

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau B

625 Broadway, 12th Floor, Albany, NY 12233-7016

P: (518) 402-9767 | F: (518) 402-9773

www.dec.ny.gov

Luciano LLC
Attn: Dr. Mark Dong
25 Aldgate Dr. E
Manhasset, New York 11030

Re: 124-22 Queens Boulevard, Kew Gardens Site
BCP Site C241177
Kew Gardens, Queens
Remedial Work Plan & Decision Document

Dear Dr. Dong:

The New York State Department of Environmental Conservation (Department) and the New York State Department of Health (NYSDOH) have reviewed the Remedial Work Plan (RWP) for the 124-22 Queens Boulevard, Kew Gardens Site dated June 2020 and prepared by P.W. Grosser Consulting, Inc. on behalf of the Luciano LLC. The RWP is hereby approved. Please ensure that a copy of the approved RWP is placed in the document repository(ies). The draft plan should be removed.

Attached is a copy of the Department's Decision Document for the site. The remedy is to be implemented in accordance with this Decision Document. Please ensure that a copy of the Decision Document is placed in the document repository(ies).

Please contact the Department's Project Manager, Sadique Ahmed, at 518 368 5120 or Sadique.ahmed@dec.ny.gov at your earliest convenience to discuss next steps. Please recall the Department requires seven days notice prior to the start of field work.

Sincerely,

Gerard Burke

Gerard Burke
Director
Remedial Bureau B
Division of Environmental Remediation



Department of
Environmental
Conservation



Enclosure

ec w/attachments:

Michael Ryan

Gerard Burke

John Grathwol

Jane O'Connell

Sadique Ahmed

Kieran McCarthy, Esq.

Christine N. Vooris, NYSDOH

Scarlet Mclaughlin, NYSDOH

Angela Martine, NYSDOH

Dr. Mark Dong, Luciano LLC

Paul Stewart, Advanced Cleanup Technologies, Inc.

Xian Feng Zou, Esquire, Law Offices of Xian Feng Zou

DECISION DOCUMENT

124-22 Queens Boulevard, Kew Gardens Site
Brownfield Cleanup Program
Kew Gardens, Queens County
Site No. C241177
June 2020



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

DECLARATION STATEMENT - DECISION DOCUMENT

124-22 Queens Boulevard, Kew Gardens Site
Brownfield Cleanup Program
Kew Gardens, Queens County
Site No. C241177
June 2020

Statement of Purpose and Basis

This document presents the remedy for the 124-22 Queens Boulevard, Kew Gardens 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 124-22 Queens Boulevard, Kew Gardens site and the public's input to the proposed remedy presented by the Department.

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, 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 gas 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.

2. Cover System:

A site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). This soil cover will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

3. In-Situ Chemical Oxidation

In-situ chemical oxidation will be implemented to treat volatile organic compounds (VOCs) in groundwater. A chemical oxidant will be injected into the subsurface to destroy the VOCs in an approximately 2500 square foot area located in the middle and eastern portion of the site where chlorinated VOC compounds were elevated in the groundwater via injection wells screened from 50 to 77 feet below ground surface. The method and depth of injection will be determined during the remedial design.

4. Soil Vapor Extraction (SVE)

SVE will be implemented to remove VOCs from the subsurface. VOCs will be physically removed from the soil by applying a vacuum to wells that have been installed into the vadose zone (the area below the ground but above the water table). The vacuum draws air through the soil matrix which carries the VOCs from the soil to the SVE well. The air extracted from the SVE wells is then treated as necessary prior to being discharged to the atmosphere.

During multiple pilot tests vacuum readings at different monitoring points recorded positive pressures. So, instead of a traditional SVE system a “smaller bower, multiport SVE system” is recommended at this site. This system would be included nine SVE wells installed into the vadose zone (six in western portion of the site and three in the southeastern area) and screened from 15 feet below the ground surface to a depth of approximately 25 feet. The air containing VOCs extracted from the SVE wells will be treated by passing the air stream through activated carbon which removes the VOCs from the air prior to it being discharged to the atmosphere.

5. Vapor Mitigation (SSDS)

Any on-site buildings will be required to have a Sub-Slab Depressurization System (SSDS), or other acceptable measures, to mitigate the migration of vapors into the building.

6. 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 the Department 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 restricted residential 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 NYCMHDOH; and
- require compliance with the Department approved Site Management Plan.

7. 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 6 above.

Engineering Controls: The Site Cover discussed in Paragraph 2 above, In-Situ Chemical Oxidation discussed in Paragraph 3 above, Soil Vapor Extraction system discussed in paragraph 4 and Sub Slab Depressurization System discussed in Section 5 of this Decision Document.

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; which will include a provision to implement a Community Air Monitoring Plan (CAMP) for any future ground intrusive activity including utility work;
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- descriptions of the provisions of the environmental easement including any land use and/or 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 Paragraph 3 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs)
- provisions for the management and inspection of the identified engineering control
- maintaining site access controls and Department 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 soil, groundwater, and soil vapor to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system(s). The plan includes, but is not limited to:

- procedures for operating and maintaining the system(s); and
- compliance inspection of the system(s) to ensure proper O&M as well as providing the data for any necessary reporting.

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.

