DECISION DOCUMENT

Former Bronx Freight Terminal
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203082
March 2020

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

DECLARATION STATEMENT - DECISION DOCUMENT

Former Bronx Freight Terminal
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203082
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Statement of Purpose and Basis

This document presents the remedy for the Former Bronx Freight Terminal 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 Former Bronx Freight Terminal site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. Remedial Design

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

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at

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

2. Excavation

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

- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead;
- 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;
- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G; and
- any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

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

For the Track 4 area of the site, all soils in the upper two feet which exceed the restricted residential SCOs, as defined by 6 NYCRR Part 375-6.8, will be excavated and transported off-site for disposal.

Approximately 32,000 cubic yards of contaminated soil will be removed from the site.

3. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for each cleanup track will be brought in to replace the excavated soil and establish the designed grades at the site.

4. Groundwater Extraction & Treatment

Dewatering at the site will be required to enable the remedial excavation and subgrade work. Contaminated groundwater from dewatering operations will be treated as necessary prior to discharge to the municipal sewer system.

5. Cover System

For the Track 4 area of the site, a site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

6. Engineering and 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 dual Track 2/Track 4 restricted residential cleanup at a minimum and will include imposition of a site cover for the Track 4 area, an environmental easement, and site management plan as described below.

7. Institutional Control

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; and
- require compliance with the Department approved Site Management Plan.

8. Site Management Plan

A Site Management Plan is required, which includes the following:

a) an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

– Institutional Controls: The Environmental Easement discussed in Paragraph 7 above.
– Engineering Controls: The cover system discussed in Paragraph 5 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 4 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs)
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b) a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
   - a schedule of monitoring and frequency of submittals to the Department;
   - monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

March 4, 2020

Date

Gerard Burke, Director
Remedial Bureau B

DECISION DOCUMENT

Former Bronx Freight Terminal
Bronx, Bronx County
Site No. C203082
March 2020

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, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

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=C203082

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

Bronx Community Board 1
3024 Third Avenue

Bronx, NY 10455
Phone: 718-585-7117

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The site is located in an urban area in the South Bronx and is bordered to the northeast by Bruckner Boulevard, to the southeast by Lincoln Avenue, to the southwest by Block 2316, Lot 35, which is part of the pier head and bulkhead, followed by the Harlem River, and to the northwest by the Third Avenue bridge.

Site Features: The property is vacant and paved.

Current Zoning and Land Use: The site is currently zoned for manufacturing (light industrial) or high density residential within the Special Harlem River Waterfront District (M1-3/R8 and HRW), with surrounding properties zoned for light industrial, manufacturing, transportation and utilities, mixed commercial and residential use and multi-family residential (M1-3/R8, M1-2/R6A, M1-5/R8A and M3-1).

Past Use of the Site: From 1908 to 1951, the site was occupied by the New Jersey Central Rail Bronx Freight Terminal, a large rail to truck freight terminal that contained access for float barges along the Harlem River. From 1968 to 2007, the site was identified as Gerosa Haulage Corporation (with uses including crane repair, paint shop, blacksmith shop, bus depot, and garage repair shop). The site contained a building that resembled the former Oz Storage Building, which was the most recent occupant of the former building at the site, which was demolished in 2017.

Site Geology and Hydrogeology: Subsurface soils at the site are comprised of historic fill materials, consisting of brown fine to coarse sand, gravel, and various fill materials (concrete, brick fragments, wood, glass, asphalt, slag, etc.), to a depth ranging from 5 to 7 feet below the surface followed by native silty-sand and peat layers. Bedrock was not encountered during the remedial investigation. According to the USGS topographic map for the area, the elevation of the property is approximately 5 feet above the mean sea level. The area topography gradually slopes down to the west.

Groundwater occurs beneath the site at a depth of approximately 7 feet below grade. Based on

previous studies performed at the site, groundwater flow is generally to the southwest toward the Harlem River but is likely influenced by tidal fluctuations.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

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

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

SECTION 5: ENFORCEMENT STATUS

The Applicant(s) under the Brownfield Cleanup Agreement is a/are Volunteer(s). The Applicant(s) does/do not have an obligation to address off-site contamination. However, the Department has determined that this site does not pose a significant threat to public health or the environment; accordingly, no enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

lead	chrysene
mercury	indeno(1,2,3-CD)pyrene
benzo(a)anthracene	arsenic
benzo(a)pyrene	barium
benzo(b)fluoranthene	cadmium
tetrachloroethene (PCE)	copper
benzo(k)fluoranthene	ethylbenzene

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

- groundwater
- soil
- soil vapor intrusion

6.2: Interim Remedial Measures

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

The following IRM(s) will be implemented at this site based on conditions observed during the RI.

