DECISION DOCUMENT

Greenpoint Ferry Site
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224272
February 2022

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

DECLARATION STATEMENT - DECISION DOCUMENT

Greenpoint Ferry Site
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224272
February 2022

Statement of Purpose and Basis

This document presents the remedy for the Greenpoint Ferry 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 Greenpoint Ferry 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;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at

a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Excavation
The existing on-site buildings will be demolished and materials which can't be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy.

Excavation and off-site disposal of contaminant source areas, including:

- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead;
- any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

In addition, all on-site soils and historic fill which exceed restricted-residential and protection of groundwater SCOs, as defined by 6 NYCRR Part 375-6.8, in the upper two feet will be excavated and transported off-site for disposal. Approximately 1,600 cubic yards of contaminated soil is planned for removal.

3. Backfill
On-site soil which does not exceed the above excavation criteria or the protection of groundwater SCOs for any constituent may be used below the cover system described in remedy element 4 to backfill the excavation and establish the designed grades at the site. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil or complete the backfilling of the excavation and establish the designed grades at the site.

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 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.

5. Institutional Controls
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 or commercial use or industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOHMH; and
- require compliance with the 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 cover system discussed in Paragraph 4 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- 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);
- provisions for the management and inspection of the identified engineering controls;
- 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 groundwater 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 active vapor mitigation system(s), if needed. The plan includes, but is not limited to:

- procedures for operating and maintaining the system(s); and
- compliance inspection of the system 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.

February 18, 2021

Date

Gerard Burke, Director
Remedial Bureau B

DECISION DOCUMENT

Greenpoint Ferry Site
Brooklyn, Kings County
Site No. C224272
February 2022

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 standards, criteria or guidance, 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 repository:

DECInfo Locator - Web Application
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C224272

Brooklyn Public Library
10 Grand Army Plaza
Brooklyn, NY 11238
Phone: 718.230.2100

Please note that in-person repositories may be temporarily unavailable due to COVID-19

precautions.

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

Location: The site comprises approximately 2.441- acres, consisting of the entire block west of West Street, between India and Java Streets in the Greenpoint Section of Brooklyn. The site is the upland portion of tax block 2538, lot 1, defined as the area of the parcel to the east of the planned bulkhead that will form the western edge of the site. The site is located on the east bank of the East River, approximately ½ mile south of Newtown Creek.

Site Features: The site was developed sometime prior to 1887. The western site building was constructed in 1935, and the eastern building was constructed in 1953. As of 1951, piers/docks are noted at the end of each mapped street along the shoreline of the East River from Green Street (to the north) to Milton Street (to the south), including India Street. All the piers/docks, except for the pier/dock at the end of Green Street, were no longer depicted by 2006. By 2011, a new pier/dock at the end of India Street was noted, which is currently used as NYC Ferry terminal. It also appears that there was partial bulkhead collapse, and the shoreline adjacent to the site has eroded over time beginning in the late 1980s. The East River is located immediately adjacent to the west of the site.

Current Zoning and Land Use: The site is currently zoned R8 and R6, both residential districts, with a C2-4 commercial overlay. The site was improved with two warehouse-style buildings most recently utilized for storage by movie prop storage companies; and an active NYC East River ferry terminal on the western portion of the site. Stored material consisted of, but was not limited to, furniture, paintings, kitchenware, wagons, clothing, and lighting fixtures. Building demolition was fully completed on September 3, 2021. The surrounding parcels are currently used for a mix of urban residential, commercial and some industrial uses. The nearest residential areas are located immediately east of the site across West Street and immediately north of the site across India Street.

Past Use of the Site: Historical site use includes lumber storage (including presence of a drying kiln) and a planing mill on the western portion of the Site between 1887 until the 1940s; and an Independent Energy Plant which generally utilized coal and/or oil to generate power. Additionally, the site was used as a sash, door and blind factory; sheet metal fabrication; truck repair; gasoline tank and pumps for fueling; bottling plant warehouse; plastics manufacturer; cargo storage; and parking.

Site Geology and Hydrogeology: The site is relatively flat. The elevation of the site is approximately 3 feet above mean sea level. The site is located adjacent to a tidal wetland and is in a 100-year flood zone.

