may produce a reaction. The most common reaction is a skin rash at the site of contact. The skin rash may also occur at a site away from the site of contact. Less frequently, some people who are sensitive to nickel have asthma attacks following exposure to nickel. Some sensitized people react when they consume food or water containing nickel or breathe dust containing it.

People working in nickel refineries or nickel-processing plants have experienced chronic bronchitis and reduced lung function. These persons breathed amounts of nickel much higher than levels found normally in the environment. Workers who drank water containing high amounts of nickel had stomach ache and suffered adverse effects to their blood and kidneys.

Damage to the lung and nasal cavity has been observed in rats and mice breathing nickel compounds. Eating or drinking large amounts of nickel has caused lung disease in dogs and rats and has affected the stomach, blood, liver, kidneys, and immune system in rats and mice, as well as their reproduction and development.

How likely is nickel to cause cancer?

Cancers of the lung and nasal sinus have resulted when workers breathed dust containing high levels of nickel compounds while working in nickel refineries or nickel processing plants. The Department of Health and Human Services (DHHS) has determined that nickel metal may reasonably be anticipated to be a carcinogen and that nickel compounds are known human carcinogens. The International Agency for Research on Cancer (IARC) has determined that some nickel compounds are carcinogenic to humans and that metallic nickel may possibly be carcinogenic to humans. The EPA has determined that nickel refinery dust and nickel subsulfide are human carcinogens.

How can nickel affect children?

It is likely that the health effects seen in children exposed to nickel will be similar to those seen in adults. We do not know whether children differ from adults in their susceptibility to nickel. Human studies that examined whether nickel can harm the fetus are inconclusive. Animal studies have found increases in newborn deaths and decreased newborn weight after ingesting very high amounts of nickel. Nickel can be transferred from the mother to an infant in breast milk and can cross the placenta.

How can families reduce the risks of exposure to nickel?

❑ Avoiding jewelry containing nickel will eliminate risks of exposure to this source of the metal.

❑ Exposures of the general population from other sources, such as foods and drinking water, are almost always too low to be of concern.

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

There are tests available to measure nickel in your blood, feces, and urine. More nickel was measured in the urine of workers who were exposed to nickel compounds that dissolve easily in water than in the urine of workers exposed to nickel compounds that are hard to dissolve. This means that it is easier to tell if you have been exposed to soluble nickel compounds than less-soluble compounds. The nickel measurements do not accurately predict potential health effects from exposure to nickel.

Has the federal government made recommendations to protect human health?

The EPA recommends that drinking water should contain no more than 0.1 milligrams of nickel per liter of water (0.1 mg/L). To protect workers, the Occupational Safety and Health Administration (OSHA) has set a limit of 1 mg of nickel per cubic meter of air (1 mg/m^3) for metallic nickel and nickel compounds in workplace air during an 8-hour workday, 40-hour workweek.

References

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

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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.

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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

PHENOL

CAS # 108-95-2

Division of Toxicology and Environmental Medicine ToxFAQs™ **September 2006**

This fact sheet answers the most frequently asked health questions (FAQs) about phenol. 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: Phenol is both a manufactured chemical and a natural substance. Phenol is used as a disinfectant and is found in a number of consumer products. Skin exposure to high amounts can produce skin burns, liver damage, dark urine, irregular heart beat, and even death. Ingestion of concentrated phenol can produce internal burns. Phenol has been found in at least 595 of the 1,678 National Priority List (NPL) sites identified by the Environmental Protection Agency (EPA).

What is phenol?

Phenol is both a manufactured chemical and a natural substance. It is a colorless-to-white solid when pure. The commercial product is a liquid. Phenol has a distinct odor that is sickeningly sweet and tarry.

You can taste and smell phenol at levels lower than those that are associated with harmful effects. Phenol evaporates more slowly than water, and a moderate amount can form a solution with water. Phenol can catch fire.

Phenol is used primarily in the production of phenolic resins and in the manufacture of nylon and other synthetic fibers. It is also used in slimicides (chemicals that kill bacteria and fungi in slimes), as a disinfectant and antiseptic, and in medicinal preparations such as mouthwash and sore throat lozenges.

What happens to phenol when it enters the environment?

❑ Following small, single releases, phenol is rapidly removed from the air (generally, half is removed in less than a day).
❑ Phenol generally remains in the soil only about 2 to 5 days.
❑ Phenol can remain in water for a week or more.
❑ Larger or repeated releases of phenol can remain in the air, water, and soil for much longer periods of time.
❑ Small amounts of phenol may be found in organisms that live in contaminated water.
❑ Phenol does not build up in fish, other animals, or plants.

How might I be exposed to phenol?

❑ You may be exposed to phenol if you live near landfills or hazardous waste sites that contain phenol or near facilities manufacturing phenol.
❑ You may be exposed to very low levels in your home because it is found in a number of consumer products, including mouthwashes, gargles, and throat lozenges.
❑ You may be exposed to phenol if you undergo "chemical peels" to remove skin lesions with phenol-containing products or are treated for chronic pain or spasticity with injections of phenol.
❑ Low levels of phenol are found in some foods, including smoked summer sausage, fried chicken, mountain cheese, and some species of fish.
❑ Smoking or inhaling second hand smoke will expose you to phenol.
❑ Low levels of phenol can be present in air and drinking water.

How can phenol affect my health?

Short-term exposure to phenol in the air can cause respiratory irritation, headaches, and burning eyes. People who had skin exposure to high amounts of phenol had skin burns, liver damage, dark urine, irregular heart beat, and some died. Ingestion of high concentrations of phenol has resulted in internal burns and death. The effects of prolonged exposure to low levels of phenol in air or of ingestion of low levels of phenol are uncertain because almost always there has been simultaneous exposure to other chemicals.

In animals, breathing air with high levels of phenol resulted in irritation of the lungs. Repeated exposures induced muscle tremors and loss of coordination. Exposure to high concentrations of phenol in the air for several weeks caused paralysis and severe injury to the heart, liver, kidneys, and lungs, and in some cases, death. Some animals that drank water with very high concentrations of phenol suffered muscle tremors and loss of coordination.

Phenol can have beneficial effects when used medically as an antiseptic or anesthetic.

How likely is phenol to cause cancer?

It is not known if phenol causes cancer in humans. Cancer developed in mice when phenol was applied to the skin several times per week for the lifetime of the animal. Phenol did not cause cancer in mice or rats that drank water containing it for 2 years. The International Agency for Research on Cancer (IARC) and the EPA have determined that phenol is not classifiable as to its carcinogenicity to humans.

How can phenol affect children?

Children are exposed to phenol in the same way adults are, except for exposures of adults at work. However, children are at greater risk of accidentally ingesting or spilling on their skin home products that contain phenol. Vomiting and lethargy were the most frequent signs of toxicity observed in children who accidentally ingested phenol and were treated at a poison control center.

Phenol has caused minor birth defects and low birth weight in animals generally at exposure levels that also were toxic to the pregnant mothers.

How can families reduce the risks of exposure to phenol?

❏ Avoiding environmental tobacco smoke, which contains phenol, will reduce phenol exposures.
❏ Always store household products and over-the-counter medications that contain phenol in their original labeled containers out of the reach of children.

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

There is a urine test that can tell if you have been exposed to phenol recently (within 1 or 2 days). However, the test cannot tell if you were exposed only to phenol because many substances are converted to phenol in the body. The test also cannot tell whether adverse health effects might result from the exposure. The test for phenol is not routinely performed at your doctor's office, but your doctor can take samples and send them to a testing laboratory.

Has the federal government made recommendations to protect human health?

The EPA lifetime health advisory for phenol in water is 2 milligrams per liter (2 mg/L). EPA requires that spills of 1,000 pounds or more of phenol to the environment be reported to the Agency.

The Occupational Safety and Health Administration (OSHA) has set a limit of 5 parts per million (ppm) in air to protect workers during 8-hour work shifts.

The National Institute for Occupational Safety and Health (NIOSH) recommends a limit of 5 ppm for phenol in workroom air over a 10-hour workday and that the concentration of phenol should not exceed 16 ppm during a 15-minute period.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2006. Toxicological Profile for Phenol (Draft for Public Comment). 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

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.

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

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.

ATTACHMENT B

REPORT FORMS

WEEKLY SAFETY REPORT FORM

Week Ending: ________________ Project Name/Number: Brook 156

Report Date: ________________ Project Manager Name: Deborah Shapiro/Amy Jordan

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: Brook 156 Site Location: 740 Brook Avenue, Bronx, NY

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 BREATH!


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!

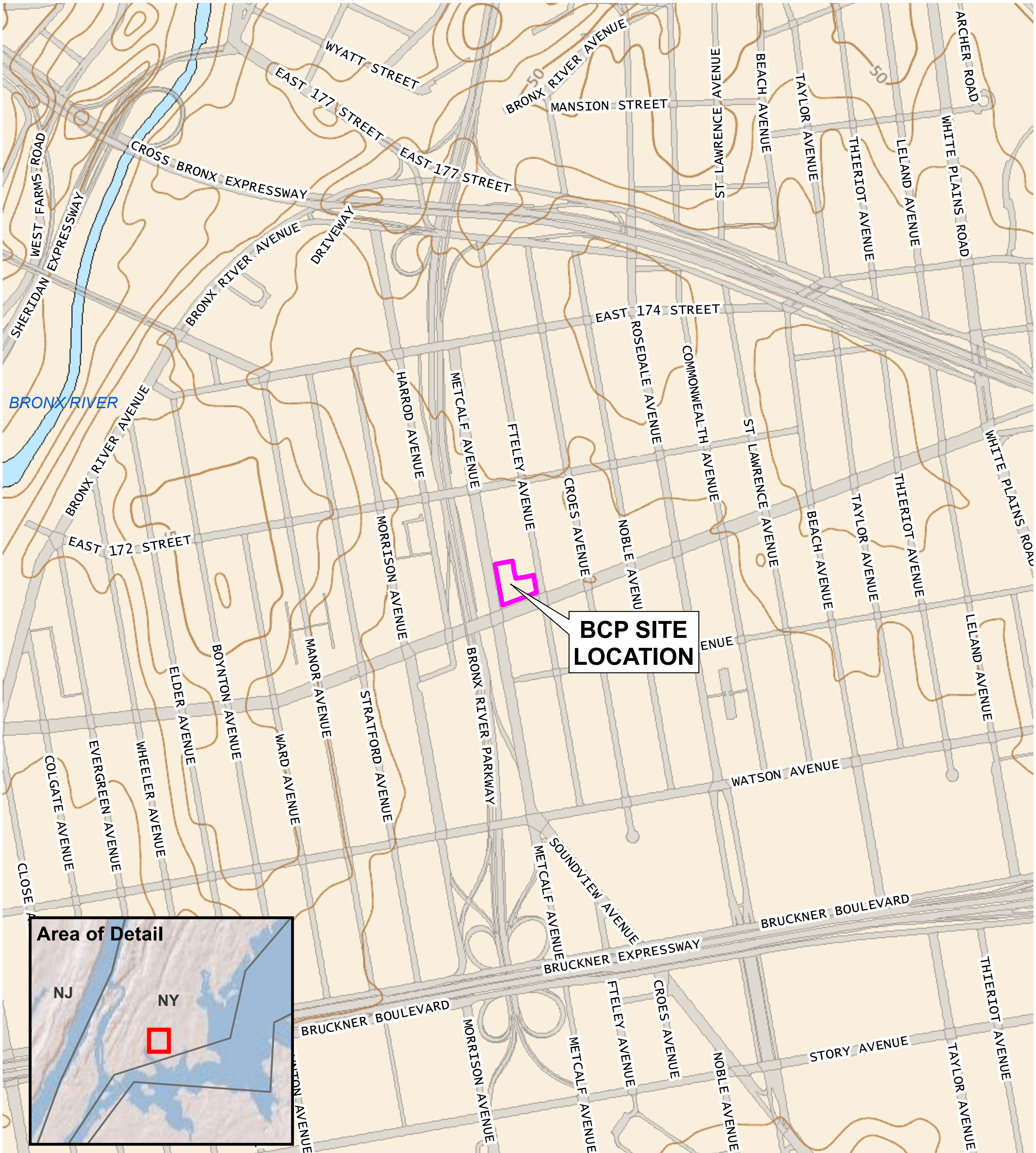
- I UNDERSTAND!


Thumbs up

NO! - NEGATIVE!


Thumbs down

FIGURES



Map Source: USGS Topo base map service from The National Map

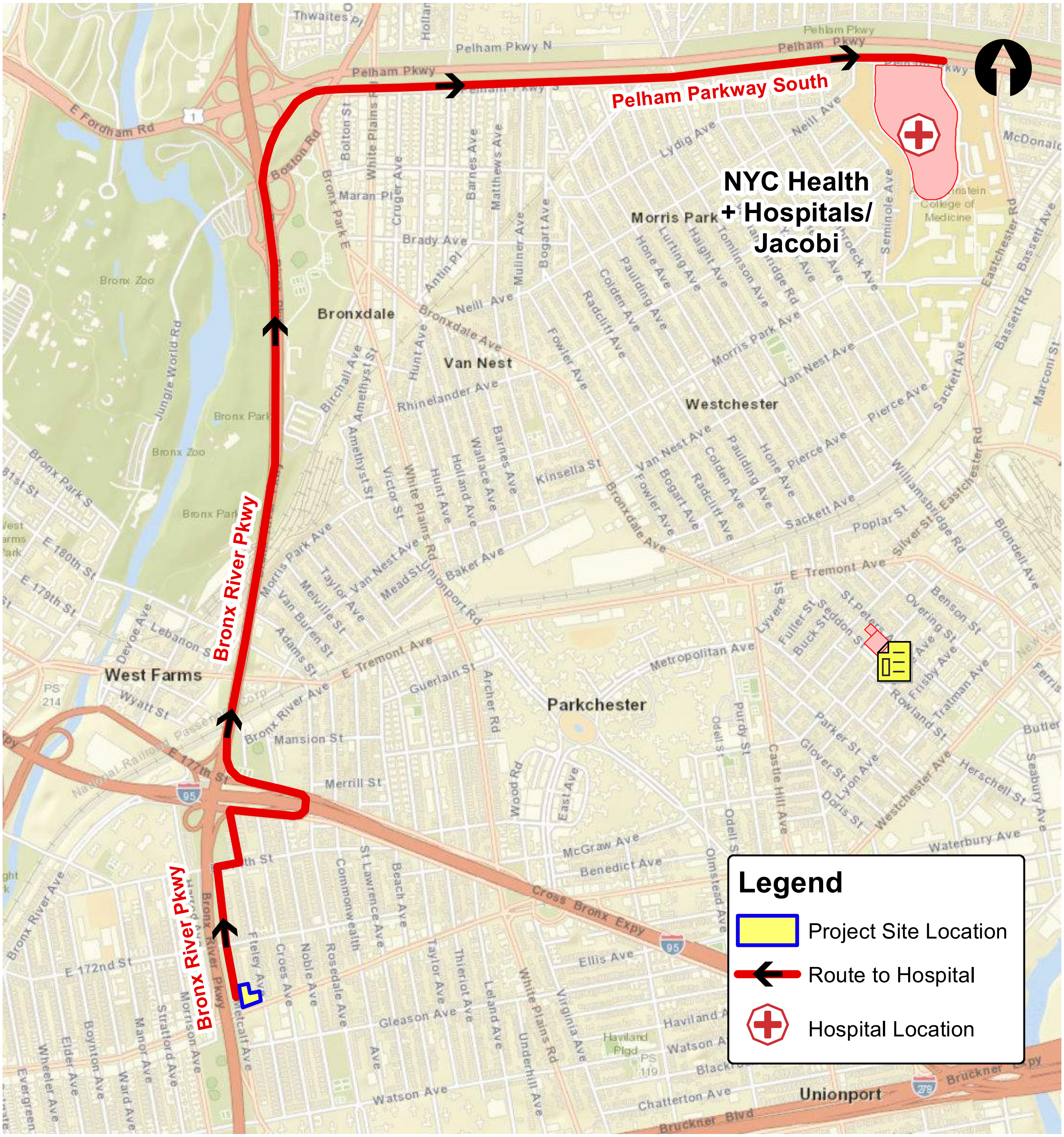
0 800 1,600
SCALE IN FEET

AKRF
440 Park Avenue South, New York, NY 10016

1675 Apartments
1675-1679 Westchester Avenue
Bronx, New York

BCP SITE LOCATION

DATE	**10/30/2018**
PROJECT NO.	**170250**
FIGURE	**1**



Service Layer Credits: ESRC World Street Map 2016

1400 Pelham Parkway South
Bronx, New York 10461
(718) 918-5000

0 0.25 0.5
Miles

AKRF
440 Park Avenue South, New York, NY 10016

1675 Apartments
1675-1679 Westchester Avenue
Bronx, New York

HOSPITAL LOCATION MAP

DATE
5/4/2018

PROJECT
170250

FIGURE
2

APPENDIX I

NEGATIVE DECLARATION

CITY PLANNING COMMISSION
CITY OF NEW YORK

OFFICE OF THE CHAIRMAN

NEGATIVE DECLARATION

Project Identification
CEQR No. 17DCP154X
ULURP Nos. 170377ZMX, 170378ZRX
SEQRA Classification: Unlisted

Lead Agency
City Planning Commission
120 Broadway, 31st Floor
New York, NY 10217
Contact: Robert Dobruskin
(212) 720-3423

Name, Description and Location of Proposal:

1675 Westchester Avenue Rezoning

The Applicant, 1675 JV Associates, LLC, is seeking two discretionary actions in connection with a proposed development located at 1675 Westchester Avenue (Block 3780, Lot 1 "Projected Development Site 1") in the Bronx River neighborhood of Bronx Community District 9: a zoning map amendment from R6 to R8A and R6 to R8A/C2-4 affecting the southern portion of Bronx Block 3780, Lots 1, 51 and part of Lot 50 (the "Proposed Rezoning Area"); and a zoning text amendment to Appendix F of the New York City Zoning Resolution (ZR) to establish a Mandatory Inclusionary Housing (MIH) area coterminous with the Proposed Rezoning Area. The Proposed Rezoning Area affects an approximately 30,514 sf portion of Block 3780 (approximately 25,790 sf of Lot 1 approximately 4,724 sf of Lot 51, and approximately 14 sf of Lot 50), and is located on the north side of Westchester Avenue between Metcalf and Fteley Avenues. The proposed actions would facilitate a proposal by the Applicant to construct a 13-story, approximately 203,000 gross square foot (gsf) mixed-use building on Projected Development Site 1, containing 188,585 gsf of residential uses (220 dwelling units (DUs), proposed to be 100% affordable pursuant to MIH), 6,845 gsf of community facility space, and 7,570 gsf of local retail. As no parking would be required pursuant to New York City Zoning Resolution (ZR) Section 25-251 "Modification of Requirements for Income-Restricted Housing Units," none would be provided.

In addition to the proposed actions before the CPC, the Applicant is seeking discretionary financing for the proposed development from the City's Housing Development Corporation (HDC), and subsidies from both HDC and the NYC Department of Housing Preservation and Development (HPD). A coordinated environmental review is being conducted, with HDC and HPD acting as involved agencies.

The Applicant-controlled site (Projected Development Site 1) is currently occupied by a vacant one-story, approximately 12,275 gsf building at the southeastern corner of the development site, that formerly served as a health center (Use Group (UG) 4 community facility use), which closed in 2012. The remainder of the site contains a former surface parking lot accessible from a curb cut on Metcalf Avenue. Lot 51, which is part of the Proposed Rezoning Area but is not controlled by the Applicant, contains a single-story, approximately 3,525 gsf legally non-conforming commercial retail building at a built floor area ratio (FAR) of 0.72.

R6 districts are non-contextual, medium density residential districts that permit residential uses at an FAR range of 0.78 to 2.43 for Height Factor buildings, or up to 3.0 for Quality Housing buildings located on a wide street outside the Manhattan Core. Community facility uses are also permitted at an FAR of 4.8. The maximum building height permitted is governed by the sky exposure plane for Height Factor buildings; and up to 70 feet, with a base height of 40-60 feet for Quality Housing buildings fronting a wide street outside the Manhattan Core. Off-street parking is required for 70% of all DUs for a Height Factor building, and 50% of all DUs for a Quality Housing building.

R8A districts are high density contextual residential districts that permit residential uses at an FAR of 6.02, or 7.2 when mapped as a Mandatory Inclusionary Housing area. When mapped with a C2-4 commercial overlay, Use Groups 1 through 9 and 14 are permitted, with a maximum FAR of 2.0 for commercial uses and 6.5 for community facility uses. In R8A districts within an MIH area, a maximum building height of 145 feet is permitted for residential or mixed-use buildings containing affordable housing and a qualifying ground floor of at least 13 feet. Accessory off-street parking spaces must be provided for 50 percent of market-rate dwelling units. No parking spaces are required for income-restricted dwelling units (80% below Area Median Income (AMI)) for areas within the Transit Zone, per ZR Section 25-251.

For the purpose of presenting a conservative analysis, an Environmental Assessment Statement (EAS) prepared by the Applicant analyzes a Reasonable Worst Case Development Scenario (RWCDS) With-Action scenario that assumes the same building program described above (approximately 220 affordable DUs, approximately 7,570 gsf of local retail, and approximately 6,845 gsf of community facility space, assumed to be Use Group 4 medical office/ambulatory care), but with a building height of 145', on Projected Development Site 1 (Block 3780, Lot 1). Per ZR Section 77-22, "Special Provisions for Zoning Lots Divided by District Boundaries – Floor Area Ratio", for zoning lots that contain two different residence districts, the maximum FAR is determined by multiplying by the percentage of the zoning lot in either district by that district's maximum FAR. The sum of the products equals the adjusted maximum FAR applicable to the entire zoning lot. As an approximately 3,082 sf portion of Lot 1 would continue to be zoned R6, which has a maximum 3.0 FAR for residential uses built pursuant to Quality Housing regulations along a wide street, the proposed FAR for Projected Development Site 1 represents the maximum adjusted FAR of 6.75. Additionally, the RWCDS With-Action scenario assumes that Block 3780, Lot 51 (Projected Development Site 2) would be developed with a mixed-use residential and commercial retail building, containing approximately 34 DUs (7 of which would be affordable, pursuant to MIH), and 3,831 gsf of local retail at the ground floor, at an FAR of 7.2. No parking would be required, pursuant to ZR Sections 25-251 and 25-242 "Waiver of requirements for small zoning lots in high bulk districts."

