DECISION DOCUMENT

2921 Westchester Avenue
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203140
January 2025

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

DECLARATION STATEMENT - DECISION DOCUMENT

2921 Westchester Avenue
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203140
January 2025

Statement of Purpose and Basis

This document presents the remedy for the 2921 Westchester Avenue brownfield cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the 2921 Westchester Avenue site and the public's input to the proposed remedy presented by NYSDEC.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. Remedial Design

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

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

constructed, at a minimum, to meet the 2020 Energy Conversation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

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

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

2. Excavation

Excavation and off-site disposal of contaminant source areas, including soils which exceed the protection of groundwater soil cleanup objectives (PGWSCOs), as defined by 6 NYCRR Part 375-6.8 to depths of 2 to 3 feet below basement grade or to bedrock for those contaminants found in site groundwater above standards. Approximately 65 cubic yards of soil will be disposed of off-Site.

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

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

3. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d)(1) will be brought in to replace the excavated soil and establish the designed grades at the site. Approximately 65 cubic yards of clean fill will be imported for this purpose.

4. Cover System

A site cover currently exists and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain the existing site cover. The site cover may include paved surface parking areas, sidewalks or soil where the upper one foot of exposed surface soil meets the applicable soil cleanup objectives (SCOs) for commercial use. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6NYCRR part 375-6.7(d).

5. In-Situ Chemical Oxidation

In situ chemical oxidation (ISCO) will be implemented to treat chlorinated volatile organic compounds in groundwater. A chemical oxidant will be injected into the subsurface to destroy the contaminants. The method and depth of oxidant delivery will be determined during the remedial design.

Monitoring will be required up-gradient, down-gradient, within the treatment zone for contaminants of concern, dissolved oxygen and oxidation/reduction potential.

6. Vapor Mitigation

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

7. Institutional Control

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

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

8. Site Management Plan

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

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in

place and effective:

- Institutional Controls: The Environmental Easement discussed in Remedy Element 7 above.
- Engineering Controls: The site cover system discussed in Remedy Element 4, the In-Situ Oxidation discussed in Remedy Element 5, and the vapor mitigation discussed in Remedy Element 6.

This plan includes, but may not be limited to:

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

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

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
   - procedures for operating and maintaining the remedy;
   - compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting,
   - maintaining site access controls and NYSDEC notification; and
   - providing NYSDEC access to the site and O&M records.

Declaration

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

January 15, 2025

Date

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

DECISION DOCUMENT

2921 Westchester Avenue
Bronx, Bronx County
Site No. C203140
January 2025

SECTION 1: SUMMARY AND PURPOSE

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

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

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

SECTION 2: CITIZEN PARTICIPATION

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

DECInfo Locator – Web Application
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C203140

New York Public Library – Pelham Bay Branch
3060 Middletown Road
Bronx, NY 10461
Phone: 718-792-6744

Bronx Community Board 10
3165 East Tremont Avenue
Bronx, NY 10461
Phone: 718-892-1161

Receive Site Citizen Participation Information By Email

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

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The site is located at 2921 Westchester Avenue in the Pelham Bay neighborhood of the Bronx, NY. It is situated on the west side of Westchester Avenue, between Pilgrim Avenue and Buhre Avenue and is identified by the New York City Department of Finance as Tax Block 4164, portion of Lot 5.

Site Features: Lot 5 is currently occupied with a two-story commercial building with a partial basement, and the site occupies a portion of that building including the basement. The site is defined as an approximate 1,415 square foot vacant tenant space. The building also contains multiple commercial tenant spaces which surround the site including a barber shop (now closed), a cell phone store and a flooring store. The basement spaces share a common slab but are separated by walls.

Current Zoning and Land Use: The site is currently zoned R7-1, denoting a medium-density apartment district, with a C2-2 commercial overlay. The surrounding parcels are used for a combination of commercial and residential uses.

Past Use of the Site: The site was historically occupied by a dry cleaner from approximately 1988 to 2000 and, most recently, a tutoring and after-school center. The subject property was initially developed prior to 1950 with the current subject structure.

Site Geology and Hydrogeology: The site is located at an average elevation of approximately 45 feet above mean sea level. The subject property is located in a relatively flat area that gently slopes toward the west. The overburden is composed predominantly of native dense, fine silty sands extending to bedrock, which is approximately 19 feet below sidewalk grade (ft-bsg) or 3 to 4 feet below basement grade (ft-bbg). Bedrock consists of schist, and perched water is present above the bedrock at approximately 9 to 10 ft-bsg and 0.16 ft-bbg. Groundwater was determined to flow to the north-east towards Eastchester Bay.

A site location map is attached as Figure 1 and a site plan is attached as Figure 2.

