NYC Office of Environmental Remediation

"E" Designation Program
Hazardous Materials
Voluntary Cleanup Program

Phase II Work Plan
(Short Form)

For

94-01 Sutphin Boulevard – Site B

94-01 Sutphin Boulevard, Jamaica, NY

Block 9999, Portion of Lot 1

OER Project Number 22TMP0754Q

E-Designation E-175

CEQR Number 05DCP081Q

Downtown Jamaica Redevelopment Plan

Prepared for:

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Introduction

This Phase II Investigation Work Plan has been developed for the above referenced site. The site is located within the Jamaica neighborhood of Queens. The following work scope has been developed in response to the Phase I ESA findings, as per OER meeting on December 16, 2021, and in response to the proposed development project.

Site Location, Current Use, and Proposed Development Plan

The Site is located in the Jamaica neighborhood of Queens and is identified as a portion of Block 9999 and Lot 1, as shown on **Figure 1**. Lot 1 will be subdivided into two equal lots to construct two buildings with cellars. This Phase II Investigation Work Plan is prepared based on OER sampling requirements for the total square footage area for one of the two proposed subdivided lots. This lot will be referenced as Site B and will become Lot 1 when the lot is subdivided. Currently, Site B (30,057 square feet [SF]) is vacant and unimproved. Previously, the Site was occupied by a 1 ½-story building that was most recently utilized for meat packaging and was demolished in 2007. It is unknown if the former building had a cellar. The development project consists of a new 22-story mixed-use commercial and residential building with a full cellar that encompasses the entirety of the Site B lot. The proposed building will have a total gross square footage of 423,013-SF. The development project will require excavation to 17 feet below grade surface (ft-bgs) across the Site, with localized deeper excavation to 22 ft-bgs to accommodate the installation of the elevator pits. The water table is expected at approximately 20 ft-bgs. Layout of the proposed site development is presented in **Figure 2**.

The site is located at an elevation of approximately 39 feet above mean sea level (msl) and is relatively flat. The surrounding area slopes gently downward to the south. Prior to

Phase I ESA Summary

A Phase I ESA conducted by Middleton Environmental Inc. (Middleton) in February 2021 identified the following recognized environmental conditions (RECs) in connection with the property:

- Potential subsurface contamination associated with potential abandoned fuel oil tanks at the Site.

Middleton also noted the Site has a Hazmat, Air, and Noise E-Designation (E-175) as part of the Downtown Jamaica Redevelopment Plan (CEQR No. 05DCP081Q). The Phase I ESA is included in Attachment 1.

Limited Due Diligence Environmental Site Investigation Summary

A Limited Due Diligence Environmental Site Investigation (ESI) was completed on the entire Lot 1 in November 2021 by Tenen Environmental, LLC (Tenen) to evaluate the quality of soil, groundwater, and soil vapor across the Site. The scope of work performed during the Limited Due Diligence ESI included the installation of 13 test pits, the collection of twelve soil samples, the installation of three temporary groundwater monitoring wells, the collection of three groundwater samples, the installation of six temporary soil vapor sample points, and the collection of six soil vapor samples. In addition, a geophysical survey was performed to locate the potential oil tanks in the area along 94th Avenue as identified in Middleton's Phase I ESA. All soil samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), target analyte list (TAL) metals, pesticides, and polychlorinated biphenyls (PCBs); all groundwater samples were analyzed for VOCs and SVOCs; and, all soil vapor samples were analyzed for VOCs. A summary of the results is included below:

- The geophysical survey could not successfully confirm the presence of underground gasoline storage tanks;
- Chlorinated VOCs (cVOCs) and petroleum-related VOCs were present in soil vapor samples;
- The CVOC tetrachloroethene (PCE) was present in all soil vapor samples, at a maximum concentration of 125 micrograms per cubic meter (ug/m3);

- VOCs were not detected in soil above Unrestricted Use Soil Cleanup Objectives (SCOs), with the exception of acetone, a common laboratory artifact;
- Historic-fill related polyaromatic hydrocarbons (PAHs) and metals were detected in soil above the Unrestricted Use and Restricted-Residential Use SCOs. Of note, mercury was detected at a concentration of 0.823 milligrams per kilogram (mg/kg);
- Pesticides and PCBs were not detected above the Restricted-Residential Use SCOs. Four pesticides and two PCBs were detected above the Unrestricted Use SCOs; and,
- Historic-fill related SVOCs were detected above the Class GA Standards.

