DECISION DOCUMENT

Copyrite Plastic Sheets
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203151
May 2024

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

DECLARATION STATEMENT - DECISION DOCUMENT

Copyrite Plastic Sheets
Brownfield Cleanup Program
Bronx, Bronx County
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Statement of Purpose and Basis

This document presents the remedy for the Copyrite Plastic Sheets 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 (NYSDEC) for the Copyrite Plastic Sheets site and the public's input to the proposed remedy presented by NYSDEC.

Description of Selected Remedy

The elements of the selected remedy are as follows:

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

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

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

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

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

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

- 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; and
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.
- Excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

All soils in the upper two feet which exceed the restricted residential SCOs will be excavated and transported off-site for disposal.

Approximately 4,000 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 NYSDEC, submit the sample results and, and in consultation with NYSDEC, determine if further remedial excavation is

necessary. Further excavation for development will proceed after confirmation samples demonstrate that SCOs for the site have been achieved.

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

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

5. In-Situ Treatment using Activated Carbon with In-Situ Chemical Reduction
Activated carbon will be added to the subsurface to capture and prevent the migration of petroleum contamination in groundwater on the northern half of the site.

In the southern half of the site, activated carbon will be combined with in-situ chemical reduction (ISCR) to treat metal contaminants, including hexavalent chromium, selenium, lead, and silver in groundwater. A chemical reducing agent, zero valent iron (ZVI), will be injected with the activated carbon into the subsurface to chemically alter the contaminants, and enhance their removal from the groundwater. The method and depth of the activated carbon injection (including the ZVI amendment) will be determined during the remedial design.

Prior to the full implementation of this technology, laboratory and/or on-site pilot scale studies will be conducted to more clearly define design parameters.

Monitoring will be required up-gradient, down-gradient, and within the treatment zone. Monitoring will be conducted for contaminants of concern upgradient, downgradient and within the treatment zone, and will be detailed in the remedial design.

6. Vapor Mitigation
Any on-site buildings will be required to have a sub-slab depressurization system, or other acceptable measures, to mitigate the migration of vapors into the building from the subsurface.

7. 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 Track 4, restricted residential cleanup at a minimum and will include imposition of a site cover.

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

8. 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 soil cover discussed in Paragraph 4 above and the vapor mitigation system discussed in Paragraph 6 above.

This plan includes, but may not be limited to: include all that apply,

• 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 water use restrictions;
• 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 NYSDEC notification; and
• the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

- monitoring of groundwater and indoor air to assess the performance and effectiveness of the remedy; and
- a schedule of monitoring and frequency of submittals to the NYSDEC.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation systems. The plan includes, but is not limited to:

- procedures for operating and maintaining the systems; and
- compliance inspection of the systems to ensure proper O&M as well as providing the data for any necessary reporting.

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.

May 9, 2024
Date

Scott Deyette, Director
Remedial Bureau B

DECISION DOCUMENT

Copyrite Plastic Sheets
Bronx, Bronx County
Site No. C203151
May 2024

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, where a contaminant is present at levels exceeding the soil cleanup objectives or other health-based or environmental standards, criteria or guidance, based on the reasonably anticipated use of the property.

NYSDEC has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

NYSDEC seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by NYSDEC in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repositories:

DECInfo Locator - Web Application
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C203151

New York Public Library - Woodstock Branch
Attn: Mr. Colbert Nembhard
761 East 160th Street
Bronx, NY 10456
Phone: (718) 665-6255

Bronx Community Board 1
Attn: Betty Bryant-Brown
3024 Third Avenue
Bronx, NY 10455
Phone: (718) 585-7117

Receive Site Citizen Participation Information By Email

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

SECTION 3: SITE DESCRIPTION AND HISTORY

Location:
The 0.98-acre site is made up of three tax lots, Block 2344, Lots 1, 11 and 27, and is located at 261-315 Grand Concourse and 270 Walton Avenue in the Mott Haven section of the Bronx. The site is bounded to the north by East 140th Street; to the south by East 138th Street; to the east by Grand Concourse; and to the west by Walton Avenue and a 2-story warehouse.

Site Features:
The site is vacant. Prior buildings have been removed, but a partial cellar remains in the northwest portion of the site which will be used in the new development.

