DECISION DOCUMENT

Williamsburg Bridgeview Apartments
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224233
September 2017

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

DECLARATION STATEMENT - DECISION DOCUMENT

Williamsburg Bridgeview Apartments
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224233
September 2017

Statement of Purpose and Basis

This document presents the remedy for the Williamsburg Bridgeview Apartments 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 Williamsburg Bridgeview Apartments 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, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

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

2. Soil Vapor Extraction (SVE)

Soil vapor extraction (SVE) will be implemented to remove volatile organic compounds (VOCs) from the subsurface to prevent the migration of vapors off-site. VOCs will be physically removed from the soil vapor by applying a vacuum to wells that have been installed into the vadose zone (the area below the ground but above the water table) at the western border of the property. The vacuum draws vapor through the soil matrix which carries the VOCs from the soil vapor to the SVE well. The air extracted from the SVE wells is then treated as necessary prior to being discharged to the atmosphere.

3. Vapor Mitigation

Any on-site buildings will be required to have a sub-slab depressurization system, or similarly engineered systems, to mitigate the migration of contaminated soil vapor into the on-site buildings. That system must be installed, tested and confirmed to be operating prior to building occupancy.

4. 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). Where a soil cover is to be used it 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 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, cement, paved surface parking areas, sidewalks, building foundations and building slabs.

5. 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 NYCDOH; and
- require compliance with the Department approved Site Management Plan.

6. 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 5 above.
Engineering Controls: The soil cover discussed in Paragraph 4, the sub-slab depressurization system discussed in Paragraph 3, and the soil vapor extraction system as discussed in Paragraph 2 above.

This plan includes, but may not be limited to:
i. an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
ii. descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
iii. a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 4 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs)
iv. provisions for the management and inspection of the identified engineering controls;
v. maintaining site access controls and Department notification; and
vi. the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

B. a Monitoring Plan to monitor groundwater relative to groundwater standards. The plan includes, but may not be limited to:
- monitoring of groundwater to assess the concentrations of contaminants relative to groundwater standards;
- a schedule of monitoring and frequency of submittals to the Department;

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

Declaration

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

September 26, 2017
Date

Eric R Obrecht
Eric Obrecht, Director
Remedial Bureau A

DECISION DOCUMENT

Williamsburg Bridgeview Apartments
Brooklyn, Kings County
Site No. C224233
September 2017

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, where a contaminant is present at levels exceeding the soil cleanup objectives or other health-based or environmental standard, criteria, or guidance adopted by the Department that are applicable based on the reasonably anticipated use of the property.

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:

Brooklyn Public Library - Williamsburg Branch
240 Division Avenue at Marcy Avenue
Brooklyn, NY 11211
Phone: 718-302-3485

Brooklyn Community Board No. 1
435 Graham Avenue
Brooklyn, NY 11211

Phone: 718-389-0009

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 located at 99-101 South 5th Street aka 337 Berry Street (Block 2443; Lot 6, formerly known as Lots 6, 37 and 41), Williamsburg, Brooklyn; an urban area within New York City and represented by Brooklyn Community Board 1. The site is approximately 15,870 square feet or 0.36 acres. It is bordered on the south by South 5th Street and the Williamsburg Bridge, and on the north, east, and west by apartment buildings, residential structures, and commercial spaces.

Site Features:
The site is currently vacant in preparation for redevelopment. Prior to demolition in August 2016, the site had previously been improved with an abandoned warehouse that was used by the City of New York's Landmark Preservation Commission (LPC) as a salvage warehouse.

Current Zoning and Land Use:
This site is currently under development and is zoned M1-2/R6, Special Mixed Use District (MX-8) which allows for restricted-residential/commercial/industrial uses. The surrounding parcels are currently used as residential condominiums and/or houses converted to apartment buildings and ground floor commercial spaces.

Past Use of the Site:
Previous site uses include an architectural salvage program which started in 1980. Salvaged items such as doors, windows, fences, and decorative elements, were sold to the public. The program ended in 2000 due to budgetary constraints. Former lots 37 and 41 were originally improved with two story residential buildings from ca. 1868. All three former lots (6, 37, and 41) have New York City E Designation assigned in the Greenpoint-Williamsburg Rezoning Environmental Impact Statement (EIS) due to the presence of an auto body shop on former Lot 41.