Absent the proposed actions, it is anticipated that development would occur within the Proposed Rezoning Area in accordance with the existing R6 zoning district. It is anticipated that Projected Development Site 1 would be developed with up to a 7-story, approximately 110,316 gsf, mixed-use residential and community facility building at an FAR of 3.50. The building would be constructed pursuant to the Quality Housing Program, and would contain approximately 95,277 gsf of residential uses (94 market-rate DUs), and approximately 15,039 gsf of Use Group 4 ambulatory care/medical office community facility space on the ground floor. Forty-seven accessory parking spaces would be provided, per the Quality Housing requirement that parking be provided for 50% of the market rate DUs. Projected Development Site 2 would be developed with a 7-story, approximately 15,930 gsf residential building at 3.0 FAR, containing 16 market-rate DUs, pursuant to Quality Housing regulations. The residential parking space requirement would be waived pursuant to ZR Section 25-211(c) "Accessory Off-Street Parking and Loading Regulations - Application of requirements to conversions and certain enlargements," as Lot 51 comprises less than 5,000 sf.

The analysis year for the proposed project is 2020.

In order to preclude significant adverse impacts related to hazardous materials, air quality and noise, the Proposed Actions include the assignment of an (E) designation (E-425).

The (E) designation related to hazardous materials, air quality and noise would apply to the following sites:

Block 3780, Lots 1 and 51

The (E) designation text related to hazardous materials is as follows:

Task 1-Sampling Protocol

The applicant submits to OER, for review and approval, a Phase I of the site along with a soil, groundwater and soil vapor testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented. If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER. The number and location of samples should be selected to adequately characterize the site, specific sources of suspected contamination (i.e., petroleum based contamination and non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.

Task 2-Remediation Determination and Protocol

A written report with findings and a summary of the data must be submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER.

If remediation is indicated from test results, a proposed remediation plan must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER. The applicant should then provide proper documentation that the work has been satisfactorily completed.

A construction-related health and safety plan should be submitted to OER and would be implemented during excavation and construction activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil, groundwater and/or soil vapor. This plan would be submitted to OER prior to implementation.

The (E) designation text related to air quality is as follows:

Block 3780, Lot 1: Any new residential, commercial and/or community facility development on Block 3780 Lot 1 must use natural gas for HVAC systems and ensure that the heating, ventilating, air conditioning stack is located at 159 feet above grade and at least 68 feet from Metcalf Avenue and 27 feet from Westchester Avenue to avoid any potential significant adverse air quality impacts.

Block 3780, Lot 51: Any new residential, commercial and/or community facility development on Block 3780 Lot 51 must use natural gas for HVAC systems and ensure that the heating, ventilating, air conditioning stack is located at 159 feet above grade and at least 26 feet from Fteley Avenue and 56 feet from Westchester Avenue to avoid any potential significant adverse air quality impacts.

The (E) designation text related to noise is as follows:

Block 3780, Lot 1: To ensure an acceptable interior noise environment, future residential, commercial and/or community facility uses on Block 3780, Lot 1 must provide a closed window condition with a minimum 38 dBA window/wall attenuation on all southern façades facing Westchester Avenue and western and eastern facades within 100 feet from Westchester Avenue and 31 dBA of attenuation on all other facades to maintain an interior noise level of 45 dBA. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning. The minimum required composite building façade attenuation for future commercial uses would be 5 dBA lower than that for residential and community facility uses.

Block 3780, Lot 51: To ensure an acceptable interior noise environment, future residential, commercial and/or community facility uses on Block 3780, Lot 51 must provide a closed window condition with a minimum 38 dBA window/wall attenuation on all southern façades facing Westchester Avenue and western and eastern facades within 100 feet from Westchester Avenue and 31 dBA of attenuation on all other facades to maintain an interior noise level of 45 dBA. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning. The minimum required composite building façade attenuation for future commercial uses would be 5 dBA lower than that for residential and community facility uses.

With the measures specified above, the Proposed Actions would not result in any significant adverse impacts related to hazardous materials, air quality or noise.

Statement of No Significant Effect:
The Environmental Assessment and Review Division of the Department of City Planning, on behalf of the City Planning Commission, has completed its technical review of the Environmental Assessment Statement, dated May 19, 2017, prepared in connection with the ULURP Application (Nos. 170377ZMX, 170378ZRX). The City Planning Commission has determined that the Proposed Actions will have no significant effect on the quality of the environment.

Supporting Statement:
The above determination is based on an environmental assessment which finds that:

1. The (E) designation for hazardous materials, air quality and noise (E-425) would ensure that the Proposed Actions would not result in significant adverse impacts.

2. No other significant effects on the environment which would require an Environmental Impact Statement are foreseeable.

This Negative Declaration has been prepared in accordance with Article 8 of the Environmental Conservation Law 6NYCRR part 617.

Please contact Annabelle Meunier of the Department of City Planning at (212) 720-3426 if you have any questions regarding this application.

Olga Abinader, Deputy Director
Environmental Assessment and Review Division
Department of City Planning

Date: May 19, 2017

Marisa Lago, Chair
City Planning Commission

Date: May 22, 2017

APPENDIX J

CITIZEN PARTICIPATION PLAN (CPP)

NEW YORK STATE OF OPPORTUNITY. | Department of Environmental Conservation

Brownfield Cleanup Program

Citizen Participation Plan
for
1675 Apartments

May 2018

C203107
1675-1679 Westchester Avenue
Bronx, New York

Prepared by:

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

Table of Contents

Section **Page Number**

1. What is New York's Brownfield Cleanup Program? 3
2. Citizen Participation Activities 3
3. Major Issues of Public Concern 8
4. Site Information 9
5. Investigation and Cleanup Process 10

Appendix A – Project Contacts and Locations of Reports and Information 13

Appendix B – Site Contact List 14

Appendix C – Site Location Map 20

Appendix D – Brownfield Cleanup Program Process 21

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Note: The information presented in this Citizen Participation Plan was current as of the date of its approval by the New York State Department of Environmental Conservation. Portions of this Citizen Participation Plan may be revised during the Site's investigation and cleanup process.

Applicant: **1675 JV Associates LLC and 1675 Westchester Avenue Housing Development Fund Corporation ("Applicants")**
Site Name: **1675 Apartments ("Site")**
Site Address: **1675-1679 Westchester Avenue**
Site County: **Bronx**
Site Number: **C203107**

1. What is New York's Brownfield Cleanup Program (BCP)?

New York's BCP works with private developers to encourage the voluntary cleanup of contaminated properties known as "brownfields" so that they can be reused and developed. These uses include recreation, housing, and business.

A *brownfield* is any real property that is difficult to reuse or redevelop because of the presence or potential presence of contamination. A brownfield typically is a former industrial or commercial property where operations may have resulted in environmental contamination. A brownfield can pose environmental, legal, and financial burdens on a community. If a brownfield is not addressed, it can reduce property values in the area and affect economic development of nearby properties.

The BCP is administered by the New York State Department of Environmental Conservation (NYSDEC), which oversees Applicants who conduct brownfield site investigation and cleanup activities. An Applicant is a person who has requested to participate in the BCP and has been accepted by NYSDEC. The BCP contains investigation and cleanup requirements, ensuring that cleanups protect public health and the environment. When NYSDEC certifies that these requirements have been met, the property can be reused or redeveloped for the intended use.

For more information about the BCP, go online at: http://www.dec.ny.gov/chemical/8450.html.

2. Citizen Participation (CP) Activities

Why NYSDEC Involves the Public and Why It Is Important

NYSDEC involves the public to improve the process of investigating and cleaning up contaminated sites, and to enable citizens to participate more fully in decisions that affect their health, environment, and social well-being. NYSDEC provides opportunities for citizen involvement and encourages early two-way communication with citizens before decision makers form or adopt final positions.

Involving citizens affected and interested in site investigation and cleanup programs is important for many reasons. These include:

- Promoting the development of timely, effective site investigation and cleanup programs that protect public health and the environment;
- Improving public access to, and understanding of, issues and information related to a particular site and that site's investigation and cleanup process;
- Providing citizens with early and continuing opportunities to participate in NYSDEC's site investigation and cleanup process;

- Ensuring that NYSDEC makes site investigation and cleanup decisions that benefit from input that reflects the interests and perspectives found within the affected community; and
- Encouraging dialogue to promote the exchange of information among the affected/interested public, state agencies, and other interested parties that strengthens trust among the parties, increases understanding of site and community issues and concerns, and improves decision making.

This Citizen Participation Plan (CPP) provides information about how NYSDEC will inform and involve the public during the investigation and cleanup of the Site identified above. The public information and involvement program will be carried out with assistance, as appropriate, from the Applicants.

Project Contacts

Appendix A identifies NYSDEC project contacts to whom the public should address questions or request information about the Site's investigation and cleanup program. The public's suggestions about this CPP and the CP program for the Site are always welcome. Interested people are encouraged to share their ideas and suggestions with the project contacts at any time.

Locations of Reports and Information

The locations of the reports and information related to the Site's investigation and cleanup program are also identified in Appendix A. These locations provide convenient access to important project documents for public review and comment. Some documents may be placed on the NYSDEC website. If this occurs, NYSDEC will inform the public in fact sheets distributed about the Site and by other means, as appropriate.

Site Contact List

Appendix B contains the Site contact list. This list has been developed to keep the community informed about, and involved in, the Site's investigation and cleanup process. The Site contact list will be used periodically to distribute fact sheets that provide updates about the status of the project. These will include notifications of upcoming activities at the Site (such as fieldwork), as well as availability of project documents and announcements about public comment periods.

The Site contact list includes, at a minimum:

- Chief executive officer and planning board chairperson of each county, city, town and village in which the Site is located;
- Residents, owners, and occupants of the Site and properties adjacent to the Site;
- The public water supplier that services the area in which the Site is located;
- Any person who has requested to be placed on the Site contact list;
- The administrator of any school or day care facility located on or near the Site for purposes of posting and/or dissemination of information at the facility; and
- Location(s) of reports and information.

The Site contact list will be reviewed periodically and updated as appropriate. Individuals and organizations will be added to the Site contact list upon request. Such requests should be submitted to the NYSDEC project contacts identified in Appendix A. Other additions to the Site contact list may be made at the discretion of the NYSDEC project manager, in consultation with other NYSDEC staff as appropriate.

Note: The first Site fact sheet [usually related to the draft Remedial Investigation Work Plan (RIWP)] is distributed both by paper mailing through the postal service and through NYSDEC Delivers, its email listserv service. The fact sheet includes instructions for signing up with the appropriate county listserv to receive future notifications about the Site. See http://www.dec.ny.gov/chemical/61092.html.

Subsequent fact sheets about the Site will be distributed exclusively through the listserv, except for households without internet access that have indicated the need to continue to receive Site information in paper form. Please advise the NYSDEC project manager identified in Appendix A if that is the case. Paper mailings may continue during the investigation and cleanup process for some sites, based on public interest and need.

CP Activities

The table at the end of this section identifies the CP activities, at a minimum, that have been and will be conducted during the Site's investigation and cleanup program. The flowchart in Appendix D shows how these CP activities integrate with the Site investigation and cleanup process. The public is informed about these CP activities through fact sheets and notices distributed at significant points during the program. Elements of the investigation and cleanup process that match up with the CP activities are explained briefly in Section 5.

- **Notices and fact sheets** help the interested and affected public to understand contamination issues related to a site, and the nature and progress of efforts to investigate and clean up a site.
- **Public forums, comment periods, and contact with project managers** provide opportunities for the public to contribute information, opinions and perspectives that have potential to influence decisions about a site's investigation and cleanup.

The public is encouraged to contact project staff at any time during the Site's investigation and cleanup process with questions, comments, or requests for information.

This CPP may be revised due to changes in major issues of public concern identified in Section 3 or in the nature and scope of investigation and cleanup activities. Modifications may include additions to the Site contact list and changes in planned CP activities.

Technical Assistance Grant (TAG)

NYSDEC must determine if the Site poses a significant threat to public health or the environment. This determination generally is made using information developed during the investigation of the Site, as described in Section 5.

If the Site is determined to be a significant threat, a qualifying community group may apply for a TAG. The purpose of a TAG is to provide funds to the qualifying group to obtain independent technical assistance. This assistance helps the TAG recipient to interpret and understand existing environmental information about the nature and extent of contamination related to the Site and the development/implementation of a remedy.

An eligible community group must certify that its membership represents the interests of the community affected by the Site, and that its members' health, economic well-being or enjoyment of the environment may be affected by a release or threatened release of contamination at the Site.

As of the date the declaration (page 2) was signed by the NYSDEC project manager, the significant threat determination for the Site has not yet been made.

To verify the significant threat status of the Site, the interested public may contact the NYSDEC project manager identified in Appendix A.

For more information about TAGs, go online at http://www.dec.ny.gov/regulations/2590.html

Note: The table identifying the CP activities related to the Site's investigation and cleanup program follows on the next page.

TABLE 1

Citizen Participation Activities	Timing of Citizen Participation Activity(ies)
Application Process:	
• Prepare Site contact list • Establish document repository(ies)	At time of preparation of application to participate in the BCP.
• Publish notice in Environmental Notice Bulletin (ENB) announcing receipt of application and 30-day public comment period • Publish above ENB content in local newspaper • Mail above ENB content to site contact list • Conduct 30-day public comment period	When NYSDEC determines that BCP application is complete. The 30-day public comment period begins on date of publication of notice in ENB. End date of public comment period is as stated in ENB notice. Therefore, ENB notice, newspaper notice, and notice to the site contact list should be provided to the public at the same time.
After Execution of Brownfield Cleanup Agreement (BCA):	
• Prepare Citizen Participation (CP) Plan (CPP)	Before start of Remedial Investigation (RI) **Note:** Applicant must submit CPP to NYSDEC for review and approval within 20 days of the effective date of the BCA.
Before NYSDEC Approves RI Work Plan (RIWP):	
• Distribute fact sheet to Site contact list about proposed RI activities and announcing 30-day public comment period about draft RIWP • Conduct 30-day public comment period	Before NYSDEC approves RIWP. If RIWP is submitted with application, public comment periods will be combined and public notice will include fact sheet. Thirty-day public comment period begins/ends as per dates identified in fact sheet.
After Applicant Completes Remedial Investigation (RI):	
• Distribute fact sheet to Site contact list that describes RI results	Before NYSDEC approves RI Report (RIR)
Before NYSDEC Approves Remedial Action Work Plan (RAWP):	
• Distribute fact sheet to Site contact list about draft RAWP and announcing 45-day public comment period • Public meeting by NYSDEC about proposed RAWP (if requested by affected community or at discretion of NYSDEC project manager) • Conduct 45-day public comment period	Before NYSDEC approves RAWP. Forty-five day public comment period begins/ends as per dates identified in fact sheet. Public meeting would be held within the 45-day public comment period.
Before Applicant Starts Cleanup Action:	
• Distribute fact sheet to Site contact list that describes upcoming cleanup action	Before the start of cleanup action.
After Applicant Completes Cleanup Action:	
• Distribute fact sheet to Site contact list that announces that cleanup action has been completed and that NYSDEC is reviewing the Final Engineering Report (FER) • Distribute fact sheet to site contact list announcing NYSDEC approval of FER and issuance of Certificate of Completion (COC)	At the time the cleanup action has been completed. **Note:** The two fact sheets are combined when possible if there is not a delay in issuing the COC.

3. Major Issues of Public Concern

This section of the CPP identifies major issues of public concern that relate to the Site. Additional major issues of public concern may be identified during the course of the Site's investigation and cleanup process.

The Site is part of Census Tract 64. According to the 2010-2014 American Community Survey (ACS) Profile Survey Data, 20.6% of the population in Census Tract 64 is living below the poverty line, compared to the national poverty rate of 13.5% (as of 2015) and the New York State poverty rate of 14.7% (as of 2017). The unemployment rate for Census Tract 64 is 6.4% (as of the 2010-2014 Census), compared to the New York City (City) unemployment rate of 3.9% (as of December 2017) and the national unemployment rate of 3.9% (as of April 2018).

Because the Site is located in an area with a large Hispanic-American community (approximately 55.6% based on 2010 Census data), all fact sheets will be translated into Spanish.

The Site is located in an Environmental Justice Area. Environmental justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

The December 2017 Subsurface (Phase II) Investigation Report prepared by AKRF, Inc. (AKRF) concluded that contaminated soil, groundwater, and soil vapor are present at the Site. Metals and polycyclic aromatic hydrocarbons (PAHs), likely related to historic filling at the Site, were detected in soil at concentrations above 6 NYCRR Part 375 Restricted Residential Soil Cleanup Objectives (RRSCOs) and in groundwater above NYSDEC Ambient Water Quality Standards (AWQSs). In addition, chlorinated solvent-related compounds in soil vapor appear to be related to the former dry cleaning operations on former Lot 51 and historic operations/filling activities at the Site; and petroleum-related compounds are likely related to the former on-site fuel oil underground storage tank (UST) and associated closed-status NYSDEC Spill No. 1407300.

The presence of contamination creates an impediment to development in low-income areas and low-income projects, as these areas/projects are less likely to experience improving market conditions, which would allow for the absorption of added costs related to remediation and construction time and risk. Under the de Blasio Administration, the development of affordable housing has become a major initiative for the City. Once remediation of Site contamination is completed, the Site redevelopment plan would be in line with the City's initiatives.

The proposed redevelopment plan includes the demolition of the existing building and the construction of a new 10- to 12-story mixed-use building with 253 affordable apartment units and approximately 18,900 ground square feet of commercial and community facility space.

Potential Remediation/Construction-Related Issues

Issues of concern during the on-site remediation phase will likely include those related to the on-site handling and off-site disposal of contaminated soil. The likely concern to the surrounding community will be the possibility of the generation of vapors or particulates from the Site during remediation. On-site air quality and airborne particulate levels will be monitored during any soil excavation and removal activity in accordance with a Site-specific Health and Safety Plan (HASP) that will be included as part of the Remedial Action Work Plan (RAWP). Particulate suppression techniques will be employed to prevent the generation of airborne particulates. All air monitoring will be performed in accordance with a Site-specific Community Air Monitoring Plan that will be included as part of the RAWP and the New York State Department of Health (NYSDOH)'s generic Community Air Monitoring Plan (CAMP).

A likely additional remediation/construction concern will be the potential presence of trucks traveling through the community, and parking or idling at or near the Site during soil excavation and disposal. The RAWP will include provisions for on-site soil handling techniques that minimize the number of trucks and duration of time within or near the Site. In addition, provisions will be included to restrict truck traffic (to the extent possible) to designated routes along main roads while minimizing traffic within the community.

The concern over construction-related noise is a common one for communities in which redevelopment is occurring. Construction plans will minimize noise to the extent possible and the operation of heavy equipment will be restricted to normal working hours as mandated in required City-issued permits.

4. Site Information

Site Description

The Site is located at 1675-1679 Westchester Avenue in the Soundview neighborhood of the Bronx, New York and is identified on the New York City Tax Map as Bronx Borough Block 3780, Lot 1. According to New York City's Zoning and Land Use Map (ZoLa), the Site is an approximately 36,865-square foot, "L-shaped" lot with a vacant commercial building fronting Westchester Avenue and adjacent asphalt-paved and landscaped areas. The Site is bounded by: residential buildings to the north; Fteley Avenue to the east, followed by residential/day care; Westchester Avenue and the elevated 6 train tracks to the south; and Metcalf Avenue, followed by the Bronx River Parkway to the west. Appendix C contains a map identifying the location of the Site.

History of Site Use, Investigation, and Cleanup

The Site is currently vacant. Historic records indicate that the Site was undeveloped until 1964, when the current Site building was constructed. The Site building was previously occupied by various commercial uses with ancillary parking, including a supermarket with a boiler room and compressor rooms in the cellar in 1964. Between 1983 and 2012, the western portion of the Site building was occupied by medical facilities with a furnace room in the cellar and associated parking. The eastern portion of the building was occupied by various commercial uses, including a liquor store, Norma Cleaners (dry cleaner) between 1983 and 2014, and Victoria Cleaners (dry cleaner) between 2014 and 2017. The tenants of the eastern portion of the building vacated by January 2018.

Spill No. 1407300 was reported on Lot 1 at the Site when an October 2014 Subsurface (Phase II) Investigation identified several fuel oil-related volatile organic compounds (VOCs) and SVOCs at levels above applicable standards in soil and groundwater adjacent to a former fuel oil tank. In October 2014, 756 gallons of waste oil, 55.59 tons of petroleum-contaminated soil, and a 1,000-gallon UST were disposed of off-site and Spill No. 1407300 was closed in October 2014.

AKRF conducted a Subsurface (Phase II) Investigation in September and December 2017. The investigation included the advancement of nine soil borings with the collection and laboratory analysis of 15 soil samples, the installation of five temporary groundwater wells with the collection and analysis of five groundwater samples, and the installation of five temporary soil vapor points with the collection and laboratory analysis of five soil vapor samples. One ambient air sample was collected for comparison and quality assurance/quality control (QA/QC) purposes.

The Subsurface (Phase II) Investigation documented that soil beneath the Site consists of historic fill (sand with silt, gravel, concrete, brick, wood, and ceramics) from the surface to depths ranging between 10 and 20 feet below grade across the Site. Groundwater was measured between approximately 10 and 12 feet below grade.

Analytical sample data indicated that soil and groundwater are contaminated with SVOCs and elevated metal concentrations likely attributable to historic operations/filling activities on-site. Petroleum-related and chlorinated-related VOCs were detected in the soil vapor, which is likely related to the former dry cleaning operations on the western portion of the Site and historic operations/filling activities. Petroleum-related compounds may also be attributable to the former on-site fuel oil UST and associated closed status NYSDEC Spill No. 1407300.

5. Investigation and Cleanup Process

Application

The Applicants have applied for and been accepted into New York's BCP as Volunteers. This means that the Applicants were not responsible for the disposal or discharge of the contaminants or whose ownership or operation of the Site took place after the discharge or disposal of contaminants. The Volunteers must fully characterize the nature and extent of contamination on-site, and must conduct a "qualitative exposure assessment," which is a process that characterizes the actual or potential exposures of people, fish, and wildlife to contaminants on the Site and to contamination that has migrated from the Site.

