## **DECISION DOCUMENT**

5 Scobie Drive Brownfield Cleanup Program Newburgh, Orange County Site No. C336085 June 2024



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

## **DECLARATION STATEMENT - DECISION DOCUMENT**

5 Scobie Drive Brownfield Cleanup Program Newburgh, Orange County Site No. C336085 June 2024

## **Statement of Purpose and Basis**

This document presents the remedy for the 5 Scobie Drive 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 5 Scobie Drive 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 shall be constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- soil exceeding the 6 NYCRR Part 371 hazardous criteria;
- concentrated solid or semi-solid hazardous substances per 6 NYCRR Part 375-1.2(au)(1);
- soil with visual waste material or non-aqueous phase liquid;
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.

Contaminated soil encountered during excavation of source areas that exceed hazardous waste criteria will be removed from the site. If a remedial excavation is necessary, any solid waste encountered within the limits of excavation will be removed and properly disposed off-site. In addition, collection and analysis of confirmation samples at the remedial excavation depth will be used to verify that all hazardous soil has been removed and that soil cleanup objectives (SCOs) for the site have been achieved. If confirmation sampling indicates that soils containing hazardous levels of contaminants remain or that SCOs were not achieved, the Applicant must

notify the Department, submit the sample results and, in consultation with the Department, determine if further remedial excavation is necessary. Further excavation in source areas for development will only proceed after confirmation samples demonstrate that hazardous soils have been removed and 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

On-site soil which does not exceed the above excavation criteria may be used below the cover system, but above the water table, described in remedy element 4 to backfill the excavation to the extent that a sufficient volume of on-site soil is available and establish the designed grades at the site.

On-site soil which does not exceed the above excavation criteria or the protection of groundwater SCOs for any constituent may be used beneath the cover system, including below the water table, to backfill the excavation or re-grade the site.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) may be brought in to replace the excavated soil or complete the backfilling of the excavation and establish the designed grades at the site if existing on-Site material is not suitable for reuse.

The site will be re-graded to accommodate installation of a cover system as described in remedy element 4.

#### 4. Cover System

A site cover will be required to cover the furthest extent of remaining onsite landfilled material or where commercial use soil cleanup objectives (CUSCOs) are exceeded within the top one foot across the site. Where a soil cover is to be used it will be a minimum of one foot of soil meeting CUSCOs, at minimum, placed over a demarcation layer and impermeable layer to reduce infiltration, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Other infiltration control measures may be implemented in place of the impermeable layer as determined to be suitable by the Department. 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.

The cover system will serve as the primary action to limit infiltration and reduce the potential for seepage from beneath the cover system. Secondary actions will include planting of suitable

native plants to act as a passive and green and sustainable method to improve water uptake and further control seepage. If the Department determines that these measures are not effective, the Department will evaluate alternative control measures to manages seeps as proposed by the Volunteer.

#### 5. 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 commercial use or industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws [1];
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- require compliance with the Department approved Site Management Plan.

#### 6. 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 Section 5 above.

Engineering Controls: The cover system discussed in Section 4 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 and/or surface water use restrictions;
- a provision for the 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 Section 4 above will be placed in any areas of exposed vegetation;
- provisions for the management and inspection of the identified engineering controls;

- provisions for the management and inspection for groundwater seeps;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- b. A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
  - monitoring of groundwater to assess the performance and effectiveness of the remedy;
  - a schedule of monitoring and frequency of submittals to the Department;
  - monitoring for vapor intrusion for any buildings developed 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.