Five abandoned underground storage tanks (USTs) were discovered on-site during excavation activities that were part of the Interim Remedial Measures described in Section 6.2. One UST had a spill case opened due to leaking material that has since been closed.

Site Geology and Hydrogeology:
Fill material exists to depths between 0-5 feet below ground surface (bgs). Native soils beneath the fill layer consist of well-graded sand (ranging from fine to coarse) with silt. Small to large sized gravel and cobbles exist at all depths. Bedrock was encountered at depths ranging from 27 to 42 feet bgs and appears to slope downward to the north with the topography towards the East River. Groundwater exists at approximately 45-47 feet bgs and flows west towards the East River.

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 restricted-residential use (which allows for commercial use and 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 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(s) under the Brownfield Cleanup Agreement is a/are Volunteer(s). The Applicant(s) does/do not have an obligation to address off-site contamination. The Department has determined that this site does not pose a significant threat to public health or the environment; accordingly, no enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

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

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

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

groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor
- indoor air
- 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:

xylene (mixed)	indeno(1,2,3-CD)pyrene
mercury	tetrachloroethene (PCE)
benzo(a)anthracene	trichloroethene (TCE)

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

IRM Soil Excavation

In January 2017, the Interim Remedial Measure was completed which included excavation to remove historic fill materials. The top two feet of soil was removed in the area where the planned building will be constructed and the top one foot of soil was removed beneath the planned parking lot area to meet the restricted residential Soil Cleanup Objectives (RRSCOs) for the site. In August 2016, the vacant building on the property was demolished. The IRM involved removal of approximately 1142 cubic yards of material. Additional soil was excavated to prepare the site for construction of the planned building (total of 3,750 cubic yards). The Department has approved import of up to 200 cubic yards of soil for backfill. Post-excavation soil sample results were below restricted residential SCOs, with minor exceptions. The excavation is presented in Figure 2. A Construction Closure Report was submitted June 2016.

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.

Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), and pesticides. Soil Vapor, sub-slab vapor, and indoor air were analyzed for volatile organic compounds.

Soil: Prior to the IRM excavation, mercury, benzo(a)anthracene and related poly-cyclic aromatic hydrocarbons (PAHs), and indeno(1,2,3-cd)pyrene were found in shallow soils (0-2 ft below ground surface [bgs]). Xylene was found in deeper soils, at a petroleum spill location. Concentrations of benzo(a)anthracene found on-site (ranging from ND to 1.39 parts per million or ppm) slightly exceed the restricted residential soil cleanup objective (SCO of 1 ppm). Concentrations of mercury found on-site (ND to 0.97 ppm) slightly exceed the restricted residential SCO of 0.81 ppm. This contamination is related to the presence of historic fill on the Site. Data does not indicate any off-site impacts in soil related to this site.
Xylene was identified in deeper soil due to a spill during a tank closure with a concentration of 1.92 ppm which exceeds the unrestricted SCO (0.26 ppm), but not the restricted residential SCO (100 ppm).

IRM post excavation sampling showed one exceedance of the restricted residential SCO for mercury with 1.1 ppm. There were no other exceedances of the restricted residential SCOs for metals. VOCs and SVOCs did not exceed any SCOs. Pesticides and PCBs were not analyzed for

due to there being no exceedances of the restricted residential SCO during the remedial investigation.

Groundwater: PCE and TCE are found in groundwater throughout the site, moderately exceeding groundwater standards with a maximum concentration of 71.4 parts per billion (ppb) PCE and 27.2 ppb TCE (compared to the groundwater standard of 5 ppb for PCE and TCE). Groundwater contamination may be emanating from a nearby site (Site No. V00094) a former glue factory with documented PCE soil contamination located approximately 50 feet to the east. In addition, SVOCs, metals, PCBs, and pesticides were analyzed for and only the metals iron, manganese, selenium, and sodium exceeded groundwater standards. These are considered naturally occurring and not site-related. Data does not indicate any off-site impacts in groundwater of which this site is the source.

Soil Vapor: PCE, TCE, and TCA, were detected in soil vapor at elevated concentrations, up to 3,510 micrograms per cubic meter (ug/m3) of TCE, 2,870 ug/m3 of PCE, and 278 ug/m3 of TCA.