The Applicants, in its Application, propose that the Site will be used for restricted residential and commercial purposes.

To achieve this goal, the Applicants will conduct investigation and cleanup activities at the Site with oversight provided by NYSDEC. The Brownfield Cleanup Agreement (BCA), executed by NYSDEC and the Applicants, sets forth the responsibilities of each party in conducting these activities at the Site.

Investigation

The Applicants will conduct an investigation of the Site officially called a "Remedial Investigation" (RI). The RI will be performed with NYSDEC oversight. The Applicants developed an RI Work Plan (RIWP), which is subject to public comment.

The RI has several goals:

1. Define the nature and extent of contamination in soil, groundwater, soil vapor, and any other parts of the environment that may be affected;
2. Identify the source(s) of the contamination;
3. Assess the impact of the contamination on public health and the environment; and
4. Provide information to support the development of a RAWP to address the contamination, or to support a conclusion that the contamination does not need to be addressed.

The Applicants submitted a Draft RIWP to NYSDEC for review and approval. NYSDEC makes the draft RIWP available to the public review during a 30-day public comment period or the comment period for the draft RIWP will be combined with the BCP Application for one 45-day comment period.

When the RI is complete, the Applicants will prepare and submit a report called a Remedial Investigation Report (RIR) that summarizes the results. The RIR will recommend whether cleanup action is needed to address Site-related contamination. The RIR is subject to review and approval by NYSDEC.

NYSDEC will use the information in the investigation report to determine whether the Site poses a significant threat to public health or the environment. If the Site is a “significant threat,” it must be cleaned up using a remedy selected by NYSDEC from an analysis of alternatives prepared by the Applicants and approved by NYSDEC. If the Site does not pose a significant threat, the Applicant may select the remedy from the approved analysis of alternatives.

Interim Remedial Measure (IRM)

An IRM is an action that can be undertaken at a site when a source of contamination or exposure pathway can be effectively addressed before the site investigation and analysis of alternatives are completed. If an IRM is likely to represent all or a significant part of the final remedy, NYSDEC will require a 30-day public comment period.

Remedy Selection

When the investigation of the Site has been determined to be complete, the project likely would proceed in one of two directions:

1. The Applicants may recommend in its investigation report that no action is necessary at the Site. In this case, NYSDEC would make the RIR available for public comment for 45 days. NYSDEC then would complete its review, make any necessary revisions, and, if appropriate, approve the RIR. NYSDEC would then issue a “Certificate of Completion” (COC) (described below) to the Applicants.

   or

2. The Applicants may recommend in their RIR that action needs to be taken to address Site contamination. After NYSDEC approves the RIR, the Applicant may then develop a cleanup plan, officially called a “Remedial Action Work Plan” (RAWP). The RAWP describes the Applicants’ proposed remedy for addressing contamination related to the Site.

When the Applicants submit a draft RAWP for approval, NYSDEC would announce the availability of the draft plan for public review during a 45-day public comment period.

Cleanup Action

NYSDEC will consider public comments, and revise the draft cleanup plan if necessary, before approving the proposed remedy. The NYSDOH must concur with the proposed remedy. After approval, the proposed remedy becomes the selected remedy. The selected remedy is formalized in the Site Decision Document (DD).

The Applicants may then design and perform the cleanup action to address the Site contamination. NYSDEC and NYSDOH oversee the activities. When the Applicants complete cleanup activities, they will prepare a Final Engineering Report (FER) that certifies that cleanup requirements have been achieved or will be achieved within a specific timeframe. NYSDEC will review the report to be certain that the cleanup is protective of public health and the environment for the intended use of the Site.

Certificate of Completion (COC)

When NYSDEC is satisfied that cleanup requirements have been achieved or will be achieved for the Site, it will approve the FER. NYSDEC then will issue a COC to the Applicants. The COC states that cleanup goals have been achieved, and relieves the Applicants from future liability for Site-related contamination, subject to certain conditions. The Applicants would be eligible to redevelop the Site after it receives a COC.

Site Management

The purpose of Site management is to ensure the safe reuse of the property if contamination will remain in place. Site management is the last phase of the site cleanup program. This phase begins when the COC is issued. Site management incorporates any institutional and engineering controls required to ensure that the remedy implemented for the Site remains protective of public health and the environment. All significant activities are detailed in a Site Management Plan (SMP).

An *institutional control* is a non-physical restriction on use of the Site, such as a deed restriction that would prevent or restrict certain uses of the property. An institutional control may be used when the cleanup action leaves some contamination that makes the site suitable for some, but not all uses.

An *engineering control* is a physical barrier or method to manage contamination. Examples include: caps, covers, barriers, fences, and treatment of water supplies.

Site management also may include the operation and maintenance of a component of the remedy, such as a system that pumps and treats groundwater. Site management continues until NYSDEC determines that it is no longer needed.

Appendix A
Project Contacts and Locations of Reports and Information

Project Contacts

For information about the Site's investigation and cleanup program, the public may contact any of the following project staff:

New York State Department of Environmental Conservation (NYSDEC):

Alicia Barraza Project Manager Division of Environmental Remediation NYSDEC Region 2 625 Broadway, 12th Floor Albany, NY 12233-7016 Tel: (518) 402-9690 Email: alicia.barraza@dec.ny.gov	Thomas Panzone Citizen Participation Specialist NYSDEC Region 2 1 Hunters Point Plaza 47-40 21st Street Long Island City, NY 11101 Tel: (718) 482-4953 Email: Thomas.panzone@dec.ny.gov

New York State Department of Health (NYSDOH):

Justin Deming
Project Manager
NYSDOH
Empire State Plaza
Corning Tower Room 1787
Albany, NY 12237
Tel: (518) 402-7860
Email: BEEI@health.ny.gov

Appendix B
Site Contact List

1. Local, State, and Federal Officials

Hon. Bill de Blasio Mayor of New York City City of New York 1 Centre Street New York, NY 10007-1200	Hon. Scott M. Stringer New York City Comptroller Office of the Comptroller, City of NY 1 Centre Street New York, NY 10007
Hon. Rubén Díaz, Jr. Bronx Borough President 851 Grand Concourse, 301 Bronx, New York 10451	NY State Assembly District 87 *(vacant)* 1973 Westchester Avenue Bronx, New York 10462
Hon. Rubén Díaz, Sr. New York City Council District 18 1041 Castle Hill Avenue Bronx, New York 10472	Marisa Lago, Director NYC Department of City Planning 120 Broadway, 31st Floor New York, NY 10271
Department of City Planning Bronx Borough Office 1775 Grand Concourse, Suite 503 Bronx, New York 10453	Daniel Walsh, Director Mayor's Office of Environmental Remediation 100 Gold Street, 2nd Floor New York, NY 10038
Hon. Governor Andrew M. Cuomo NYS State Capitol Building Albany, New York 12224	Hon. Charles Schumer U.S. Senate 322 Hart Senate Office Building Washington, DC 20510
Hon. Kirsten Gillibrand U.S. Senate 478 Russell Senate Office Building Washington, DC 20510	Hon. Letitia James Public Advocate 1 Centre Street, 15th Floor New York, NY 10007
Hon. Jose E. Serrano U.S. House of Representatives 2254 Rayburn House Office Building Washington, DC 20515	

2. Residents, Owners, and Occupants of the Site and Adjacent Properties

<table>
<tr>
<td><u>Adjacent to the north:</u>

Block 3780, Lot 15
1250 Metcalf Avenue
Bronx, New York 10472
Carmen Rodriguez (Owner)

Current Occupant
1250 Metcalf Avenue
Bronx, New York 10472</td>
<td><u>Adjacent to the north and east:</u>

Block 2780, Lot 50
1243 Fteley Avenue
Bronx, New York 10472
Willie Anderson (Owner)

Current Occupant
1243 Fteley Avenue
Bronx, New York 10472

Block 3781, Lot 9
1242 Fteley Avenue
Bronx, New York
Enrique Cordero, Jr. (Owner)

Current Occupant
1242 Fteley Avenue
Bronx, New York 10472</td>
</tr>
<tr>
<td><u>Adjacent to the northeast:</u>

Block 3780, Lot 46
1251 Fteley Avenue
Bronx, New York 10472
Carmen Rivera (Owner)

Current Occupant
1251 Fteley Avenue
Bronx, New York 10472</td>
<td><u>Adjacent to the south:</u>

Block 3747, Lot 1
1221 Westchester Avenue
Bronx, New York 10472
Florence D’Urso (Owner)

Current Occupant
1221 Westchester Avenue
Bronx, New York 10472</td>
</tr>
<tr>
<td colspan="2"><u>Adjacent to the west:</u>

Undefined By Block/Lot
Bronx River Parkway
City of New York (Owner/Operator)</td>
</tr>
<tr>
<td colspan="2"><u>Adjacent to the east:</u></td>
</tr>
<tr>
<td>Block 3780, Lot 47
1249 Fteley Avenue
Bronx, New York 10472
Jamilun Khan (Owner)

Current Occupant
1249 Fteley Avenue
Bronx, New York 10472</td>
<td>Block 3780, Lot 49
1245 Fteley Avenue
Bronx, New York 10472
Kishore Tilak (Owner)

Current Occupant
1245 Fteley Avenue
Bronx, New York 10472</td>
</tr>
</table>

Block 3780, Lot 48 1247 Fteley Avenue Bronx, New York 10472 Harold Richardson (Owner)	Block 3781, Lot 108 1240 Fteley Avenue Bronx, New York 10472 Aida Cruz (Owner)
Current Occupant 1247 Fteley Avenue Bronx, New York 10472	Current Occupant 1240 Fteley Avenue Bronx, New York 10472
Block 2781, Lot 8 1238 Fteley Avenue Bronx, New York 10472 Gerardo Morales (Owner)	Block 3781, Lot 107 1236 Fteley Avenue Bronx, New York 10472 Fabian Villa (Owner)
Current Occupant 1238 Fteley Avenue Bronx, New York 10472	Current Occupant 1236 Fteley Avenue Bronx, New York 10472
Block 3781, Lot 7 1234 Fteley Avenue Bronx, New York 10472 Hilda Quiroz (Owner)	Current Occupant 1234 Fteley Avenue Bronx, New York 10472

3. Local News Media

Inner City Press PO Box 580188, Mount Carmel Station Bronx, NY 10458	Bronx Times Reporter 900 East 132nd Street Bronx, NY 10454
The New York Times 229 West 43rd Street New York, NY 10036	News 12 The Bronx 930 Soundview Avenue Bronx, NY 10473
WNBC News 4 30 Rockefeller Plaza New York, NY 10012	WNYW Fox 5 205 East 67th Street New York, NY 10021
New York 1 News 75 Ninth Avenue New York, NY 10011	1010 Wins – CBS Radio 888 7th Avenue, 10th Floor New York, NY 10106

4. Public Water Supply

Public water is provided by The City of New York, Department of Environmental Protection (Customer Service Center, 59-17 Junction Boulevard, 13th Floor, Flushing, New York 11373).

5. Additional Contacts

None.

6. Nearby Schools and Day Care Centers

<u>Daycares:</u>

Five Star Day Care 1138 Manor Avenue Bronx, New York 10472 (347) 297-6426 Distance: 1,120 feet west of the Site	Baby Blues Daycare and Preschool 1728 East 172nd Street Bronx, New York 10472 (718) 617-4883 Distance: 500 feet northeast of the Site
Tesoritos Learning Center 1234 Fteley Avenue Bronx, New York 10472 (718) 842-6674 Distance: 115 feet east of the Site	Xavier's Place Nursery & Learning Center 1303 Harrod Avenue, Bronx, New York 10472 (646) 510-0334 Distance: 650 feet northwest of the Site
Bright Star Stratford Inc. 1217 Stratford Avenue Bronx, New York 10472 (718) 842-9361 Distance: 845 feet west of the Site	Lisette's Family Daycare 1584 East 172nd Street Bronx, New York 10472 (646) 874-6754 Distance: 1,085 feet west-northwest of the Site
Bronxdale Tenants League Day Care Center/Sound Dale Day Care Center/Dale Sound DCC Family Day 1211 Croes Avenue Bronx, New York 10472 (718) 378-3533 Distance: 290 feet southeast of the Site	East Tremont Head Start 1244 Manor Avenue Bronx, New York 10472 (718) 328-8547 Distance: 970 feet west-northwest of the Site
Mama Miriam's Family Day Care 1047 Ward Avenue Bronx, New York (718) 991-4280 Distance: 2,060 feet southwest of the Site	Flo's Day Care 1330 Morrison Avenue Bronx, New York 10472 (718) 378-5866 Distance: 945 feet northeast of the Site

Jenniffer's Daycare 1237 St. Lawrence Avenue Bronx, New York 10472 (347) 692-6394 Distance: 1,330 feet east of the Site	New Horizon Daycare 1262 White Plains Road Bronx, New York 10472 (347) 810-6233 Distance: 2,865 feet east of the Site
Precious Moments Daycare 1224 Thieriot Avenue Bronx, New York 10472 (718) 597-5078 Distance: 2,260 feet east of the Site	Julia's Daycare 1410 Rosedale Avenue Bronx, New York 10472 (718) 684-5201 Distance: 1,780 feet northeast of the Site
Paul T. Matson Headstart 1057 Boynton Avenue, # 1 Bronx, New York 10472 (718) 328-5469 Distance: 2,075 feet southwest	Bronxdale Nursery 1065 Beach Avenue Bronx, New York 10472 Distance: 2,160 feet southeast of the Site
East Bronx NAACP Day Care 1113 Colgate Avenue Bronx, New York (718) 617-2900 Distance: 2,760 feet southwest of the Site	

<u>Schools:</u>

P.S. 196 (X196) 1250 Ward Avenue Bronx, New York 10472 Principal: Lizzette Graciani (718) 328-7187 Distance: 1,000 feet west-northwest of the Site	P.S. 195 (X195) 1250 Ward Avenue Bronx, New York 10472 Principal: Unal Karakas (718) 861-4461 Distance: 1,000 feet west-northwest of the Site
Mott Hall V (X242) 1551 East 172nd Street Bronx, New York 10472 Principal: Peter Oroszlany (718) 620-8160 Distance: 1,230 feet west-northwest of the Site	The Cinema School (X478) 1551 East 172nd Street Bronx, New York 10472 Principal: Keisha Warner (718) 860-8120 Distance: 1,230 feet west-northwest of the Site
The Metropolitan Soundview High School (X521) 1300 Boynton Avenue Bronx, New York 10472 Principal: Emarilix Lopez (718) 860-8240 Distance: 1,230 feet west-northwest of the Site	High School of World Cultures (X550) 1300 Boynton Avenue Bronx, New York 10472 Principal: Ramon Namnun (718) 860-8120 Distance: 1,230 feet west-northwest of the Site
Pan American International High School at Monroe (X388)	Bronx Little School (X691) 1827 Archer Street

1300 Boynton Avenue Bronx, New York 10472 Principal: Bridgit Bye (718) 991-7238 Distance: 1,230 feet west-northwest of the Site	Bronx, New York 10460 Principal: Beverly Urquiza (718) 792-2650 Distance: 3,345 feet northeast of the Site
J.H.S 123 James M. Kieran 1025 Morrison Avenue Bronx, New York 10472 Principal: Richard Hallenbeck, Jr. (718) 328-2105 Distance: 1,923 feet south-southwest of the Site	P.S. 47 John Randolph (X047) 1794 East 172nd Street Bronx, New York 10472 Principal: Thomas Guiarnieri (718) 824-0950 Distance: 1,540 feet northeast of the Site
School of Urban and Global Mission 1260 Thieriot Avenue Bronx, New York 10472 Director: Rev. Eliezer Reyes (516) 292-1780 Distance: 2,200 feet east of the Site	

7. Document Repositories

Clason's Point Library, New York Public Library
1215 Morrison Avenue
Bronx, New York 10472
Library Manager: Melissa Davis
(718) 842-1235

Bronx Community Board 9
1967 Turnbull Avenue
Bronx, New York 10473
(718) 823-6461

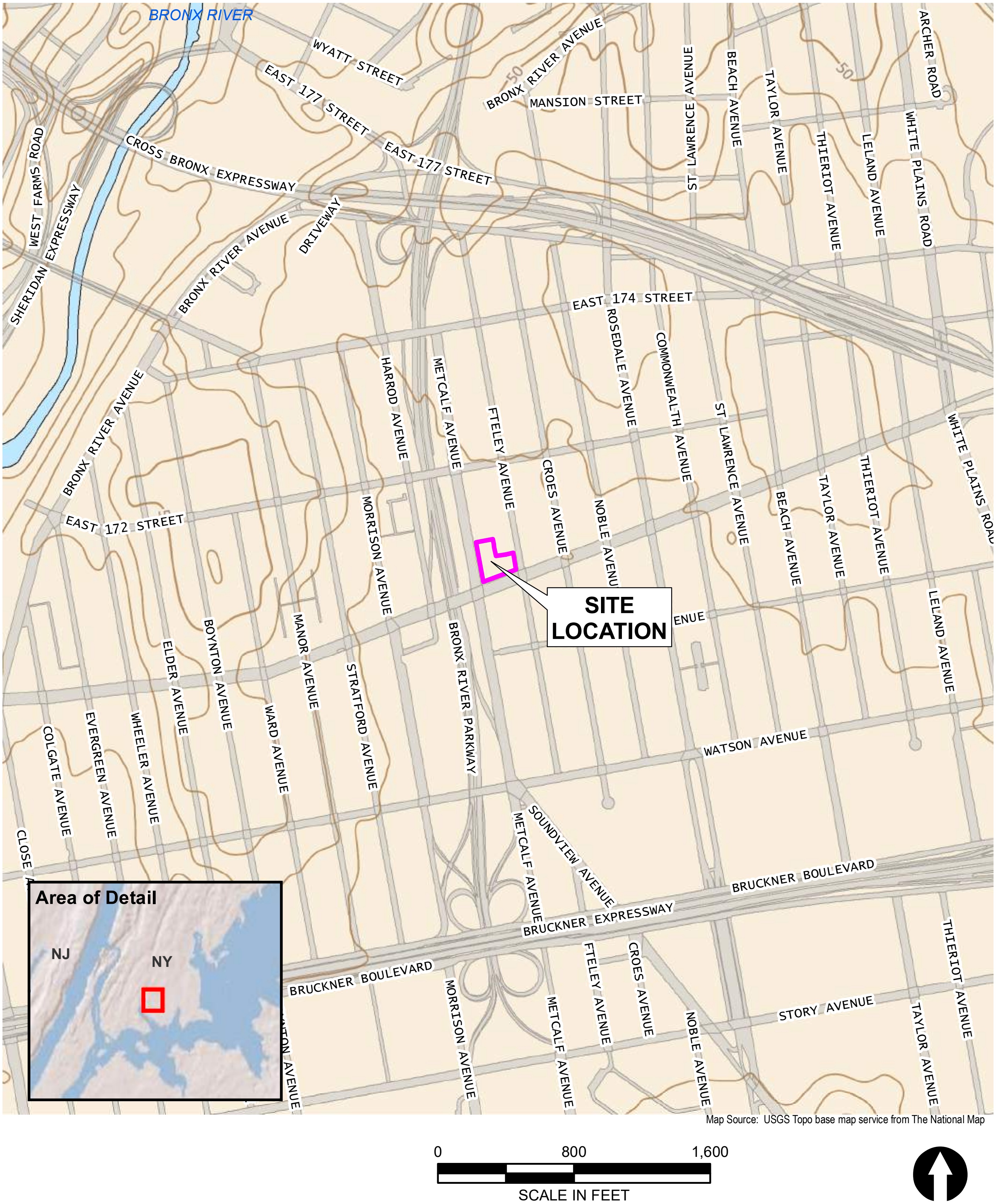
8. Local Community Board

Bronx Community Board 9
1967 Turnbull Avenue
Bronx, New York 10473
(718) 823-6461

9. Local Environmental, Civic, Community and Religious Institutions

None.

Appendix C
Site Location Map



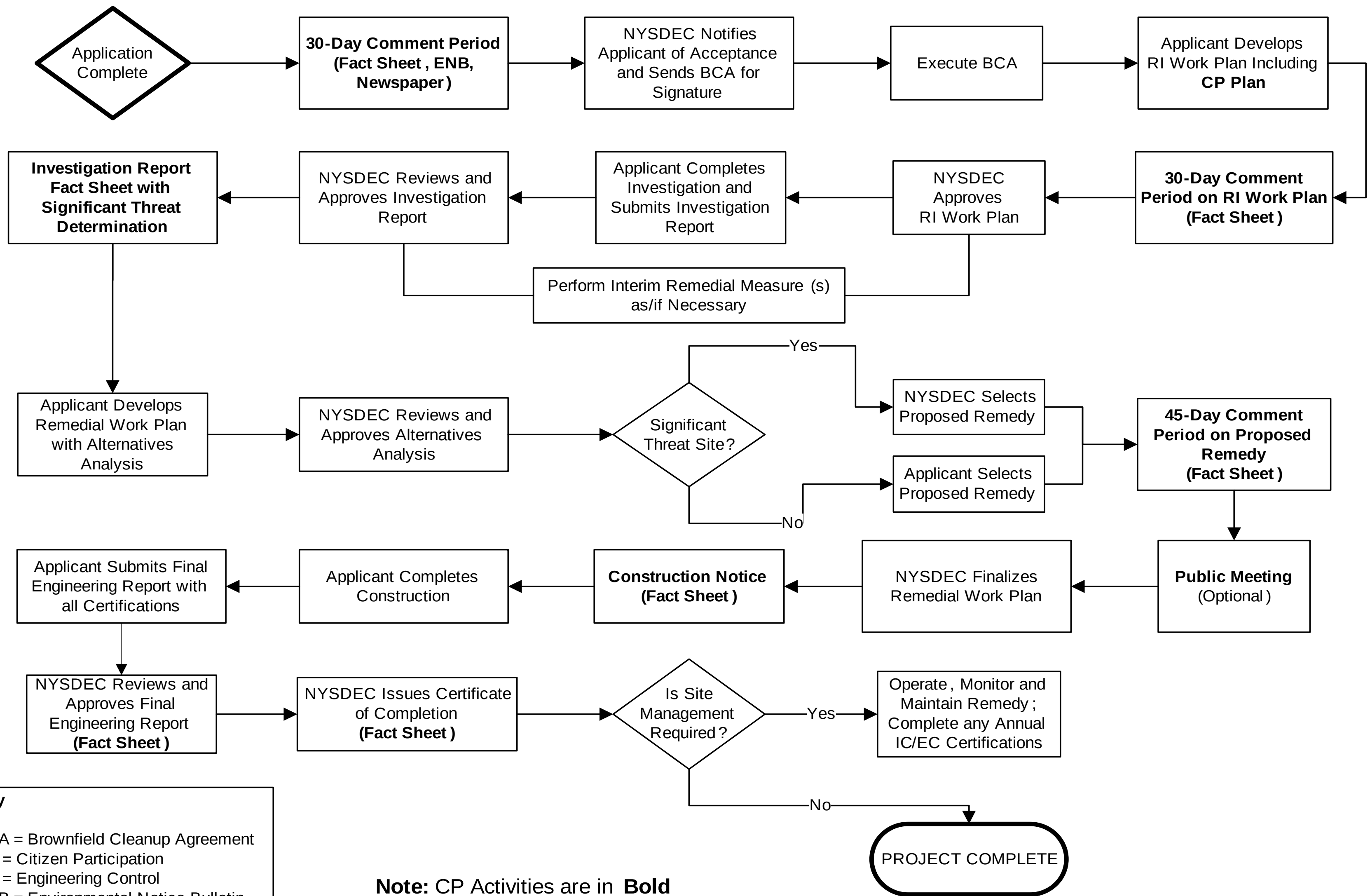
AKRF
440 Park Avenue South, New York, NY 10016

1675-1679 Westchester Avenue
Bronx, New York

SITE LOCATION

DATE	5/15/2018
PROJECT NO.	170250
APPENDIX	C

Appendix D– Brownfield Cleanup Program Process



Key

BCA = Brownfield Cleanup Agreement
CP = Citizen Participation
EC = Engineering Control
ENB = Environmental Notice Bulletin
IC = Institutional Control
RI = Remedial Investigation

Note: CP Activities are in **Bold**

Division of Environmental Remediation

Remedial Programs
Scoping Sheet for Major Issues of Public Concern

Instructions

This Scoping Sheet assesses major issues of public concern; impacts of the site and its remedial program on the community; community interest in the site; information the public needs; and information needed from the public.

