REMEDIAL INVESTIGATION REPORT

for

375 LAFAYETTE STREET
New York, New York
BCP Site No. C231165

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Prepared For:

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LANGAN

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ACRONYM LIST

Acronym	Definition
µg/L	micrograms per liter
6 NYCRR	Title 6 of the New York Code, Rules, and Regulations
AA	Ambient Air
AOC	Area of Concern
amsl	Above mean sea level
ASTM	American Society for Testing and Materials
AWQS	Ambient Water Quality Standards
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
BER	Business Environmental Risk
bgs	Below Grade Surface
CAMP	Community Air Monitoring Plan
CEQR	City Environmental Quality Review
CO_2	Carbon dioxide
COC	Contaminant of Concern
CSM	Conceptual Site Model
CU	Commercial Use
DCP	Department of City Planning
DER	Division of Environmental Remediation
DOT	Department of Transportation
DUSR	Data Usability Summary Report
EDD	Electronic Data Deliverable
EI	Environmental Investigation
ELAP	Environmental Laboratory Approval Program
ESA	Environmental Site Assessment
eV	Electron volt
FWRIA	Fish and Wildlife Resources Impact Analysis
GHG	Greenhouse Gas
GPR	Ground Penetrating Radar
HASP	Health and Safety Plan
HDPE	High-Density Polyethylene
HREC	Historical Recognized Environmental Condition
ICP	Inductively Coupled Plasma
ICP-AES	Inductively Coupled Plasma Atomic Emission Spectrometry
IDW	Investigation Derived Waste
IU	Industrial Use
LLC	Limited Liability Company
L/min	Liter per Minute

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Acronym	Definition
mg/kg	Milligram per kilogram
µg/m^3	Microgram per cubic meter
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NAPL	Non-Aqueous Phase Liquid
NAVD88	North American Vertical Datum of 1988
NTU	Nephelometric Turbidity Units
NYC	New York City
NYCDEP	New York City Department of Environmental Protection
NYCHA	New York City Public Housing Authority
NYCOER	New York City Office of Environmental Remediation
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCMTA	New York City Metropolitan Transit Authority
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyls
PCE	Tetrachloroethene
PFAS	Per- and polyfluoroalkyl substances
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
PGW	Protection of Groundwater
PID	Photoionization Detector
PPE	Personal Protective Equipment
ppm	Parts per million
PVC	Polyvinyl chloride
QA/QC	Quality Assurance/Quality Control
RAWP	Remedial Action Work Plan
REC	Recognized Environmental Condition
RI	Remedial Investigation
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan
RL	Reporting Limit
RURR	6 NYCRR Part 375 Restricted Use Restricted-Residential
SCO	Soil Cleanup Objective
SGV	NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA Groundwater
SMP	Site Management Plan
SPDES	State Pollution Discharge Elimination System
SV	Soil Vapor
SVOC	Semivolatile Organic Compound
TAL	Target Analyte List

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Acronym	Definition
TCE	Trichloroethylene
TCL	Target Compound List
TOGS	Technical and Operational Guidance Series
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
UU	Unrestricted Use
VOC	Volatile Organic Compound

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CERTIFICATION

I, Brian Gochenaur, certify that I am currently a Qualified Environmental Professional as defined in Title 6 of the New York Codes, Rules, and Regulations (NYCRR) Part 375 and that this Remedial Investigation Report (RIR) was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10) and Green Remediation (DER-31).

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Brian Gochenaur, QEP

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1.0 INTRODUCTION

This Remedial Investigation Report (RIR) was prepared on behalf of 375 Lafayette Ground Lessee LLC (the Volunteer) for the property located at 375 Lafayette Street in New York, New York (the site). The Volunteer plans to remediate the site in conjunction with a new commercial and residential development, a portion of which will be affordable housing, under the New York State Brownfield Cleanup Program (BCP), pursuant to the Brownfield Cleanup Agreement (BCA), Index No. C231165-12-25, for Site No. C231165 with the New York State Department of Environmental Conservation (NYSDEC), executed on March 26, 2026. The site was also assigned an E-Designation (E-675) for hazardous materials and noise by the New York City (NYC) Department of City Planning (DCP) as part of the SoHo/NoHo Neighborhood Plan (City Environmental Quality Review [CEQR] No. 21DCP059M). Sites with E-Designations are subject to environmental review by the New York City Mayor's Office of Environmental Remediation (NYCOER).

This RIR presents environmental data and findings from the Remedial Investigation (RI), conducted between April 24 and May 22, 2026. The RI was completed by Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. (Langan) in accordance with Title 6 of the New York Codes, Rules and Regulations (NYCRR) Part 375-1, 3.8, and 6.8; NYSDEC Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10) and Green Remediation (DER-31); applicable New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006, with updates May 2017 and February 2024); NYSDEC Guidelines for Sampling and Analysis of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs (April 2023); and the NYSDEC-approved Remedial Investigation Work Plan (RIWP) prepared by Langan and dated January 22, 2026. The objectives of the RI included:

- Defining the nature and extent of soil, soil vapor, and groundwater contamination at or emanating from the site;
- Generating sufficient data to evaluate the remedial action alternatives and prepare a Remedial Action Work Plan (RAWP) to be implemented concurrently with site development; and
- Generating sufficient data to evaluate potential threats to human health and the environment from site contamination.

The remainder of this report is organized into the following sections:

- Section 2.0 describes the site setting and physical characteristics.
- Section 3.0 describes the site background including results of previous investigations and identified areas of concern (AOC).
- Section 4.0 presents the investigation field procedures.
- Section 5.0 describes the field observations and analytical results.

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- Section 6.0 describes green remediation principles and techniques implemented in accordance with NYSDEC DER-31.
- Section 7.0 presents an assessment of the exposure risks of site contaminants to human, fish, and wildlife receptors.
- Section 8.0 presents the nature and extent of contamination in all site media as determined through the field investigation and analysis of environmental samples.
- Section 9.0 summarizes the results of the investigation and presents conclusions based on field observations and analytical results.

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2.0 SITE PHYSICAL CHARACTERISTICS

2.1 Site Description

The approximately 19,800-square-foot (±0.45-acre) site is located at 375 Lafayette Street in New York, New York and is identified on the Manhattan Borough Tax Map as Block 531, Lots 17, 52, and 56. The site is currently improved with an outdoor asphalt- and concrete-paved parking lot operated by Edison ParkFast. A parking attendant booth is located in the south-central part of the site on Lot 17 and a storage shed is located in the northeastern corner of the site on Lot 52. The north-central and eastern parts of the site (Lot 17 and 52) also contain 37 four-level hydraulic vehicle stacker lifts. A site location map is provided as Figure 1, and a site plan is provided as Figure 2.

2.2 Surrounding Property Land Use

The site is located in an urban setting that is primarily characterized by residential, institutional and commercial buildings. The following table summarizes surrounding property usage:

Direction	Adjoining Properties	Surrounding Area
North	Two multi-story commercial and office buildings (381 and 383 Lafayette Street), a multi-story residential building with ground floor commercial space (28 East 4th Street), and a multi-story residential building (32 East 4th Street)	Commercial, office, institutional, and residential buildings, vacant land, a park, and parking facilities
East	Multi-story residential building with ground floor commercial space (40 Great Jones Street)	Commercial, office, institutional (fire department), and residential buildings
South	Great Jones Street followed by multi-story residential, commercial, and office buildings (363 Lafayette Street and 25 through 39 Great Jones Street)	Commercial, office, and residential buildings
West	Lafayette Street followed by a multi-story commercial and office building (380 Lafayette Street)	Commercial, office, and residential buildings

Public infrastructure (storm drains, sewers, and underground utility lines) exists within the streets surrounding the site. A land use map showing the adjacent and surrounding properties is provided as Figure 3.

Land use within a half-mile radius is urban and includes residential, commercial, and industrial uses, institutional/public services, and parks. The nearest ecological receptors are the East River (located about 1.1 miles east of the site) and Hudson River (located about 1 mile west of the site). Sensitive receptors, as defined in DER-10, located within a half-mile of the site include those listed below:

Name (Approximate distance from site)	Address
Bright Horizons at NoHo (approximately 0.1 miles north of the site)	704 Broadway New York, NY 10003
New York University (approximately 0.1 miles northeast of the site)	50 West 4th Street New York, NY 10012

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Name (Approximate distance from site)	Address
The Cooper Union (approximately 0.1 miles northeast of the site)	30 Cooper Square New York, NY 10003
Grace Church School – High School Campus (approximately 0.1 miles northeast of the site)	46 Cooper Square New York, NY 10003
M586 Harvey Milk High School (approximately 0.2 miles north of the site)	2 Astor Place, 3rd Floor New York, NY 10003
Learning and Fun Daycare at St. George Academy (about 0.2 miles to the northeast of the site)	215 East 6th Street New York, NY 10003
St. John's University – Manhattan Campus (approximately 0.2 miles east of the site)	101 Astor Place New York, NY 10003
University Settlement's Creative Steps Early Childhood Center (approximately 0.2 miles east of the site)	4 Washington Square Village #1D New York, NY 10012
Grace Church School (approximately 0.3 miles to the north of the site)	86 4th Avenue New York, NY 10003
Manhattan School for Career Development (approximately 0.3 miles east of the site)	113 East 4th Street New York, NY 10003
LaSalle Academy High School (approximately 0.3 miles southeast of the site)	44 East 2nd Street New York, NY 10003
NY Preschool - Greenwich Village (approximately 0.4 miles north of the site)	11 5th Avenue New York, NY 10003
Third Street Preschool (approximately 0.4 miles northeast of the site)	235 East 11th Street New York, NY 10003
George Jackson Academy (approximately 0.4 miles east of the site)	104 St Marks Place New York, NY 10009
P.S. 63 The STAR Academy (approximately 0.4 miles east of the site)	121 East 3rd Street New York, NY 10009
M363 The Neighborhood School (approximately 0.4 miles to the southeast of the site)	121 East 3rd Street New York, NY 10009
Forsyth Satellite Academy (approximately 0.4 miles southeast of the site)	198 Forsyth Street New York, NY 10003
University Settlement Village View NORC Older Adults Center (approximately 0.4 miles southeast of the site)	94 East 1st Street New York, NY 10009
LAC Early Childhood Center (approximately 0.4 miles northwest of the site)	2 5th Avenue New York, NY 10011
La Petite École (approximately 0.5 miles north of the site)	7 West 10th Street New York, NY 10011
P.S. 019 East Village Community School (approximately 0.5 miles northeast of the site)	185 1st Avenue New York, NY 10003
Manhattan School (approximately 0.5 miles northwest of the site)	12 West 12th Street New York, NY 10011
Starchild (approximately 0.5 miles east of the site)	435 East 6th Street New York, NY 10009

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Name (Approximate distance from site)	Address
Mott Street OAC (approximately 0.5 miles south of the site)	180 Mott Street New York, NY 10012
University Settlement Early Head Start (approximately 0.5 miles southeast of the site)	184 Eldridge Street New York, NY 10002
BRC Senior Services Center (approximately 0.5 miles southeast of the site)	30 Delancey Street New York, NY 10002
LREI Lower and Middle School (approximately 0.5 miles west of the site)	272 6th Avenue New York, NY 10014

2.3 Site Physical Conditions

2.3.1 Topography

According to the November 18, 2025 Topographic, Boundary, and Utility Survey prepared by Langan and included in Appendix A, ground surface elevations at the site range from elevation (el) 46.67[1] in the eastern part of the site to el 42.65 in the western part of the site. The site slopes gently towards the west; however, the general topographic gradient of the surrounding areas slopes downward toward the north, to the east towards the East River (approximately 1.1 mile east of the site) and to the west toward the Hudson River (approximately 1 mile west of the site).

