DECISION DOCUMENT

2413 Third Avenue
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203137
July 2021

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

DECLARATION STATEMENT - DECISION DOCUMENT

2413 Third Avenue
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203137
July 2021

Statement of Purpose and Basis

This document presents the remedy for the 2413 Third Avenue 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 2413 Third Avenue 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

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead;
- soil with visual waste material or non-aqueous phase liquid; and
- soils which exceed the protection of groundwater soil cleanup objections (PGWCSOs), as defined by 6 NYCRR Part 375-6.8 for those contaminants found in site groundwater above standards.

Excavation and off-site disposal of all on-site soils which exceed unrestricted SCOs, as defined by 6 NYCRR Part 375-6.8. If a Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy.

Excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

Approximately 13,000 cubic yards of contaminated soil will be removed from the site during the Interim Remedial Measure and the Remedial Action.

3. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavation and establish the designed grades at the site.

4. Soil Vapor Intrusion Evaluation

As part of the track 1 remedy, a soil vapor intrusion evaluation will be completed prior to occupancy of any onsite building. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

5. Local Institutional Controls

If no EE or SMP is needed to achieve soil, groundwater, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOHMH code, which prohibits potable use of groundwater without prior approval.

Conditional Track 1

The intent of the remedy is to achieve a Track 1 unrestricted use, therefore, no environmental

easement or site management plan is anticipated. In the event that Track 1 unrestricted use is not achieved, including achievement of groundwater and soil vapor remedial objectives, the following contingent remedial elements will be required, and the remedy will achieve a Track 2 restricted residential cleanup.

Contingent Remedial Elements

6. 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 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 County DOH NYCDOH; 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 7 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;
- 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. Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to: groundwater and soil vapor to assess the performance and effectiveness of the remedy:

- 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.

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.

8/4/2021

Date

Gerard Burke, Director
Remedial Bureau B

DECISION DOCUMENT

2413 Third Avenue
Bronx, Bronx County
Site No. C203137
July 2021

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 repositories:

DECInfo Locator - Web Application
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C203137

Mott Haven Library
321 East 140th Street
Bronx, NY 10454
Phone: (718) 665-4878

Bronx Community Board 1

3024 Third Avenue
Bronx, NY 10455
Phone: (718) 585-7117

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 0.57-acre site is located at 2413 Third Avenue, in the Port Morris section of the Bronx, NY. The site occupies a portion of Block 2319, Lot 109. The site is located west of the intersection of Third Avenue and Bruckner Boulevard and is bounded by a self-storage facility to the north; light industrial and commercial buildings, a dog park, and an access roadway to the northeast; Third Avenue and the Third Avenue Bridge overpass to the southeast; and a residential construction project to the west.

Site Features: The site contains a five-story commercial building and an asphalt parking lot. The western portion of the site is paved with concrete or gravel-graded overgrown with vegetation.

Current Zoning and Land Use: The site is located in the Special Harlem River Waterfront Zoning District. The site is zoned M1-3/R8 (manufacturing with residential overlay). The site is currently vacant.

Past Use of the Site: By the late 1897, the present 5-story building was constructed and used for unspecified manufacturing through the 1920s. Starting in the 1930s the building was used for storage; it was used for storage through the early 2000s. A 1-story building occupied the northern portion of the lot by at least the 1920s. This building was used for automobile repair, unspecified manufacturing, and lubrication oil storage through the early 2000s. This building was demolished in the early 2000s and the footprint is now covered with gravel and concrete. The southeastern portion of the site was occupied by a 2-story building used as a manufacturing facility by at least the 1920s and used for manufacturing and a chemical laboratory. The 2-story building was demolished by 1984. A freight railway easement transected the site between 1935 and 1951.

Site Geology and Hydrogeology: The site consists of historic fill material extending to depths between 5 and 11 feet below grade surface (bgs). The fill material consists of brown fine sand with varying amounts of gravel, brick, coal, concrete, slag, and wood. Fill material is underlain by native silty and clayey sands and clay with varying amounts of peat and shells. Bedrock was not encountered during site investigation and minimum expected depth to bedrock is 50 feet. Groundwater was encountered between about 7 and 8.5 feet bgs. Inferred groundwater

flow is to the southwest towards the Harlem River. Based on proximity to the Harlem River estuary, groundwater elevations across the site may be subject to tidal fluctuations.

