DECISION DOCUMENT

23-10 Queens Plaza South
Brownfield Cleanup Program
Long Island City, Queens County
Site No. C241160
September 2019

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

DECLARATION STATEMENT - DECISION DOCUMENT

23-10 Queens Plaza South
Brownfield Cleanup Program
Long Island City, Queens County
Site No. C241160
September 2019

Statement of Purpose and Basis

This document presents the remedy for the 23-10 Queens Plaza South site, a 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 (the Department) for the 23-10 Queens Plaza South site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

During the course of the investigation certain actions, known as interim remedial measures (IRMs), were undertaken at the above referenced site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or alternatives analysis (AA). The IRM(s) undertaken at this site are discussed in Section 6.2.

Based on the results of the investigations at the site, the IRM that has been performed, and the evaluation presented here, the Department has selected No Further Action as the remedy for the site. This No Further Action remedy includes continued implementation of the ICs/ECs described in Section 7 as the selected remedy for the site. The Department believes that this remedy is protective of human health and the environment and satisfies the remediation objectives described in Section 6.5.

Declaration

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

September11, 2019
Date

Gerard Burke, Director
Remedial Bureau B

DECISION DOCUMENT

23-10 Queens Plaza South
Long Island City, Queens County
Site No. C241160
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SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), 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 resulted in threats to public health and the environment that were addressed by actions known as interim remedial measures (IRMs), which were undertaken at the site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or alternative analysis (AA). The IRMs undertaken at this site are discussed in Section 6.2.

Based on the implementation of the IRM(s), the findings of the investigation of this site indicate that the site no longer poses a threat to human health or the environment. The IRM(s) conducted at the site attained the remediation objectives identified for this site, which are presented in Section 6.5, for the protection of public health and the environment. No Further Action is the selected remedy. A No Further Action remedy may include continued operation of any remedial system installed during the IRM and the implementation of any prescribed controls that have been identified as being part of the remedy for the site. This DD identifies the IRM(s) conducted and discusses the basis for No Further Action.

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, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

The Department 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

The Department 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 the Department 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:

Queens Library - Court Square
2501 Jackson Avenue
Long Island City, NY 11101
Phone: 718-937-2790

Queens Community Board 2
43-22 50th Street
Woodside, NY 11377
Phone: 718-533-8773

Receive Site Citizen Participation Information by Email

Please note that the Department'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, Voluntary 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 on the city block bordered by Queens Plaza South to the north, 24th Street to the east, 42nd Road to the south, and 23rd Street to the west. The site is 0.624 acres in size.

Site Features: The site is completely occupied by a vacant four-story concrete building with a basement.

Current Zoning and Land Use: The site is currently vacant and is located in a M1-5/R9 mixed-used district characterized by mixed commercial and industrial use with some residential use.

Past Use of the Site: The site has been used for industrial manufacturing and a garage since as early as 1936. The industrial activities included metal stamping and fabrication of metals parts, and lacquer spraying. Oil staining from the former on-site metal fabrication machines was observed on the cellar floor. Based on a 2012 Phase II Environmental Site Investigation Report, a spill was reported to the NYSDEC (Spill No. 1302812).

Geology and Hydrogeology: The surface soil immediately beneath the concrete slab of the existing building (at el. 11) is a historic fill layer, generally consisting of brown and gray coarse to fine sand with varying amounts of silt, gravel and concrete fragments. This layer extends to about 8 feet below slab grade (bsg). A glacial till layer of gray and brown silt with varying amounts of gravel, sand and clay is present below the historic fill. Bedrock consists of hard to very hard, slightly weathered to fresh, coarse- to fine- grained, quartz-mica-garnet gneiss of the Ravenwood Granodiorite and is present at depths ranging from approximately 14 to 21 feet bsg.

The groundwater depth ranges from approximately 4 to 7 feet bsg and flows to the west towards the East River which is located approximately 1/2 mile from the site.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department 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, alternatives (or an alternative) that restrict(s) the use of the site to commercial use (which allows for industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the investigation 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 Remedial Investigation (RI) Report.

SECTION 5: ENFORCEMENT STATUS

The Applicant under the Brownfield Cleanup Agreement is a Volunteer. The Volunteer does not have an obligation to address off-site contamination. The Department has determined that this site poses a significant threat to human health and the environment and there are off-site impacts that require remedial activities; accordingly, enforcement actions are necessary.

The Department will seek to identify any parties (other than the Volunteer(s)) known or suspected to be responsible for contamination at or emanating from the site, referred to as Potentially Responsible Parties (PRPs). The Department will bring an enforcement action against the PRPs. If an enforcement action cannot be brought or does not result in the initiation of a remedial program by any PRPs, the Department will evaluate the off-site contamination for action under the State Superfund. The PRPs are subject to legal actions by the State for recovery of all response costs the State incurs or has incurred.

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

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. The Department 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:

toluene	trichloroethene (TCE)
copper	benzo(a)anthracene
lead	chrysene
tetrachloroethene (PCE)	1,1,1-trichloroethane (1,1,1-TCA)

Based on the investigation results, comparison to the SCGs, and the potential public health and environmental exposure routes, certain media and areas of the site required remediation. These media were addressed by the IRM(s) described in Section 6.2. More complete information can be found in the RI Report and the IRM Construction Completion Report.

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.

The following IRM(s) has/have been completed at this site based on conditions observed during the RI.

IRM - Soil, Groundwater and Soil Vapor Remediation

The IRM was conducted at the site between April 2016 and July 2019 and included the following elements:

1. The existing cellar slab was demolished and materials that could not be beneficially re-used on-site were taken off-site for proper disposal. Soil/fill to a depth of approximately 2½ feet below the basement slab was excavated to allow for the installation of a sub-slab depressurization system (SSDS). Approximately 1,060 cubic yards of construction and demolition material and 2,525 tons of non-hazardous waste was transported off-site for disposal.

2. One 10,000-gallon above-ground fuel storage tank (AST), three 275-gallon and four 550-gallon gasoline underground storage tanks (USTs), fuel dispensers, underground piping, and AST/UST wastes were removed from the site for proper disposal. Additionally, approximately 15 tons of petroleum-impacted soil exceeding commercial Soil Cleanup Objectives (SCOs) was excavated from the hotspot and subsurface structure excavation areas shown on Figure 3A and removed from the site for proper disposal.