June 10, 2020

Gerard W Burke

Date

Gerard Burke, Director
Remedial Bureau B

DECISION DOCUMENT

124-22 Queens Boulevard, Kew Gardens Site
Kew Gardens, Queens County
Site No. C241177
June 2020

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 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, 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 at Richmond Hill
118-14 Hillside Avenue
Richmond Hill, NY 11418
Phone: (718) 849-7150

Queens Community Board 9
120-55 Queens Boulevard, Rm. 310A
Kew Gardens, NY 11424
Phone: (718) 286-2686

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 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

Site Location: The 124-22 Queens Boulevard, Kew Gardens Site comprises 0.18 acres and is located in a residential and commercial area in the central portion of Queens. The site is on the west side of Queens Boulevard between 82nd Avenue and 82nd Road.

Site Features: The site had a two-story commercial building with partial basement that was demolished during 2017. The building had four commercial units that were previously occupied by a dry cleaner, and three vacant units. The building had a footprint of approximately 4,800 square feet and was built in 1951. Approximately 2,900 square feet of unpaved area existed behind the building. During the 2017 Interim Remedial Measure (IRM), the slab and most of the contaminated soil was excavated and disposed off-site.

Current Zoning and Land Use: The site area is zoned C4-4 (commercial). The surrounding parcels are currently used for a combination of commercial, residential and governmental use, as well as utility rights of way.

Past Use of the Site: A portion of the site was used as a dry cleaner from 1986 until 2015. Past use of the remainder of the site was mainly as commercial and office space.

Site Geology and Hydrogeology: Subsurface soil beneath the site consists of orange fine sands and silt down to approximately 9 feet in depth. Below that, a gray to black layer of silty clay was encountered. Groundwater at the site was encountered at around 65 feet below grade surface (bgs), with a flow towards the north.

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 that restrict the use of the site to restricted-residential use (which allows for commercial use and industrial use) as described in Part 375-1.8(g) were 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 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) 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
- sub-slab 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:

tetrachloroethene (PCE)	vinyl chloride (VC)
trichloroethene (TCE)	
cis-1,2-dichloroethene	

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.

The following IRM has been completed at this site based on conditions observed during the RI.

Soil Removal Interim Remedial Measure (IRM)

Excavation: Soil from two contaminant source areas, which included grossly contaminated soil, were excavated and disposed off-site. One source area was located on the western part of the site and other source area was located at the northeast corner of the site. Excavation was completed down to approximately 13 feet below ground surface (bgs).

Under the Department-approved IRM Work Plan, building demolition, soil excavation and disposal activities were initiated in December 2016. The demolition of on-site above-ground structures, with the exception of the concrete floor slab, was completed initially, followed by asbestos abatement of the remaining floor slab. Once abatement activities were completed, demolition of the remaining building floor slab proceeded in July 2017. The floor slab was demolished in place where no sub-slab soils were excavated or disposed of during the slab demolition activities.

Following the completion of the first round of hazardous soil excavation and disposal activities in 2017, endpoint samples were collected. The results were then used to refine the limits of hazardous material remaining at the site. Final depths of these hazardous waste hotspot excavations ranged from 6.5 to 13.5 feet bgs. The excavated hazardous PCE-impacted soil was properly disposed of off-site. The IRM will be documented in the Final Engineering Report (FER).

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. Based upon the subsurface investigations conducted to date, the primary contaminants of concern for the site are chlorinated volatile organic compounds (CVOCs), including tetrachloroethylene (PCE) and its breakdown products trichloroethylene (TCE), dichloroethene (DCE) and vinyl chloride (VC).

Soil: The highest PCE concentration (510 parts per million or ppm) was found in a soil sample collected at a depth of 16 to 18 feet bgs. The soil cleanup objectives for restricted residential use and protection of groundwater for PCE are 19 and 1.3 ppm, respectively. PCE also detected in several soil samples collected from shallower depths just below the former basement slab ranging from 1.5 to 35 ppm, which were excavated during the IRM.

Groundwater - PCE and its associated degradation products were found in groundwater throughout the site in excess of their individual groundwater standard (typically 5 ppb). The maximum concentration of PCE at the site was 28,000 parts per billion (ppb). As noted, degradation products were also found, with TCE (max. 2,500 ppb), DCE (max. 1,900 ppb) and VC (max. 1,300 ppb) also detected in several groundwater samples in excess of standards. 1,4-Dioxane was non-detect in all groundwater samples collected from six monitoring wells. PFOA has one exceedance of the 70 part per trillion (ppt) screening level at 76 ppt. The potential for off-site migration exists.

Soil Vapor: Eight soil vapor samples were collected and analyzed during the RI. CVOC soil vapor impacts were detected in all samples. PCE was detected in all soil vapor samples at

concentrations ranging from 430 to 250,000 micrograms per cubic meter (ug/m³), exceeding the mitigation threshold. The highest concentration of PCE in soil vapor was detected in the former dry-cleaning machine area. TCE contamination ranged from 19 to 4,300 ug/m³. The potential for off-site migration exists.

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*.

People who enter may come into contact with contaminants in soils and groundwater by walking on the site, digging or otherwise disturbing the soil. 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. Because the site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern. The potential exists for the inhalation of site contaminants due to soil vapor intrusion for future on-site development. Environmental sampling indicates that soil vapor intrusion is a concern for off-site buildings.

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 use with site specific soil cleanup objectives remedy.

The selected remedy is referred to as the Soil Vapor Extraction (SVE), In-Situ Chemical Oxidation (ISCO), Sub-Slab Depressurization System (SSDS) and Cover System remedy.