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. However, 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

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:

lead
arsenic
mercury
polychlorinated biphenyls (PCB)
polycyclic aromatic hydrocarbons (PAHs) Total
1,2-dichloroethene
petroleum products
tetrachloroethene (PCE)
trichloroethene (TCE)

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

- soil
- ground water
- soil vapor

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 IRMs is currently underway at this site.

- Excavation of contaminated historic fill to accommodate installation of Support of Excavation (SOE) infrastructure for remediation;

- Excavation and removal of hazardous lead-contaminated soil and collection of confirmation soil samples;
- Conduct a supplemental investigation and collect soil waste characterization samples across the site; and
- The actions and sampling results of the IRM will be included in the Final Engineering Report.

6.3: Summary of Environmental Assessment

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

Nature and Extent of Contamination:

Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl substances (PFAS), pesticides and 1,4-dioxane. Soil vapor was analyzed for VOCs. Based upon investigations conducted to date, the primary contaminants of concern for the site include chlorinated VOCs (CVOCs), SVOCs, metals, PCBs, and petroleum products.

Soil – Soil data were compared to Unrestricted Use Soil Cleanup Objectives (UUSCOs) and Protection of Groundwater Soil Cleanup Objectives (PGSCO). The contaminants of concern in soil are SVOCs, PCBs, and metals found in soil to depths of up to 15 feet below ground surface. SVOCs were detected throughout the site including benzo(a)anthracene detected at a maximum concentration of 13.6 parts per million (ppm), exceeding the UUSCO of 1 ppm; benzo(b)fluoranthene at a maximum concentration of 6.68 ppm (UUSCO is 0.8 ppm); benzo(b)fluoranthene at a maximum concentration of 11.2 ppm (UUSCO is 1 ppm) and indeno(1,2,3-cd)pyrene at a maximum concentration of 8.03 ppm (UUSCO is 0.5 ppm). Lead was detected at 7,360 ppm (UUSCO is 63 ppm); barium was detected at a maximum of 624 ppm (UUSCO of 350 ppm); arsenic was detected at a maximum of 19.9 ppm (UUSCO is 13 ppm); and mercury was detected at a maximum of 4.47 ppm (UUSCO of 0.18 ppm). Total PBCs were detected at a maximum of 4.1 ppm (UUSCO is 0.1 ppm). 1,4-dioxane was not detected above the reporting limit. Perfluorooctanoic acid (PFOA) was detected at a maximum of 1.66 parts per billion (ppb); the guidance value for unrestricted site use is 0.66 ppb and protection of groundwater is 1.1 ppb. Perfluorooctanesulfonic acid (PFOS) was detected on site at a maximum of 21.2 ppb; the guidance value for unrestricted site use is 0.88 ppb and protection of groundwater is 3.7 ppb. Data does not indicate any off-site impacts in soil related to this site.

Groundwater – Groundwater data was compared to NYSDEC TOGS Ambient Water Quality Standards (AWQSs). SVOCs were detected throughout the site and include benzo(a)anthracene detected at a maximum of 0.2 ppb (AWQS is 0.002 ppb); benzo(a)pyrene detected at a maximum of 0.19 ppb (AWQSs is non-detect); benzo(b)fluoranthene detected at a maximum of 0.25 ppb (AWQS is 0.002 ppb); and chrysene detected at a maximum of 0.18 ppb (AWQS is 0.002 ppb). 1,4-dioxane was not detected above the reporting limit and is not considered a contaminant of concern. PFOA was detected at a maximum of 99.2 parts per trillion (ppt); the guidance value is

10 ppt. PFOS was detected at a maximum of 125 ppt; the guidance value is 10 ppt. The source of PFOA and PFOS is unknown, however it does not appear to be associated with the site and may be coming from an upgradient source. Data indicates potential for off-site petroleum impacts to groundwater related to this site which will be addressed through the Spills Program.

