DECISION DOCUMENT

330 West Fordham Road
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203173
November 2024

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

DECLARATION STATEMENT - DECISION DOCUMENT

330 West Fordham Road
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203173
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Statement of Purpose and Basis

This document presents the remedy for the 330 West Fordham Road 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 (NYSDEC) for the 330 West Fordham Road site and the public's input to the proposed remedy presented by NYSDEC.

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 shall be constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

As part of the remedial design program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA), SiteWise^{TM} (available in the Sustainable Remediation Forum [SURF] library) or similar NYSDEC accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial design program, as appropriate. The project design specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial design program.

Additionally, the remedial design program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

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 with visual waste material or non-aqueous phase liquid;
- Soils which exceed the protection of groundwater soil cleanup objectives (PGWSCOs), as defined by 6 NYCRR Part 375-6.8 for those contaminants found in site groundwater above standards;
- Any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination; and
- Soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.

Track 1 Area

Excavation and off-site disposal of all on-site soils which exceed unrestricted soil cleanup objectives (SCOs) as defined by 6 NYCRR Part 375-6.8 in the central portion of the site.

Track 2 Area
Excavation and off-site disposal of all on-site soils which exceed restricted residential SCOs as defined by 6 NYCRR Part 375-6.8 in the upper 15 feet in the eastern and southern portion of the site. If a Track 1 or Track 2 restricted residential cleanup is achieved, a Cover System will not be a required element of the remedy in those locations.

Track 4 Area
Excavation and off-site disposal of all on-site soils which exceed restricted residential SCOs as defined by 6 NYCRR Part 375-6.8 in the upper 2 feet in the western and northern area of the site.

A total of approximately 46,200 cubic yards of contaminated soil will be removed from the site for remediation. Collection and analysis of confirmation and documentation samples at the remedial excavation depths will be used to verify that SCOs for the site have been achieved. If confirmation sampling indicates that SCOs were not achieved at the stated remedial depth, the Applicant must notify NYSDEC, submit the sample results and, in consultation with NYSDEC, determine if further remedial excavation is necessary. Further excavation for development will proceed after confirmation samples demonstrate that SCOs for the site have been achieved.

To ensure proper handling and disposal of excavated material, waste characterization sampling will be completed for all identified contaminated site material. Waste characterization sampling will be performed exclusively for the purposes of off-site disposal in a manner suitable to receiving facilities and in conformance with applicable federal, state and local laws, rules, and regulations and facility-specific permits.

3. Backfill

As needed, clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site.

4. Cover System

A site cover will be required in the Track 4 area where the upper two feet of exposed surface soil will exceed the applicable SCOs, to allow for future restricted residential use of the site. 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. Vapor Intrusion Evaluation

As part of the remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil

vapor intrusion.

6. Enhanced Bioremediation

In-situ enhanced biodegradation will be employed to treat volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) in groundwater in an area to be determined following the removal of the source areas as described in Remedy Element 2 above. The biological breakdown of contaminants through aerobic respiration will be enhanced by the placement of an oxygen release compound (ORC), or similar material within the base of excavation. The application area will be determined during the remedial design.

Conditional Track 1

The intent of the remedy is to achieve a Track 1 unrestricted use in the Track 1 area; therefore, no Environmental Easement (EE) or Site Management Plan (SMP) is anticipated for the Track 1 area. If the soil vapor intrusion (SVI) evaluation is not completed prior to completion of the Final Engineering Report, then a SMP and EE will be required to address the SVI evaluation and implement actions as needed. If a mitigation or monitoring action is needed, a Track 1 cleanup can only be achieved if the mitigation system or other required action is no longer needed within 5 years of the date of the Certificate of Completion.

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

7. Institutional Controls

Imposition of an institutional control in the form of an Environmental Easement for all areas of the controlled property that do not achieve a Track 1 cleanup which will:

- require the remedial party or site owner to complete and submit to the NYSDEC a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for restricted residential use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOHMH; and
- require compliance with the NYSDEC approved Site Management Plan.