3. In-situ (in-place) groundwater treatment was implemented using liquid activated carbon, zero-valent iron and hydrogen release compound to treat volatile contaminants in the groundwater in the areas shown on Figure 3B.

4. The below-grade components of an SSDS were installed as shown on Figure 3C.

5. Approximately 895 cubic yards of ¾-inch stone or recycled concrete aggregate was brought in to backfill the hotspot and subsurface structure excavation areas and construct the 8-inch thick gas permeable layer for the SSDS as shown on Figure 3D.

6. To prevent exposure to remaining contamination in the soil and fill at the site, a site cover was placed over the site. This cover system is comprised of a 4-inch concrete cellar slab as shown as shown on Figure 3E, underlain by a geotextile fabric and the SSDS.

Post-excavation soil sampling results indicated no detections of volatile organic compounds (VOCs) above commercial use SCOs in the soil that remained. Several semi-volatile organic compounds (SVOCs), primarily polyaromatic hydrocarbons (PAHs), and some metals consistent with contaminated historic fill were detected in endpoint samples above commercial use SCOs.

The completion of the IRM was documented in the July 2019 Construction Completion Report.

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) and pesticides. Groundwater was also analyzed for the emerging contaminants per- and polyfluoroalkylated substances (PFAS) and 1,4-dioxane. Soil vapor was analyzed for VOCs. Based upon the investigation conducted to date, the primary contaminants of concern include tetrachloroethylene (PCE) in groundwater and soil vapor; trichloroethylene (TCE) in soil vapor; chrysene, benzo(a)anthracene and petroleum products in groundwater; and copper and lead in soil.

Soil – No samples exceeded unrestricted SCOs for PCE and TCE. Significant contamination was not found to be widespread across the site. The only significant contamination was found in the southwestern portion of the site. During the July 2013 Site Investigation (SI) metals, including copper and lead, were found in subsurface soil above commercial use Soil Cleanup Objectives (SCOs) in the 7- to 8-foot depth interval below the foundation slab in the southwestern portion of the site. The maximum concentrations of copper (1,560 parts per million, or ppm) and lead (1,080 ppm) exceed their commercial use SCOs of 270 ppm and 1,000 ppm, respectively. Site-related soil contamination does not appear to extend off-site based on the off-site soil sampling data.

Groundwater - Elevated levels of PCE, benzo(a)anthracene and chrysene were found in the groundwater underlying the site.

Petroleum-like odors were apparent in monitoring wells MW-06 and MW-11 (located in the eastern and southwestern portions of the site, respectively) during well installation and groundwater sampling. Free product was not observed during the July 2013 SI, but about 4 inches of free product was measured in MW-11 during the supplemental October 2014 groundwater sampling event. However, no detectable levels of petroleum-related volatile organic compounds (VOCs) were detected in MW-06, and except for toluene which was detected in MW-11 at a concentration of 48 parts per billion (ppb), no other petroleum-related VOCs were detected above groundwater standards in this well. The groundwater standard for toluene is 5 ppb.

PCE was found in the groundwater underlying the site at elevated concentrations (150 ppb to 490 ppb). TCE was detected at a maximum concentration of 28 ppb. The groundwater standard for PCE and TCE is 5 ppb.

Benzo(a)anthracene (up to 3 ppb) and chrysene (up to 7 ppb) were found in groundwater at levels that significantly exceeded (by three orders of magnitude) their groundwater standard (0.002 ppb).

During the July 2013 SI, lead was found in unfiltered samples at levels up to 5,150 ppb which exceeded its groundwater standard (25 ppb) by two orders of magnitude. However, during the October 2014 supplemental sampling event, the highest lead concentration in unfiltered samples was 199 ppb. Lead was not found above groundwater standards in the corresponding filtered samples, suggesting that the previous detections were associated with contaminated soil particles suspended in the samples. Therefore, lead is not considered a contaminant of concern for groundwater. Site-related groundwater contamination does not appear to extend off-site based on the off-site groundwater sampling data.

Soil Vapor - Elevated levels of PCE (up to 3,500 micrograms per cubic meter, or $\mu g/m^3$) and TCE (up to 1,700 $\mu g/m^3$) were found in soil vapor across the site. In addition, 1,1,1-TCA was detected at concentrations ranging from 60 $\mu g/m^3$ to 24,000 $\mu g/m^3$.

Based on the presence of PCE in on-site groundwater and soil vapor, and the investigation conducted at the adjacent site (23-01 42nd Road, Site No. C241152), it was determined that contaminants (primarily PCE) were migrating away from the 23-10 Queens Plaza South site in soil vapor.

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 subsurface soil is unlikely because the site is covered with a building. People are not drinking contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Because the site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern. However, the potential exists for the inhalation of site contaminants due to soil vapor intrusion should the building become reoccupied. Furthermore, environmental sampling indicates that there is a potential for soil vapor intrusion to affect off-site structures.

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.

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

Based on the results of the investigations at the site, the Interim Remedial Measure (IRM) that has been performed, and the evaluation presented here, the Department has selected No Further Action as the remedy for the site. The Department believes that this remedy is protective of human health and the environment and satisfies the remediation objectives described in Section 6.5.

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

The selected remedy is referred to as the No Further Action with Vapor Mitigation and Institutional/Engineering Controls remedy.

The elements of the remedy were already completed during the IRM as discussed in Section 6.2. Additional required institutional controls are listed below:

1. Institutional Controls

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

- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allows 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;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOH; and
- requires compliance with the Department approved Site Management Plan.

2. Vapor Mitigation

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

3. 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 Paragraph 1 above.