SECTION 4: LAND USE AND PHYSICAL SETTING

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

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

SECTION 5: ENFORCEMENT STATUS

The Applicant under the Brownfield Cleanup Agreement is a Participant. The Applicant has an obligation to address on-site and off-site contamination. Accordingly, no enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

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

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

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

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor

- sub-slab soil vapor
- indoor air

6.1.1: Standards, Criteria, and Guidance (SCGs)

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

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. NYSDEC has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

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

tetrachloroethene (PCE)
trichloroethene (TCE)
cis-1,2-dichloroethene (cis-1,2-DCE)
perfluorooctanoic acid (PFOA)
perfluorooctane sulfonic acid (PFOS)

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

- groundwater
- soil
- soil vapor intrusion

6.2: Interim Remedial Measures

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

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

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Nature and Extent of Contamination: Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl substances (PFAS), and pesticides. Soil vapor samples were analyzed for VOCs. Based upon investigations conducted to date, the primary contaminants of concern are chlorinated solvents, specifically tetrachloroethene (PCE) and its breakdown products.

Soil: Chlorinated volatile organic compounds (cVOCs) were detected at concentrations exceeding the applicable Protection of Groundwater Soil Cleanup Objectives (PGSCOs) at depths ranging from 0 to 3 feet below basement grade (ft-bbg). These include: PCE at a maximum concentration of 34 parts per million (ppm) compared to the PGSCO of 1.3 ppm; trichloroethene (TCE) at a maximum concentration of 26 ppm (PGSCO is 0.47 ppm), cis-1,2-dichloroethene (cis-1,2-DCE) at a maximum concentration of 15 ppm (PGSCO is 0.25 ppm, and vinyl chloride (VC) at a maximum concentration of 0.25 ppm (PGSCO is 0.02 ppm).

No SVOCs, metals, PCBs, PFAS, or pesticides were detected at concentrations exceeding the applicable Commercial SCOs or guidance values.

Data does not indicate any off-site impacts in soil related to the site.

Groundwater: CVOCs were detected at concentrations exceeding the Ambient Water Quality Standards and Guidance Values (AWQSGVs) on-site including: PCE at a maximum concentration of 470 parts per billion (ppb); TCE at a maximum concentration of 79 ppb; and cis-1,2-DCE at a maximum concentration of 210 ppb (all three analytes have an AWQSGV of 5 ppb); and VC at a maximum concentration of 2.9 ppb (AWQSGV 2 ppb). In off-site wells located immediately downgradient of the site PCE was detected at a maximum concentration of 42,000 ppb, TCE was detected at 4,000 ppb, cis-1,2-DCE was detected at 15,000 ppb, and VC at 1,900 ppb.

For dissolved metals in on-site groundwater, antimony was found at a maximum concentration of 17.65 ppb (AWQSGV is 3 ppb), magnesium at 57,300 ppb (ASWQSGV is 35,000 ppb), and sodium at 201,000 ppb (AWQSGV is 20,000 ppb). These metals are not considered to be site-specific contaminants of concern. Groundwater in the Bronx is not used as a source of drinking water.

Perfluorooctanoic acid (PFOA) was found in on-site groundwater at a maximum concentration of 447 parts per trillion, or ppt (AWQSGV is 6.7 ppt) and perfluorooctane sulfonic acid (PFOS) at 47 ppt (AWQSGV is 2.7 ppt). In off-site groundwater immediately downgradient of the site, PFOA was found at 94 ppt, and PFOS at 111 ppt.

No SVOCs, PCBs or pesticides were detected in on-site wells at concentrations exceeding AWQSGVs. Data indicates that there are off-site impacts in groundwater related to the site.

Soil Vapor, Sub-Slab Soil Vapor, and Indoor Air: No sub-slab soil vapor samples were collected from the on-site building due to the presence of the elevated water table immediately below the slab; however, indoor air samples collected from the on-site building basement detected PCE at a maximum concentration of 42.7 micrograms per cubic meter (ug/m3) and TCE at 4.61 ug/m3. In sub-slab soil vapor samples collected from the off-site adjacent tenant space within the site building, PCE was detected at 277 ug/m3 (co-located indoor air concentration was 11 ug/m3). In the off-site adjacent building, the sub-slab vapor sample identified cis-1,2-DCE at 6.78 ug/m3 (co-located indoor air concentration was 1.26 ug/m3).

Off-site soil vapor samples collected from beneath the sidewalk on the opposite side of Pilgrim Avenue identified PCE at a maximum concentration of 17.2 ug/m3.

Data indicates that there are off-site impacts in soil vapor related to the site. No actions were needed to address potential exposures associated with soil vapor intrusion off-site.

6.4: Summary of Human Exposure Pathways

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

Direct contact with contaminants in the soil is unlikely because the site is covered by buildings and concrete. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in soil vapor (air spaces within the soil) may move into buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The potential exists for people to inhale site contaminants in indoor air due to soil vapor intrusion. Environmental sampling also indicates that soil vapor intrusion is not a concern off-site.