8. Site Management Plan

A Site Management Plan is required for the areas of the site that do not achieve a Track 1 cleanup, 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 Remedy Element 7 above.
   - Engineering Controls: The cover system for the Track 4 area of the site discussed in Remedy Element 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, groundwater use, and surface water 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 Remedy Element 4 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable SCOs;
   - provisions for the management and inspection of the identified engineering controls;
   - maintaining site access controls and NYSDEC 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 NYSDEC; and
   - 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 NYSDEC guidance, as appropriate. The remedy is protective of public health and the environment.

November 7, 2024

Date

Scott Deyette, Director
Remedial Bureau B

DECISION DOCUMENT

330 West Fordham Road
Bronx, Bronx County
Site No. C203173
November 2024

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (NYSDEC), 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.

NYSDEC 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

NYSDEC 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 NYSDEC 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=C203173

New York Public Library - Francis Martin Library
2150 University Avenue
Bronx, NY 10453
Phone: (718) 295-5287

Bronx Community Board 7
229-A East 204th Street
Bronx, NY 10458
Phone: (718) 933-5650

Receive Site Citizen Participation Information By Email

Please note that NYSDEC'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 330 West Fordham Road site is located at 330 West Fordham Road in the Bronx. The site occupies a portion of Block 3231, Lot 264. The site is bounded to the north by West Fordham Road, to the east by a Metropolitan Transportation Authority Metro North commuter railroad right-of-way, to the south by a vacant lot (Block 3231, Lot 265) and NYSDEC Brownfield Cleanup Program (BCP) site 320 West Fordham Road, BCP site No. C203163, and to the west by the Harlem River.

Site Features: The 2.074-acre fenced-in site is currently vacant with no onsite buildings and is approximately 80% covered by a concrete slab.

Current Zoning and Land Use: The site is zoned as R7-2 residential. The surrounding properties are characterized by single and multi-story residential buildings, industrial lots, institutions, and parkland in zoning districts designated for manufacturing and residential uses.

Past Use of the Site: The site was historically entirely outboard of the Harlem River shoreline. A timber bulkhead was constructed along the Harlem River shoreline by 1900, and the western shoreline was incrementally backfilled with material from an unknown source through about 1966. Historical site use included a rail yard (1915 to 1966), building materials supply company (1928 to 1950), part of a manufacturing facility (1974 to 1979), vehicle repair (1974 to 2011), and equipment and commercial vehicle parking (1980 to 2017). One to two buildings were present between 1941 and 1995. All permanent buildings were demolished by 1995. The site was used as a dairy products distribution center since at least 2019 and was vacated by the dairy distribution operator in 2023.

Site Geology and Hydrogeology: The site stratigraphy from the surface down to 6-18 feet below grade (ft bg) contains an urban fill layer across the majority of the site generally consisting of brown to black, fine to coarse-grained sand with varying amounts of silt, gravel, brick, slag, and concrete. The fill layer is underlain by a potentially native layer consisting of dark gray to brown

fine sand with varying amounts of silt, medium to coarse-grained sand, organics, and gravel. Bedrock was encountered from 50 to 75 ft bg and consists of two separate formations as the Inwood Marble, and Fordham Gneiss.

Groundwater is tidally influenced and was encountered at an average depth from 8-12 ft bg during low tide and from 6-9 ft bg during high tide. Groundwater is inferred to flow in the westerly direction toward the adjacent Harlem River.

A site location map is attached as Figure 1, and a site plan is attached as Figure 2.

SECTION 4: LAND USE AND PHYSICAL SETTING

NYSDEC may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives that restricts the use of the site to restricted-residential use (which allows for commercial use and industrial use) as described in Part 375-1.8(g) were evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the Remedial Investigation (RI) to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The Applicant under the Brownfield Cleanup Agreement is a Volunteer. The Applicant does not have an obligation to address off-site contamination. However, NYSDEC 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. NYSDEC 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 contaminants of concern identified at this site are:

acetone
arsenic
benzene
benzo(a)anthracene
benzo(a)pyrene
benzo(b)fluoranthene
benzo(k)fluoranthene
chromium
chrysene
DDD
DDT
fluorene
indeno(1,2,3-cd)pyrene
lead
mercury
perfluorooctanoic acid (PFOA)
perfluorooctane sulfonic acid (PFOS)
phenanthrene
tetrachloroethene (PCE)
toluene
trichloroethene (TCE)

The contaminants 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.

