DECISION DOCUMENT

108 Main Port Chester Steam Laundry Site
Brownfield Cleanup Program
Port Chester, Westchester County
Site No. C360224
December 2023

NEW YORK STATE | Department of Environmental Conservation

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

DECLARATION STATEMENT - DECISION DOCUMENT

108 Main Port Chester Steam Laundry Site
Brownfield Cleanup Program
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Site No. C360224
December 2023

Statement of Purpose and Basis

This document presents the remedy for the 108 Main Port Chester Steam Laundry 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 108 Main Port Chester Steam Laundry 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. Green Remediation

Green remediation principals and techniques will be implemented to the extent feasible in the 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 gas 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; 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 site management program, to promote implementation of green and sustainable

remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA), SiteWise (TM) (available in the Sustainable Remediation Forum [SURF] library) or similar NYSDEC-accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be established for the site management activities, as appropriate. Further, progress with respect to green and sustainable remediation metrics will be tracked, and reported in periodic reports, as part of the site management program, and opportunities to further reduce the environmental footprint of the project will be identified as appropriate.

Additionally, the site management program will include an evaluation of the impact of climate change on the project site and the engineering controls. 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 site management program will include measures to minimize the impact of potential identified vulnerabilities.

2. Natural Attenuation of Groundwater

Groundwater contamination will be addressed with natural attenuation. Groundwater will be monitored for site-related contamination. It is anticipated that contamination will meet standards within 5 years. Reports of the attenuation will be provided annually, and active remediation will be proposed if it appears that natural processes alone will not address the contamination. The contingency remedial action will depend on the information collected, but it is currently anticipated that bioremediation injection would be the expected contingency remedial action.

3. 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.

4. Conditional Track 1

The intent of the remedy is to achieve a Track 1 unrestricted use. A Site Management Plan (SMP) will be developed, and an Environmental Easement will be recorded to address residual groundwater impacts and to implement actions if needed. A Track 1 cleanup can only be achieved if any SVI mitigation systems on future buildings and groundwater treatment/monitoring are no longer needed within 5 years of the date of the Certificate of Completion. If the bulk reduction in groundwater concentrations to asymptotic levels acceptable to the Department are reached and no SVI mitigation is required to achieve remedial action objectives, the site may rely on Chapter 873, Article VII of the Laws of Westchester County, which prohibits potable use of groundwater without prior approval. In the event that Track 1 unrestricted use is not achieved, including achievement of groundwater and soil vapor remedial

objectives, the following contingent remedial elements will remain, and the remedy will achieve a Track 2 residential cleanup.

5A. 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 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 New York State Department of Health (NYSDOH) or Westchester County Department of Health; and
- require compliance with the Department approved Site Management Plan.

5B. Site Management Plan

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

1. 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 noted in item 5A above.

Engineering Controls: Any engineering controls that may be required following the five-year Conditional Track 1 evaluation period (e.g., sub-slab depressurization system).

This plan includes, but may not be limited to:

- Descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- A provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision 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.

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

- Monitoring of groundwater to assess the performance and effectiveness of the remedy;
- Monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above; and
- A schedule of monitoring and frequency of submittals to the Department.

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

- Procedures for operating and maintaining the system;
- Compliance inspection of the system to ensure proper O&M as well as providing the data for any necessary reporting, permit, or permit equivalent reporting;
- Maintaining site access controls and Department notification; and
- Providing the Department access to the site and O&M records.

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.

December 27, 2023
Date

R. Scott Deyette, Director
Remedial Bureau B

DECISION DOCUMENT

108 Main Port Chester Steam Laundry Site
Port Chester, Westchester County
Site No. C360224
December 2023

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=C360224

Port Chester-Rye Brook Public Library
1 Haseco Avenue
Port Chester, NY 10573
Phone: (914) 939-6710

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

Site Location:

The site is located at 108 South Main Street, Port Chester, New York 10573. The site is located in Westchester County, and is labelled as Tax Block 1, Lot 57, and is approximately 0.497 acres in size. The site is bordered to the northeast by Williams Street, a multi-family dwelling, and apartment building (Southport Mews); to the southeast by Main Street, a professional office building (One Gateway Plaza), and Purdy Avenue; to the south/southwest by Boston Post Road and a church (Iglesia Pentecostal El Olivar); and, to the northwest by a multi-family dwelling located along Williams Street. The site is located in a mixed-use commercial and residential neighborhood, and the Byram River is located approximately 0.233 miles southeast of the site.

Site Features:

The site is currently vacant. Previous to the Applicant's purchase of the site in August 2021, a single-family home was situated in the northern portion with a parking area in the southern portion of the site. A portion of the site is in a flood zone.

