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## TEST AND REACTION PILES INSTALLATION WORK PLAN

### Avant Gardner Site

140 Stewart Avenue & 111 Gardner Avenue  
Brooklyn, New York 11237  
NYSDEC Site No. C224258

### Report Date

February 11, 2025

### Partner Project No.

PSG 17244793

### Prepared for:

Avant Gardner LLC  
140 Stewart Avenue, Brooklyn, New York 11237



Building  
Science



Environmental  
Consulting



Construction &  
Development



Energy &  
Sustainability



February 11, 2025

Mandy Yau  
New York State Department of Environmental Conservation  
Division of Environmental Remediation, Region 2  
Spill Prevention, Response and Remediation  
47-40 21st Street, Long Island City, New York 11101

Subject: Test and Reaction Piles Installation Work Plan  
Avant Gardner Site  
140 Stewart Avenue & 111 Gardner Avenue  
Brooklyn, New York 11237  
PSG Project Number: 17244793  
NYSDEC Site Number: C224258

Dear Ms. Yau

PSG Engineering and Geology, D.P.C. (PSG) is pleased to provide this Test and Reaction Piles Installation Work Plan for the property identified as Avant Gardner and located at 140 Stewart Avenue and 111 Gardner Avenue in the City of Brooklyn, Kings County, New York.

Sincerely,

PSG Engineering and Geology, D.P.C.

David R. Lent, PG  
Senior Project Manager

## CERTIFICATION

I, Kristine MacWilliams, certify that I am currently a NYS registered professional engineer and that this Remedial Action Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and Green Remediation (DER-31).

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

Kristine MacWilliams, P.E.

February 11, 2005

NYS Professional Engineer # 096177

Date

Signature



It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.



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**Figure 2:** Topographic Map  
**Figure 3:** Proposed Test and Reaction Pile Locations

# 1.0 INTRODUCTION

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## 1.1 Purpose

PSG Engineering & Geology, D.P.C. (PSG) is submitting this Test and Reaction Piles Installation Work Plan on behalf of Avant Garner, LLC for the property located at 140 Stewart Avenue and 111 Gardner Avenue in Brooklyn, Kings County, New York (herein referred to as the Site). The Site was enrolled in the Brownfield Cleanup Program (BCP) on October 30, 2017 and was listed under Site Name Avant Gardner and New York State Department of Environmental Conservation (NYSDEC) Site No. C224258 on the Brownfield Cleanup Agreement. Avant Gardner, LLC is a tenant at the Site and will be installing test and reaction piles at the Brooklyn Mirage portion of the Site to complete compression load, tension pile, and lateral load tests prior to additional construction activities.

## 1.2 Site History

From 2000 to 2013, Filco Carting utilized a portion of the 111 Gardner Avenue building and adjacent paved area as a truck maintenance garage for routine maintenance and repair of trucks. The garage used degreasers, lubricants, hydraulic oils, and antifreeze, which were stored in tanks, 55-gallon drums and other assorted containers. Based upon previous assessments at the Site, as discussed in Section 4.0 below, housekeeping was noted to be poor. Based on the observed conditions, there is the potential for the related use and disposal of these hazardous materials to have impacted environmental conditions at the Site.

Other historical activities included a chemical company/liquid bleach manufacturer that operated from at least 1933 to 1992. Based upon Sanborn Maps for the Site, the manufacturing operations appear to have been conducted on the southeastern portion of this parcel. Regulatory records indicate that chemicals were stored in aboveground storage tanks and drums; however, data included in the regulatory database only date back to the 1980s. No information is known on the use, storage or disposal of hazardous materials or the chlorine manufacturing operations prior to the 1980s.

