DECISION DOCUMENT

The Nest
Brownfield Cleanup Program
Niagara Falls, Niagara County
Site No. C932183
November 2025



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

DECLARATION STATEMENT - DECISION DOCUMENT

The Nest Brownfield Cleanup Program Niagara Falls, Niagara County Site No. C932183 November 2025

Statement of Purpose and Basis

This document presents the remedy for the The Nest 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 Nest 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). SiteWise(TM) (available in the Sustainable Remediation Forum [SURF] library) or similar NYSDEC 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 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 all on-site soils which exceed unrestricted SCOs, as defined by 6 NYCRR Part 375-6.8. If a Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy. Approximately 12,500 cubic yards of contaminated soil will be removed to an approximate depth of 7 feet below ground surface. Collection and analysis of confirmation samples at the remedial excavation depths will be used to verify that SCOs for the site have been achieved. If confirmation/documentation sampling indicates that SCOs were not achieved at the stated remedial depth, the Applicant must notify DEC, submit the sample results and, in consultation with DEC, 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.

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

On-site soil which does not exceed the above criteria may be used to backfill the excavation and establish the designed grades at the site. Backfill 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.

3. Soil Vapor Intrusion Evaluation

As part of the Track 1 remedy, a soil vapor intrusion evaluation will be completed in any future on-site buildings. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

4. Groundwater Assessment

As part of the Track 1 remedy, groundwater will be sampled following remedial actions to determine if contaminants meet applicable standards. The evaluation will include a provision for implementing actions to address exposures related to groundwater in the event that applicable standards are not met.

5. Conditional Track 1 Soil Vapor Intrusion Evaluation

The intent of the remedy is to achieve a Track 1 unrestricted use. If the soil vapor intrusion (SVI) evaluation is not completed prior to completion of the Final Engineering Report (FER), then a Site Management Plan (SMP) and Environmental Easement (EE) will be required to address the SVI evaluation and implement actions as needed. If a mitigation or monitoring action is needed, a Track 1 cleanup can only be achieved if the mitigation system or other required action is no longer needed within 5 years of the date of the Certificate of Completion. In the event that Track 1 unrestricted use is not achieved, the following contingent remedial elements will be required, and the remedy will achieve a Track 2 residential cleanup.

6. Conditional Track 1 Groundwater Remedy

Any groundwater contamination which remains after excavation of potential source material will be addressed with monitored natural attenuation (MNA) if a Track 1 cleanup is not achieved. The monitoring plan will be detailed in the Site Management Plan. Groundwater will be monitored for site related contamination and also for MNA indicators which will provide an understanding of the (biological activity) breaking down the contamination. It is anticipated that contamination will decrease to levels below the Class GA ambient water quality standards (AWQS) concentrations or to asymptotic levels that are acceptable to the Department within a five (5) year period. Reports of the attenuation will be provided yearly for five years, and active remediation will be proposed if it appears that natural processes alone will not address the contamination.

7. Institutional Control

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

- Require the remedial party or site owner to complete and submit to the 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 residential use as defined by Part 375-1.9(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 County DOH; and
- Require compliance with the NYSDEC approved Site Management Plan.

8. Site Management Plan

A Site Management Plan will be 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 engineering controls remain in place and effective: Institutional Controls: The Environmental Easement discussed in Remedial Element 6 above Engineering Controls: The Groundwater MNA discussed in Remedial Element 5 and a sub-slab depressurization system if the SVI evaluation discussed in Remedial Element 3 indicates that mitigation is required.

This Plan includes but may not be limited to:

- o Descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- o A provision for evaluation of the potential for soil vapor intrusion for any future occupied building, including provisions for implementing actions recommended to address exposures related to soil vapor intrusion;
- o Provisions for the management and inspection of the identified engineering controls; and
- o 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:
- o Monitoring of groundwater to assess the performance and effectiveness of the remedy;
- o A schedule of monitoring and frequency of submittals to the NYSDEC; and
- Monitoring for vapor intrusion for any buildings on the site as may be required by the Institutional and Engineering Control Plan discussed above.