The elements of the selected remedy, as shown in Figures 2, 3 and 4 are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, 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 gas and other emissions;
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sustainable re-development.

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Groundwater: A chemical oxidant will be injected into the subsurface to destroy the volatile organic compounds (VOCs) in an approximately 2500 square foot area located in the middle and eastern portion of the site where chlorinated compounds were elevated in the groundwater via injection wells screened from 50 to 77 feet below ground surface. The method and depth of injection will be determined during the remedial design.

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During multiple pilot tests vacuum readings at different monitoring points recorded positive pressures. So, instead of a traditional SVE system a “smaller bower, multiport SVE system” is recommended at this site. This system would be included nine SVE wells installed into the vadose zone (six in western portion of the site and three in the southeastern area) and screened from 15 feet below the ground surface to a depth of approximately 25 feet. The air containing VOCs extracted from the SVE wells will be treated by passing the air stream through activated carbon which removes the VOCs from the air prior to it being discharged to the atmosphere.

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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 the Department 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 restricted residential 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 NYCMHDOH; and
- require compliance with the Department approved Site Management Plan.

7. 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 6 above.

Engineering Controls: The Site Cover discussed in Paragraph 2 above, In-Situ Chemical Oxidation discussed in Paragraph 3 above, Soil Vapor Extraction system discussed in paragraph 4 and Sub Slab Depressurization System discussed in Section 5 of this Decision Document.

This plan includes, but may not be limited to:

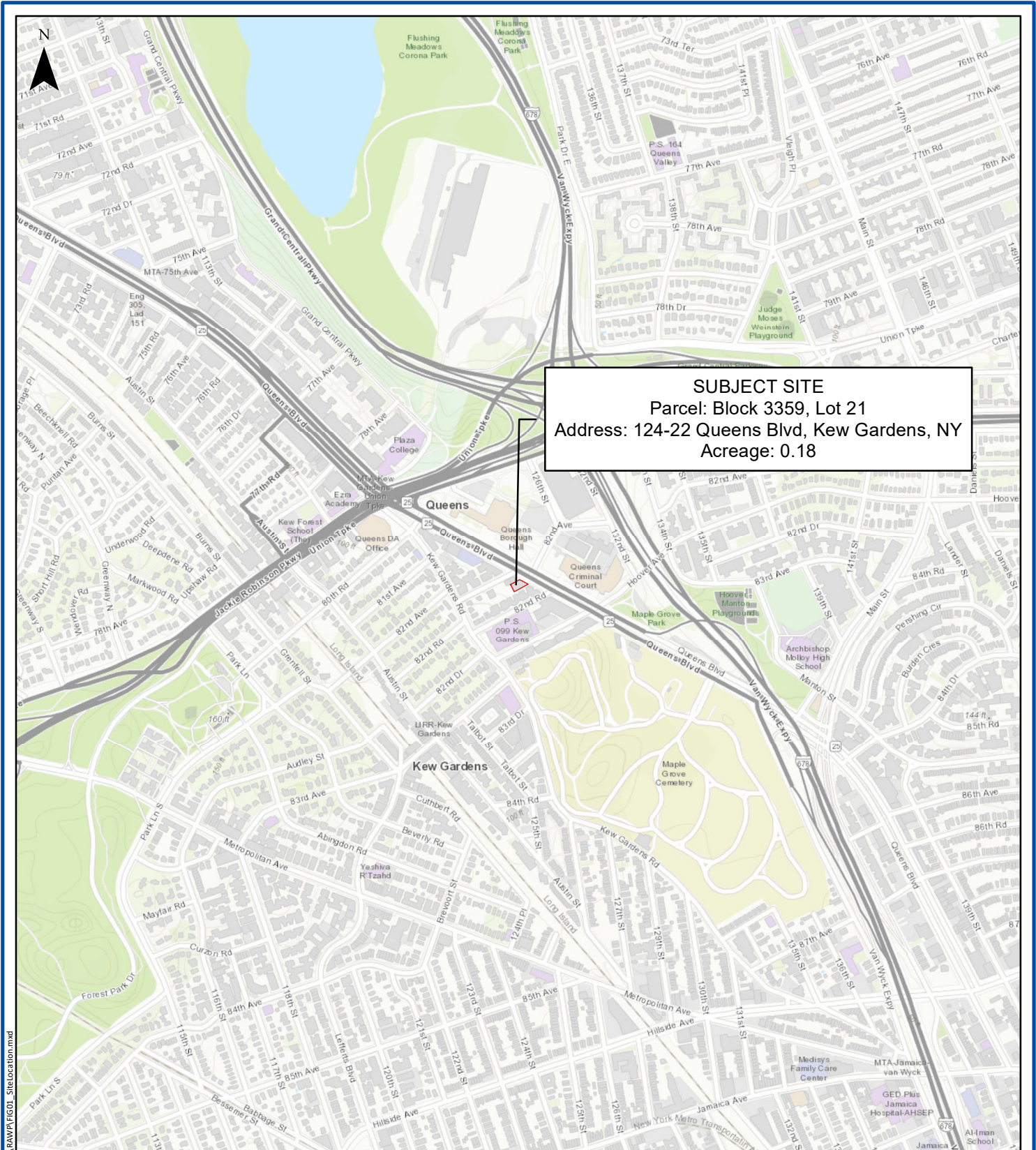
- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination; which will include a provision to implement a Community Air Monitoring Plan (CAMP) for any future ground intrusive activity including utility work;
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- descriptions of the provisions of the environmental easement including any land use and/or 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 Paragraph 3 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs)
- provisions for the management and inspection of the identified engineering control
- maintaining site access controls and Department 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 soil, groundwater, and soil vapor to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system(s). The plan includes, but is not limited to:

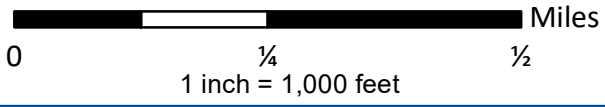
- procedures for operating and maintaining the system(s); and
- compliance inspection of the system(s) to ensure proper O&M as well as providing the data for any necessary reporting.