Sub-slab vapor and indoor air: A soil vapor intrusion investigation was conducted at two off-site properties. Results showed that the PCE and TCE were elevated in the sub-slab vapor of both properties, PCE was detected at 84 and 23 ug/m3 and TCE was detected at 613 and 212 ug/m3. The indoor air was non-detect at both properties for TCE (with a method detection limit [MDL] of 0.10 ug/m3). The indoor air for PCE was below the air guideline value (30 ug/m3) for indoor air at both properties. It is recommended that DEC take actions to address potential exposures associated with soil vapor intrusion at both properties.

The Department, in consultation with NYSDOH, will further evaluate potential off-site sources of contamination and associated human exposure pathways. Appropriate actions will be taken to address identified off-site sources of contamination.

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.*

The site is completely fenced, which restricts public access. However, persons who enter the site could contact contaminants in the soil 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 the groundwater and/or soil may move into the soil vapor (air spaces within the soil), which in turn may move into overlying 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 the buildings, is referred to as soil vapor intrusion. The site is vacant so inhalation of site contaminants in indoor air via soil vapor intrusion is not a current concern. However, the potential exists for inhalation of site contaminants due to soil vapor

intrusion for any future on-site development. Actions have been recommended to address soil vapor intrusion off-site.

6.5: Summary of the Remediation Objectives

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

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

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, Soil Vapor Mitigation, Cover, and Groundwater Monitoring remedy.

The elements of the selected remedy, as shown in Figure 2 through 4, are as follows:

1. Remedial Design

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

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

2. Soil Vapor Extraction (SVE)

Soil vapor extraction (SVE) will be implemented to remove volatile organic compounds (VOCs) from the subsurface to prevent the migration of vapors off-site. VOCs will be physically removed from the soil vapor by applying a vacuum to wells that have been installed into the vadose zone (the area below the ground but above the water table) at the western border of the property. The vacuum draws vapor through the soil matrix which carries the VOCs from the soil vapor to the SVE well. The air extracted from the SVE wells is then treated as necessary prior to being discharged to the atmosphere.

3. Vapor Mitigation

Any on-site buildings will be required to have a sub-slab depressurization system, or similarly engineered systems, to mitigate the migration of contaminated soil vapor into the on-site buildings. That system must be installed, tested and confirmed to be operating prior to building occupancy.

4. 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). Where a soil cover is to be used it 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 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, cement, paved surface parking areas, sidewalks, building foundations and building slabs.

5. 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 NYCDOH; and
- require compliance with the Department approved Site Management Plan.

6. 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 5 above.
Engineering Controls: The soil cover discussed in Paragraph 4, the sub-slab depressurization system discussed in Paragraph 3, and the soil vapor extraction system as discussed in Paragraph 2 above.

This plan includes, but may not be limited to:
i. an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
ii. descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
iii. a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 4 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs)
iv. provisions for the management and inspection of the identified engineering controls;
v. maintaining site access controls and Department notification; and
vi. the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

B. a Monitoring Plan to monitor groundwater relative to groundwater standards. The plan includes, but may not be limited to:

- monitoring of groundwater to assess the concentrations of contaminants relative to groundwater standards;
- a schedule of monitoring and frequency of submittals to the Department;

C. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:

- procedures for operating and maintaining the remedy;
- compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
- maintaining site access controls and Department notification; and
- providing the Department access to the site and O&M records.