The site is underlain by historic fill to a depth of approximately 20 feet below grade. The fill layer consists of course sand, silt, gravel, tar, brick, and concrete fragments. Beneath the fill layer are native deposits consisting of sand and silt. Bedrock was not encountered during the investigations but based on regional geological data bedrock is expected to be present at depths greater than 70 feet below grade. Groundwater was found at depths ranging from 5 to 8 feet below grade, and flows west towards the East River, located immediately west of the site.

A site location map is attached as Figure 1. A site map is attached as Figure 2.

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 under the Brownfield Cleanup Agreement is a Participant. The Applicant has an obligation to address on-site and off-site contamination. However, the Department has determined that the 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

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:

naphthalene	lead
benzo(a)anthracene	mercury
benzo(a)pyrene	cadmium
benzo(b)fluoranthene	arsenic
benzo(k)fluoranthene	copper
dibenz[a,h]anthracene	1,1,1-trichloroethane(TCA)
indeno(1,2,3-cd)pyrene	tetrachloroethene (PCE)
chrysene	trichloroethene (TCE)
phenanthrene	trichloromonofluoromethane

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

- groundwater
- soil

6.2: Interim Remedial Measures

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

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

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, emerging contaminants, and metals. Soil vapor samples were analyzed for VOCs. Based upon investigations conducted to date, the primary contaminants of concern for the site include VOCs, SVOCs, and metals in soil, SVOCs in groundwater and VOCs in soil vapor.

Soil: One VOC (naphthalene), eight SVOCs [all polycyclic aromatic hydrocarbons (PAHs)], and five metals were detected above the applicable restricted-residential soil cleanup objectives (RRSCOs) in site soils. Four of these SVOCs were also detected in groundwater and exceed protection of groundwater soil cleanup objectives (PGWSCOs) in the soil. Naphthalene was detected at a maximum concentration of 140 parts per million (ppm), exceeding the RRSCO of 100 ppm. SVOCs detected include benzo(a)anthracene at a maximum concentration of 42 ppm ((RRSCO 1 ppm) (PGWSCO 1 ppm)), benzo(a)pyrene at a maximum concentration of 54 ppm ((RRSCO 1 ppm) (PGWSCO 22 ppm)), benzo(b)fluoranthene at a maximum concentration of 57 ppm ((RRSCO 1 ppm) (PGWSCO 1.7ppm)), benzo(k)fluoranthene at a maximum concentration of 17 ppm (RRSCO 3.9 ppm), chrysene at a maximum concentration of 36 ppm (RRSCO 3.9 ppm), dibenzo(a,h)anthracene at a maximum concentration of 8.3 ppm (RRSCO 0.33 ppm), indeno(1,2,3-cd)pyrene at a maximum concentration of 36 ppm ((RRSCO 0.5 ppm) (PGWSCO 8.2 ppm)), and phenanthrene at a maximum concentration of 120 ppm (RRSCO 100 ppm). Metals that were detected include lead at a maximum concentration of 2,530 ppm (RRSCO 400 ppm), mercury at a maximum concentration of 2 ppm (RRSCO 0.81 ppm), cadmium at a maximum concentration of 8.61 ppm (RRSCO 4.3 ppm), arsenic at a maximum concentration of 71.4 ppm (RRSCO 16 ppm), and copper at a maximum concentration of 1590 ppm (RRSCO 270 ppm). Per- and polyfluoroalkyl substances (PFAS) were not detected at concentrations exceeding the restricted-residential or protection of groundwater soil cleanup objectives. Data does not indicate any off-site impacts in soil related to this site.

Groundwater: There were no detections of VOCs, PCBs, or pesticides above Ambient Water Quality Standards (AWQS) in site groundwater. SVOCs detected at concentrations exceeding the AWQS in site groundwater include beno(a)anthracene at a maximum concentration of 0.04 parts per billion, or ppb (AWQS is 0.002 ppb), benzo(a)pyrene at a maximum concentration of 0.06 ppb (AWQS is non-detect), benzo(b)fluoranthene at a maximum concentration of 0.03 ppb (AWQS 0.002 ppb) and indeno(1,2,3-cd)pyrene at a maximum concentration of 0.06 ppb (AWQS 0.002 ppb). Metals that were found at concentrations exceeding the AWQS in site groundwater samples include antimony at a maximum concentration of 0.00411 ppb (AWQS 0.003 ppb), iron at a maximum concentration of 35.4 ppb (AWQS 0.3 ppb), magnesium at a maximum concentration of 103 ppb (AWQS 35 ppb), and manganese at a maximum concentration of 4.574 ppb (AWQS 0.3 ppb). The metals observed above AWQS in groundwater are naturally occurring.