## 1.3 Site Description

### 1.3.1 Site Location and Current Usage

The Site is located in the Williamsburg section of Brooklyn, New York and is identified as Block 2977 and Lots 1, 14, 15 and 16 on the New York City Tax Map. The Site is approximately 80,000-square feet and is bound by Meserole Street to the north, railroad tracks to the south, Gardner Avenue to the east, and Stewart Avenue to the west. The Site is currently an entertainment/music venue, but previously housed steel fabrication operations and a rubbish removal service. On-Site operations consist of an entertainment/music venue, office areas, full-service bars, temporary food stands and a ticket office. The Site is currently occupied by two (2) one-story buildings, one on the northeast corner (Kings Hall, 111 Gardner Avenue) and one on the southwest corner (Avant Gardner, 140 Stewart Avenue), with asphalt paved areas throughout most of the remaining areas of the Site.

The "Brooklyn Mirage" is located in the courtyard between the two buildings. This area is currently vacant and will be redeveloped with a new temporary timber structure set on concrete footings and pile caps. Upon completion, the temporary structure will contain an event stage, VIP area, three bars, restrooms, and four staircases.

Site occupation during the operating season is limited to staff occupancy for daily activities and maintenance and construction personnel. During summer months, Site occupation is limited to staff occupancy during events, staff required for setup, ticket and office areas, operation, and take-down immediately prior to, during and after the scheduled events. The ticketing area is unused during non-event hours, except for maintenance or repairs. The entire occupancy of the Site includes 15-20 staff members for daily activities and temporary occupancy of up to 4,000 guests on average for larger public events and 300 for smaller events.

Currently, the Site is closed for the winter and is scheduled to reopen on May 1, 2025. No public events will occur during the ground intrusive activities, which are the subject of this Change of Use Notification.

### ***1.3.2 Description of Surrounding Property***

According to the New York City Oasis Map, the Site and surrounding area are located in a Manufacturing District, which is currently zoned "Industrial and Manufacturing Buildings". North of the Site, and across Meserole Street is Best Choice Trading Corporation and Alexander Supply, which operate in an industrial building. Oriental Lumber is located east of the Site and across Gardner Avenue. Another industrial building, D&M Lumber Products, is located west of the Site, across Stewart Ave. The southern Site border is an active railroad line, owned by the Long Island Railroad. South of the railroad are the following industrial buildings; Caesarstone Quartz Surfaces, United Rentals, and Montebello Food Corporation. No sensitive receptors were identified within a 500-foot radius of the Site. Newtown Creek is approximately 1,400-ft northeast of the Site and 1,580-ft to the west. Residential buildings are located approximately 1,460-ft southeast of the Site. Refer to **Figure 1** for a Site Location Map showing the surrounding properties.

### ***1.3.3 Geology and Hydrogeology***

Based on a review of the United States Geological Survey (USGS) Brooklyn, New York, 2016 Quadrangle topographic map, the Site is situated at an elevation approximately 14-17 feet above mean sea level, and the local topography is sloping gently to the west/southwest. Refer to **Figure 2** for a topographic map of the Site's vicinity.

The Site is situated within the Atlantic Coastal Plain Physiographic Province of the State of New York. According to the New York State Geological Survey, the Atlantic Coastal Plain Province is an extensive plain of marine sands, clays, gravels, and marls that are seaward sloping. Long Island is underlain by a mass of wedge-shaped unconsolidated geological deposits that overlie southward-sloping consolidated bedrock. According to the USGS, the bedrock underlying the Site consists of the Quaternary age Glacial and Alluvial Deposits.

## 2.0 PLANNED WORK

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### 2.1 Objective

The ground intrusive work will be conducted by McAlpine Contracting Co. (McAlpine), the engineer for the project, and will include the installation of one test pile and two reaction piles for pre-construction testing at the Site. PSG will conduct field oversight of all proposed activities (documented herein) at the Site and certify that all work is completed in accordance with this Work Plan and NYSDEC guidelines. In addition, PSG will verify that all laborers and employees involved in any ground intrusive work at the Site have current Occupational Safety and Health Administration (OSHA) 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) certifications. Refer to **Figure 3** for the approximate location of the proposed test pile and reaction piles.

