

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau B

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[www.dec.ny.gov](http://www.dec.ny.gov)

July 13, 2021

Isaac Feuerwerger  
Carnegie Management Inc.  
545 Broadway, 4th Floor  
Brooklyn, NY 11206

Re: 180 East 132nd Street  
Site ID No. C203118  
Bronx, Bronx County  
Remedial Work Plan & Decision Document

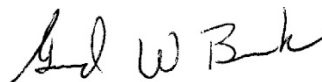
Dear Isaac Feuerwerger:

The New York State Department of Environmental Conservation (Department) and the New York State Department of Health (NYSDOH) have reviewed the Remedial Work Plan (RWP) for the 180 East 132nd Street site dated May 2021 and prepared by Goldberg-Zoino Associates of New York P.C on behalf of the Carnegie Management Inc. The RWP is hereby approved. Please ensure that a copy of the approved RWP is placed in the document repositories. The draft plan should be removed.

Attached is a copy of the Department's Decision Document for the site. The remedy is to be implemented in accordance with this Decision Document. Please ensure that a copy of the Decision Document is placed in the document repositories.

Please contact the Department's Project Manager, Sadique Ahmed, at 518 402 9656 or [Sadique.ahmed@dec.ny.gov](mailto:Sadique.ahmed@dec.ny.gov) at your earliest convenience to discuss next steps. Please recall the Department requires seven days' notice prior to the start of field work.

Sincerely,



Gerard Burke, P.E.

Director

Remedial Bureau B

Division of Environmental Remediation

Enclosure: Decision Document (DD). 180 East 132nd Street, BCP Site C203118



Department of  
Environmental  
Conservation

ec w/attachments:

Michael Ryan  
Gerard Burke  
Jane O'Connell  
Sadique Ahmed  
Kieran McCarthy  
Christine N. Vooris, NYSDOH  
Scarlett Mcloughlin, NYSDOH  
Stephen Lawrence, NYSDOH  
Isaac Feuerwerger, Carnegie Management Inc ([isaacf@qualitylofts.com](mailto:isaacf@qualitylofts.com))  
David Winslow, GZA GeoEnvironmental, Inc ([david.winslow@gza.com](mailto:david.winslow@gza.com))  
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Matt Gokey, [matthew.gokey@tax.ny.gov](mailto:matthew.gokey@tax.ny.gov)

ver 2018-04-16

# DECISION DOCUMENT

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180 East 132nd Street  
Brownfield Cleanup Program  
Bronx, Bronx County  
Site No. C203118  
July 2021



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

# **DECLARATION STATEMENT - DECISION DOCUMENT**

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180 East 132nd Street  
Brownfield Cleanup Program  
Bronx, Bronx County  
Site No. C203118  
July 2021

## **Statement of Purpose and Basis**

This document presents the remedy for the 180 East 132nd Street 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 180 East 132nd Street 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 all on-site soils and historic fill which exceed unrestricted use SCOs, as defined by 6 NYCRR Part 375-6.8. Approximately, 14,200 cubic yards of material will be removed for remediation down 10 to 15 feet below ground surface (bgs) across the entire site where semi-volatile organic compounds (SVOCs) or metals exceed the unrestricted use soil cleanup objectives (SCOs).

If a Track 1 cleanup is achieved, a cover system will not be required.

## **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. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion. The intent of the remedy is to achieve a Track 1 unrestricted use, therefore, no environmental easement or site management plan is anticipated. If the soil vapor intrusion (SVI) evaluation is not completed prior to completion of the Final Engineering Report, then a Site Management Plan (SMP) and Environmental Easement (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.

## **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.

## **Contingent Remedy Elements**

The intent of the remedy is to achieve 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, the following contingent remedial elements will be required and the remedy will achieve a Track 2 Restricted Residential cleanup.

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## **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 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 NYCDOH.
- 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 6 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 and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provisions 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.

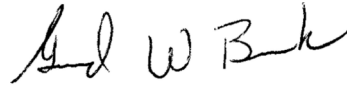
b. Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- 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.
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### **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 13, 2021

A handwritten signature in black ink, appearing to read "Gerard W Burke", written in a cursive style.

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Date

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Gerard Burke, Director  
Remedial Bureau B

# DECISION DOCUMENT

180 East 132nd Street  
Bronx, Bronx County  
Site No. C203118  
July 2021

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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 repository:

DECInfo Locator - Web Application  
<https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C203118>

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

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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 180 East 132nd Street BCP site is located in an urban area in the Bronx, NY. The entrance to the site is at the end of Willis Avenue directly under the Willis Avenue Bridge. The site is approximately 370 feet southwest of Bruckner Boulevard. The site is bounded by vacant NYSDOT property and Pulaski Park to the north, Amtrak and railroads to the south, a vacant NYSDOT property to the east, and the Harlem River Terminal Station historical landmark to the west.