June 3, 2024		
Date	Jason Pelton, Director	
	Remedial Bureau D	

## **DECISION DOCUMENT**

5 Scobie Drive Newburgh, Orange County Site No. C336085 June 2024

## **SECTION 1: SUMMARY AND PURPOSE**

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

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

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

## **SECTION 2: CITIZEN PARTICIPATION**

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

DECInfo Locator - Web Application https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C336085

Newburgh Free Library Attn: J. Stiller 124 Grand Street Newburgh, NY 12550 Phone: 845-291-2332

DECISION DOCUMENT 5 Scobie Drive, Site No. C336085 New York State Department of Conservaition New Paltz Headquarters 21 South Putt Corners New Paltz, NY 12561

Phone: 845-256-3000

## **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 public sign up for one or encourage the to more county listservs http://www.dec.ny.gov/chemical/61092.html

## **SECTION 3: SITE DESCRIPTION AND HISTORY**

Location: The 5 Scobie Drive Site is located in an urban area about 0.5 mile east of exit 9 of Interstate-84 (I-84), and directly southeast of I-84. The site consists of one parcel with a tax map ID of 1-1-6.

Site Features: The entire site is vacant and overgrown, but a deforesting effort by the Newburgh IDA occurred in 2017. A ponded drainage tributary of Gidneytown Creek runs along the northern part of the site along I-84. Flow is intermittent in a storm water channel to the east of the ponded tributary. Groundwater from the site appears to flow into this drainage channel. The site topography is generally flat with a slight downward grade to the north and east. A significant 10 to 15 foot grade exists at the south-southwest site boundary which slopes up toward the Cityowned Department of Public Works (DPW) facility property. Portions of this grade are both on and off site.

Current Zoning/Use(s): The site is zoned for industrial use. The site is bounded to the northwest by Interstate I-84, to the west and south by the former DuPont-Stauffer Chemical Manufacturing site and City of Newburgh DPW facility, and to the east by two ongoing commercial/industrial enterprises at the end of Scobie Drive.

Historical Use(s): The site operated as an unpermitted landfill, reportedly accepting municipal and possibly industrial and incinerator waste from the late 1940s until 1962. Landfilled materials encountered during the investigation include but are not limited to: ash, glass, metal, tires, vinyl, and plastic. The majority of the site ceased operating as a landfill in 1962 when the New York State Department of Transportation acquired the property for use as an off-ramp for I-84. However, a portion of the proposed Brownfield Cleanup Program (BCP) site was part of the area that continued to be operated by the City of Newburgh as an unpermitted landfill until 1976. The landfill has not been closed properly in accordance with the NYSDEC's Solid Waste Regulations (Part 360).

A 2002 First Environment Report produced for the City of Newburgh, as well as a 2009 NYSDEC Site Characterization, indicate that 456 containers, including degraded drums and waste, associated with the DuPont-Stauffer Landfill site (#336009) have been observed on and adjacent to the 5 Scobie Drive parcel and the Newburgh City Landfill parcel. Approximately 26 drums were located on the 5 Scobie Drive property. Some of the drums found on the City Landfill (immediately adjacent to the 5 Scobie Drive site) were found to contain hazardous waste. A removal action was completed in April 2013 under an order on consent with EPA and included the removal of drums and contaminated soil in the drum cache area.

One of the two Volunteers on the Brownfield Cleanup Agreement withdrew from the program in May 2015 after the completion and approval of a Remedial Investigation Report. A new developer has entered into the BCP to complete remediation at the site.

Site Geology and Hydrogeology: Bedrock below the site consists of limestone or dolomitic limestone of the Ordovician age Wappingers Group. Surface geology at the site consists primarily of reworked native soils, thickest in central portion of the site, and solid waste underlain by silty clay (glacial till).

Groundwater was generally not encountered in the shallow soils beneath the site. The water table ranges from about 4 feet below ground surface (bgs) on the northern portion of the site, to almost 20 feet bgs at the southwestern site boundary. Groundwater flow is generally towards the ponded and intermittent drainage feature which flows into Gidneytown Creek to the east and north of the site.

A site location map is attached as Figure 1 and Figure 2.

## **SECTION 4: LAND USE AND PHYSICAL SETTING**

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to commercial use (which allows for 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
- surface water
- soil
- sediment

#### 6.1.1: Standards, Criteria, and Guidance (SCGs)

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

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

## 6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action

are summarized below. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

benzo(a)pyrene benzene

arsenic 1,4-dichlorobenzene

mercury perfluorooctanoic acid (PFOA)

lead perfluorooctane sulfonic acid (PFOS)

chlorobenzene 1,4-dioxane

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.

