

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau E

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June 19, 2018

Mr. Gerald A. Buchheit, Jr.  
Queen City Landing, LLC  
3275 N. Benzing Road  
Orchard Park, New York 14217

RE: Queen City Landing, Site ID No.: C915304, Buffalo, Erie County  
Remedial Investigation Report, Interim Remedial Measures Report  
Alternatives Analysis Report & Decision Document

Dear Mr. Buchheit:

The New York State Department of Environmental Conservation (Department) and the New York State Department of Health (NYSDOH) have reviewed the Remedial Investigation Report dated May 2018, Interim Remedial Measures Report dated January 25, 2018, and Alternatives Analysis Report dated May 2018 for the Queen City Landing Site, prepared by Benchmark Environmental Engineering & Science, PLLC on behalf of the Queen City Landing LLC.

The Remedial Investigation Report, Interim Remedial Measures Report, and Alternatives Analysis Report are hereby approved. Please ensure that a copy of the approved reports are placed in the document repository(ies). The draft report(s) should be removed.

Enclosed is a copy of the Department's Decision Document for the site. The remedy is to be implemented in accordance with this Decision Document. Please ensure that a copy of the Decision Document is placed in the document repository(ies).

Mr. Gerald A. Buchheit, Jr.

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Please contact the Department's Project Manager, Jaspal S. Walia, at (716) 851-7220 or [jaspal.walia@dec.ny.gov](mailto:jaspal.walia@dec.ny.gov) at your earliest convenience to discuss next steps.

Sincerely,



Michael J. Cruden, P.E.  
Director  
Remedial Bureau E  
Division of Environmental Remediation

Enclosure

ec: Michael Ryan, NYSDEC  
Kelly Lewandowski, NYSDEC  
Chad Staniszewski, Region 9, Buffalo  
Jaspal S. Walia, Region 9, Buffalo  
Jennifer Dougherty, Esq., Region 9, Buffalo  
Sara Bogardus, NYSDOH  
Craig A. Slater, Esq., The Slater Law Firm, PLLC  
Thomas Forbes, Benchmark Environmental Engineering & Science, PLLC

# DECISION DOCUMENT

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Queen City Landing  
Brownfield Cleanup Program  
Buffalo, Erie County  
Site No. C915304  
June 2018



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

# **DECLARATION STATEMENT - DECISION DOCUMENT**

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Queen City Landing  
Brownfield Cleanup Program  
Buffalo, Erie County  
Site No. C915304  
June 2018

## **Statement of Purpose and Basis**

This document presents the remedy for the Queen City Landing 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 Queen City Landing 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; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

### 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);
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G;
- soil containing total SVOCs exceeding 500 ppm; and
- concentrated solid or semi-solid hazardous substances per 6 NYCRR Part 375-1.2(au)(1), specifically chromium and manganese contaminated soil/fill.

Soil/fill will be excavated and disposed off-site from three areas including approximately 5 cubic yards of soil/fill along the eastern site boundary containing total SVOCs exceeding 500 ppm, approximately 300 cubic yards of petroleum contaminated soil/fill near the eastern site boundary and approximately 200 cubic yards of soil/fill contaminated with chromium and manganese. Chromium and manganese contaminated soil/fill will be removed to a site-specific action level consistent with commercial soil cleanup objectives (CSCOs).

On-site soil which does not exceed the above excavation criteria may be used below the cover system described in remedy element 3 to backfill the excavation.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) and NYSDEC-approved material (e.g., screened crushed concrete from processing of the former on-site building) will be brought in or used to complete the backfilling of the excavation and establish the designed grades at the site.

### 3. Cover System:

A site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the restricted residential soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. The existing soil/fill in the northern and eastern areas of the site will be excavated along the perimeter of the Site to create space for 2 feet of a compliant soil/fill cover. 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.

### 4. Engineering and Institutional Controls

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 4 restricted residential cleanup at a minimum and will include an environmental easement, and site management plan as described below.

### 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 restricted residential use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or 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:

Engineering Controls: The cover system discussed in paragraph 3 above.

Institutional Controls: The Environmental Easement discussed in Paragraph 5 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 restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any new buildings 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 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; and
- a schedule of monitoring and frequency of submittals to the Department; 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.