Current Zoning and Land Use:

A portion of the site is located in a Marina Redevelopment Project Urban Renewal ("MUR') District. The remainder of the site is located in the C2 Central Business District. The C2 district allows for multi-family dwellings units with special approval. The surrounding properties include residences, commercial buildings, and commercial office space. Several adjacent lots are used for residential purposes. The site is located approximately 0.054 miles from the closest rail line. The Port Chester Rail Station is located approximately 0.276 miles from the site.

Past Use of the Site:

In 1885, a store, saloon, and several dwellings were present along the South Main Street side of the site. A shirt and iron novelties shop were present in the southern portion of the site. A dwelling and a few sheds were present in the northern portion of the site. Sanborn fire insurance maps from 1890 show that the multi-tenant commercial building along South Main Street was occupied by "Chinese Laundry" and a shoe shop. A new dwelling replaced the dwelling

northwest of the multi-tenant building. In 1895, the commercial building was occupied by "Port Chester Street Laundry."

By 1902, the commercial building was no longer present. A two-story dwelling with an attached garage was depicted on the northern portion of the site. In 1908, Sanborn fire insurance maps depict several commercial buildings including a clothing store, barber shop, liquor wholesaler, a drug store, a theater, and a saloon. In 1935, the mixed-use building on the southern portion of the site contained a drug store, a liquor store, barber, furniture business, cobbler, butcher, pool room, print shop, and restaurant.

Aerial photographs from 1934 depict several large multi-story buildings with storefronts on the southern portion of the site, and a dwelling on the northern portion of the site. A fire allegedly occurred on the site in 1973 and thereafter most of the on-site buildings were demolished as part of an urban renewal project. By 1985, no buildings are present along South Main Street and by1990, no buildings were present on the southern portion of the site, and it appears that the property is being partially utilized for parking. According to photographs, only one structure was present along the northern portion of the site from 1995 to 1997. By 2011, the parking area appears to have been paved.

Site Geology and Hydrogeology:

According to the United States Geological Survey (USGS) Mamaroneck, New York and Glenville, Connecticut 7.5-minute Series Topographic Map, the site's topographic elevation is approximately 18 feet above mean sea level. The site slopes upwards towards the northern portion of the property.

As per the USDA National Cooperative Soil Survey map for the area, the soils at the site are characterized as UoA (Urban Land outwash substratum) urban land which is surface covered by pavement, concrete, buildings, and other structures underlain by disturbed and natural soil material, till substratum, 0 to 3 percent slopes. During the remedial investigation, soil conditions within the borings consisted of brown sand and silt with fill material to the boring terminus at the top of bedrock, which varied from 1.5 to 12.0 feet below ground surface (ft-bgs). Evidence of fill material included wood, fabric, glass, and brick.

Bedrock at the site consists of a basal amphibolite overlain by pelitic schists.

The depth of groundwater at the site is approximately 9 ft-bgs in the southern portion of the site. The groundwater flow direction is towards the south.

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, an alternative that restricts the use of the site to residential use (which allows for restricted-

residential use, commercial use and industrial use) as described in Part 375-1.8(g) was evaluated in addition to an alternative which would allow for unrestricted use of the site.

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

SECTION 5: ENFORCEMENT STATUS

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

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

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

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

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

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

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

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

6.1.2: RI Results

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

acetone
toluene
xylene (mixed)
benzo(a)anthracene
benzo(a)pyrene
benzo(b)fluoranthene
benzo(k)fluoranthene
chrysene
dibenz[a,h]anthracene
dibenzofuran
fluoranthene
indeno(1,2,3-cd)pyrene
phenanthrene
pyrene
barium
cadmium
copper
lead
mercury
nickel
zinc
DDD
DDE
DDT
dieldrin
PCB aroclor 1260
perfluorooctane sulfonic acid
cis-1,2-dichloroethene
vinyl chloride
manganese
iron
perfluorooctanoic acid
chloroform
tetrachloroethene (PCE)
trichloroethene (TCE)
phenol
sodium

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.

The following IRM has been completed at this site:

Excavation and Offsite Disposal of Site Wide-Soils Exceeding Unrestricted Use Soil Cleanup Objectives.