The Limited Due Diligence ESI is included in Attachment 1.

Phase II Investigation Work Scope

Geophysical Survey

A geophysical survey was performed across the Site as part of Tenen's Limited Due Diligence ESI, and therefore will not be performed as part of this investigation.

Soil, Groundwater and Soil Vapor Summary

An investigation of soil, soil vapor, and groundwater is being performed to properly characterize the site for potential environmental impacts from historic on-site/off-site uses, operations, etc. The proposed sampling event will address both RECs and historic fill, as well as to provide general horizontal/vertical characterization across the site for development purposes. The sampling procedures of this investigation will be performed in accordance with the NYSDEC Technical Guidance for Site Investigation and Remediation DER-10 as well as NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS), June 2021.

Ten test borings will be completed at the site. Three test borings will be installed at Limited Due Diligence ESI test pit locations TP2, TP6, and TP7, and seven test borings will be installed in previously uninvestigated locations. Please see attached site plan (**Figure 3**) depicting sample point locations, where soil, groundwater, and soil vapor samples will be collected. At a minimum, a total of 24 discrete soil samples will be collected from the ten test borings. A minimum of six groundwater samples will be collected. A total of six soil vapor samples as well as one ambient air sample will be collected. The depth of groundwater is expected to be encountered at approximately 20 feet bgs and general groundwater flow direction is expected to be to the southwest. Each sample point location at the site will be accurately measured to fixed benchmarks (i.e., select properly lines, adjacent structures, etc.) or by a precision GPS that is capable of coordinating a fixed point with within +/- 1 foot.

Soil Sampling

A geologist/engineer/QEP will screen the soil samples during borehole advancement for organic vapors with a photo-ionization detector (PID) and evaluated for visual and olfactory impacts prior to collecting environmental samples. All field work will be recorded in a field log. A track-mounted Geoprobe® unit will be used and if necessary, more advanced drilling technology will be used to complete the site investigation. At a minimum, one soil sample will be collected from each of three test borings installed at Limited Due Diligence ESI test pit locations and three soil samples will be collected from each of seven test boring installed within previously uninvestigated areas of the Site (for a total of 24 soil samples) for laboratory analysis. At each test boring installed at a Limited Due Diligence ESI test pit location, a subsurface soil sample from the two foot interval below development depth will be collected. At each test boring installed within previously uninvestigated areas of the Site, the following samples will be collected: a surface soil sample (from the 0-2 feet bgs interval) and two subsurface soil samples (from the two foot interval below development depth and from the mid distance interval or the interval that exhibits signs of soil discoloring or contamination). Discrete (grab) samples will be

taken from the aforementioned sampling intervals. The subsurface soil samples may also serve as in-situ post-excavation soil samples for the remedial plan. A fourth soil sample may be collected from each or several test boring(s) if 1) elevated PID readings and/or visual and olfactory observations are noted during borehole advancement and/or 2) field observations identify an upper fill layer underlain by native material the additional soil sample from the upper zone of the native layer will help delineate the vertical migration of impacts (if any), as well as determine a more detailed remedy and potentially provide a cost savings for disposal options.

Monitoring Well Installation and Groundwater Sampling

Five one inch-diameter temporary, pre-pack groundwater monitoring wells will be installed. Representative groundwater samples will be collected five newly-installed groundwater monitoring wells and one previously installed groundwater monitoring well (TW-3) using low-flow sampling techniques. Properly sized screen and silica sand pack will be used for noted site conditions. A representative groundwater sample will be collected from each well with a peristaltic pump and dedicated tubing. Sampling will be conducted in accordance with NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation, dated May 2010, and Sampling Guidelines and Protocols, dated March 1991. Groundwater wells will be gauged with a water level meter to record a depth to groundwater reading (1/100 foot), and if necessary, an interface meter to determine the thickness of LNAPL or DNAPL. The well casings will be surveyed by a trained QEP and/or NYS licensed surveyor to facilitate preparation of a groundwater contour map and determine the direction of groundwater flow.

Soil Vapor Sampling

Soil vapor samples will be collected in accordance with the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH October 2006). Conditions in the field may require adjustment of sampling locations. Groundwater is expected to be encountered at a depth of 20 feet.