IRM - Installation of Access Road and Vault, Index Pile Testing

All soils in the upper two feet which exceed the restricted residential soil cleanup objectives (SCOs) in the northwestern portion of the site will be excavated and transported off-site for disposal. Approximately 175 cubic yards of contaminated soil will be removed from the site. The IRM implementation has started, and results will be documented in the Final Engineering Report.

6.3: Summary of Environmental Assessment

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

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

Nature and Extent of Contamination:

Soil – One VOC, ethylbenzene, was detected in soil exceeding the Protection of Groundwater Soil Cleanup Objectives (PGWSCOs) at 31 parts per million (ppm) (PGWSCO is 12 ppm). SVOCs were detected in soil at concentrations exceeding restricted residential SCOs (RRSCOs), including benzo(a)anthracene at a maximum of 41 ppm (RRSCO is 1 ppm), benzo(a)pyrene at a maximum of 37 ppm (RRSCO is 1 ppm), benzo(b)fluoranthene at a maximum of 47 ppm (RRSCO is 1 ppm), benzo(k)fluoranthene at a maximum of 20 ppm (RRSCO is 3.9 ppm), chrysene at a maximum of 11 ppm (RRSCO is 3.9 ppm), and indeno(1,2,3-cd)pyrene at a maximum of 6 ppm (RRSCO is 0.5 ppm). For metals, the maximum concentration of arsenic was 59.5 ppm (RRSCO is 16), barium was 699 ppm (RRSCO is 400), cadmium was 10.3 ppm (RRSCO is 4.3), copper was 450 ppm (RRSCO is 270), lead was 4,750 ppm (RRSCO is 400), mercury was 8.7 ppm (RRSCO is 0.81). A location where levels of lead exceeded the hazardous waste threshold was identified at the vicinity of former monitoring well MW-2. Data does not indicate any off-site impacts in soil related to this site.

Groundwater – VOCs, SVOCs, and metals were detected in groundwater at concentrations exceeding ambient water quality standards (AWQS). The VOC ethylbenzene was detected in groundwater at 280 parts per billion (ppb) (AWQS is 5 ppb). For SVOCs, the maximum concentration of benzo(a)anthracene was 0.66 ppb (AWQS is 0.002 ppb), benzo(a)pyrene was 0.58 ppb (AWQS is ND), benzo(b)fluoranthene was 0.46 ppb (AWQS is 0.002 ppb), benzo(k)fluoranthene was 0.48 ppb (AWQS is 0.002 ppb), chrysene was 0.63 ppb (AWQS is

0.002 ppb), and indeno(1,2,3-cd)pyrene was 0.3 ppb (AWQS is 0.002 ppb). For metals, the naturally-occurring metals iron, magnesium, manganese, and sodium were detected at concentrations exceeding their AWQS, but these are related to the proximity to saline surface water and are not considered contaminants of concern. The maximum concentrations of PFOA and PFOS are 129 parts per trillion (ppt) and 299 ppt, respectively. No PCBs or pesticides were detected at concentrations exceeding the applicable AWQS. Data does not indicate any off-site impacts in groundwater related to this site.

Soil Vapor – Tetrachloroethene (PCE) was detected at a concentration of 161 micrograms per cubic meter (ug/m3) on the north side of the site. 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.*

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. People may come into contact with contaminants in soils if they contact surface soils or dig below the surface. Volatile organic compounds in soil vapor (air spaces within the soil) may move into buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because the site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern. The potential exists for the inhalation of site contaminants due to soil vapor intrusion for future onsite development. Environmental sampling indicates that soil vapor intrusion to site related contaminants is not a concern for offsite 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

- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated 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 Dual Track 2/Track 4 Soil Excavation and Site Cover remedy.

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

1. Remedial Design

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

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
- Integrating the remedy with the end use where possible and encouraging green and

sustainable re-development; and

- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Excavation

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

- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead;
- 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;
- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G; and
- any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

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

For the Track 4 area of the site, all soils in the upper two feet which exceed the restricted residential SCOs, as defined by 6 NYCRR Part 375-6.8, will be excavated and transported off-site for disposal.

