

# DECISION DOCUMENT

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River North  
Brownfield Cleanup Program  
Staten Island, Richmond County  
Site No. C243045  
July 2023



**Department of  
Environmental  
Conservation**

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

# DECLARATION STATEMENT - DECISION DOCUMENT

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River North  
Brownfield Cleanup Program  
Staten Island, Richmond County  
Site No. C243045  
July 2023

## **Statement of Purpose and Basis**

This document presents the remedy for the River North 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 River North site and the public's input to the proposed remedy presented by the Department.

## **Description of Selected Remedy**

The elements of the selected remedy are as follows:

### **1. Remedial Design**

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

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic, and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.
- 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™ (available in the Sustainable Remediation Forum [SURF] library) or similar Department 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 all on-site soils which exceed unrestricted use soil cleanup objectives (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. Based on the available data, this will likely mean excavation will extend to approximately 2 to 6 ft below surface grade or to bedrock, whichever is encountered first, along the western and southwestern portion of the site (approximately 35,000 sq ft area), to approximately 8 to 10 ft below surface grade or to bedrock, whichever is encountered first, in the northern portion of the site (approximately 12,000 sq ft area), and to approximately 10 to 18 ft below surface grade or to bedrock, whichever is encountered first, on the remainder of the site (approximately 37,000 sq ft area).

Approximately 33,000 cubic yards of contaminated soil will be removed from the site. Collection and analysis of confirmation samples at the remedial excavation depth 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 the Department, submit the sample results and, in consultation with the Department, determine if further remedial excavation is necessary. Where bedrock is encountered, a bedrock photograph will be taken instead of a confirmation soil sample. 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, regulations, and facility-specific permits.

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

### **3. Backfill**

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. Soil Vapor Intrusion Evaluation**

As part of the Track 1 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.

### **5. Local Institutional Controls**

If no Environmental Easement (EE) or Site Management Plan (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 NYCDOH code, which prohibits potable use of groundwater without prior approval.

## **Conditional Track 1**

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

### **Institutional Controls**

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 2 restricted residential cleanup at a minimum.

### **6. Environmental Easement**

Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

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

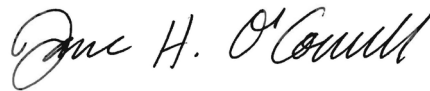
This plan includes, but may not be limited to:

- 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;
  - 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 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.

July 14, 2023



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Date

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Jane H. O'Connell  
Regional Remediation Engineer, Region 2

# DECISION DOCUMENT

River North  
Staten Island, Richmond County  
Site No. C243045  
July 2023

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## **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=C243045>

Staten Island Community Board #1  
1 Edgewater Plaza, Suite 217  
Staten Island, NY 10305  
Phone: (718) 981-6900

St. George Library Center  
5 Central Avenue  
Staten Island, NY 10301  
Phone: (718) 442-8560

### **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 2.05-acre site is located at 178-194 Richmond Terrace and 8 Stuyvesant Place, Staten Island, NY and is identified as Richmond County Tax Block 13, Lots 82, 92 and 100. The irregularly shaped parcel is bounded by Richmond Terrace and residential buildings to the north, Hamilton Avenue to the south, Richmond Terrace and Stuyvesant Avenue to the east, and residential buildings and vacant land to the west. The site boundary is noncontinuous, excluding a portion of land located at 2 Stuyvesant Place (Lot 95) between Lots 92 and 100.

#### Site Features:

The site is currently vacant, heavily vegetated and contains remnants of building foundations associated with prior unfinished construction on the northern portion of the property. The building foundations were constructed in 2006.

#### Current Zoning and Land Use:

The site is located within a residential and commercial zoning district (R7-3, C2-4) and is part of the Special St. George District (SG).

#### Past Uses of the Site:

The site was developed by the late 1890s with several dwellings including three on Lot 100, one on Lot 92, and two on the northern portion of Lot 82. By the late 1910s, additional dwellings were constructed on Lot 100. By the mid-1930s, the "Central Heating Plant" was present directly adjacent to the west of Lot 95 and a portion of Lot 92. The site remained relatively unchanged until the late 1970s, when all buildings, including the "Central Heating Plant," were demolished except for one on the site's northern portion. The remaining dwelling on the northern portion of the property was demolished by 2006 and the site has remained vacant since.