Nature and Extent of Contamination:
Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), pesticides, per- and polyfluoroalkyl substances (PFAS), and 1,4- dioxane. Soil vapor was analyzed for VOCs. The primary contaminants of concern at the site include SVOCs and metals in soil, VOCs, SVOCs, metals, and PFAS in groundwater, and chlorinated and petroleum-related VOCs in soil vapor.

Soil
Exceedances of the restricted residential use soil cleanup objectives (RRSCOs) and/or unrestricted use soil cleanup objectives (UUSCOs) were primarily found in the historic fill layer which extends to depths ranging from 5 to 16 feet below grade (ft bg) across the site. In general, the highest concentrations were detected in the 15-18 ft bg range.

A single VOC acetone, which is a common laboratory contaminant, was detected at concentrations up to 0.18 parts per million (ppm) compared to the UUSCO of 0.05 ppm.

SVOCs detected at concentrations exceeding their respective RRSCOs and/or UUSCOs include benzo(a)anthracene up to 98.1 ppm (RRSCO and UUSCO of 1 ppm), benzo(b)fluoranthene up to 124 ppm (RRSCO and UUSCO of 1 ppm), benzo(k)fluoranthene up to 45.9 ppm (RRSCO of 3.9 ppm and UUSCO of 0.8 ppm), chrysene up to 96.2 ppm (RRSCO of 3.9 ppm and UUSCO of 1 ppm), and indeno(1,2,3-cd)pyrene up to 74.3 ppm (RRSCO and UUSCO of 0.5 ppm).

Metals detected at concentrations exceeding their respective RRSCOs and/or UUSCOs include arsenic up to 73.6 ppm (RRSCO of 16 ppm and UUSCO of 13 ppm), trivalent chromium up to 82 ppm (UUSCO of 30 ppm), hexavalent chromium up to 3.58 ppm (UUSCO of 1 ppm), lead up to 842 ppm (RRSCO of 400 ppm and UUSCO of 63 ppm), and mercury up to 5.29 ppm (RRSCO of 0.81 ppm and UUSCO of 0.18 ppm).

Pesticides detected at concentrations exceeding their respective UUSCOs include 4,4'-DDD up to 0.00464 ppm (UUSCO of 0.0033 ppm) and 4,4'-DDT up to 0.0183 ppm (UUSCO of 0.0033 ppm).

No PCBs or 1,4-dioxane were detected above their respective UUSCOs.

A single PFAS chemical, perfluorooctanesulfonic acid (PFOS) was detected at concentrations up to 3.25 parts per billion (ppb) compared to the UUSCO of 0.88 ppb.

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

Groundwater

A single VOC, benzene, was detected at concentrations up to 1.07 ppb, exceeding its Class GA Ambient Water Quality Standard and Guidance Value (AWQSGV) of 1 ppb.

SVOCs detected at concentrations exceeding their respective AWQSGVs include benzo(a)anthracene up to 0.65 ppb (AWQSGV of 0.002 ppb), benzo(a)pyrene up to 0.662 ppb (AWQSGV of 0 ppb), benzo(b)fluoranthene up to 0.562 ppb (AWQSGV of 0.002 ppb), benzo(k)fluoranthene up to 0.562 ppb (AWQSGV of 0.002 ppb), chrysene up to 1.84 ppb (AWQSGV of 0.002 ppb), and indeno(1,2,3-cd)pyrene up to 0.562 ppb (AWQSGV of 0.002 ppb).

A single dissolved metal, selenium, was detected at concentrations up to 96.3 ppb (AWQSGV of 10 ppb). Naturally occurring minerals were also detected above AWQSGVs including iron, magnesium, manganese, and sodium and are not considered site related.

PFAS detected at concentrations exceeding their respective AWQSGVs include perfluorooctanoic acid (PFOA) up to 41.1 parts per trillion (ppt) (AWQSGV of 6.7 ppt) and PFOS up to 33.5 ppt (AWQSGV of 2.7 ppt).

No PCBs, pesticides, or 1-4-dioxane were detected above their respective AWQSGVs.

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

Soil Vapor

Various chlorinated VOCs were detected in soil vapor including tetrachloroethene up to 22 micrograms per cubic meter (µg/m³), trichloroethene up to 12 µg/m³, methylene chloride up to 41 µg/m³, and trichlorofluoromethane up to 34 µg/m³.