6.5: Summary of the Remediation Objectives

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

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

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

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

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

Soil Vapor

RAOs for Public Health Protection

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

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

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

The selected remedy is a Track 4: Restricted commercial use with site-specific soil cleanup objectives remedy.

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

The elements of the selected remedy, as shown in Figures 3 through 8, are as follows:

1. Remedial Design

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

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

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

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

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sample results and, and in consultation with NYSDEC, determine if further remedial excavation is necessary. Further excavation for development will proceed after confirmation samples demonstrate that SCOs for the site have been achieved.

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Monitoring will be required up-gradient, down-gradient, within the treatment zone for contaminants of concern, dissolved oxygen and oxidation/reduction potential.

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7. Institutional Control

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- Require the remedial party or site owner to complete and submit to NYSDEC a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- Allow the use and development of the controlled property for commercial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

- Restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOHMH; and
- Require compliance with the NYSDEC approved Site Management Plan.

8. Site Management Plan

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

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

- Institutional Controls: The Environmental Easement discussed in Remedy Element 7 above.
- Engineering Controls: The site cover system discussed in Remedy Element 4, the In-Situ Oxidation discussed in Remedy Element 5, and the vapor mitigation discussed in Remedy Element 6.

This plan includes, but may not be limited to:

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

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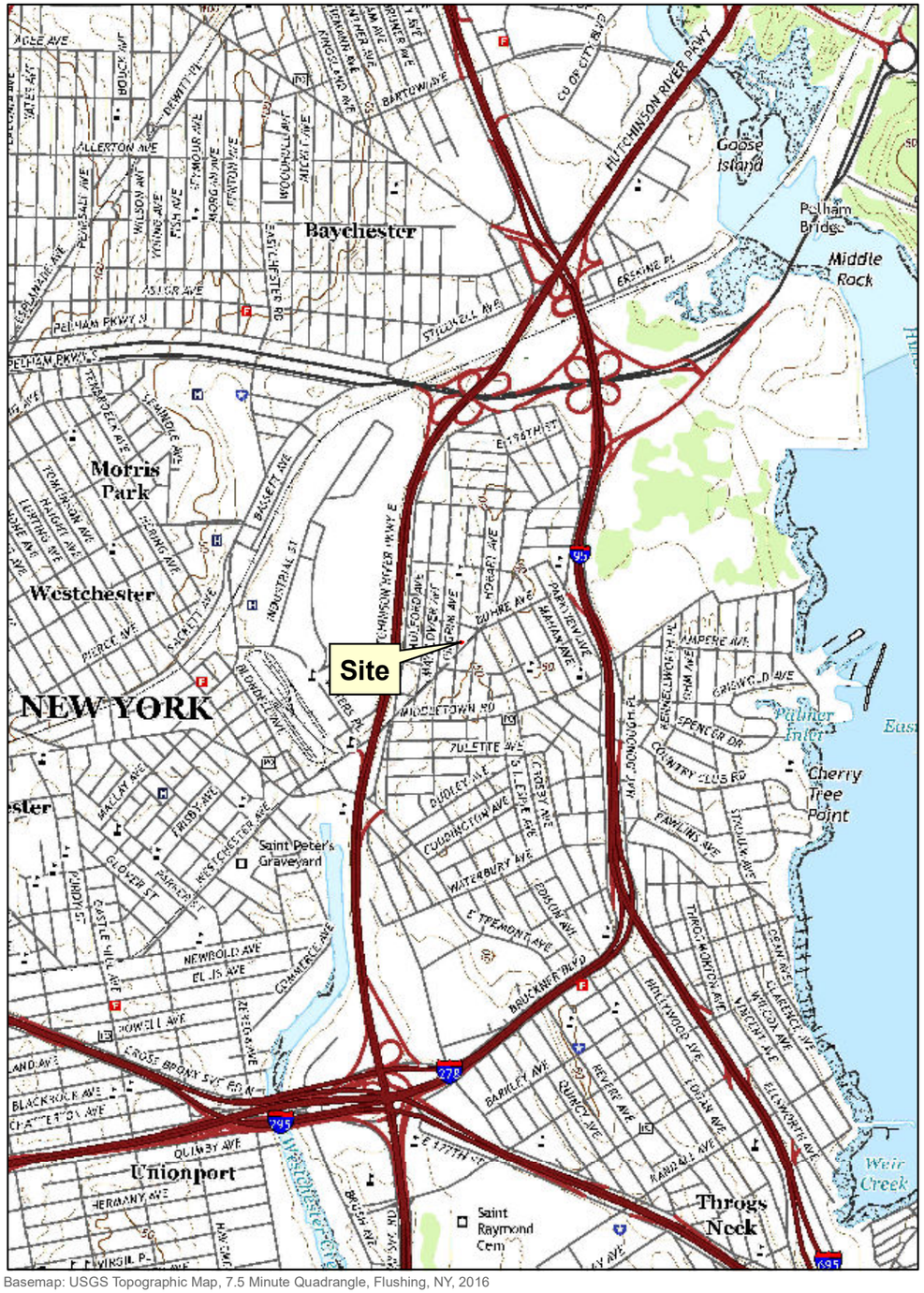
   - monitoring of groundwater, soil vapor, and indoor air to assess the performance and effectiveness of the remedy;
   - a schedule of monitoring and frequency of submittals to NYSDEC.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
   - procedures for operating and maintaining the remedy;
   - compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting,
   - maintaining site access controls and NYSDEC notification; and
   - providing NYSDEC access to the site and O&M records.