Declaration

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

11/21/2025

michael cruden Digitally signed by michael cruden Date: 2025.11.21 15:24:42 -05'00'

Date

Michael Cruden, Director Remedial Bureau E

DECISION DOCUMENT

The Nest
Niagara Falls, Niagara County
Site No. C932183
November 2025

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 repository:

DECInfo Locator - Web Application https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C932183

Niagara Falls Public Library Attn: Sarah Potwin 1425 Main Street Niagara Falls, NY 14305 Phone: (716) 286-4894

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

SECTION 3: SITE DESCRIPTION AND HISTORY

Location:

The Nest site is an approximately 0.985-acre site, located in a commercial/residential area, at 333 1st Street in the City of Niagara Falls, Niagara County. The site is comprised of portions of two separate parcels (SBL 159.09-1-2.11 and 159.09-1-2.12) located at 333 1st Street and 217 Old Falls Street respectively. It is bounded by a parking lot to the north, the Sheraton Niagara Falls hotel to the east, the historic First Presbyterian Church (est. 1849) with associated parking to the south, and the Rainbow Bridge parking garage to the west.

Site Features:

Approximately 95 percent of the Site contains a concrete building slab from a recently demolished two-story commercial building and there is minimal green space. It is generally flat, with a gentle slope towards city streets and drainage structures. The former Site building connected to 217 Old Falls Street however the Site does not extend all the way to Old Falls Street.

There is an easement for the Adams Power Station hydraulic tunnel which runs diagonally through the center of the Site. The tunnel diverted water from the Niagara River to generate hydroelectric power. Completed in 1893, the brick tunnel is over a mile long and runs from the former Adams Power Plant approximately 180 feet underground to below Niagara Falls. Currently, the Niagara Falls sewage treatment plant utilizes the tunnel for treated water discharge.

According to historic Sanborn Fire Insurance Maps, there were two gasoline Underground Storage Tanks (USTs) located at the northwestern corner of the site. During the investigation one UST was uncovered in this area. Since no gross contamination was discovered, it was re-buried and will be addressed during the Remedial Action phase. The UST was estimated to have a 1,000-gallon capacity, contained visible holes in the sidewall, and the contents of the tank are unknown at this time.

Current Zoning and Land Use:

Currently the site is vacant with no structures on-site and zoned for residential, commercial, and mixed-use. The project includes construction of a mixed-use residential housing (apartments) with first floor commercial space. Properties in the north, east, south, and west have similar

zoning.

Past Use of the Site:

The last known on-site operation was a retail store and graphics department from 1995 to 2017. Other on-site operations include various commercial storefronts and hotels dating back to the late 1800s.

Site Geology and Hydrogeology:

Overburden: Shallow subsurface conditions generally consisted of fill with some construction and demolition debris including brick, concrete and cinder material. Fill depths ranged from 0.5 to 10 feet below ground surface (fbgs) across the Site. Beneath the fill in some locations was stiff, tight, brown silty clay.

Bedrock: Top of bedrock was identified ranging from 8 to 10 fbgs across the site. Samples contained grey dolomite with multiple fractures.

Storm Water: Currently there are no storm water structures on-site. On-site former building slabs slope away from the site and storm water is directed to adjacent streets. Future development will change the current stormwater flow depending on future site use.

Groundwater: Overburden groundwater was not discovered during the investigation. In general, overburden groundwater most likely flows west-northwest towards the Niagara River. Groundwater was found in bedrock and was measured in three on-site bedrock monitoring wells ranging from 8 to 26 fbgs.

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, an alternative which allows for unrestricted use of the site was evaluated.