# Michael J Cruden

Digitally signed by Michael J Cruden  
DN: cn=Michael J Cruden, o=DER, ou=RBE,  
email=mjcruden@gw.dec.state.ny.us, c=US  
Date: 2018.06.18 14:29:18 -04'00'

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Date

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Michael Cruden, Director  
Remedial Bureau E

# DECISION DOCUMENT

Queen City Landing  
Buffalo, Erie County  
Site No. C915304  
June 2018

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## **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 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 repository:

Buffalo & Erie County Public Library  
Attn: Carol Ann Batt  
1 Lafayette Square  
Buffalo, NY 14203  
Phone: 716-858-7191

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

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

#### Location:

This 7.72 acre site is located at 975-1005 Fuhrmann Boulevard in the City of Buffalo, just north of the Port of Buffalo Small Boat Harbor and Tifft Nature Preserve. The entrance to the parcel is just north of the intersection of Fuhrmann Boulevard and Ohio Street.

#### Site Features:

All on-site buildings (one main and two small buildings) were demolished in 2016. The site is currently unoccupied. The site fronts to Fuhrmann Boulevard and borders Lake Erie (Buffalo Outer Harbor) on the south. The site borders with the Queen City Landing BCP site (C915305) on the west. Currently, the site is covered with asphalt, fill, crushed concrete, and soil.

#### Current Zoning and Land Use:

The site is currently zoned as CM General Commercial. Surrounding parcels are a mix of industrial, commercial, and park and recreation land uses.

#### Past Use of the Site:

Between the 1920s and 1960s, the site was created with urban and construction fill to allow for shipping access from the Outer Harbor. The site was occupied by a portion of a shipping terminal and then a food manufacturing facility since 1927. Freezer Queen owned the property for food manufacturing from 1958 to 2004. Olsen Marine used the property for boat repair and storage until September 2015.

Contamination at the site appears to be from the use of various sources of urban fill to create land for the original shipping terminal facility and from the presence and use of petroleum products related to the use of machinery and rail service.

#### Site Geology and Hydrogeology:

The Queen City Landing Site contains urban fill across the site with observed thickness ranging up to twenty feet. Water was observed in site investigations to be approximately 7 to 12 feet below ground surface. Groundwater flows west to 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 (or an alternative) that restrict(s) the use of the site to restricted-residential use (which allows for commercial use and industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

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

## **SECTION 5: ENFORCEMENT STATUS**

The Applicants 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:

- outdoor air
- 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: Remedial Investigation 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 contaminants of concern identified at this site are:

Polycyclic aromatic hydrocarbons (PAHS)	Chromium
Petroleum products	Manganese

The contaminants of concern exceed the applicable SCGs for:

- Soil
- Groundwater

### **6.2: Interim Remedial Measure**

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document. The following IRM has been completed at this site based on conditions observed during the RI.

#### **Petroleum Spill Area Cleanup:**

An IRM was conducted between August 2017 and October 2017 to address the petroleum spill area (see Fig 2) identified during the RI. During IRM activities, three empty 5,000 gallon underground storage tanks (USTs) were excavated and disposed off-site. In addition, approximately 4,956 tons of petroleum contaminated soil/fill was excavated and disposed of at a permitted facility. The IRM cleanup achieved restricted residential soil cleanup objectives (RRSCOs) for volatile organic compounds (VOCs). The concentrations of semi-volatile organic compounds (SVOCs) were well below the site specific action level of 500 ppm. No evidence of visual, olfactory or elevated photoionization detector (PID) readings were detected in excavation confirmatory samples. After confirmation of the cleanup, the excavation was backfilled with screened crushed concrete from the on-site building and approved imported clay/soil meeting RRSCOs. The results of the spill area cleanup are detailed in the Interim Remedial Measure Report dated, January 25, 2018.

### **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.

#### Remedial Investigation Results:

The field work for RI was completed in 2017. The RI included a geophysical survey and sampling of soil and groundwater. The surface soil, sub-surface soil/fill and groundwater samples were analyzed for Target Compound List (TCL) volatiles organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, herbicides, and Target Analyte List (TAL) metals. Outdoor air samples were analyzed for VOCs. The concentrations of contaminants in different media were as follows:

#### Surface soil/fill

SVOCs: Among the SVOCs, polycyclic aromatic hydrocarbons (PAHs) exceeding RRSCOs were up to: 31 ppm benzo(a)anthracene (RRSCO - 1 ppm); 35.5 ppm benzo(a)pyrene (RRSCO - 1 ppm); 38.1 ppm benzo(b)fluoranthene (RRSCO - 1 ppm); 31.4 ppm benzo(k)fluoranthene (RRSCO - 3.9 ppm); 42.7 ppm chrysene (RRSCO - 3.9 ppm); 10.9 ppm dibenz(a,h)anthracene (RRSCO - 0.33 ppm), and 19.8 ppm indeno(1,2,3-cd)pyrene (RRSCO - 0.5 ppm).