Basemap: USGS Topographic Map, 7.5 Minute Quadrangle, Flushing, NY, 2016

Site Location

0 1,000 2,000 4,000 Feet

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

Department of Finance Digital Tax Map

0 150 300 600 Feet

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 - 2018 v2.1

0 150 300 600 Feet

Remedial Action Work Plan
2921 Westchester Avenue
Bronx, New York
Block 4164, Lot 5

Site

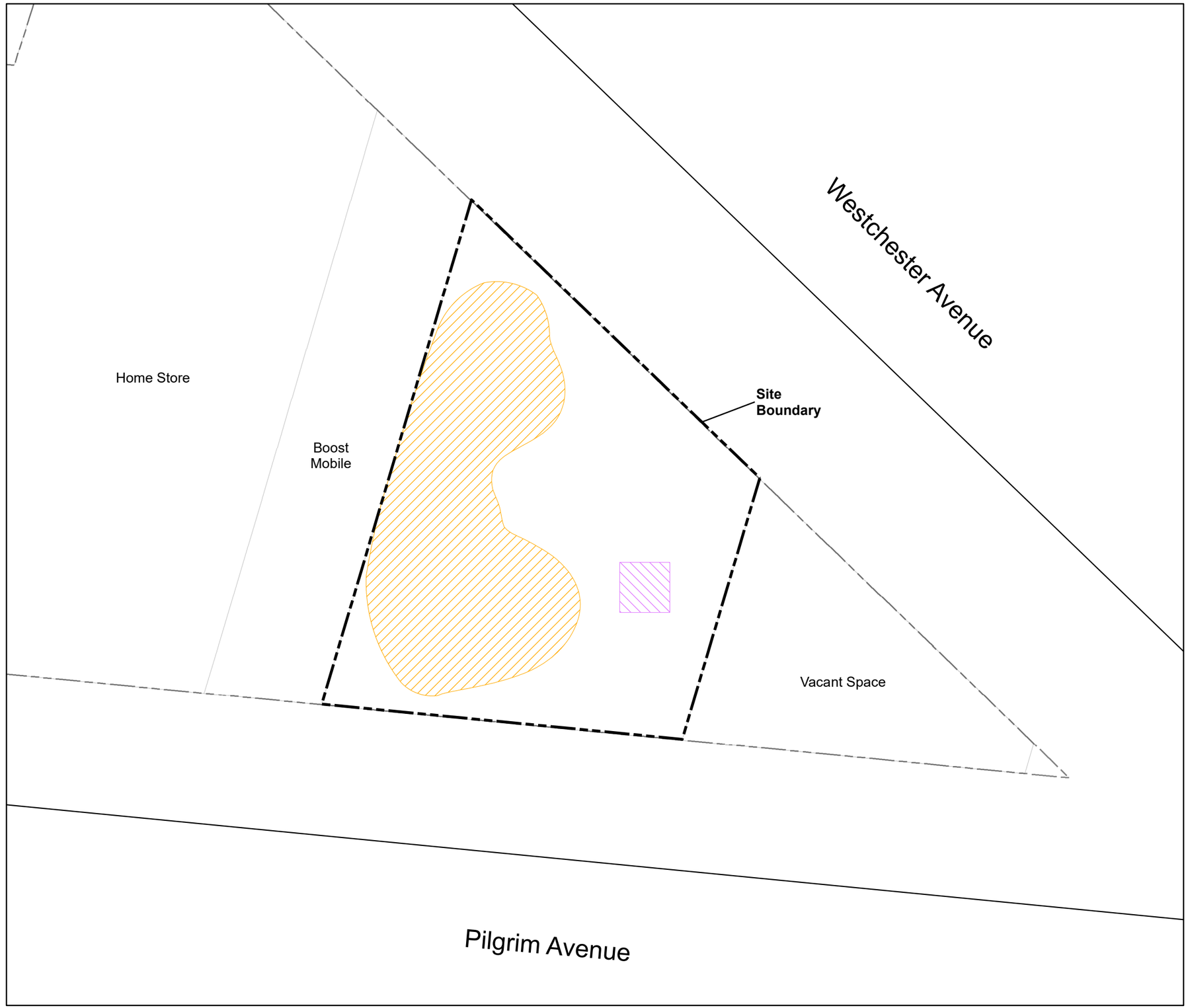
TENEN ENVIRONMENTAL
Tenen Environmental, LLC
121 West 27th Street
Suite 702
New York, NY 10001
O: (646) 606-2332
F: (646) 606-2379