2.3.2 Regional Geology

Soil and bedrock stratigraphy throughout Manhattan typically consist of a layer of fill that overlies glacial till, decomposed unconsolidated bedrock, and bedrock. The glacial till deposits, also known as ground moraine, are a widespread dense layer of till material that typically consists of clay, silt, sand, gravel and boulders. Based on a review of the "Bedrock and Engineering Geologic Maps of New York County and Parts of Kings and Queens Counties, New York, and Parts of Bergen and Hudson Counties, New Jersey" by Charles A. Baskerville, et al., the bedrock underlying the site is of the Manhattan Schist formation, which consists of interbedded mica schist, gneiss, quartz, and amphibolite. According to an October 17, 2018, Geotechnical Investigation Report prepared for the site by Langan, competent gray mica schist rock was identified at depths ranging from 63 to 72 feet below grade surface (bgs).

2.3.3 Regional Hydrogeology

Groundwater flow is typically topographically influenced, as shallow groundwater tends to originate in areas of topographic highs and flows toward areas of topographic lows, such as rivers, stream valleys, ponds, and wetlands. A broader, interconnected hydrogeologic network often governs groundwater flow at depth or in the bedrock aquifer. Groundwater depth and flow direction are also subject to hydrogeologic and anthropogenic variables such as precipitation, evaporation, extent of vegetation cover, coverage by impervious surfaces, and subsurface structures. Other factors influencing groundwater

[1] Elevations in this RIR are referenced to the North American Vertical Datum of 1988 (NAVD88), which is about 1.1 feet above mean sea level at Sandy Hook, New Jersey.

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include depth to bedrock, the presence of anthropogenic fill, and variability in local geology and groundwater sources or sinks.

Infiltration of precipitation to the water table is likely minimal due to the current presence of impervious surface (i.e., asphalt and concrete) across the site. The majority of runoff drains to municipal sewers and then to one of the several wastewater treatment plants that serve New York City. Groundwater in New York City is not used as a potable water source pursuant to a local prohibition. Potable water provided to the City of New York is derived from surface impoundments in the Croton, Catskill, and Delaware watersheds.

Based on the local topography and proximity to nearby surface water features, the inferred groundwater flow direction in the vicinity of the site is to the east or southeast toward the East River. Groundwater was encountered between 43.1 and 44.9 feet bgs during the Phase II and geotechnical investigations conducted at the site. The inferred groundwater flow direction in the vicinity of the site is to the east or southeast toward the East River. Groundwater contours for the site are shown on Figure 4 and discussed further in Section 5.2.4.

2.3.4 Wetlands

Wetlands were evaluated by reviewing the National Wetlands Inventory and NYSDEC-regulated wetlands map. There are no wetlands located on the site. The closest wetland is the Hudson River, located about 1 mile west of the site.

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3.0 SITE BACKGROUND

This section describes historical site uses and the proposed development and provides a summary of the findings from previous environmental investigations. Potential AOCs were developed in the RIWP based on a review of the previous reports and are summarized in Section 3.4.

3.1 Historical Operation and Land Use

A review of historical records indicated that the site has been located in a densely developed urban area characterized by commercial, residential, and industrial uses since at least the 1890s. Between at least 1895 and 1921, the site was occupied by a church and five 4-story mixed-use buildings identified as 32 through 38 Great Jones Street. By the 1940s, the former church was demolished, and by 1950, the western half of the site had been redeveloped with a filling station and L-shaped service building. Between the 1920s and 1970s, relevant site uses included hat manufacturing (1920-1963), clothing manufacturing (1934), sheet metal works (1934-1958), bottle capping machine works (1934-1958), metal polishing (1947-1958), printing (1920-1973), and plating (1947). By 1975, most of the site buildings were demolished and redeveloped with an open-air parking lot. The remaining building at the central part of the site (30 Great Jones Street) reportedly contained the "Concord Electronics Corp" facility, which performed electroplating and electronics manufacturing from at least 1980 until it was demolished between 2006 and 2008. By 2010, the site was developed into its present-day configuration as a parking lot and has remained generally unchanged.

3.2 Proposed Redevelopment Plan

The proposed development includes the construction of a 287,000-gross-square-foot, 19-story mixed-use building with a cellar and subcellar. The building will contain amenity spaces, commercial space and residential units, with approximately 25% designated as affordable housing. The sub-cellar will contain an underground parking garage, utility rooms and storage. The cellar will contain amenity spaces, utility rooms, and a stormwater detention tank. The ground floor will contain lobby areas, retail space, amenity spaces, and an entrance to the parking garage. The remaining floors will contain residential units. The roof level will consist of terraces, amenity spaces, and utility spaces. The new building will have a setback in the eastern part of the site, which will be used as outdoor space for tenants. The proposed development plans are included in Appendix A.

3.3 Summary of Previous Environmental Investigations

Previous environmental reports were reviewed as part of this RIR. These reports are summarized below and are included in Appendix B.

- *June 20, 2018 Phase I Environmental Site Assessment (ESA) for 375 Lafayette Street, prepared by Langan*
- *October 10, 2018 Phase II Environmental Investigation (EI) Report for 375 Lafayette Street, prepared by Langan*

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- *May 9, 2025 Phase I ESA for 375 Lafayette Street, prepared by Langan*

June 20, 2018 Phase I ESA for 375 Lafayette Street, New York, New York, prepared by Langan

Langan prepared a Phase I ESA in June 2018 for Kaufman New Ventures. The Phase I ESA identified historical and current uses of the site for printing (1921), electronics/electroplating operations (1984-2007), a gasoline filling station (1950-1972), and a parking lot as operations constituting recognized environmental conditions (REC). The Phase I ESA stated that, due to the potential use of chemicals associated with these operations, the duration of these activities, and the potential presence of gasoline underground storage tanks (UST), the subsurface may have been adversely impacted from the historical and current site uses. The report also identified potential impacts from current and historical off-site uses (including six filling stations and/or automotive repair facilities between 1921 and 2005), potential presence of impacted soil at the site, and potential presence of undocumented UST at the site as business environmental risks (BER).

October 10, 2018 Phase II EI Report for 375 Lafayette Street, New York, New York, prepared by Langan

Langan conducted a Phase II EI for the 375 Lafayette Street site between August 17 and 23, 2018. The Phase II EI included a geophysical survey of all accessible areas (excluding those beneath the vehicle stacker lifts), advancement of ten soil borings to a maximum depth of 45 feet bgs, installation of three temporary groundwater monitoring wells, and the collection and laboratory analysis of soil and groundwater samples.

Soil and groundwater samples were analyzed for 6 NYCRR Part 375 volatile organic compound (VOC), semivolatile organic compounds (SVOC), and target analyte list (TAL) metals including hexavalent chromium. Soil analytical results were compared to the NYCRR Part 375 Unrestricted Use (UU), Residential Use (RU), Restricted Use Restricted-Residential (RURR), Commercial Use (CU), and Industrial Use (IU) Soil Cleanup Objectives (SCO). Groundwater analytical results were compared to the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS) and Guidance Values for Drinking Water (Class GA) (collectively referred to as "SGVs").

Field observations and laboratory analytical results are summarized below:

- Site Geology and Hydrogeology: The site is underlain by soil predominantly consisting of variable color, fine- to coarse-grained sand with varying amounts of silt and fine gravel, brick and concrete that extends below the surface cover to between 10 to 15 feet below grade surface (bgs) across most of the site. Brown, medium- to coarse-grained sand was observed beneath the shallow soil layer to a maximum investigation depth of 47 feet bgs. According to an October 17, 2018, Geotechnical Investigation Report prepared by Langan, competent gray mica schist rock was identified at depths ranging from 63 to 72 feet bgs at the site. Groundwater was encountered between about 43.1 and 44.9 feet bgs during the Phase II EI and geotechnical investigation. Based on the local topography and proximity to nearby surface water features, the inferred groundwater flow direction in the vicinity of the site is to the east or southeast toward the East River.

- Soil: Photoionization detector (PID) readings above background were observed in four soil borings within the shallow soil layer, with a maximum PID reading of 3.8 parts per million (ppm) at about 7 feet bgs in LSB-1. Odors and staining were not observed in the soil borings. SVOCs, particularly polycyclic aromatic hydrocarbons (PAH), were detected within the shallow soil layer above the UU, RU, RURR, CU, and/or IU SCOs in seven soil borings located throughout the site. Metals, including lead, nickel, zinc, copper, hexavalent chromium, barium, and mercury, were detected within the shallow soil layer above the UU, RURR, and/or CU SCOs in all nine soil borings.
- Groundwater: One VOC, chloroform, was detected above the SGV in two groundwater samples. Metals including iron, manganese, sodium, and selenium were also detected above the SGVs.

May 9, 2025 Phase I ESA for 375 Lafayette Street, New York, New York, prepared by Langan

Langan prepared a Phase I ESA in May 2025 for Edward J. Minskoff Equities, Inc. The Phase I ESA identified the following RECs:

- Historical and current uses of the site including a filling station (1940s-1975), hat manufacturing (1920-1963), clothing manufacturing (1934), sheet metal works (1934-1958), bottle capping machine works (1934-1956), metal polishing (1938-1958), printing (1942-1947), plating (1947), parking (1975 to present day), and electroplating (1980-2006). Several of these historical uses are also associated with regulatory database listings for petroleum bulk storage and hazardous waste generation. Additionally, the October 2018 Phase II EI Report noted the presence of SVOCs and metals in soil and chloroform and metals in groundwater above applicable regulatory criteria. Some areas of the site could not be investigated due to the presence of vehicle stacker lifts. Additionally, potential impacts to site soil vapor or contamination from per- and polyfluoroalkyl substances (PFAS) (historically used in electroplating) were not previously investigated.
- Historical uses of the southern-adjoining properties include automotive repair and service, and a filling station between the 1940s and 1996. Documented contamination and/or inadvertent releases of petroleum products and/or hazardous substances at these adjoining properties likely impacted soil vapor at the site.

In addition to the RECs, the report also identified the release of 10 gallons of No. 2 fuel oil on December 13, 2002 at the site, which was closed on January 13, 2004 following cleanup, as a historical recognized environmental condition (HREC); the presence of impacted soil as a BER; and the presence of surficial oily staining observed on the concrete and asphalt paving throughout the site and in the vicinity of hydraulic equipment as a de minimis condition.

3.4 Summary of Potential Areas of Concern

Based on site observations, development history, and the findings of previous environmental investigations, the potential AOCs identified in the RIWP and investigated during this RI are described below. These AOCs are also shown on Figure 5.

Potential AOC 1: Historical Site Operations and Associated SVOCs and Metals in Soil

The site has historically been used for commercial and industrial purposes. Between the 1920s and 1970s, relevant site uses included hat manufacturing (1920-1963), clothing manufacturing (1934), sheet metal works (1938-1958), bottle capping machine works (1934-1958), metal polishing (1947-1958), printing (1920-1973), plating (1947), and a gasoline filling station and service building (1943-1972). Between 1980 and 2006, the site uses included electroplating/electronics manufacturing and parking. Undocumented spills or releases of solvents, petroleum, chemicals, and/or other hazardous substances associated with these historical operations may have adversely affected soil, groundwater, and/or soil vapor beneath the site. SVOCs and metals present in soil across the site above the UU, RU, RURR, CU, and/or IU SCOs are likely attributed to releases from these historical uses, and current parking operations at the site.