#### Site Geology and Hydrogeology:

The subject property is located at an elevation of approximately 100 feet above mean sea level

(ft-msl) and slopes steeply down to the east. The subsurface consists of fill material across the site to depths ranging from 5 to 15 feet below the ground surface (bgs). A layer of native sand was encountered beneath the fill layer, and bedrock was encountered between 17 and 35 bgs.

Groundwater was encountered at a minimum depth of 29 feet bgs within the bedrock. Groundwater is assumed to flow east toward New York Bay.

A site location map is attached as Figure 1 and a site layout 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, an alternative 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) 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 Volunteer. The Applicant does 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:

- |                           |                         |
|---------------------------|-------------------------|
| mercury                   | acetone                 |
| arsenic                   | nickel                  |
| benzo(a)pyrene            | tetrachloroethene (PCE) |
| benzo(b)fluoranthene      | pesticides              |
| polychlorinated biphenyls | lead                    |

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

- 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), per- and polyfluoroalkyl substances (PFAS), and pesticides. Soil vapor was analyzed for VOCs. Based upon investigations conducted to date, the primary contaminants of concern are SVOCs, PCBs, pesticides, and metals in soil, and VOCs in soil vapor.

Soil - One VOC was detected at a concentration exceeding the unrestricted use soil cleanup objectives (UUSCOs) - acetone at a maximum concentration of 0.32 parts per million, or ppm (UUSCO is 0.05 ppm). This detection is likely a lab artifact and thus acetone is not considered to be a site-specific contaminant.

Two SVOCs were detected at concentrations exceeding the UUSCOs - benzo(a)pyrene at a maximum concentration of 1.7 parts per million, or ppm (UUSCO is 1.0 ppm) and benzo(b)fluoranthene at 2.2 ppm (UUSCO is 1.0 ppm).

Several metals were detected at concentrations exceeding the UUSCOs including mercury at 1.03 ppm (UUSCO is 0.18 ppm), lead at 3,340 ppm (UUSCO is 63 ppm), nickel at 3,440 ppm (UUSCO is 30 ppm), and arsenic at 26.8 ppm (UUSCO is 13 ppm).

Total PCBs were detected at a maximum concentration of 0.994 ppm (UUSCO is 0.1 ppm).

Four pesticides were detected in multiple soil samples exceeding the UUSCOs - 4,4-DDD at a maximum concentration of 0.0395 ppm (UUSCO is 0.0033 ppm), 4,4-DDE at a maximum concentration of 0.0241 ppm (UUSCO is 0.0033 ppm), 4,4'-DDT at a maximum concentration of 0.0573 mg/kg (UUSCO is 0.0033 ppm), and dieldrin at a maximum concentration of 0.0797 mg/kg (UUSCO is 0.005 ppm). No other pesticides were detected in any soil samples above applicable standard.

No PFAS were detected exceeding the unrestricted use guidance values. Data does not indicate any off-site impacts in soil related to the site.

Groundwater - The initial environmental investigation extended to 35 feet below the ground where bedrock was encountered. No groundwater was encountered in any of the soil borings or monitoring wells. Additional borings were installed in March 2023, and a monitoring well was installed into the bedrock to a depth of 40 bgs. A groundwater sample was collected on March 22, 2023. The results indicate that no VOCs, SVOCs, herbicides, pesticides, or PCBs were

detected above ambient water quality standards. Two metals were encountered in filtered groundwater above AWQS including magnesium and sodium. The presence of these metals in site groundwater is likely related to road salt applications or natural phenomenon. Perfluorooctanesulfonic acid (PFOS) was detected at a concentration of 3.39 parts per trillion (ppt) compared to the ambient water quality guidance value (AWQGV) of 2.7 ppt, perfluorooctanoic acid (PFOA) was detected at 301 ppt compared to the AWQGV of 6.7 ppt, and 1,4-dioxane was detected at 0.426 parts per billion (ppb) compared to the AWQGV of 0.35 ppb. PFOS and PFOA contaminants appear to be migrating onto the site from an upgradient source. Data does not indicate any off-site impacts in groundwater related to the site.