Drawn By	Checked By	Date	Scale
LM	AP	December 2020	As Noted

Drawing Title: **Site Location Map**

Drawing No: **Figure 1**

Figure 2 - Site Plan



Legend

- Hotspot Exavation to Approximately 2 ft-bbg 25 SF
- Hotspot Exavation to Approximately 3 ft-bbg 580 SF
- Site Boundary
- NYC Tax Lot

Note: ft-bbg=feet below basement grade

0 5 10 20 Feet

Site

Remedial Action Work Plan
2921 Westchester Avenue
Bronx, New York
Block 4164, Lot 5

TENEN ENVIRONMENTAL
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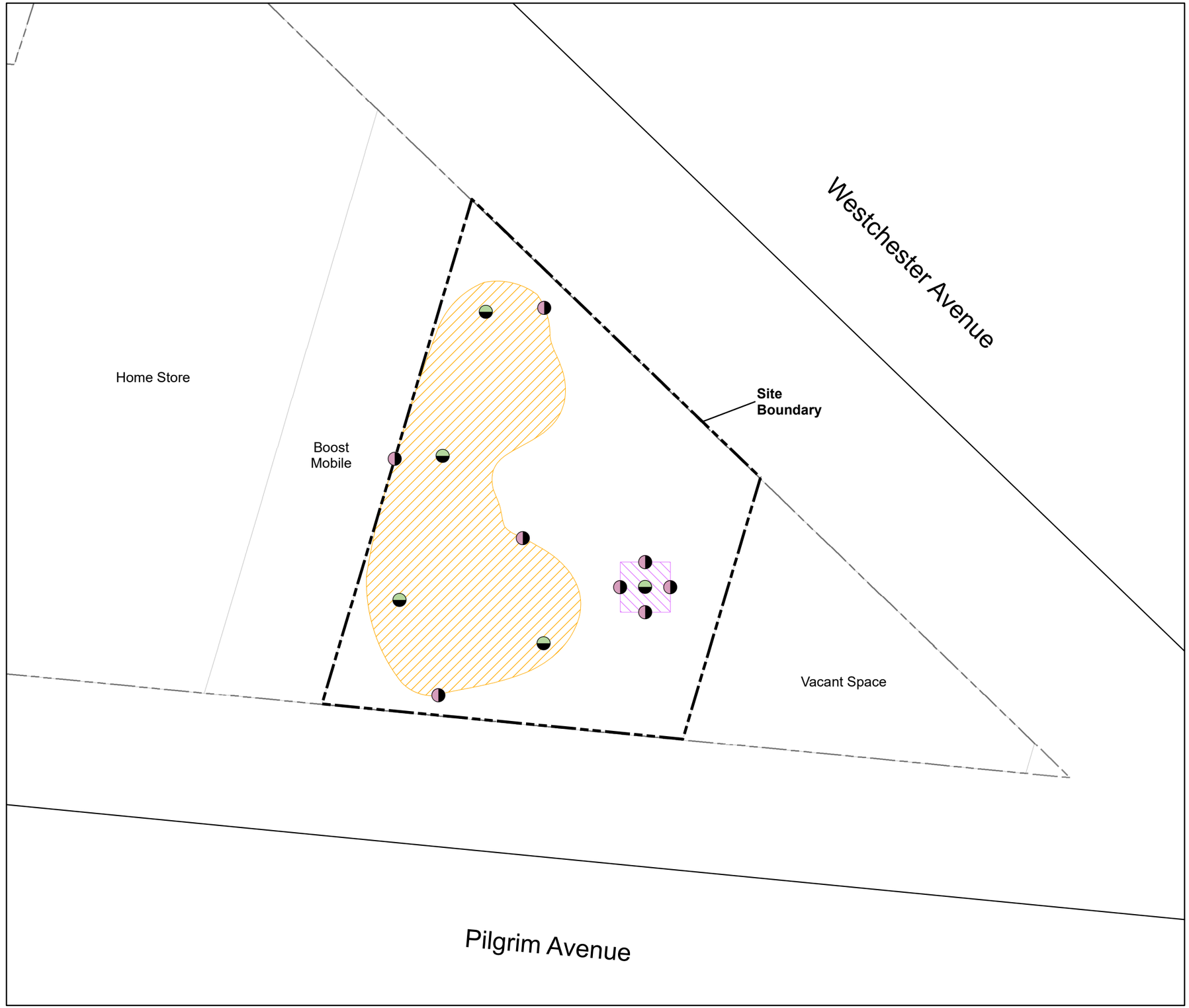
Drawn By	Checked By	Date	Scale
LM	AP	September 2022	As Noted