SUBJECT SITE
 Parcel: Block 3359, Lot 21
 Address: 124-22 Queens Blvd, Kew Gardens, NY
 Acreage: 0.18

SITE LOCATION

124-22 QUEENS BLVD
 KEW GARDENS, NY



Project:	ACT1701
Date:	7/29/2019
Designed by:	JP
Drawn by:	TS
Approved by:	JP
Figure No:	1

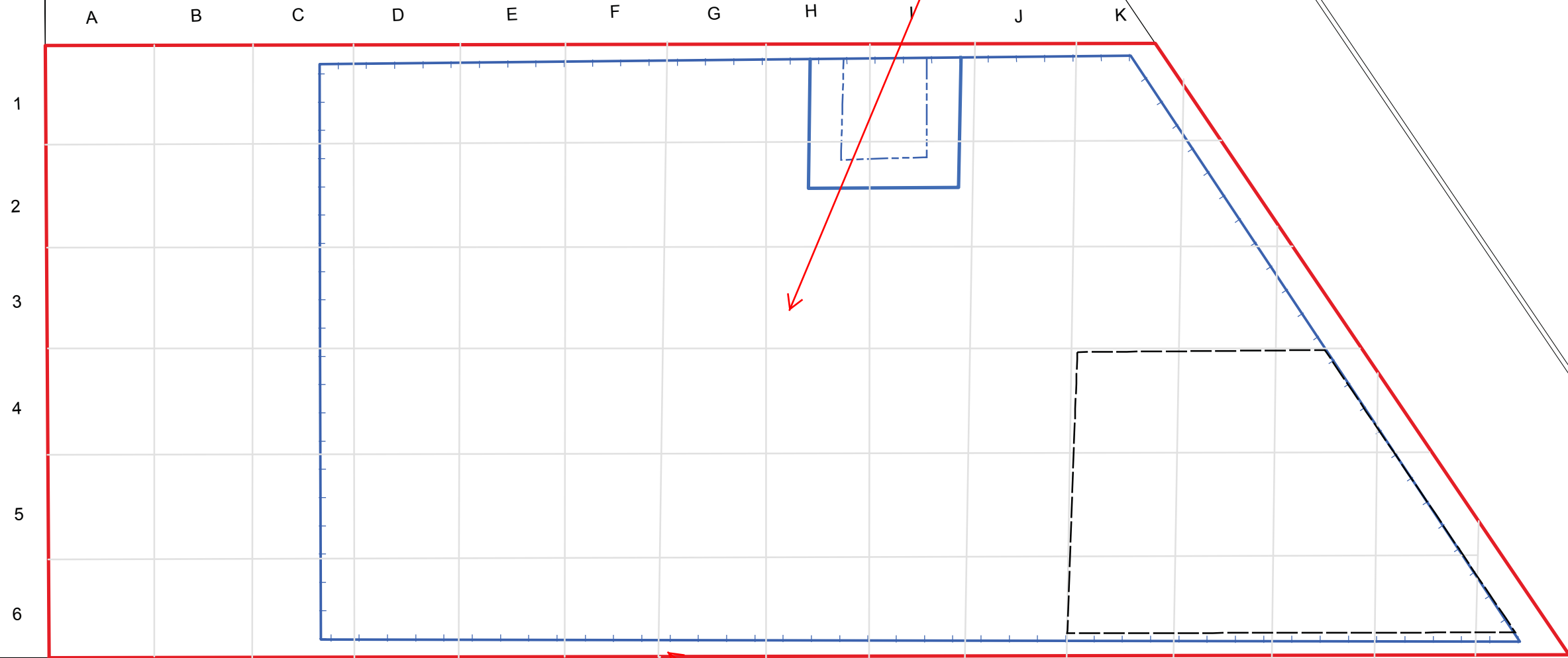
Document path: W:\Projects\A-D\ACT1701\map_files\PAWP\FIG01_SiteLocation.mxd

P.W. Grosser Consulting, Inc.
 630 Johnson Ave., Suite 7
 Bohemia, NY 11716
 Ph: 631-589-6353 • Fax: 631-589-8705
 pwgc.info@pwgros.com



Subject Site
 Block-3359, Lot-21
 Address: 124-22 Queens
 Boulevard.
 Acreage: 0.18

QUEENS BLVD



Site Boundary

- Former Partial Cellar
- Grid
- Former Dry Cleaner Machine
- Former Dry Cleaner Enclosure
- Former Building Footprint
- Curblines
- Site Boundary

Note: Interior Building Layout is Approximate and Not to Scale.