Current Zoning and Land Use:
The current zoning of the site is C6-2A, which is a contextual district with maximum building heights and allows for commercial and residential uses.

Past Use of the Site:
Historical uses of Lot 1 (south end of the site) include: a gasoline station in 1935; private residents since at least 1940; Electric Vacuum Co in 1940; a plastic products manufacturer between 1947 and at least 1951; Copyrite Plastic Sheets between 1961 and 1965, Teitelbaum & Sons Inc. between 1961 and 1983; Olympic Sheet Metal, Inc. between 1993 and 1994; AA Kold Air, Inc. between 1993 and 2005; MSV Enterprises between 1994 and 2004; Bronx Air Conditioning Center in 1994; GPJ O'Donoghue Contracting Corporation and ESB Electric, Incorporated between 2014 and 2017; and Cayuga Home for Children in 2017.

Former Lot 11 (middle of site) was developed as part of a two-story garage and auto supplies stock between 1928 and 1935; vacant circa 1944 when the property was configured to its current footprint; and redeveloped with the current two-story warehouse in 2002. Tenants on Lot 11 have included Berk Supply Co. in 2004, 2009, 2014, and 2017; Perfect Car Corp in 2009 and

2017; and by YBJ Inc and a dental office in 2009.

Former Lot 27 (north end of site) was developed as part of a two-story private garage, one-story repair shop, and a one-story automobile sales service shop between 1928 and 1935; it was then developed with a filling station with multiple underground storage tanks in 1944. The filling station expanded between 1951 and 1992. In 1992, the property was converted to a filling station/car wash; and upgraded in 2003.

Tenants on Lot 27 have included by Concourse Fair Inc Used Cars in 1961, 1965, 1971, 1976, 1983, and 1993; Christian Oil and Gas Corp in 1976; Gas Corp in 1983; Decopen Enterprises Corp in 1993, 1994, 1999, and 2000; Boulevard Car Wash in 1993, 1994, 1999, 2000, 2004, 2005, 2009, 2014, and 2017; American Car Wash Supplies in 2009 and 2014; and 315 Grand Concourse Inc. in 2009. The Site is currently owned by Walton Street GC Developments LLC.

Site Geology and Hydrogeology:
According to the findings of the 2019 limited soil investigation, the site is underlain by fill material consisting of sand, brick, concrete, and asphalt. Historic fill was encountered from 1-foot below ground surface (bgs) to the bedrock surface, which was encountered between 3 feet bgs and 5 feet bgs across the site. Bedrock groundwater wells installed in the investigation indicate a general flow northwest to southeast on the northern portion of the site. In the southern portion, contours indicate an element of northeastern flow at the boundary of Lot 1 and Lot 11. Groundwater depth coincides with top of bedrock, about 1.5 to 5 feet below ground surface.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

NYSDEC may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (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, NYSDEC has determined that this site does not pose a significant threat to public health or the environment; accordingly, no enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

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

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

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

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

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

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

6.1.2: RI Results

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

benzo(a)anthracene
benzo(a)pyrene
benzo(b)fluoranthene
dibenz[a,h]anthracene
indeno(1,2,3-cd)pyrene
arsenic
chromium
lead
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
benzene
ethylbenzene
isopropylbenzene
methyl-tert-butyl ether (MTBE)
naphthalene
n-propylbenzene
toluene
xylene (mixed)
tetrachloroethene (PCE)
perfluorooctane sulfonic acid
perfluorooctanoic acid

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

- groundwater
- soil

6.2: Interim Remedial Measures

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

There were no IRMs performed at this site during the RI.

6.3: Summary of Environmental Assessment

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

Nature and Extent of Contamination:
Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), pesticides, and per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. Soil vapor was analyzed for VOCs.

Based on the investigations conducted to date, the primary contaminants of concern are SVOCs, metals and PFAs in soil, and hexavalent chromium, PFAs and petroleum VOCs in groundwater. A limited area of the site contains chlorinated VOCs in soil vapor.