Based on the results of the RI, contaminated soils on-site ranged in depth from surface grade to bedrock. The depth to bedrock ranged from 1.5 to 12 feet below ground surface (bgs). The soils were impacted with maximum concentrations of volatile organic compounds (VOCs) toluene at 1.3 mg/kg vs UUSCO of 0.7 mg/kg and xylenes at 1.5 mg/kg vs UUSCO of 0.26 mg/kg; semivolatile organic compounds (SVOCs) including benzo(a)anthracene at 69 mg/kg vs UUSCO of 1 mg/kg, benzo(a)pyrene at 20 mg/kg vs UUSCO of 1 mg/kg, benzo(b)fluoranthene at 120 mg/kg vs UUSCO of 1 mg/kg, benzo(k)fluoranthene at 31 mg/kg vs UUSCO of 0.8 mg/kg, chrysene at 78 mg/kg vs UUSCO of 1 mg/kg, dibenzo(a,h)anthracene at 13 mg/kg vs UUSCO of 0.33 mg/kg, dibenzofuran at 16 mg/kg vs UUSCO of 7 mg/kg, fluoranthene at 160 mg/kg vs UUSCO of 100 mg/kg, indeno(1,2,3-cd)pyrene at 64 mg/kg vs UUSCO of 0.5 mg/kg, phenanthrene at 140 mg/kg vs UUSCO of 100 mg/kg and pyrene at 140 mg/kg vs UUSCO of 100 mg/kg; pesticides including 4,4'-DDD at 0.0219 ppm vs UUSCO of 0.0033 mg/kg, 4,4'-DDE at 0.114 mg/kg vs UUSCO of 0.0033 mg/kg and 4,4'-DDT at 0.0.339 mg/kg vs UUSCO of 0.0033 mg/kg and dieldrin at 0.658 mg/kg vs UUSCO of 0.005 mg/kg; metals including barium at 736 mg/kg vs UUSCO of 350 mg/kg, cadmium at 3.3 mg/kg vs UUSCO of 2.5 mg/kg, copper at 2,590 mg/kg vs UUSCO of 50 mg/kg, lead at 2,900 mg/kg vs UUSCO of 63 mg/kg, mercury at 3.48 mg/kg vs UUSCO of 0.18 mg/kg, nickel at 62 mg/kg vs UUSCO of 62 mg/kg and zinc at 663 mg/kg vs UUSCO of 109 mg/kg; and polychlorinated biphenyls (PCBs) at 0.45 mg/kg vs UUSCO of 0.1 mg/kg; and perfluorooctanesulfonic Acid (PFOS) at 1.86 mg/kg vs UUSCO of 0.88 mg/kg. As a result of the site conditions, the soil remedy included excavating the contaminated fill and soil within the site boundary down to bedrock. A total of 9,609 tons of soil was excavated and sent off-site for proper disposal.

To reach the targeted elevation for building basement development purposes, bedrock was chipped and removed for disposal as needed across the Site. The bedrock chipping resulted in the generation of unconsolidated weathered rock material ("rock flour") sitting at the base of excavation. Samples of the rock flour material were collected on February 3, 2023 and the analytical results indicated that SVOC and pesticides were detected at concentrations exceeding the NYSDEC UUSCOs. To meet UUSCO (Track 1) cleanup for soils at the Site, all unconsolidated rock flour material was scraped and swept from the bedrock at the bottom of the excavation and removed off-site for disposal.

The soils remedy, which included the excavation and disposal of all contaminated fill, soils, and rock flour materials, achieved a UUSCO (Track 1) cleanup for soils. A summary of the soil removal work is provided in a construction completion report prepared for this site and submitted to the Department.

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: Prior to the IRM, the primary contaminants of concern included, VOCs, SVOCs, PCBs, metals and pesticides in soil, and VOCs, SVOCs and PFAS in groundwater.

Soil: Prior to interim remedial action, the primary contaminants of concern were acetone, toluene, xylenes, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, dibenzofuran, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, pyrene, barium, cadmium, copper, lead, mercury, nickel, zinc, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, dieldrin, PCBs, and perfluorooctanesulfonic acid (PFOS) as referenced in Section 6.2 above. Following the completion of the on-site IRM, all soil above UUSCOs have been removed to the surface of the bedrock across the entire site.

Groundwater: Impacts remain and include cis-1,2-dichloroethene at 130 micrograms per liter (ug/l) vs Ambient Water Quality Standard (AWQS) of 5 ug/l, tetracholorethylene at 180 ug/l vs AWQS of 5 ug/l, trichloroethylene at 87 ug/l vs AWQS of 5 ug/l, chloroform at 44 ug/l vs AWQS of 7 ug/l, benzo(a)anthracene at 0.05 ug/l vs AWQS of 0.002 ug/l, benzo(a)pyrene at 0.03 ug/l vs AQWS of 0.0 ug/l, benzo(b)fluoranthene at 0.04 ug/l vs AWQS of 0.002 ug/l, benzo(k)fluoranthene at 0.02 ug/l vs AWQS of 0.002 ug/l, chrysene at 0.04 ug/l vs AWQS of 0.002 ug/l, perfluorooctanesulfonic acid (PFOS) at 0.0258 ug/l vs AWQS 0.0027 ug/l, and perfluorooctanoic acid (PFOA) at 0.0136 ug/l vs AWQS of 0.0067 ug/l. Groundwater is only present in bedrock, and there is the potential for on-site groundwater to migrate off-site through the network of bedrock fractures. However, there are no drinking water wells within 0.5 miles of the site, and Chapter 873, Article VII of the Laws of Westchester County, prohibits potable use of groundwater without prior approval.