Based upon investigations conducted to date, contaminants identified above standards, criteria, or guidance values are volatile organic compounds (VOCs), PFAS, leachate parameters (anions), semi-volatile organic compounds (SVOCs), and metals in onsite soils and groundwater, and offsite adjacent surface water, and sediments.

Soil: Based on the investigations conducted to date, the primary contaminants of concern detected in soil include SVOCs and metals.

Test pits were sampled from depths ranging from 1 to 13 ft bgs. Soil borings were logged and advanced to depths ranging from 6.9 feet to 49.5 feet. Bedrock was encountered in some borings at depths ranging from 6.9 feet to 43.5 feet. Surface soils were sampled from 0 to 2 inches bgs. No VOCs were detected above commercial-use soil cleanup objectives (CUSCOs) in surface and subsurface soils. Benzo(a)pyrene, a SVOC, was detected in 4 surface soil samples at a maximum concentration of 5.8 parts per million (ppm) exceeding the CUSCO (1 ppm). Arsenic was detected in 3 of 10 surface soil samples marginally above the CUSCO (16 ppm) with a maximum concentration of 18 ppm. In subsurface soils, benzo(a)pyrene was detected over the CUSCO (1 ppm) in 2 samples at a maximum concentration 4.3 ppm. Lead was present above the CUSCO

(1,000 ppm) in 4 subsurface soil samples at a maximum of 14,000 ppm in the central portion of the site. Arsenic (54 ppm) and mercury (32 ppm) were each detected in two subsurface soil samples at different locations on-site at concentrations above their respective CUSCOs (16 ppm and 2.8 ppm).

A 2020 supplemental sampling effort detected per- and polyfluoroalkyl substances (PFAS) in 3 surface soil samples. PFOA slightly exceeds the protection of groundwater soil guidance value of 0.8 parts per billion (ppb) in two of the three samples (1.76 ppb and 1.69 ppb, respectively) but does not exceed the commercial use soil guidance value (500 ppb). Subsurface soils and waste materials were collected from several test pits. Maximum detections of PFOA and PFOS in test pit samples were 1.54 ppb and 13.7 ppb, respectively which exceed the protection of groundwater soil guidance values (0.8 and 1.0 ppb, respectively).

Groundwater: VOCs, metals, and PFAS were the primary contaminants found in groundwater above standards or guidance values (Class GA). Groundwater samples were collected from ten wells distributed across the site. VOC exceedances consisted of chlorobenzene (5 samples, Class GA of 5 ppb) at a maximum concentration of 70 ppb, benzene (4 samples, Class GA of 1 ppb) at a maximum concentration of 9 ppb, 1,4-dichlorobenzene (4 samples, Class GA of 3 ppb) at a maximum concentration of 12 ppb, and naphthalene (1 sample, Class GA of 10 ppb) at a maximum concentration of 47 ppb. Several metals were detected above groundwater standards: arsenic (1 sample, Class GA of 25 ppb) was detected at 30 ppb, antimony (2 samples, Class GA of 3 ppb) at a maximum concentration of 4.3 ppb, boron (2 samples, Class GA of 1,000 ppb) at a maximum concentration of 2,360 ppb, lead (1 sample, Class GA of 25 ppb) at a maximum concentration of 73,800 ppb, and manganese (8 samples, Class GA f 300 ppb) at a maximum concentration of 1,531 ppb.

Groundwater was sampled for PFAS compounds and 1,4-dioxane in 2019. 1,4-dioxane had a maximum concentration of 10.2 ppb, above the ambient water quality guidance value of 0.35 ppb. PFOA (maximum value of 374 ppt) and PFOS (maximum value of 207 ppt) exceed the guidance values of 6.7 ppt and 2.7 ppt, respectively, in all the sampled wells. Maximum concentrations were located on the upgradient side of the site and may be influenced by contaminated groundwater originating from the adjacent Newburgh City Landfill. The Newburgh City Landfill will be evaluated, as necessary, by the Department.