The PFAS perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic Acid (PFOS) were detected in site groundwater at concentrations exceeding their maximum contaminant level (MCL) of 10 ppt each at maximum concentrations of 78.7 and 44.1 ppt, respectively. MCL is a drinking water standard being used in the absence of an ambient groundwater quality standard.

Data does not indicate any off-site impacts in groundwater related to this site.

Soil Vapor: Soil Vapor samples were collected from locations beneath the existing warehouse buildings. 1,1,1-TCA was detected at a maximum concentration of 47.6 micrograms per cubic meter (ug/m3), PCE was detected at a maximum concentration of 304 ug/m3, TCE was detected at a maximum concentration of 14.1 ug/m3, and trichlorofluoromethane was detected at a maximum concentration of 52.7 ug/m3. Data does not indicate any off-site impacts on soil vapor related to the site.

6.4: Summary of Human Exposure Pathways

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

People will not come into contact with contaminated soil or groundwater unless they dig below ground surface. People are not drinking the contaminated groundwater because the area is served by a public water supply that is 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 any future on-site redevelopment and occupancy. Environmental sampling indicates soil vapor intrusion is not 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.

RAOs for Environmental Protection

- 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 Excavation with Cover System and Site Management remedy.

The elements of the selected remedy, as shown in Figure 3-5, 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;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

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Excavation and off-site disposal of contaminant source areas, including:

- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead;
- any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

In addition, all on-site soils and historic fill which exceed restricted-residential and protection of groundwater SCOs, as defined by 6 NYCRR Part 375-6.8, in the upper two feet will be excavated and transported off-site for disposal. Approximately 1,600 cubic yards of contaminated soil is planned for removal.

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5. Institutional Controls
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 or commercial use or industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOHMH; and
- require compliance with the 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.

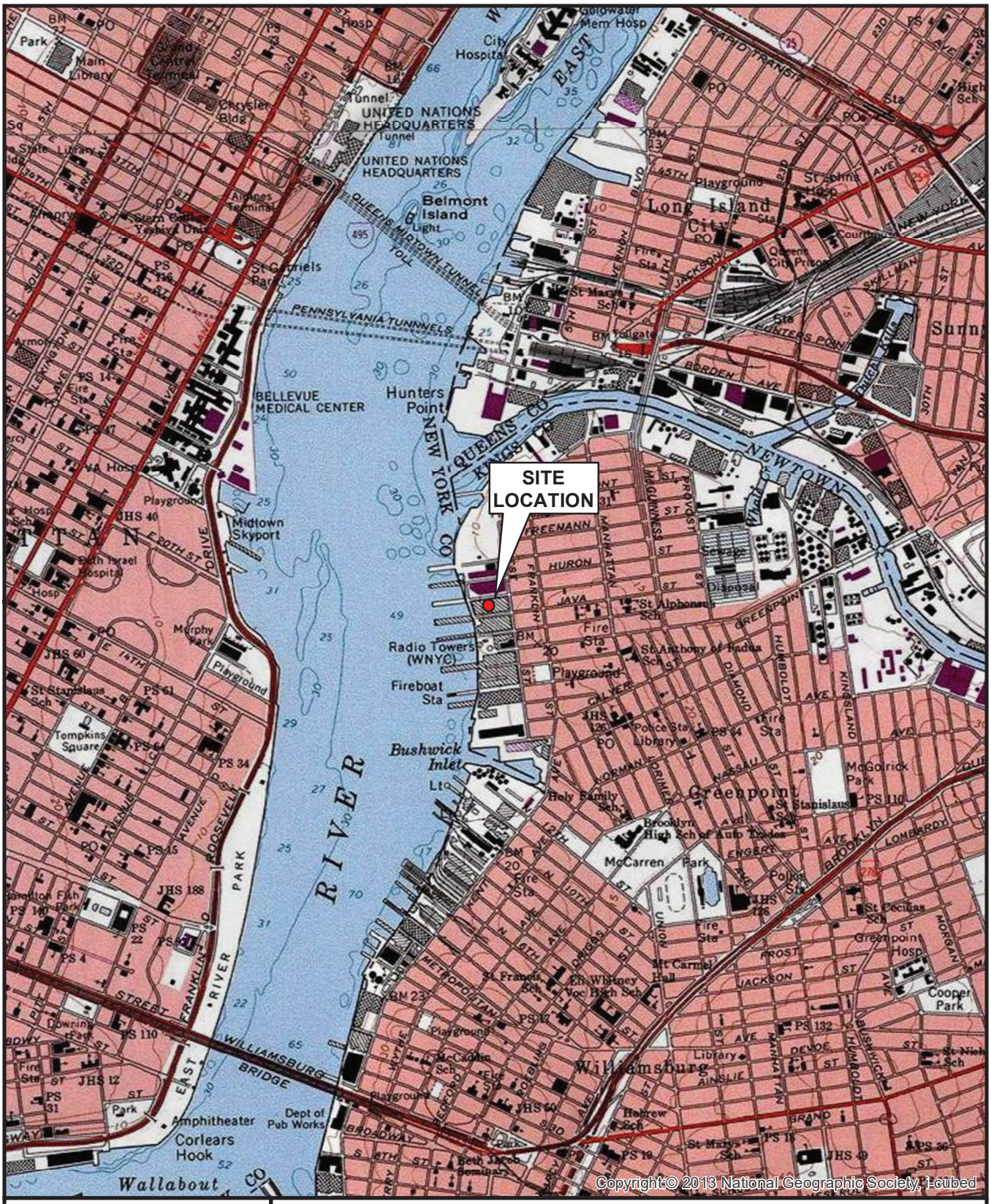
Engineering Controls: The cover system discussed in Paragraph 4 above.
This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;