P.W. GROSSER CONSULTING, INC.
 630 Johnson Ave., Suite 7
 Bohemia, NY 11716
 Ph: 631-589-6353 • Fax: 631-589-8705
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DRAWING PREPARED FOR:

Luciano, LLC
 25 Aldgate Drive East
 Manhasset, New York 11030
 &
 NYS Department of Environmental Conservation
 Division of Environmental Remediation
 625 Broadway
 Albany, New York 12233

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

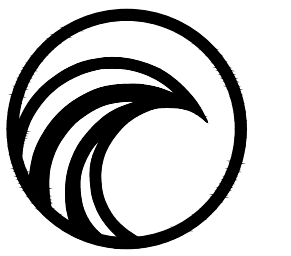
Project: ACT1701 Designed by: JP
 Date: 3/5/2018 Drawn by: TS
 Scale: AS SHOWN Approved by: JP

SITE PLAN

124-22 QUEENS BLVD
 KEW GARDENS, NY

FIGURE NO: 2

Document Path: W:\Projects\VA\ACT1701\map_files\RAW\PWGC\602_SitePlan.mxd



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CONSULTANTS

7		
6		
5		
4		
3		
2		
1		
DATE	BY	DATE
GMG		06/03/2020
GMG		04/29/2020
PKB		AS SHOWN

ADVANCED CLEANUP TECHNOLOGIES
110 MAIN STREET, STE 103
PORT WASHINGTON, NY 11050

SOIL VAPOR EXTRACTION SYSTEM

124-22 QUEENS BLVD
KEW GARDENS, NY 11415

SITE PLAN

M-01

Figure - 3

SCOPE OF WORK

INSTALLATION OF SOIL VAPOR EXTRACTION (SVE) SYSTEM AT 124-22 QUEENS BOULEVARD QUEENS, KEW GARDENS 11415 AS SHOWN ON THESE PLANS.

PROJECT BACKGROUND:

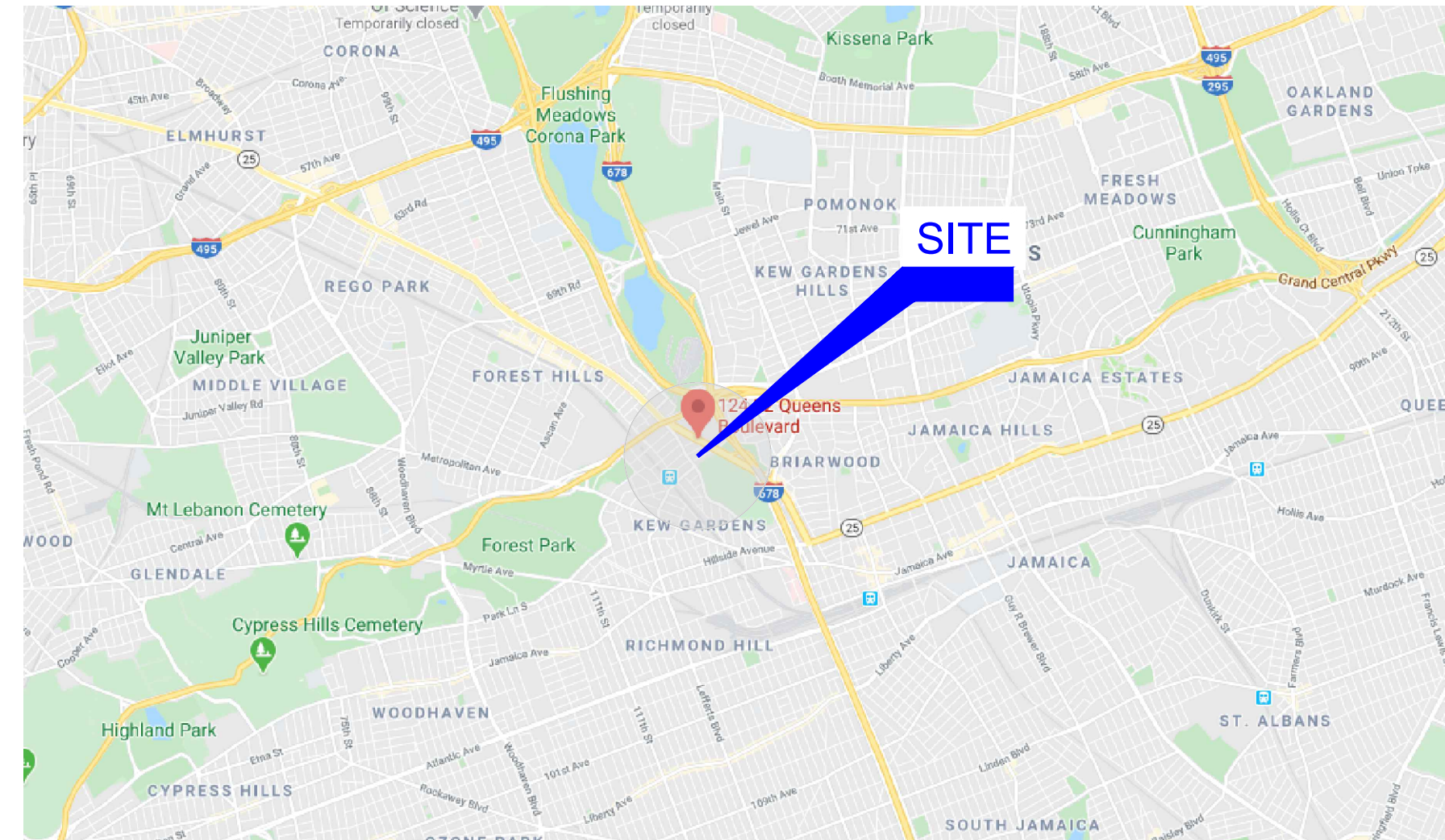
- DURING CONSTRUCTION OF THE BUILDING FOOTPRINT 4" DIA. PVC SLEEVES WERE INSTALLED IN THE CONCRETE SLAB. THE SLEEVES WERE INSTALLED SO THAT FUTURE WORK RELATED TO THE INSTALLATION OF AN SVE SYSTEM OR IN-SITU CHEMICAL INJECTION SYSTEM COULD BE DONE WITHOUT NEEDING TO CORE-DRILL THE CONCRETE SLAB.
- THIS PROJECT IS INSTALL AN SVE SYSTEM UTILIZING THESE PVC SLEEVES.
- THERE ARE TWO AREAS TO NOTE. MW-1 WHICH IS SURROUNDED BY 15 PVC SLEEVES AND MW-5 WHICH IS SURROUND BY 6 PVC SLEEVES ALL WITH 5' SPACING.
- THIS SVE SYSTEM IS TO BE CONSIDERED TEMPORARY AS PART OF A PILOT TEST PER THE REMEDIAL ACTION WORK PLAN (RAWP). IN THE EVENT THE SYSTEM PROVES EFFECTIVE THE SYSTEM WILL BE CHANGED TO A PERMANENT SVE SYSTEM.