The information generated helps to plan and conduct required citizen participation (CP) activities, and to choose and conduct additional CP activities, if appropriate. The scoping sheet can be revisited and updated as appropriate during the site's remedial process to more effectively implement the site's CP program.

Note: Use the information as an aid to prepare and update the Major Issues of Public Concern section of the site CP Plan.

General Instructions

- When to prepare: During preparation of the CP Plan for the site. It can be revisited and updated anytime during the site remedial process.
- Fill in site name and other information as appropriate.
- The Scoping Sheet may be prepared by DEC or a remedial party, but must be reviewed and approved by the DER site project manager or his/her designee.

Instructions for Numbered Parts

Consider the bulleted issues and questions below and any others that may be unique or appropriate to the site and the community to help complete the five Parts of this Scoping Sheet. Identify the issue stakeholders in Parts 1 through 3 and adjust the site's contact list accordingly.

Part 1. List Major Issues of Public Concern and Information the Community Wants.

- Is our health being impacted? (e.g. Are there problems with our drinking water or air? Are you going to test our water, yards, sumps, basements? Have health studies been done?)
- There are odors in the neighborhood. Do they come from the site and are they hazardous?
- Are there restrictions on what we may do (e.g. Can our children play outside? Can we garden? Must we avoid certain areas? Can we recreate (fish, hunt, hike, etc. on/around the site?)
- How and when were the site's contamination problems created?
- What contaminants are of concern and why? How will you look for contamination and find out where it is going? What is the schedule for doing that?
- The site is affecting our property values!
- How can we get more information (e.g. who are the project contacts?)
- How will we be kept informed and involved during the site remedial process?
- Who has been contacted in the community about site remedial activities?
- What has been done to this point? What happens next and when?
- The site is going to be cleaned up for restricted use. What does that mean? We don't want redevelopment on a "dirty" site.

Part 2. List Important Information Needed From the Community, if Applicable.

- Can the community supplement knowledge about past/current uses of the site?
- Does the community have knowledge that the site may be significantly impacting nearby people, properties, natural resources, etc.?
- Are activities currently taking place at the site or at nearby properties that may need to be restricted?
- Who may be interested or affected by the site that has not yet been identified?
- Are there unique community characteristics that could affect how information is exchanged?
- Does the community and/or individuals have any concerns they want monitored?
- Does the community have information about other sources in the area for the contamination?

Part 3. List Major Issues and Information That Need to be Communicated to the Community.

- Specific site investigation or remediation activities currently underway, or that will begin in the near future.
- The process and general schedule to investigate, remediate and, if applicable, redevelop the site.
- Current understanding about the site contamination and effects, if any, on public health and the environment.
- Site impacts on the community and any restrictions on the public's use of the site and/or nearby properties.
- Planned CP activities, their schedule, and how they relate to the site's remedial process.
- Ways for the community to obtain/provide information (document repositories, contacts, etc.).

Part 4. Community Characteristics

a. - e. Obtain information from local officials, property owners and residents, site reports, site visits, "windshield surveys," other staff, etc.

f. Has the affected community experienced other **significant** present or past environmental problems unrelated to this site? Such experiences could significantly affect public concerns and perspectives about the site; how the community will relate to project staff; the image and credibility of project staff within the community; and the ways in which project staff communicate with the community.

g. In its remedial programs, DER seeks to integrate, and be consistent with, environmental justice principles set forth in *DEC Commissioner Policy 29 on Environmental Justice* and *DER 23 – Citizen Participation Handbook for Remedial Programs*. Is the site and/or affected community wholly or partly in an Environmental Justice (EJ) Area? Use the Search feature on DEC's public web site for "environmental justice". DEC's EJ pages define an EJ area, and link to county maps to help determine if the site and/or community are in an EJ area.

h. Consider factors such as:

- Is English the primary language of the affected community? If not, provisions should be considered regarding public outreach activities such as fact sheets, meetings, door-to-door visits and other activities to ensure their effectiveness.
- The age demographics of the community. For example, is there a significant number of senior citizens in the community? It may be difficult for some to attend public meetings and use document repositories. This may suggest adopting more direct interaction with the community with activities such as door-to-door visits, additional fact sheets, visits to community and church centers, nursing homes, etc.
- How do people travel about the community? Would most people drive to a public meeting or document repository? Is there adequate public transportation?

Part 5. Affected/Interested Public.

Individuals and organizations who need or want information and input can change during the site's remedial process. This need is influenced by real, potential, or perceived impacts of the site or the remedial process. Some people may want information and input throughout the remedial process. Others may participate only during specific remedial stages, or may only be interested in particular issues.

It is important to revisit this question when reviewing this scoping sheet. Knowing who is interested in the site – and the issues that are important to them – will help to select and conduct appropriate outreach activities, and to identify their timing and the information to be exchanged.

Check all affected/interested parties that apply to the site. **Note: Adjust the site's contact list appropriately.** The following are some ways to identify affected/interested parties:

- Tax maps of adjacent property owners
- Attendees at public meetings
- Telephone discussions
- Letters and e-mails to DER, the remedial party, and other agencies
- Political jurisdictions and boundaries
- Media coverage
- Current/proposed uses of site and/or nearby properties (recreational, commercial, industrial)
- Discussions with community organizations: grass roots organizations, local environmental groups, environmental justice groups, churches, and neighborhood advisory groups

Division of Environmental Remediation

Remedial Programs
Scoping Sheet for Major Issues of Public Concern (see instructions)

Site Name: 1675 Apartments

Site Number: C203107

Site Address and County: 1675-1679 Westchester Avenue, Bronx

Remedial Party(ies): 1675 JV Associates LLC and 1675 Westchester Avenue Housing Development Fund Corporation

Note: For Parts 1. – 3. the individuals, groups, organizations, businesses and units of government identified should be added to the site contact list as appropriate.

Part 1. List major issues of public concern and information the community wants. Identify individuals, groups, organizations, businesses and/or units of government related to the issue(s) and information needs. **Use this information as an aid to prepare or update the Major Issues of Public Concern section of the site Citizen Participation Plan.**

- The Site is proposed to be redeveloped for residential and commercial uses. As such, there will be restrictions on Site use, which will be determined following remediation.
- The Site's contamination issues stem from commercial uses and historical filling throughout its history.
- A Remedial Investigation (RI) will be conducted to determine the nature and extent of on-site contamination, identify the source(s), assess the impact on public health and/or the environment, and support the Remedial Action Work Plan (RAWP) to remediate the Site. The RI will be completed after execution of the BCA and in accordance with the approved proposed project schedule.
- The proposed redevelopment of the Site will increase property values in the surrounding area.
- Contact information is located in Appendix A.
- Adjacent property occupants and owners will be kept informed about the progress of the Site cleanup activities. Periodic fact sheets will be sent by mail.
- Local, state, and federal officials will be contact about the Site remediation activities.
- The Site will be cleaned up to levels that are safe for the proposed restricted residential use. Certain uses will be restricted and will be determined once cleanup is complete.

How were these issues and/or information needs identified?

These issues were identified based on the Site's history of commercial and dry cleaning uses. The proposed redevelopment will eliminate the current concerns in connection with the Site's condition while providing affordable housing and community resources. Additional affordable housing for the neighborhood aligns with a Citywide initiative developed by the de Blasio Administration.

Part 2. List important information needed **from** the community, if applicable. Identify individuals, groups, organizations, businesses and/or units of government related to the information needed.

- Adjacent property owners and occupants will be informed of the Site remediation activities. They can reach out to the Site's NYSDEC or NYSDOH project manager if they are concerned about the impact to the surrounding area.
- No activities are taking place at the Site that may need to be restricted. The Site is currently vacant and will remain so until it is redeveloped.

-The Site is located in an area with a large Hispanic-American community. As such, all fact sheets will be translated into Spanish.

How were these information needs identified?

These needs were identified by researching the conditions of the area surrounding the Site.

Part 3. List major issues and information that need to be communicated **to** the community. Identify individuals, groups, organizations, businesses and/or units of government related to the issue(s) and/or information.

- An RI will be conducted following NYSDEC approval of an RIWP.
- Following the RI, an RIR and RAWP will be prepared and submitted to NYSDEC for approval. A 45-day Public Comment Period begins once the RIR and RAWP are submitted. The final RIR and RAWP are submitted to NYSDEC and then NYSDEC issues the Decision Document, which describes the selected remedy for cleanup of the Site. Remediation can begin after the Decision Document is issued. Redevelopment of the Site may begin once the Site remediation is complete.
- Document repositories, where copies of all documents regarding the investigation and remediation of the Site are available to the public, have been established at the Clason's Point branch of the New York Public Library located at 1215 Morrison Avenue, Bronx, New York 10472 and at Bronx Community Board located at 1967 Turnbull Avenue, Bronx, New York 10473.

How were these issues and/or information needs identified?

These needs were identified by summarizing the proposed project schedule and information presented in the BCP Application.

Part 4. Identify the following characteristics of the affected/interested community. This knowledge will help to identify and understand issues and information important to the community, and ways to effectively develop and implement the Site CPP (mark all that apply):

a. Land use/zoning at and around site:
☒ **Residential** ☐ **Agricultural** ☒ **Recreational** ☒ **Commercial** ☐ **Industrial**

b. Residential type around Site:
☒ **Urban** ☐ **Suburban** ☐ **Rural**

c. Population density around Site:
☒ **High** ☐ **Medium** ☐ **Low**

d. Water supply of nearby residences:
☒ **Public** ☐ **Private Wells** ☐ **Mixed**

e. Is part or all of the water supply of the affected/interested community currently impacted by the Site?
☐ **Yes** ☒ **No**

Provide details if appropriate:
Click here to enter text.

f. Other environmental issues significantly impacted/impacting the affected community?
☐ **Yes** ☒ **No**

Provide details if appropriate:
Click here to enter text.

g. Is the Site and/or the affected/interested community wholly or partly in an Environmental Justice Area?
☒ **Yes** ☐ **No**

h. Special considerations:
☒ **Language** ☐ **Age** ☐ **Transportation** ☐ **Other**

Explain any marked categories in **h:**
As the Site is located in an area with a large Hispanic-American community, all fact sheets will be translated into Spanish.

Part 5. The Site contact list must include, at a minimum, the individuals, groups, and organizations identified in Part 2 of the CPP under 'Site Contact List'. Are *other* individuals, groups, organizations, and units of government affected by, or interested in, the Site, or its remedial program? (Mark and identify all that apply, then adjust the site contact list as appropriate.)

☐ **Non-Adjacent Residents/Property Owners:** Click here to enter text.

☐ **Local Officials:** Click here to enter text.

☐ **Media:**

☐ **Business/Commercial Interests:** Click here to enter text.

☐ **Labor Group(s)/Employees:** Click here to enter text.

☐ **Indian Nation:** Click here to enter text.

☐ **Citizens/Community Group(s):** Click here to enter text.

☐ **Environmental Justice Group(s):** Click here to enter text.

☐ **Environmental Group(s):** Click here to enter text.

☐ **Civic Group(s):** Click here to enter text.

☐ **Recreational Group(s):** Click here to enter text.

☐ **Other(s):** Click here to enter text.

Prepared/Updated By: Will Grossett, AKRF, Inc. **Date:** 05/15/2018

Reviewed/Approved By: Deborah Shapiro, AKRF, Inc. **Date:** 05/15/2018

APPENDIX K

CONSTRUCTION QUALITY ASSURANCE PLAN (CQAP)

1675 APARTMENTS
1675-1679 WESTCHESTER AVENUE
BRONX, NEW YORK

Construction Quality Assurance Plan

AKRF Project Number: 170250
NYSDEC BCP Number: C203107

Prepared for:

New York State Department of Environmental Conservation
Division of Environmental Remediation, Remedial Bureau B
625 Broadway, 12th Floor
Albany, New York 12233

On Behalf Of:

1675 JV Associates LLC
902 Broadway, 13th Floor
New York, New York 10010
and
1675 Westchester Avenue Housing Development Fund Corporation
902 Broadway, 13th Floor
New York, New York 10010

Prepared by:

AKRF
AKRF, Inc.
440 Park Avenue South
New York, New York 10016
(212) 696-0670

DECEMBER 2018

TABLE OF CONTENTS

1.0 Introduction 1
2.0 Responsibility and Authority 1
2.1 Volunteers 1
2.2 Construction Quality Assurance (QA) Officer (Consultant) 2
2.3 Field Team Leader (Environmental Consultant) 2
2.4 Site Technician (Environmental Consultant) 3
3.0 Field Quality Control Inspections, Testing, and Sampling 3
3.1 Mobilization 3
3.2 Soil Excavation 4
3.3 Soil Sampling 4
3.4 Groundwater Sampling 4
3.5 Loading of Waste Material for Transportation 4
3.6 Site Restoration 4
4.0 Meetings 4
5.0 Documentation and Reporting Requirements 5
5.1 Daily Report 5
5.2 Photographic Log 5
5.3 Sampling Documentation 5
5.4 Material Disposition Tracking 5
5.5 Variances to Work Plan 6
5.6 Final Engineering Report (FER) 6
5.7 Document Storage 6

LIST OF ACRONYMS

Acronym	Definition
BCP	Brownfield Cleanup Program
CQAP	Construction Quality Assurance Plan
FER	Final Engineering Report
NYSDEC	New York State Department of Environmental Conservation
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RAWP	Remedial Action Work Plan

1.0 INTRODUCTION

This Construction Quality Assurance Plan (CQAP) describes the protocols and procedures that will be followed during implementation of the Remedial Action Work Plan (RAWP) at the 1675 Apartments site (hereafter referred to as the "Site"). The Site is an approximately 36,865-square foot parcel located at 1675-1679 Westchester Avenue in the Soundview neighborhood of the Bronx, New York and is identified as Bronx Borough Block 3780, Lot 1 on the New York City Tax Map.

The Site is a vacant parcel with an asphalt-paved parking area on the northern portion, an unpaved area on the southern portion underlain by the former Site building cellar slab, and a vegetated area on the southwestern portion. The Site was formerly developed with an approximately 36,865-square foot, "L-shaped" building fronting Westchester Avenue until its demolition between September and October 2018. Most recently, the Site was occupied by a medical facility on the western portion until 2012, and a dry cleaner and liquor store on the eastern portion until January 2018. The eastern portion of the Site building was demolished in September 2018 and the western portion of the building was demolished in October 2018 to enable completion of a Remedial Investigation (RI).

The Site is currently enrolled in the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) (BCP Site No. C203107). The objective of this CQAP is to establish:

1. Responsibility, Authority, and Qualifications – The responsibility, authority, and qualifications of the key personnel involved in the project.
2. Inspection and Testing Activities – Inspections and tests that will be used to verify that construction activities meet or exceed all design criteria and federal, state, and local regulations and requirements.
3. Meetings – The requirements for project coordination meetings between the Volunteers and their representatives, the remedial or environmental Contractors, and other involved parties.
4. Documentation and Reporting – Field documentation and reporting requirements.

2.0 RESPONSIBILITY AND AUTHORITY

Adherence to this CQAPP will ensure that a functional quality control (QC) organization is active during the project and will provide support for the construction QC system in conducting inspections, tests, and retesting (in the event of failure of any item of work. This includes oversight of subcontractors and compliance with contract provisions. Construction QC includes, but is not limited to, the inspections and tests required in the RAWP and approved submittals and will cover all project operations. A consultant hired by the BCP Requestors (Volunteers) will manage field activities and coordinate the contractor's activities.

2.1 Volunteers

1675 JV Associates LLC and 1675 Westchester Avenue Housing Development Fund Corporation (collectively, the Volunteers) are responsible for coordinating the project, including activities of the Site consultant, contractor(s), and subcontractor(s), to comply with the requirements of the RAWP and regulatory agencies. The Volunteers are also responsible for completing and submitting documentation required by the RAWP, the CQAP, and the Quality Assurance Project Plan (QAPP), and have the authority to accept or reject the materials and workmanship of any subcontractors at the Site.

2.2 Construction Quality Assurance (QA) Officer (Consultant)

The Construction QA Officer will perform activities that are necessary to assure the quality of construction. He/she will be on-site as required during construction activities and will have the authority to take any action necessary to maintain compliance with the RAWP and approved submittals and to monitor construction quality.

Specific responsibilities of the Construction QA Officer include:

- Supporting the Volunteers and the consultant's field staff;
- Evaluating construction activities and activities of the field staff;
- Verifying that remedial activities are performed in accordance with the RAWP, approved submittals, and with federal, state, and local regulations and requirements;
- Verifying that data are properly recorded, validated, reduced, summarized, and inspected;
- Evaluating sampling and monitoring activities;
- Educating the field staff on construction QC requirements and procedures; and
- Scheduling and coordinating inspections.

2.3 Field Team Leader (Environmental Consultant)

The field team leader will be an employee of AKRF, Inc. (AKRF) and will be on-site during construction activities. He/she will have authority to take any action necessary to maintain compliance with the RAWP and approved submittals and to maintain construction quality. The field team leader will also manage the field staff discussed in this CQAP.

Specific responsibilities of the field team leader include:

- Reviewing the RAWP for clarity and completeness so that the construction activities can be effectively implemented;
- Verifying that the contractor's work is in accordance with the RAWP, approved submittals, and this CQAP;
- Performing on-site inspection of the work in progress to assess compliance with the RAWP, approved submittals, and this CQAP;
- Scheduling and coordinating inspections;
- Reporting the results of all observations and tests as the work progresses and modifying materials and work to comply with the RAWP and approved submittals as noted below:
    1. Providing daily reports on field construction, material shipments, and inspection results.
    2. Review and interpretation of all data, drawings, and reports.
    3. Identification of all work that should be accepted, rejected, or uncovered for observation, or that may require special testing, inspection, or approval.
    4. Rejection of defective work and verification that corrective measures are implemented.
    5. Making observations and records that will aid in the preparation of a report on remedial activities.

- Inspecting each delivery of materials and/or equipment;
- Reporting to the Construction QA Officer the results of all inspections, including work that is not of acceptable quality or that fails to meet the requirements of the RAWP, approved submittals, and this CQAP;
- Verifying that testing equipment meets established requirements that the tests are conducted according to the proper standardized procedures;
- Confirming that testing equipment, personnel, and procedures do not change over time, or making sure that any changes do not adversely impact the inspection process;
- Confirming that regular calibration of testing equipment occurs and is properly recorded; and
- Confirming that waste treatment or disposal is performed in accordance with applicable federal, state, and local laws and regulations.

2.4 Site Technician (Environmental Consultant)

A qualified scientist, geologist, or engineer (supplemented by additional personnel, if necessary) from AKRF will be on-site during remedial construction documenting site personnel, equipment, samples collected, contamination observations, and any other observations of field activities. Specific responsibilities include:

- Calibration, operation, and maintenance of air monitoring instrumentation in accordance with the RAWP and approved submittals.
- Collecting, packaging, and shipping of environmental samples in accordance with the RAWP and QAPP.
- Documenting sample collection in a field notebook and identifying all sample locations in a field notebook or site drawing.
- Preparing and logging manifests for transportation of any non-hazardous and hazardous materials.
- Informing the Site Project Coordinator when (if) the concentrations of air contaminants exceed action levels specified in the RAWP.
- Maintaining and organizing the field equipment and supply storage area.

3.0 FIELD QUALITY CONTROL INSPECTIONS, TESTING, AND SAMPLING

This section describes the anticipated inspection, testing, and sampling requirements associated with these definable features of work.

3.1 Mobilization

Inspections will be performed to assure that Site laydown areas, support facilities, surface water controls, and air monitoring systems are established in accordance with the RAWP and approved submittals. In addition, the stakeout of existing utilities in work areas and the maintenance of site security will be verified. There are no testing and sampling requirements associated with mobilization of the contractor(s).

Each delivery of materials and/or equipment will be inspected relative to approved submittals. Approved materials and/or equipment will be stored at a designated area of the Site.

Equipment will be set-up and tested in accordance with the RAWP and approved submittals.