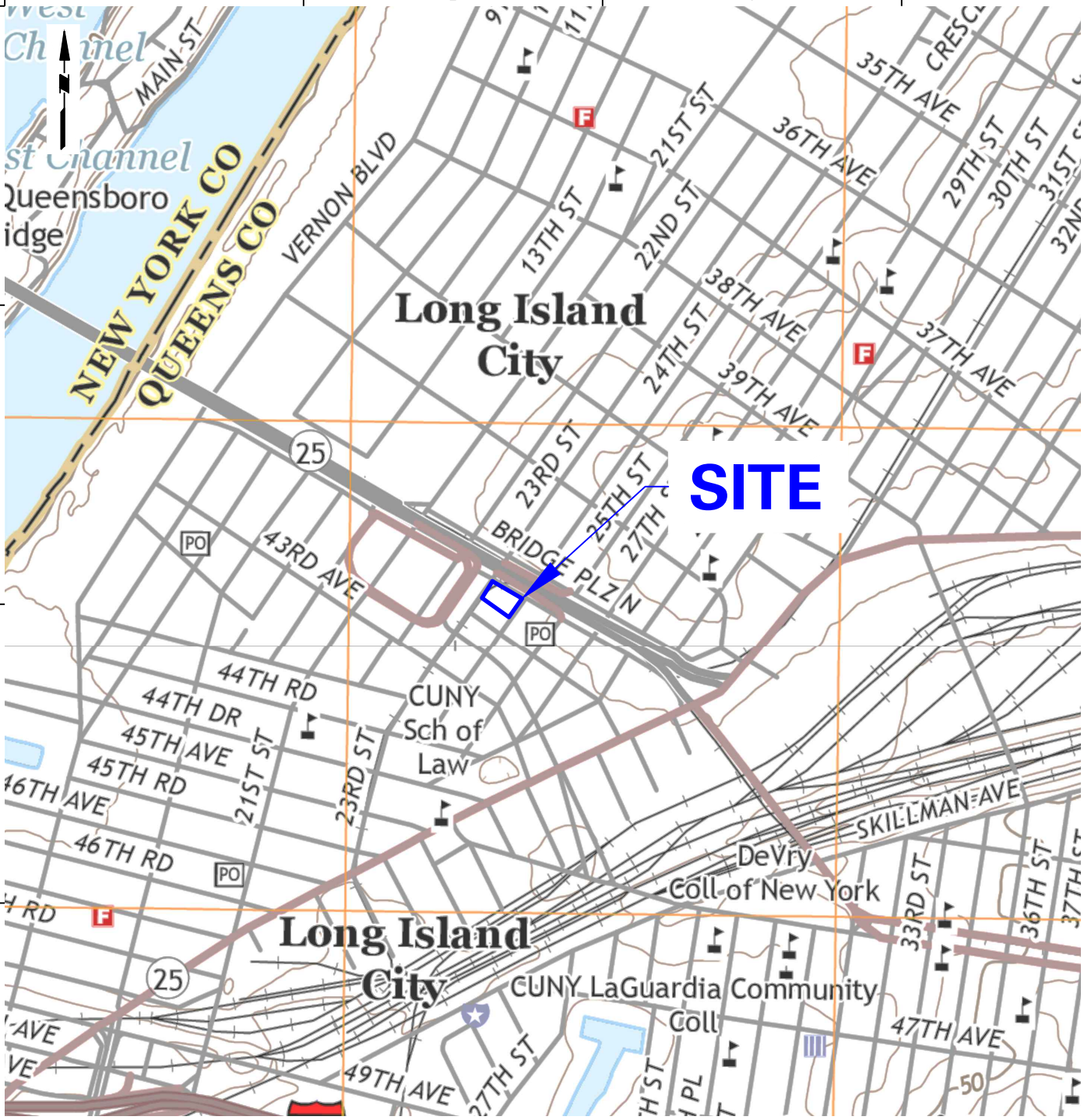
Engineering Controls: The cover system and the SSDS discussed in Section 6.2.

This plan includes, but may not be limited to:

- o an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- o descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- o provisions for the management and inspection of the identified engineering controls;
- o maintaining site access controls and Department notification; and
- o the steps necessary for the period 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 to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;



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NOTES:

1. BASE MAP IS REFERENCED FROM UNITED STATES GEOLOGICAL SURVEY (USGS) 7.5-MINUTE SERIES TOPOGRAPHICAL MAPS CENTRAL PARK, NEW YORK-NEW JERSEY AND BROOKLYN, NEW YORK QUADRANGLES, DATED 2016.

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LANGAN
21 Penn Plaza, 360 West 31st Street, 8th Floor
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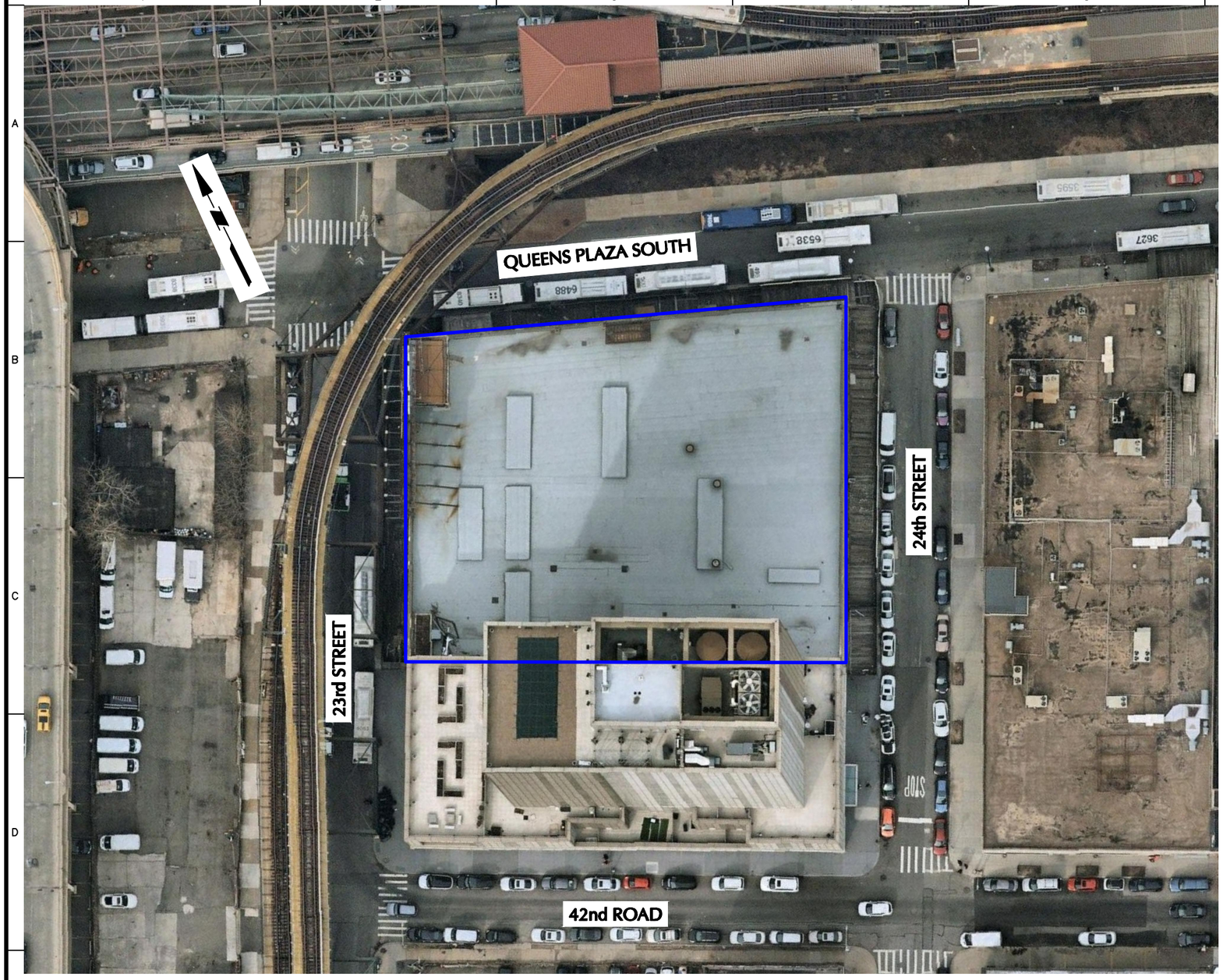
Langan Engineering and Environmental Services, Inc.
Langan International LLC
Collectively known as Langan