THE WORK INCLUDES:

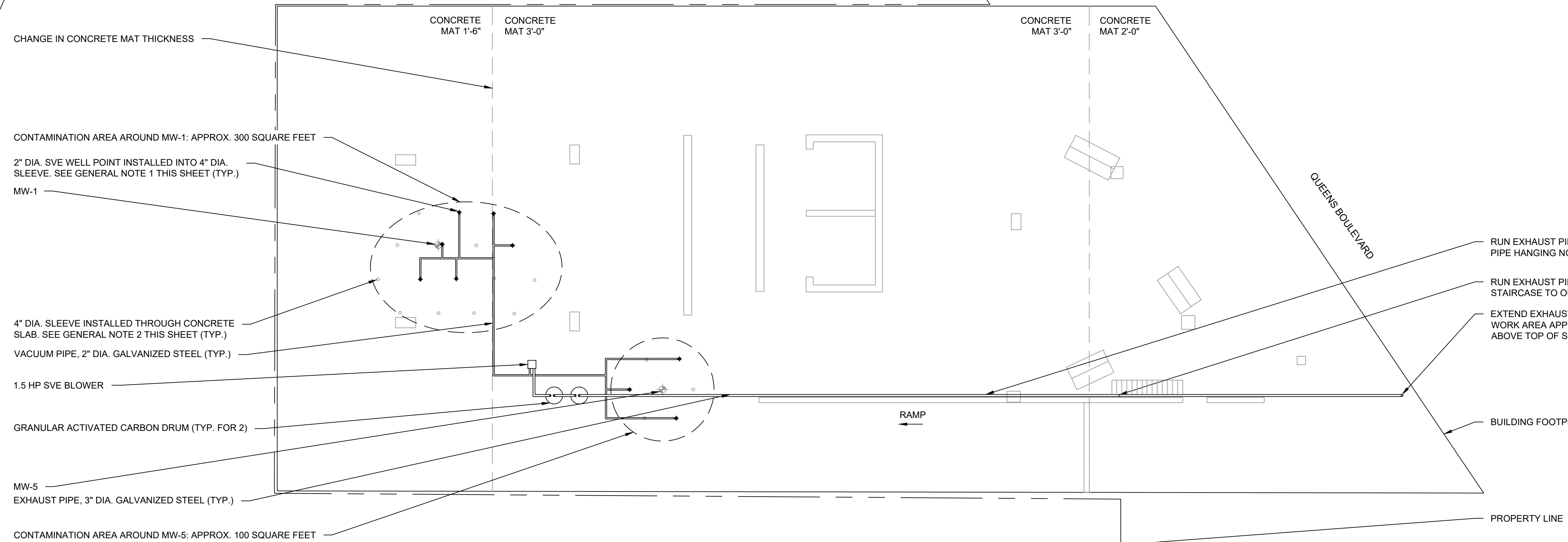
- INSTALLATION OF SOIL VAPOR EXTRACTION (SVE) SYSTEM. THE SVE SYSTEM IS DIVIDED INTO TWO SECTIONS, ONE PART FOR THE AREA AROUND MW-1 AND THE OTHER PART FOR THE AREA AROUND MW-5 AS SHOWN ON THESE PLANS. EACH SECTION IS CONNECTED TO A SINGLE 1.5 HP BLOWER.
- MW-1
 - SIX (6) 2" DIA. SVE WELL POINTS TO TEN (10) FEET BELOW THE CONCRETE SLAB. EACH WELL IS TO BE 5' OF SOLID GALVANIZED STEEL ON TOP AND 5' OF SLOTTED SCREEN WOVEN STEEL - SLOT SIZE 010.
 - EACH SVE WELL POINT IS TO MANIFOLD TOGETHER INTO A 2" DIA. GALVANIZED STEEL HEADER PIPE. THE HEADER PIPE SHALL CONNECT TO THE MW-5 HEADER PIPE AT THE SVE BLOWER.
- MW-5
 - THREE (3) 2" DIA. SVE WELL POINTS TO TEN (10) FEET BELOW THE CONCRETE SLAB. EACH WELL IS TO BE 5' OF SOLID GALVANIZED STEEL ON TOP AND 5' OF SLOTTED SCREEN WOVEN STEEL - SLOT SIZE 010.
 - EACH SVE WELL POINT IS TO MANIFOLD TOGETHER INTO A 2" DIA. GALVANIZED STEEL HEADER PIPE. THE HEADER PIPE SHALL CONNECT TO THE MW-1 HEADER PIPE AT THE SVE BLOWER.
- SVE SYSTEM
 - MW-1 AND MW-5 HEADER PIPES MANIFOLD AT SVE BLOWER INLET.
 - BLOWER EXHAUST PIPING TO BE 3" DIA. GALVANIZED STEEL.
 - EFFLUENT SHALL PASS THROUGH TWO (2) TREATMENT CARBON DRUMS.
 - 3" DIA. GALVANIZED STEEL SHALL RUN ALONG THE CEILING, PASS THROUGH THE STAIRCASE AND EXHAUST 10' ABOVE GRADE.