3.2 Soil Excavation

The Soil/Materials Management Plan (SMMP), Section 6.4 of the RAWP, outlines the procedures to be performed during the handling of soil/fill materials on-site during all intrusive work. Inspections will be performed during soil excavation activities including concrete removal, soil excavation, stockpiling, and load out, shoring, and re-use and backfilling (if any). Any impacts to building structural elements will be documented and assessed immediately. AKRF will confirm that all soil excavation related work will be conducted as specified in the RAWP, or are equivalent, and that any equivalents have been approved by NYSDEC and/or AKRF. Air monitoring will be conducted as outlined in the HASP, provided in Appendix H of the RAWP. Soil screening will be conducted as outlined in Section 6.4.1 of the RAWP. Any corrective actions will be summarized in the daily, weekly, and monthly reports.

3.3 Soil Sampling

Soil sampling activities at the Site may include waste characterization, endpoint and reuse sampling, and sampling of clean backfill from off-site sources. Proposed endpoint sample locations are shown on Figure 9 of the RAWP. All soil sampling activities will be conducted in accordance with the Quality Assurance Project Plan (QAPP).

The applicable Soil Cleanup Objectives (SCOs) for this Site are the Track 4 Restricted Residential SCOs (RRSCOs). Soil and materials management on-site and off-site will be conducted in accordance with the SMMP (Section 6.4 of the RAWP).

3.4 Groundwater Sampling

No further groundwater sampling activities are anticipated. If additional groundwater sampling is conducted, it will be conducted in accordance with the QAPP.

3.5 Loading of Waste Material for Transportation

Inspections will be conducted to verify that material removed from the Site is properly loaded for transfer to a permitted treatment/disposal facility. Manifests and bills of lading will be maintained and will be included as an Appendix in the FER.

3.6 Site Restoration

Site restoration will be observed and recorded to verify compliance with the RAWP and approved submittals. The surface will be restored to match the surrounding ground surface.

4.0 MEETINGS

A pre-construction meeting will be held with representatives of the NYSDEC, the consultants, and the contractor(s) performing the work prior to the start of major construction activities. As the Site has an E-designation for Hazardous Materials, the New York City Office of Environmental Remediation (NYCOER) will be invited to the pre-construction meeting. Additional meetings will be called as necessary if work conditions change or deviations are necessary.

Project personnel and visitors will be given health and safety briefings periodically by the Site Technician or field team leader to assist Site personnel in safely conducting their work activities. The safety briefings will include information on new operations to be conducted, changes in work practices or changes in the Site's environmental conditions, and periodic reinforcement of previously discussed topics.

5.0 DOCUMENTATION AND REPORTING REQUIREMENTS

The value of this CQAP will be assured by proper documentation. The inspectors will use data sheets, field reports, log forms, schedules, and checklists to document Site work and verify compliance with the RAWP and approved submittals. Documentation will include, at a minimum, the following reports and information:

- Daily field construction reports;
- Photographs;
- Sampling chains of custody;
- Material disposition logs; and
- Variances to the RAWP and approved submittals.

5.1 Daily Report

The Site technician or field team leader will prepare a daily report that identifies the following:

- Work force and visitors to the Site;
- An update of progress made during the reporting day;
- Locations of work and quantities of material imported and exported from the Site;
- References to alphanumeric grid map for Site activities;
- A summary of any and all complaints with relevant details (names, phone numbers);
- A summary of CAMP findings, including excursions;
- Apparent deviations from the RAWP;
- Weather conditions;
- Photographs of the Site and pertinent work; and
- An explanation of notable Site conditions.

5.2 Photographic Log

The photographic log will be kept to document construction activities by still photographs. The photographic log may also be used to record activities recorded in the daily report. All photographs will be taken with a camera capable of producing date and timestamps.

5.3 Sampling Documentation

The project field book will be used to document all sampling activities and how they correspond to the RAWP. All observations and field and/or laboratory tests will be recorded in the project field book or on separate logs. Recorded field observations may take the form of notes, charts, sketches, or photographs.

5.4 Material Disposition Tracking

All materials that are taken off-site for disposal will be tracked and final disposition confirmed. Copies of all waste manifests and bills of lading will be maintained by the project manager.

5.5 Variances to Work Plan

Required changes to the RAWP will be documented as construction proceeds. Any material deviations from the NYSDEC-approved RAWP will be communicated to the NYSDEC project manager. NYSDEC approval will be sought prior to proceeding with work deviating materially from the RAWP. In the event of an emergency change to the work plan, the NYSDEC project manager will be consulted immediately.

5.6 Final Engineering Report (FER)

At the completion of the project the consultant/construction manager will prepare an FER. This report will describe the implementation of the RAWP and will include a summary of the field work, as-built drawings for constructed elements, manifests, bills of lading, test results demonstrating that all mitigation and remedial systems are functioning properly, and photographic documentation. The FER will also include a description of the changes in the Remedial Action from the elements provided in the RAWP.

5.7 Document Storage

The field team leader will maintain the current field book and all original field paperwork during the performance of work. The project manager will maintain the field paperwork after completion and will maintain all submittal document files.

APPENDIX L

RESUMES AND CERTIFICATIONS OF KEY PERSONNEL

MICHELLE LAPIN, P.E.

SENIOR VICE PRESIDENT

Michelle Lapin is a Senior Vice President with more than 30 years of experience in the assessment and remediation of hazardous waste issues. She leads the firm's Hazardous Materials group and offers extensive experience providing strategic planning and management for clients. Ms. Lapin has been responsible for the administration of technical solutions to contaminated soil, groundwater, air and geotechnical problems. Her other 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.

Ms. Lapin's hydrogeologic experience includes groundwater investigations, formulation and administration of groundwater monitoring programs and remediation throughout the Northeast. Her experience with groundwater contamination includes Level B hazardous waste site investigations; leaking underground storage tank studies, including hazardous soil removal and disposal and associated soil and water issues; soil gas/vapor intrusion surveys; and wetlands issues. Ms. Lapin is experienced in coordinating and monitoring field programs concerning hazardous waste cell closures. She has directed hundreds of Phase I, Phase II, and Phase III investigations and remediations, many of them in conjunction with developers, law firms, lending institutions, and national retail chains. She is also experienced in the cleanup of contaminated properties under Brownfield Cleanup Program (BCP) and Voluntary Cleanup Program (VCP) regulations.

BACKGROUND

Education

M.S., Civil Engineering, Syracuse University, 1985
B.S., Civil Engineering, Clarkson University, 1983

Professional Licenses/Certifications

New York State P.E.
State of Connecticut P.E.

Professional Memberships

Member, National Society of Professional Engineers (NSPE), National and CT Chapters
Member, American Society of Civil Engineers (ASCE), National and CT Chapters
Member, Connecticut Business & Industry Association (CBIA), CBIA Environmental Policies Council (EPC)
Member, Environmental Professionals' Organization of Connecticut (EPOC)
Board Member, New York City Brownfield Partnership
Member, NAIOP, a Commercial Real Estate Development Association

Years of Experience

Year started in company: 1994
Year started in industry: 1986

RELEVANT EXPERIENCE

11833, 11934, 11935 Manhattan West, Manhattan, NY - NYC OER and USEPA
AKRF is providing environmental consulting services to Brookfield Office Properties in connection with the Manhattan West development site, which encompasses an entire city-block above the Amtrak approach to Penn Station. The four towers that comprise the Manhattan west development site are being remediated as four different

sites under the New York City Mayor's Office of Environmental Remediation (OER), due to an E-Designation for hazardous materials, air quality, and noise attenuation. Ms. Lapin is the Remedial Engineer for the project, and oversees all remedial activities.

20111 85 Jay Street, Brooklyn, NY - NYS Brownfield Redevelopment

AKRF's work includes the preparation and implementation of a NYSDEC-approved Remedial Action Work Plan for this approximately three-acre former industrial site that encompasses an entire city-block. The remediation is being conducted under the NYSDEC Brownfield Cleanup Program, primarily due to high levels of lead associated with former smelting operations. Ms. Lapin is the Remedial Engineer for this project and oversees all remedial activities.

11901 Elton Crossing (Melrose C - Family), Bronx, NY - NYS Brownfield Redevelopment

AKRF's work includes the implementation of the NYSDEC-approved Remedial Action Work Plan for this former industrial property, including: in-situ testing, off-site transport, the closure of two petroleum spills; the registration, removal, and closure of five petroleum storage tanks encountered during excavation; and the delineation of soil contaminants, including hazardous lead, petroleum, and pesticides. Ms. Lapin was the Remedial Engineer for the project, and oversaw all remedial activities.

70004 Yonkers Waterfront Redevelopment Project, Yonkers, NY

For this redevelopment along Yonkers' Hudson River waterfront, Ms. Lapin headed the remedial investigation and remediation work that included Phase I Environmental Site Assessments of 12 parcels, investigations of underground storage tank removals and associated soil remediation, remedial alternatives reports, and remedial work plans for multiple parcels. Several of the city-owned parcels were remediated under a Voluntary Cleanup Agreement; others were administered with state Brownfields grants. Hazardous waste remediation was completed on both brownfield and voluntary clean-up parcels, which enabled construction of mixed-use retail, residential development, and parking.

12492, 12493, 12184 Atlantic Chestnut, Brooklyn, NY

AKRF was retained by Phipps Houses to provide environmental consulting services in connection with the purchase and development 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, 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) for each of the sites to further investigate contaminated media prior to redevelopment, conducted the RIs, and is in the process of preparing the RI Reports (RIRs). Ms. Lapin is the Remedial Engineer for the project, and oversees all remedial activities.

10321 West 61st Street Rezoning/Residential Development, New York, NY

Ms. Lapin directed the firm's hazardous materials work for this mixed-use development in Manhattan. The Algin Management Company hired AKRF to prepare an environmental impact statement (EIS) for the proposed rezoning of the western portion of the block between West 60th and 61st Streets, between Amsterdam and West End Avenues. The purpose of the proposed action was to facilitate the development of two 30-story residential towers with accessory parking spaces, and landscaped open space. The EIS examined a "worst case" condition for rezoning the block, which allowed Algin to build a residential building of approximately 375,000 square feet at their site. The building now contains 475 apartments, 200 accessory parking spaces, a health club, and community facility space. This site, with the services of AKRF, entered into New York State's Brownfield Cleanup Program (BCP). On-site issues included underground storage tanks remaining from previous on-site buildings, petroleum contamination from these tanks and possibly from off-site sources, and other soil contaminants (metals, semi-volatile organic compounds, etc.) from fill materials and previous on-site buildings. AKRF oversaw the adherence to the Construction Health and Safety Plan (HASP), which was submitted to and approved by the New York State Department of Environmental Conservation (NYSDEC), and monitored the waste streams, to ensure that the different types of waste were disposed of at the correct receiving facilities. This oversight also included confirmation and characteristic soil sampling for the receiving facilities and NYSDEC. A "Track 1" Clean up of the majority of the property (the portion including the buildings) was completed and the final Engineering Report was approved by the NYSDEC. AKRF has also completed a smaller portion of the property as a "Track 4" cleanup, which includes a tennis court and landscaped areas. Ms. Lapin continues to manage the annual inspections for the property owner in accordance with the Brownfield Cleanup Agreement.

11160 2477 Third Avenue, Bronx, NY

AKRF conducted the investigation and remediation of the former 2477 Third Avenue gasoline station property under the New York State Department of Environmental Conservation's (NYSDEC's) Brownfield Cleanup Program (BCP). The work included shallow and deep aquifer groundwater testing, delineation of known areas of soil contamination, soil vapor analyses, and investigation and delineation of non-aqueous phase liquid (DNAPL) from past industrial activities. Upon NYSDEC approval of the Remedial Action Work Plan (RAWP), AKRF conducted the removal of the nine on-site underground storage tanks (USTs) and 1,100 tons of petroleum-contaminated soil, the application of six in-situ chemical oxidation (ISCO) groundwater treatments, and the implementation of four Enhanced Fluid Recovery (EFR) events to remove desorbed gasoline-related hydrocarbons in the groundwater. The site received a Certificate of Completion (COC) from the BCP in December 2015 and a Notice of Satisfaction (NOS) in October 2016 from the Mayor's Office of Environmental Remediation (OER) in connection with the hazardous materials E-Designation assigned to the property. Ms. Lapin was the professional engineer of record, responsible for the remediation design elements and overall adherence to the NYSDEC and New York City Office of Environmental Remediation (OER) regulations.

11430 164 Kent Avenue, Brooklyn, NY (AKA Northside Piers and 1 North 4th Place)

The project was a multi-phase development consisting of a large waterfront block in the Williamsburg Rezoning Area. The project site was developed with a mixed-use residential-commercial high rise towers with an esplanade and a pier along the East River. AKRF provided acquisition and development support, including performing Phase I and II environmental site assessments, and preparation of Remedial Action Plans (RAPs) and Construction Health and Safety Plan (CHASPs) for approval by New York City Department of Environmental Protection (DEP) and New York City Mayor's Office of Environmental Remediation (OER). AKRF provided assistance with construction oversight during soil handling activities and managing the Community Air Monitoring Plan (CAMP) activities. To date, closure reports have been prepared and occupancy achieved for three of the four buildings. Ms. Lapin is the Professional Engineer (P.E.) of record for the DEP and OER RAPs, CHASPs and Remedial Closure Reports (RCRs).

11646 443 Greenwich Street, Manhattan, NY

This Site was assigned an E-Designation for hazardous materials (and air quality and noise) during the North Tribeca Rezoning in 2010, which requires environmental testing and, if necessary, remediation to the satisfaction of the New York City Mayor's Office of Environmental Remediation (OER). After years of public opposition to the original redevelopment scheme calling for a boutique hotel, this former manufacturing building and its current developer gained acceptance through the Department of City Planning and the Landmarks Preservation Commission to move forward with redevelopment as residential lofts. The redevelopment process began in 2012 and led to initial re-occupancy in 2016 after overcoming several regulatory challenges while seeking LEED® certification.

Once trichloroethene (TCE) was identified on-site, the typically straight forward assignment of delineating contaminant sources for AKRF became much more complex following the identification of an off-site TCE groundwater plume. Based on the completion of several rounds of additional sampling and investigation activities including a compound specific isotopic analysis (CSIA) of the chlorinated volatile organic compounds (VOCs) detected in the central portion of the Site and the off-site monitor wells south of the Site, the presence of two separate releases (one originating on-site and one originating off-site) of TCE was confirmed. Based on the confirmation that the Site was not the contamination source associated with the off-site plume, the redevelopment of the Site proceeded under the review of the OER, and did not require direct or continued oversight from the New York State Department of Environmental Conservation (NYSDEC). Furthermore, the developer of the Site, who had become the owner, was not deemed responsible to complete additional off-site investigation or remediation associated with the separate, off-site TCE groundwater plume.

For this project, AKRF utilized forensic-based analysis of chlorinated VOC plumes and was one of the first projects that included a groundwater treatment technology managed by the OER in its E-Designation program. The Site also includes an engineered cap to prevent exposure to underlying soil/fill, a vapor barrier/waterproofing system beneath the building slab and along foundation sidewalls, and the operation of an active sub-slab depressurization (SSD) system. The project was awarded the 2017 Environmental Protection award by the New York City Brownfield Partnership. Ms. Lapin was the professional engineer of record, responsible for the remediation design and adherence of the remediation and remediation systems installation and ongoing operation.

12538 Larkin Plaza, Yonkers, NY – Remedial Investigation, Construction Oversight

AKRF assisted RXR Realty with enrolling the 1.1-acre Larkin Plaza site in the New York State Department of Environmental Conservation's (NYSDEC's) Brownfield Cleanup Program (BCP). Since being accepted into the program, AKRF conducted an extensive remedial investigation, prepared the necessary remedial action plans, managed the citizen participation tasks, and is in the process of conducting the remediation in conjunction with NYSDEC oversight. To date, the remedial work has included in-situ chemical oxidation (ISCO) treatments, contaminated soil removal, and petroleum product recovery. AKRF also assisted RXR with various construction-related services, including dewatering discharge permitting, soil disposal characterization testing, and stormwater pollution prevention plan (SWPPP) preparation. AKRF's Cultural Resources department is in the process of preparing a submission to the State Historic Preservation Office (SHPO) on behalf of RXR related to the acquisition of additional public funding sources for the construction project. A Certificate of Completion (COC) from the NYSDEC is anticipated at the end of 2018. Ms. Lapin is the professional engineer of record, responsible for the remediation design elements and adherence to the NYSDEC-approved work plans and remediation design.

REFERENCES

Michael Bogin; Sive, Paget & Riesel, P.C.; 460 Park Avenue, 10th Floor, New York, NY 10022; T: (212) 421-2150; 210; E: mbogin@sprlaw.com

Steve Novenstein; CEO; UOVO; Queens Plaza, 41-54 22nd Street Long Island City, NY 11101; T: (212) 904-0406; E: snovenstein@uovo.org

L. Ryan Kiefer, Sr. Project Manager; Memorial Sloan-Kettering Cancer Center; 307 East 63rd Street, 2nd Floor, New York, NY 10065; T: (646) 888-8449; E: rkiefer@mskcc.org

Certificate of Completion

This Certifies That

Michelle Lapin

has completed the 40 hour course:

OSHA 40 Hour Personnel Protection & Safety Course

Presented by

HAZCO

Spanning the Hazardous Materials
Health and Safety Horizons

April 24-27, 1987

Date

Training Director

AKRF, Inc.
440 Park Avenue South
New York, New York 10016
(212) 696-0670

Certificate of Completion

This is to certify that

MICHELLE LAPIN

has successfully completed the course entitled
Annual Refresher Course on Health and Safety for
Hazardous Waste Site Investigation Personnel
8 Hour OSHA Refresher - Hazwoper Training Course
Per 29 CFR 1910.120

Presented

Tuesday, September 24, 2018

Marcus Simons
Safety Director

DEBORAH SHAPIRO, QEP

VICE PRESIDENT

Deborah Shapiro is a 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

AKRF

Relevant Experience

11901 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.

11725,12113, 20435 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.

11731, 11744 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.

11688, 11713 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.

11703 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.

20568 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.

12492, 12493, 12184 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.

CERTIFICATE OF TRAINING

Deborah Kaplan

Has Successfully Completed A Course Of Instruction On

40-Hour HAZWOPER

AS REQUIRED BY OSHA (29 CFR 1910.1210)

Friday, December 07, 2001

MILLER ENVIRONMENTAL GROUP INC.

538 Edwards Ave.
Calverton, NY 11933 USA

Scott Welsh

Instructor

George Wallace III

Director of Training

Course Number: 2001149

Certificate Number: 2001149-5793

AKRF, Inc.
440 Park Avenue South
New York, New York 10016
(212) 696-0670

Certificate of Completion

This is to certify that

DEBORAH SHAPIRO

has successfully completed the course entitled
Annual Refresher Course on Health and Safety for
Hazardous Waste Site Investigation Personnel
8 Hour OSHA Refresher - Hazwoper Training Course
Per 29 CFR 1910.120

Presented

Tuesday, September 24, 2018

Marcus Simons
Acting Safety Director

AMY JORDAN

GEOSCIENTIST

Amy Jordan is a geoscientist with over six years of environmental consulting experience related to site assessment and remediation from the initial proposal and assessments of properties through post-remedial site management under regulatory oversight of local, state, and federal agencies. Ms. Jordan conducts and manages all aspects of redevelopment projects from the initial proposal and assessments of properties through post-remedial site management under regulatory oversight of local, state, and federal agencies. Ms. Jordan works with non-profit organizations, affordable housing developers, for-profit developers, and government agencies under the regulatory oversight of the New York State Department of Environmental Conservation (NYSDEC), the New York City Department of Environmental Protection (NYCDEP), and the New York City Office of Environmental Remediation (NYCOER). Ms. Jordan manages projects enrolled in the New York State Brownfield Cleanup Program (BCP), the New York City Voluntary Cleanup Program (VCP), NYSDEC petroleum spills program, and NYCOER's E Designation program. Her management skill set is supported by several years of fieldwork, including: oversight of remedial construction activities; soil, groundwater, and soil vapor sampling; Phase I Environmental Site Assessments; Subsurface and Remedial Investigations; design, operation, and maintenance of engineering controls, including sub-slab depressurization and soil vapor extraction systems; oversight and sampling of direct-push, sonic, and hollow stem auger drilling; waste characterization, handling, and disposal; and petroleum bulk storage closure.

BACKGROUND

Education

B.A. Geosciences, Franklin and Marshall College, Lancaster, PA, 2011

M.S. Geology, University of Pennsylvania, Philadelphia, PA, Expected 2020

Licenses/Certifications

40 Hour OSHA HAZWOPER

OSHA 10 Hour Occupational Construction Safety and Health

NYSDEC Erosion and Sediment Control Inspector

Amtrak Track Safety

New York State Asbestos Inspector

Years of Experience

Year started in company: 2012
Year started in industry: 2011

RELEVANT EXPERIENCE

170196 Manhattan West Southeast Tower, Manhattan, New York

AKRF is providing environmental consulting services to Brookfield Office Properties in connection with the Manhattan West development site, which encompasses an entire city-block above the Amtrak approach to Penn Station. The four towers that comprise the Manhattan west development site are being remediated as four different sites under the NYCOER, due to an E Designation for hazardous materials, air quality, and noise attenuation. Ms. Jordan is currently managing the environmental work required for the NYCOER E Designation at the Southeast Tower site. In addition, due to the presence of polychlorinated biphenyls (PCBs) within the subterranean railyard, Ms. Jordan designed and prepared the Self-Implementing Cleanup Plan (SICP) in coordination with the USEPA. Upon approval of the remedial plans, Ms. Jordan oversaw the remediation activities to ensure compliance with the SICP in accordance with the Toxic Substance and Control Act (TSCA); and is preparing to implement the NYCOER RAWP on the street-grade portion of the project.

12306 12 Eckford Street, Brooklyn, New York

AKRF is providing environmental consulting services in connection with the redevelopment of a former manufacturing property into a mix of affordable and market-rate residential units. Ms. Jordan manages the environmental consulting services in connection with the redevelopment of this property into a mix of affordable and market-rate residences in the BCP. For this project, I have developed and conducted several subsurface investigations at the property under the oversight of NYC agencies. Ms. Jordan prepared the BCP application after analytical data identified chlorinated solvent contamination at the property. She designed and conducted a soil vapor extraction (SVE) pilot test, developed and authored a remedial action plan including the design of an SSDS and SVE system, and hazardous waste delineation and disposal. After construction oversight, ongoing remedial monitoring under the oversight of NYSDEC will culminate with a Final Engineering Report (FER).