- 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);
- provisions for the management and inspection of the identified engineering controls;
- 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 groundwater 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 active vapor mitigation system(s), if needed. The plan includes, but is not limited to:
   - procedures for operating and maintaining the system(s); and
   - compliance inspection of the system to ensure proper O&M as well as providing the data for any necessary reporting.



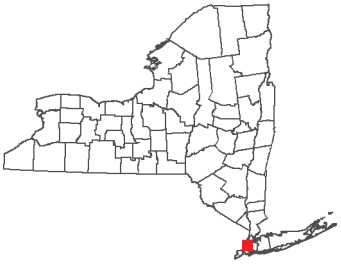


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Figure 1

Site Location Map

Greenpoint Ferry Site
City of Brooklyn, Kings County
Site No. C224272

NEW YORK STATE OF OPPORTUNITY
Department of Environmental Conservation

N
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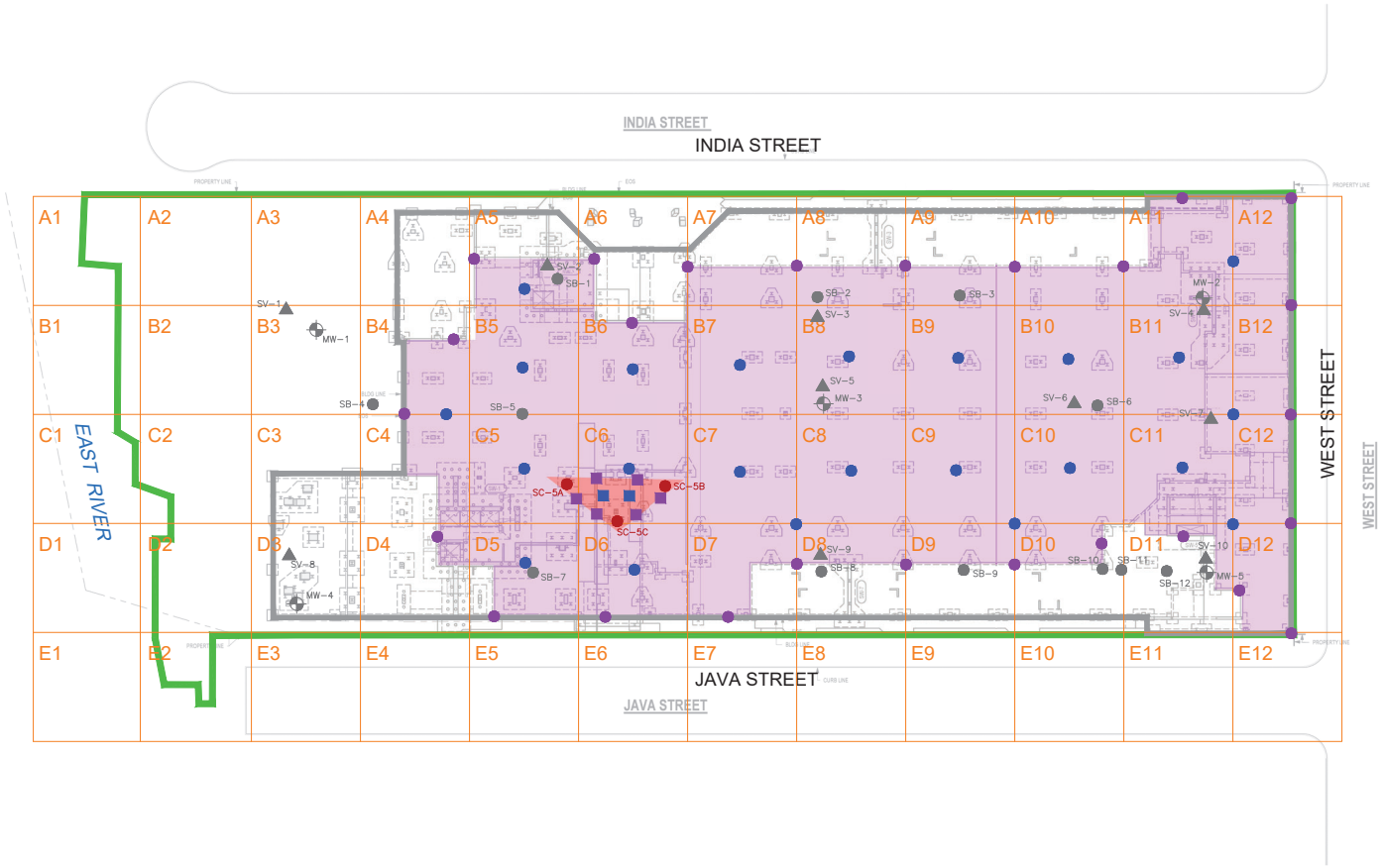
0 290 580
Feet