Six soil vapor samples and one ambient air sample will be collected. Soil vapor implants will be set at a depth of approximately 17 feet or 1-2 feet above the groundwater interface, whichever is encountered first. The vapor implants will be installed with a track-mounted Geoprobe® unit. Sampling will occur for the duration of two hours. The ambient air sample collection will be conducted 3-5 feet above the ground to represent the breathing zone. Ambient air will be sampled concurrently with soil vapor sampling, and sampling will occur for the duration of eight hours.

Samples will be collected in appropriate sized Summa canisters that have been certified clean by the laboratory and samples will be analyzed by using USEPA Method TO-15. Flow rate for both purging and sampling will not exceed 0.2 L/min. 24-hours following soil vapor probe installation, one to three implant volumes shall be purged prior to the collection of any soil-gas samples. A sample log sheet will be maintained summarizing sample identification, date and time of sample collection, sampling depth, identity of samplers, sampling methods and devices, soil vapor purge volumes, volume of the soil vapor extracted, vacuum of canisters before and after the samples are collected, apparent moisture content of the sampling zone, and chain of custody protocols.

As part of the vapor intrusion evaluation, a tracer gas will be used in accordance with NYSDOH protocols to serve as a quality assurance/quality control (QA/QC) device to verify the integrity of the soil vapor probe seal. A container (box, plastic pail, etc.) will serve to keep the tracer gas in contact with the probe during testing. A portable monitoring device will be used to analyze a sample of soil vapor for the tracer gas prior to sampling. If the tracer sample results show a significant presence of the tracer, the probe seals will be adjusted to prevent infiltration. At the conclusion of the sampling round, tracer monitoring will be performed a second time to confirm the integrity of the probe seals.

Sample Analysis

Soil, groundwater, and soil vapor samples will be submitted to a NYSDOH Environmental Laboratory Accreditation Program (ELAP)-certified laboratory for Full analysis:

- Volatile Organic Compounds by EPA Method 8260;
- Semi-volatile organic compounds by EPA Method 8270;
- Pesticides/PCBs by EPA Method 8081/8082; and
- Target Analyte List metals by EPA Method 6010 and 7471;
- 1,4-Dioxane by EPA Method 8270 SIM;
- PFAS by EPA Method 537;
- Soil vapor and ambient air samples will be analyzed for VOCs by using USEPA Method TO-15.

All groundwater samples will be analyzed for both filtered (dissolved) and unfiltered (total) metals.

In addition, all soil and groundwater samples will also be analyzed for PFAS (NYSDEC Analyte List) by LC-MS/MS via EPA 537.1 and 1,4-dioxane via EPA Method 8270 SIM. Sampling will be performed in accordance with *NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS),* dated June 2021.

The analytical methods above should include all compounds included in NYSDEC Part 375-6.8 and CP-51 for soil, NYSDEC Part 703 Groundwater Quality Standards (class GA) or Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS) for groundwater, and NYSDOH October 2006 Final Guidance for Evaluating Soil Vapor Intrusion Matrices for soil vapor.

If either LNAPL and/or DNAPL are detected, appropriate samples will be collected for characterization and "finger print analysis" and required regulatory reporting (i.e. NYSDEC spills hotline) will be performed.

Quality Assurance/Quality Control Procedures

QA/QC procedures will be used to provide performance information with regard to accuracy, precision, sensitivity, representation, completeness, and comparability associated with the sampling and analysis for this investigation. Field QA/QC procedures will be used (1) to document that samples are representative of actual conditions at the Site and (2) identify possible cross-contamination from field activities or sample transit. Laboratory QA/QC procedures and analyses will be used to demonstrate whether analytical results have been biased either by interfering compounds in the sample matrix, or by laboratory techniques that may have introduced systematic or random errors to the analytical process. QA/QC samples (field and trip blanks, duplicates, etc.) will be collected and analyzed at an ELAP-certified laboratory.

<u>Investigation Derived Waste</u>

Cuttings may be disposed at the site within the borehole that generated them to within 24 inches of the surface unless:

- Free product or grossly contaminated soil, are present in the cuttings;
- The borehole has penetrated an aquitard, aquiclude or other confining layer; or extends significantly into bedrock;
- Backfilling the borehole with cuttings will create a significant path for vertical movement of contaminants. Soil additives (bentonite) may be added to the cuttings to reduce permeability;
- The soil cannot fit into the borehole.