A comparison of the results of the Remedial Investigation (RI) against unrestricted use standards, criteria and guidance values (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: <u>RI Results</u>

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:

trichloroethene (TCE)

tetrachloroethene (PCE)

lead copper mercury methylene chloride benzo(a)anthracene

benzo(a)pyrene benzo(b)fluoranthene

benzo(g,h,i)perylene

benzo(k)fluoranthene

chrysene

dibenz[a,h]anthracene indeno(1,2,3-cd)pyrene

barium zinc **DDT**

perfluorooctane sulfonic acid

sodium

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:

During the Remedial Investigation (RI), soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl substances (PFAS), and pesticides. Soil vapor samples were also collected and analyzed for VOCs. Based on the investigations conducted to date, the primary contaminants of concern for the site are trichloroethene (TCE), tetrachloroethene (PCE), methylene chloride, lead, copper, mercury, barium, zinc, sodium, benzo(a)anthracene. benzo(a)pyrene. benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, phenanthrene, dibenz[a,h]anthracene, 4,4'-DDT, PFOA, and PFOS.

Surface Soil:

Surface soil samples are generally taken below the surface and extend no further than 2 inches in depth. Almost the entire site is covered with an existing concrete slab, except for a very small area located at the northeastern border of the site. The RIWP originally included a boring with a surficial sample in this area, however due to equipment constraints the boring and sample were not able to be taken. All RI samples were taken below the existing slab.

Subsurface Soil:

27 subsurface soil samples (23 samples from the RI, 4 samples from the Supplemental RI) were collected from soil borings in 25 different locations ranging in depth from 2 inches down to approximately 10 fbgs across the site. Contamination is spread throughout the entire site, below the existing slab. The following contaminants of concern were detected exceeding USCOs:

- Methylene Chloride (up to 0.073 ppm) exceeded the USCO of 0.05 ppm in 1 sample.
- Tetrachloroethene (up to 1.8 ppm) exceeded the USCO of 1.3 ppm in 1 sample.
- Trichloroethene (up to 1.7 ppm) exceeded the USCO of 0.47 ppm in 1 sample.
- Benzo(a)anthracene (up to 8.2 ppm) exceeded the USCO of 1 ppm in 7 samples.
- Benzo(a)pyrene (up to 8.3 ppm) exceeded the USCO of 10 ppm in 6 samples.
- Benzo(b)fluoranthene (up to 9.8 ppm) exceeded the USCO of 1 ppm in 7 samples.
- Benzo(k)fluoranthene (up to 4.1 ppm) exceeded the USCO of 0.8 ppm in 4 samples.
- Chrysene (up to 8.0 ppm) exceeded the USCO of 1 ppm in 8 samples.
- Dibenz(a,h)anthracene (up to 1.9 ppm) exceeded the USCO of 0.33 ppm in 4 samples.
- Indeno(1,2,3-cd)pyrene (up to 4.1 ppm) exceeded the USCO of 0.5 ppm in 7 samples.
- Barium (up to 415 ppm) exceeded the USCO of 350 ppm in 1 sample.
- Cadmium (up to 4.7 ppm) exceeded the USCO of 2.5 ppm in 1 sample.
- Copper (up to 102 ppm) exceeded the USCO of 50 ppm in 2 samples.
- Lead (up to 552 ppm) exceeded the USCO of 63 ppm in 17 samples.
- Manganese (up to 3,180 ppm) exceeded the USCO of 1,600 ppm in 1 sample.
- Mercury (up to 4.5 ppm) exceeded the USCO of 0.18 ppm in 7 samples.
- Zinc (up to 1,020 ppm) exceeded the USCO of 109 ppm in 21 samples.
- 4,4'-DDT (up to 0.011 ppm) exceeded the USCO of 0.0033 ppm in 2 samples.

The following contaminant of concern exceeded Protection of Groundwater Soil Cleanup Objectives (PGWSCOs):

- Tetrachloroethene (up to 1.8 ppm) exceeded the PGWSCO of 1.3 ppm at one sample location.

Based on the investigations completed to date, soil contamination is spread throughout the site below the former building slab. Off-site migration of contaminants in subsurface soil has not been observed.