LEGEND

- GALVANIZED STEEL PIPE
- EXISTING MONITORING WELL
- EXISTING SLEEVE
- SVE WELL POINT



VICINITY MAP
SCALE: NOT TO SCALE



SVE SITE PLAN
SCALE: 1/8" = 1'-0"

REFERENCE DOCUMENTS:

S-101.01
TAN ARCHITECT P.C.
11/11/2016



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Project:	ACT1701	Designed by:	JE
Date:	6/4/2019	Drawn by:	UC
Scale:	AS SHOWN	Approved by:	JE

GROUNDWATER TREATMENT

FIGURE NO:
4

Sample ID	MW-1			
Sampling Date	2/28/2017	3/3/2017	2/23/2018	7/30/2018
PCE	52	29	9.7	110
Antimony	-	10	-	-
Magnesium	-	38,100	-	-
Manganese	-	975	-	-
Sodium	-	36,400	-	-

Sample ID	MW-4
Sampling Date	7/31/2018
DCE	47
TCE	160
PCE	28,000
Naphthalene	1,100

Sample ID	MW-2			
Sampling Date	2/28/2017	3/3/2017	2/22/2018	7/31/2018
1,1-DCE	8.2	7	17	14
1,2,4-Trimethylbenzene	-	-	6.6	3.4
Benzene	-	-	1.8	1.2
Chloroform	9	-	-	-
DCE	390	400	2,000	1,900
PCE	340	260	210	350
trans-1,2-DCE	30	26	140	120
TCE	880	810	2,100	2,500
VC	150	120	430	340
Xylenes, Total	-	-	8.2	4.3

Sample ID	TW-4
Sampling Date	2/23/2018
PCE	100
TCE	10

Sample ID	TW-3
Sampling Date	2/23/2018
Benzene	2
DCE	130
TCE	5.2
VC	41
Xylenes, Total	9.2

Sample ID	TW-1
Sampling Date	2/22/2018
Benzene	2.5
DCE	31
Toluene	5.2
VC	12
Xylenes, Total	5.2

Sample ID	MW-6
Sampling Date	7/31/2018
Benzene	1.1
DCE	280
PCE	5.6
trans-1,2-DCE	21
VC	1,300

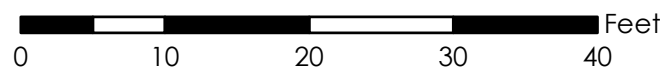
Sample ID	MW-3		
Sampling Date	3/3/2017	2/23/2018	7/31/2018
1,1-DCE	6.1	14	6.1
DCE	180	1500	290
PCE	1100	1300	890
trans-1,2-DCE	12	71	13
TCE	790	2500	950
VC	76	79	95

Sample ID	TW-2
Sampling Date	2/22/2018
1,2,4-Trimethylbenzene	6.7
Benzene	3.2
DCE	130
p- & m- Xylenes	7.1
VC	6.3
Xylenes, Total	11

Sample ID	MW-5
Sampling Date	7/30/2018
PCE	110
TCE	13

Definitions	AWQS (µg/L)
1,1-DCE - 1,1-Dichloroethylene	5
1,2,4-Trimethylbenzene	5
Chloroform	7
Benzene	1
DCE - cis-1,2-Dichloroethylene	5
p- & m- Xylenes	5
PCE - Tetrachloroethylene	5
Toluene	5
trans-1,2-DCE - trans-1,2-Dichloroethylene	5
TCE - Trichloroethylene	5
VC - Vinyl Chloride	2
Xylenes, Total	5