Those soil cuttings needing to be managed on-site will be containerized in properly labeled DOT approved 55-gallon drums for future off-site disposal at a permitted facility. All boreholes which require drill cuttings disposal would ultimately be filled with bentonite chips (hydrated) and asphalt/concrete capping. Disposable sampling

equipment including, spoons, gloves, bags, paper towels, etc. that came in contact with environmental media will be double bagged and disposed as municipal trash in a facility trash dumpster as non-hazardous trash.

Reporting

A Phase II Investigation Report (template version) will be prepared following completion of the field activities and receipt of the laboratory data. The report will provide detailed summaries of the investigative findings. Soil analytical results will be compared to the NYSDEC Part 375-6.8(a) Unrestricted Used Soil Cleanup Objectives, appropriate Part 375-6.8(b) Restricted Soil Cleanup Objectives and supplemental cleanup objectives in NYSDEC CP-51 Soil Cleanup Guidance. Groundwater analytical results will be compared to NYSDEC Part 703 Groundwater Quality Standards (GQS) (class GA) or Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS). Soil vapor analytical results will be compared to NYSDOH October 2006 Final Guidance for Evaluating Soil Vapor Intrusion Matrices, updated May 2017.

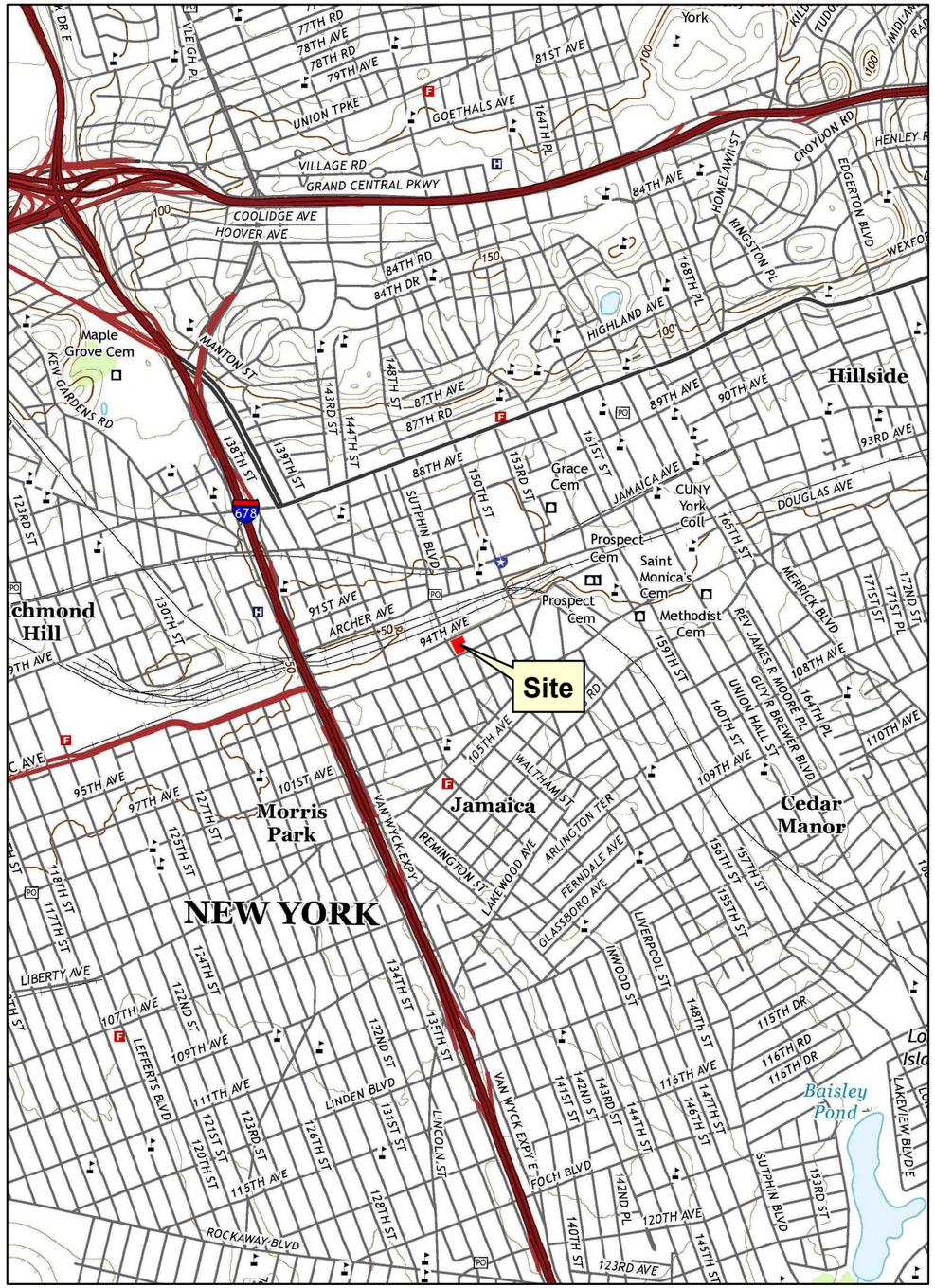
The report will include an updated sampling plan, spider diagrams, analytical data tables for all reported constituent compounds (including non-detectable concentrations) and remedial recommendations, as warranted.