Metals: The concentrations of metals exceeding RRSCOs were up to 712 ppm for chromium (RRSCO - 180 ppm) and 11,600 ppm for manganese (RRSCO - 2,000 ppm).

The concentrations of VOCs, PCBs, pesticides and herbicides were below their RRSCOs.

#### Boundary Surface Soil:

Surface soil samples were also collected at eastern and western site boundaries. The concentrations of test parameters were as follows:

Eastern Boundary: PAHs exceeding RRSCOs were up to: 33.3 ppm benzo(a)anthracene (RRSCO - 1 ppm); 37.2 ppm benzo(a)pyrene (RRSCO - 1 ppm); 52.3 ppm benzo(b)fluoranthene (RRSCO - 1 ppm); 32.3 ppm benzo(k)fluoranthene (RRSCO - 3.9 ppm); 51 ppm chrysene (RRSCO - 3.9 ppm); 8.72 ppm dibenz(a,h)anthracene (RRSCO - 0.33 ppm), 117 ppm fluoranthene (RRSCO - 100 ppm), and 41 ppm indeno(1,2,3-cd)pyrene (RRSCO - 0.5 ppm).

Western Boundary: PAHs exceeding RRSCOs were up to: 3.58 ppm benzo(a)anthracene (RRSCO - 1 ppm); 2.48 ppm benzo(a)pyrene (RRSCO - 1 ppm); 2.57 ppm benzo(b)fluoranthene (RRSCO - 1 ppm); 0.45 ppm dibenz(a,h)anthracene (RRSCO - 0.33 ppm), and 1.78 ppm indeno(1,2,3-cd)pyrene (RRSCO - 0.5 ppm).

The levels of VOCs, pesticides, herbicides, PCBs, and metals in the boundary surface soil samples were below their RRSCOs. The concentrations of some metals and pesticides were above unrestricted SCOs.

#### Sub-surface Soil (Urban and Construction Fill):

The sub-surface soil at the site mostly consists of urban fill and construction fill. The urban fill contained materials such as construction debris, bricks, metal, crushed rock, silt, clay, ash/cinders, etc. The construction fill contained fine to coarse sand.

**SVOCs:** Among the SVOCS, the prime contaminants were PAHs. The highest concentrations of PAHs were found at one location at a depth of 10-11 feet below ground surface. The concentrations were up to: 49.4 ppm benzo(a)anthracene (RRSCO - 1 ppm); 41.6 ppm benzo(a)pyrene (RRSCO - 1 ppm); 30.2 ppm benzo(b)fluoranthene (RRSCO - 1 ppm); 38.5 ppm benzo(k)fluoranthene (RRSCO - 3.9 ppm); 43.6 ppm chrysene (RRSCO - 3.9 ppm); 11 ppm dibenz(a,h)anthracene (RRSCO - 0.33 ppm), 127 ppm fluoranthene (RRSCO - 100 ppm), 13.5 ppm indeno(1,2,3-cd)pyrene (RRSCO - 0.5 ppm), 107 ppm naphthalene (RRSCO - 100 ppm), and 177 ppm phenanthrene (RRSCO - 100 ppm). Total PAHs at that location were 936 ppm. The concentrations of total PAHs at all other locations were below 500 ppm.

**Metals:** The levels of metals exceeding RRSCOs were up to: 24 ppm for arsenic (RRSCO - 16 ppm), 472 ppm for chromium (RRSCO - 180 ppm), 280 ppm for copper (RRSCO - 270 ppm), 480 ppm for lead (RRSCO - 400 ppm), 8,910 ppm for manganese (RRSCO - 2,000 ppm), and 1.55 ppm for mercury (RRSCO - 0.81 ppm). Copper and arsenic marginally exceeded commercial SCOs, therefore, are not considered contaminants of concern in subsurface soil.