0 40 80 160 240 320 Feet

1 inch = 208 feet

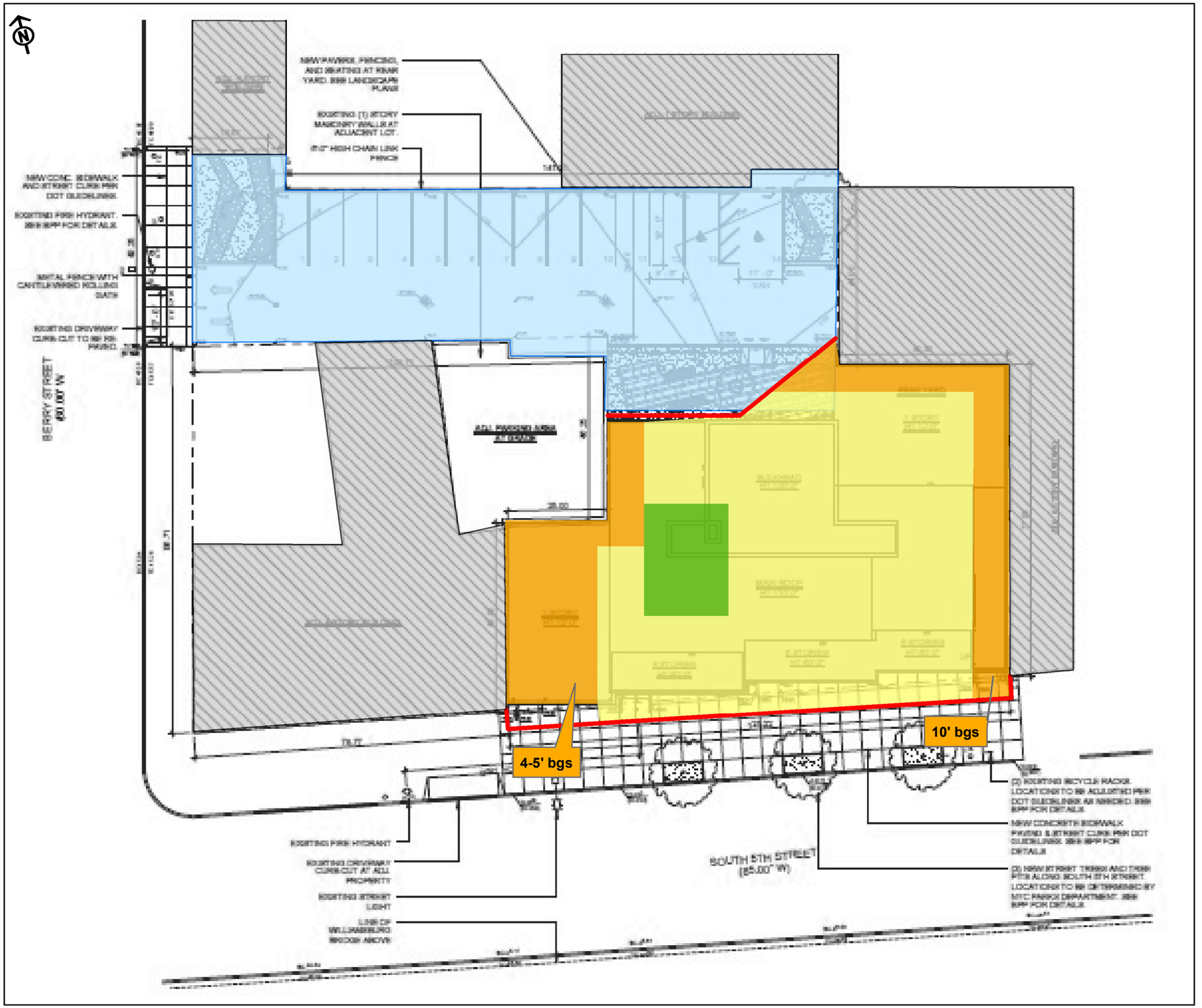
Notes:
Imagery basemap provided by ESRI;
Copyright:© 2011 / USA TOPOMAPS
National Geographic Society

FIGURE 1
SITE BOUNDARY MAP

337 Berry St. & 99-105 South 5th St.
(Block 2443 / Lot 6, 37, 41)
Brooklyn, New York

equity environmental engineering
500 International Drive, Suite 150, Mount Olive, NJ 07828
Office: (973) 527-7451 / Fax: (973) 858-0280

DRAWN BY / DATE	CHK / DATE	DRAWING NUMBER
NG / 10-28-15		2015059-02



Legend

- Adjoining Buildings
- Lined Sheeting
- Outer Excavation Area
- Elevator Pit Excavation Area (17')
- Inner Excavation Area (13')
- Parking Lot (1')

Notes: Numbers in parentheses above represent depth of excavation below ground surface (bgs).