Various petroleum-related VOCs were detected in soil vapor including benzene up to 260 µg/m³, toluene up to 440 µg/m³, ethylbenzene up to 26 µg/m³, m,p-xylene up to 190 µg/m³, cyclohexane up to 45 µg/m³, n-heptane up to 19 µg/m³, and n-hexane up to 21 µg/m³.

Other contaminants were also detected in soil vapor including acetone up to 3,000 µg/m³, methane up to 30,000 µg/m³, methyl ethyl ketone up to 200 µg/m³, and propylene up to 320 µg/m³.

Data does not indicate any off-site impacts in soil vapor related to this 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.*

Since the site is fenced and covered by asphalt or concrete, people will not come into contact with site-related soil and groundwater contamination unless they dig below the surface. 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. Currently there are no occupied buildings on the site. Volatile organic compounds in soil vapor 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 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. However, the potential exists for the inhalation of site contaminants due to soil vapor intrusion for any future on-site development. Environmental sampling indicates soil vapor intrusion from site-related contamination 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.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation and 6 NYCRR Part 375.

The selected remedy is a Multiple Cleanup Tracks remedy.

The selected remedy is referred to as the Excavation with Enhanced Bioremediation Treatment remedy.

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

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, 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;
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- 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

shall be constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

As part of the remedial design program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA), SiteWise^{TM} (available in the Sustainable Remediation Forum [SURF] library) or similar NYSDEC accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial design program, as appropriate. The project design specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial design program.

Additionally, the remedial design program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

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

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Excavation and off-site disposal of all on-site soils which exceed unrestricted soil cleanup objectives (SCOs) as defined by 6 NYCRR Part 375-6.8 in the central portion of the site.

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Excavation and off-site disposal of all on-site soils which exceed restricted residential SCOs as defined by 6 NYCRR Part 375-6.8 in the upper 15 feet in the eastern and southern portion of the site. If a Track 1 or Track 2 restricted residential cleanup is achieved, a Cover System will not be a required element of the remedy in those locations.

Track 4 Area
Excavation and off-site disposal of all on-site soils which exceed restricted residential SCOs as defined by 6 NYCRR Part 375-6.8 in the upper 2 feet in the western and northern area of the site.

A total of approximately 46,200 cubic yards of contaminated soil will be removed from the site for remediation. Collection and analysis of confirmation and documentation samples at the remedial excavation depths will be used to verify that SCOs for the site have been achieved. If confirmation sampling indicates that SCOs were not achieved at the stated remedial depth, the Applicant must notify NYSDEC, submit the sample results and, in consultation with NYSDEC, determine if further remedial excavation is necessary. Further excavation for development will proceed after confirmation samples demonstrate that SCOs for the site have been achieved.

To ensure proper handling and disposal of excavated material, waste characterization sampling will be completed for all identified contaminated site material. Waste characterization sampling will be performed exclusively for the purposes of off-site disposal in a manner suitable to receiving facilities and in conformance with applicable federal, state and local laws, rules, and regulations and facility-specific permits.

3. Backfill

As needed, clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site.

4. Cover System

A site cover will be required in the Track 4 area where the upper two feet of exposed surface soil will exceed the applicable SCOs, to allow for future restricted residential use of the site. 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. Vapor Intrusion Evaluation

As part of the remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

6. Enhanced Bioremediation

In-situ enhanced biodegradation will be employed to treat volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) in groundwater in an area to be determined following the removal of the source areas as described in Remedy Element 2 above. The biological breakdown of contaminants through aerobic respiration will be enhanced by the placement of an oxygen release compound (ORC), or similar material within the base of excavation. The application area will be determined during the remedial design.

Conditional Track 1

The intent of the remedy is to achieve a Track 1 unrestricted use in the Track 1 area; therefore, no Environmental Easement (EE) or Site Management Plan (SMP) is anticipated for the Track 1 area. If the soil vapor intrusion (SVI) evaluation is not completed prior to completion of the Final Engineering Report, then a SMP and EE will be required to address the SVI evaluation and implement actions as needed. If a mitigation or monitoring action is needed, a Track 1 cleanup can only be achieved if the mitigation system or other required action is no longer needed within 5 years of the date of the Certificate of Completion.