Highest concentrations of metals were found in urban fill when compared to construction fill.

The concentrations of VOCs, pesticides, herbicides and PCBs were below their RRSCOs.

#### Groundwater:

Data collected from 9 groundwater monitoring wells showed presence of the following contaminants in groundwater:

**VOCs:** Benzene (4.2 ppb; GWQS - 1 ppb), methyl tertiary butyl ether (39 ppb; GWQS - 10 ppb), naphthalene (29.5 ppb; GWQS - 10 ppb), dichlorodifluoromethane (52 ppb; GWQS - 5 ppb).

**SVOCs:** Benzo(a)anthracene up to 0.12 ppb (GWQS - 0.002 ppb), Benzo(a)pyrene up to 0.08 ppb (GWQS - ND), Benzo(b)fluoranthene up to 0.13 ppb (GWQS - 0.002ppb), Benzo(k)fluoranthene up to 0.05 ppb (GWQS - 0.002 ppb), Chrysene up to 0.13 ppb (GWQS - 0.2 ppb), Indeno(1,2,3-cd)pyrene up to 0.08 ppb (GWQS - 0.002 ppb).

**Metals:** Groundwater Quality Standards (GWQS) exceeded for iron (8,800 ppb; GWQS - 300 ppb), magnesium (48,300 ppb; GWQS - 35,000 ppb), and manganese (1,107 ppb; GWQS - 300 ppb). Iron, magnesium, and manganese are naturally occurring metals.

Pesticides, herbicides, and PCBs were not found above the GWQS.

#### Outdoor Air Sampling:

Three outdoor air samples were collected as part of the RI. Acetone was detected in the two downwind samples at concentrations of 2.66 ug/m<sup>3</sup> and 3.04 ug/m<sup>3</sup>. Isopropanol (1.42 ug/m<sup>3</sup>) and toluene (1.25 ug/m<sup>3</sup>) were detected in one downwind sample.

#### Off-site Soil Sampling:

Surface soil/fill samples were collected from two locations east of the eastern property boundary. The samples showed levels of metals below RRSCOs. The concentrations of some individual PAHs exceeded RRSCOs but the concentrations of total PAHs were less than 30 ppm. Since the site borders with another BCP site on the west, no off-site samples were collected from the western boundary.

#### **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. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source 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. The potential for soil vapor intrusion to occur on-site will be evaluated should new construction occurs.

Information submitted with the BCP application regarding the conditions at the site are currently under review and will be revised as additional information becomes available.

#### **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.

##### **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.

**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 referred to as the Track 4- Restricted Residential use with generic soil cleanup objectives remedy.

The elements of the selected remedy, as shown in Figures 2 and 3, 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; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

**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);
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G;
- soil containing total SVOCs exceeding 500 ppm; and
- concentrated solid or semi-solid hazardous substances per 6 NYCRR Part 375-1.2(au)(1), specifically chromium and manganese contaminated soil/fill.

Soil/fill will be excavated and disposed off-site from three areas including approximately 5 cubic yards of soil/fill along the eastern site boundary containing total SVOCs exceeding 500 ppm,

approximately 300 cubic yards of petroleum contaminated soil/fill near the eastern site boundary and approximately 200 cubic yards of soil/fill contaminated with chromium and manganese. Chromium and manganese contaminated soil/fill will be removed to a site-specific action level consistent with commercial soil cleanup objectives (CSCOs).

On-site soil which does not exceed the above excavation criteria may be used below the cover system described in remedy element 3 to backfill the excavation.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) and NYSDEC-approved material (e.g., screened crushed concrete from processing of the former on-site building) will be brought in or used to complete the backfilling of the excavation and establish the designed grades at the site.

### 3. Cover System:

A site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the restricted residential soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. The existing soil/fill in the northern and eastern areas of the site will be excavated along the perimeter of the Site to create space for 2 feet of a compliant soil/fill cover. 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.

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- 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 restricted residential use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or 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:

Engineering Controls: The cover system discussed in paragraph 3 above.

Institutional Controls: The Environmental Easement discussed in Paragraph 5 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 restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any new buildings 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 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; and
- a schedule of monitoring and frequency of submittals to the Department; and
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

**LEGEND:**

BCP SITE BOUNDARY

**NOTES:**

- 1. AERIAL IMAGE FROM GOOGLE EARTH PRO 2015.