It is unclear from historical aerial photographs and/or Sanborn Maps where each of the industrial uses occurred spatially across the site and therefore further investigation is warranted across the entire site. A Phase II EI was completed by Langan in August 2018; however, the full extent of the site could not be fully investigated due to the presence of vehicle stacker lifts used in parking operations. In addition, soil and groundwater samples were not analyzed for the full Part 375 list of compounds, soil vapor samples were not collected, and potential contamination from PFAS was not previously investigated.

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4.0 REMEDIAL INVESTIGATION

The RI was completed between April 24 and May 22, 2026 pursuant to an NYSDEC-approved RIWP to investigate potential AOCs and to determine, to the extent practical, the nature and extent of contamination in soil, groundwater, and soil vapor. The scope of the RI included the field tasks listed below to supplement the data and findings of previous investigations. A summary of samples collected, with a rationale for each investigation point, is provided in Table 1. Sample locations and AOCs are presented on Figure 5.

The Project Manager or Field Team Leader submitted daily site observation reports to the NYSDEC Project Manager during the RI. Site observation reports are included in Appendix C. A digital photograph log documenting activities accomplished during the RI is included in Appendix D.

The RI consisted of the following:

Geophysical Survey

- Completion of a geophysical survey to clear sample locations and identify anomalies indicative of subsurface utilities and structures in the vicinity of each boring location.

Soil Boring Advancement and Sampling

- Advancement of 18 soil borings to a maximum depth of 50 feet bgs.
- Continuous field screening of recovered soil for environmental impacts using visual and olfactory methods and with a PID equipped with a 10.6 electron volt (eV) lamp.
- Collection of 54 grab soil samples (plus quality assurance/quality control [QA/QC] samples) for laboratory analysis.

Monitoring Well Installation, Sampling, and Gauging

- Installation and development of nine permanent monitoring wells to a depth of 50 feet bgs.
- Collection of one groundwater sample from each of the newly installed permanent monitoring wells, for a total of nine groundwater samples (plus QA/QC samples) for laboratory analysis.
- Surveying and gauging of newly installed monitoring wells to evaluate groundwater elevation.
- Development of a groundwater contour map.

Soil Vapor Point Installation and Soil Vapor/Ambient Air Sampling

- Installation of 12 soil vapor points to a depth of about 5 feet bgs.
- Collection of one soil vapor sample from each point and two outdoor ambient air samples for laboratory analysis.

The RI was conducted in accordance with DER-10, the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH Guidance), and the NYSDEC-approved RIWP.

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4.1 Geophysical Survey and Utility Location

Prior to commencement of ground-intrusive RI field activities (i.e., soil borings, well installation, and soil vapor point installation), NOVA Geophysical Services (NOVA) of Douglaston, New York, completed a geophysical survey on April 24, 2026 under the supervision of Langan field personnel. NOVA used ground-penetrating radar (GPR) and electromagnetic detection equipment to identify potential USTs, buried utilities, and subsurface anomalies across the site and at proposed sample locations. Borings were relocated as necessary to avoid subsurface conflicts. A copy of the geophysical survey report is included as Appendix E.

4.2 Soil Investigation

4.2.1 Soil Boring Investigation Methodology

A total of 18 soil borings (SB01 through SB18) were advanced during the RI by Lakewood Environmental Services, Corp. (Lakewood) of Smithtown, New York. Boring locations were selected to evaluate the potential AOC listed in Section 3.4 and to supplement previous environmental investigations. Soil borings were advanced using a Geoprobe® 7822DT track-mounted drill rig. All soil borings were pre-cleared with a hand auger to a depth of 5 feet bgs prior to advancement with the drill rig to the boring termination depth. Soil borings were advanced to between 16 and 50 feet bgs across the site footprint. A map showing the boring locations is presented as Figure 5.

Soil samples were collected into 4- or 5-foot-long acetate liners using a 2-inch-diameter Macrocore® sampler using direct-push technology. Discrete soil samples were collected from the surface to the final depth of each boring and were screened for visual, olfactory, and instrumental evidence of environmental impacts and visually classified for soil type, grain size, texture, and moisture content. Instrument screening for the presence of VOCs was performed with a PID equipped with a 10.6-eV lamp. Langan personnel documented the work, logged the soil type, screened the soil samples for environmental impacts, and collected environmental samples for laboratory analyses. Soil boring logs are presented in Appendix F.

4.2.2 Soil Sampling Methodology

During implementation of the RI, 54 grab soil samples (plus QA/QC samples) were collected for laboratory analysis to investigate the potential AOC. Three grab soil samples were collected from each of the boring locations. The first sample was collected from the 0- to 2-foot bgs interval. A second sample was collected from bottom of the fill layer and/or the interval exhibiting the greatest degree of impacts (based on the presence of staining, odor, and/or PID readings above background), and a third sample was collected from the first underlying depth interval without evidence of impacts and/or fill (i.e., native soil).

Samples submitted for VOC analysis were collected directly from the acetate liner or from hand-augured soil via laboratory-supplied Terra Core® soil samplers. The remaining sample volume was homogenized and placed in appropriate laboratory-supplied containers. A dedicated pair of nitrile gloves were donned to collect each PFAS sample to limit cross-contamination.

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The sample containers were labeled, placed in laboratory-supplied coolers and packed on ice (to maintain a temperature of approximately 4 degrees Celsius). The sample coolers were picked up and delivered via courier under standard chain-of-custody protocol to Pace Analytical Services, LLC (Pace), a NYSDOH Environmental Laboratory Approval Program (ELAP)-certified analytical laboratory (ELAP ID No. 11148) in Westborough, Massachusetts.

Soil samples were analyzed for Part 375/Target Compound List (TCL) VOCs and SVOCs, polychlorinated biphenyls (PCB), pesticides, herbicides, Target Analyte List (TAL) metals including cyanide, hexavalent, and trivalent chromium, 1,4-dioxane and PFAS. A sample summary is provided as Table 1.

Following sample collection, borings that were not converted to groundwater monitoring wells were backfilled with bentonite and/or clean soil cuttings without evidence of environmental impacts; the surface of each boring was sealed with an asphalt or concrete patch.

4.3 Groundwater Investigation

Langan field personnel documented conversion of nine soil borings (SB01, SB02, SB05, SB07, SB08, SB10, SB11, SB16, and SB18) into permanent groundwater monitoring wells (MW01, MW02, MW05, MW07, MW08, MW10, MW11, MW16, and MW18) by Lakewood. One groundwater sample was collected from each of the monitoring wells to characterize groundwater conditions and to investigate potential groundwater impacts associated with the potential AOC. Additional groundwater samples were collected for QA/QC purposes. Monitoring well locations are presented on Figure 5.

4.3.1 Monitoring Well Installation and Development Methodology

Permanent monitoring wells were constructed with 2-inch-diameter, threaded, flush-joint, polyvinyl chloride (PVC) casing and 0.01-inch slotted pre-packed well screens (10 feet in length). Monitoring wells were constructed so that the well screen straddled the observed groundwater table. Clean sand was used to backfill the annulus around the riser to about 2 feet above the top of the pre-packed well screen. A 2-foot-thick bentonite seal was installed above the sand, and the remaining borehole annulus was backfilled with drill cuttings exhibiting no evidence of petroleum-like impacts to within 12 inches of the surface and/or grouted to the surface. For monitoring wells MW01, MW02, MW07, and MW18, a 2-inch-diameter annulus was achieved around the riser. For monitoring wells MW05, MW08, MW10, MW11, and MW16, an about 0.25-inch annulus was achieved around the riser following a NYSDEC-approved well installation modification due to the site subsurface conditions. All monitoring wells were finished with flush-mounted metal manhole covers encased in concrete. NYSDEC correspondence regarding approval of the well annulus modification is provided as Appendix G.

Following installation, the permanent monitoring wells were surged and developed with a submersible pump until the water became clear (having turbidity less than 50 Nephelometric Turbidity Units [NTU]). Purged groundwater was stored in labeled 55-gallon New York State Department of Transportation (DOT)-approved drums staged on-site pending off-site disposal. Monitoring well construction details are included in Table 2, and construction logs are provided in Appendix H.

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Langan field personnel completed synoptic groundwater gauging on May 18, 2026 using a Solinst oil/water interface probe. The monitoring well top-of-casing elevations were surveyed by Langan on May 22, 2026. Groundwater elevations ranged from el 0.34 in MW05 and MW10 to el 0.89 in MW18. Groundwater elevations are presented in Table 2. A groundwater elevation contour map is presented as Figure 4.

4.3.2 Groundwater Sampling

One groundwater sample was collected from each permanent monitoring well. Samples were collected in accordance with the procedures set forth in the United States Environmental Protection Agency (USEPA) guidance ("Low Stress [low flow] Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells", dated July 30, 1996 and revised September 19, 2017) to allow for collection of a representative sample. Monitoring wells were purged and physical and chemical parameters (e.g., temperature, dissolved oxygen, oxygen reduction potential, and turbidity) were allowed to stabilize to ranges specified in the USEPA guidance, or for a minimum of one hour if stabilization was not reached, before they were sampled. Because samples were collected for PFAS compounds, monitoring wells were not gauged for static water levels or drawdown during purging to limit cross-contamination. Wells were sampled using a Geotech Geosub 2 submersible pump with dedicated high-density polyethylene (HDPE) tubing. Purge water was containerized into labeled 55-gallon DOT-approved drums for off-site disposal. Groundwater sampling logs are included in Appendix I.

Nine groundwater samples (one sample from each well) were collected into laboratory-supplied glassware, packed with ice to maintain a temperature of approximately 4 degrees Celsius, and transported via courier service to Pace under chain-of-custody protocols. Groundwater samples collected from the permanent groundwater monitoring wells were analyzed for Part 375/TCL VOCs, SVOCs, PCBs, pesticides, herbicides, TAL total and dissolved metals, trivalent and hexavalent chromium, total cyanide, 1,4-dioxane and PFAS. A dedicated pair of nitrile gloves were donned to collect each PFAS sample in order to limit cross-contamination.

4.4 Soil Vapor Investigation

DER-10 requires an assessment of soil vapor for contaminated sites to evaluate the potential exposure to VOCs through vapor intrusion into occupied spaces. Twelve soil vapor points (SV01, SV02, SV03, SV05, SV07, SV08, SV10, SV11, SV15, SV16, SV17, and SV18) were installed by Lakewood to identify potential impacts associated with historical site use and evaluate the potential AOC identified in the RIWP. One ambient air sample (AA01 and AA02) was collected per sampling event for QA/QC purposes. Soil vapor sample locations are presented on Figure 5.

4.4.1 Soil Vapor Point Installation

Soil vapor points were installed by Lakewood using a Geoprobe® 7822DT drill rig or a hammer drill and were advanced to 5 feet bgs. A polyethylene vapor implant (approximately 2 inches in length) was threaded to Teflon-lined, 1/4-inch-diameter polyethylene tubing and lowered to the bottom of the hole in accordance with the NYSDOH Guidance. A sand filter pack was installed around the screen implant by

pouring No. 2 sand into the annulus to about 12 inches bgs. The remainder of the annulus was filled to grade surface with a hydrated bentonite seal. Soil vapor construction logs are included in Appendix J.