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

7. Institutional Controls

Imposition of an institutional control in the form of an Environmental Easement for all areas of the controlled property that do not achieve a Track 1 cleanup which will:

- require the remedial party or site owner to complete and submit to the NYSDEC a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for restricted residential use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOHMH; and
- require compliance with the NYSDEC approved Site Management Plan.

8. Site Management Plan

A Site Management Plan is required for the areas of the site that do not achieve a Track 1 cleanup, 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:

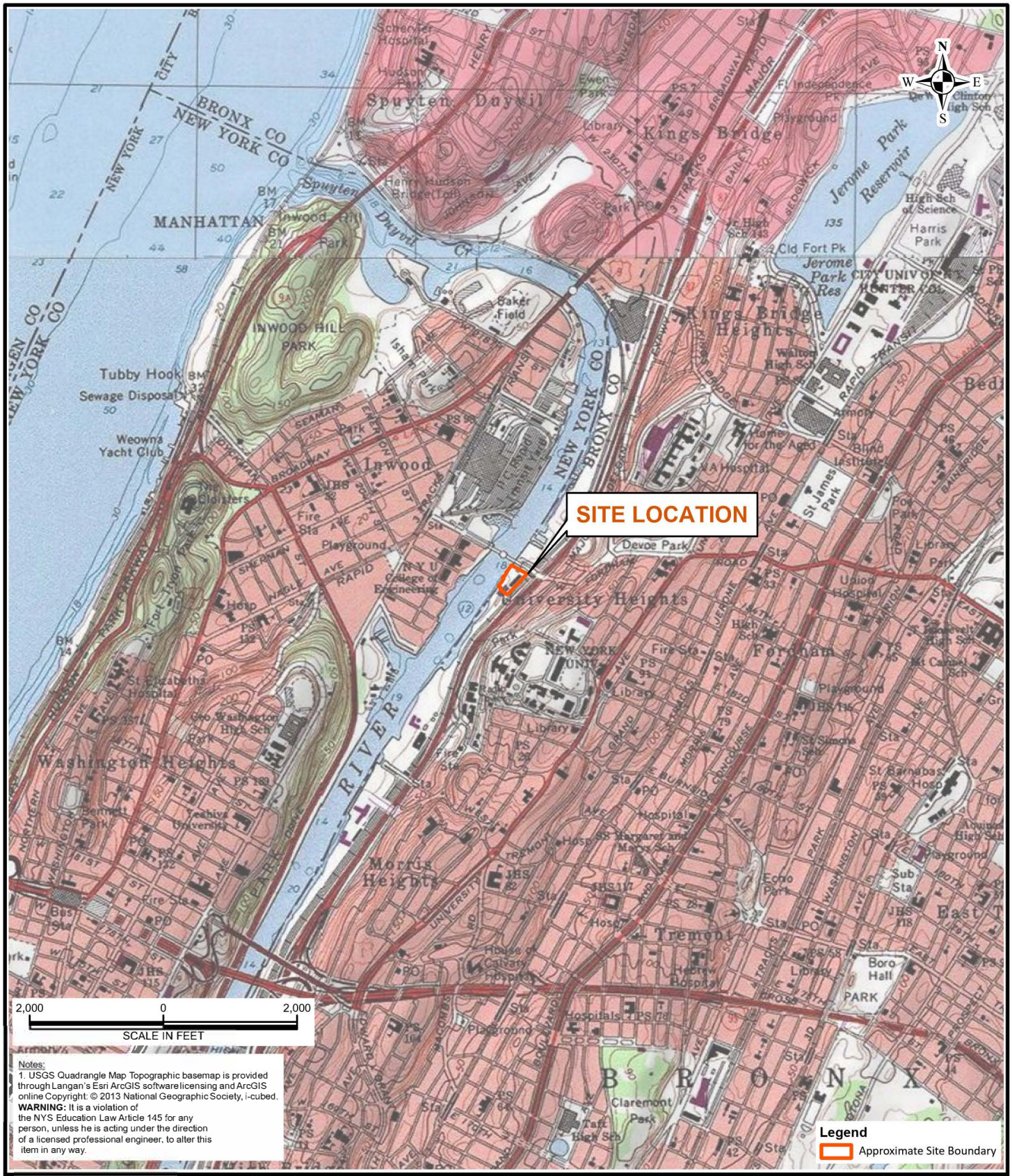
- Institutional Controls: The Environmental Easement discussed in Remedy Element 7 above.
- Engineering Controls: The cover system for the Track 4 area of the site discussed in Remedy Element 4 above.