Approximately 32,000 cubic yards of contaminated soil will be removed from the site.

3. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for each cleanup track will be brought in to replace the excavated soil and establish the designed grades at the site.

4. Groundwater Extraction & Treatment

Dewatering at the site will be required to enable the remedial excavation and subgrade work. Contaminated groundwater from dewatering operations will be treated as necessary prior to discharge to the municipal sewer system.

5. Cover System

For the Track 4 area of the site, a site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components

already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

6. Engineering and 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 dual Track 2/Track 4 restricted residential cleanup at a minimum and will include imposition of a site cover for the Track 4 area, an environmental easement, and site management plan as described below.

7. Institutional Control

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; and
- require compliance with the Department approved Site Management Plan.

8. Site Management Plan

A Site Management Plan is required, which includes the following:

c) an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

– Institutional Controls: The Environmental Easement discussed in Paragraph 7 above.
– Engineering Controls: The cover system discussed in Paragraph 5 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 4 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs)
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and

- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

d) a 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;
   - monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

LEGEND

SITE BOUNDARY

TAX LOT LINE

N

0 100'

SOURCE: NYC DEPARTMENT OF CITY PLANNING, IT DIVISION

Title:

SITE TAX MAP

101 LINCOLN AVENUE
BRONX, NEW YORK

Prepared for:

BOP 101 LINCOLN AVENUE, LLC

FIGURE 1

V:\GIS\PROJECTS\31711\0002Y\111\31711.0002Y111.1.MXD

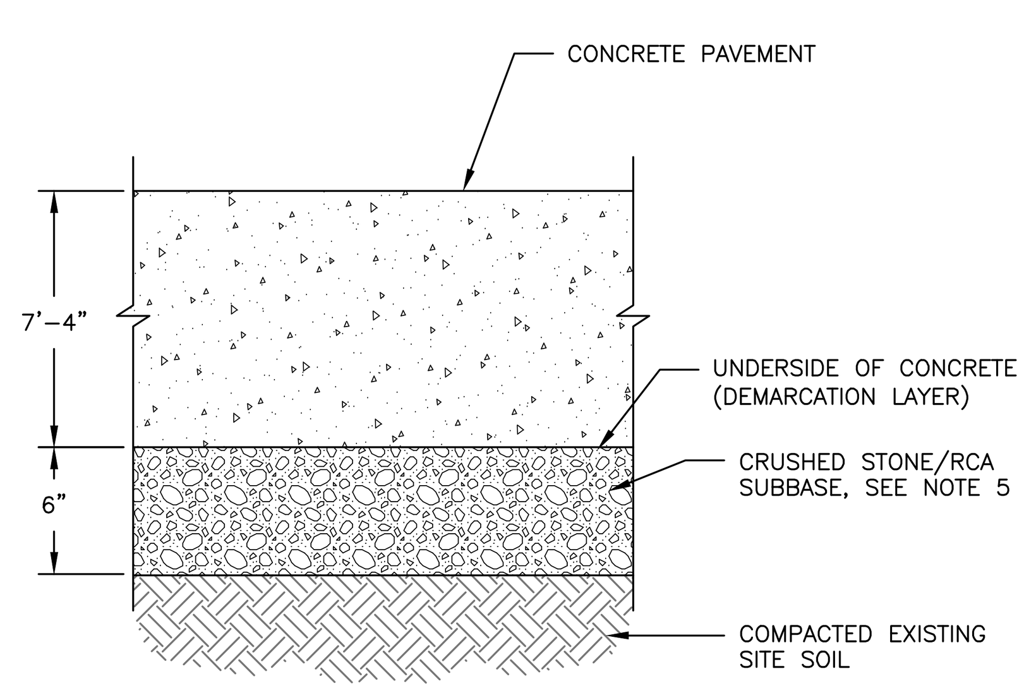
LEGEND

- BROWNFIELD CLEANUP PROGRAM (BCP) LINE
- RXSB-21 — SRI SOIL BORING LOCATION AND DESIGNATION TO BE USED AS BOTTOM CONFIRMATION SAMPLE
- PROPOSED SIDEWALL CONFIRMATION SAMPLE LOCATION
- PROPOSED BOTTOM DOCUMENTATION SAMPLE LOCATION
- PROPOSED BOTTOM CONFIRMATION SAMPLE LOCATION
- PROPOSED SIDEWALL DOCUMENTATION SAMPLE LOCATION
- LOCATION OF HAZARDOUS LEAD EXCAVATION TO 2 FT BLS
- PROPOSED BUILDING CELLER FOOTPRINT
- TRACK 4 PROPOSED EXCAVATION TO APPROXIMATELY 15 FT BLS TO MEET RRSCOS/PGWSCOS. SITE COVER SYSTEM COMPRISED OF SLAB ON GRADE BUILDING FOUNDATIONS WITH A DEMARCATION LAYER OF 20 MIL THICK VAPOR BARRIER OR WATERPROOF MEMBRANE (GRACE PRODUCTS), A MINIMUM OF 2 FEET OF OFF-SITE BACKFILL, ASPHALT/CONCRETE WALKWAYS/STAIRS/RAMPS/CONCRETE PAVERS AND OFF-SITE SUBBASE AGGREGATE BACKFILL. SEE DETAILS 2, 3, AND 4. SEE NOTE 3.
- TRACK 2 PROPOSED EXCAVATION TO APPROXIMATELY 15 FT BLS TO MEET RRSCOs/PGWSCOs
- TRACK 2 PROPOSED LIMITS OF EXCAVATION TO APPROXIMATELY 8 FT BLS TO MEET RRSCOs/PGWSCOs
- TRACK 4 PROPOSED LIMITS OF EXCAVATION TO APPROXIMATELY 2 FT BLS. SITE COVER SYSTEM COMPRISED OF SLAB ON GRADE BUILDING FOUNDATIONS WITH A DEMARCATION LAYER OF 20 MIL THICK VAPOR BARRIER OR WATERPROOF MEMBRANE (GRACE PRODUCTS), A MINIMUM OF 2 FEET OF OFF-SITE BACKFILL, ASPHALT/CONCRETE WALKWAYS/STAIRS/RAMPS/CONCRETE PAVERS AND OFF-SITE SUBBASE AGGREGATE BACKFILL. SEE DETAILS 2, 3, AND 4. SEE NOTE 3.
- PROPOSED LOCATION OF PERMANENT ACCESS ROAD. SITE COVER SYSTEM COMPRISED OF CONCRETE PAVEMENT WITH DEMARCATION LAYER (UNDERSIDE OF THE CONCRETE) AND SUBBASE AGGREGATE BACKFILL, SEE DETAIL 1
- AREA OF CONCERN TO BE ADDRESSED DURING THE REMEDIAL ACTION