### 2.2 Proposed Ground Intrusive Activities

One test pile and two reaction piles will be installed at the southeastern Brooklyn Mirage portion of the Site. The proposed pile locations will not overlap with the existing sub-slab depressurization system (SSDS) or planned remedial excavation and groundwater injection locations at the Site. The proposed piles will each have a 9 5/8" diameter and length of 40 feet. Piles will be installed by Moncon Inc. (Moncon) to 42 feet below grade surface (bgs) via a Comacchio MC 28 air and hammer crawler drill and will be filled with reinforced grout and left to cure for seven days. Following this period, one compression load test, one tension pile test, and one lateral load test will be performed. The compression load test is a non-destructive test to prove the proposed construction design can withstand 200% of the compression tonnage. As part of this test, the installed piles will support a steel transfer beam above the test pile and a hydraulic test jack placed on the beam will exert or transfer loads in defined increments.

Prior to pile installation, the asphalt pavement will be scraped back and removed to mimic starting conditions for proposed pile cap installation. No soil is expected to be generated during pile installation activities as the air and hammer procedure will only displace soil below grade. No water is expected to be utilized as part of pile installation activities.

### 2.3 Soil Management

#### 2.3.1 Soil Screening Methods

All ground intrusive work will be overseen by PSG to ensure conformance with this Work Plan. Visual, olfactory and photoionization detector (PID) soil screening and assessment will be performed under the supervision of a Qualified Environmental Professional (QEP). Soil screening will be performed during the excavation activities at intervals deemed appropriate by the QEP and in consultation with the Project Manager for the Site, the Air Monitoring Technician and the appropriate Health & Safety professionals and management staff on Site. At a minimum, the QEP will wear and operate a PID capable of analyzing total volatile organic compounds (VOCs) continuously during ground-intrusive activities.

#### 2.3.2 Stockpile Methods

No soil is expected to be generated during pile installation. However, if necessary, soil generated during pile installation will be temporarily stockpiled on double layers of 6-millimeter poly sheeting then staged in 55-gallon drums. Stockpiles will be used only as necessary and will be removed as soon as practicable.

Waste materials will be segregated, handled, stockpiled, and disposed of separately as required with respect to characteristics including concrete and asphalt.

Soil staged in drums for off-Site for disposal will be sampled in a manner required by the receiving facility and in compliance with applicable laws and regulations.

### **2.3.3 Contingency Plan**

This contingency plan is developed for the construction to address the discovery of unknown structures or contaminated media during excavation. Identification of unknown contamination source areas during invasive Site work will be promptly communicated to the Project Manager, and appropriate agencies.

Petroleum spills will be reported to the New York State (NYS) Spill Hotline (1-800-457-7362). These findings will be included in a daily report. If previously unidentified contaminant sources are found during on-Site excavation activities, sampling (as appropriate) will be performed on contaminated source material and surrounding soils and reported to the appropriate agencies. Chemical analytical testing may include target analyte list (TAL) metals, total compound list (TCL) volatiles and semi-volatiles, TCL pesticides and polychlorinated biphenyls (PCBs), as appropriate.

## **2.4 Community Air Monitoring**

PSG will implement a Community Air Monitoring Plan (CAMP) during the course of the ground intrusive work, which will include perimeter continuous dust monitoring and monitoring for VOCs in the work area during ground intrusive work and while potentially impacted soils are being excavated or staged on-Site.

The air will be monitored for VOCs during ground intrusive activities through real-time VOC and air particulate (dust) monitoring. Continuous monitoring will be completed during all ground intrusive activities including the installation of test piles.

Wind direction will be evaluated at the start of each workday, noon of each workday, and at the end of each workday to position the monitoring equipment in appropriate locations at the downwind perimeter of the work zone (i.e., the exclusion zone). The monitoring equipment will include a DustTrak II Aerosol Monitor 8530 and portable RAE Systems® MiniRae 3000 Photo-Ionization Detector, both of which can calculate the 15-minute running average VOC concentrations.