Soil Vapor - Soil vapor sample results indicate several compounds were detected. Maximum contaminant concentrations are reported in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), including tetrachloroethene (PCE) at 11  $\mu\text{g}/\text{m}^3$ , acetone at 2,310  $\mu\text{g}/\text{m}^3$ , benzene at 14.2  $\mu\text{g}/\text{m}^3$ , toluene at 57.7  $\mu\text{g}/\text{m}^3$ , ethylbenzene at 9.16  $\mu\text{g}/\text{m}^3$ , and xylene at 20  $\mu\text{g}/\text{m}^3$ . Data does not indicate any off-site impacts in 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*.

Access is restricted by a fence; however, people who enter may come into contact with contaminants in soil by walking on the site, digging, or otherwise disturbing the soil. 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 structures 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 structures, is referred to as soil vapor intrusion. The site is vacant so inhalation of site contaminants in indoor air via vapor intrusion is not a current concern. However, the potential exists for inhalation of site contaminants due to soil vapor intrusion for any future on-site development. Environmental sampling indicates soil vapor intrusion is not a concern for off-site structures.

#### **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.

## **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 Conditional Track 1 remedy.

The selected remedy is referred to as the Excavation remedy.

The elements of the selected remedy, as shown in Figure 3, are as follows:

### **1. Remedial Design**

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

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;

- Fostering green and healthy communities and working landscapes which balance ecological, economic, and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.
- 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™ (available in the Sustainable Remediation Forum [SURF] library) or similar Department 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**

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Approximately 33,000 cubic yards of contaminated soil will be removed from the site. Collection and analysis of confirmation samples at the remedial excavation depth 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 the Department, submit the sample results and, in consultation with the Department, determine if further remedial excavation is necessary. Where bedrock is encountered, a bedrock photograph will be taken instead of a confirmation soil sample. 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, regulations, and facility-specific permits.

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

### **3. Backfill**

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. Soil Vapor Intrusion Evaluation**

As part of the Track 1 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.

### **5. Local Institutional Controls**

If no Environmental Easement (EE) or Site Management Plan (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 NYCDOH code, which prohibits potable use of groundwater without prior approval.

### **Conditional Track 1**

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#### **Institutional Controls**

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 2 restricted residential cleanup at a minimum.

### **6. Environmental Easement**

Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

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

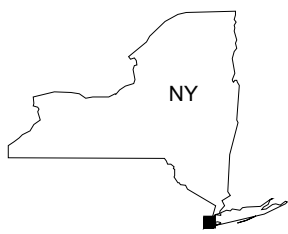
This plan includes, but may not be limited to:

- 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;
  - 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 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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**HALEY  
ALDRICH**

RIVER NORTH  
178, 194 RICHMOND TERRACE & 8 STUYVESANT PLACE  
STATEN ISLAND, NEW YORK

**Site Location Map**

APPROXIMATE SCALE: 1 IN = 2000 FT  
JULY 2022



MAP SOURCE: USGS  
SITE COORDINATES: 40°38'47"N, 74°04'46"W

**FIGURE 1**



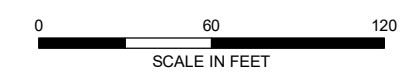


**LEGEND**

-  PARCEL BOUNDARY
-  SITE BOUNDARY

**NOTES**

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: CITY OF NEW YORK
3. AERIAL IMAGERY SOURCE: NEARMAP, 27 FEBRUARY 2022