The report will also include all sampling logs and photos taken during the investigation.

Investigation HASP

An OSHA compliant Health and Safety Plan that meets all OSHA HAZWOPER requirements will be implemented during the site work to protect worker safety. The Site Safety Coordinator will ensure full compliance of the HASP in accordance with applicable health and safety laws and regulations. All field personnel involved in investigation activities will participate in training required under OSHA HAZWOPER 29 CFR 1910.120, including 40-hour hazardous waste operator training and annual 8-hour refresher training. Emergency telephone numbers will be posted at the site location before any work begins. A safety meeting will be conducted before each shift begins. Topics to be discussed include task hazards and protective measures (physical, chemical, environmental); emergency procedures; PPE levels and other relevant safety topics including a highlighted route map to the nearest hospital/emergency room. Meetings will be documented in a log book or specific form. Potential on-site chemicals of concern include VOCs, SVOCs, Pesticides/PCBs, and Metals (specifically arsenic, lead, and mercury at a minimum). Information fact sheets and/or summary tables for each contaminant group are included in the HASP. A copy of this HASP will be on-site during each sampling event.

Figures



Basemap: USGS Topographic Map, 7.5 Minute Quadrangles, Jamaica, NY

Site Location

0 1,000 2,000 4,000 Feet

http://gis.nyc.gov/taxmap/map.htm

Department of Finance Digital Tax Map

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
NYC Department of City Planning, Information Technology Division