Groundwater:

Groundwater samples were collected from 3 bedrock monitoring wells installed from 30 to 50 fbgs. Groundwater was sampled during a single sampling event in October 2024. The following contaminants of concern were detected exceeding groundwater quality standards (GWQS):

- Tetrachloroethene (up to 12 mcg/L) exceeded the GWQS of 5.0 mcg/L at two locations.
- Sodium (up to 345,000 mcg/L) exceeded the GWQS of 20,000 mcg/L at all three locations.

- Perfluorooctanoic acid (PFOA) (up to 42 ng/L) exceeded the GWQS of 6.7 ng/L at all three locations
- Perfluorooctanesulfonic acid (PFOS) (up to 13 ng/L) exceeded the GWQS of 2.7 ng/L at all three locations

A Supplemental RI was performed and one goal was to investigate upgradient groundwater conditions and determine if upgradient groundwater was contributing to, or a potential source of, the contaminants discovered in on-site bedrock wells. One bedrock well was advanced approximately 150ft upgradient (north) of the site to approximately 31fbgs. See Figure 3. The following contaminants of concern were detected exceeding groundwater quality standards (GWQS):

- 1,2,4-Trimethylbenzene (77 mcg/L) exceeded the GWOS of 5.0 mcg/L.
- Isopropylbenzene (12 mcg/L) exceeded the GWQS of 5.0 mcg/L.
- N-Propylbenzene (14 mcg/L) exceeded the GWQS of 5.0 mcg/L.
- sec-Butylbenzene (5.1 mcg/L) exceeded the GWQS of 5.0 mcg/L.
- Perfluorooctanoic acid (PFOA) (28 ng/L) exceeded the GWQS of 6.7 ng/L.
- Perfluorooctanesulfonic acid (PFOS) (86 ng/L) exceeded the GWQS of 2.7 ng/L.

Investigation results indicate that bedrock groundwater is slightly impacted by PCE, sodium, PFOA, and PFOS across the site. Off-site migration of contaminants in groundwater is a possibility because groundwater flows through the site from northeast to southwest.

Soil Vapor Investigation:

Four soil vapor samples were collected across the site, below the existing building slab. Depth of samples ranged from 4 to 7.2 fbgs. No indoor air samples were collected due to the building being demolished prior to the start of the RI. Two soil vapor samples were taken off-site during the Supplemental RI. One sample was located south of the site and the second sample was located north of the site. Both samples were taken at 5 fbgs and both samples were taken below existing asphalt parking lots. One of the goals of the Supplemental RI was determine if soil vapor contaminants found on-site were entering and/or leaving the site. Various VOCs were detected in soil vapor. See below for a summary of the contaminants of concern.

PCE was detected in six samples: VP-1 at a concentration up to 184 micrograms per cubic meter (mcg/m^3), VP-2 at a concentration up to 5.71 mcg/m^3, VP-3 at a concentration up to 46.5 mcg/m^3, VP-4 at a concentration up to 132 mcg/m^3, off-site RI VP-1 at a concentration up to 51 mcg/m^3, and off-site RI VP-2 at a concentration up to 51 mcg/m^3. TCE was detected in four samples: VP-1 at a concentration up to 155 micrograms per cubic meter (mcg/m^3), VP-3 at a concentration up to 23 mcg/m^3, VP-4 at a concentration up to 6.56 mcg/m^3, and off-site RI VP-2 at a concentration up to 8.5 mcg/m^3. Freon-11 was detected in six samples: VP-1 at a concentration up to 82 micrograms per cubic meter (mcg/m^3), VP-2 at a concentration up to 22.5 mcg/m^3, VP-3 at a concentration up to 389 mcg/m^3, VP-4 at a concentration up to 1,360 mcg/m^3, off-site RI VP-1 at a concentration up to 12.0 mcg/m^3, and off-site RI VP-2 at a concentration up to 11.0 mcg/m^3.