SCALE: 1 INCH = 150 FEET  
 SCALE IN FEET  
 (approximate)



**SITE LAYOUT MAP**

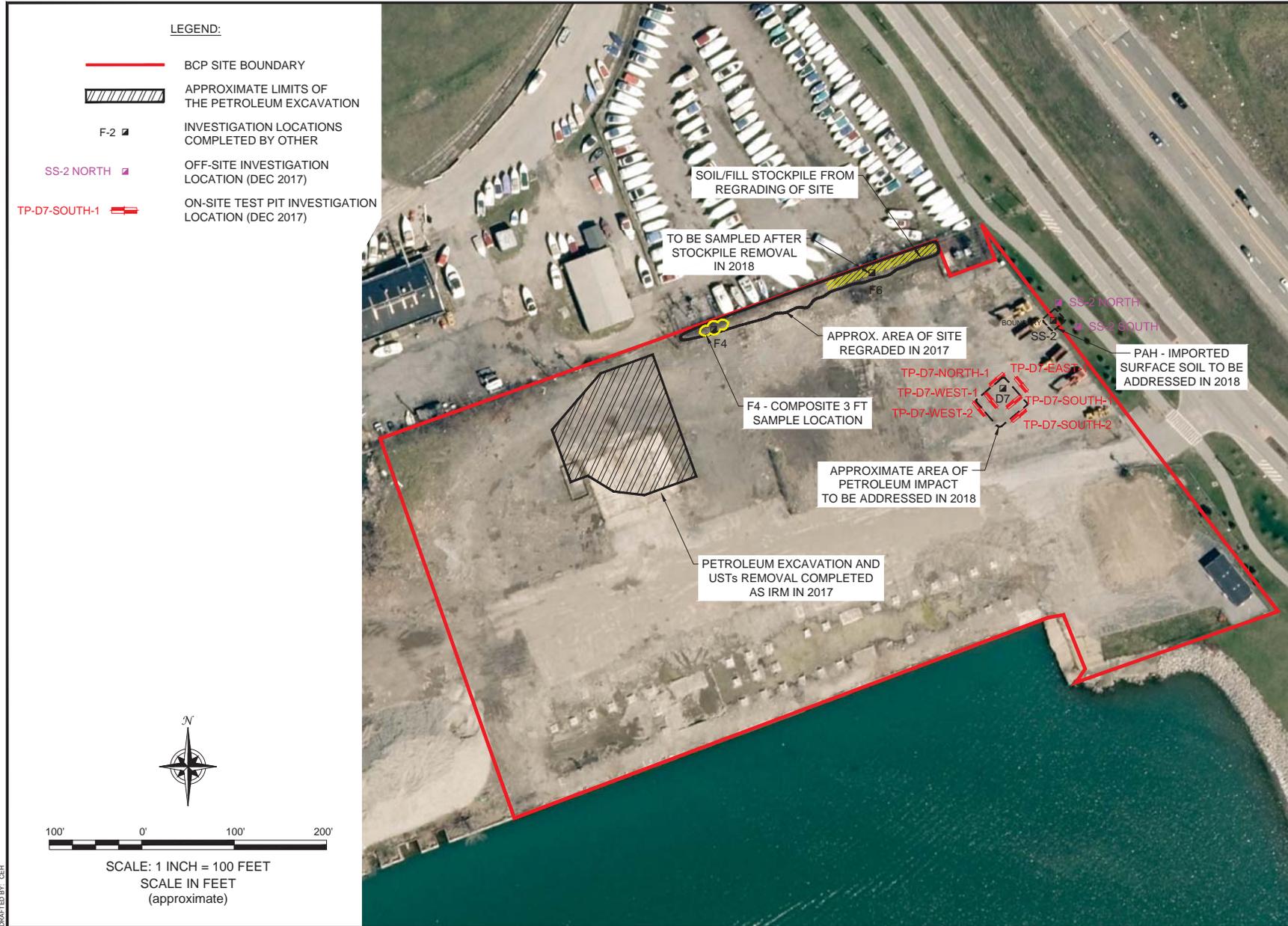
ALTERNATIVE ANALYSIS REPORT  
 QUEEN CITY LANDING SITE  
 BCP SITE NO. C915304  
 BUFFALO, NEW YORK  
 PREPARED FOR  
 QUEEN CITY LANDING, LLC