Department of City Planning MapPLUTO - 2021 v2

0 200 400 800 Feet

Site

94-01 Sutphin Blvd. (Site B)
Queens, New York
Portion of Block 9999, Lot 1

TENEN ENVIRONMENTAL
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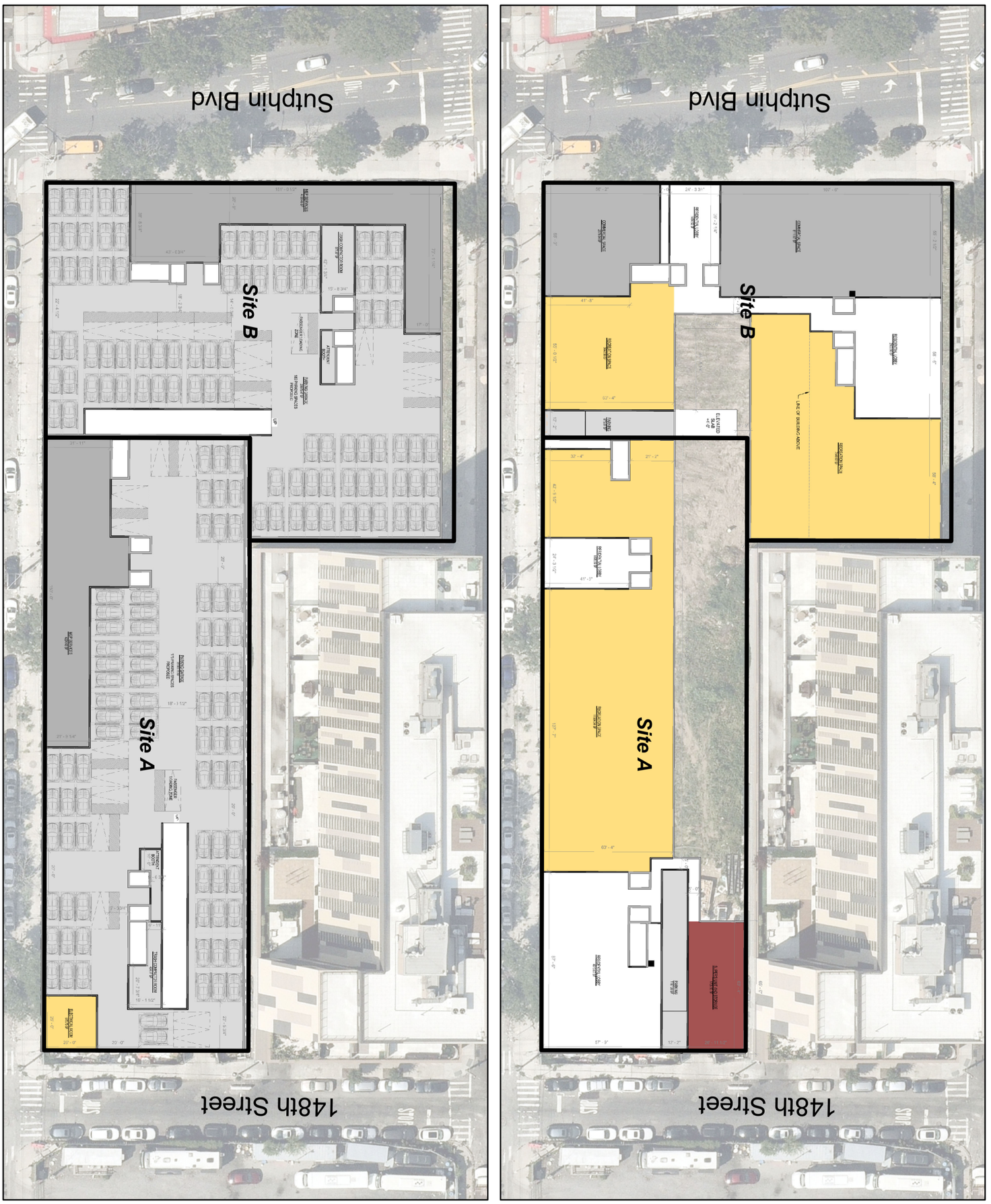
Drawn By	Checked By	Date	Scale
LM	AP	December 2021	As Noted

Drawing Title: **Site Location Map**

Drawing No: **Figure 1**



Basemap: Nearmap Aerial 8/12/2021
NYC Department of City Planning, Information Technology Division
94-01 Sutphin Boulevard, J Frank C Mallea Associates, Cellar & First Floor Plan, A1 (Rec'd 11/23/21)

Legend

Site Boundaries

0 25 50 100 Feet

Drawing Title: **Proposed Site Development**	Drawn By: LM	TENEN ENVIRONMENTAL Tenen Environmental, LLC 121 West 27th Street Suite 702 New York, NY 10001 O: (646) 606-2332 F: (646) 606-2379	Site: **94-01 Sutphin Blvd. (Site B) Queens, New York Portion of Block 9999, Lot 1**
	Checked By: MA		
Drawing No: **Figure 2**	Date: November 2021		
	Scale: As Noted		

Legend

- Proposed Soil Sample Locations
- Proposed Groundwater Sample Location
- Proposed Groundwater and Soil Sample Locations
- Proposed Soil Vapor Sample Locations
- Previous Groundwater Sample Location
- Previous Soil Vapor Sample Locations
- TP Previous Soil Sample Locations
- Site A - 30,081 SF
- Site B - 30,057 SF
- Site Boundary

0 30 60 120 Feet

Basemap: Nearmap Aerial 8/12/2021
NYC Department of City Planning, Information Technology Division
94-01 Sutphin Boulevard, J Frank C Mallea Associates, Cellar & First Floor Plan, A1 (Rec'd 11/23/21)

Site
94-01 Sutphin Blvd. (Site B)
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Drawn By	Checked By	Date	Scale
LM	AP	December 2021	As Noted

Drawing Title: **Sampling Locations**

Drawing No: **Figure 3**