Based on the results of the on-site and off-site investigation, contamination does not appear to be affecting off-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 soil is unlikely because the site is covered with a building slab. 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 nearby buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because there is no on-site building, inhalation of site contaminants in indoor air due to soil vapor intrusion does not represent a concern for the site in its current condition. However, the potential exists for the inhalation of site contaminants due to soil vapor intrusion for any future on-site development. Sampling indicates soil vapor intrusion 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

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 Conditional Track 1 remedy.

The selected remedy is referred to as the Conditional Track 1, Unrestricted Use 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), SiteWise(TM) (available in the Sustainable Remediation Forum [SURF] library) or similar NYSDEC 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 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 all on-site soils which exceed unrestricted SCOs, as defined by 6 NYCRR Part 375-6.8. If a Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy. Approximately 12,500 cubic yards of contaminated soil will be removed to an approximate depth of 7 feet below ground surface. Collection and analysis of confirmation samples at the remedial excavation depths will be used to verify that SCOs for the site have been achieved. If confirmation/ documentation sampling indicates that SCOs were not achieved at the stated remedial depth, the Applicant must notify DEC, submit the sample results and, in consultation with DEC, 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.

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

On-site soil which does not exceed the above criteria may be used to backfill the excavation and establish the designed grades at the site. Backfill 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.

3. Soil Vapor Intrusion Evaluation

As part of the Track 1 remedy, a soil vapor intrusion evaluation will be completed in any future on-site buildings. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

4. Groundwater Assessment

As part of the Track 1 remedy, groundwater will be sampled following remedial actions to determine if contaminants meet applicable standards. The evaluation will include a provision for implementing actions to address exposures related to groundwater in the event that applicable standards are not met.

5. Conditional Track 1 Soil Vapor Intrusion Evaluation

The intent of the remedy is to achieve a Track 1 unrestricted use. If the soil vapor intrusion (SVI) evaluation is not completed prior to completion of the Final Engineering Report (FER), then a Site Management Plan (SMP) and Environmental Easement (EE) will be required to address the SVI evaluation and implement actions as needed. If a mitigation or monitoring action is needed, a Track 1 cleanup can only be achieved if the mitigation system or other required action is no longer needed within 5 years of the date of the Certificate of Completion. In the event that Track 1 unrestricted use is not achieved, the following contingent remedial elements will be required, and the remedy will achieve a Track 2 residential cleanup.

6. Conditional Track 1 Groundwater Remedy

Any groundwater contamination which remains after excavation of potential source material will be addressed with monitored natural attenuation (MNA) if a Track 1 cleanup is not achieved. The monitoring plan will be detailed in the Site Management Plan. Groundwater will be monitored for site related contamination and also for MNA indicators which will provide an understanding of the (biological activity) breaking down the contamination. It is anticipated that contamination will decrease to levels below the Class GA ambient water quality standards (AWQS) concentrations or to asymptotic levels that are acceptable to the Department within a five (5) year period. Reports of the attenuation will be provided yearly for five years, and active remediation will be proposed if it appears that natural processes alone will not address the contamination.

7. Institutional Control

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

- Require the remedial party or site owner to complete and submit to the 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 residential use as defined by Part 375-1.9(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 County DOH; and
- Require compliance with the NYSDEC approved Site Management Plan.
- 8. Site Management Plan

A Site Management Plan will be 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 engineering controls remain in place and effective: Institutional Controls: The Environmental Easement discussed in Remedial Element 6 above Engineering Controls: The Groundwater MNA discussed in Remedial Element 5 and a sub-slab depressurization system if the SVI evaluation discussed in Remedial Element 3 indicates that mitigation is required.

This Plan includes but may not be limited to:

- o Descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- o A provision for evaluation of the potential for soil vapor intrusion for any future occupied building, including provisions for implementing actions recommended to address exposures related to soil vapor intrusion;
- o Provisions for the management and inspection of the identified engineering controls; and
- o 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:
- o Monitoring of groundwater to assess the performance and effectiveness of the remedy;
- o A schedule of monitoring and frequency of submittals to the NYSDEC; and
- o Monitoring for vapor intrusion for any buildings on the site as may be required by the Institutional and Engineering Control Plan discussed above.