4.4.2 Soil Vapor Sampling and Analysis

As a QA/QC measure, an inert tracer gas (helium) was introduced into an above-grade sampling chamber to ensure that the soil vapor points were properly sealed above the target sampling depth, thereby preventing subsurface infiltration of ambient air. Direct readings of less than 10 percent helium in the sampling tube were considered sufficient to verify a tight seal at each soil vapor point.

Each soil vapor point was purged using a MultiRAE meter at a rate less than 0.2 liters per minute (L/min) to evacuate a minimum of three sample tubing volumes prior to sample collection. The purged soil vapor was also monitored for VOCs and the values were recorded. After purging was completed, the soil vapor samples were collected into laboratory-supplied, batch-certified, 6-Liter Summa® canisters calibrated for 2 hours of sampling. Soil vapor sampling logs are included in Appendix J.

Summa® canisters were labeled and transported via courier to Pace under standard chain-of-custody protocol. Soil vapor samples were analyzed for VOCs by USEPA Method TO-15.

4.4.3 Ambient Air Sampling and Analysis

Two outdoor ambient air samples (AA01 and AA02) were collected concurrently with the soil vapor samples (i.e., one per sampling event). The ambient air samples were collected from the central part of the site about 5 feet above the ground surface (i.e., breathing height) to evaluate external influences on soil vapor quality.

Outdoor ambient air sampling was conducted in general accordance with the NYSDOH Guidance. Prior to sample collection, the area was screened using a MultiRAE meter to identify potential sources of organic vapors that may interfere with sampling. The ambient air sample was collected into a laboratory-supplied, batch-certified, 6-liter Summa® canister. Outdoor ambient air samples were calibrated for 2 hours of sampling, concurrent with soil vapor sample collection.

The Summa® canisters were labeled and transported via courier to Pace under standard chain-of-custody protocols. The ambient air samples were analyzed for VOCs by USEPA Method TO-15.

4.5 Quality Control Sampling

Field blanks, PFAS equipment blanks, trip blanks, field duplicate samples, and matrix spike/matrix spike duplicate (MS/MSD) samples were collected and submitted for laboratory analysis for QA/QC purposes. QA/QC samples are detailed in Table 1 and are summarized below:

4.5.1 Soil QA/QC Samples

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- Three field duplicate samples
- Three MS/MSD samples
- Three field blanks
- Three trip blanks

4.5.2 Groundwater and Aqueous QA/QC Samples

- One field duplicate sample
- One MS/MSD sample
- One field blank
- Three PFAS equipment blanks
- Three trip blanks

4.5.3 Soil Vapor QA/QC Samples

- Two ambient air samples

Field duplicates were collected to assess the precision of the analytical methods relative to the sample matrix. The duplicates were collected from the same material as the primary sample by splitting the volume of homogenized sample collected in the field into two sample containers.

MS/MSD samples were collected to assess the effect of the sample matrix on the recovery of target compounds or target analytes. MS/MSD samples were collected from the same material as the primary sample by splitting the volume of the homogenized sample collected in the field into three sample containers.

Field blanks were collected to assess field accuracy and determine potential for bias .Field blanks were collected by pouring laboratory-demonstrated analyte-free water into a laboratory-provided sample container for analysis. Field blank samples were analyzed for the complete list of analytes on the day of sampling.

Equipment blanks were collected to determine the effectiveness of the decontamination procedures for the groundwater sampling equipment and the cleanliness of unused neoprene gloves and acetate liners used to collect soil samples. Equipment blank samples consisted of deionized, distilled water provided by the laboratory that has passed through the sampling apparatus. Equipment blanks were analyzed for PFAS.

The trip blank samples were collected to assess the potential for contamination of the sample containers and samples during the trip from the laboratory, to the field, and back to the laboratory for analysis. Trip blanks contain about 40 milliliters of acidic water (doped with hydrochloric acid) that is sealed by the laboratory when the empty sample containers are shipped to the field and unsealed and analyzed by the

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laboratory when the sample shipment is received from the field. The trip blank samples were analyzed for VOCs.

4.6 Data Validation and Reporting

Analytical data were submitted to a Langan validator in accordance with USEPA and NYSDEC validation protocols. Copies of the data usability summary reports (DUSR) are provided in Appendix K.

4.6.1 Data Usability Summary Report Preparation

A DUSR was prepared for each sampling matrix following data validation. The DUSR presents the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain-of-custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.

For each of the organic analytical methods, the following was assessed:

- Holding times
- Instrument tuning
- Instrument calibrations
- Blank results
- System monitoring compounds or surrogate recovery compounds (as applicable)
- Internal standard recovery results
- MS/MSD results
- Target compound identification
- Chromatogram quality
- Compound quantitation and reported detection limits
- System performance
- Results verification

For each of the inorganic compounds, the following was assessed:

- Holding times
- Calibrations
- Blank results
- Interference check sample
- Laboratory check samples
- Duplicates

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- Matrix Spike
- Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES) QC
- ICP serial dilutions
- Results verification and reported detection limits

Based on the results of data validation, the following qualifiers may be assigned to the data in accordance with USEPA's guidelines and best professional judgment:

- "U" – The analyte was analyzed for but was not detected at a level greater than or equal to the reporting limit (RL) or the sample concentration or the sample concentration for results impacted by blank contamination.
- "UJ" – The analyte was not detected at a level greater than or equal to the RL; however, the reported RL is approximate and may be inaccurate or imprecise.
- "J" – The analyte was positively identified, and the associated numerical value is the approximate concentration of the analyte in the sample.

After data validation was complete, validated data were used to prepare the tables and figures included in this report. Analytical results will be provided in the NYSDEC's electronic data deliverable (EDD) format for EQuIS™.

4.7 Field Equipment Decontamination

A submersible pump with dedicated HDPE tubing was used to sample each groundwater monitoring well. The groundwater sampling equipment, including a water quality meter, was cleaned with Alconox and rinsed with deionized water between sampling locations during groundwater sample collection. Decontamination occurred at the sampling locations and all liquids were temporarily contained in a 5-gallon bucket. Decontamination wastewater was containerized in 55-gallon DOT-approved drums for off-site disposal.

4.8 Management of Investigative-Derived Waste

Decontamination and well development/purging fluids (investigation-derived wastes [IDW]) were containerized in three 55-gallon DOT-approved drums with closed tops. The drums were properly labeled, sealed, and staged on-site during the RI. On June 30, 2026, AARCO Environmental Services Corp. (AARCO), a licensed waste hauler, exported the drums from the site to the Dale Transfer Corp. facility located in West Babylon, New York for off-site disposal.

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5.0 FIELD OBSERVATIONS AND ANALYTICAL RESULTS

5.1 Geophysical Investigation Findings

The geophysical survey performed during the RI identified linear anomalies resembling potential subsurface utilities from the southwestern part of the site to the northern part of the site. The survey also identified two electrical lines entering the site from Great Jones Street, an above-ground electric line entering the car lift area in the southeastern part of the site, and a water line running parallel to Lafayette Street in the northwestern part of the site. In addition, anomalies and areas of high noise (indicating the potential presence of debris or disturbance) were identified throughout the site and underneath the car lifts. No anomalies consistent with USTs were identified in the surveyed areas of the site. UST appurtenances, fill ports and/or fill lines were not identified. During the survey, boring locations were relocated as necessary to avoid subsurface conflicts. The survey was generally consistent with the geophysical surveys conducted during previous investigations at the site. A copy of the geophysical report is included in Appendix E.

5.2 Geology and Hydrogeology

This section describes the geological and hydrogeological observations made during the RI. A groundwater contour map is provided as Figure 4 and cross-sectional diagrams showing inferred soil profiles are shown on Figure 6A and 6B. Soil boring logs are provided in Appendix F.

5.2.1 Fill

The site is underlain by a non-native fill layer that extends from below the surface cover to depths ranging from about 8 to 22 feet bgs. The bottom of the fill layer was observed to be most shallow in the northeastern part of the site (SB11 and SB14) and deepest in the northwestern part of the site (SB01 and SB02). The fill predominantly consists of tannish brown to dark brown fine-grained sand with varying amounts of silt, clay, gravel, brick, concrete, and woody vegetation (i.e., wood fragments).

5.2.2 Native Soil Layers

The fill layer is underlain by native soil that predominantly consists of tannish or orangish brown to dark brown fine-grained sand with varying amounts of silt, clay, and gravel, which extended to the termination depth of each boring. Intermittent layers of reddish brown gravel/sand with clay were observed throughout soil borings in the northwestern and southeastern parts the site from depths ranging from about 5 to 20 feet bgs.

5.2.3 Bedrock

Bedrock was not encountered during the RI or during previous environmental investigations. According to an October 17, 2018 Geotechnical Investigation Report prepared for the site by Langan, competent gray mica schist rock was identified at depths ranging from 63 to 72 feet bgs.

5.2.4 Hydrogeology

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Synoptic groundwater level measurements were collected from permanent groundwater monitoring wells installed as part of the RI on May 18, 2026. Groundwater depth ranged from about 42.40 to 44.50 feet below top of casing, with groundwater elevations ranging from about el 0.89 to el 0.34. Groundwater elevations undulate across the site and are likely influenced by localized dewatering within the east-adjacent New York City Metropolitan Transit Authority (NYCMTA) 6 Line located beneath Lafayette Street. Due to the fluctuation of groundwater elevation across the site, groundwater flow direction at the site could not be determined. Groundwater elevations are summarized in Table 2 and Appendix G, and a groundwater contour map is presented as Figure 4.

5.2.5 Surface Water and Drainage

The surface of the site is primarily comprised of an asphalt-paved parking lot. Surface water does not exist at the site.

5.3 Soil Findings

5.3.1 Field Observations

Environmental impacts, as evidenced by odors and staining, were observed in one RI soil boring, SB16, in the southeastern part of the site. Creosote-like odors and black staining were observed from about 11 to 14 feet bgs. PID readings were not detected above background concentrations in any soil boring during the RI.

5.3.2 Analytical Results

A total of 54 soil samples, plus three field duplicates, were collected and analyzed for Part 375/TCL VOCs and SVOCs, PCBs, pesticides, herbicides, Part 375/TAL metals including hexavalent and trivalent chromium, total cyanide, 1,4-dioxane and PFAS.

RI soil sample analytical results are summarized in Table 3 with comparisons to UU, RURR, and Protection of Groundwater (PGW) SCOs, and the NYSDEC April 2023 PFAS guidance values (PFAS guidance values). Soil sample analytical results are shown on Figure 7. Laboratory analytical reports are included in Appendix L.

The following contaminants were detected at concentrations exceeding UU SCOs. Exceedances of the RURR SCOs are **bolded** in the following in-text summary tables. Concentrations are shown in milligrams per kilogram (mg/kg).

VOCs

One VOC, acetone, was detected at a concentration above the UU SCO (0.03 mg/kg) in one sample from soil boring SB10 at a depth ranging from surface grade to 2 feet bgs (0.049 mg/kg).