Drawing Title: **Extent of Hotpot Excavation**

Drawing No: **Figure 3**



Legend

- Sidewall End-Point Sample
- Bottom Endpoint Sample
- Hotspot Exavation to Approximately 2 ft-bbg
- Hotspot Exavation to Approximately 3 ft-bbg
- Site Boundary
- NYC Tax Lot

Note: ft-bbg=feet below basement grade

0 5 10 20 Feet

Remedial Action Work Plan
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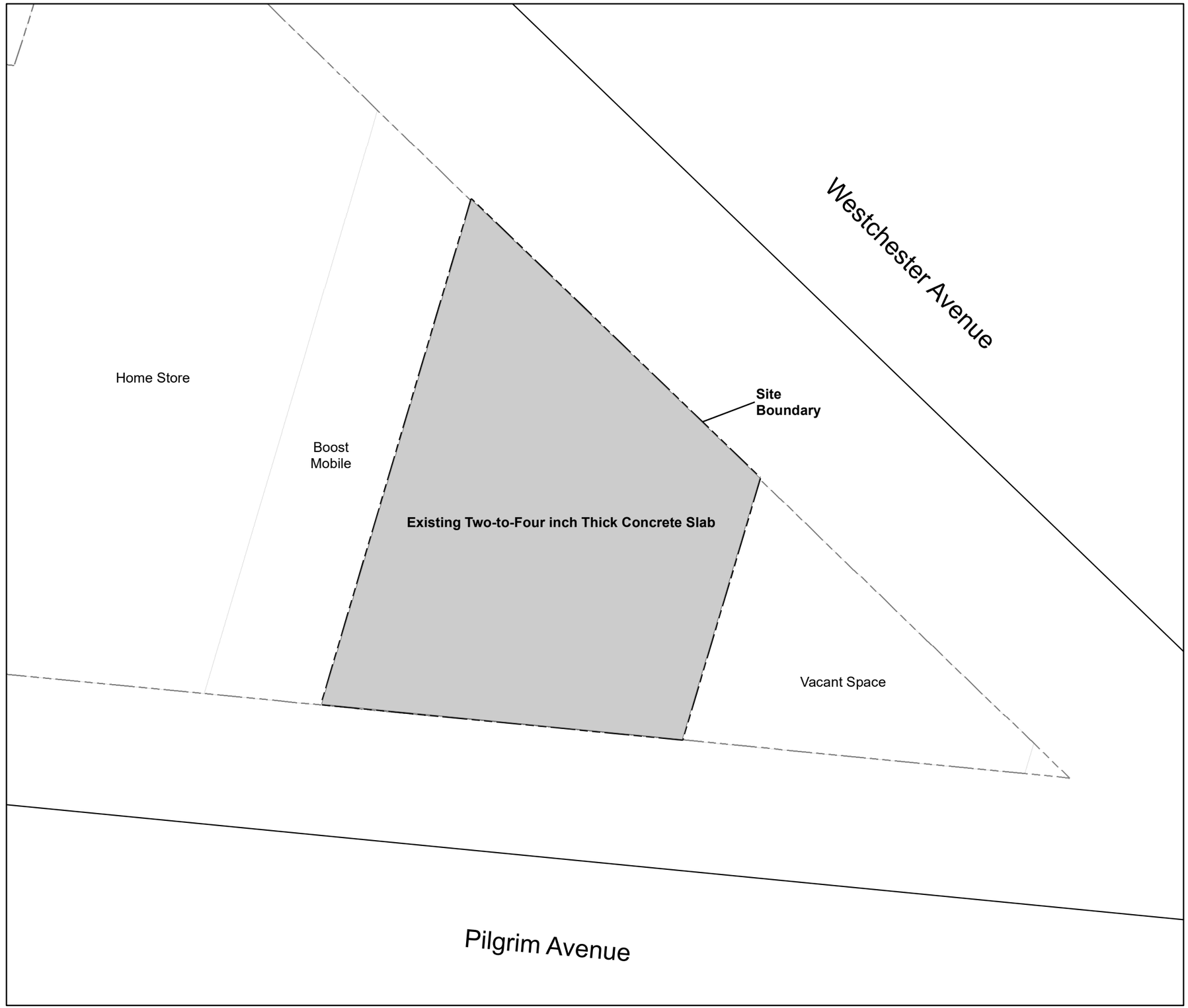
Drawn By	Checked By	Date	Scale
LM	AP	September 2022	As Noted

Drawing Title: **Proposed Post-Remedial End-Point Sample Locations**

Drawing No: **Figure 4**



Note:
Entire site footprint to be covered with a combination vapor barrier/ waterproofing membrane and vapor sealant.