Figure 2: Site Map

Greenpoint Ferry Site

127-141 West Street
City of Brooklyn, Kings County
Site No. C224272

NEW YORK STATE OF OPPORTUNITY
Department of Environmental Conservation



LEGEND

- BCP SITE BOUNDARY
- APPROXIMATE EXTENT OF PROPOSED BUILDING
- SB-1 — LOCATION AND DESIGNATION OF SOIL BORING
- MW-1 — LOCATION AND DESIGNATION OF MONITORING WELL
- SV-1 — LOCATION AND DESIGNATION OF SOIL VAPOR MONITORING POINT
- LOCATION OF PROPOSED DOCUMENTATION BOTTOM SAMPLE
- LOCATION OF PROPOSED DOCUMENTATION SIDEWALL SAMPLE
- LOCATION OF PROPOSED CONFIRMATORY BOTTOM SAMPLE
- LOCATION OF PROPOSED CONFIRMATORY SIDEWALL SAMPLE
- 50 FT ALPHANUMERIC GRID
- PROPOSED REMEDIAL EXCAVATION TO 24-INCHES BLS AND SITE COVER
- SC-5A — LOCATION AND DESIGNATION OF 3-POINT COMPOSITE IN SITU WASTE CHARACTERIZATION SOIL SAMPLE WITH TCLP LEAD EXCEEDANCE
- PROPOSED LIMITS OF LEAD HOTSPOT EXCAVATION: 5FT BLS (SEE APPENDIX I FOR DETAILS)