Soil Vapor – PCE was detected throughout the site ranging from 5.52 to 454 micrograms per cubic meter ($\mu g/m^3$). TCE was detected between 2.01 to 85 $\mu g/m^3$. Petroleum-related compounds, namely benzene, toluene, ethylbenzene, and xylenes, were throughout the site. n-Hexane was detected throughout the site ranging from 11.8 to 109,000 $\mu g/m^3$.

6.4: Summary of Human Exposure Pathways

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

Direct contact with contaminants in the soil is unlikely because the site fenced and is covered with buildings and pavement. 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. Since the site is currently vacant, soil vapor intrusion is not a current concern. However, the potential exists for people to inhale contaminants in indoor air due to soil vapor intrusion in any future on-site building development and occupancy. Environmental sampling indicates that soil vapor intrusion may be a concern off-site from contaminants not originating from the 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.

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 referred to as the Excavation remedy.

The elements of the selected remedy, as shown in Figure 2, 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

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead;
- soil with visual waste material or non-aqueous phase liquid; and
- soils which exceed the protection of groundwater soil cleanup objections (PGWCSOs), as defined by 6 NYCRR Part 375-6.8 for those contaminants found in site groundwater above standards.

Excavation and off-site disposal of all on-site soils which exceed unrestricted SCOs, as defined by 6 NYCRR Part 375-6.8. If a Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy.

Excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

Approximately 13,000 cubic yards of contaminated soil will be removed from the site during the Interim Remedial Measure and the Remedial Action.

3. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavation and establish the designed grades at the site.

4. Soil Vapor Intrusion Evaluation

As part of the Track 1 remedy, a soil vapor intrusion evaluation will be completed prior to occupancy of any on-site building. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

5. Local Institutional Controls

If no EE or SMP is needed to achieve soil, groundwater, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOHMH code, which prohibits potable use of groundwater without prior approval.

Conditional Track 1

The intent of the remedy is to achieve a Track 1 unrestricted use, therefore, no environmental easement or site management plan is anticipated.

In the event that Track 1 unrestricted use is not achieved, including achievement of groundwater and soil vapor remedial objectives, the following contingent remedial elements will be required and the remedy will achieve a Track 2 restricted residential cleanup.

Contingent Remedial Elements

6. 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 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 County DOH NYCDOH; 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 7 above.