Soil Vapor: Concentrations of methylene chloride at 18.4 micrograms per cubic meter (ug/m^3), tetrachloroethylene at 50 ug/m^3, and trichloroethylene at 2.82 ug/m^3 were observed in soil vapor during the remedial investigation phase.

The planned redevelopment includes a ventilated below grade parking garage and the installation of piping for a sub-slab vapor mitigation system to be activated should the SVI evaluation determine vapor mitigation is necessary. Data does not indicate any off-site soil vapor impacts related to the site.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure.*

People are not coming into contact with the contaminated groundwater because the area is served by a public water supply that is not affected by site-related 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. An evaluation of the potential for soil vapor intrusion to occur will be completed prior to building occupancy and during the heating season. Environmental sampling indicates that vapor intrusion is not a concern for other off-site structures.

6.5: Summary of the Remediation Objectives

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

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- 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.
- Prevent the discharge of contaminants to surface water.
- 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 a Conditional Track 1 remedy.

The selected remedy is referred to as the Groundwater Attenuation and Vapor Intrusion Evaluation remedy.

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

1. Green Remediation

Green remediation principals and techniques will be implemented to the extent feasible in the 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 gas 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; 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 site management program, to promote implementation of green and sustainable remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA), SiteWise (TM) (available in the Sustainable Remediation Forum [SURF] library) or similar NYSDEC accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be established for the site management activities, as appropriate. Further, progress with respect to green and sustainable remediation metrics will be tracked, and reported in periodic reports, as part of the site management program, and opportunities to further reduce the environmental footprint of the project will be identified as appropriate.

Additionally, the site management program will include an evaluation of the impact of climate change on the project site and the engineering controls. 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 site management program will include measures to minimize the impact of potential identified vulnerabilities.

2. Natural Attenuation of Groundwater

Groundwater contamination will be addressed with natural attenuation. Groundwater will be monitored for site related contamination. It is anticipated that contamination will meet standards within 5 years. Reports of the attenuation will be provided annually, and active remediation will be proposed if it appears that natural processes alone will not address the contamination. The contingency remedial action will depend on the information collected, but it is currently anticipated that bioremediation injection would be the expected contingency remedial action.

3. 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.

4. Conditional Track 1

The intent of the remedy is to achieve a Track 1 unrestricted use. A Site Management Plan (SMP) will be developed, and an Environmental Easement will be recorded to address residual groundwater impacts and to implement actions if needed. A Track 1 cleanup can only be achieved if any SVI mitigation systems on future buildings and groundwater treatment/monitoring are no longer needed within 5 years of the date of the Certificate of Completion. If the bulk reduction in groundwater concentrations to asymptotic levels acceptable to the Department are reached and no SVI mitigation is required to achieve remedial action objectives, the site may rely on Chapter 873, Article VII of the Laws of Westchester County, which prohibits potable use of groundwater without prior approval. In the event that Track 1 unrestricted use is not achieved, including achievement of groundwater and soil vapor remedial objectives, the following contingent remedial elements will remain, and the remedy will achieve a Track 2 residential cleanup.

5A. 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 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 New York State Department of Health (NYSDOH) or Westchester County Department of Health; and
- require compliance with the Department-approved Site Management Plan.

5B. Site Management Plan

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

1. 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 noted in item 5A above.

Engineering Controls: Any engineering controls that may be required following the five-year Conditional Track 1 evaluation period (e.g., sub-slab depressurization system).

This plan includes, but may not be limited to:

- Descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- A provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision 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.

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

- Monitoring of groundwater to assess the performance and effectiveness of the remedy;
- Monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above; and
- A schedule of monitoring and frequency of submittals to the Department.

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

- Procedures for operating and maintaining the system;
- Compliance inspection of the system to ensure proper O&M as well as providing the data for any necessary reporting, permit, or permit equivalent reporting;
- Maintaining site access controls and Department notification; and
- Providing the Department access to the site and O&M records.