Project
23-10 QUEENS PLAZA SOUTH
BLOCK NO. 425, LOT NO. 5
QUEENS
LONG ISLAND CITY NEW YORK

Figure Title
SITE LOCATION MAP

Project No. 170244603	Figure No. 1
Date 12/27/2018	
Scale 1" = 1000'	
Drawn By VDP / Checked By PM	
Submission Date	Sheet 1 of 6

Filename: \\Langan.com\data\NY\data6\170244601\Cadd Data - 170244601\2D-DesignFiles\Environmental\CCR (23-10 QPS)\Figure 1 - Site Location Map.dwg Date: 3/4/2019 Time: 16:42 User: vdepaula Style Table: Langan.stb Layout: Site Location Map



LEGEND:

APPROXIMATE SITE BOUNDARY

NOTES:

1. AERIAL IMAGE OBTAINED FROM NEARMAP, DATED 24 MARCH 2019.

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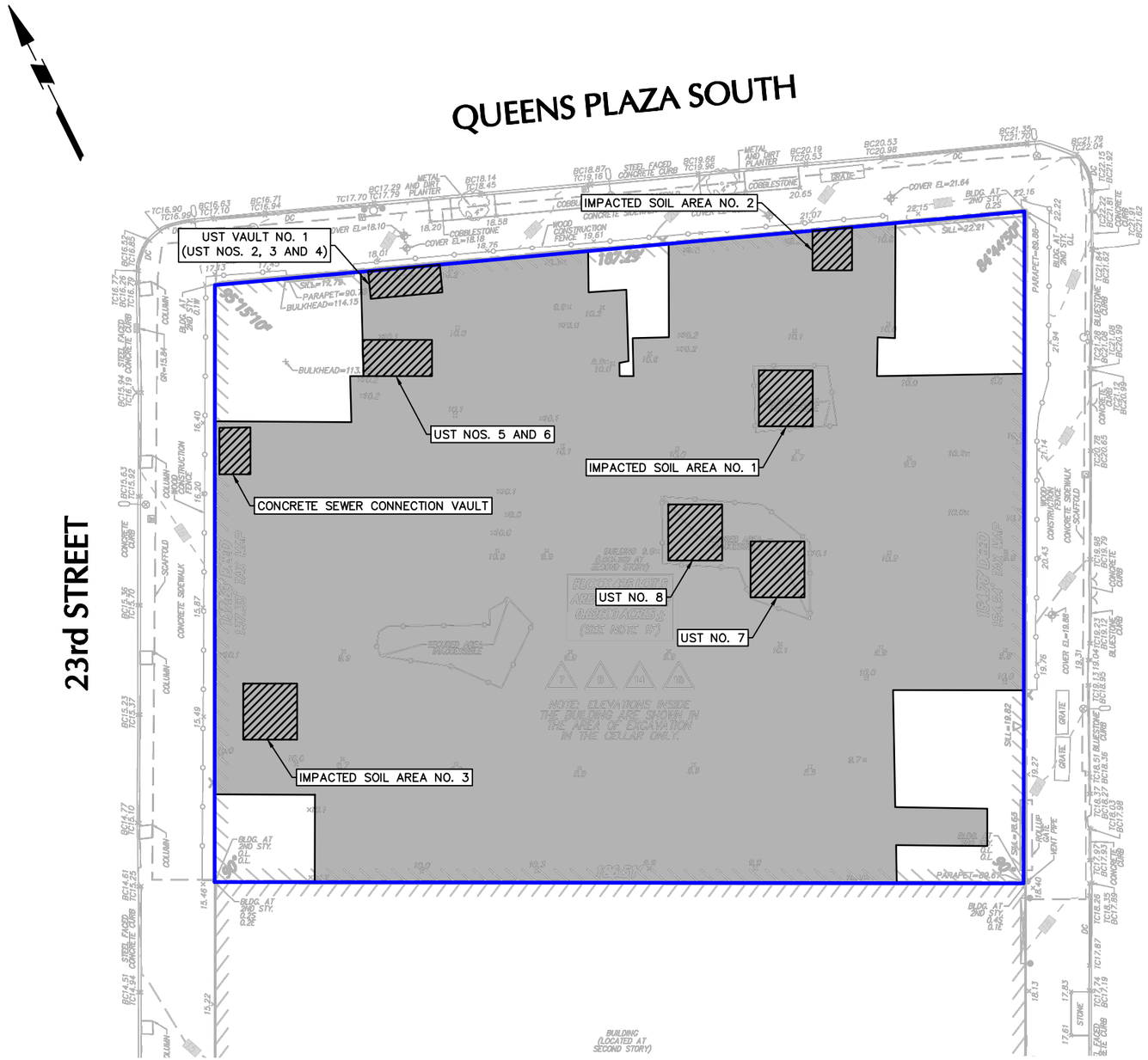
23-10 QUEENS PLAZA SOUTH
BLOCK NO. 425, LOT NO. 5
QUEENS
LONG ISLAND CITY NEW YORK