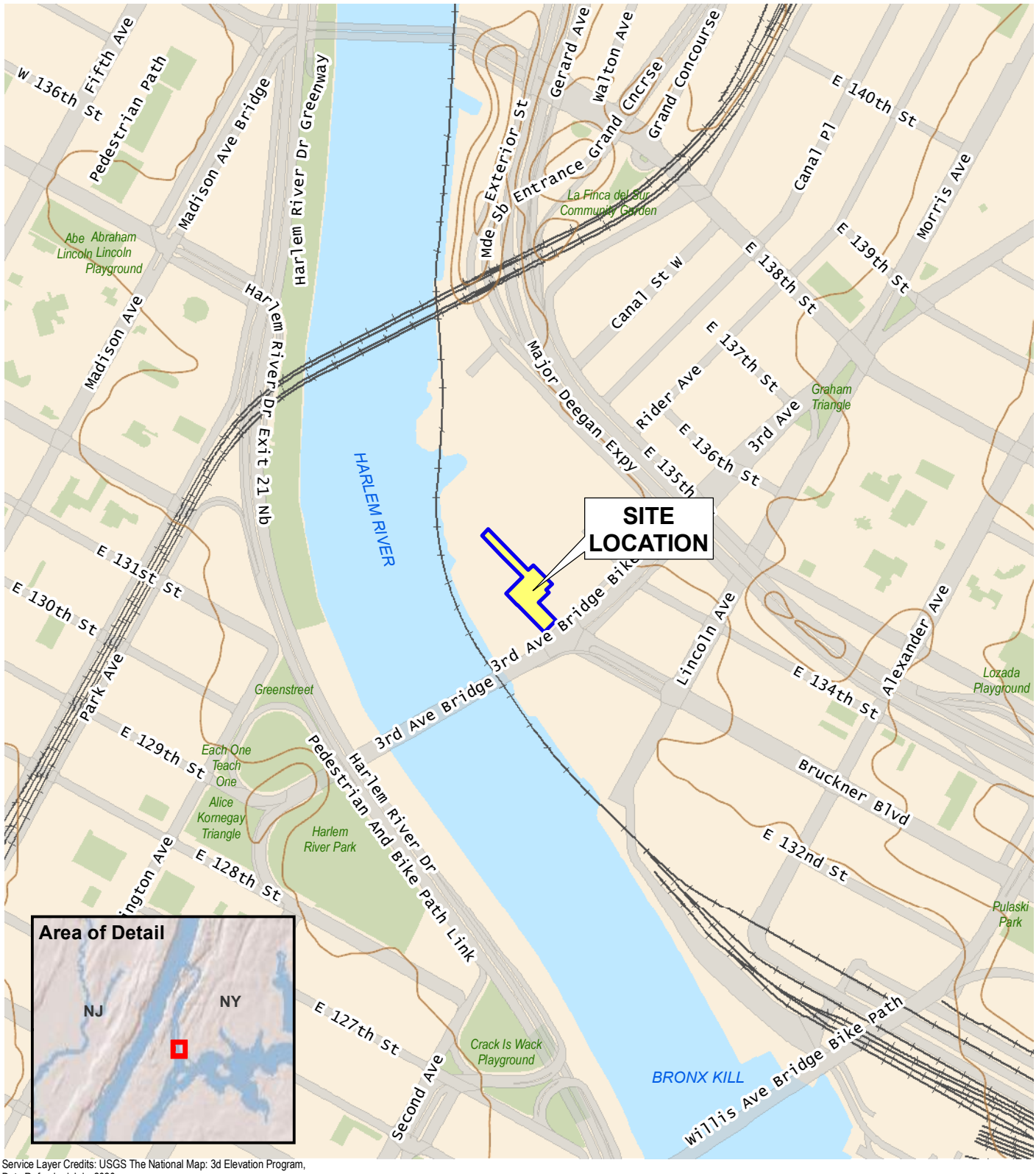
This plan includes, but may not be limited to:

- 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;
- 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. Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to: groundwater and soil vapor to assess the performance and effectiveness of the remedy:

  - monitoring of groundwater to assess the performance and effectiveness of the remedy;
  - a schedule of monitoring and frequency of submittals to the Department; and
  - monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.



Service Layer Credits: USGS The National Map: 3d Elevation Program, Data Refreshed July, 2020

