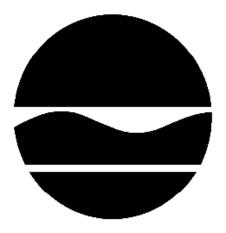
DECISION DOCUMENT

Site III-9 Tecumseh Phase III Business Park
Brownfield Cleanup Program
Lackawanna, Erie County
Site No. C915199I
July 2016



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

DECLARATION STATEMENT - DECISION DOCUMENT

Site III-9 Tecumseh Phase III Business Park Brownfield Cleanup Program Lackawanna, Erie County Site No. C915199I July 2016

Statement of Purpose and Basis

This document presents the remedy for the Site III-9 Tecumseh Phase III Business Park 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 Site III-9 Tecumseh Phase III Business Park 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. A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. Green remediation principals 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 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.
- 2. Pipe Removal Removal of abandoned subsurface product piping. Based on field conditions a limited amount of piping may be cleaned and capped in place. The piping will be cleaned and capped or recycled off-site; all pipe contents will be containerized, characterized, and

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disposed/recycled off-site.

- 3. A site cover will be required to allow for commercial use of the site. The cover will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or other approved cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where cover is required it will be a minimum of one foot thick, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The cover will be placed over a demarcation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).
- 4. In-situ enhanced biodegradation will be employed to treat petroleum contamination and VOCs in groundwater in the area downgradient of the source material located in sub-parcel III-10 depicted in figure 3. The biological breakdown of contaminants through aerobic respiration will be enhanced by the placement of an oxygen release compound (ORC), or similar material into the subsurface or injecting a solution into the subsurface to promote microbe growth.
- 5. Imposition of an institutional control in the form of an environmental easement is required for the controlled property that:
- allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts 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;
- requires compliance with the Department approved Site Management Plan; and
- requires 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.)
- 6. A Site Management Plan is required, which includes, but not limited to, the following:
- an Institutional and Engineering Control Plan that identifies all use restrictions for the site noted above and details the steps necessary to ensure the following controls remain in place and effective:
- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- 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.

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

- monitoring of groundwater and site cover 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.

Date	Michael Cruden, Director Remedial Bureau E	_

DECISION DOCUMENT

Site III-9 Tecumseh Phase III Business Park Lackawanna, Erie County Site No. C915199I July 2016

SECTION 1: SUMMARY AND PURPOSE

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

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

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

SECTION 2: CITIZEN PARTICIPATION

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

Lackawanna Public Library Attn: Jennifer Hoffman 560 Ridge Road Lackawanna, NY 14218 Phone: 716-823-0630

NYS DEC Attn: Maurice Moore 270 Michgan Ave. Buffalo, NY 14203 Phone: 716-851-7220

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, Voluntary Cleanup Program, and Resource Conservation and Recovery Act We encourage the public to sign up for one or more county listservs at Program. http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location:

Tecumseh Phase III-9 (Site) is one of 10 sub-parcels comprising the Tecumseh Phase III Business Park (Phase III). Phase III is located at 2303 Hamburg Turnpike in the City of Lackawanna, New York. Situated in an industrial area, Phase III is part a larger property that once included the Bethlehem Steel Company (BSC) and is identified on the Erie County Tax Maps as SBL 141.11-1-50. Phase III is located west of Route 5 and the Tecumseh Phase II Business Park, south of Gateway Metroport and east of the remaining former Bethlehem Steel property and Lake Erie.

Site Features:

Located in the northeast portion of Phase III is the Site, a 13.97 acre, "L" shaped, sub-parcel that is vacant except for the remnants of a former water treatment facility, the parcel is vegetated with natural grasses, shrubs and poplar trees, typical of a primary shrub-young forest ecosystem. The entire BSC site is fenced with vehicle access limited to one automatic gate.

Current Zoning and Land Use:

The site is zoned medium industrial. Surrounding uses near the site include: adjacent and to the north is sub-parcel III-10, beyond which is an active metal working industry, to the south and west is the vacant sub-parcel III-8 and the newly constructed Welded Tube pipe manufacturing facility, to the east is a drainage feature named the South Water Return Trench. Future use anticipates commercial or industrial re-use.

Past Use of the Site:

Phase III-9 was formerly a portion of BSC's steel making operations. Specific processes and steel making facilities performed on or proximate to the site included:

- Wastewater treatment
- Sintering
- Dolomite storage
- Welfare buildings
- Mixer and Stripper buildings

Site Geology and Hydrology:

The entire Phase III filled with between two to eight feet of steel and iron-making slag as well as other fill material being used for backfill. Underlying the fill material are lacustrine silts and clays. Native materials are encountered from about 12 to 14 feet below ground surface.

Bedrock is Middle Devonian age, Skaneateles Formation, consisting of Levanna shale and Stafford limestone of the Hamilton Group. Bedrock varies from about 24 feet deep in the southeastern corner of the site to 45 feet deep with the near the northern border of Phase III.

Due to the porous nature of the slag/soil fill there is very little storm water retention, or surface runoff, as most of the precipitation seeps into the highly permeable slag/soil fill. Any surface waters flow into the South Water Return Trench which parallels the eastern border of the property and flows southerly where it empties into Smokes Creek which discharges to the west into Lake Erie.