Figure Title
SITE PLAN

Project No. 170244603	Figure No. 2
Date 12/10/2018	
Scale 1" = 50'	
Drawn By RB	
Submission Date	Sheet 2 of 7

Filename: \\langan.com\data\NY\data6\170244601\Cadd Data - 170244601\2D-DesignFiles\Environmental\Decision Document\Figure 2 - Site Plan.dwg Date: 7/8/2019 Time: 14:36 User: vdepaula Style Table: Langan.stb Layout: ANSIB-BL



LEGEND:

- SITE BOUNDARY
- APPROXIMATE EXCAVATION EXTENTS TO ABOUT 2.5 FEET BCS
- APPROXIMATE EXCAVATION EXTENTS FOR HOTSPOTS AND SUBSURFACE STRUCTURES

NOTES:

1. BASE MAP REFERENCED FROM TOPOGRAPHIC AND BOUNDARY SURVEY BY LANGAN, DATED 31 AUGUST 2018, AND REVISED 19 SEPTEMBER 2018.
2. ELEVATIONS ARE IN FEET AND REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. BCS = BELOW CELLAR SLAB
4. UST = UNDERGROUND STORAGE TANK

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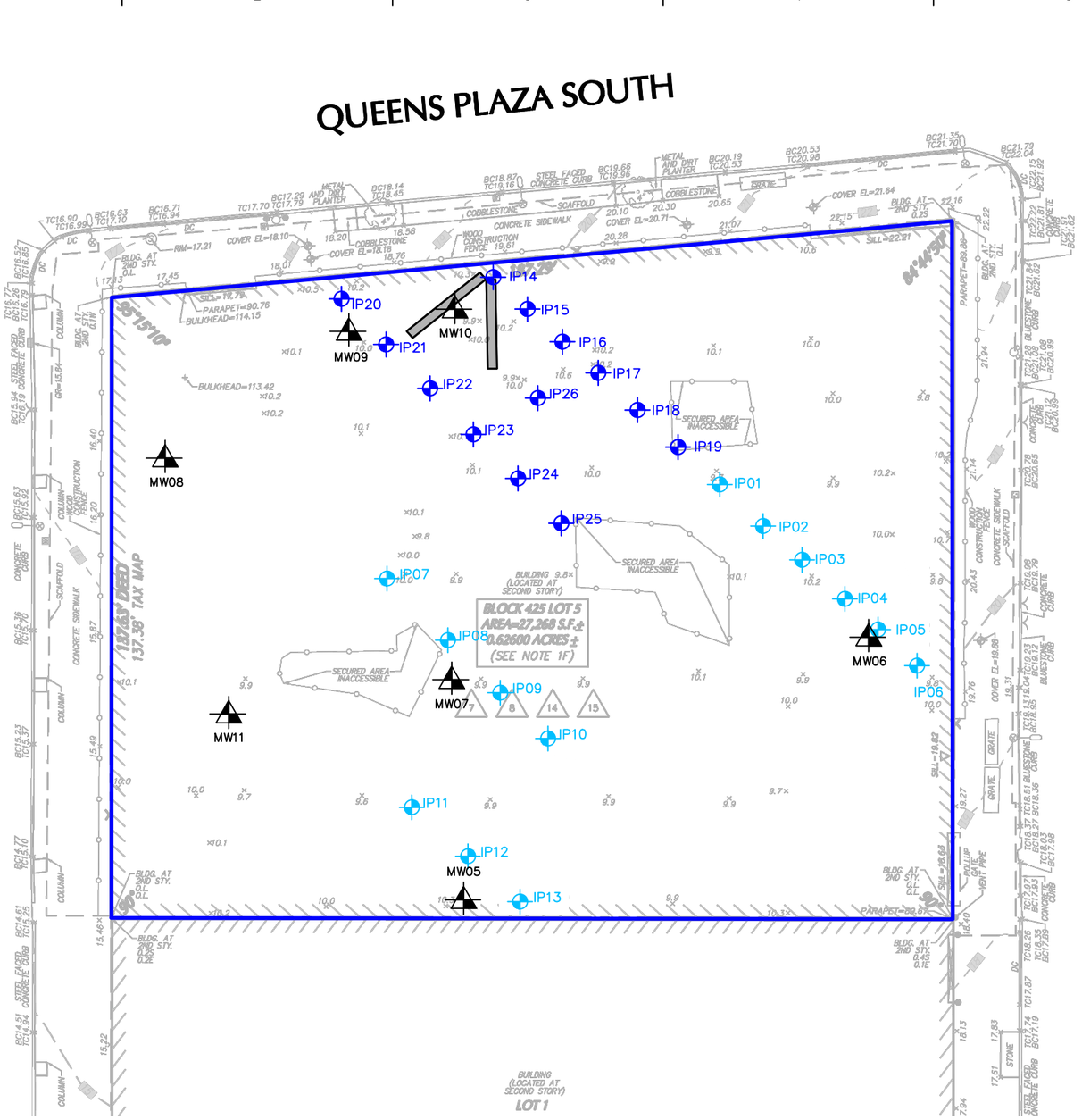
BLOCK NO. 425, LOT NO. 5
QUEENS
LONG ISLAND CITY NEW YORK

Figure Title
EXCAVATION EXTENTS MAP

Project No. 170244603	Figure No. 3A
Date 12/12/2018	
Scale 1" = 30'	
Drawn By RB	
Submission Date –	Sheet 3 of 6