0 600 1,200

SCALE IN FEET

AKRF
440 Park Avenue South, New York, NY 10016

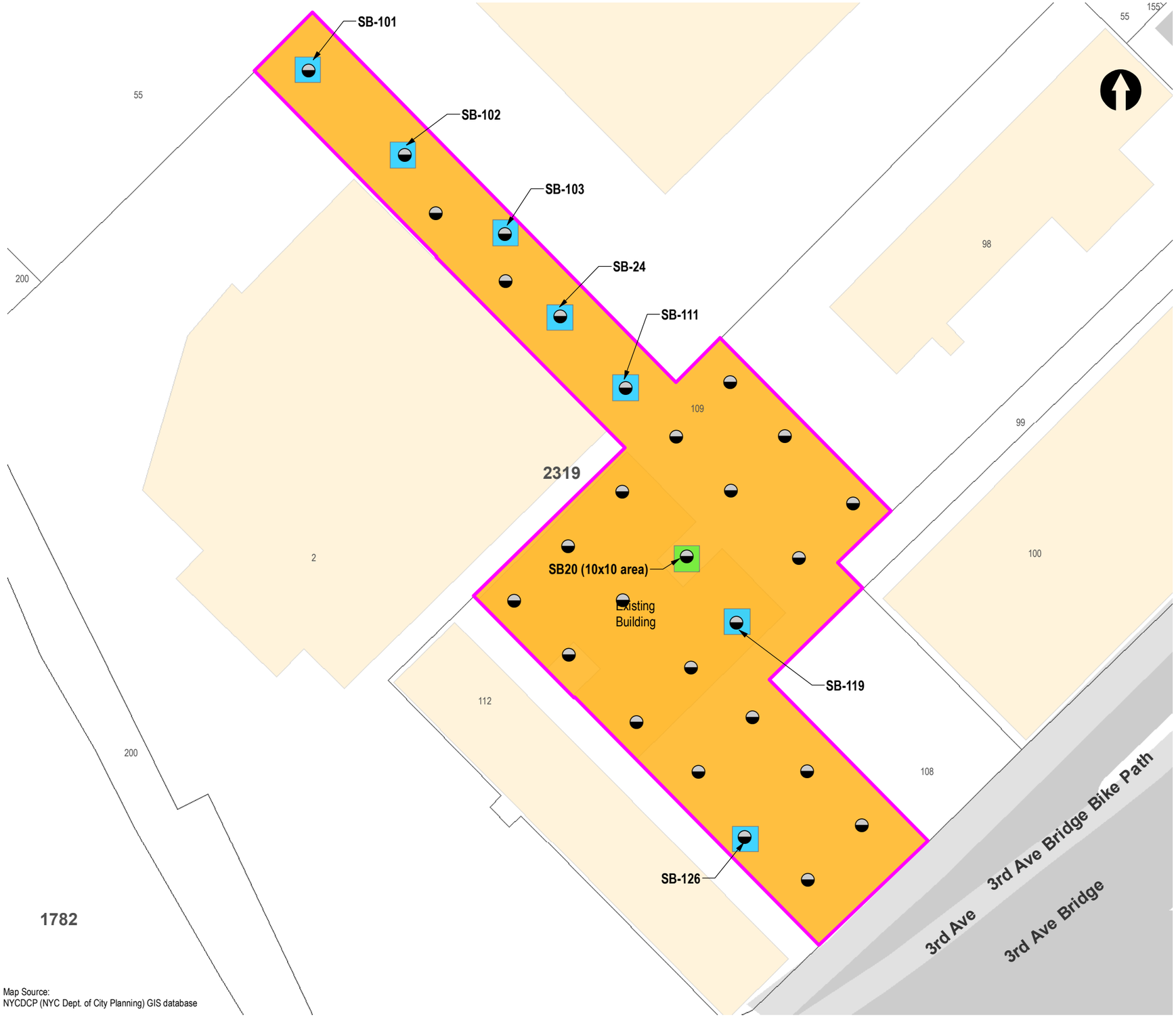
2413 Third Avenue
Bronx, New York

SITE LOCATION

DATE
1/15/2021

PROJECT NO.
200332

FIGURE
1



Map Source:
NYCDCP (NYC Dept. of City Planning) GIS database

LEGEND

- PROJECT SITE BOUNDARY
- 109 — LOT BOUNDARY AND TAX LOT NUMBER
- 2319 — BLOCK NUMBER
- BUILDING
- REDMEDIAL EXCAVATION TO APPROXIMATELY 12 FEET BELOW GRADE TO ACHIEVE A TRACK 1 CLEANUP
- APPROXIMATE EXTENT OF HAZARDOUS LEAD CONTAMINATED SOIL TO APPROXIMATELY 2 FEET BELOW GRADE
- HOTSPOT EXCAVATION TO APPROXIMATELY 15 FEET BELOW GRADE TO ACHIEVE A TRACK 1 CLEANUP
- PROPOSED ENDPOINT SAMPLE LOCATIONS

0 20 40 80
SCALE IN FEET

AKRF
440 Park Avenue South, New York, NY 10016

2413 Third Avenue
Bronx, New York

PROPOSED REMEDIAL EXCAVATION AND ENDPOINT SAMPLING PLAN

DATE
1/25/2021

PROJECT NO.
200332

FIGURE
2