11901 Elton Crossing (Site C Family), Bronx, New York

AKRF provided environmental consulting services in connection with the purchase and redevelopment of this property into mixed-use commercial space and low-income rental units. Ms. Jordan prepared the Phase I ESA report, conducted several investigations including the installation of bedrock monitoring wells, and a BCP application. Ms. Jordan managed all aspects of the cleanup, including the development of supplemental work plans, the remedial action, and citizen participation documents. She managed the implementation of the remedial action, including petroleum storage tank removal, soil brokering and disposal, and hazardous waste delineation and disposal. She prepared the FER and the Site Management Plan (SMP) for the institutional and engineering controls and authored the winning NYC Big Apple Brownfield Award application for the project in Spring 2017.

12105 3363-3365 Third Avenue, Bronx, New York

AKRF provided environmental consulting services in connection with the proposed affordable housing development at 3363-3365 Third Avenue. The proposed project consists of a residential building with a basement and approximately 30 affordable housing units. Ms. Jordan prepared Phase I ESA for due diligence purposes and to support an application to the New York City Acquisition Fund. The Phase I identified recognized environmental conditions as well as an E- Designation from the Morrisania Rezoning Action. Ms. Jordan is assisting the client with satisfying the E –Designation and has prepared and implemented a Remedial Investigation Work Plan, performed a Remedial Investigation, prepared a Remedial Action Work Plan, and Phase I ESA update for the New York City Acquisition Fund under the regulatory oversight of the New York City Mayor's Office of Environmental Remediation (NYCOER). The Remedial Investigation included soil, soil vapor, groundwater and ambient air sampling. AKRF is preparing the Remedial Action Work Plan for the site and assisted the client with enrollment into NYCOER's Voluntary Cleanup Program. The site is scheduled to break ground in the Spring of 2016.

12492, 12493, 12184 Atlantic Chestnut Lots 1, 2, and 3, Brooklyn, New York

AKRF is providing environmental consulting services in connection with the purchase and redevelopment of an entire city block, from a burned manufacturing facility into three mixed-use commercial and affordable rental unit buildings. Ms. Jordan prepared a Phase I Environmental Site Assessment (ESA), conducted three subsurface investigations, and prepared three BCP Applications. She developed supplemental investigation work plans for the design of remedial actions and to aid in the design of in-situ groundwater treatment related to chlorinated solvent contamination in soil, groundwater, and soil vapor across the three sites. Prior to implementation of the remedial action, Ms. Jordan is designing and preparing three soil vapor extraction (SVE) systems The work will include construction oversight, ongoing remedial monitoring under the oversight of the NYSDEC, and will culminate with a FER.

11703 Brook 156, Bronx, New York

AKRF is providing environmental consulting services to Phipps Houses in connection with the purchase and development of two lots located at 740 Brook Avenue in the Bronx, New York. Before writing the New York State Brownfield Cleanup Program (NYSBCP) application, which was accepted by the State, AKRF prepared a Phase I Environmental Site Assessment (ESA) of the site (a former gasoline service station and railroad) and also conducted Tier 1 Vapor Encroachment Screening to satisfy HUD's vapor intrusion requirements, and prepared a Remedial Investigation Work Plan (RIWP) and a Remedial Investigation (RI) at the site. AKRF prepared a Citizen Participation Plan (CPP), distributed public notices, and prepared a Supplemental Remedial Investigation Work Plan (SRIWP) to further investigate soil, soil vapor, and groundwater at the site prior to redevelopment. Based on the results of the Supplemental Remedial Investigation (SRI), AKRF reported a petroleum spill to NYSDEC. Ms. Jordan prepared the Remedial Action Work Plan (RAWP), which included the design of an active SSDS and an SVE system. Ms. Jordan also acts as the project manager for client and agency correspondence and will oversee implementation of the RAWP.

Training Course Completion Card

Safety Unlimited, Inc.

Certifies That

AMELIA JORDAN

has sucessfully completed

OSHA 40 Hour HAZWOPER Training

In Accordance With Federal OSHA Regulation 29CFR 1910.120(e)

And State OSHA/EPA Regulations as well

(See back side for more information)

111127153834	11/27/2011	Jules Griggs
Certificate #	Date Issued	Training Director

AKRF, Inc.
440 Park Avenue South
New York, New York 10016
(212) 696-0670

Certificate of Completion

This is to certify that

AMY JORDAN

has successfully completed the course entitled
Annual Refresher Course on Health and Safety for
Hazardous Waste Site Investigation Personnel
8 Hour OSHA Refresher - Hazwoper Training Course
Per 29 CFR 1910.120

Presented

Tuesday, September 24, 2018

Marcus Simons
Safety Director

CHRISTOPHER PUOPLO

FIELD TECHNICIAN

Christopher Puoplo is geologist in AKRF's Hazardous Materials Department. He has experience in groundwater sampling, air monitoring, water disinfection and sampling, lead in water sampling, SWPPP inspections, phase II subsurface investigations, sturgeon monitoring, crewing and driving a motorboat, and construction oversight. Mr. Puoplo is a 2013 graduate of SUNY Oneonta, where he majored in geology.

BACKGROUND

Education

BS Geology, State University of New York, College at Oneonta, Oneonta, NY

Licenses/Certifications

40-Hour OSHA HAZWOPER Certified
10-Hour OSHA Construction Program Certified
DOL Asbestos Project Monitor, Air Technician, and Inspector Certified
SWPPP Certified
TWIC Certified

Years of experience

Year started in company: 2014
Year started in industry: 2014

RELEVANT EXPERIENCE

New York City School Construction Authority: On-Call Environmental Consulting

Under an on-call contract, AKRF provides the New York City School Construction Authority (NYCSCA) with hazardous materials consulting services. Mr. Puoplo performs environmental assessment tasks including lead in drinking water sampling and plumbing disinfection oversight tasks under the current on-call contract.

80305 NY Wheel, Staten Island, NY

Working with the New York City Department of Small Business Services (SBS) as lead agency, AKRF conducted an environmental review for the forthcoming Empire Outlets and New York Observation Wheel (NY Wheel), a mixed-use development situated on a State Voluntary Cleanup Program (VCP) site managed by the New York City Economic Development Corporation (EDC), on the northern Staten Island waterfront. The approximately 60-story NY Wheel will be one of the world's tallest Ferris wheels, while Empire Outlets will be New York City's first outlet mall. The combined project is the largest investment in the borough since the construction of the Verrazano-Narrows Bridge in the 1960s.

AKRF is also providing hazardous materials services and civil engineering services to New York Wheel LLC during construction on the NY Wheel site. Mr. Puoplo has performed construction oversight to ensure compliance with the SMP.

30141 **87 Gedney Way, White Plains NY – Groundwater Sampling**

AKRF was hired by the City of White Plains' Department of Public Works (DPW) to prepare a Site Investigation Work Plan (SIWP) of the 22.7-acre Gedney Way Leaf and Yard Waste Compost Facility. AKRF completed the SIWP and obtained NYSDEC approval on the plan. AKRF also collected of soil, groundwater, soil gas and surface water samples. Closure activities have been completed and New York State Department of Environmental Conservation (NYSDEC) closure approval is pending. As part of ongoing monitoring, Mr. Puoplo screened wells for methane, measured depth to groundwater, and collected groundwater samples from the site.

03399 **Rego Park Home Depot, Queens, NY**

Solvent contamination was encountered during retail development of a former industrial property in Rego Park, Queens, New York. The site work included an extensive investigation and a multi-phase remediation performed under the NYSDEC Voluntary Cleanup Program (VCP). Remediation included removal of aboveground and underground storage tanks (ASTs and USTs) and hotspot soil removal. An AS/SVE groundwater remediation system designed by AKRF was installed as part of the building construction. Mr. Puoplo performed quarterly groundwater monitoring.

all 9 storage deluxe projects? **Storage Deluxe, Various Locations, NY**

AKRF assists Storage Deluxe with the ongoing expansion of their self-storage facilities primarily in the five boroughs of New York City and Westchester County. AKRF provides environmental due diligence services related to their property transactions, including Phase I Environmental Site Assessments (ESAs), Phase II investigations, and geophysical surveys, remediation, as well as consulting on petroleum bulk storage tank management. Mr. Puoplo has assisted Storage Deluxe with asbestos surveys at various properties.

11259 **34 Berry Street, Williamsburg, NY**

AKRF was retained to prepare close-out documentation for this former industrial/warehouse facility in Williamsburg, which was remediated under the New York City Office of Environmental Remediation (OER) E-designation and NYSDEC Spills programs. The closure report, which was based on documentation provided by the environmental contractor, was prepared on an expedited basis so that the developer could obtain a Certificate of Occupancy in time for the scheduled opening of the new building. AKRF is currently providing on-going remediation monitoring services to fulfill NYSDEC Spill closure requirements. For this project, Mr. Puoplo performed monthly/quarterly groundwater monitoring.

40405 **Crestwood 300-308 Columbus Avenue, Tuckahoe, NY – Environmental Monitoring**

Investigation and remediation of the former gasoline filling station is being conducted under the New York State Brownfield Cleanup Program (BCP). AKRF completed a Phase I Environmental Site Assessment, Phase II Subsurface Investigation, and prepared a Remedial Action Plan (RAP) to address subsurface contamination during site redevelopment. For this project, Mr. Puoplo served as an on-site environmental monitor who performed construction oversight and conducted work zone and community air monitoring.

30141 Flushing Industrial Park, Flushing, NY

Investigation and remediation of former garage and filling station is being conducted under the New York State BCP. AKFR conducted a remedial investigation, and prepared and executed a Remedial Action Work Plan (RAWP). For this project, Mr. Puoplo served as a lead on-site environmental monitor who performed construction oversight and conducted work zone and community air monitoring.

11454 **Extell Construction Oversight, Manhattan, NY**

Environmental investigation and remediation of this Site is being conducted under the New York City Voluntary Cleanup Program (VCP) managed by the New York City Mayer's Office of Environmental Remediation (OER). The Site is also subject to environmental review by the NYSDEC. For this project, Mr. Puoplo performed post-remediation groundwater sampling at the site.

12146 **The Crossing at Jamaica Station, Jamaica, NY**

AKRF was retained to prepare close-out documentation for this former industrial/warehouse facility in Williamsburg, which was remediated under the New York City Office of Environmental Remediation (OER) E-designation and NYSDEC Spills programs. The closure report, which was based on documentation provided by the environmental contractor, was prepared on an expedited basis so that the developer could obtain a Certificate of Occupancy in time for the scheduled opening of the new building. For this project, Mr. Puoplo performed monthly/quarterly groundwater monitoring.

20434 **Tappan Zee Bridge, Tarrytown, NY**

AKRF was retained to perform a sturgeon monitoring program with near field monitoring during construction activities at the Tappan Zee Bridge project. For this project, Mr. Puoplo performed sturgeon monitoring and near field data collection, as well as crewing and driving a motor boat.

12546 **29-39 East Fordham Road, Fordham, NY**

AKRF was retained to perform a phase II subsurface investigation, create and implement a remedial action work plan for this commercial building in Fordham which had an aboveground oil storage tank spill, which was remediated under the NYSDEC Spills programs. The spill is still open today. For this project, Mr. Puoplo acted as the primary field person for construction oversight during soil remediation, installation of groundwater monitoring wells, and concrete restoration.

804001 Adelaar Resort (Formerly known as Concord Resort), Thompson, NY

Developed over several years and phases, the Adelaar Resort project will redevelop the historic Concord Resort into a variety of amenities, uses, and experiences. The Adelaar Resort will include a Resort Core with casino hotels and conference facilities, an entertainment village, a family resort area, and a residential village encompassing a total area of over 1,500 acres. AKRF was retained for engineering and remediation oversight. For this project, Mr. Puoplo conducted construction oversight, community and work zone air monitoring during remediation activities, collected soil samples, and performed stormwater pollution prevention plan (SWPPP) inspections. All activities done in accordance with the RAWP, SMP, and SWPPP.

12259 **Marymount School, Manhattan, NY**

AKRF was retained to perform a phase I environmental site assessment (ESA) and phase II subsurface investigation to be submitted to the NYSDEC for the athletic field at Marymount School in Manhattan, NY prior to redevelopment of the field. For this project, Mr. Puoplo performed the phase II subsurface investigation, which included soil boring oversight and logging, temporary monitoring well development, sampling, and subsequent abandonment, and installation and sampling of temporary soil vapor monitoring points.

References

Ms. Saritha Thumma
Industrial and Environmental Hygiene Division
New York City School Construction Authority
30-30 Thompson Avenue
Long Island City, NY 11101
STHUMMA@nycsca.org
Phone: 718-752-5512

Mr. Richard Hope
Commissioner of Public Works
City of White Plains
255 Main Street
White Plains, NY 10601
E: rhope@WhitePlainsny.gov
Phone: (914) 422-1210

Steve Novenstein
Storage Deluxe Realty
26 West 17th Street, Suite 801
New York, NY 10011
T: 212.904.0406
E: snovenstein@storagedeluxe.com

RUTGERS

The New Jersey Agricultural Experiment Station
Office of Continuing Professional Education

Presents this certificate to

Christopher Puoplo

for successfully completing the 40-hour Training Course in Hazardous Waste Operations and Emergency Response required by OSHA 29 CFR 1910.120

OSHA - 40 HOUR HAZWOPER TRAINING

November 3, 4, 5 & 6, 2014
4.0 CEUs
Course No. 01-120201-31 - 40 TCHs

Edward V Lipman

Edward V. Lipman, Jr.
Director
Office of Continuing Professional Education

Mark G Robson

Mark G. Robson, PhD, MPH
Dean for Agricultural and Urban Programs

AKRF, Inc.
440 Park Avenue South
New York, New York 10016
(212) 696-0670

Certificate of Completion

This is to certify that

CHRISTOPHER PUOPLO

has successfully completed the course entitled
Annual Refresher Course on Health and Safety for
Hazardous Waste Site Investigation Personnel
8 Hour OSHA Refresher - Hazwoper Training Course
Per 29 CFR 1910.120

Presented

Tuesday, September 24, 2018

Marcus Simons
Safety Director

APPENDIX M

VAPOR BARRIER SPECIFICATIONS

HYDRODUCT® 220

Pre-fabricated geocomposite drain for use as a combined drainage and protection layer with GCP waterproofing membranes

Product Description

Hydroduct 220 is a strong, preformed 0.44 in. (11 mm) thick geocomposite drainage sheet system, comprising a hollow studded polystyrene core, covered on one side with a nonwoven, needle punched polypropylene filter fabric and on the other side with a smooth polymeric film.

Uses

Hydroduct 220 is designed primarily for use with waterproofing materials in vertical installations. Hydroduct 220 has been specially developed to provide a simple and highly practical collector and deflector of unwanted ground water on foundation walls, retaining walls, tunnels and planters. It can be used with Preprufe, Procor, or Bituthene waterproof membranes. When installed it protects the membrane from damage and minimizes the build-up of percolated surface water against the structure. The construction of the studded sheet also creates an air void to isolate the structure from the effects of the surrounding ground. Hydroduct 220 has been designed to withstand ground pressures and the compaction forces of wet concrete to maintain a high water flow capacity. The drainage sheet must be connected into the site drainage system to minimize hydrostatic build-up and collect infiltrated water using Hydroduct Coil 600 or traditional perforated pipes wrapped and linked with the geotextile filter fabric to prevent clogging.

Product Advantages

- **Enhances waterproofing**—eliminates hydrostatic pressure build-up
- **Efficient water collector/deflector**—can be used as a sandwich drainage layer between lagging and the reinforced concrete structure
- **Smooth polymeric sheet**—compatible with Preprufe, Procor, or Bituthene membranes
- **Simple convenient drainage and protection layer**—serves as robust membrane protection and drainage
- **Geotextile fabric filter**—allows ground water to pass into the drain core while restricting the movement of soil particles
- **High flow capacity**—drains 17 gals/min./ft (211 L/min./m) width
- **Rot proof**—unaffected by permanent immersion in water, bacteria, dilute acids and alkalis
- **Economical**—eliminates imported aggregate drainage layers
- **Studded core**—allows water to flow to designated drainage collection points

Application Procedures

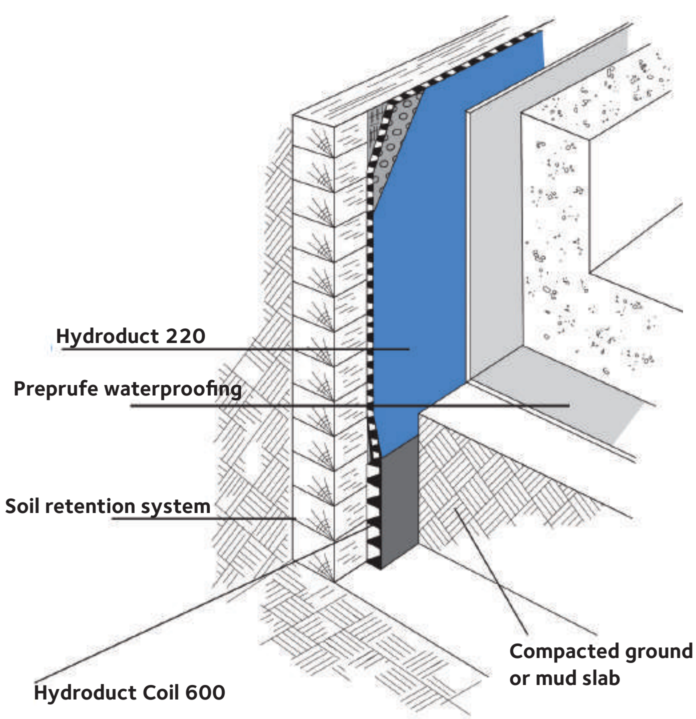
Safety, Storage and Handling Information

All construction products must be handled properly. Safety Data Sheets (SDS) are available at gcpat.com and users should acquaint themselves with this information. Carefully read detailed precaution statements on product labels and the SDS before use.

Installation

Position Hydroduct so that the geotextile fabric filter is facing toward the groundwater, soil or overburden. The solid polymeric film provides extra protection for waterproofing such as Procor or Bituthene and should not be removed. In vertical applications, Hydroduct 220 Drainage Composites can be applied to the substrate vertically but should extend from the perimeter discharge pipe to a point approximately 6 in. (150 mm) below the anticipated grade line.

When adhering Hydroduct 220 directly to Bituthene waterproofing membranes, Preprufe Detail Tape should be used. When using Preprufe Detail Tape, press firmly to ensure good adhesion.



Drawings are for illustration purposes only. Please refer to gcpat.com for specific application details.

Supply

Hydroduct	
Roll size	4 ft x 50 ft (1.2 m x 15.2 m) 200 ft² (18.6 m²)
Packaging	6 rolls/pallet
Weight	38 lbs (17.2 kg)/roll
Complementary Materials	
Preprufe Detail Tape	2 in. x 50 ft (50 mm x 15 m) rolls
Hydroduct Coil	600 50 ft (15.2 m) roll

Physical Properties

Property	**Typical Value**	**Test Method**
Drainage Core		
Polymer	High impact polystyrene	
Thickness	0.44 in. (11 mm) nominal	ASTM C366 method B
Compressive strength	15,000 lbs/ft² (718 kPa)	ASTM D1621 (modified)
Flow rate (gradient 1.0, load 172 kPa)	17 gal/min./ft (211 L/min./m)	ASTM D4716
Geotextile		
Type	Nonwoven	
Polymer	Polypropylene	
Weight	4.0 oz/yd² (136 g/m²)	ASTM D3776
Tensile strength	100 lbs (445 N)	ASTM D4632
Apparent opening size	70 U.S. sieve (0.21 mm)	ASTM D4751
Flow rate	165 gal/min./ft² (6724 L/min./m²)	ASTM D4491
CBR puncture	275 lbs (1.22 kN)	ASTM D6241

Substrate and job site conditions will determine the attachment pattern. Additional consideration should be given in high wind exposures. Abut adjacent rolls with excess fabric overlapping in shingle fashion.

For inside and outside corners, abut adjoining drainage composite at the corner. Cover open core with extra geotextile filter fabric.

The exposed core along the top terminations should be covered with a strip of geotextile to prevent intrusion of soil into core. At the bottom termination extend the Hydroduct 220 Drainage Composite out from the structure so that it passes behind and under the perimeter discharge pipe. Additional geotextile should be wrapped over the pipe to prevent soil intrusion.

To secure Hydroduct 220 around protrusions, apply Preprufe Detail Tape around the protrusion in a picture frame configuration. Cut Hydroduct 220 to fit snugly around the protrusion. Press the cut edge firmly into Preprufe Detail Tape.

Hydroduct 220 should be covered promptly. Do not leave Hydroduct 220 exposed to sunlight for more than two weeks. Motor vehicles, construction equipment or other trades should not be allowed directly on the Hydroduct 220.

gcpat.com | North America Customer Service: 1-877-4AD-MIX1 (1-877-423-6491)

GCP Applied Technologies Inc., 62 Whittemore Avenue, Cambridge, MA 02140 USA.

In Canada, 294 Clements Road, West, Ajax, Ontario, Canada L1S 3C6.

HYD-040-1217 HYDRODUCT 220

gcp applied technologies

PREPRUFE® 300R & 160R

Pre-applied waterproofing membranes that bond integrally to poured concrete for use below slabs or behind basement walls on confined sites

Product Description

Preprufe® 300R & 160R membranes are unique composite sheets comprised of a thick HDPE film, pressure sensitive adhesive and weather resistant protective coating. Designed with Advanced Bond Technology™, Preprufe 300R & 160R membranes form a unique, integral bond to poured concrete, preventing both the ingress and lateral migration of water while providing a robust barrier to water, moisture and gas.