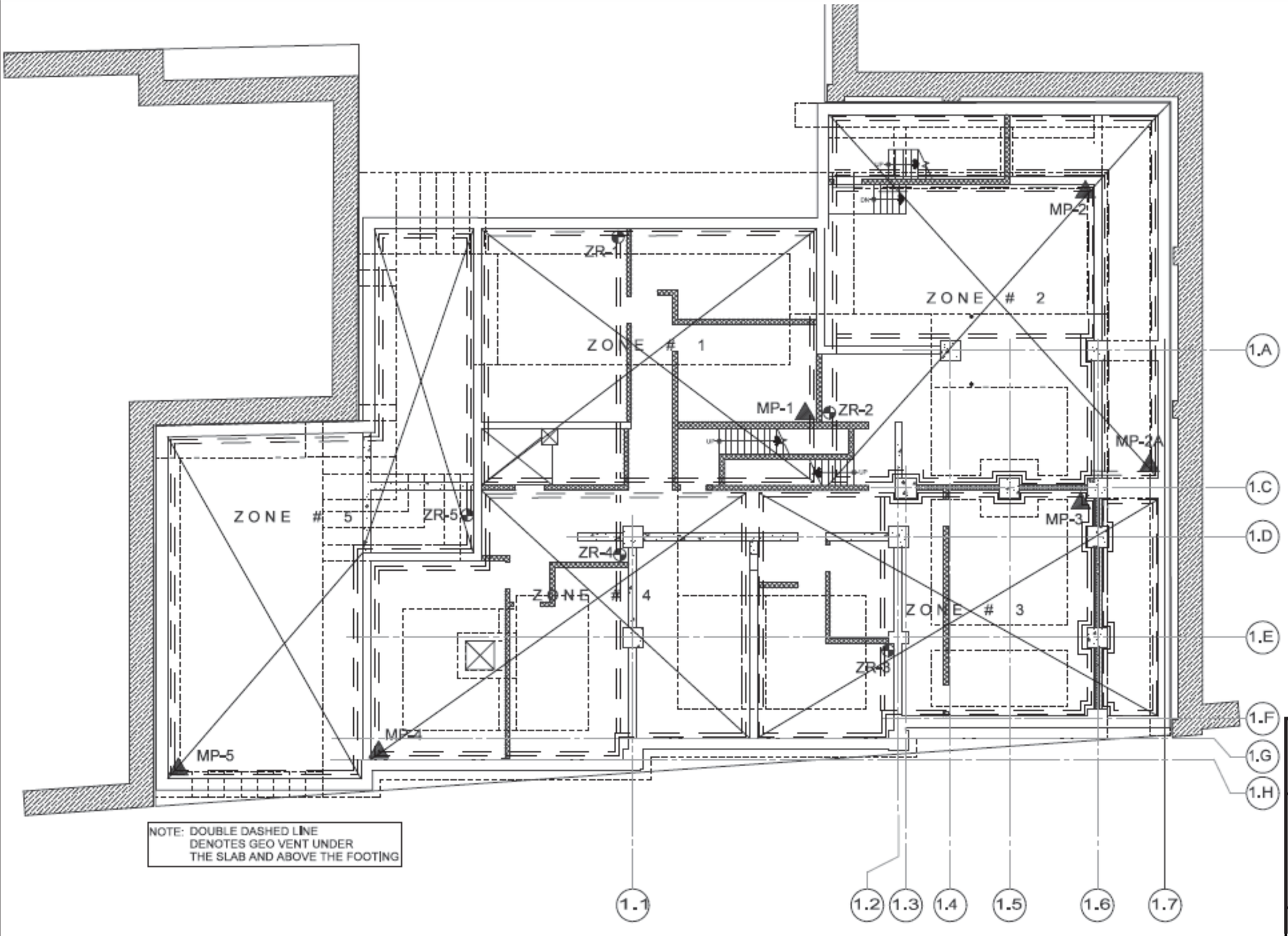
Drawing is not drawn to scale as basemap used was copied from DattnerArchitects Site Plan A-001.00 drawing.