Legend

- Existing Two-to-Four inch Thick Concrete Slab
- Site Boundary
- NYC Tax Lot

0 5 10 20 Feet

Site

Remedial Action Work Plan
2921 Westchester Avenue
Bronx, New York
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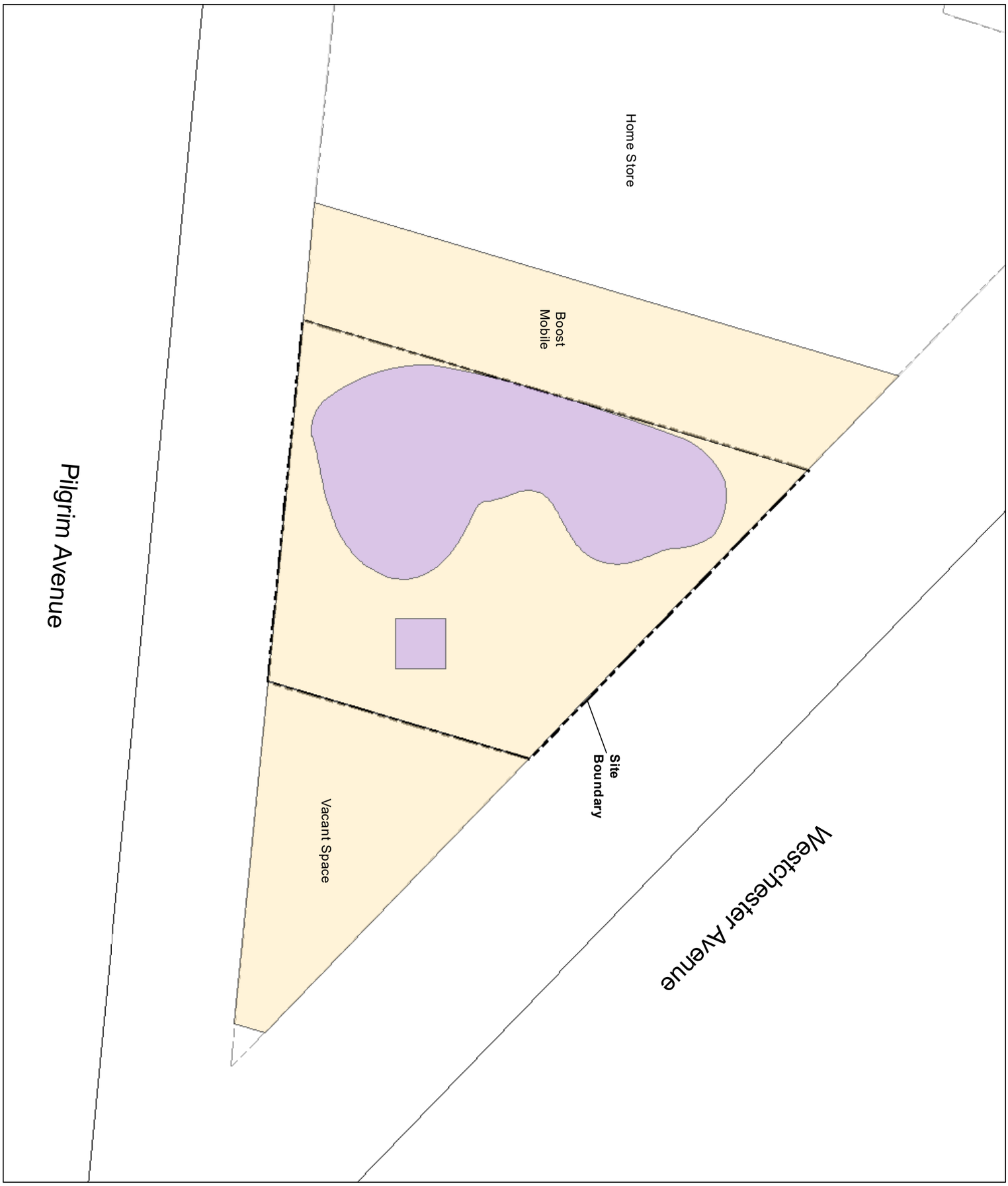
Drawn By	Checked By	Date	Scale
LM	AP	January 2023	As Noted

Drawing Title: **Existing Site Cover System**

Drawing No: **Figure 5**



Drawing Title: **Vapor Barrier/Vapor Sealant Location**	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: **Remedial Action Work Plan** **2921 Westchester Avenue** **Bronx, New York** **Block 4164, Lot 5**
	Checked By: AP		
Drawing No: **Figure 6**	Date: February 2023		
	Scale: As Noted		

Note:
Final ISCO injection points will be determined following the ISCO pilot test.