The Preprufe R System includes:

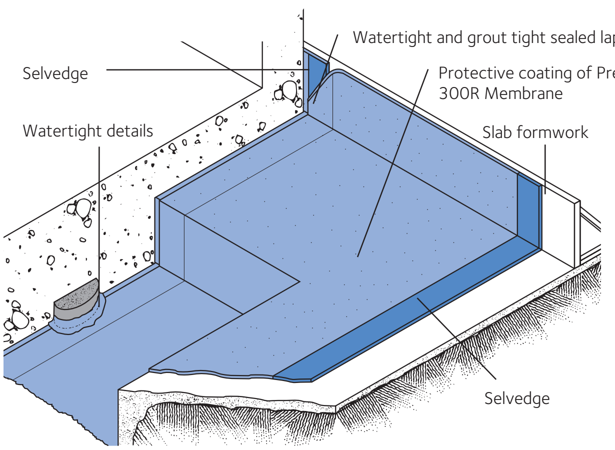
- **Preprufe 300R** – heavy-duty grade for use below slabs and on rafts (i.e. mud slabs). Designed to accept the placing of heavy reinforcement using conventional concrete spacers
- **Preprufe 160R** – thinner grade for blindside, zero property line applications against soil retention systems. Vertical use only
- **Preprufe Tape LT** – for covering cut edges, roll ends, penetrations and detailing (temperatures between 25°F (-4°C) and 86°F (+30°C))
- **Preprufe Tape HC** – for covering cut edges, roll ends, penetrations and detailing (minimum 50°F (10°C))
- **Preprufe CJ Tape LT** – for construction joints and detailing (temperatures between 25°F (-4°C) and 86°F (+30°C))
- **Preprufe CJ Tape HC** – for construction joints and detailing (minimum 50°F (10°C))
- **Bituthene® Liquid Membrane** – for sealing around penetrations, etc.
- **Adcor® ES** – waterstop for joints in concrete walls and floors
- **Preprufe Tieback Covers** – preformed cover for soil retention wall tieback heads
- **Preprufe Preformed Corners** – preformed inside and outside corners

Preprufe 300R & 160R membranes are applied either horizontally to smooth prepared concrete, carton forms or well rolled and compacted earth or crushed stone substrate; or vertically to permanent formwork or adjoining structures. Concrete is then cast directly against the adhesive side of the membranes. The specially developed Preprufe adhesive layers work together to form a continuous and integral seal to the structure.

Preprufe products can be returned up the inside face of slab formwork but is not recommended for conventional twin-sided formwork on walls, etc. Use Bituthene self-adhesive membrane or Procor fluid-applied membrane to walls after removal of formwork for a fully bonded system to all structural surfaces.

Advantages

- Forms a unique continuous adhesive bond to concrete poured against it - prevents water migration and makes it unaffected by ground settlement beneath slabs
- Fully-adhered watertight laps and detailing
- Provides a barrier to water, moisture and gas - physically isolates the structure from the surrounding ground
- BBA Certified for basement Grades 2, 3, & 4 to BS 8102:1990
- Zero permeance to moisture
- Solar reflective - reduced temperature gain
- Simple and quick to install - requiring no priming or fillets
- Can be applied to permanent formwork - allows maximum use of confined sites
- Self protecting - can be trafficked immediately after application and ready for immediate placing of reinforcement
- Unaffected by wet conditions - cannot activate prematurely
- Inherently waterproof, non-reactive system:
  1. not reliant on confining pressures or hydration
  2. unaffected by wet/dry cycling
- Chemical resistant - effective in most types of soils and waters, protects structure from salt or sulphate attack



Drawings are for illustration purposes only.
Please refer to gcpat.com for specific application details.

Installation

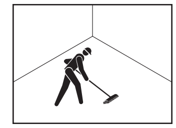
The most current application instructions, detail drawings and technical letters can be viewed at gcpat.com. For other technical information contact your local GCP representative.

Preprufe 300R & 160R membranes are supplied in rolls 4 ft (1.2 m) wide, with a selvedge on one side to provide self-adhered laps for continuity between rolls. The rolls of Preprufe Membrane and Preprufe Tape are interwound with a disposable plastic release liner which must be removed before placing reinforcement and concrete.

Substrate Preparation

All surfaces - It is essential to create a sound and solid substrate to eliminate movement during the concrete pour. Substrates must be regular and smooth with no gaps or voids greater than 0.5 in. (12 mm). Grout around all penetrations such as utility conduits, etc. for stability (see Figure 1).

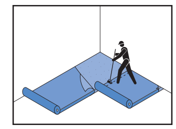
Figure 1



Horizontal - The substrate must be free of loose aggregate and sharp protrusions. Avoid curved or rounded substrates. When installing over earth or crushed stone, ensure substrate is well compacted to avoid displacement of substrate due to traffic or concrete pour. The surface does not need to be dry, but standing water must be removed.

Vertical - Use concrete, plywood, insulation or other approved facing to sheet piling to provide support to the membrane. Board systems such as timber lagging must be close butted to provide support and not more than 0.5 in. (12 mm) out of alignment.

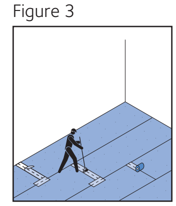
Figure 2



Membrane Installation

Preprufe membranes can be applied at temperatures of 25°F (-4°C) or above. When installing Preprufe product in cold or marginal weather conditions 55°F (<13°C) the use of Preprufe Tape LT is recommended at all laps and detailing. Preprufe Tape LT should be applied to clean, dry surfaces and the release liner must be removed immediately after application. Alternatively, Preprufe Low Temperature (LT) membrane is available for low temperature condition applications. Refer to Preprufe LT data sheet and GCP tech letter 16 for more information.

Figure 3



Horizontal substrates - Place the membrane HDPE film side to the substrate with the clear plastic release liner facing towards the concrete pour. End laps should be staggered to avoid a build up of layers. Leave plastic release liner in position until overlap procedure is completed (see Figure 2).

Accurately position succeeding sheets to overlap the previous sheet 3 in. (75 mm) along the marked selvedge. Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap. Peel back the plastic release liner from between the overlaps as the two layers are bonded together. Ensure a continuous bond is achieved without creases and roll firmly with a heavy roller. Completely remove the plastic liner to expose the protective coating. Any initial tack will quickly disappear.

Refer to GCP tech letter 15 for information on suitable rebar chairs for Preprufe products.

Vertical substrates - Mechanically fasten the membrane vertically using fasteners appropriate to the substrate with the the clear plastic release liner facing towards the concrete pour. The membrane may be installed in any convenient length. Fastening can be made through the selvedge using a small and low profile head fastener so that the membrane lays flat and allows firmly rolled overlaps. Immediately remove the plastic release liner.

Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap. Roll firmly to ensure a watertight seal.

Roll ends and cut edges - Overlap all roll ends and cut edges by a minimum 3 in. (75 mm) and ensure the area is clean and free from contamination, wiping with a damp cloth if necessary. Allow to dry and apply Preprufe Tape LT (or HC in hot climates) centered over the lap edges and roll firmly (see Figure 3). Immediately remove printed plastic release liner from the tape.

Details

Detail drawings are available at gcpat.com.

Membrane Repair

Inspect the membrane before installation of reinforcement steel, formwork and final placement of concrete. The membrane can be easily cleaned by power washing if required. Repair damage by wiping the area with a damp cloth to ensure the area is clean and free from dust, and allow to dry. Repair small punctures (0.5 in. (12 mm) or less) and slices by applying Preprufe Tape centered over the damaged area. Repair holes and large punctures by applying a patch of Preprufe membrane, which extends 6 in. (150 mm) beyond the damaged area. Seal all edges of the patch with Preprufe Tape. Any areas of damaged adhesive should be covered with Preprufe Tape. Where exposed selvedge has lost adhesion or laps have not been sealed, ensure the area is clean and dry and cover with fresh Preprufe Tape. All Preprufe Tape must be rolled firmly and the tinted release liner removed. Alternatively, use a hot air gun or similar to activate the adhesive using caution not to damage the membrane and firmly roll lap to achieve continuity.

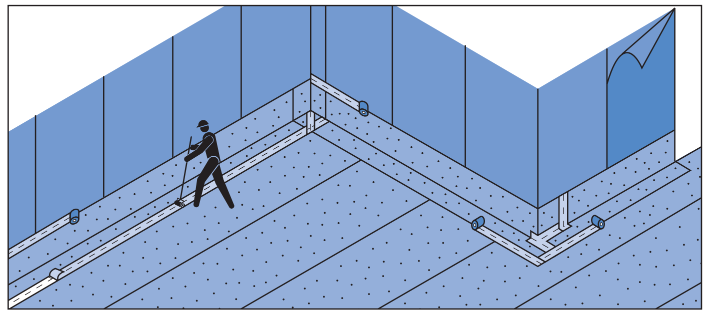
Pouring of Concrete

Ensure the plastic release liner is removed from all areas of Preprufe membrane and tape.

It is recommended that concrete be poured within 56 days (42 days in hot climates) of application of the membrane. Following proper ACI guidelines, concrete must be placed carefully and consolidated properly to avoid damage to the membrane. Never use a sharp object to consolidate the concrete.

Removal of Formwork

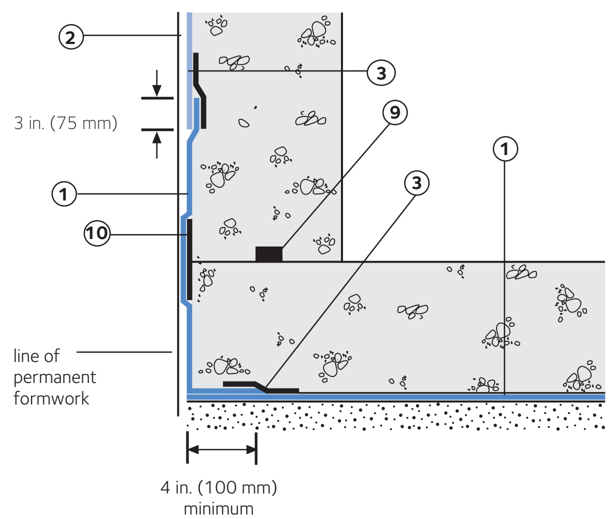
Preprufe membranes can be applied to removable formwork, such as slab perimeters, elevator and lift pits, etc. Once the concrete is poured the formwork must remain in place until the concrete has gained sufficient compressive strength to develop the surface bond. Preprufe membranes are not recommended for conventional twin-sided wall forming systems, see GCP tech letter 13 for information on forming systems used with Preprufe products.



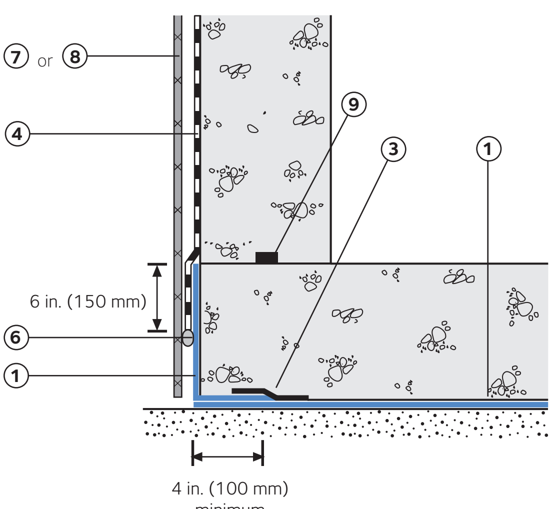
Detail Drawings

Details shown are typical illustrations and not working details.For a list of the most current details, visit us at gcpat.com. For technical assistance with detailing and problem solving please call toll free at 866-333-3SBM (3726).

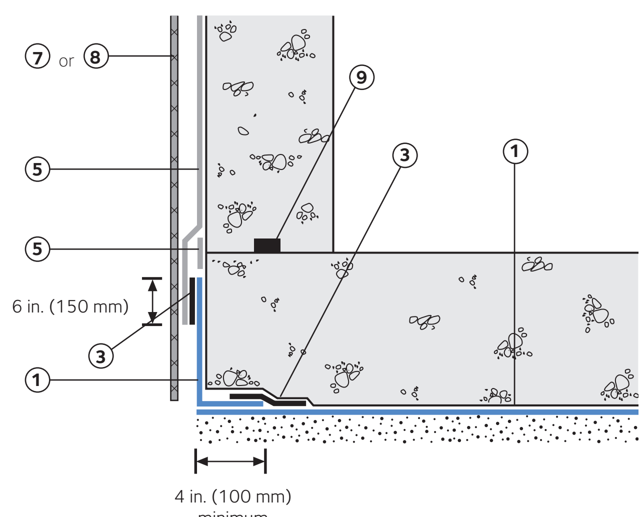
Wall base detail against permanent shutter



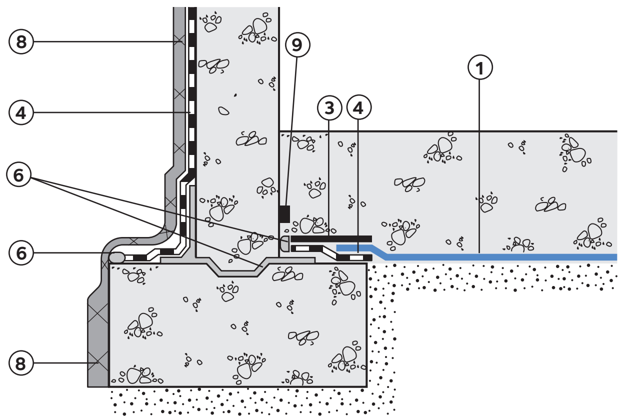
Bituthene® wall base detail (Option 1)



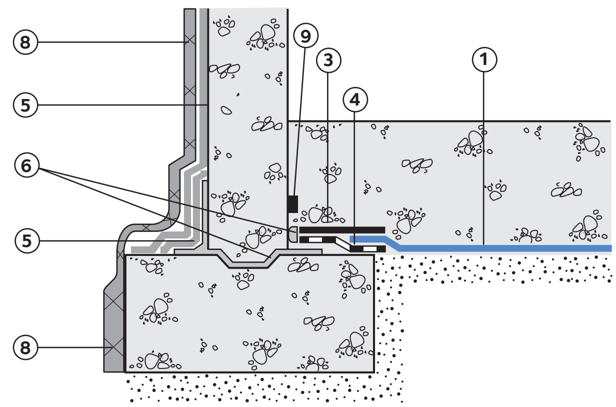
Procor® wall base detail (Option 1)



Bituthene® wall base detail (Option 2)



Procor® wall base detail (Option 2)



1 Preprufe® 300R
2 Preprufe® 160R
3 Preprufe® Tape
4 Bituthene®
5 Procor®
6 Bituthene® Liquid Membrane
7 Approved Protection Course
8 Hydroduct®
9 Adcor™ ES
10 Preprufe® CJ Tape

Supply

Dimensions (Nominal)	Preprufe 300R Membrane	Preprufe 160R Membrane	Preprufe Tape (LT or HC*)
Thickness	0.046 in. (1.2 mm)	0.032 in. (0.8 mm)	
Roll size	4 ft x 98 ft (1.2 m x 30 m)	4 ft x 115 ft (1.2 m x 35 m)	4 in. x 49 ft (100 mm x 15 m)
Roll area	392 ft^2 (36 m^2)	460 ft^2 (42 m^2)	
Roll weight	108 lbs (50 kg)	92 lbs (42 kg)	4.3 lbs (2 kg)
Minimum side/end laps	3 in. (75 mm)	3 in. (75 mm)	3 in. (75 mm)

Physical Properties

Property	Typical Value 300R	Typical Value 160R	Test Method
Color	white	white	
Thickness	0.046 in. (1.2 mm)	0.032 in. (0.8 mm)	ASTM D3767
Lateral Water Migration Resistance	Pass at 231 ft (71 m) of hydrostatic head pressure	Pass at 231 ft (71 m) of hydrostatic head pressure	ASTM D5385, modified[1]
Low temperature flexibility	Unaffected at -20°F (-29°C)	Unaffected at -20°F (-29°C)	ASTM D1970
Resistance to hydrostatic head	231 ft (71 m)	231 ft (71 m)	ASTM D5385, modified[2]
Elongation	500%	500%	ASTM D412, modified[3]
Tensile strength, film	4000 psi (27.6 MPa)	4000 psi (27.6 MPa)	ASTM D412
Crack cycling at -9.4°F (-23°C), 100 cycles	Unaffected, Pass	Unaffected, Pass	ASTM C836
Puncture resistance	221 lbs (990 N)	100 lbs (445 N)	ASTM E154
Peel adhesion to concrete	5 lbs/in. (880 N/m)	5 lbs/in. (880 N/m)	ASTM D903, modified[4]
Lap peel adhesion	5 lbs/in. (880 N/m)	5 lbs/in. (880 N/m)	ASTM D1876, modified[5]
Permeance to water vapor transmission	0.01 perms (0.6 ng/(Pa x s x m^2))	0.01 perms (0.6 ng/(Pa x s x m^2))	ASTM E96, method B
Water absorption	0.5%	0.5%	ASTM D570

Footnotes:

1. Lateral water migration resistance is tested by casting concrete against membrane with a hole and subjecting the membrane to hydrostatic head pressure with water. The test measures the resistance of lateral water migration between the concrete and the membrane.
2. Hydrostatic head tests of Preprufe Membranes are performed by casting concrete against the membrane with a lap. Before the concrete cures, a 0.125 in. (3 mm) spacer is inserted perpendicular to the membrane to create a gap. The cured block is placed in a chamber where water is introduced to the membrane surface up to the head indicated.
3. Elongation of membrane is run at a rate of 2 in. (50 mm) per minute.
4. Concrete is cast against the protective coating surface of the membrane and allowed to properly dry (7 days minimum). Peel adhesion of membrane to concrete is measured at a rate of 2 in. (50 mm) per minute at room temperature.
5. The test is conducted 15 minutes after the lap is formed (per GCP published recommendations) and run at a rate of 2 in. (50 mm) per minute.

Removal of Formwork (continued)

A minimum concrete compressive strength of 3000 psi (20 N/mm^2) is recommended prior to stripping formwork supporting Preprufe membranes. Premature stripping may result in displacement of the membrane and/or spalling of the concrete.

Refer to GCP Tech Letter 17 for information on removal of formwork for Preprufe products.

Specification Clauses

Preprufe 300R or 160R membrane shall be applied with its protective coating presented to receive fresh concrete to which it will integrally bond. Only GCP Applied Technologies approved membranes shall be bonded to Preprufe 300R/160R product. All Preprufe 300R/160R system materials shall be supplied by GCP Applied Technologies, and applied strictly in accordance with their instructions. Specimen performance and formatted clauses are also available.

NOTE: Use Preprufe Tape to tie-in Procor® fluid-applied membrane with Preprufe products.

Health and Safety

Refer to relevant SDS (Safety Data Sheet). Complete rolls should be handled by a minimum of two persons.

BBA BRITISH BOARD OF AGRÉMENT CERTIFICATE No.

gcpat.com | Customer Service: 1-866-333-3726

GCP Applied Technologies Inc., 62 Whittemore Avenue, Cambridge, MA 02140 USA.

In Canada, 294 Clements Road, West, Ajax, Ontario, Canada L1S 3C6.

GCP0083 PF-111-1216

gcp applied technologies

VAPORBLOCK®

6 mil, 10 mil & 15 mil Underslab Vapor Barrier

PRODUCT	PART NUMBER
VaporBlock 6	VB6
VaporBlock 10	VB10
VaporBlock 15	VB15

APPLICATIONS

Underslab Vapor Retarder/Barrier
Foundation Wall Vapor Retarder
Radon Retarder

Note: All instructions on architectural or structural drawings should be reviewed and followed. Detailed installation instructions accompany each roll of VaporBlock and can also be located on our website.

ASTM E-1643 also provides general installation information for vapor retarders. All VaporBlock series materials can be installed with print or color facing up or down and will provide the same performance.

ASTM E-1745-11, "Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs".

VaporBlock® UNDERSLAB VAPOR BARRIER

VaporBlock® can be identified as blue in color printed with the VaporBlock® logo and the conformance information listing ASTM E-1745, classifications.

PRODUCT DESCRIPTION

VaporBlock® is one of the most effective underslab vapor barriers on the market today! Benefits include:

- Low moisture vapor permeability
- Superior puncture resistance
- High tensile tear strength
- Resistance to decay and degradation

VaporBlock® is manufactured to strict conformance specifications under our ISO 9001 Certified Management System to consistently exceed ASTM standards and project expectations. VaporBlock® meets the highest possible quality standards across multiple industries. VaporBlock® is supported with independent testing.

Results are available upon request, as required under ASTM E-1745-11. VaporBlock® is readily available through nation-wide distribution.

PRODUCT USE

VaporBlock® is a high performance, underslab vapor barrier designed to retard moisture migration through concrete slabs and concrete walls to protect your structure from:

- MOLD: VaporBlock® reduces moisture condensation within a structure, impeding the growth of molds, mildews, and fungi.
- MOISTURE: VaporBlock® protects flooring materials by maintaining moisture levels well below the requirements of ASTM E-1745-11.
- RADON: VaporBlock® is used as a component of radon mitigation systems to protect indoor air quality and occupant health.

Also Available: VaporBlock® Plus™, a highly effective gas and moisture barrier.

SIZE & PACKAGING

Available in 6, 10 and 15 mil for optimal project flexibility.

Larger roll sizes equal lower installation costs.

WWW.AMERICOVER.COM

Email: inquiries@americover.com

Toll Free: 1 800 747 6095
Tel: 1 760 747 6095
Fax: 1 760 747 1920

VAPORBLOCK®

6 mil, 10 mil & 15 mil Underslab Vapor Barrier

		VAPORBLOCK VB6	VAPORBLOCK VB10	**VAPORBLOCK VB15	ASTM E 1745-11 Class A, B & C1
PROPERTIES	TEST METHOD	IMPERIAL	IMPERIAL	IMPERIAL	IMPERIAL
Appearance		Blue	Blue	Blue	-
Thickness, Nominal		6 mil	10 mil	15 mil	-
Roll Size		15 ft x 200 ft	15 ft x 200 ft	12 ft x 200 ft	-
Weight		29 lbs/MSF	49 lbs/MSF	73 lbs/MSF	-
Classification	ASTM E1745-11	CLASS C	CLASS A, B & C	CLASS A, B & C	Class A, B, or C
Tensile Strength Average MD & TD (New Material) (After Exposure)	ASTM E154 Section 9, (D882)	32 lbs/in 25 lbs/in	52 lbs/in 53 lbs/in	60 lbs/in 60 lbs/in	Class A = 45 lbs/in Class B = 30 lbs/in Class C = 13.6 lbs/in Minimum
Puncture Resistance	ASTM D1709 Method B	>3300 g	>3300 g	>4000 g	Class A = 2200 g Class B = 1700 g Class C = 475 g Minimum
Permeance	ASTM E154 Section 7 ASTM E96 Procedure B	0.090 Perms grain/(ft²•hr•in•Hg)	0.0146 Perms grain/(ft²•hr•in•Hg)	0.01 Perms grain/(ft²•hr•in•Hg)	Class A, B, C 0.1 Perms grain/(ft²•hr•in•Hg) Maximum
(After Conditioning)	ASTM E154 Section 8, E96 Section 11, E96 Section 12, E96 Section 13, E96	0.105 0.124 0.097 0.099	0.0153 0.0151 0.0160 0.0181	0.01 0.01 0.01 0.01	
WVTR	ASTM E96 Procedure B	0.080 grain/hr-ft²	0.0084 grain/hr-ft²	0.004 grain/hr-ft²	-
Maximum Use Temperature		180° F	180° F	180° F	-
Minimum Use Temperature		-70° F	-70° F	-70° F	-

1 Referencing ASTM E1745-11, Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs

**PROFORMA Contents: Data listed for VaporBlock® VB15, under ASTM E154, section 11, 12, and 13, is extrapolated from actual section 8 values and is subject to change at any time as additonal test data becomes available.