Surface water: A tributary of the Gidneytown creek runs across the north/northeast border of the site, draining the residential community across Scobie Drive and the industrial buildings to the northeast of the site. This tributary enters a wetland with some open water on the north-side of the site, and eventually drains into Gidneytown creek to the west of the site. Four surface water samples were collected from the drainage tributary and the open water in the wetland located adjacent to the site or near the site boundary. Benzo(a)pyrene was detected above Class C guidance values at a concentration of 2.4 ppb. Two metals were detected above Class C ambient water quality values in surface water: cobalt at a maximum concentration of 13 ppb and vanadium at a maximum concentration of 22 ppb.

A 2020 supplemental sampling program detected PFAS in all four surface water samples in the approximate one-acre wetland complex north of the site. PFOA was detected at a maximum concentration of 109 ppt, and PFOS was detected at a maximum concentration of 65.4 ppt in the same sample located just beyond the northwestern corner of the site boundary. PFOS results are significantly below Class C guidance value of 160,000 ppt. There are no standards for PFOA in Class C waterbodies.

Sediment: Four sediment samples were collected at the surface water sampling locations, and only three metals exceeded Class C sediment criteria. Arsenic was detected slightly above Class C guidance values at a maximum concentration of 34 ppm, silver was detected at a maximum concentration of 4.3 ppm, and zinc was detected at a maximum concentration of 800 ppm.

Soil vapor sampling was not collected during the remedial investigation.

Special Resources Impacted/Threatened: Step 1 of a Fish and Wildlife Impact Analysis was conducted and determined that the site, as a former landfill, has a limited value to fish and wildlife.

Significant Threat: The site does not present a significant environmental or public health threat.

## **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*.

The site is not fenced and persons who enter the site could contact contaminants in the soil by walking on the site, digging or otherwise disturbing the soil. The area is served by public water; however, a few private wells exist in the area. Six private wells were sampled and did not detect concentrations of PFOA or PFOS above the drinking water maximum contaminant level. Volatile organic compounds in groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because there is no on-site building, inhalation of site contaminants in indoor air due to soil vapor intrusion does not represent a concern for the site in its current condition. However, the potential exists for the inhalation of site contaminants due to soil vapor intrusion for any future on-site redevelopment and occupancy.

#### **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.

#### 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 Track 4: Restricted use with site-specific soil cleanup objectives remedy.

The selected remedy is referred to as the Limited Excavation, Surface Cover, Institutional and Engineering Controls, and Groundwater Monitoring remedy.

Figure 3 shows a draft, conceptual site plan.

The elements of the selected remedy are as follows:

#### 1. Remedial Design

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- Reducing direct and indirect greenhouse gases and other emissions;
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- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
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- 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), SiteWise(TM) (available in the Sustainable Remediation Forum [SURF] library) or similar Department accepted tool. Water consumption, greenhouse gas emissions, renewable and nonrenewable 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 Further, progress with respect to green and sustainable sustainable remediation goals. 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.

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

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- soil with visual waste material or non-aqueous phase liquid;
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section

Contaminated soil encountered during excavation of source areas that exceed hazardous waste criteria will be removed from the site. If a remedial excavation is necessary, any solid waste encountered within the limits of excavation will be removed and properly disposed off-site. In addition, collection and analysis of confirmation samples at the remedial excavation depth will be used to verify that all hazardous soil has been removed and that soil cleanup objectives (SCOs) for the site have been achieved. If confirmation sampling indicates that soils containing hazardous levels of contaminants remain or that SCOs were not achieved, the Applicant must notify the Department, submit the sample results and, in consultation with the Department, determine if further remedial excavation is necessary. Further excavation in source areas for development will only proceed after confirmation samples demonstrate that hazardous soils have been removed and 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

On-site soil which does not exceed the above excavation criteria may be used below the cover system, but above the water table, described in remedy element 4 to backfill the excavation to the extent that a sufficient volume of on-site soil is available and establish the designed grades at the site.