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, groundwater use, and surface water 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 Remedy Element 4 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable SCOs;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and NYSDEC 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 NYSDEC; and
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.



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Project

330 WEST FORDHAM ROAD

BLOCK No. 3231, LOT No. 264

BRONX COUNTY NEW YORK

Figure Title

SITE LOCATION MAP

Project No.	Figure
170502904	1
Date: 3/13/2024	
Scale: 1" = 2,000 feet	
Drawn By: PDT	

Path: \\langan.com\data\NY\data9\170502901\Project Data\ArcGIS\APRX\170502901\170502901_RIR-2023-South2\RIR-2023_South2.aprx

Legend

Approximate Site Boundary

NOTES:
1. IMAGERY PROVIDED THROUGH LANGAN'S SUBSCRIPTION TO NEARMAP.COM. FLOWN ON 05/29/2023.

WARNING: It is a violation of the NYS Education Law Article 145 for any person, unless acting under the direction of a licensed professional engineer, land surveyor or geologist, to alter this item in any way.

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SCALE IN FEET

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Project
330 WEST FORDHAM ROAD
BLOCK No. 3231, LOT No. 264
BRONX COUNTY NEW YORK

Figure Title
SITE PLAN

Project No.	Figure No.
170502904	2
Date: 3/13/2024	
Scale: 1"=60'	
Drawn By: PDT	

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Legend

- Phase II Soil Boring
- Soil Boring
- Co-located Soil Boring and Soil Vapor Probe
- Proposed Groundwater Monitoring Well
- Hotspot delineation boring for NIB15
- Approximate Site Boundary
- Excavation to 2 feet bgs
- Excavation to 3 feet bgs
- Excavation to 5 feet bgs
- Excavation to 7 feet bgs
- Excavation to 9 feet bgs
- Excavation to 11 feet bgs
- Excavation to 17 feet bgs
- Excavation to 18 feet bgs
- Excavation to 20 feet bgs
- Excavation to 25 feet bgs
- Excavation to 28 feet bgs
- Track 1 Area
- Track 2 Area (see Note 13)
- Track 4 Area

NOTES:
1. IMAGERY PROVIDED THROUGH LANGAN'S SUBSCRIPTION TO NEARMAP.COM.
2. SAMPLE LOCATIONS WHERE THE LABEL HAS A YELLOW OUTLINE FALL WITHIN THE TRACK 2 AREA.
3. BGS = BELOW GRADE SURFACE.
4. BCP = BROWNFIELD CLEANUP PROGRAM