Filename: \\langan.com\data\NY\data6\170244601\Cadd Data - 170244601\2D-DesignFiles\Environmental\Decision Document\Figure 3a - Excavation Extents Map.dwg Date: 7/8/2019 Time: 14:36 User: vdepaula Style Table: Langan.stb Layout: ANSIB-BL



LEGEND:

- SITE BOUNDARY
- IP19 — APPROXIMATE HIGH-DOSE INJECTION POINT LOCATION
- IP01 — APPROXIMATE LOW-DOSE INJECTION POINT LOCATION
- APPROXIMATE SUPPLEMENTAL APPLICATION TRENCH LOCATION
- MW05 — APPROXIMATE MONITORING WELL LOCATION

NOTES:

1. BASE MAP REFERENCED FROM TOPOGRAPHIC AND BOUNDARY SURVEY BY LANGAN, DATED 31 AUGUST 2018, AND REVISED 19 SEPTEMBER 2018.
2. ELEVATIONS ARE IN FEET AND REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. HIGH-DOSE AND LOW-DOSE INJECTIONS WERE COMPLETED BY REGENESIS AND SUBMIT DRILLING BETWEEN 5 AND 14 SEPTEMBER. PLUMESTOP™ AND HRC® WERE INJECTED USING A "BOTTOM-UP" APPROACHING FROM REFUSAL DEPTH TO THE TOP OF THE GROUNDWATER TABLE.
4. SUPPLEMENTAL APPLICATION TRENCH LOCATIONS WERE EXCAVATED BY BROOKSIDE ENVIRONMENTAL, INC. BETWEEN 3 AND 4 OCTOBER 2018 AND WERE ABOUT 15 FEET LONG BY 3 FEET WIDE. PLUMESTOP™, HRC®, AND AQUAZVI™ SOLUTIONS WERE MIXED FROM ABOUT 5 TO 10 FEET BELOW CELLAR SLAB USING AN EXCAVATOR.

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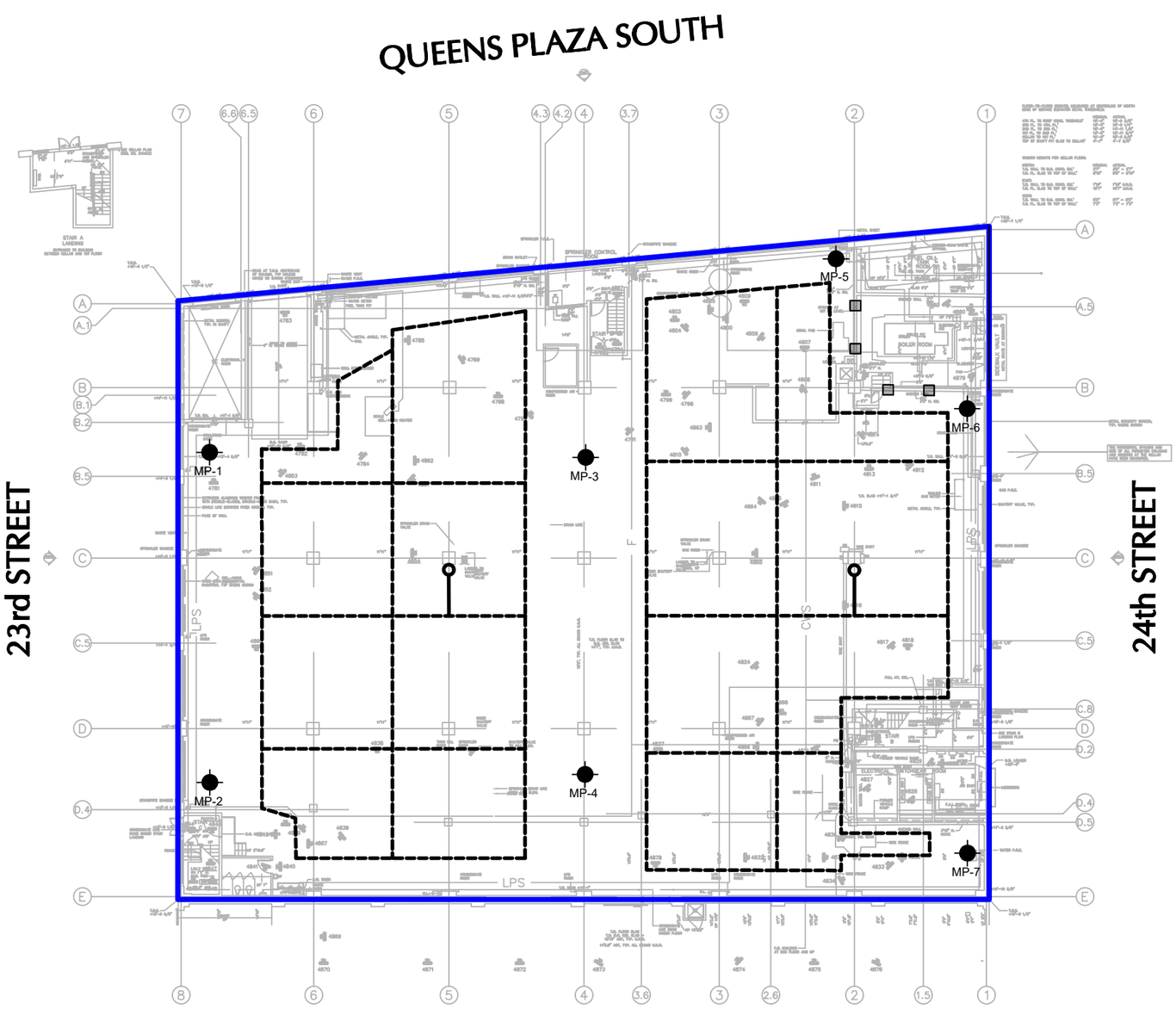
Project
23-10 QUEENS PLAZA SOUTH
BLOCK NO. 425, LOT NO. 5
QUEENS
LONG ISLAND CITY NEW YORK

Figure Title
IN-SITU GROUNDWATER TREATMENT LOCATION MAP

Project No. 170244603	Figure No. 3B
Date 12/12/2018	
Scale 1" = 30'	
Drawn By RB	
Submission Date	Sheet 4 of 7