On-site soil which does not exceed the above excavation criteria or the protection of groundwater SCOs for any constituent may be used beneath the cover system, including below the water table, to backfill the excavation or re-grade the site.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) may be brought in to replace the excavated soil or complete the backfilling of the excavation and establish the designed grades at the site if existing on-Site material is not suitable for reuse.

The site will be re-graded to accommodate installation of a cover system as described in remedy element 4.

## 4. Cover System

A site cover will be required to cover the furthest extent of remaining onsite landfilled material or where commercial use soil cleanup objectives (CUSCOs) are exceeded within the top one foot across the site. Where a soil cover is to be used it will be a minimum of one foot of soil meeting CUSCOs, at minimum, placed over a demarcation layer and impermeable layer to reduce

of sufficient quality to maintain a vegetative layer. Other infiltration control measures may be implemented in place of the impermeable layer as determined to be suitable by the Department. 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.

The cover system will serve as the primary action to limit infiltration and reduce the potential for seepage from beneath the cover system. Secondary actions will include planting of suitable native plants to act as a passive and green and sustainable method to improve water uptake and further control seepage. If the Department determines that these measures are not effective, the Department will evaluate alternative control measures to manages seeps as proposed by the Volunteer

#### 5. 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 commercial use or industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws [1];
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- require compliance with the Department approved Site Management Plan.

#### 6. 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:

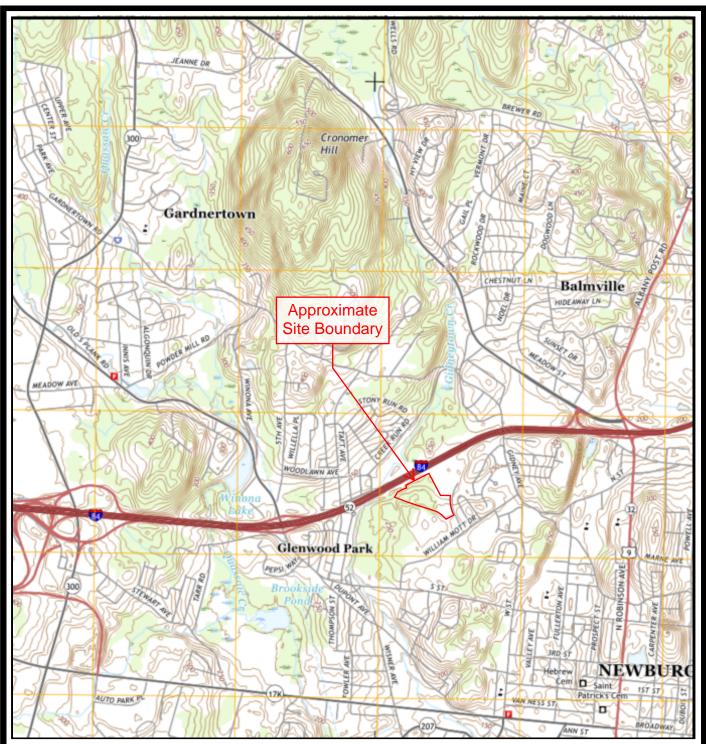
Institutional Controls: The Environmental Easement discussed in Section 5 above.

Engineering Controls: The cover system discussed in Section 4 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 and/or surface water 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 Section 4 above will be placed in any areas of exposed vegetation;
- provisions for the management and inspection of the identified engineering controls;
- provisions for the management and inspection for groundwater seeps;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- b. A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
  - monitoring of groundwater to assess the performance and effectiveness of the remedy;
  - a schedule of monitoring and frequency of submittals to the Department;
  - monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

# Figure 1



## MAP REFERENCE

United States Geological Survey 7.5 Minute Series Topographic Map Quadrangle: Newburgh, NY

Date: 2016





50 CENTURY HILL DRIVE LATHAM, NY 12110

## FIGURE 1 - SITE LOCATION MAP

CITY OF NEWBURGH

ORANGE COUNTY, NY

SCALE: NOT TO SCALE

DRAFTER: ML

PROJECT No: 23.3460

The locations and features depicted on this map are approximate and do not represent an actual survey.