**Site Features:** The site consists of a paved asphalt parking lot with no buildings. The parking lot slopes gently to the northwest. The area of the site is 0.68 acres and comprises the entire tax parcel of Block 2260 and Lot 180.

**Current Zoning and Land Use:** The site is currently zoned M3-1 for manufacturing use. The surrounding parcels are currently used for a mixture of commercial establishments and residential housing. The site is currently leased to a moving company and is used for vehicle storage.

**Past Use of the Site:** Around 1888, the site was developed with a building used primarily as the N.Y. New Haven & Hartford R.R. Harlem River Branch Passenger Station. The building contained offices and a basement. The immediate surrounding area had been used as a railyard. By 2006, this building was demolished, and the site was filled in and paved with asphalt. The type of contaminants encountered during the most recent site investigation are indicative of contaminated fill.

**Site Geology and Hydrogeology:** The site is approximately 20 feet above mean sea level. The topographic gradient near the site slopes slightly to the northwest. The nearest water body is the Harlem River, which is located approximately 500 feet to the southwest of the site. The soil is classified as variable urban land material., The groundwater flow is to the southeast-south beneath the site. The depth to groundwater varies from 9 to 13 feet.

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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
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- 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:

|                        |                        |
|------------------------|------------------------|
| benzo(a)anthracene     | lead                   |
| benzo(a)pyrene         | mercury                |
| benzo(b)fluoranthene   | cis-1,2-dichloroethene |
| indeno(1,2,3-CD)pyrene | vinyl chloride         |

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

- Soil
- Groundwater

### **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.

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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 the investigations conducted to date, the primary contaminants of concern for the site are VOCs, SVOCs and metals.

#### Soil -

Soil data were compared to unrestricted use soil cleanup objectives (UUSCOs). The contaminants of concern in soil are SVOCs and metals. Benzo(a)anthracene was detected at a maximum concentration of 6.6 parts per million (ppm), which exceeded the UUSCO of 1 ppm. Benzo(a)pyrene and benzo(b)fluoranthene were both detected at a maximum concentration of 7 ppm each (UUSCO is 1 ppm for each compound). Indeno(1,2,3-cd)pyrene was detected at a maximum concentration of 4.3 ppm (UUSCO is 0.5 ppm).

For metals, barium was found at a maximum concentration of 865 ppm (UUSCO is 350 ppm), lead was detected at a maximum concentration of 624 ppm (UUSCO is 63 ppm) and mercury was detected at a maximum concentration of 1.05 ppm (UUSCO is 0.18 ppm).

The highest level of total PFAS detected at the site was 0.57 ppb. The unrestricted use SCOs for PFOA and PFOS are 0.66 ppb and 0.88 ppb, respectively.

No VOCs, pesticides or PCBs were detected at concentrations exceeding their respective UUSCOs. Data does not indicate any off-site impacts in soil related to this site.

#### Groundwater -

Groundwater data were compared to the Department's Ambient Water Quality Standards (AWQS). SVOCs were detected throughout the site in all groundwater samples. The highest concentration of benzo(a)pyrene detected was 0.03 parts per billion (ppb) compared to the AWQS of non-detectable, benzo(b)fluoranthene was detected at a maximum concentration of 0.04 ppb (AWQS is 0.002 ppb), benzo(k)fluoranthene was detected at a maximum concentration of 0.02 ppb (AWQS is 0.002 ppb) and indeno(1,2,3-cd)pyrene was detected at a maximum concentration of 0.03 ppb (AWQS is 0.002 ppb).

Total metals were detected above the AWQS in all wells. The highest manganese concentration was detected above the AWQS (300 ppb) at a concentration of 677.2 ppb. The highest concentration of selenium detected was 14.1 ppb (AWQS- 10 ppb).

No VOCs, pesticides, PCBs, or 1,4-dioxane were detected above the AWQS. PFAS compounds were not detected above 1 nanogram per liter (ng/L). Data does not indicate any off-site impacts in groundwater related to this site.

#### Soil Vapor -

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Chlorinated VOCs were detected in one soil gas location. Cis-1,2-Dichloroethene was detected at a concentration of 20.1 micrograms per cubic meter (ug/m<sup>3</sup>) and vinyl chloride at a concentration of 102 ug/m<sup>3</sup>.

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*.