Filename: \\langan.com\data\NY\data6\170244601\Cadd Data - 170244601\2D-DesignFiles\Environmental\Decision Document\Figure 3b - In-Situ Groundwater Treatment Location Map.dwg Date: 7/8/2019 Time: 14:37 User: vdepaula Style Table: Langan.stb Layout: ANSIB-BL



LEGEND:

- SITE BOUNDARY
- APPROXIMATE PERFORATED PIPE LOCATION
- APPROXIMATE SOLID PIPE LOCATION
- APPROXIMATE RISER PIPE LOCATION
- APPROXIMATE COMMUNICATION POINT LOCATION
- MP-1 APPROXIMATE PROPOSED MONITORING POINT LOCATION

NOTES:

1. BASE MAP REFERENCED FROM DRAWING TITLED "CELLAR EXISTING PLAN" BY JOHN BAIN ASSOCIATES, DATED 25 SEPTEMBER 2013.

30 0 15 30
SCALE IN FEET

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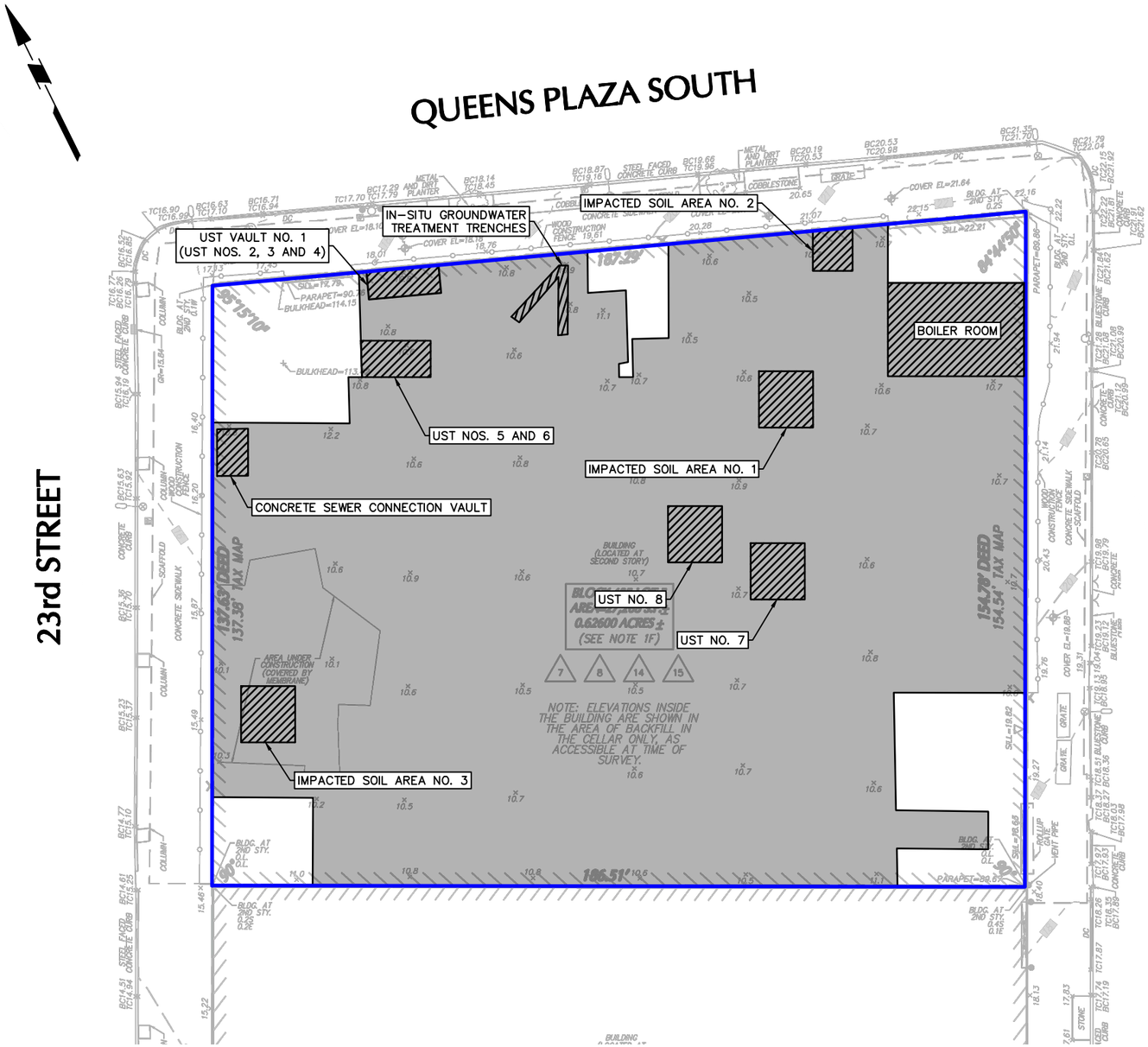
Project
23-10 QUEENS PLAZA SOUTH
BLOCK NO. 425, LOT NO. 5
QUEENS
LONG ISLAND CITY NEW YORK

Figure Title
SUB-SLAB DEPRESSURIZATION SYSTEM LAYOUT

Project No. 170244603	Figure No. 3C
Date 12/28/2018	
Scale 1" = 30'	
Drawn By RB	
Submission Date	Sheet 5 of 7

Filename: \\langan.com\data\NY\data6\170244601\Cadd Data - 170244601\2D-DesignFiles\Environmental\Decision Document\Figure 3c - Sub-Slab Depressurization System Layout.dwg Date: 7/8/2019 Time: 08:11 User: vdepaula Style Table: Langan.stb Layout: ANSIB-BL



LEGEND:

- SITE BOUNDARY
- APPROXIMATE BACKFILL AREA FOR GAS PERMEABLE LAYER
- APPROXIMATE BACKFILL AREA FOR OVER-EXCAVATIONS AND SUBSURFACE STRUCTURES

NOTES:

1. BASE MAP REFERENCED FROM TOPOGRAPHIC AND BOUNDARY SURVEY BY LANGAN, DATED 31 AUGUST 2018, AND REVISED 19 SEPTEMBER 2018.
2. GAS PERMEABLE LAYER COMPRISED OF 8-INCH-THICK LAYER OF 3/4-INCH STONE.