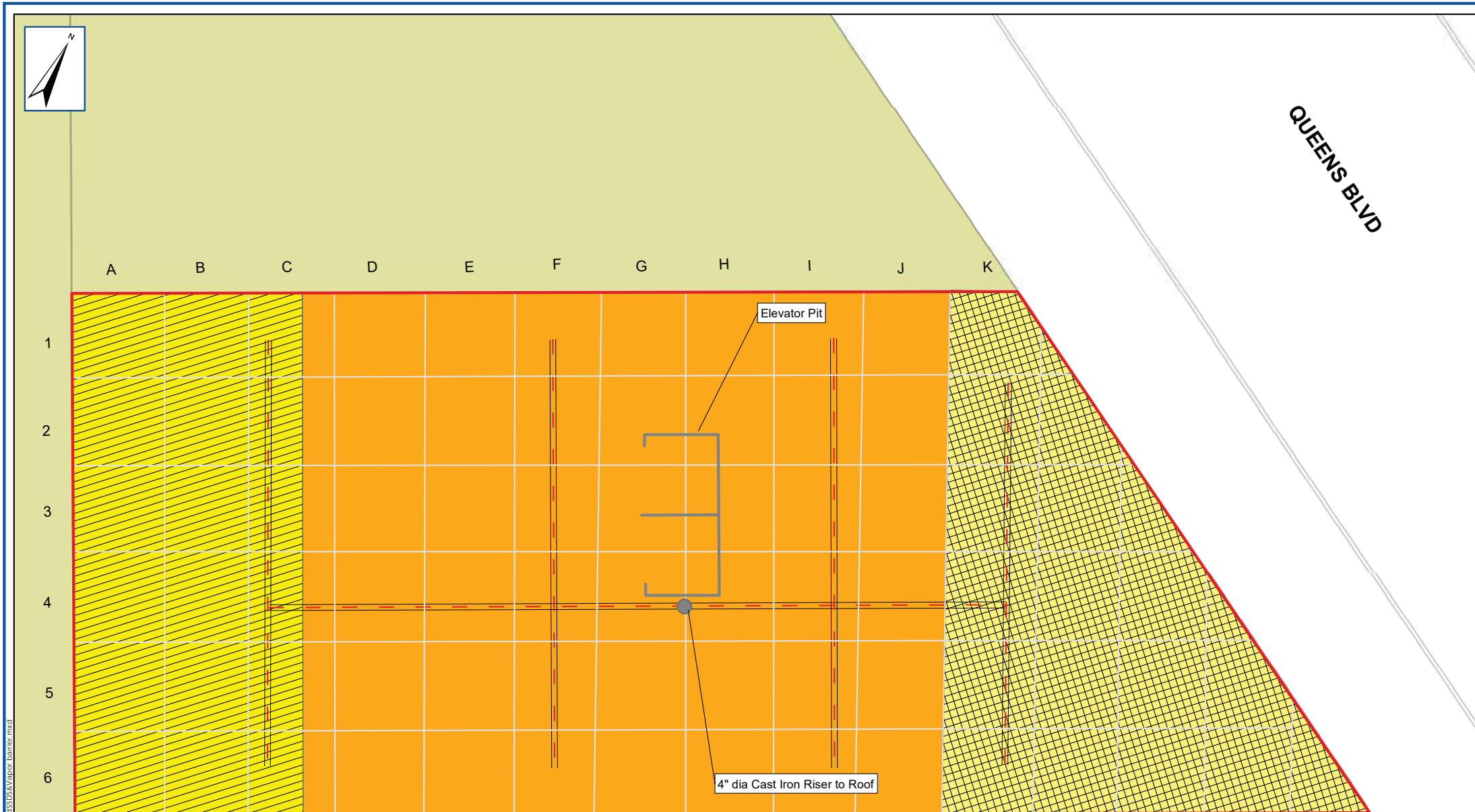
- Note:
- 1) Interior Building Layout is Approximate and Not to Scale.
 - 2) All Sample Locations, data and information shown were provided by Advanced Cleanup Technologies, Inc.
 - 3) All results are reported in ug/L.
 - 4) Analytes displayed are in exceedence of their applicable NYSDEC Ambient Water Quality Class GA Standard (AWQS).
 - 5) Current permanent monitoring wells (MW-1 - MW-3) must be inspected following IRM Construction to confirm they are not damaged as suspected, All damaged wells will be replaced in-kind.



- Injection Well
- ⊗ Temporary Well
- ⊕ Proposed Monitoring Well
- ⊕ Injection Well 7.5' Buffer
- ⊕ Former Partial Cellar
- Grid
- Former Dry Cleaner Machine
- Former Dry Cleaner Enclosure
- Site Boundary
- Adjacent Lots
- Former Building Footprint
- Curbline

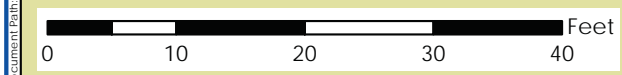
QUEENS BLVD

Document Path: \\W:\Projects\A-D\ACT1701\Amops\FIG.D - Proposed Injection Points.mxd



Document Path: W:\Projects\A-D\ACT1701\Map_files\RAWP\FIG 11_ProposedSSDS&Vapor Barrier.mxd

- Notes:
- 1) SVE - Soil Vapor Extraction
 - 2) SSDS - Sub-Slab Depressurization System
 - 3) SVE/SSDS blowers will be mounted on building rooftop.
 - 4) Construction-level SVE/SSDS/vapor barrier design plans and details provided within RAWP Appendix.
 - 5) Latest amended development plans, top of concrete slab shown is at 9 ft bgs and located in building basement/parking area.



	Site Boundary/Extent of Proposed Vapor Barrier
	SSDS Trench Location
	3.0' Thick Concrete Slab
	2.0' Thick Concrete Slab
	1.5' Thick Concrete Slab
	Adjacent Buildings
	Curbline

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Scale:	AS SHOWN	Approved by:	JP

Proposed SSDS,
Vapor Barrier, and Cover
Type Plan

124-22 QUEENS BLVD
KEW GARDENS, NY

FIGURE NO:
5