ENGINEERED COMPOSITE COVER SYSTEM WILL BE CONSTRUCTED OVER THE ENTIRE BCP SITE

NOTES

1. SEE APPENDIX C OF RAWP FOR COMPLETE WASTE CHARACTERIZATION REPORT.
2. SEE APPENDIX I OF RAWP FOR COMPLETE 2021 REUSE/WASTE CHARACTERIZATION REPORT
3. BCP – BROWNFIELD CLEANUP PROGRAM
4. RAWP – REMEDIAL ACTION WORK PLAN
5. BLS – BELOW LAND SURFACE
6. ENTIRE SITE AREA IS TRACK 4

N

40' 0 40'

Title:

REMEDIAL ALTERNATIVE 2

REMEDIAL EXCAVATION SOIL CUT PLAN (TRACK 4 RESTRICTED RESIDENTIAL USE)

GREENPOINT FERRY SITE
BROOKLYN, NEW YORK

Prepared for:

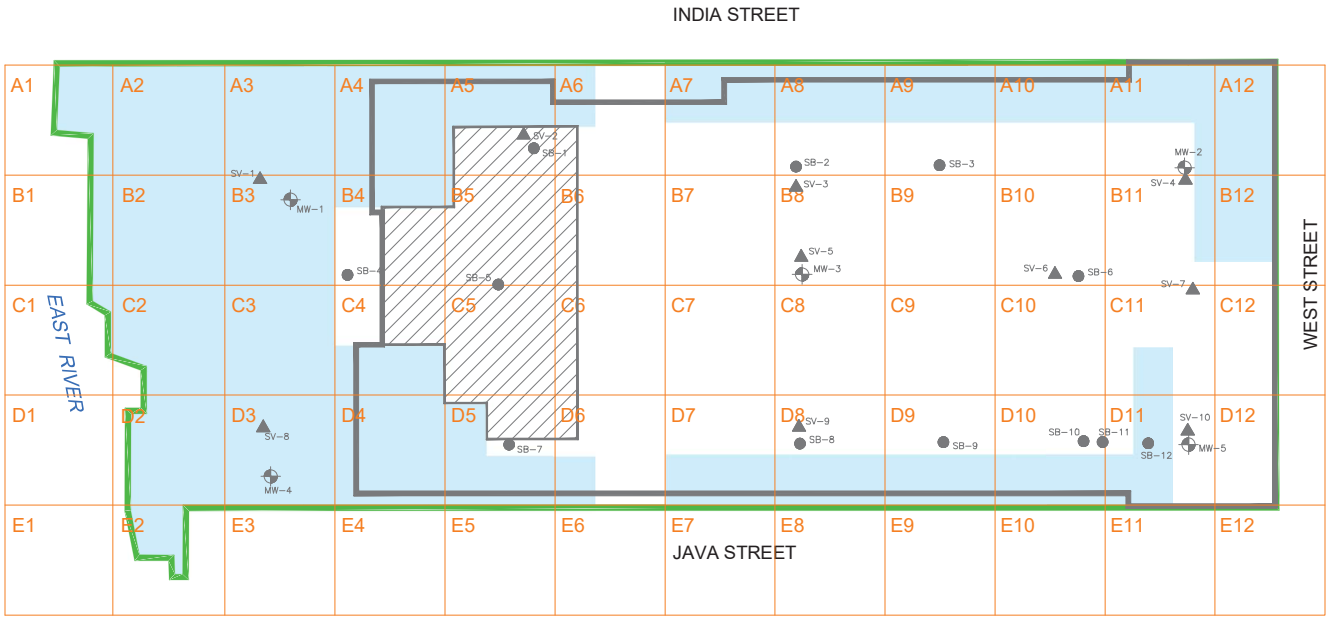
1 JAVA OWNER LLC

ROUX

Compiled by: N.P.	Date: 14DEC21
Prepared by: B.H.C.	Scale: AS SHOWN
Project Mgr: N.P.	Project: 3583.0001Y000
File: 3583.0001Y107.07.DWG	

FIGURE 3

V:\CAD\PROJECTS\3583Y\000\1Y107\MAIN REPORT FIGURES\3583.0001Y107.07.DWG



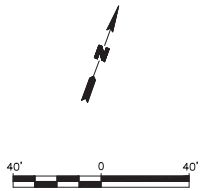
LEGEND

- BCP SITE BOUNDARY
- APPROXIMATE EXTENT OF PROPOSED BUILDING
- APPROXIMATE EXTENT OF PROPOSED CELLAR
- SB-1 LOCATION AND DESIGNATION OF SOIL BORING
- MW-1 LOCATION AND DESIGNATION OF MONITORING WELL
- SV-1 LOCATION AND DESIGNATION OF SOIL VAPOR MONITORING POINT
- 50 FT ALPHANUMERIC GRID
- PROPOSED FILL AREA AND CONSTRUCTION OF SITE COVER