Soil:
During RI sampling, SVOCs were found on the southern portion of the site, above the protection of groundwater and slightly above restricted residential (RR) soil clean-up objectives (SCOs). The maximum concentration was benzo(a)anthracene (3.35 ppm) compared to the RRSCO of 1 ppm. Elevated metals were found site-wide, with higher amounts in the southern portion of the

site. The metals arsenic at 32 ppm (RRSCO of 16 ppm), cadmium at 37 ppm (RRSCO of 4.3 ppm), chromium at 1140 ppm (RRSCO of 180 ppm), hexavalent chromium at 473 ppm (RRSCO of 110 ppm), lead at 3900 ppm (RRSCO of 400 ppm), and mercury at 1.2 ppm (RRSCO of 0.81 ppm) exceeded RRSCOs. In addition, both hexavalent chromium (473 ppm) and selenium (20 ppm) exceeded the respective protection of groundwater (PG) SCO (19 ppm and 4 ppm).

Perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were found site-wide, with higher concentrations in the southern part of the site. The maximum concentration of PFOA was 1.04 ppb and PFOS was 7.91 ppb. These exceeded Protection of Groundwater guidance values of 0.8 ppb (PFOA) and 1.0 ppb (PFOS).

No exceedances of RRSCOs for VOCs, pesticides, or PCBs were noted.

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

Groundwater:
Petroleum-related VOCs were detected at concentrations exceeding the Ambient Water Quality Standards and Guidance Values (AWQSGVs). The highest exceedance was 1,2,4-trimethylbenzene at 265 parts per billion (ppb) above the (AWQSGV of 5 ppb). In the same location, eleven other petroleum related compounds exceeded AWQSGVs including acetone at 62 ppb (AWQSGV of 50 ppb), n-propyl benzene at 80 ppb (AWQSGV of 5 ppb), toluene at 92 ppb (AWQSGV of 5 ppb), xylene at 149 ppb (AWQSGV of 5), with the remainder concentrations each below 50 ppb. The total VOC concentration was 700 ppb. Methyl tert-butyl ether (MTBE) was found in a separate well at 26.9 ppb (AWQSGV of 10 ppb).

SVOCs in groundwater were detected in the southern portion of the site at levels up to 0.24 ppb for benzo(k)fluoranthene, compared to the AWQSGV of 0.002 ppb. Turbidity in those samples was elevated (200 units) In a second set of samples, the turbidity was lower (40 units) and SVOCs were not detected.

Dissolved metals exceeded the AWQSGV for chromium at a maximum concentration of 3740 ppb (AWQSGV of 50 ppb), hexavalent chromium at a maximum concentration of 3570 ppb (AWQSGV of 50 ppb), nickel at 192 ppb (AWQSGV of 100 ppb), selenium at a maximum concentration of 159 ppb (AWQSGV of 10 ppb), silver at 63 ppb (AWQSGV of 50 ppb), antimony at 16.6 ppb (AWQSGV of 3), and sodium and manganese. Lead was detected at 98 ppb (AWQSGV of 25 ppb) in a total metals sample, but not in the dissolved sample. Sodium and manganese are naturally occurring in groundwater, are not site related and will not be addressed by the remedy.

PFOA and PFOS were reported at concentrations up to 134 and 231 parts per trillion (ppt) respectively exceeding the AWQSGV of 6.7 ppt and 2.7 ppt, respectively. 1,4 dioxane was reported in one sample at 0.32 parts per billion (ppb), which is below the AWQSGV of 0.35 ppb.

At one downgradient well, immediately off-site, PFOS was detected at 269 ppt and PFOA at 64 ppt.

Data does not indicate any off-site impacts in groundwater related to this site. PFOA and PFOS were detected in elevated levels across the site, and in both upgradient and downgradient wells off-site.

Soil Vapor:
Tetrachloroethene (PCE) was detected in soil vapor samples up to 400 micrograms per cubic meter (ug/m3). Trichloroethylene was detected at 19.7 ug/m3. Individual petroleum-related compounds were identified in soil vapor at the site, including a maximum concentration of 9,260 ug/m3 for xylenes.

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 majority of the site is covered with buildings and pavement. In addition, people will not come into contact with site-related soil and groundwater contamination unless they dig below the surface. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in soil vapor (air spaces within the soil) may move into buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of structures, 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 people to inhale site contaminants in indoor air due to soil vapor intrusion in any future on-site building occupancy and / or redevelopment. Environmental sampling indicates soil vapor intrusion from site contamination is not a concern for off-site buildings.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

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

- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

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

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

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

Soil Vapor

RAOs for Public Health Protection

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

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

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

The selected remedy is a Track 4: Restricted use with site-specific soil cleanup objectives remedy.