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SVOCs

Ten SVOCs were detected at concentrations above the UU and/or RURR SCOs in 11 soil borings (SB01, SB05, SB06, SB07, SB10, SB11, SB13, SB14, SB15, SB16, and SB18) at depths ranging from surface grade to 19 feet bgs. The following table summarizes SVOC exceedances:

Analyte	Minimum Detected Concentration above SCO	Maximum Detected Concentration above SCO	SCOs	Frequency of Detection above UU and/or RURR SCO
Benzo(a)anthracene	1.3 mg/kg in SB18_0-2	**20** mg/kg in SB13_10-12	UU: 1 mg/kg RURR: 1.4 mg/kg	11
Benzo(a)pyrene	**1.2** mg/kg in SB10_10-12 and SB18_0-2	**17** mg/kg in SB13_10-12	UU: 1 mg/kg RURR: 1 mg/kg	12
Benzo(b)fluoranthene	**1.5** mg/kg in SB18_0-2	**22** mg/kg in SB13_10-12	UU: 1 mg/kg RURR: 1.4 mg/kg	12
Benzo(g,h,i)Perylene	0.67 mg/kg in SB10_10-12	**7.7** mg/kg in SB15_14-16	UU: 0.64 mg/kg RURR: 4.9 mg/kg	14
Benzo(k)fluoranthene	0.9 mg/kg in SB11_6-8	**5.8** mg/kg in SB15_14-16	UU: 0.8 mg/kg RURR: 4.9 mg/kg	4
Chrysene	1.2 mg/kg in SB18_0-2	**19** mg/kg in SB13_10-12	UU: 1 mg/kg RURR: 4.9 mg/kg	11
Dibenz(a,h)anthracene	**0.36** mg/kg in SB11_6-8	**2.1** mg/kg in SB15_14-16	UU: 0.33 mg/kg RURR: 0.33 mg/kg	5
Dibenzofuran	3.2 mg/kg in SB13_10-12	3.2 mg/kg in SB13_10-12	UU: 2.1 mg/kg RURR: 18 mg/kg	1
Indeno(1,2,3-cd)pyrene	0.52 mg/kg in SB06_5-7	**7.7** mg/kg in SB13_10-12	UU: 0.5 mg/kg RURR: 1.4 mg/kg	15
Phenanthrene	1.5 mg/kg in SB01_17-19	**37** mg/kg in SB13_10-12	UU: 1.1 mg/kg RURR: 4.9 mg/kg	12

PCBs

Total PCBs were detected at concentrations above the UU and/or RURR SCOs in six soil borings (SB06, SB08, SB09, SB13, SB14, and SB18) at depths ranging from surface grade to 12 feet bgs. The following table summarizes the PCB exceedances:

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Analyte	Minimum Detected Concentration above SCO	Maximum Detected Concentration above SCO	SCOs	Frequency of Detection above UU and/or RURR SCO
Total PCBs	0.116 mg/kg in SODUP01_042726	**3.41** mg/kg in SB18_0-2	UU: 0.1 mg/kg RURR: 1 mg/kg	7

1. Soil sample SB09_0-2 is the parent sample of SODUP01_042726.

Pesticides

Five pesticides were detected at concentrations above the UU SCOs in 12 soil borings (SB06 and SB08 through SB18) at depths ranging from surface grade to 16 feet bgs. The following table summarizes the pesticides exceedances:

Analyte	Minimum Detected Concentration above SCO	Maximum Detected Concentration above SCO	SCOs	Frequency of Detection above UU and/or RURR SCO
4,4'-DDD	0.00375 mg/kg in SB15_0-2	0.0212 mg/kg in SB13_10-12	UU: 0.0033 mg/kg RURR: 5 mg/kg	2
4,4'-DDE	0.00366 mg/kg in SB16_0-2	0.141 mg/kg in SB11_6-8	UU: 0.0033 mg/kg RURR: 3.4 mg/kg	18
4,4'-DDT	0.00472 mg/kg in SB13_0-2	0.272 mg/kg in SB12_8-10	UU: 0.0033 mg/kg RURR: 3.8 mg/kg	11
Alpha Chlordane	0.0144 mg/kg in SB11_6-8	0.199 mg/kg in SB18_0-2	UU: 0.014 mg/kg RURR: 0.65 mg/kg	7
Dieldrin	0.00542 mg/kg in SB16_0-2	0.00542 mg/kg in SB16_0-2	UU: 0.005 mg/kg RURR: 0.075 mg/kg	1

Herbicides

Herbicides were not detected at concentrations above the UU and/or RURR SCOs.

Metals

Nine metals were detected at concentrations above the UU and/or RURR SCOs in all 18 soil borings (SB01 through SB18) at depths ranging from surface grade to 23 feet bgs. The following table summarizes the metals exceedances:

Analyte	Minimum Detected Concentration above SCO	Maximum Detected Concentration above SCO	SCOs	Frequency of Detection above UU and/or RURR SCO
Barium	**427** mg/kg in SB11_6-8		UU: 410 mg/kg RURR: 410 mg/kg	1
Chromium, Trivalent	34.8 mg/kg in SB15_14-16	**170** mg/kg in SB16_12-14	UU: 30 mg/kg RURR: 110 mg/kg	7
Copper	51.4 mg/kg in SB14_6-8	191 mg/kg in SB18_11-13	UU: 50 mg/kg RURR: 280 mg/kg	12

Analyte	Minimum Detected Concentration above SCO	Maximum Detected Concentration above SCO	SCOs	Frequency of Detection above UU and/or RURR SCO
Lead	65.3 mg/kg in SB05_0-2	**2,870** mg/kg in SB14_6-8	UU: 63 mg/kg RURR: 400 mg/kg	33
Manganese	1,830 mg/kg in SB09_15-17		UU: 1,600 mg/kg RURR: 2,000 mg/kg	1
Mercury	0.182 mg/kg in SB06_10-12	**4.37** mg/kg in SB11_6-8	UU: 0.18 mg/kg RURR: 0.3 mg/kg	21
Nickel	33.5 mg/kg in SB15_14-16	295 mg/kg in SB04_8-10	UU: 30 mg/kg RURR: 320 mg/kg	17
Silver	3.63 mg/kg in SB14_6-8	35 mg/kg in SB11_6-8	UU: 2 mg/kg RURR: 110 mg/kg	3
Zinc	111 mg/kg in SB03_8-10	555 mg/kg in SB14_6-8	UU: 109 mg/kg RURR: 6,600 mg/kg	18

PFAS

Perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) concentrations in soil were compared to the guidance values established in the April 2023 Guidelines for Sampling, Analysis and Assessment of PFAS. PFOS was detected in two soil samples from two soil borings (SB14 and SB15) above the UU SCO established in the NYSDEC PFAS Guidance at depths ranging from surface grade to 2 feet bgs. PFOS concentrations above the UU SCO ranged from 0.00104 mg/kg in SB15_0-2 to 0.00127 mg/kg in SB14_0-2. PFOA was detected in two soil samples from two soil borings (SB10 and SB11) above the UU SCO established in the NYSDEC PFAS Guidance at depths ranging from 6 to 14 feet bgs. PFOA concentrations above the UU SCO ranged from 0.00156 mg/kg in SB11_6-8 to 0.00218 mg/kg in SB10_12-14. No PFOS or PFOA compounds were detected in soils at concentrations exceeding the RURR SCOs.

Protection of Groundwater Evaluation

Compounds detected in soil, which were also present in groundwater at concentrations above the SGVs, were compared to the PGW SCOs and guidance values for PFAS. Table 3 includes soil analytical result comparisons to the PGW SCOs and guidance values for PFAS. The following table summarizes the applicable compounds:

Analyte	Minimum Detected Concentration above SCO	Maximum Detected Concentration above SCO	SCOs	Frequency of Detection above PGW SCO
SVOCs				
Benzo(a)anthracene	1.3 mg/kg in SB18_0-2	20 mg/kg in SB13_10-12	PGW: 1 mg/kg	11
Benzo(b)fluoranthene	2.4 mg/kg in SB07_0-2	22 mg/kg in SB13_10-12	PGW: 2.1 mg/kg	7
Chrysene	1.2 mg/kg in SB18_0-2	19 mg/kg in SB13_10-12	PGW: 1 mg/kg	11
PFAS				
PFOS	0.00104 mg/kg in SB15_0-2	0.00127 mg/kg in SB14_0-2	PGW: 0.001 mg/kg	2
PFOA	0.00156 mg/kg in SB11_6-8	0.00218 mg/kg in SB10_12-14	PGW: 0.0008 mg/kg	2

5.4 Groundwater Findings

5.4.1 Field Observations

Monitoring wells were gauged with an oil-water interface probe to evaluate the presence of non-aqueous phase liquid (NAPL) or other possible oil-related product; neither NAPL nor other oily substances were detected in the monitoring wells. Odors and/or sheen were not apparent at any monitoring wells during purging or sampling. Monitoring well PID headspace readings above background concentrations were not observed.

5.4.2 Analytical Results

Nine groundwater samples, plus one field duplicate, were collected and analyzed for Part 375/TCL VOCs, SVOCs, pesticides, herbicides, PCBs, Part 375/TAL total and dissolved TAL metals, 1,4-dioxane, and PFAS. Groundwater sample analytical results are summarized in Table 4 with comparisons to the SGVs. Groundwater sample locations and results exceeding the SGVs are presented on Figure 8, and the laboratory analytical reports are included in Appendix L.

The following contaminants were detected at concentrations exceeding SGVs. Concentrations are shown in micrograms per liter (µg/L).

VOCs

One VOC, chloroform, was detected above the SGVs in six groundwater samples from monitoring wells MW07, MW08, MW10, MW11, MW16, and MW18, as summarized in the following table:

Analyte	Minimum Detected Concentration above SGVs	Maximum Detected Concentration above SGVs	SGV	Frequency of Detection above SGV
Chloroform	7.7 µg/L in MW16_051526	18 µg/L in MW18_051826	7 µg/L	6

SVOCs

Three SVOCs were detected above the SGVs in nine groundwater samples from monitoring wells MW01, MW02, MW05, MW07, MW08, MW10, MW11, MW16, and MW18, as summarized in the following table:

Analyte	Minimum Detected Concentration above SGVs	Maximum Detected Concentration above SGVs	SGVs	Frequency of Detection above SGV
Benzo(a)anthracene	0.03 µg/L in MW01_051426, MW02_051426, and MW11_051826	0.08 µg/L in MW08_051526	0.002 µg/L	9
Benzo(b)fluoranthene	0.04 µg/L in MW08_051526		0.002 µg/L	1
Chrysene	0.05 µg/L in MW08_051526		0.002 µg/L	1

PCBs, Pesticides, and Herbicides

Total PCBs, pesticides, and herbicides were not detected at concentrations above the SGVs.