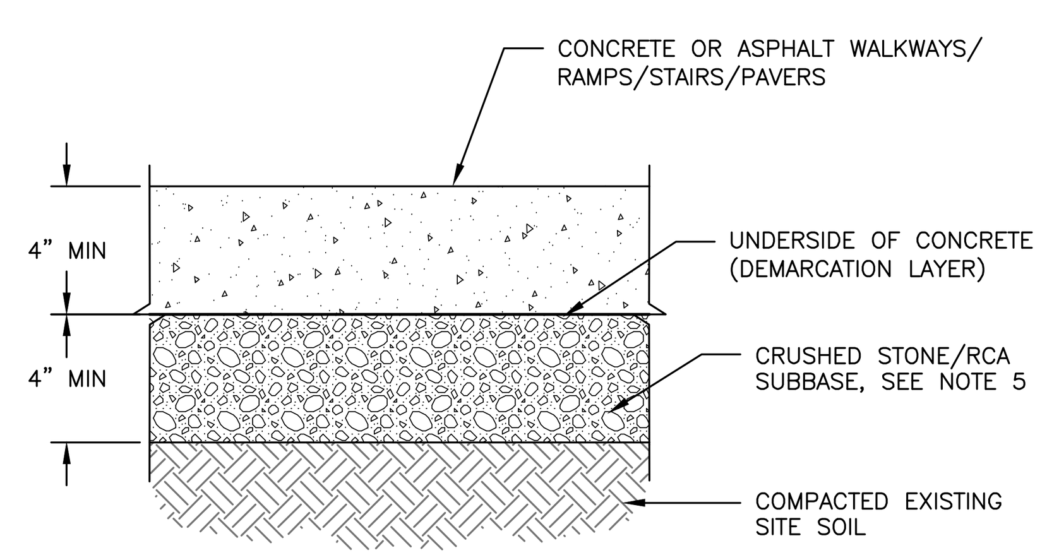
NOTES

1. BASEMAP PREPARED FROM SURVEY PERFORMED BY HIRANI ENGINEERING & LAND SURVEYING, P.C., AUGUST 2018.
2. ENDPOINT DOCUMENTATION SAMPLES WILL BE A COMBINATION OF EXISTING SOIL SAMPLES AND PROPOSED SAMPLES AS SHOWN, REFER TO SECTION 9.2.1 OF THE SRIR/RAWP FOR A DESCRIPTION OF SAMPLING FREQUENCIES AND ANALYTES. LOCATIONS ARE APPROXIMATE AND WILL BE BIASED TOWARD IMPACTS IF OBSERVED.
3. BACKFILL FOR ALL PORTIONS OF THE SITE WILL MEET THE LOWER OF PART 375 RRSCOs OR PGWSCOs (WITH THE EXCEPTION OF GRANULAR FILL MATERIALS WITH LESS THAN 10% PASSING THE NUMBER 80 SIEVE). MATERIALS WITH LESS THAN 10% PASSING THE NUMBER 80 SIEVE (I.E., STONE, RCA, GRAVEL, ETC.) DO NOT REQUIRE SAMPLING.
4. PORTIONS OF THE BUILDING WITH CELLARS PRESENT WILL BE REMEDIATED TO TRACK 2 RESTRICTED RESIDENTIAL USE. THE REMAINDER OF THE SITE WILL BE REMEDIATED TO TRACK 4 RESTRICTED RESIDENTIAL USE.
5. RECYCLED CONCRETE AGGREGATE (RCS) SHALL ONLY BE USED A MINIMUM OF 3 FEET ABOVE THE WATER TABLE.
6. BCP LINE BASED ON BROWNFIELD CLEANUP AGREEMENT (BCA) AMENDMENT, SUBMITTED ON AUGUST 9, 2019.
7. ENDPOINT SAMPLES WILL BE COLLECTED AT AOC-1, AOC-4, AND AOC-6 BASED ON OBSERVED SOIL CONDITIONS AND IN ACCORDANCE WITH DER-10 SECTION 5.5: UNDERGROUND STORAGE TANK CLOSURE.

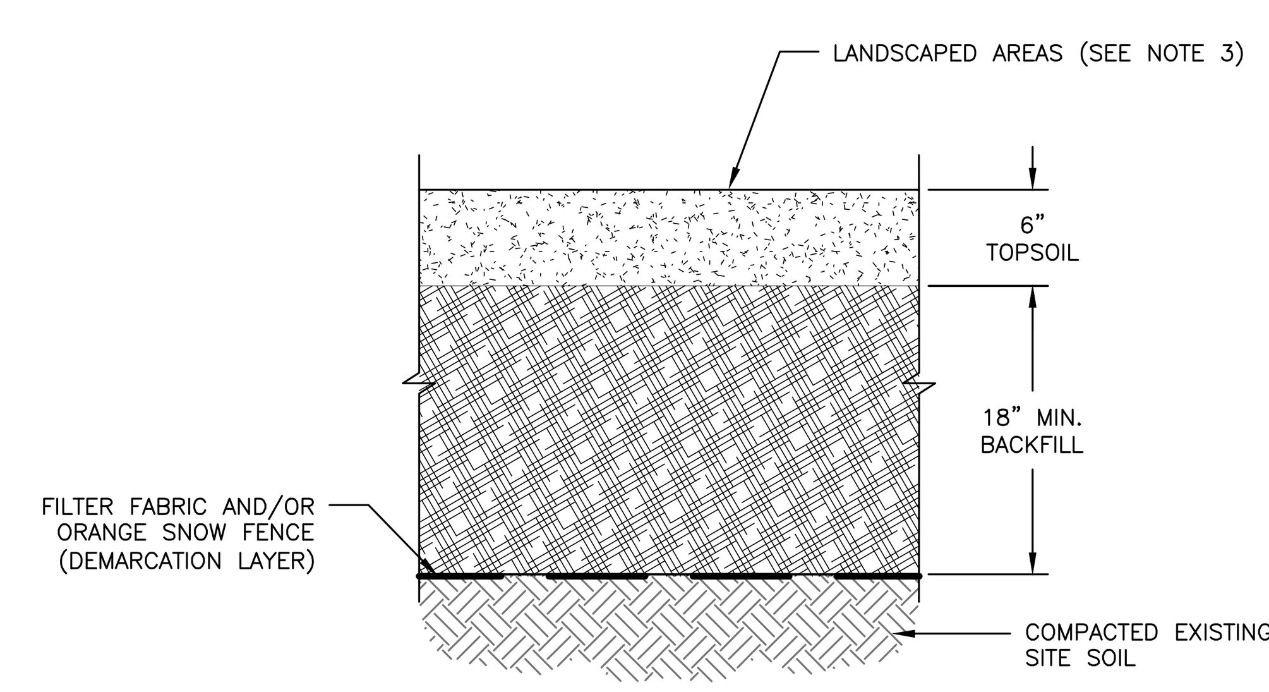
30' 0 30'