Corrective measures will be taken in the event that 15-minute integrated VOC levels at the downwind perimeter location persist at a concentration exceeding 5 parts per million (ppm) at any point during the ground intrusive work or the integrated particulate level at the downwind perimeter exceeds the upwind level by more than 100 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) at any time during the ground intrusive work.

## **2.5 Health and Safety Plan**

Ground intrusive work will be performed in full compliance with applicable health and safety laws and regulations, including Site and OSHA worker safety requirements and HAZWOPER requirements, and in accordance with the previously NYSDEC-approved Health and Safety Plan (HASP) for the Site. The parties performing the ground intrusive work will ensure that performance of work is in compliance with the HASP and applicable laws and regulations. PSG will ensure that all personnel within the work zone have current OSHA HAZWOPER certifications.

## **2.6 Daily Reporting**

Daily reports will be submitted to NYSDEC Project Managers by the end of each day following the reporting period and will include:

- An update of progress made during the reporting day;
- Locations of work;
- References to map for Site activities;
- A summary of any and all complaints with relevant details (names, phone numbers);
- A summary of CAMP finding, including excursions; and
- An explanation of notable Site conditions.

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

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

The NYSDEC assigned project number will appear on all reports.

PSG notes that the NYSDEC and New York State Department of Health (NYSDOH) will be immediately notified of any CAMP exceedances, including measures on how the CAMP exceedances were addressed.

## **2.7 Proposed Project Schedule**

The ground intrusive work will be initiated following approval of this Work Plan by the NYSDEC and completion of a pre-construction meeting with all contractors and sub-contractors at the Site. The field work is anticipated to begin on February 12, 2025, and require two days on-Site to install the three piles.