FIGURE 2
SITE EXCAVATION PLAN

337 Berry St. & 99-105 South 5th St.
(Block 2443 / Lot 6, 37, 41)
Brooklyn, New York

equity environmental engineering
500 International Drive, Suite 150; Mount Olive, NJ 07828
Phone: 973-527-7451 Fax: 973-858-0280

DRAWN BY/ DATE	CHECK BY/DATE	DRAWING NUMBERF
FU / 02-16-16		2015059-06



Legend

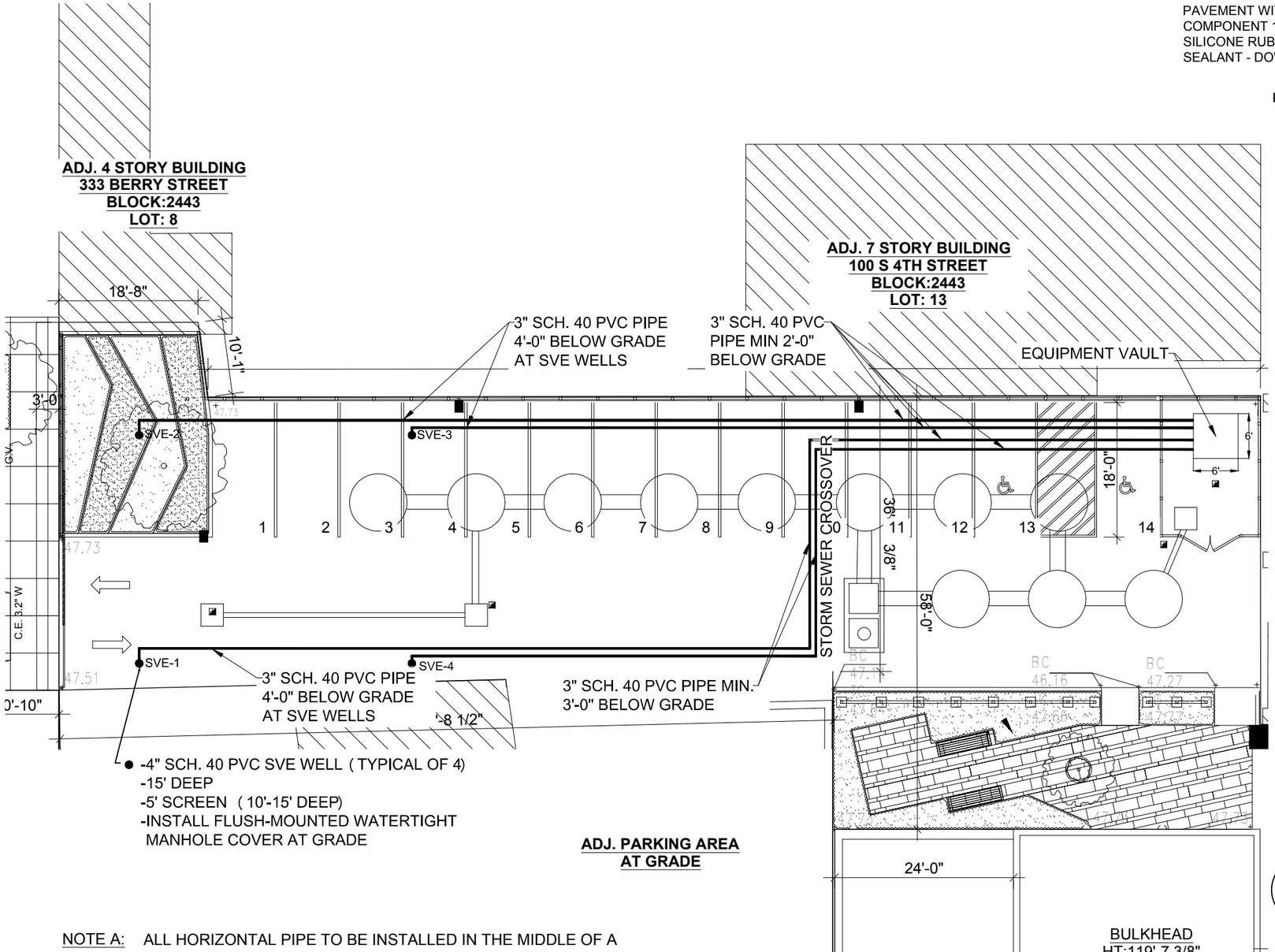
- MP-1 - Monitoring Point
- ZR-1 - Extraction Point
- Geovent

FIGURE 3
Sub-Slab Depressurization Systems

337 Berry St. & 99-105 South 5th St.
(Block 2443 / Lot 6, 37, 41)
Brooklyn, New York

equity environmental engineering
500 International Drive, Suite 150, Mount Olive, NJ 07828
Office: (973) 527-7451 / Fax: (973) 858-0280