Legend

- ISCO Injection Points
- ISCO Injection Area
- Site Boundary
- NYC Tax Lot

0 5 10 20 Feet

Site

Remedial Action Work Plan
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Bronx, New York
Block 4164, Lot 5

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Drawn By	Checked By	Date	Scale
LM	AP	February 2023	As Noted

Drawing Title: **Conceptual ISCO Injection Well Network**

Drawing No: **Figure 7**

Legend

- Proposed Post-Remedial Groundwater Sample Location
- Site Boundary
- NYC Tax Lot

0 7.5 15 22.5 30 Feet

Site

Remedial Action Work Plan
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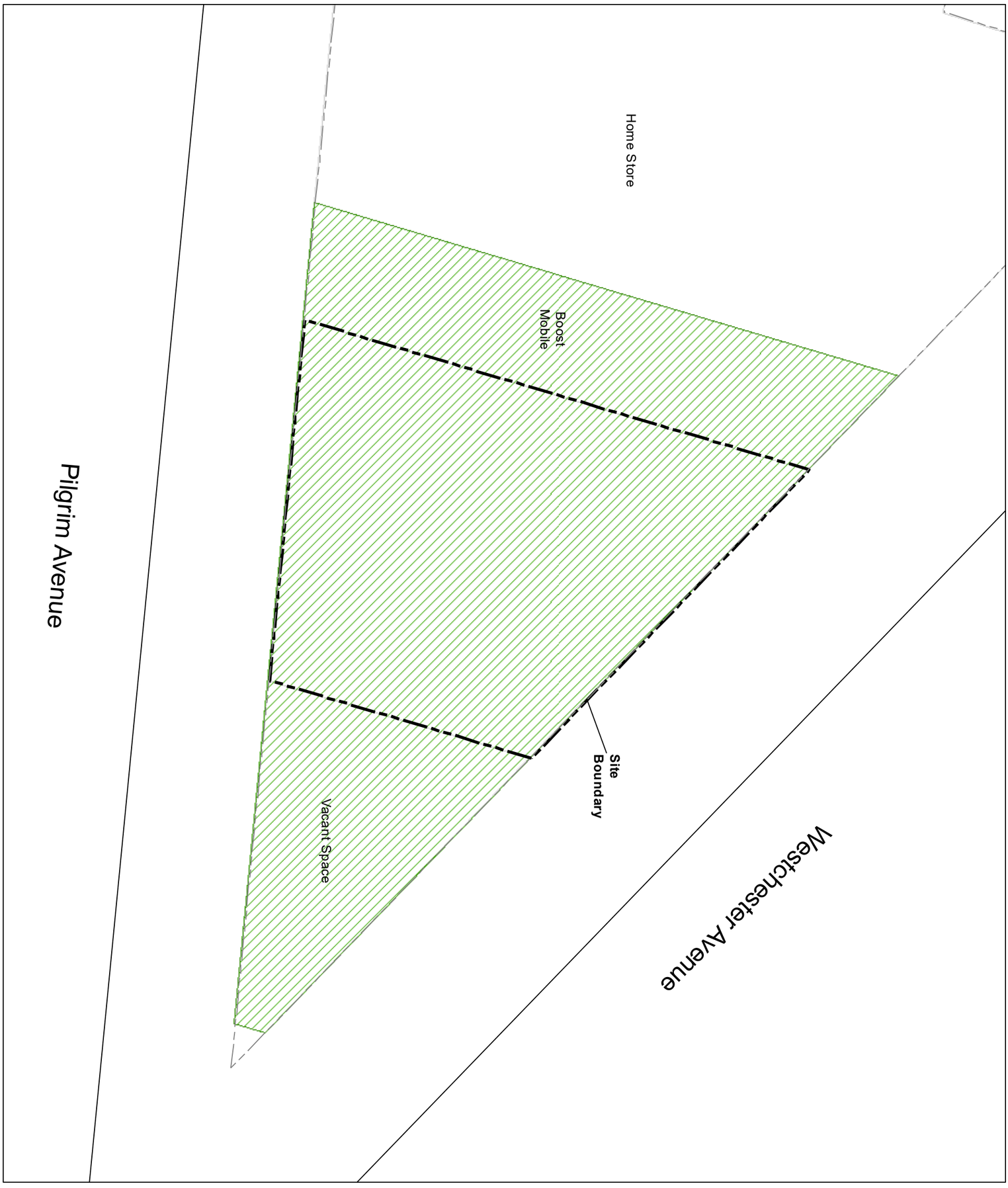
Drawn By	Checked By	Date	Scale
LM	AP	December 2022	As Noted

Drawing Title: **Proposed Post-Remedial Groundwater Sampling Locations**

Drawing No: **Figure 8**



Drawing Title: **Areas of Sub-Slab Depressurization**	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: **Remedial Action Work Plan** **2921 Westchester Avenue** **Bronx, New York** **Block 4164, Lot 5**
	Checked By: AC		
Drawing No: **Figure 9**	Date: July 2024		
	Scale: As Noted		