30 0 15 30
SCALE IN FEET

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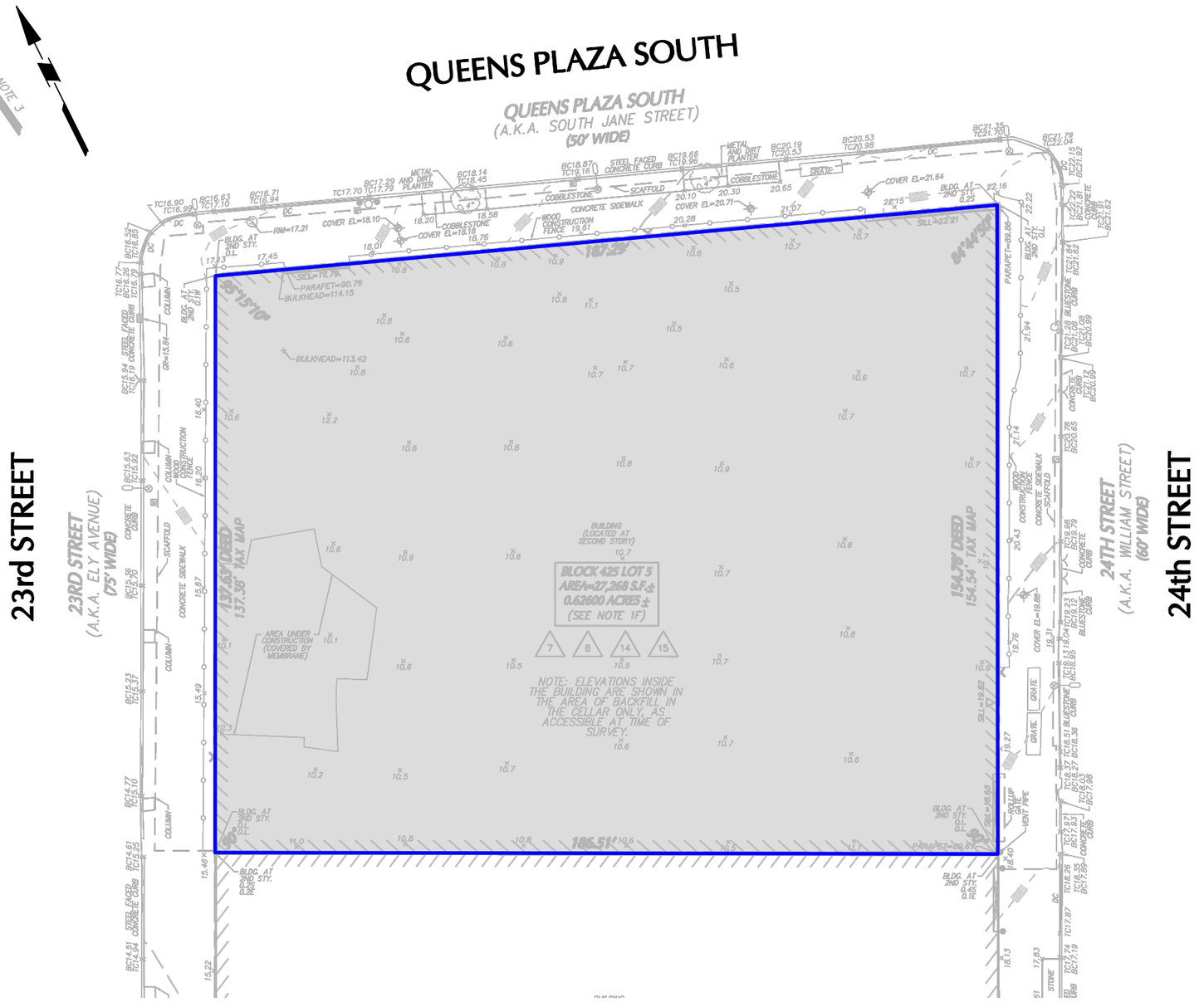
Project	23-10 QUEENS PLAZA SOUTH BLOCK NO. 425, LOT NO. 5 QUEENS LONG ISLAND CITY NEW YORK
Figure Title	BACKFILL AREA LOCATION MAP
Project No.	170244603
Date	12/06/2018
Scale	1" = 30'
Drawn By	RB
Submission Date	
Figure No.	3D
Sheet	6 of 7

Filename: \\langan.com\data\NY\data6\170244601\Cadd Data - 170244601\2D-DesignFiles\Environmental\Decision Document\Figure 3d - Backfill Area Location Map.dwg Date: 7/8/2019 Time: 14:44 User: vdepaula Style Table: Langan.stb Layout: ANSIB-BL



LEGEND:

- SITE BOUNDARY
- MINIMUM FOUR-INCH CONCRETE CELLAR SLAB

NOTES:

1. BASE MAP REFERENCED FROM TOPOGRAPHIC AND BOUNDARY SURVEY BY LANGAN, DATED 31 AUGUST 2018, AND REVISED 19 SEPTEMBER 2018.
2. ELEVATIONS ARE IN FEET AND REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. ELEVATIONS SHOWN WITHIN THE SITE BOUNDARY REPRESENT TOP OF THE BACKFILLED AREAS PRIOR TO CONCRETE SLAB PLACEMENT.

30 0 15 30
SCALE IN FEET

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Project	23-10 QUEENS PLAZA SOUTH BLOCK NO. 425, LOT NO. 5 QUEENS LONG ISLAND CITY NEW YORK
Figure Title	COMPOSITE COVER SYSTEM LAYOUT
Project No.	170244603
Date	12/10/2018
Scale	1" = 30'
Drawn By	RB
Submission Date	
Figure No.	3E
Sheet	7 of 7

Filename: \\langan.com\data\NY\data6\170244601\Cadd Data - 170244601\2D-DesignFiles\Environmental\Decision Document\Figure 3e - Composite Cover System Layout.dwg Date: 7/8/2019 Time: 14:45 User: vdepaula Style Table: Langan.stb Layout: ANSIB-BL