Total Metals

All groundwater samples contained concentrations of at least one total metal that exceeded the SGVs as summarized in the following table:

Analyte	Minimum Detected Concentration above SGVs	Maximum Detected Concentration above SGVs	SGVs	Frequency of Detection above SGV
Iron	462 µg/L in MW16_051526	2,040 µg/L in MW08_051526	300 µg/L	5
Manganese	359 µg/L in MW16_051526	621.7 µg/L in MW11_051826	300 µg/L	3
Sodium	71,600 µg/L in MW11_051826	368,000 µg/L in MW05_051826	20,000 µg/L	10

Dissolved Metals

All groundwater samples contained concentrations of at least one dissolved metal that exceeded the SGVs as summarized in the following table:

Analyte	Minimum Detected Concentration above SGVs	Maximum Detected Concentration above SGVs	SGVs	Frequency of Detection above SGV
Manganese	339.6 µg/L in MW08_051526	480.8 µg/L in MW11_051826	300 µg/L	2
Sodium	74200 µg/L in MW11_051826	392000 µg/L in MW05_051826	20,000 µg/L	10

PFAS

All groundwater samples contained PFOS and/or PFOA at concentrations that exceeded the SGVs as summarized in the following table:

Analyte	Minimum Detected Concentration above SGVs	Maximum Detected Concentration above SGVs	SGVs	Frequency of Detection above SGV
PFOS	0.00497 µg/L in MW08_051526	0.0205 µg/L in MW07_051526	0.0027 µg/L	7
PFOA	0.031 µg/L in MW16_051526	0.0673 µg/L in MW10_051526	0.0067 µg/L	10

5.5 Soil Vapor Findings

Twelve soil vapor samples and two outdoor ambient air samples were collected and submitted for laboratory analysis for USEPA TO-15 VOCs. Soil vapor sample results are summarized in Table 5. Soil vapor sample results are shown on Figure 9, and the laboratory analytical reports are included in Appendix L.

5.5.1 Analytical Results

Total VOCs in soil vapor samples ranged from 23.363 micrograms per cubic meter (µg/m³) in SV05 to 237,667.3 µg/m³ in SV07. No standard exists for soil vapor samples in New York State. Total VOCs in the

outdoor ambient air samples ranged from 46.839 µg/m³ in AA02 to 49.971 µg/m³ in AA01. VOCs detected in soil vapor samples include the following:

- 1,1,1-Trichloroethane (1,1,1-TCA)
- 1,1,2,2-Tetrachloroethane
- 1,1,2-Trichloro-1,2,2-Trifluoroethane
- 1,1-Dichloroethane
- 1,2,4-Trimethylbenzene
- 1,3,5-Trimethylbenzene
- 1,3-Butadiene
- 2,2,4-Trimethylpentane
- 2-Hexanone
- 4-Ethyltoluene
- Acetone
- Benzene
- Bromodichloromethane
- Carbon Tetrachloride
- Carbon Disulfide
- Chloroethane
- Chloroform
- Chloromethane
- Cis-1,2-Dichloroethene
- Cyclohexane
- Dichlorodifluoromethane
- Ethanol
- Ethylbenzene
- Isopropanol
- M,P-Xylene
- Methyl Ethyl Ketone
- Methyl Isobutyl Ketone
- Methylene Chloride
- Naphthalene
- n-Heptane
- n-Hexane
- o-Xylene
- Styrene
- Tert-Butyl Alcohol
- Tetrachloroethene (PCE)
- Tetrahydrofuran
- Toluene
- Trichloroethene (TCE)
- Trichlorofluoromethane
- Vinyl Chloride

5.6 Quality Control Results

Duplicates, field blanks, PFAS equipment blanks, trip blanks, and MS/MSD samples were collected for quality control purposes and are summarized in Table 1. The duplicates, MS/MSD sample pairs, and field blanks for soil and groundwater were collected at a frequency of 1 per 20 primary samples, and trip blanks and PFAS equipment blanks for groundwater were collected at a frequency of 1 per day of sampling. Quality control sample results were evaluated during data validation. Duplicate sample results are presented in Tables 3 through 5. Laboratory analytical reports are provided in Appendix L.

5.7 Data Usability

Category B laboratory reports for soil, groundwater, soil vapor, and ambient air samples collected during the RI were provided by Pace and submitted to Langan's data validator. DUSRs are provided in Appendix K.

The data were determined to be acceptable. Completeness, defined as the percentage of analytical results that are judged to be valid, is 100 percent. No major deficiencies were identified. All data are considered usable as qualified.

5.8 Evaluation of Potential AOCs

This section discusses the findings of the RI with respect to potential AOC identified in Section 3.4. The nature and extent of the site contamination are discussed separately in Section 7.0.

5.8.1 AOC 1: Historical Site Operations and Associated SVOCs and Metals in Soil

Historical manufacturing site uses, including hat manufacturing (1920-1963), clothing manufacturing (1934), sheet metal works (1938-1958), bottle capping machine works (1934-1958), metal polishing (1947-1972), and electroplating/electronics manufacturing (1980-2006), may have adversely affected soil, groundwater, and/or soil vapor beneath the site. The Phase II EI identified concentrations of SVOCs and metals in site soil above the UU, RURR, CU, and/or IU SCOs. The Phase II EI was not comprehensive of all media and analyses. Sampling conducted during the RI included soil and groundwater analysis for the full Part 375 list of compounds and PFAS, and soil vapor sampling. A summary of the findings for AOC 1 is provided below:

AOC 1 - Soil

Field screening and analytical results from soil samples are summarized as follows:

- Non-native fill was observed from below the surface cover to depths ranging from about 8 to 22 feet bgs throughout the site.
- One VOC, acetone, was detected above the UU SCO in SB10 from surface grade to 2 feet bgs. A creosote-like odor and black wood fragments were observed in SB16 from about 11 to 14 feet bgs; however, PID readings were not observed, and VOCs in the corresponding sample collected from this location were below the UU SCOs.
- Ten SVOCs (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[g,h,i]perylene, benzo[k]fluoranthene, chrysene, dibenz(a,h)anthracene, dibenzofuran, indeno[1,2,3-cd]pyrene, and phenanthrene) were detected at concentrations above the applicable UU, PGW, and/or RURR SCOs in 16 soil samples collected from surface grade to 16 feet bgs.
- Total PCBs were detected above the UU and/or RURR SCOs in seven soil samples collected from surface grade to 12 feet bgs.
- Five pesticides (4,4'-DDD, 4,4'-DDE, 4,4'-DDT, alpha chlordane, and dieldrin) were detected above the UU SCOs in 21 soil samples collected from surface grade to 16 feet bgs.
- Herbicides were not detected above the UU and/or RURR SCOs in soil samples collected.
- Nine metals (barium, trivalent chromium, copper, lead, manganese, mercury, nickel, silver, and zinc) were detected at concentrations above the UU and/or RURR SCOs in 39 soil samples collected from surface grade to 23 feet bgs.
- PFOS was detected above the UU and PGW guidance values in two soil samples collected from surface grade to 2 feet bgs in the eastern part of the site. PFOA was detected above the UU and

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PGW guidance values in two soil samples, one collected from 6 to 8 feet bgs in the northeastern part of the site and the other collected from 12 to 14 feet bgs in the southern part of the site.

AOC 1 – Groundwater

Field screening and analytical results from groundwater samples are summarized as follows:

- One VOC, chloroform, was detected above the SGVs in groundwater samples collected from MW07, MW08, MW10, MW11, MW16, and MW18. PID readings were not observed within monitoring well headspaces during groundwater sampling.
- One SVOC, benzo(a)anthracene, was detected above the SGV in groundwater samples collected from each monitoring well. Two SVOCs (benzo[b]fluoranthene and chrysene) were also detected above the SGVs in a groundwater sample collected from MW08.
- One metal, sodium, was detected at total and dissolved concentrations above the SGV in groundwater samples collected from each monitoring well. Manganese was detected at total and/or dissolved concentrations above the SGV in three groundwater samples collected from the northern and southeastern parts of the site. Total iron was detected above the SGV in groundwater samples collected from MW05, MW07, MW08, MW10, and MW16.
- PFOA and/or PFOS were detected at concentrations above the SGVs in all groundwater samples.

AOC 1 – Soil Vapor

Analytical results from soil vapor samples are summarized as follows:

- A total of 40 VOCs were detected in soil vapor samples throughout the site.
    - A total of 16 chlorinated volatile organic compounds (CVOC) were detected in soil vapor samples collected throughout the site.
    - A total of 17 petroleum-related VOCs, including benzene, toluene, ethylbenzene, and xylenes (BTEX), were detected in soil vapor samples collected throughout the site.
- One CVOC, TCE, was detected in soil vapor samples collected from SV07 (8.44 µg/m³) and SV08 (43.4 µg/m³) which exceeded the minimum concentration of 6 µg/m³ established by the NYSDOH October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York Decision Matrices for Sub-Slab Vapor and Indoor Air (NYSDOH Decision Matrices). One additional CVOC, 1,1,1-TCA, was also detected in the soil vapor sample collected from SV08 (112 µg/m³) at a concentration which exceeded the minimum concentration of 100 µg/m³ established by the NYSDOH Decision Matrices.
- Petroleum-related VOCs including 2,2,4-trimethylpentane (10,800 µg/m³), benzene (450 µg/m³), cyclohexane (31,300 µg/m³), n-heptane (18,700 µg/m³), and n-hexane (157,000 µg/m³) were detected in one soil vapor sample collected from SV07 at concentrations in which

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recommendations range from "no further action" to "mitigate" when compared to the NYSDOH Decision Matrices.

AOC 1 – Conclusions

Non-native fill, which is ubiquitous across the site footprint, extends from surface grade to depths ranging from about 8 to 22 feet bgs. SVOCs, PCBs, pesticides, and metals were detected at concentrations above the UU, PGW and/or RURR SCOs in soil samples collected within the non-native fill layer across the site. Acetone was also detected in one non-native fill sample above the UU SCO, but its presence is believed to be related to laboratory contamination rather than a release. Concentrations of SVOCs, PCBs, pesticides, and metals are attributed to releases from historical operations and/or the quality of backfill used during historical development of the site.

Three SVOCs (benzo[a]anthracene, benzo[b]fluoranthene, and chrysene), were detected at concentrations exceeding the SGVs in groundwater samples. Benzo(b)fluoranthene and chrysene were detected above the SGVs in one groundwater sample collected from MW08; soil samples from this location did not exceed the UU SCOs for these compounds. Benzo(a)anthracene was detected above the SGV in all groundwater samples, but was not detected above the UU SCO in native soil samples. Non-native fill at this site is not in contact with groundwater (about 42 to 45 feet bgs) and does not appear to have leached into native soil, since benzo(a)anthracene was either non-detect or detected below the UU SCO in native soil samples collected below the non-native fill layer. Benzo(a)anthracene, benzo(b)fluoranthene, and chrysene identified in groundwater are likely related to an off-site source.

Metals including lead, manganese, mercury, nickel, and zinc were detected above the UU and/or RURR SCOs in native soil samples collected in the southern and central-western parts of the site at depths ranging from 8 to 17 feet bgs. The presence of manganese, nickel, and zinc above the UU SCOs in native soil are considered consistent with naturally occurring background conditions in New York City. The presence of lead and mercury above the UU and/or RURR SCOs in native soil may be attributed to historical metal working operations at the site.

Chloroform, which is often a byproduct of water chlorination, was identified in six groundwater samples above the SGV and may be related to a leak in an off-site drinking water conveyance system. Metals (iron, manganese, and sodium) detected in groundwater above the SGVs are naturally occurring metals and are typical of groundwater encountered in New York City.

PFOA and PFOS were identified in four soil samples above the UU guidance values but were below the RURR guidance values. PFOA and PFOS were also identified in groundwater samples site-wide above the SGV; however, an on-site source was not identified.

Petroleum-related VOCs and CVOCs identified in soil vapor were not identified above the applicable regulatory criteria in soil and groundwater samples collected throughout the site and therefore are likely attributed to an off-site source.