JOB NO.: 0424-017-001

**FIGURE 1**

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<p><b>AREAS OF REMEDIAL ACTION</b></p> <p>ALTERNATIVES ANALYSIS REPORT QUEEN CITY LANDING SITE BCP SITE NO. C915304 BUFFALO, NEW YORK PREPARED FOR QUEEN CITY LANDING</p>	
<p><b>FIGURE 2</b></p>	



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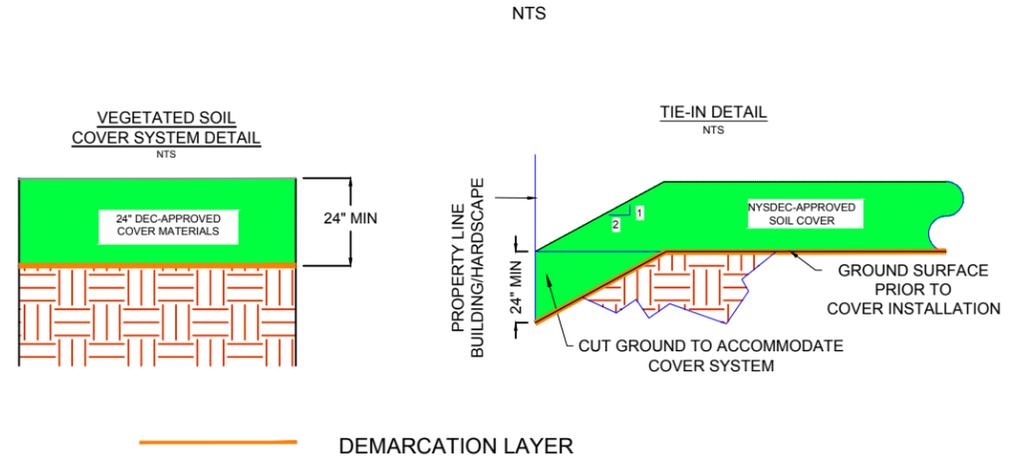
JOB NO.: 0424-017-001

**PROPOSED COVER SYSTEM**

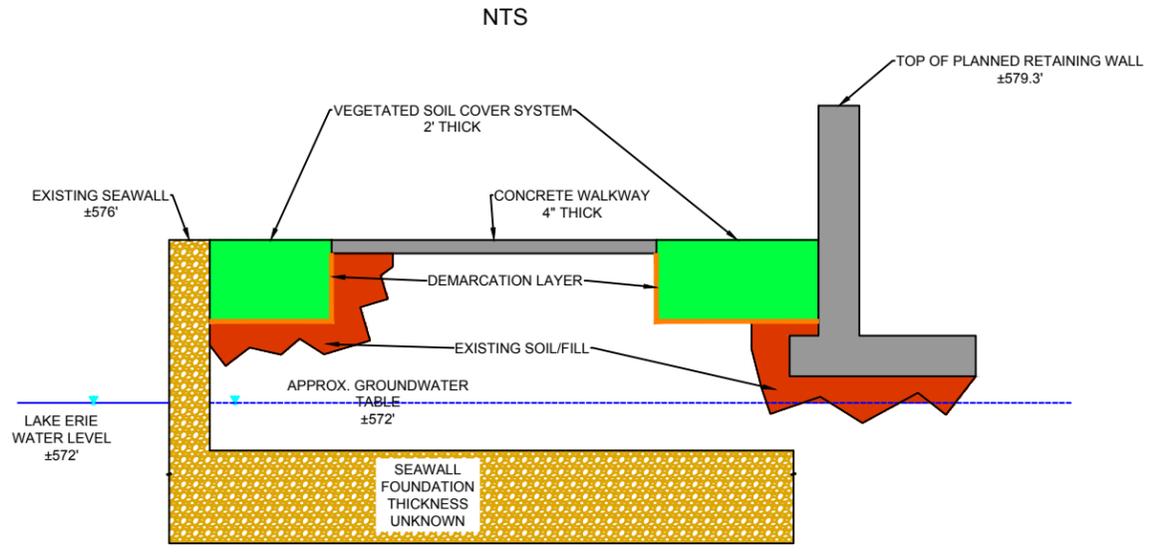
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**COVER SYSTEM DETAILS**



**DETAIL A-A'**



**FIGURE 3**