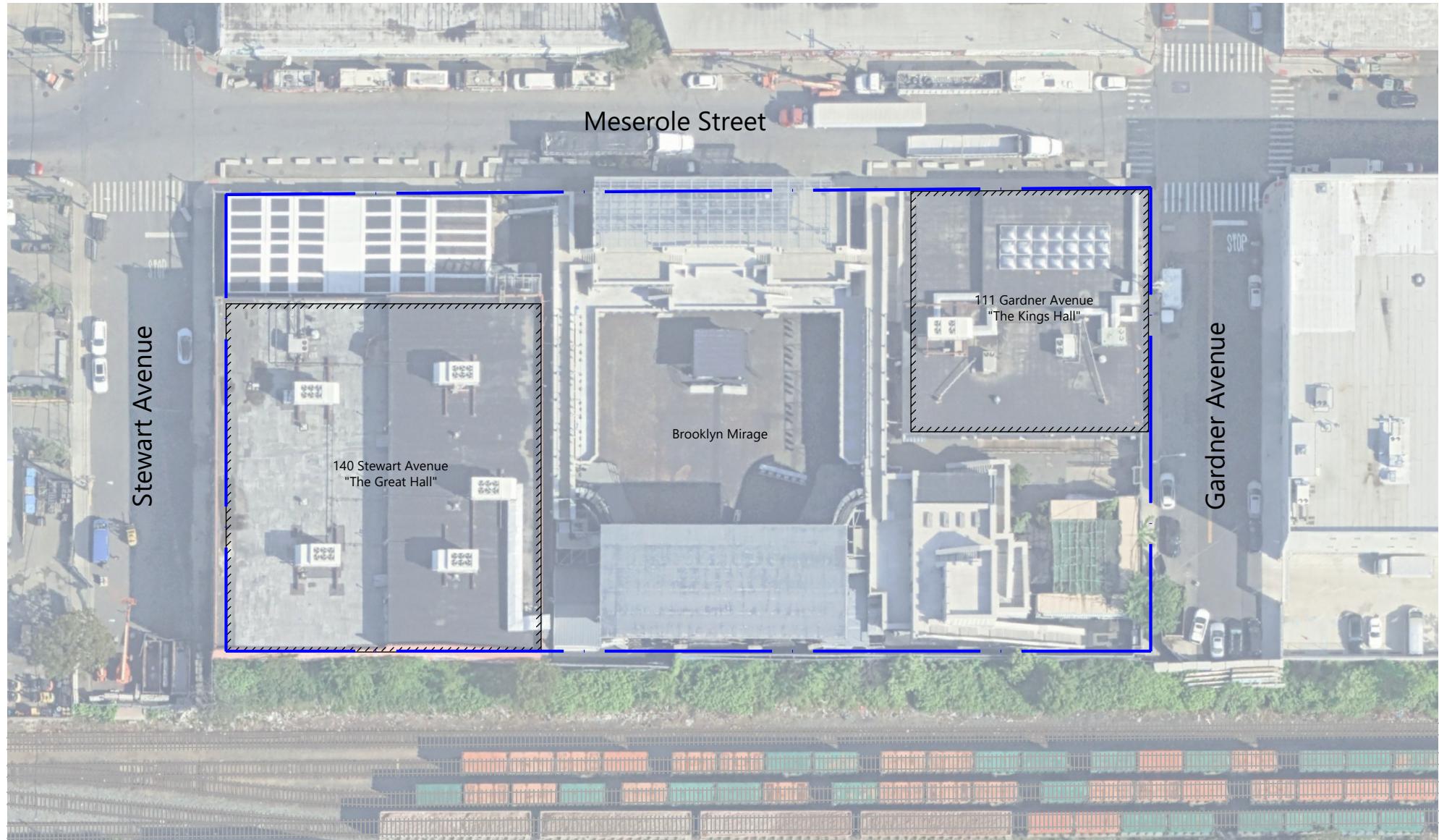
## **FIGURES**

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**Site Location Map**

**Topographic Map**

**Proposed Test and Reaction Pile Locations**



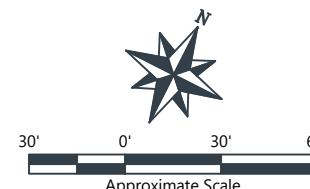
**Legend and Notes:**



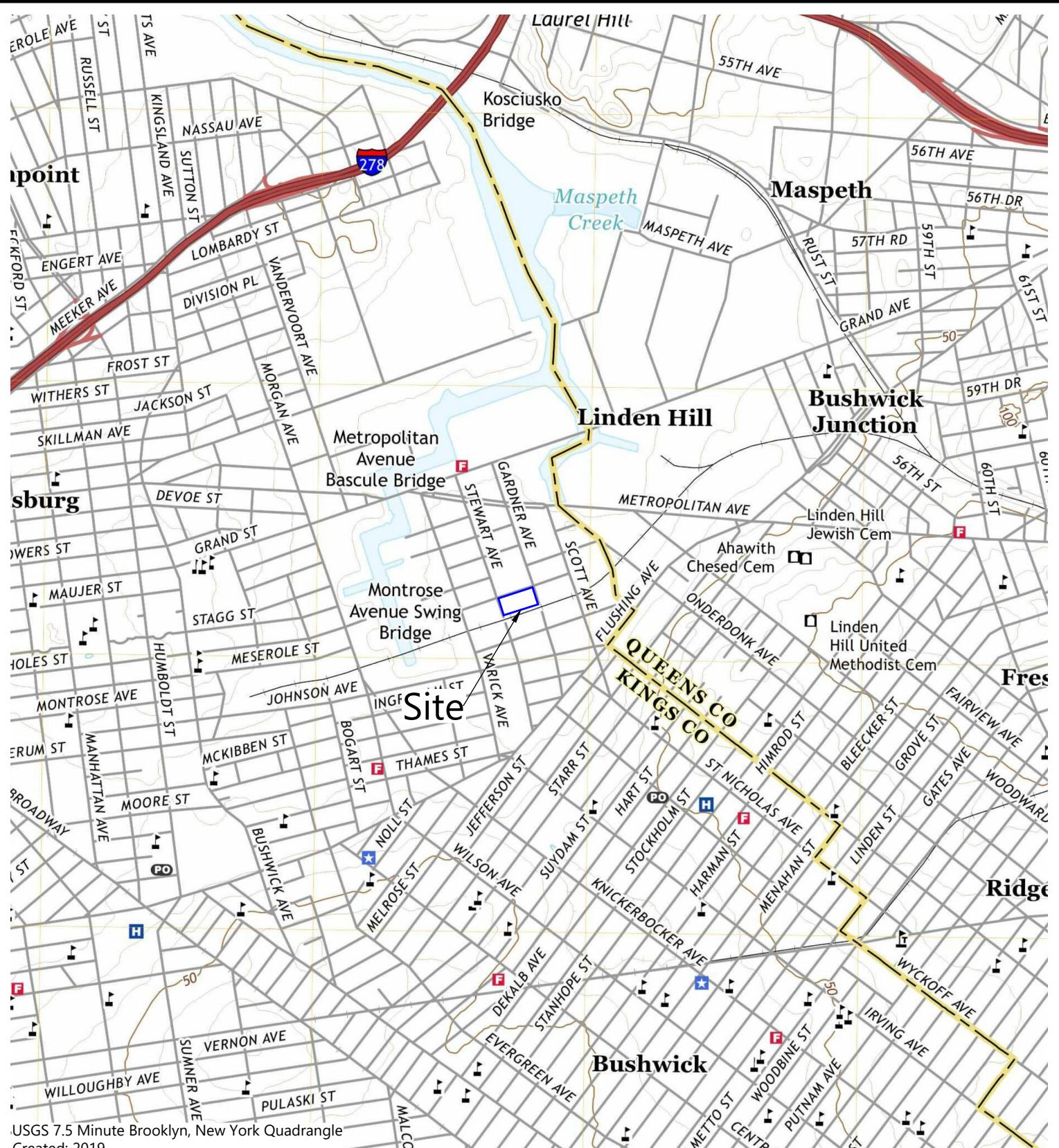
Site Boundary



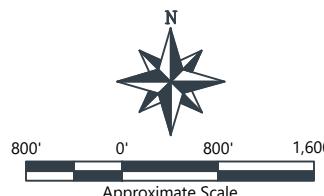
Site Building

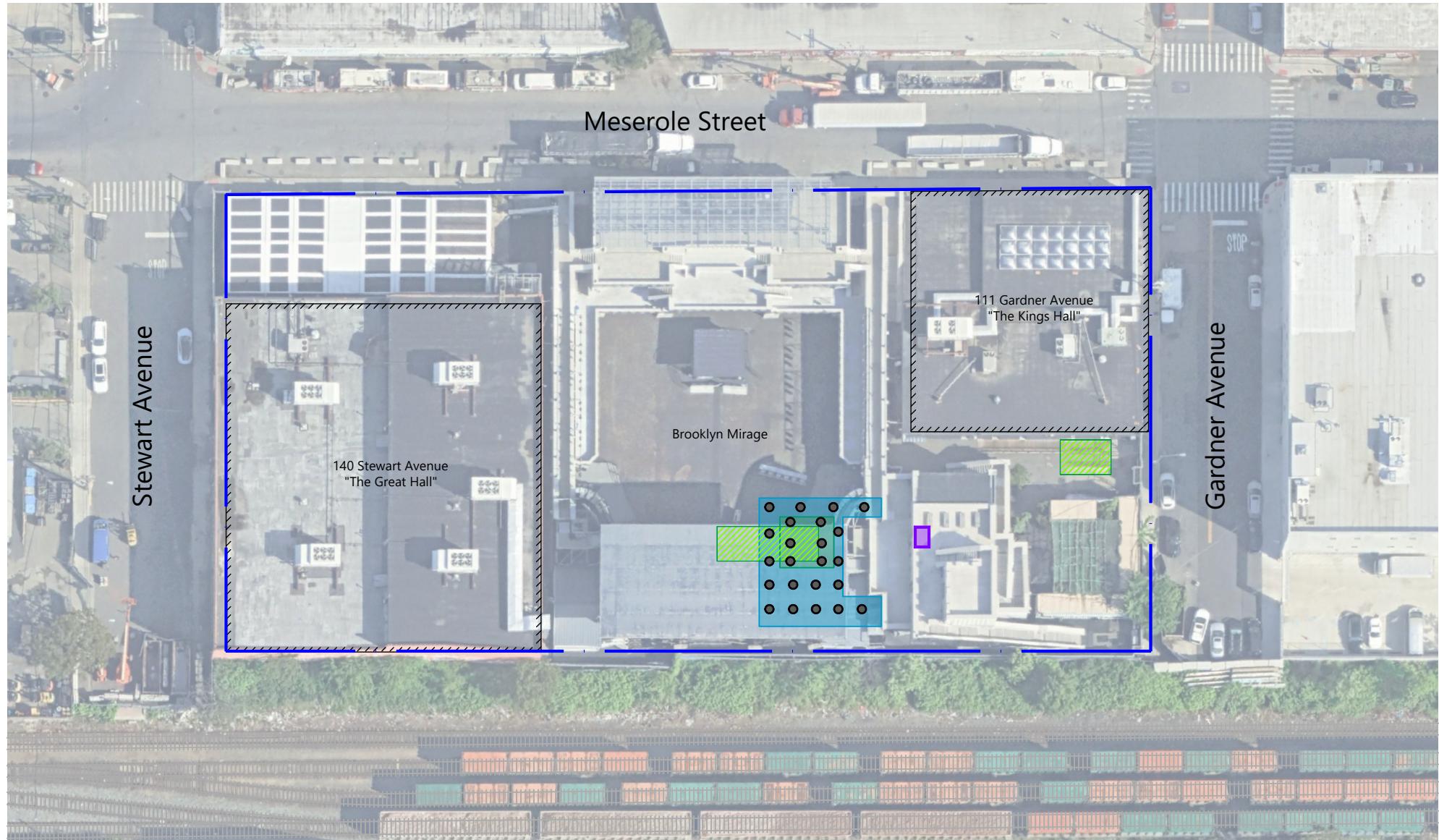


<b>Site Location Map</b>			
Figure:	Prepared By:	Date:	Project Number:
1	AS	February 2025	ES22-387153