6.0 GREEN REMEDIATION STANDARDS

Green remediation principles and techniques were implemented to the extent feasible in the design and implementation of the RI as per DER-31. DER-31 requires the following green remediation/sustainability concepts be considered and/or implemented, to the extent feasible, during investigations:

- Increase energy efficiency/minimize total energy use and direct and indirect carbon dioxide/greenhouse gas (GHG) emissions to the atmosphere;
- Reduce emissions of air pollutants;
- Minimize habitat disturbance and create or enhance habitat or usable land;
- Conserve natural resources such as soil and water; promote the sequestration of carbon through reforestation or afforestation;
- Minimize freshwater consumption and maximize water reuse during daily operations and treatment processes;
- Prevent long-term erosion, surface runoff, and off-site water quality impacts, and prevent unintended soil compaction;
- Minimize waste or implement beneficial use of materials that would otherwise be considered a waste;
- Minimize equipment and truck idling and use sustainably produced biofuels to reduce discharges of pollutants and GHGs to the atmosphere;
- Utilize clean diesel (new or retrofitted) equipment to reduce emissions to the atmosphere;
- Minimize truck travel for disposal to save energy, reduce emissions, reduce localized noise, vibration, and wear and tear on roads; and
- Minimize use of heavy equipment to save energy and reduce emissions.

During the RI, the following elements were implemented, to the extent feasible, to reduce GHG and other emissions:

- Use of Ultra Low Sulfur Diesel in vehicles and machinery by drilling contractor;
- Use of diesel exhaust purifier scrubbers on machinery (drill rigs) by drilling contractor;
- Minimization of vehicle idling of all vehicles (including construction equipment) in accordance with 6 NYCRR Part 217 Motor Vehicle Emissions, Subpart 217-3 Idling Prohibition for Heavy Duty Vehicles; and
- Reduction of materials consumption and off-site transport by reuse of non-impacted soil cuttings within the boring of origin and containerizing of soil cuttings exhibiting visual, olfactory, and instrumental signs of contamination.

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7.0 QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT

Human health exposure risk was evaluated for both current and future site and off-site conditions, in accordance with DER-10. The assessment includes an evaluation of potential sources and migration pathways of site contamination, potential receptors, exposure media, and receptor intake routes and exposure pathways.

In addition to the human health exposure assessment, NYSDEC DER-10 requires an on-site and off-site Fish and Wildlife Resources Impact Analysis (FWRIA) if certain criteria are met. According to the requirements stipulated in Section 3.10 and Appendix 3C of DER-10, an FWRIA is not required for the site.

7.1 Current Conditions

The about 19,800-square-foot (±0.45-acre) site is located at 375 Lafayette Street in New York, New York and is identified on the Manhattan Borough Tax Map as Block 531, Lots 17, 52, and 56. The site is currently improved with an outdoor asphalt- and concrete-paved parking lot operated by Edison ParkFast. A parking attendant booth is located in the south-central part of the site on Lot 17 and a storage shed is located in the northeastern corner of the site on Lot 52. The north-central and eastern parts of the site (Lot 17 and 52) also contain 37 four-level hydraulic vehicle stacker lifts.

7.2 Proposed Conditions

The proposed development includes the construction of a 287,000-gross-square-foot, 19-story mixed-use building with a cellar and subcellar. The building will contain amenity spaces, commercial space and residential units, with about 25% designated as affordable housing. The sub-cellar will contain an underground parking garage, utility rooms and storage. The cellar will contain amenity spaces, utility rooms, and a stormwater detention tank. The ground floor will contain lobby areas, retail space, amenity spaces, and an entrance to the parking garage. The remaining floors will contain residential units. The roof level will consist of terraces, amenity spaces, and utility spaces. The new building will have a setback in the eastern part of the site, which will be used as outdoor space for tenants.

7.3 Summary of Environmental Conditions

The AOC includes the site-wide presence of SVOCs, PCBs, pesticides, and metals in soil associated with historical site use that may be attributed to releases from historical operations or the quality of backfill used at the site. Contaminants of Concern (COC) associated with the AOC include SVOCs, PCBs, pesticides, and metals in soil.

One VOC, SVOCs, metals, PCBs, and pesticides were detected at concentrations above the UU, PGW, and/or RURR SCOs in samples collected from non-native fill and native soil. Acetone was detected at concentrations above the UU SCOs in one sample collected from non-native fill and is likely an artifact of laboratory handling and analytical testing. Metals, including lead, manganese, mercury, nickel, and zinc were detected in samples collected from native soil. The presence of manganese, nickel and zinc are likely

due to naturally occurring background conditions in New York City, and the presence of lead and mercury may be attributed to either non-native fill at the site or historical metal working operations at the site.

One VOC (chloroform), SVOCs, and metals were detected in groundwater at concentrations above the SGVs. Chloroform, which is often a byproduct of water chlorination, was identified in groundwater above the SGV and may be related to a leak in an off-site drinking water conveyance system. The SVOCs in groundwater were detected above the PGW SCOs in soil; however, non-native fill at this site is not in contact with groundwater, and SVOCs do not appear to have leached into native soil since these compounds were either non-detect or detected below the UU SCO in native soil samples collected below the non-native fill layer. The presence of SVOCs in groundwater is likely attributed to an off-site source. The concentrations of metals found in groundwater are generally representative of typical groundwater conditions in New York City.

PFOA and PFOS were identified above the UU guidance values in soil samples, but below the RURR guidance values, and in groundwater samples site-wide above the SGVs; however, an on-site source was not identified.

Petroleum-related VOCs and CVOCs were detected in soil vapor at the site. The following compounds were detected at concentrations that may warrant monitoring and/or mitigation per the NYSDOH Decision Matrices:

- 1,1,1-TCA
- 2,2,4-trimethylpentane
- Benzene
- Cyclohexane
- n-Heptane
- n-Hexane
- TCE

These compounds were not identified in soil or groundwater above the applicable regulatory criteria; therefore, the presence of petroleum-related VOCs and CVOCs in soil vapor is likely attributed to an off-site source.

7.4 Conceptual Site Model

A conceptual site model (CSM) has been developed based on the findings of the RI. The purpose of the conceptual site model is to develop a simplified framework for understanding the distribution of impacted materials, potential migration pathways, and potentially complete exposure pathways, as discussed below.

7.4.1 Potential Sources of Contamination

Potential sources of contamination have been identified as historical site uses and backfilling activities, and unknown off-site sources.

Historical development and backfilling activities and historical use of the site may be a source of SVOCs, PCBs, pesticides, and metals that were detected above the UU, PGW and/or RURR SCOs across the site.

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PFOA and PFOS were detected in soil samples above the UU guidance value, and in groundwater samples above the SGVs across the site; however, an on-site source was not identified.

SVOCs and metals were identified above the SGVs in groundwater. SVOCs in groundwater may be due to an off-site source. The presence of metals in groundwater are indicative of typical water quality in New York City.

One VOC (acetone) was identified above the UU SCO in soil and was attributed to laboratory contamination. One VOC (chloroform) was identified above the SGV in groundwater samples collected throughout the site and may be the result of a leak in an off-site drinking water conveyance system. VOCs detected in soil vapor samples are likely attributed to an off-site source.

7.4.2 Exposure Media

The impacted media at the site includes soil, groundwater, and soil vapor. SVOCs, PCBs, pesticides, and metals were detected above the Part 375 UU, PGW and/or RURR SCOs in soil samples throughout the site. PFOA and PFOS were detected in soil above the UU guidance values and in groundwater above the SGVs; however, an on-site source was not identified.

Groundwater at the site contains one VOC (chloroform), SVOCs, and metals at concentrations above the SGVs. The chloroform detection may be related to a leak in an off-site drinking water conveyance system. Metal detections in groundwater may be attributable to regional conditions. Groundwater is not a potable source of water and the concentrations of SVOCs in groundwater suggest residual impacts from an off-site source.

VOCs were detected in soil vapor at concentrations that could warrant mitigation in the absence of remediation and are likely related to an off-site source, as the VOCs detected in soil vapor were not identified above regulatory criteria in soil and groundwater at the site.

7.4.3 Receptor Populations

The site is currently improved with an outdoor asphalt- and concrete-paved parking lot operated by Edison ParkFast. A parking attendant booth is located in the south-central part of the site, and a storage shed is located in the northeastern corner of the site. Human receptors under the current conditions include site workers/visitors and personnel performing routine maintenance and environmental sampling. During site development, human receptors will be limited to construction and remediation workers and authorized guests visiting the site. Under future conditions, receptors will include the residential use occupants, employees, and the nearby community, including children.

7.5 Potential Exposure Pathways – On-Site

7.5.1 Current Conditions

Human exposure to contaminated soil is prevented by an impermeable asphalt and concrete cover that overlies the site. Site access is partially restricted by a metal fence; therefore, human exposure to contaminated soil is limited. There is a potential pathway through dermal absorption, inhalation and

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ingestion for investigation workers that handle soil beneath the surface cover materials, but this is controlled by implementation of a site-specific Health and Safety Plan (HASP).

Groundwater in this area of New York City is not used as a potable water source. There is a potential exposure pathway during groundwater sampling associated with site investigation. The potential pathway for site investigation workers is through dermal absorption and ingestion but is controlled by implementation of a site-specific HASP.

Soil vapor contains VOCs at concentrations that may warrant vapor mitigation per the NYSDOH Decision Matrices. Any potential exposure to soil vapor is limited as the majority of the site is an open-air paved lot, and the one-story parking attendant booth contains a concrete building slab.

7.5.2 Construction/Remediation Conditions

Construction and remediation may result in potential exposures to site contaminants in the absence of a HASP. Construction and remediation activities will likely include excavation and off-site disposal of contaminated fill and soil, potential dewatering, potential construction of a composite cover system, potential installation of a vapor mitigation system, and construction of foundation components. In the absence of a HASP, this scenario presents the potential for exposure of construction and remediation workers to soil and groundwater, and potential soil vapor contaminants via dermal absorption, ingestion, and inhalation of vapors and particulate matter. These exposure pathways to soil, groundwater, and soil vapor will be minimized through the implementation of the HASP, which will include on-site air monitoring and requirements for vapor and dust suppression techniques.

7.5.3 Proposed Future Conditions

The proposed development includes a 19-story, mixed-use building with a cellar and sub-cellar. The site is anticipated to undergo a Track 2 cleanup. The Track cleanup will include the removal of impacted soil to achieve UU SCOs and the operation of a vapor mitigation system until a soil vapor intrusion evaluation can be completed. The site has the potential to be upgraded to a Track 1 cleanup in the future.

There is no complete exposure pathway for ingesting residual groundwater impacts, because the site and surrounding areas obtain their drinking water supply from surface water reservoirs and not from groundwater. The potential pathway for soil vapor intrusion into the future on-site building would be mitigated by installation of a sub-membrane depressurization system.

If necessary, institutional controls will require maintenance of engineering controls and will serve to further mitigate exposure under future conditions.