Direct contact with contaminants in the soil is unlikely because the site is covered with asphalt or pavement. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in soil vapor (air spaces within the soil) may move into buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because there is no on-site building, inhalation of site contaminants in indoor air due to soil vapor intrusion does not represent a concern for the site in its current condition. 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 associated with this site 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.

There remedial action objectives chosen for this site are.

##### **Groundwater**

RAOs for Public Health Protection

- Prevent ingestion of groundwater containing contaminant levels exceeding drinking water standards.

##### **Soil**

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

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- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Remove the source of ground 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 and Vapor Intrusion Evaluation 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;
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- 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 all on-site soils and fill which exceed unrestricted use SCOs, as defined by 6 NYCRR Part 375-6.8. Approximately 14,200 cubic yards of material will be removed for remediation to a depth of 10 to 15 feet below ground surface (bgs) across the entire site where semi-volatile organic compounds (SVOCs) or metals exceed the unrestricted use soil cleanup objectives (SCOs).

If a Track 1 cleanup is achieved, a cover system will not be required.

### **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. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion. The intent of the remedy is to achieve a Track 1 unrestricted use, therefore, no environmental easement or site management plan is anticipated. If the soil vapor intrusion (SVI) evaluation is not completed prior to completion of the Final Engineering Report, then a Site Management Plan (SMP) and Environmental Easement (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.

### **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.

### **Contingent Remedy Elements**

The intent of the remedy is to achieve 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, the following contingent remedial elements will be required and the remedy will achieve a Track 2 Restricted Residential cleanup.

### **6. Institutional Controls**

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

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- 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 NYCDOH.
- 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 6 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 and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provisions 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:

- 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.
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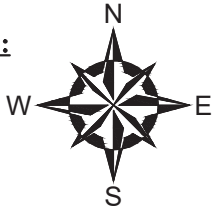
NEW YORK

QUADRANGLE LOCATION

**SOURCE:**  
**BASE MAP FROM THE FOLLOWING USGS QUADRANGLE MAP:**  
**CENTRAL PARK, NY (2016).**  
DIGITAL TOPOGRAPHIC MAPS PROVIDED BY USGSSTORE.GOV.

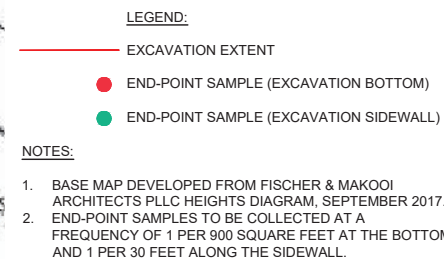
CONTOUR ELEVATIONS REFERENCE NAVD 88,  
CONTOURS ARE SHOWN IN FEET AT 10' INTERVALS

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.



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|------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------------|----------------------------------------|
| 180 EAST 132ND STREET<br>BRONX, NEW YORK |  | PREPARED BY:<br> <b>GZA</b> GeoEnvironmental, Inc.<br>Engineers and Scientists<br>www.gza.com |                           | PREPARED FOR:<br>CARNEGIE MANAGEMENT |                                        |
| <b>SITE LOCATION MAP</b>                 |  | PROJ MGR: SH                                                                                                                                                                     | REVIEWED BY: DW           | CHECKED BY: SH                       | <b>FIGURE</b><br><b>1</b><br>SHEET NO. |
|                                          |  | DESIGNED BY: LN                                                                                                                                                                  | DRAWN BY: LN              | SCALE: 1" = 2,000'                   |                                        |
|                                          |  | DATE: AUGUST 2019                                                                                                                                                                | PROJECT NO. 12.0076605.10 | REVISION NO.                         |                                        |



| NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ISSUE / DESCRIPTION |              |               |              |          |                                                 | BY | DATE                             |  |
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| EXCAVATION PLAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                     |              |               |              |          |                                                 |    |                                  |  |
| PREPARED BY:<br> <b>G2A GeoEnvironmental, Inc.</b><br>Engineers and Scientists<br><a href="http://www.g2a.com">www.g2a.com</a>                                                                                                                                                                                                                                                                                                                                                                                                                |                     |              |               |              |          | PREPARED FOR:<br><br><b>CARNEGIE MANAGEMENT</b> |    |                                  |  |
| PROJ. NO:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | SH                  | REVIEWED BY: | DW            | CHECKED BY:  | SH       | <b>FIGURE</b><br><br><b>2</b>                   |    | <b>SHEET NO.</b><br><br><b>9</b> |  |
| DESIGNED BY:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | LN                  | DRAWN BY:    | LN            | SCALE:       | AS SHOWN |                                                 |    |                                  |  |
| DATE:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | MAY 2021            | PROJECT NO:  | 12.0076605.10 | REVISION NO. |          |                                                 |    |                                  |  |