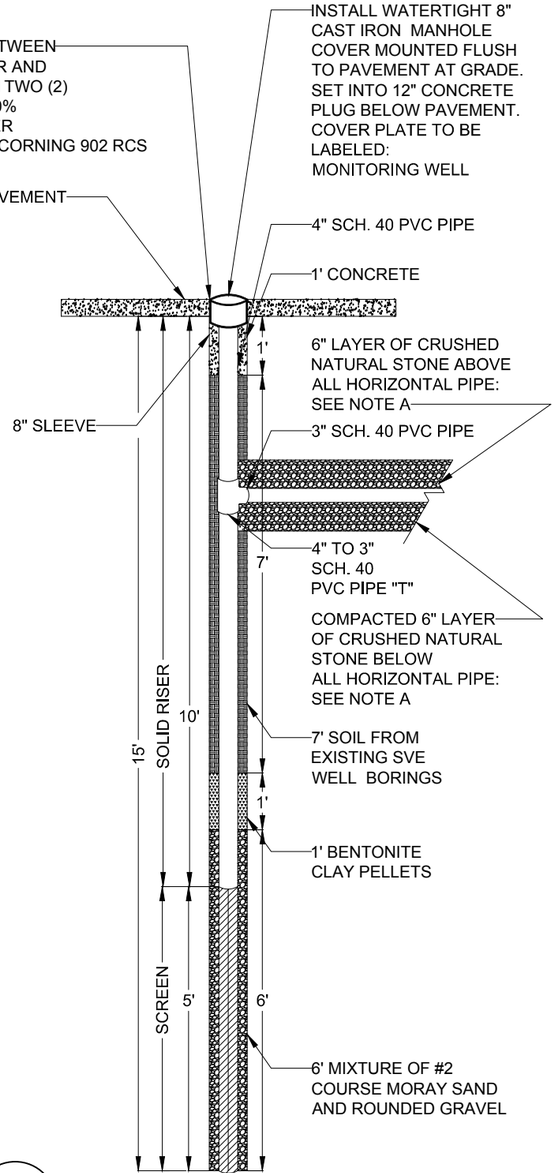
DRAWN BY / DATE	CHK / DATE	DRAWING NUMBER
JV / 01-03-17		2015059-05



-4" SCH. 40 PVC SVE WELL (TYPICAL OF 4)
-15' DEEP
-5' SCREEN (10'-15' DEEP)
-INSTALL FLUSH-MOUNTED WATERTIGHT
MANHOLE COVER AT GRADE

NOTE A: ALL HORIZONTAL PIPE TO BE INSTALLED IN THE MIDDLE OF A 12" LAYER OF CRUSHED NATURAL BLUESTONE, MINIMUM OF $\frac{3}{4}$" SIZE, FREE OF ALL FRIABLE MATERIAL AND DEBRIS, GRADED IN ACCORDANCE WITH ASTM C136; ALL MATERIAL TO BE ABLE TO PASS THROUGH A 2" SEIVE.

NOTE B: SVE WELL QUANTITY AND LOCATIONS ARE SUBJECT TO PILOT WELL TESTING.



SVE 1–4 SOIL VAPOR EXTRACTION WELL

SCALE: 3/8"=1'–0"

- FINE TO COURSE SAND AND ROUNDED GRAVEL
- BENTONITE PELLETS
- BANK RUN SAND AND GRAVEL
- CONCRETE
- SVE — SOIL VAPOR EXTRACTION WELL

ANDREW ROBERT LEVENBAUM P.E.
424 NEW YORK AVENUE
HUNTINGTON, NY 11743
T 631-423-8602 F 631-423-4013

STRUCTURAL CONSULTANT:

MEPS CONSULTANT:

NO	DESCRIPTION	DATE

PROJECT DATA:
ALTERATIONS & ADDITIONS TO:
337 BERRY STREET
BROOKLYN, NY, 11249

JOB NUMBER: 593

DOB BSCAN:

DRAWING TITLE:
SITE PLAN

DRAWN BY: SCF | CHECKED BY: ARL
SCALE: 1/16"=1'-0" | DATE: 06.05.17

Figure 4
1 of 1