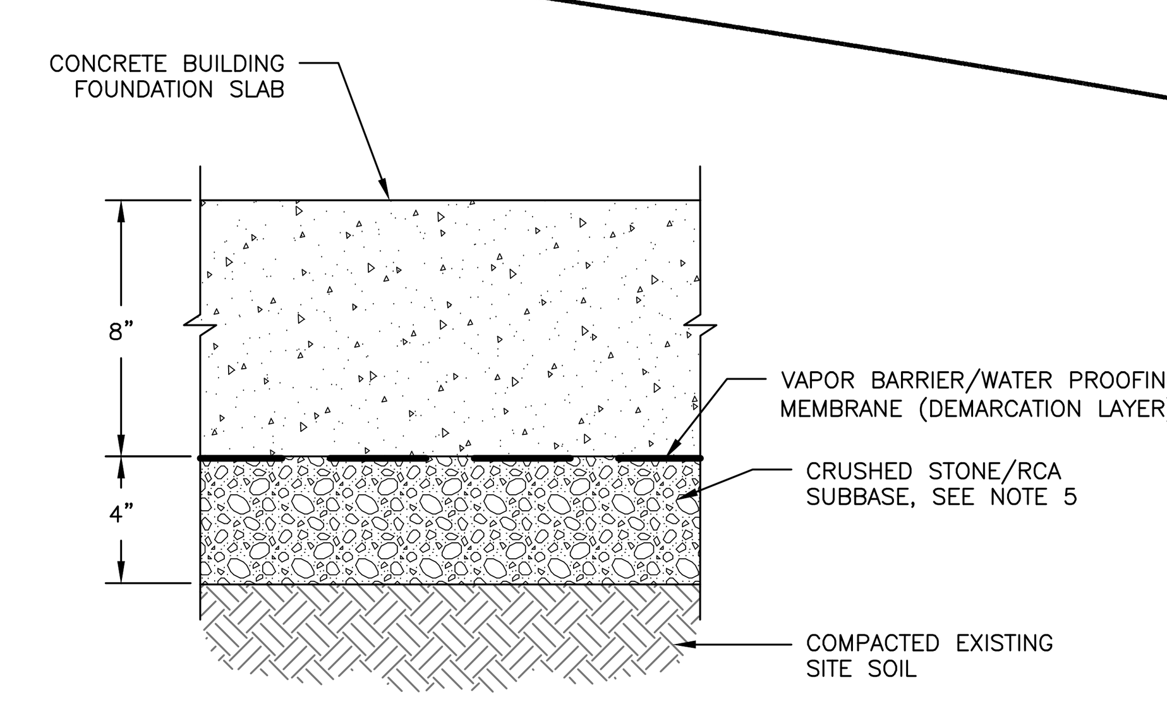
1 PROPOSED SITE COVER SYSTEM: PERMANENT ACCESS ROAD
SCALE: NOT TO SCALE



2 PROPOSED SITE COVER SYSTEM: CONCRETE WALKWAYS/RAMPS/STAIRS/PAVERS
SCALE: NOT TO SCALE



3 PROPOSED SITE COVER SYSTEM: LANDSCAPED AREAS
SCALE: NOT TO SCALE



4 PROPOSED SITE COVER SYSTEM: SLAB ON GRADE BUILDING FOUNDATIONS
SCALE: NOT TO SCALE

Title:

REMEDIAL ALTERNATIVE 2: COMBINED TRACK 2/TRACK 4 RESTRICED RESIDENTIAL USE CLEANUP

Prepared for:

BOP 101 LINCOLN AVENUE, LLC

Figure

2

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