7.6 Potential Exposure Pathways – Off-Site

The potential off-site migration of site soil, groundwater, and/or soil vapor contaminants is not expected to result in a complete exposure pathway for current, construction/remediation, or future conditions for the following reasons:

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- The site is located in an urban area and predominantly covered with continuous impervious surface covering.
- During site remediation and construction, the following protective measures and/or conditions will be in place:
    - A site-specific HASP, including a Community Air Monitoring Plan (CAMP), will be implemented to protect on-site personnel and to monitor the perimeter of the site to mitigate off-site migration of particulates and VOCs during construction.
    - Air monitoring will be conducted for particulates (i.e., dust) and VOCs during ground-intrusive activities as part of a CAMP. Dust and/or vapor suppression techniques will be employed to limit the potential for off-site migration of dust and vapors.
    - Vehicle tires and undercarriages will be washed as necessary prior to leaving the site to prevent tracking soil off-site.
    - If dewatering of surface water is required to accommodate excavation, dewatering fluids may be pre-treated and discharged to a maintained stormwater sewer under a NYSDEC State Pollution Discharge Elimination System (SPDES) permit or containerized in a temporary storage tank pending disposal at a permitted off-site facility.
    - A Stormwater Pollution Prevention Plan (SWPPP) will be implemented during construction to control off-site migration of soil.
- There is no pathway for ingesting residual groundwater impacts, as the site and surrounding areas obtain their drinking water supply from surface water reservoirs located upstate and not from groundwater.

7.7 Evaluation of Human Health Exposure

Based on the CSM and review of environmental data, complete on-site exposure pathways appear to be present, in the absence of monitoring and mitigation or engineering controls in construction/remediation and future use conditions.

Complete exposure pathways have the following five elements: 1) a contaminant source; 2) a contaminant release and transport mechanism; 3) a point of exposure; 4) a route of exposure; and 5) a receptor population. A discussion of the five elements comprising a complete pathway as they pertain to the site is provided below.

7.7.1 Current Conditions

Contaminant sources include varying concentrations of SVOCs, PCBs, pesticides, metals, and PFAS in soil and/or groundwater and VOCs in groundwater and soil vapor.

Contaminant release and transport mechanisms include contaminated soil transported as dust (dermal, ingestion, inhalation), and exposure to potential soil vapor contaminants (inhalation). Under current

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conditions, the likelihood of human exposure is limited, as 1) site access is restricted to employees, ownership and visitors; 2) impermeable asphalt-paved surfaces or concrete building slabs cover the site; and 3) the groundwater beneath the site is not a source of drinking water.

7.7.2 Construction/Remediation Activities

During development and remediation, the contaminant sources are the same as under current conditions. Points of exposure include disturbed and exposed soil during excavation, dust and organic vapors generated during excavation, and contaminated groundwater that may be encountered during excavation and dewatering. Routes of exposure include ingestion and dermal absorption of contaminated soil and groundwater and inhalation of dust and vapor emanating from contaminated soil. The receptor population includes construction and remediation workers and, to a lesser extent, workers and visitors adjacent to the site.

The potential for complete exposure pathways is present since all five elements exist; however, the risk can be avoided or minimized by applying appropriate health and safety measures during construction and remediation, such as monitoring the air for organic vapors and dust, using vapor and dust suppression measures, cleaning truck undercarriages and securing tarp covers before trucks leave the site to prevent off-site soil tracking, maintaining site security, and wearing the appropriate personal protective equipment (PPE).

A HASP, a RAWP, and a CAMP that include measures such as conducting a community air-monitoring program, donning PPE, covering soil stockpiles, altering work sequencing, restricting eating and drinking on-site, maintaining a secure construction entrance, proper housekeeping, and applying vapor and dust suppression measures to prevent off-site migration of vapors and particulates during construction will be implemented. Such measures will prevent completion of exposure pathways for soil, groundwater, and soil vapor contaminants.

7.7.3 Proposed Future Conditions

For the proposed future conditions, a Track 2 cleanup is anticipated. We anticipate that soil remaining on site after remediation will meet UU SCOs; however, residual contaminants may remain and would include those listed under current conditions. If institutional and/or engineering controls are not implemented, points of exposure may include potential cracks in the foundation or slab of the proposed development. The receptor population includes potential building tenants and/or employees, visitors, and maintenance workers. The possible routes of exposure can be avoided or mitigated by the installation of engineering controls, such as a vapor mitigation system, and the implementation of institutional controls, such as restrictions on groundwater and land use and execution of a Site Management Plan (SMP), if necessary.

7.7.4 Human Health Exposure Assessment Conclusions

1. Under current conditions, there is a marginal risk for exposure. The primary exposure pathways are dermal contact, ingestion and inhalation of soil, dust, or groundwater by authorized site visitors in instances where the impermeable site cover is compromised or during site

investigation. The exposure risks can be avoided or minimized by following the appropriate HASP and vapor and dust suppression measures, and by implementing a CAMP during intrusive activities.

2. In the absence of engineering controls, there is a potential for exposure during the construction and remediation activities. The primary exposure pathways are:

    a. Dermal contact, ingestion and inhalation of contaminated soil, groundwater or soil vapor by construction workers.

    b. Dermal contact, ingestion and inhalation of soil (dust) by the community in the vicinity of the site.

    These can be avoided or minimized by performing community air monitoring and by following the appropriate health and safety, dust suppression, and site security measures outlined in a site-specific HASP.

3. The existence of a complete exposure pathway for site contaminants to human receptors during the proposed future use condition is unlikely, as most contaminated soil will be excavated and transported to an off-site disposal facility. Regional groundwater is not used as a potable water source. The potential pathway for soil vapor intrusion into the future on-site building would be addressed by installation of a waterproof vapor barrier as an element of green construction and a sub-membrane depressurization system as an engineering control, which would minimize the risk of soil vapor intrusion.

4. It is possible that a complete exposure pathway exists for the migration of site contaminants to off-site human receptors during current, construction-phase, and future conditions. Monitoring and control measures have been and will continue to be used during remediation/construction to prevent completion of this pathway. Under future conditions, the site will be remediated, and engineering and institutional controls will be implemented, if necessary, to prevent completion of this pathway.

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8.0 NATURE AND EXTENT OF CONTAMINATION

This section evaluates the nature and extent of soil, groundwater, and soil vapor contamination. The nature and extent of the contamination is derived from a combination of field observations and analytical data that were discussed in Section 5.0. The nature and extent of contamination also includes results from sampling data obtained prior to execution of the RIWP.

8.1 Soil Contamination

Soil containing non-native fill extends from below the surface cover to depths ranging from about 8 to 22 feet bgs throughout the site. During the RI, one VOC (acetone), SVOCs, PCBs, pesticides, and metals were detected at concentrations above the UU, PGW and/or RURR SCOs in the fill and/or native soil layers.

One VOC was detected above the UU SCOs in one soil sample collected from surface grade to 2 feet bgs. SVOCs were detected at concentrations above the applicable UU, PGW and/or RURR SCOs in 11 soil borings at depths ranging from surface grade to 19 feet bgs across the site. Total PCBs were detected at concentrations above the applicable UU and/or RURR SCOs in six soil borings at depths ranging from surface grade to 12 feet bgs. Pesticides were detected at concentrations above the UU SCOs in 12 soil borings at depths ranging from surface grade to 16 feet bgs. Metals were detected at concentrations above the applicable UU and/or RURR SCOs in all soil borings at depths ranging from surface grade to 23 feet bgs. PFOA and PFOS were detected at concentrations above the UU guidance value in four soil samples collected from surface grade to 14 feet bgs in the northeastern and southern parts of the site. The deepest concentrations of soil contaminants above the UU SCOs were identified at about 23 feet bgs, and the deepest exceedances of the RURR SCOs were identified at about 17 feet bgs.

8.2 Groundwater Contamination

One VOC (chloroform), SVOCs, total and dissolved metals, and PFOS/PFOA were detected above SGVs in groundwater throughout the site. Based on the depths between the fill layer and the groundwater table, concentrations of contaminants in soil do not appear to be affecting groundwater quality.

8.3 Soil Vapor Contamination

VOCs were detected in soil vapor at concentrations that could potentially warrant mitigation in the absence of remediation per the NYSDOH Decision Matrices. VOCs were at their highest concentrations in the south-central part of the site (SV07). With the exception of acetone, VOCs were not detected above UU SCOs in soil samples collected throughout the site.

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9.0 CONCLUSIONS

The RI was implemented between April 24 and May 22, 2026. The findings summarized herein are based on both qualitative and quantitative data, consisting of field observations, instrumental readings, and laboratory analytical results of soil, groundwater, and soil vapor samples collected during the RI.

Significant RI findings are summarized as follows:

1. Stratigraphy: The site cover is underlain by non-native fill, predominantly consisting of tannish brown to dark brown fine-grained sand with varying amounts of silt, clay, gravel, brick, concrete, and woody vegetation (i.e., wood fragments), and extending to between 8 and 22 feet bgs. Native soil that underlies the fill predominantly consists of tannish or orangish brown to dark brown fine-grained sand with varying amounts of silt, clay, and gravel. Bedrock was not encountered during the RI and is anticipated to be at least 63 feet bgs.

2. Hydrogeology: Groundwater depth ranged from about 42.40 to 44.50 feet below top of casing, with groundwater elevations ranging from about el 0.89 to el 0.34. Groundwater elevation undulates across the site and is likely influenced by localized dewatering. The general topography of the area surrounding the site suggests that groundwater flow is to the east or southeast toward the East River.

3. Soil/Fill: During the RI, one VOC (acetone), SVOCs, PCBs, pesticides, and metals were detected at concentrations above the UU, PGW and/or RURR SCOs, and PFOA and PFOS were detected at concentrations above the UU guidance value in the fill and/or native soil layers. The presence of acetone is likely related to lab contamination as it was only detected above the UU SCO in one soil sample. The presence of SVOCs, PCBs, pesticides, and metals in non-native fill is likely attributable to releases from historical operations and/or the quality of backfill used during historical development of the site. The presence of metals in native soil is likely related to typical soil conditions inclusive of naturally occurring metals in New York City and/or historical metal operations at the site. The presence of PFOA and PFOS is attributed to an unknown off-site source, as no on-site sources or historical uses were identified.

4. Groundwater: One VOC, chloroform, was detected in six monitoring wells above the SGVs. SVOCs, total and dissolved metals, PFOS, and PFOA were detected above their SGVs throughout the site. The source of chloroform in groundwater may be associated with a leak in an off-site drinking water conveyance system. The dissolved metals detections in groundwater are likely associated with typical groundwater conditions in New York City. An on-site source of PFOA and PFOS was not identified. SVOCs were detected at concentrations exceeding the SGVs in groundwater samples collected from monitoring wells throughout the site; however, based on depths between the fill layer and the groundwater table, soil detections do not appear to be affecting groundwater quality and are likely related to an off-site source.

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5. Soil Vapor: Petroleum-related VOCs and CVOCs, including 1,1,1-TCE, 2,2,4-trimethylpentane, benzene, cyclohexane, n-heptane, n-hexane, and TCE were detected in soil vapor at concentrations that may warrant mitigation. The source of VOCs in soil vapor may be attributed to an off-site source, since these contaminants were not identified above the applicable regulatory criteria in soil or groundwater at the site.

Sufficient analytical data were gathered during the RI to establish site-specific soil cleanup levels and to develop a remedy for the site. The remedy will be described and evaluated in the forthcoming RAWP which will be prepared in accordance with New York State BCP guidelines. The remedy will address impacts to soil, groundwater, and soil vapor described in this RIR.

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10.0 REFERENCES

1. United States Geological Survey "Bedrock and Engineering Geologic Maps of New York County and Parts of Kings and Queens Counties, New York, and Parts of Bergen and Hudson Counties, New Jersey", dated 1994.
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5. Langan Engineering, Environmental, Surveying, and Landscape Architecture, D.P.C., Remedial Investigation Work Plan, dated January 22, 2026.
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