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Project
330 WEST FORDHAM ROAD
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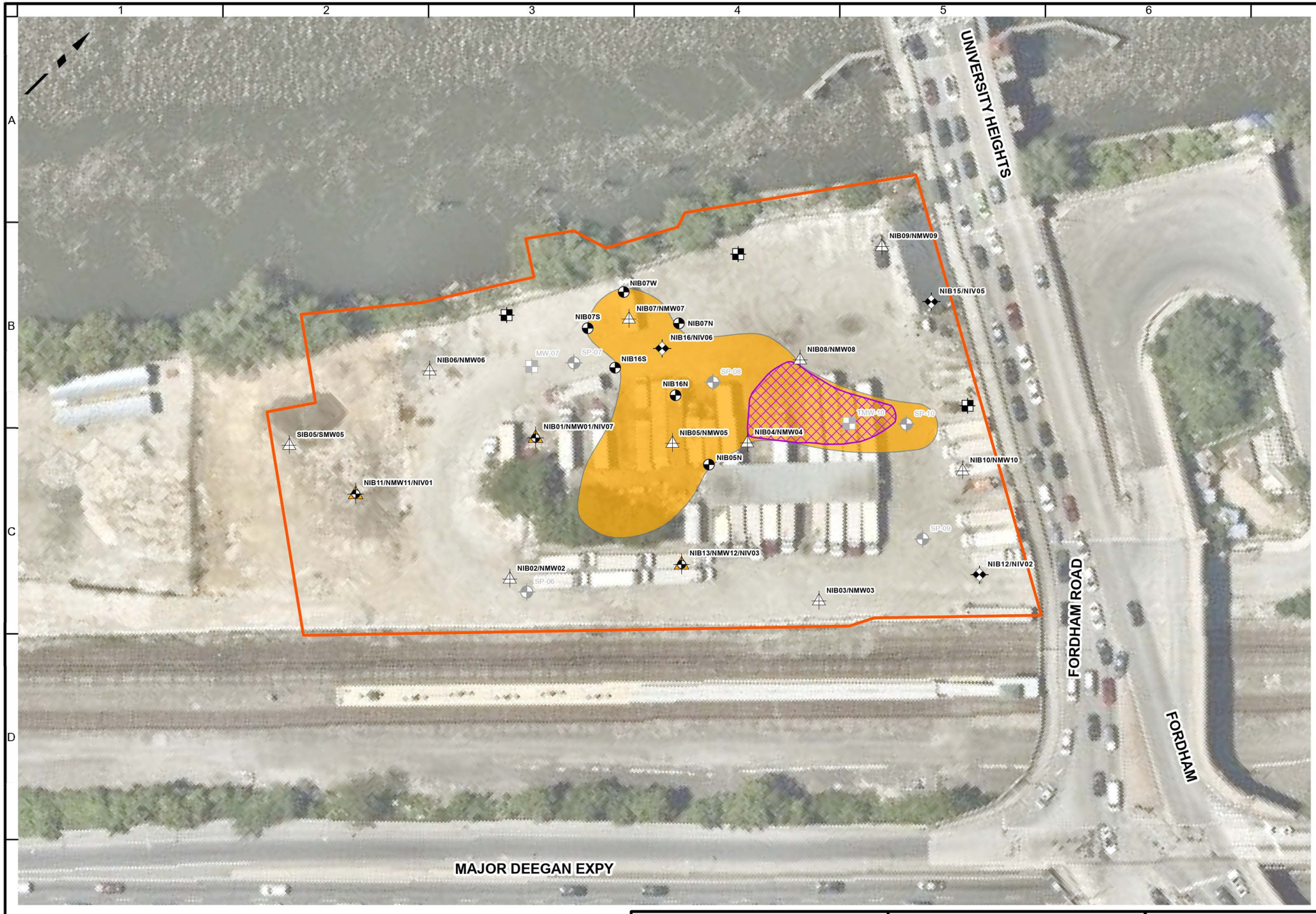
Figure Title
ALTERNATIVE II - SPLIT TRACK 1 TRACK2/TRACK 4 REMEDY

Project No.	170502904
Date	9/23/2024
Scale	1"=50'
Drawn By	NPD
Figure No.	3

Path: \\langan.com\data\NYC\data9\170502901\Project Data\ArcGIS\APRX\170502901\170502901_RAWP_South2-2023\RAWP_South2-2023.aprx Date: 9/23/2024 User: mgeorgalas Time: 5:42 PM



Legend

- Approximate Site Boundary
- Petroleum- and Tar-Related Impacts in Soil and Groundwater
- Contingency In-Situ Groundwater Treatment Area - Subject to Revision Pending Field Observations and Analytical Results
- Phase II Soil Boring
- Phase II Monitoring Well
- Environmental Soil Probe
- Co-located Soil Boring and Monitoring Well
- Co-located Soil Boring, Monitoring Well and Soil Vapor Probe
- Co-located Soil Boring and Soil Vapor Probe
- Proposed Groundwater Monitoring Well

NOTES:
1- Tax parcel data provided by the New York City Department of City Planning, MapPLUTO 21V3.

WARNING: It is a violation of the NYS Education Law Article 145 for any person, unless acting under the direction of a licensed professional engineer, land surveyor or geologist, to alter this item in any way.

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Figure Title
APPROXIMATE GROUNDWATER TREATMENT AREA

Project No.	170502904
Date	10/14/2024
Scale	1"=60'
Drawn By	MG
Figure No.	4

Path: \\langan.com\data\NY\data9\170502901\Project Data\ArcGIS\APRX\170502901\170502901_RAWP_South2-2023\RAWP_South2-2023.aprx Date: 10/14/2024 User: mgeorgalas Time: 1:24 PM