Americover®

RI.042516.033117

2067 Wineridge Place, Suite. F
Escondido, CA 92029

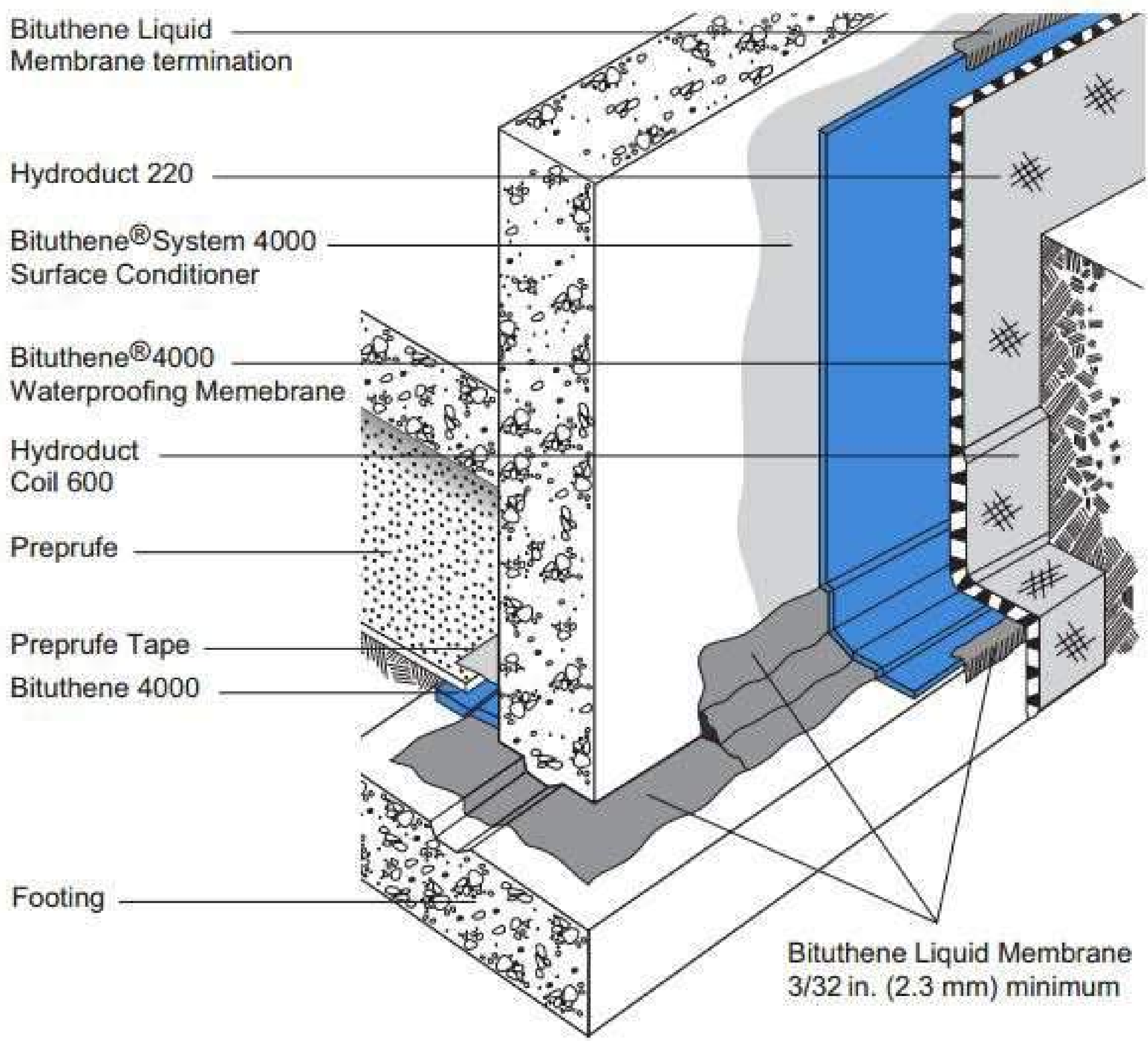
BITUTHENE® System 4000 — Below-Grade

Self-adhesive HDPE waterproofing membrane with super tacky compound for use with patented, water-based Bituthene® System 4000 Surface Conditioner

Product Description

BITUTHENE® System 4000 Waterproofing Membrane is a 1/16 in. (1.5 mm) flexible, pre-formed membrane which combines a high performance, cross laminated, HDPE carrier film with a unique, super tacky, self-adhesive rubberized asphalt compound. BITUTHENE® System 4000 Surface Conditioner is a water-based, latex surface treatment which imparts an aggressive, high tack finish to the treated substrate. It is specifically formulated to bind site dust and concrete efflorescence, thereby providing a suitable surface for the BITUTHENE® System 4000 Waterproofing Membrane.

Conveniently packaged in each roll of membrane, BITUTHENE® System 4000 Surface Conditioner promotes good initial adhesion and, more importantly, excellent permanent adhesion of the BITUTHENE® System 4000 Waterproofing Membrane. The VOC (Volatile Organic Compound) content of this product is 100 g/L. Architectural and Industrial Maintenance Regulations limit the VOC content in products classified as architectural coatings. Refer to Technical Letters for most current list of allowable limits.



Drawings are for illustration purposes only. Please refer to gcpat.com for specific application details.

Product Advantages

- Excellent adhesion—special adhesive compound engineered to work with high tack BITUTHENE® System 4000 Surface Conditioner
- Cold applied—simple application to substrates, especially at low temperatures
- Reduced inventory and handling costs—BITUTHENE® System 4000 Surface Conditioner is included with each roll of membrane
- Wide application temperature range—excellent bond to self and substrate from 25°F (-4°C) and above
- Overlap security—minimizes margin for error under site conditions
- Cross laminated, high density polyethylene carrier film— provides high tear strength, puncture and impact resistance
- Flexible—accommodates minor structural movements and will bridge shrinkage cracks
- RIPCORD®—this split release on demand feature allows the splitting of the release paper into two (2) pieces for ease of installation in detailed areas

Use

- BITUTHENE® membrane is ideal for waterproofing concrete, masonry and wood surfaces where in-service temperatures will not exceed 135°F (57°C). It can be applied to foundation walls, tunnels, earth sheltered structures and split slab construction, both above and below grade. (For above grade applications, see Above Grade Waterproofing BITUTHENE® System 4000.)
- BITUTHENE® waterproofing membrane is 1/16 in. (1.5 mm) thick, 3 ft (0.9 m) wide and 66.7 ft (20 m) long and is supplied in rolls. It is unrolled sticky side down onto concrete slabs or applied onto vertical concrete faces primed with BITUTHENE® System 4000 Surface Conditioner. Continuity is achieved by overlapping a minimum 2 in. (50 mm) and firmly rolling the joint.
- BITUTHENE® membrane is extremely flexible. It is capable of bridging shrinkage cracks in the concrete and will accommodate minor differential movement throughout the service life of the structure.

Application Procedures

Safety, Storage and Handling Information

BITUTHENE® products must be handled properly. Vapors from solvent based primers and mastic are harmful and flammable.

For these products, the best available information on safe handling, storage, personal protection, health and environmental considerations has been gathered. Safety Data Sheets (SDS) are available on the site and users should acquaint themselves with this information. Carefully read detailed precaution statements on product labels and the SDS before use.

Surface Preparation

Surfaces should be structurally sound and free of voids, spalled areas, loose aggregate and sharp protrusions. Remove contaminants such as grease, oil and wax from exposed surfaces. Remove dust, dirt, loose stone and debris. Concrete must be properly dried (minimum 7 days for normal structural concrete and 14 days for lightweight structural concrete).

If time is critical, BITUTHENE® Primer B2 or BITUTHENE® Primer B2 LVC may be used to allow priming and installation of membrane on damp surfaces or green concrete. Priming may begin in this case as soon as the concrete will maintain structural integrity. Use form release agents which will not transfer to the concrete. Remove forms as soon as possible from below horizontal slabs to prevent entrapment of excess moisture. Excess moisture may lead to blistering of the membrane. Cure concrete with clear, resin-based curing compounds which do not contain oil, wax or pigment. Except with BITUTHENE® Primer B2 or BITUTHENE® Primer B2 LVC, allow concrete to thoroughly dry following rain. Do not apply any products to frozen concrete.

Repair defects such as spalled or poorly consolidated areas. Remove sharp protrusions and form match lines. On masonry surfaces, apply a parge coat to rough concrete block and brick walls or trowel cut mortar joints flush to the face of the concrete blocks.

Temperature

- Apply BITUTHENE® System 4000 Membrane and Conditioner only in dry weather and when air and surface temperatures are 25°F (-4°C) or above.
- Apply BITUTHENE® Primer B2 or BITUTHENE® Primer B2 LVC in dry weather above 25°F (-4°C). (See separate product information sheet.)

Conditioning

BITUTHENE® System 4000 Surface Conditioner is ready to use and can be applied by spray or roller. For best results, use a pump-type air sprayer with fan tip nozzle, like the BITUTHENE® System 4000 Surface Conditioner Sprayer, to apply the surface conditioner.

Apply BITUTHENE® System 4000 Surface Conditioner to clean, dry, frost-free surfaces at a coverage rate of 300 ft^2/gal (7.4 m^2/L). Coverage should be uniform. Surface conditioner should not be applied so heavily that it puddles or runs. **Do not apply conditioner to BITUTHENE® membrane.**

Allow BITUTHENE® System 4000 Surface Conditioner to dry one hour or until substrate returns to its original color. At low temperatures or in high humidity conditions, dry time may be longer.

BITUTHENE® System 4000 Surface Conditioner is clear when dry and may be slightly tacky. In general, conditioning should be limited to what can be covered within 24 hours. In situations where long dry times may prevail, substrates may be conditioned in advance. Substrates should be reconditioned if significant dirt or dust accumulates.

Before surface conditioner dries, tools should be cleaned with water. After surface conditioner dries, tools should be cleaned with mineral spirits. Mineral spirits is a combustible liquid which should be used only in accordance with manufacturer's recommendations. **Do not use solvents to clean hands or skin.**

Corner Details

The treatment of corners varies depending on the location of the corner. For detailed information on BITUTHENE® Liquid Membrane, see separate product information sheet.

- **At wall to footing inside corners—**
  - **Option 1: Apply membrane to within 1 in. (25 mm) of base of wall. Treat the inside corner by installing a 3/4 in. (20 mm) fillet of BITUTHENE® Liquid Membrane. Extend BITUTHENE® Liquid Membrane at least 2 1/2 in. (65 mm) onto footing, and 2 1/2 in. (65 mm) onto wall membrane.**
  - **Option 2: Treat the inside corner by installing a 3/4 in. (20 mm) fillet of BITUTHENE® Liquid Membrane. Apply 12 in. (300 mm) wide strip of sheet membrane centered over fillet. Apply wall membrane over inside corner and extend 6 in. (150 mm) onto footing. Apply 1 in. (25 mm) wide troweling of BITUTHENE® Liquid Membrane over all terminations and seams within 12 in. (300 mm) of corner.**
- **At footings where the elevation of the floor slab is 6 in. (150 mm) or more above the footing, treat the inside corner either by the above two methods or terminate the membrane at the base of the wall. Seal the termination with BITUTHENE® Liquid Membrane.**

Joints

Properly seal all joints with waterstop, joint filler and sealant as required. BITUTHENE® membranes are not intended to function as the primary joint seal. Allow sealants to fully cure. Pre-strip all slab and wall cracks over 1/16 in. (1.5 mm) wide and all construction and control joints with 9 in. (230 mm) wide sheet membrane strip.

Application on Horizontal Surfaces

(Note: PREPRUFE® pre-applied membranes are strongly recommended for below slab or for any application where the membrane is applied before concreting. See PREPRUFE® waterproofing membrane product information sheets.)

Apply membrane from the low point to the high point so that laps shed water. Overlap all seams at least 2 in. (50 mm). Stagger all end laps. Roll the entire membrane firmly and completely as soon as possible. Use a linoleum roller or standard water-filled garden roller less than 30 in. (760 mm) wide, weighing a minimum of 75 lbs (34 kg) when filled. Cover the face of the roller with a resilient material such as a 1/2 in. (13 mm) plastic foam or two wraps of indoor-outdoor carpet to allow the membrane to fully contact the primed substrate. Seal all T-joints and membrane terminations with BITUTHENE® Liquid Membrane at the end of the day.

Protrusions and Drains

Apply membrane to within 1 in. (25 mm) of the base of the protrusion. Apply BITUTHENE® Liquid Membrane 0.1 in. (2.5 mm) thick around protrusion. BITUTHENE® Liquid Membrane should extend over the membrane a minimum of 2 1/2 in. (65 mm) and up the penetration to just below the finished height of the wearing course.

Vertical Surfaces

Apply membrane in lengths up to 8 ft (2.5 m). Overlap all seams at least 2 in. (50 mm). On higher walls apply membrane in two or more sections with the upper overlapping the lower by at least 2 in. (50 mm). Roll all membrane with a hand roller.

Terminate the membrane at grade level. Press the membrane firmly to the wall with the butt end of a hardwood tool such as a hammer handle or secure into a reglet. Failure to use heavy pressure at terminations can result in a poor seal. A termination bar may be used to ensure a tight seal. Terminate the membrane at the base of the wall if the bottom of the interior floor slab is at least 6 in. (150 mm) above the footing. Otherwise, use appropriate inside corner detail where the wall and footing meet.

Membrane Repairs

Patch tears and inadequately lapped seams with membrane. Clean membrane with a damp cloth and dry. Slit fishmouths and repair with a patch extending 6 in. (150 mm) in all directions from the slit and seal edges of the patch with BITUTHENE® Liquid Membrane. Inspect the membrane thoroughly before covering and make any repairs.

BITUTHENE® System 4000 Surface Conditioner Sprayer

The BITUTHENE® System 4000 Surface Conditioner Sprayer is a professional grade, polyethylene, pump-type, compressed air sprayer with a brass fan tip nozzle. It has a 2 gal (7.6 L) capacity. The nozzle orifice and spray pattern have been specifically engineered for the optimum application of BITUTHENE® System 4000 Surface Conditioner.

Hold nozzle 18 in. (450 mm) from substrate and squeeze handle to spray. Spray in a sweeping motion until substrate is uniformly covered.

Sprayer should be repressurized by pumping as needed. For best results, sprayer should be maintained at high pressure during spraying.

To release pressure, invert the sprayer and spray until all compressed air is released.

Maintenance

The BITUTHENE® System 4000 Surface Conditioner Sprayer should perform without trouble for an extended period if maintained properly.

Sprayer should not be used to store BITUTHENE® System 4000 Surface Conditioner. The sprayer should be flushed with clean water immediately after spraying. For breaks in the spray operation of one hour or less, invert the sprayer and squeeze the spray handle until only air comes from the nozzle. This will avoid clogging.

Should the sprayer need repairs or parts, call the maintenance telephone number on the sprayer tank (800-323-0620).

Drainage

HYDRODUCT® drainage composites are recommended for both active drainage and protection of the membrane. See HYDRODUCT® product information sheets.

Protection of Membrane

Protect BITUTHENE® membranes to avoid damage from other trades, construction materials or backfill. Place protection immediately in temperatures above 77°F (25°C) to avoid potential for blisters.

- **On vertical applications, use HYDRODUCT® 220 Drainage Composite. Adhere HYDRODUCT® 220 Drainage Composite to membrane with PREPRUFE® Detail Tape. Alternative methods of protection are to use 1 in. (25 mm) expanded polystyrene or 1/4 in. (6 mm) extruded polystyrene that has a minimum compressive strength of 8 lbs/in.^{2} (55 kN/m^2). Such alternatives do not provide positive drainage to the system. If 1/4 in. (6 mm) extruded polystyrene protection board is used, backfill should not contain sharp rock or aggregate over 2 in. (50 mm) in diameter. Adhere polystyrene protection board with PREPRUFE® Detail Tape.**
- **In mud slab waterproofing, or other applications where positive drainage is not desired and where reinforced concrete slabs are placed over the membrane, the use of 1/4 in. (6 mm) hardboard or 2 layers of 1/8 in. (3 mm) hardboard is recommended.**

Insulation

Always apply BITUTHENE® membrane directly to primed or conditioned structural substrates. Insulation, if used, must be applied over the membrane. Do not apply BITUTHENE® membranes over lightweight insulating concrete.

Backfill

Place backfill as soon as possible. Use care during backfill operation to avoid damage to the waterproofing system. Follow generally accepted practices for backfilling and compaction. Backfill should be added and compacted in 6 in. (150 mm) to 12 in. (300 mm) lifts.

For areas which cannot be fully compacted, a termination bar is recommended across the top termination of the membrane.

Placing Steel

When placing steel over properly protected membrane, use concrete bar supports (dobies) or chairs with plastic tips or rolled feet to prevent damage from sharp edges. Use special care when using wire mesh, especially if the mesh is curled.

Approvals

- **City of Los Angeles Research Report RR 24386**

- Miami-Dade County Code Report NOA 04-0114.03
- U.S. Department of Housing and Urban Development (HUD) HUD Materials Release 628E
- Bituthene® 4000 Membranes carry a Underwriters' Laboratory Class A Fire Rating (Building Materials Directory, File #R7910) when used in either of the following constructions:

—Limited to noncombustible decks at inclines not exceeding 1/4 in. (6 mm) to the horizontal 1 ft (0.3 m). One layer of BITUTHENE® waterproofing membrane, followed by one layer of 1/8 in. (3 mm) protection board, encased in 2 in. (50 mm) minimum concrete monolithic pour.

—Limited to noncombustible decks at inclines not exceeding 1/4 in. (6 mm) to the horizontal 1 ft (0.3 m). One layer of BITUTHENE® waterproofing membrane, followed by one layer of DOW Styrofoam PD Insulation Board [2 in. (50 mm) thick]. This is covered with one layer of 2 ft x 2 ft x 2 in. (0.6 m x 0.6 m x 50 mm) of concrete paver topping.

Warranty

Five year material warranties covering BITUTHENE® and HYDRODUCT® products are available upon request. Contact your GCP sales representative for details.

Technical Services

Support is provided by full time, technically trained GCP representatives and technical service personnel, backed by a central research and development staff.

Supply

BITUTHENE® System 4000	3 ft x 66.7 ft roll (200 ft^2) [0.9 m x 20 m (18.6 m^2)]
Roll weight	83 lbs (38 kg) gross
Palletization	25 rolls per pallet
Storage	Store upright in dry conditions below 95°F (+35°C).
BITUTHENE® System 4000 Surface Conditioner	1 x 0.625 gal (2.3 L) bottle in each roll of BITUTHENE® System 4000 Membrane
Ancillary Products	
Surface Conditioner Sprayer	2 gal (7.6 L) capacity professional grade sprayer with specially engineered nozzle
BITUTHENE® Liquid Membrane	1.5 gal (5.7 L) pail/125 pails per pallet or 4 gal (15.1 L) pail/48 pails per pallet
PREPRUFE® Detail Tape	2 in. x 50 ft (50 mm x 15 m) roll/16 rolls per carton
BITUTHENE® Mastic	Twelve 30 oz (0.9 L) tubes/carton or 5 gal (18.9 L) pail/36 pails per pallet
Complementary Material	
HYDRODUCT®	See separate data sheets

Equipment by others: Soft broom, utility knife, brush or roller for priming

Physical Properties for BITUTHENE® System 4000 Waterproofing Membrane

PROPERTY	TYPICAL VALUE	TEST METHOD
Color	Dark gray-black	
Thickness	1/16 in. (1.5 mm) nominal	ASTM D3767—method A
Flexibility, 180° bend over 1 in. (25 mm) mandrel at -25°F (-32°C)	Unaffected	ASTM D1970
Tensile strength, membrane, die C	325 lbs/in.^{2} (2240 kPa) minimum	ASTM D412 modified[1]
Tensile strength, film	5,000 lbs/in.^{2} (34.5 MPa) minimum	ASTM D882 modified[1]
Elongation, ultimate failure of rubberized asphalt	300% minimum	ASTM D412 modified[1]

Crack cycling at -25°F (-32°C), 100 cycles	Unaffected	ASTM C836
Lap adhesion at minimum application temperature	5 lbs/in. (880 N/m)	ASTM D1876 modified[2]
Peel strength	9 lbs/in. (1576 N/m)	ASTM D903 modified[3]
Puncture resistance, membrane	50 lbs (222 N) minimum	ASTM E154
Resistance to hydrostatic head	231 ft (71 m) of water	ASTM D5385
Permeance	0.05 perms (2.9 ng/m^{2}sPa) maximum	ASTM E96, section 12—water method
Water absorption	0.1% maximum	ASTM D570

Footnotes:

1. The test is run at a rate of 2 in. (50 mm) per minute.
2. The test is conducted 15 minutes after the lap is formed and run at a rate of 2 in. (50 mm) per minute at 40°F (5°C).
3. The 180° peel strength is run at a rate of 12 in. (300 mm) per minute.

Physical Properties for BITUTHENE® System 4000 Surface Conditioner

PROPERTY	TYPICAL VALUE
Solvent type	Water
Flash point	>140°F (>60°C)
VOC* content	91 g/L
Application temperature	25°F (-4°C) and above
Freeze thaw stability	5 cycles (minimum)
Freezing point (as packaged)	14°F (-10°C)
Dry time (hours)	1 hour**

* Volatile Organic Compound
** Dry time will vary with weather conditions

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gcp applied technologies

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gcpat.com/solutions/products/bituthene-post-applied-waterproofing/bituthene-system-4000-below-

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