**HALEY ALDRICH** RIVER NORTH  
 178, 194 RICHMOND TERRACE & 8 STUYVESANT PLACE  
 STATEN ISLAND, NEW YORK

**SITE MAP**

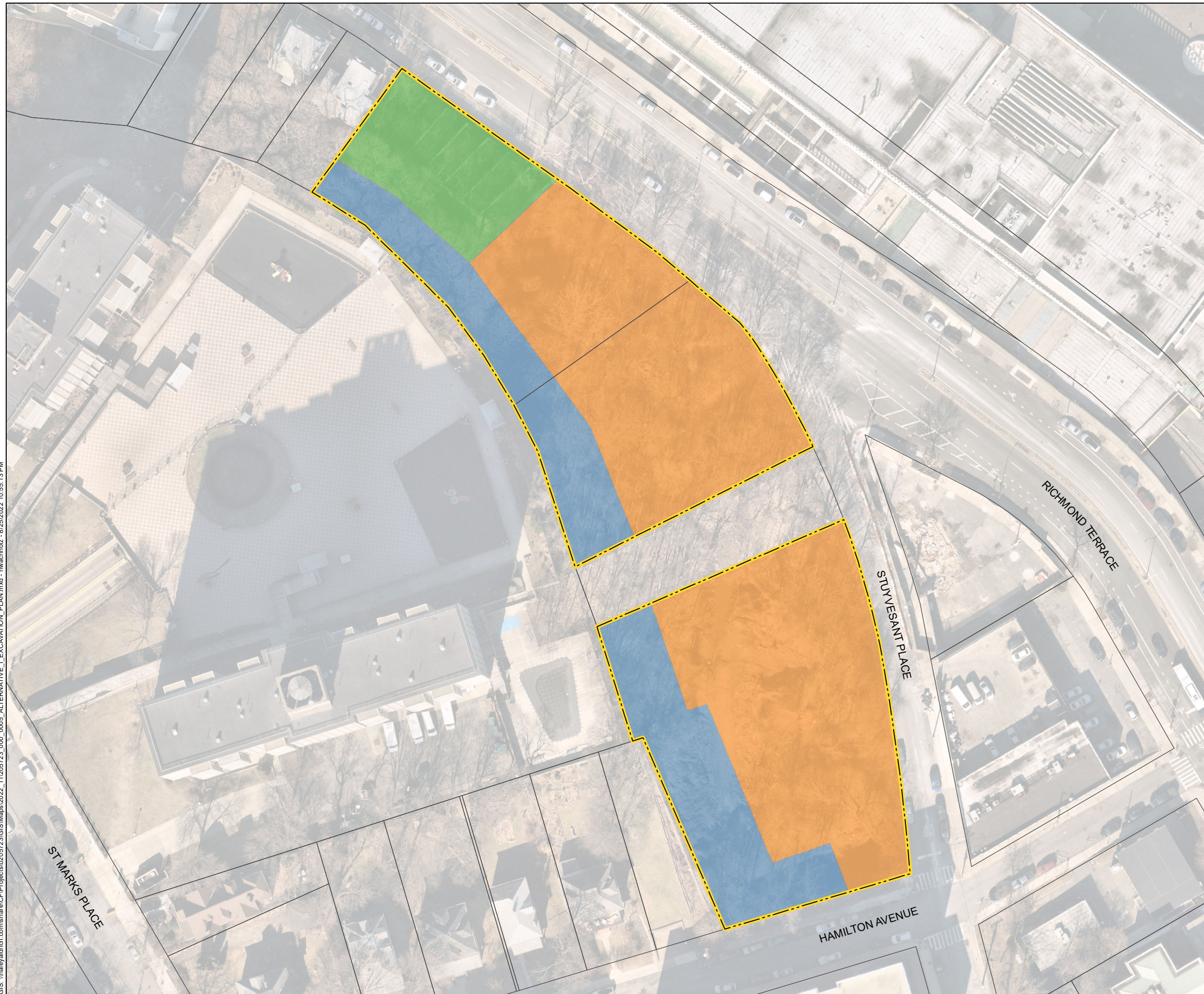
JULY 2022

**FIGURE 2**

GIS: \\haleyaldrich.com\share\CP\Projects\2022\GIS\Map\2022\_051205723\_000\_0002\_SITE\_PLAN.mxd - hhaskins - 5/6/2022 8:13:12 AM



C:\GIS\haleyaldrich.com\share\CP\Projects\0205723\GIS\Maps\2022\_11\205723\_000\_0005\_ALTERNATIVE\_1\_EXCAVATION\_PLAN.mxd - hwscholz - 8/25/2022 10:55:13 PM



**LEGEND**

EXCAVATION, IN FEET

2' TO 6'

8' TO 10'

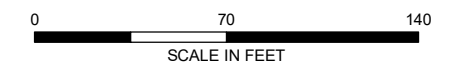
10' TO 18'

PARCEL BOUNDARY

SITE BOUNDARY

**NOTES**

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
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3. AERIAL IMAGERY SOURCE: NEARMAP, 27 FEBRUARY 2022



**HALEY  
ALDRICH**

RIVER NORTH  
178 AND 194 RICHMOND TERRACE AND 8 STUYVESANT PLACE  
STATEN ISLAND, NEW YORK

**SELECTED REMEDY**

NOVEMBER 2022

FIGURE 3