ENGINEERED COMPOSITE COVER SYSTEM WILL BE CONSTRUCTED OVER THE ENTIRE BCP SITE

NOTES

1. SEE APPENDIX C OF RAWP FOR COMPLETE WASTE CHARACTERIZATION REPORT.
2. SEE APPENDIX I OF RAWP FOR COMPLETE 2021 REUSE/WASTE CHARACTERIZATION REPORT
3. BCP – BROWNFIELD CLEANUP PROGRAM
4. RAWP – REMEDIAL ACTION WORK PLAN
5. BLS – BELOW LAND SURFACE



Title:

REMEDIAL ALTERNATIVE 2
REMEDIAL FILL PLAN
(TRACK 4 RESTRICTED RESIDENTIAL USE)

GREENPOINT FERRY SITE
BROOKLYN, NEW YORK

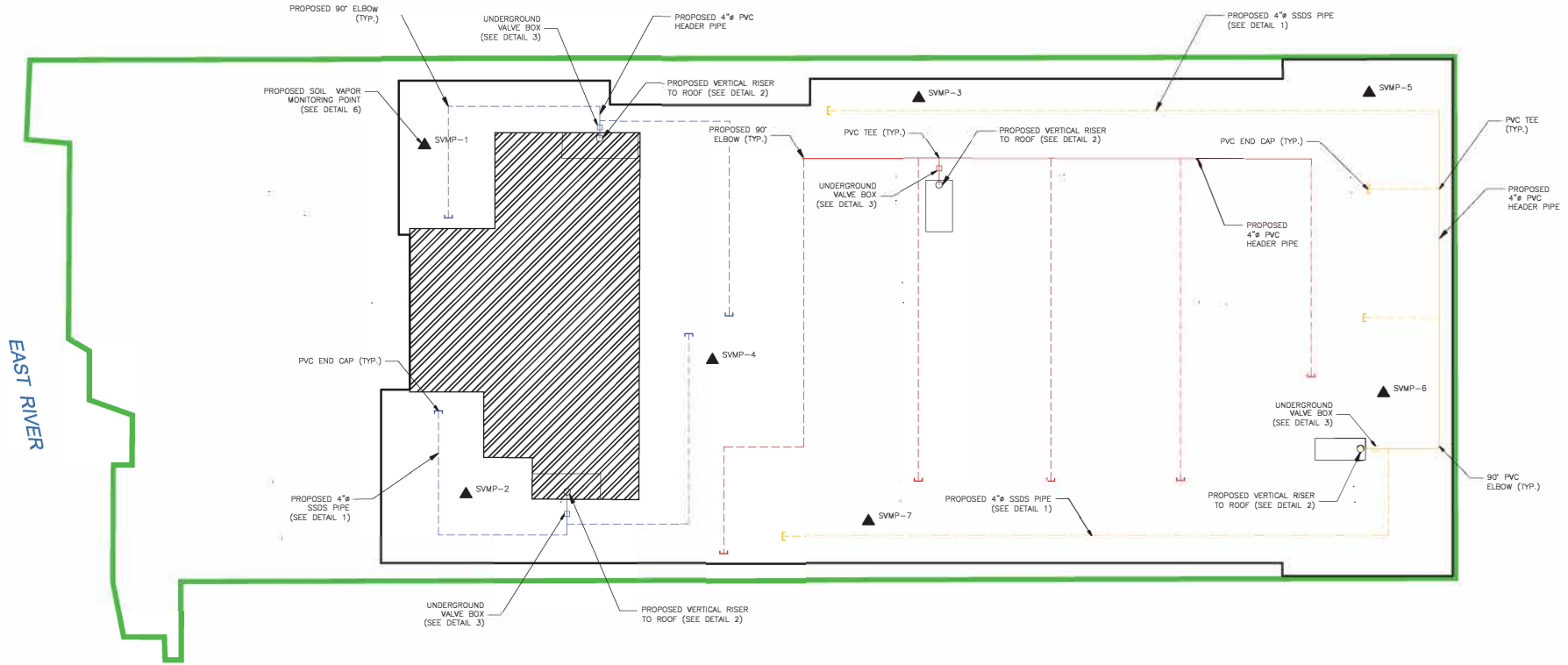
Prepared for:

1 JAVA OWNER LLC

ROUX

Compiled by: E.B.	Date: 19MAY21	FIGURE
Prepared by: B.H.C.	Scale: AS SHOWN	4
Project Mgr: J.W.	Project: 3583.0001Y000	
File: 3583.0001Y107.07.DWG		

V:\CAD\PROJECTS\3583Y000\1Y107\3583.0001Y107.07.DWG



LEGEND

1) THE FOUNDATION PLAN WAS NOT AVAILABLE AT THE TIME OF THIS PRELIMINARY DESIGN. SUB-SLAB DEPRESSURIZATION SYSTEM SITE LAYOUT IS SUBJECT TO CHANGE BASED ON LOCATION OF FOUNDATIONS.
2) SUB-SLAB DEPRESSURIZATION SYSTEM PIPING SHALL BE THE LAST SUBSURFACE UTILITY PLACED BEFORE SLAB IS POURED.
3) CONTRACTOR SHALL COORDINATE INSTALLATION OF SUB-SLAB DEPRESSURIZATION PIPING WITH THE FOUNDATION, PLUMBING, MECHANICAL, GEOTHERMAL, AND ELECTRICAL CONTRACTORS.
4) CONTRACTOR SHALL FIELD VERIFY THE DESIGN INVERT ELEVATIONS (BOTTOM OF PIPING) FOR THE WALL PENETRATIONS. THE CONTRACTOR SHALL ALSO FIELD VERIFY THE HORIZONTAL OFFSETS FOR THE LOCATIONS OF THE VERTICAL RISER.
5) SUB-SLAB DEPRESSURIZATION SYSTEM IS NOT PROPOSED BELOW CELLAR TO PREVENT POTENTIAL INFILTRATION OF SHALLOW GROUNDWATER INTO THE SYSTEM.
6) RISERS FOR SUB-SLAB DEPRESSURIZATION SYSTEM SHALL TERMINATE ON ROOF OF LOW-RISE PORTION OF BUILDING.
7) PASSIVE SUB-SLAB DEPRESSURIZATION SYSTEM WAS SIZED FOR POTENTIAL CONVERSION TO AN ACTIVE SYSTEM. CONVERSION TO ACTIVE SYSTEM IS NOT ANTICIPATED.

LEGEND

- EXTENT OF AVSEC BROWNFIELDS SITE
- APPROXIMATE EXTENT OF PROPOSED BUILDING
- APPROXIMATE EXTENT OF PROPOSED CELLAR
- ZONE 1 SSDS PI PI NETWORK (BENEATH FI RST FLOOR)
- ZONE 2 SSDS PI PI NG NETWORK (BENEATH FIRST FLOOR)
- ZONE 3 SSDS PIP NG NETWORK (BENEATH PARKI NG GARAGE)

NO.	DATE	REVISION DESCRIPTION	INT.

PROJ. ENGINEER:	DRAWN BY: N.P.
DESIGNED BY: N.P.	CHECKED BY:
DRAWING SCALE: AS SHOWN	PLOT SCALE: 1:1
DRAWING DATE: 20APR21	PR TYPE: CLR
OFFICE: NY	PAI SIZE: ARCH D
PROJECT NO.: 3002.0004YC	IOD
DRAWING FILE: 3583.000 1Y1 .07 REM DWG	

ROUX
Roux Environmental Engineering and Geology, D.P.C.
209 SHAFTER STREET ISLANDIA NEW YORK 11749
(631) 232-2600

PROJECT NAME:
GREENPOINT FERRY SITE
BROOKLYN, NEW YORK

PROJECT FOR:
1 JAVA OWNER, LLC

TITLE:
PASSIVE SUB-SLAB DEPRESSURIZATION SYSTEM SITE PLAN

DRAWING NO.
5
DRAWING 1 OF 2