The selected remedy is referred to as the Excavation, Groundwater Treatment and Vapor Mitigation 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 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), SiteWiseTM (available in the Sustainable Remediation Forum [SURF] library) or similar NYSDEC accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial design program, as appropriate. The project design specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial design program.

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

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

- 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; and
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.

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

All soils in the upper two feet which exceed the restricted residential SCOs will be excavated and transported off-site for disposal.

Approximately 4,000 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 NYSDEC, submit the sample results and, and in consultation with NYSDEC, determine if further remedial excavation is necessary. Further excavation for development will proceed after confirmation samples demonstrate that SCOs for the site have been achieved.

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

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

5. In-Situ Treatment using Activated Carbon with In-Situ Chemical Reduction
Activated carbon will be added to the subsurface to capture and prevent the migration of petroleum contamination in groundwater on the northern half of the site.

In the southern half of the site, activated carbon will be combined with in-situ chemical reduction (ISCR) to treat metal contaminants, including hexavalent chromium, selenium, lead, and silver in groundwater. A chemical reducing agent, zero valent iron (ZVI), will be injected with the activated carbon into the subsurface to chemically alter the contaminants, and enhance their removal from the groundwater. The method and depth of the activated carbon injection (including the ZVI amendment) will be determined during the remedial design.

Prior to the full implementation of this technology, laboratory and/or on-site pilot scale studies will be conducted to more clearly define design parameters.

Monitoring will be required up-gradient, down-gradient, and within the treatment zone. Monitoring will be conducted for contaminants of concern upgradient, downgradient and within the treatment zone, and will be detailed in the remedial design.

6. Vapor Mitigation
Any on-site buildings will be required to have a sub-slab depressurization system, or other acceptable measures, to mitigate the migration of vapors into the building from the subsurface.

7. 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 Track 4, restricted residential cleanup at a minimum and will include imposition of a site cover.

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

8. 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 soil cover discussed in Paragraph 4 above and the vapor mitigation system discussed in Paragraph 6 above.

This plan includes, but may not be limited to: include all that apply,

- 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 water use restrictions;
- 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 NYSDEC notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
- monitoring of groundwater and indoor air to assess the performance and effectiveness of the remedy; and
- a schedule of monitoring and frequency of submittals to the NYSDEC.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation systems. The plan includes, but is not limited to:
- procedures for operating and maintaining the systems; and
- compliance inspection of the systems to ensure proper O&M as well as providing the data for any necessary reporting.

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Legend:

Approximate BCP Site Boundary

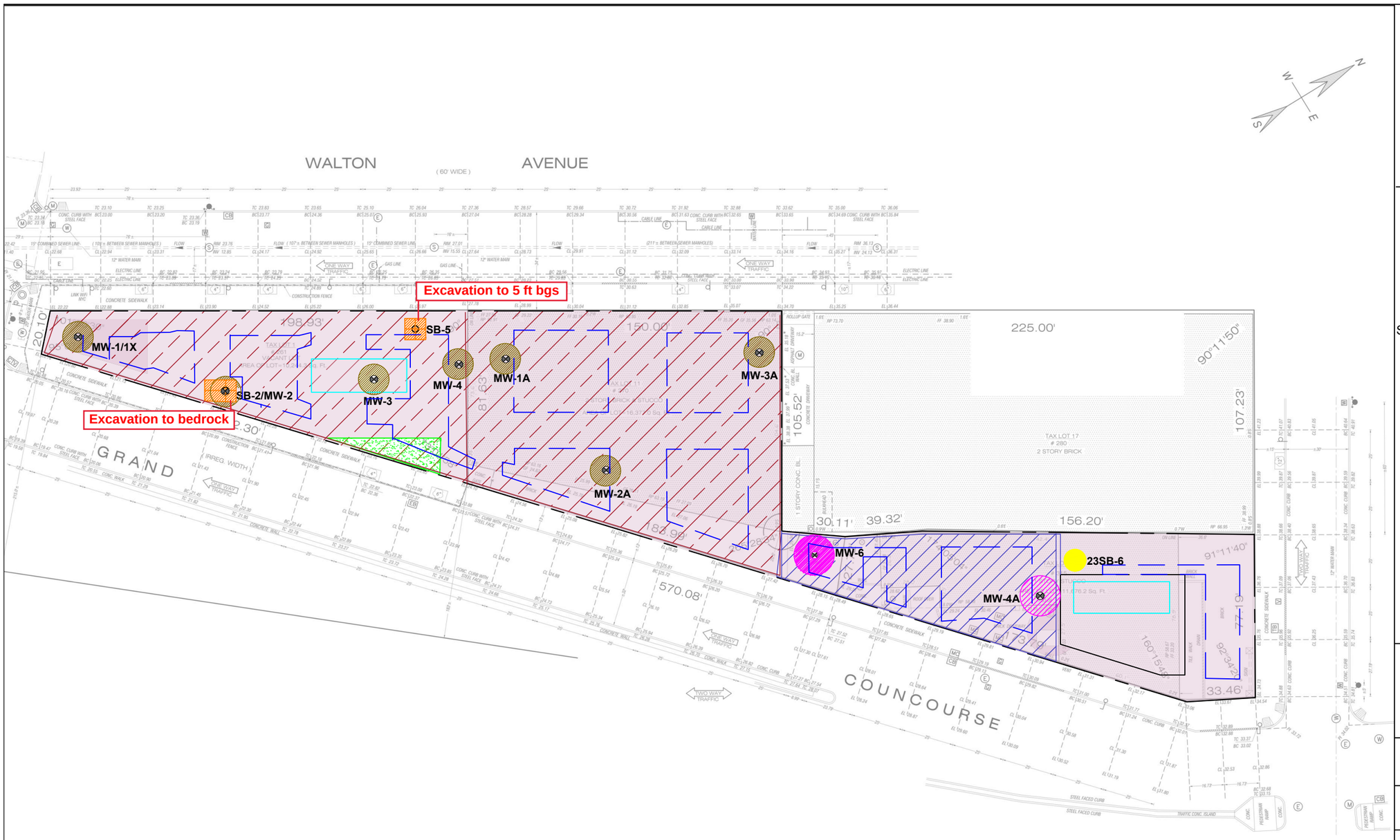
Notes:

1. Base Map provided by Google

Scale:

0 25' 50' 100'

Figure No.	1
Figure Name:	Site Plan
Report:	RAWP
Date:	3/1/2023
Drawn By:	KB
Site Address:	261 GRAND CONCOURSE, 270 WALTON AVENUE, 315 GRAND CONCOURSE BRONX, NY



Notes:

1. All feature locations are approximate
2. In-situ groundwater treatment products will be confirmed after Pilot Study
3. Post-remedial monitoring wells will be Installed
4. SB-5_Hotspot: 10' x 10' x 5' Deep
5. SB-2_Hotspot: 10' x 15' x Bedrock Depth (Min. 6' bgs)
6. 23SB-6_Hotspot: Will be Delineated (Min. 4' bgs)
7. Partial Cellar is ~15 feet below grade
8. Base Map provided by Statewide Land Surveying

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Legend:

- Site Boundary & Partial Cellar
- Approximate SSDS Loops
- 2' Clean Fill (Landscape)
- SB-2 & SB-5 — Lead Hotspot
- 23SB-6 — Arsenic Hotspot (excavation to 4 ft bgs)
- Excavation to a minimum of 2 ft below existing grade surface and a maximum of 5 ft below existing grade surface across the Site for removal of all source material. Area covered with building or asphalt cap.
- Elevator Pit Locations (excavation to 3.5 ft bgs)
- MW-X — Wells with Petroleum Contamination
- MW-X — Wells with Selenium, Chormium Hexavalent, and Lead Contamination
- In-Situ Groundwater Treatment (Petroleum) - Extent to be Determined
- In-Situ Groundwater Treatment (Metals)

Scale: 0 — 25' — 50'

Figure No.	2
Figure Name:	ALTERNATIVE 2 - TRACK 4 REMEDY
Report:	RAWP
Date:	2/16/2024
Drawn By:	EK
Site Address:	261 GRAND CONCOURSE, 270 WALTON AVENUE, 315 GRAND CONCOURSE, BRONX, NY