Groundwater, when encountered, is about 7 feet deep trending westerly and northerly toward Lake Erie.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives that restrict the use of the site to commercial use (which allows for industrial use) as described in Part 375-1.8(g) were 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

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:

arsenic benzo(a)pyrene benzo(a)anthracene benzo(b)fluoranthene dibenz[a,h]anthracene indeno(1,2,3-CD)pyrene petroleum products

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:

The nature and extent of metals contamination is consistent with the former site use as a steel manufacturing facility. Based upon investigations conducted to date, the primary contaminants of concern for soils at the Tecumseh Phase III-9 site are arsenic and volatile organic compounds (VOCs) from residual petroleum products. Contaminants of concern to a lesser extent are semivolatile organic compounds (SVOCs) including polycyclic aromatic hydrocarbons (PAHs), such as benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene.

Widespread exceedances of unrestricted use site cleanup objectives (SCOs) for metals are common in the soil and fill. However, when compared to the commercial SCO of 16 ppm only arsenic, ranging from 10.9 ppm to 38 ppm exceeds in 5 of 8 samples

SVOCs, like metals are widespread throughout the Phase III Business Park. Most of the SVOC contaminants are PAHs and are usually associated with those activities that include burning of fossil fuels and heavy rail use, both of which were ubiquitous at the former steel mill. At the Site the above noted contaminants exceed the unrestricted SCOs in almost all of the samples. Benzo(b)fluoranthene from 1.2 ppm to 25 ppm exceeds the unrestricted use SCO of 1 ppm in 8 of 8 samples. Indeno(1,2,3-cd)pyrene, from 0.47 to 13 ppm also exceeded the unrestricted SCO of 0.5 ppm in 7 of 8 samples. Benzo(a)anthracene from 0.56 ppm to 25 ppm and benzo(a)pyrene from 0.62 ppm to 20 ppm, both with a SCO of 1 ppm, exceeded in 6 of 8 samples. Dibenzo(a,h)anthracene from not detected (ND) to 3.8 ppm exceeded the unrestricted SCO of 0.33 ppm in 4 of 8 samples.

However, when compared to the commercial use SCOs, only benzo(a)pyrene with a commercial SCO of 1 ppm exceeded the same number of samples as unrestricted with 6 of 8 samples

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exceeding. Dibenzo(a,h)anthracene exceeded the commercial use SCO of 0.56 ppm in 3 of 8 samples. Benzo(a)anthracene, benzo(b)fluoranthene and indeno(1,2,3-cd)pyrene all with a commercial use SCO of 5.6 ppm exceeded in 1 of 8 samples.

No sampling location indicated any impacts from VOCs, however, operations at the facilities in the III-9 area left petroleum impacts in soils directly in contact with groundwater. During test pitting operations visual and/or olfactory evidence of petroleum contamination was evident along the northern edge of the Site. Supplemental test pits were excavated to define the area requiring remediation. Impacts are limited mainly to a smear layer of weathered fuel extending from the southern boundary of the III-10 site onto a narrow portion of III-9.

A 36 inch former coke gas line containing residuals contaminated with naphthalene intersects the property running north/south on the eastern side of the site. The gas line is the area of the existing wastewater treatment facility.

Groundwater was sampled from two monitoring wells at the III-9 site. Very low levels of benzene were noted in both of the wells. MTBE, naphthalene, phenanthrene and pyrene were found in one well. However, no sample result exceeded the groundwater quality standards for any constituent. Existing contamination on the adjacent III-10 parcel is believed to be the source of these impacts. In-situ enhanced biodegradation will be employed to treat petroleum contamination and VOCs in groundwater in the area down gradient of the source material located in sub-parcel III-10.

Although groundwater quality has been compromised, groundwater is not used at the site and deed restricted from use for either potable or non-potable purposes without treatment.

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 completely fenced, which restricts public access. However, persons who enter the site could contact contaminants in the soil by walking on the site, digging or otherwise disturbing the soil. 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 this contamination. Volatile organic compounds in the 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 the site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern.

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.

RAOs for Environmental Protection

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

Soil

RAOs for Public Health Protection

Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

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 Cover with Institutional Controls remedy.

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

- 1. A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. Green remediation principals 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 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.
- 2. Pipe Removal Removal of abandoned subsurface product piping. Based on field conditions a limited amount of piping may be cleaned and capped in place. The piping will be cleaned and capped or recycled off-site; all pipe contents will be containerized, characterized, and disposed/recycled off-site.
- 3. A site cover will be required to allow for commercial use of the site. The cover will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or other approved cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where cover is required it will be a minimum of one foot thick, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The cover will be placed over a demarcation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).
- 4. In-situ enhanced biodegradation will be employed to treat petroleum contamination and VOCs in groundwater in the area downgradient of the source material located in sub-parcel III-10 depicted in figure 3. The biological breakdown of contaminants through aerobic respiration will be enhanced by the placement of an oxygen release compound (ORC), or similar material into the subsurface or injecting a solution into the subsurface to promote microbe growth.
- 5. Imposition of an institutional control in the form of an environmental easement is required for the controlled property that:
- allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts 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;
- requires compliance with the Department approved Site Management Plan; and
- requires 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.)
- 6. A Site Management Plan is required, which includes, but not limited to, the following:

- an Institutional and Engineering Control Plan that identifies all use restrictions for the site noted above and details the steps necessary to ensure the following controls remain in place and effective;
- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- 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.

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

- monitoring of groundwater and site cover 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.

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FIGURE 1

Site Location
Tecumseh Phase III Business Park

Phase III-9 Site Site No. C915199I