<b>Address:</b> NYSDEC BCP Site #C224258 140 Stewart Avenue and 111 Gardner Avenue Brooklyn, New York 11237			
<b>PSG</b> Engineering and Geology, D.P.C.			



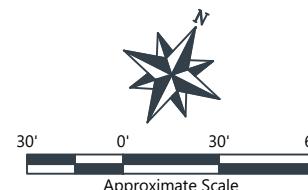
Topographic Map			
Figure:	Prepared By:	Date:	Project Number:
2	AS	February 2025	ES22-387153
Address: NYSDEC BCP Site #C224258 140 Stewart Avenue and 111 Gardner Avenue Brooklyn, New York 11237			
<b>PSG</b> Engineering and Geology, D.P.C.			





#### Legend and Notes:

- Site Boundary
- Site Building
- Proposed Test and Reaction Pile Locations
- Approximate Limits of Proposed cVOC Soil Hot Spot Removal
- Direct Push Injection Point Location
- Proiect-IR Target Area  
(Vertical Interval: 15 to 40 ft bgs)
- Proiect-IR Target Area  
(Vertical Interval: 15 to 110 ft bgs)



Title: <b>Proposed Test and Reaction Pile Locations</b>			
Figure: 3	Prepared By: AS	Date: February 2025	Project Number: ES22-387153
Address: <b>NYSDEC BCP Site #C224258</b> <b>140 Stewart Avenue and 111 Gardner Avenue</b> <b>Brooklyn, New York 11237</b>			
<b>PSG</b> Engineering and Geology, D.P.C.			