DECISION DOCUMENT

Beacon Terminal
Brownfield Cleanup Program
Beacon, Dutchess County
Site No. C314117
March 2014

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

DECLARATION STATEMENT - DECISION DOCUMENT

Beacon Terminal
Brownfield Cleanup Program
Beacon, Dutchess County
Site No. C314117
March 2014

Statement of Purpose and Basis

This document presents the remedy for the Beacon Terminal 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 Beacon Terminal 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 contaminated source areas as described below.

Excavation Area 1 - Toluene-Contaminated Subsurface Soil:
Excavation Area 1, located at the northwest portion of the site, contains approximately 3,600 cubic yards of toluene-contaminated subsurface soil. The areal extent of contamination extends primarily along the abandoned spur and from 10 to 30 feet into the wooded area located on the northwest corner of the site. The maximum depth of excavation is expected to be approximately 14 to 18 feet, tapering upward to between 4 and 6 feet bgs. The extent of excavation will be determined by documenting compliance with restricted residential use SCO for toluene defined in 6 NYCRR Part 375-6.8.

Excavation Area 2 – Low-Level Toluene Contamination:
The areal extent of contamination at Excavation Area 2 includes sub-slab soils beneath the northern portion of building B-5B and the northwestern portion of building B-5A. The area contains approximately 900 to 1,200 cubic yards of toluene contaminated subsurface soil. The maximum depth of excavation is expected to be approximately 10 feet, tapering upward to between 4 and 6 feet bgs. The extent of excavation will be determined by documenting compliance with restricted residential use SCO for toluene defined in 6 NYCRR Part 375-6.8.

Excavation Area 3 – PCB and Metals in Shallow Soil:
Excavation Area 3, located at the southwest portion of the site, contains elevated concentrations of PCBs and metals in shallow soil. Approximately 800 cubic yards of soil will be excavated from the Excavation Area 3 and disposed off-site. Soil to a maximum depth of 2 feet bgs is proposed to be excavated from immediately south of Fisherman's Trail to the top of the slope at Fishkill Creek. The extent of excavation will be determined by documenting compliance with restricted residential use SCOs for metals and PCBs defined in 6 NYCRR Part 375-6.8.

Excavation Area 4 – Metals in Shallow Soil:
Excavation Area 4, located at the southwest exterior corner of building B-5B, contains elevated concentrations of several metals, and low-level exceedances of SVOCs, in shallow soil (0 to 4 inches). Approximately 140 cubic yards of soil will be excavated from the Excavation Area 4 and disposed off-site. Excavation in this area is expected to be limited to 0 to 2 feet bgs. The primary contaminants of concern are metals, primarily lead. The extent of excavation will be determined by documenting compliance with restricted residential use SCOs for metals defined in 6 NYCRR Part 375-6.8.

In addition, any grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u) will be excavated for off-site disposal if discovered upon removal of the existing slabs, pavement or other intrusive activity.

The site will be re-graded to accommodate installation of a cover system as described in remedy element #3 below. On-site soil derived from the re-grading which does not exceed the lower of restricted residential use SCOs or the protection of groundwater SCOs may be used to backfill the excavation.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil or complete the backfilling of the excavation and establish the designed grades at the site.

If groundwater is encountered during excavation, the excavation will be dewatered and liquids properly managed. Appropriate authorization will be obtained for discharge to the Publicly Owned Treatment Works (POTW), or other appropriate means of discharge.

3. Cover System

A site cover will be required to allow for restricted residential use of the site. The cover will consist either of the structures such as buildings, pavement, sidewalks comprising the site development underlain by one foot of soil or a soil cover in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) restricted residential use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation 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. Institutional Control

Imposition of an institutional control in the form of a Environmental Easement for the controlled property that

- 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);
- allows the use and development of the controlled property for restricted residential, 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; and
- requires compliance with the Department approved Site Management Plan.

5. Site Management Plan

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

a. An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls:	The Environmental Easement discussed in Paragraph 4 above.
Engineering Controls:	The soil cover discussed in Paragraph 3.

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 use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion should the on-site buildings become occupied, and 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 the ground water 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 re-occupied or 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.

April 2, 2014
Date

George Heitzman, Director
Remedial Bureau C

DECISION DOCUMENT

Beacon Terminal
Beacon, Dutchess County
Site No. C314117
March 2014

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:

Beacon Terminal Associates, LP
Attn: Howland Public Library
313 Main Street
Beacon, NY 12508
Phone: 845-831-1134

NYSDEC
21 S. Putt Corners Rd
New Paltz, NY 12561
Phone: 845-256-3154

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: The site is located at 555 South Avenue in the City of Beacon, Dutchess County. The site is accessible from Tioronda Avenue off Wolcott Ave, and is located adjacent to the Fishkill Creek, approximately 2,000 feet east of the Hudson River. The southeast corner of the site includes a portion of the creek and southern bank. To the north of the site are a railroad right of way and the Fishkill Creek is to the south. To the east and west of the site is Madam Brett Park and undeveloped/wooded area respectively.

Site Features: The site is a currently unoccupied 11.07 acre parcel with eight vacant industrial buildings which were formerly used for various manufacturing and warehousing purposes. These buildings occupy approximately fifty percent of the site, and the remainder includes paved parking, paved drives and undeveloped grassland and woodlands. The surface of the site slopes gently to moderately downward to the southeast, towards Fishkill Creek with the surface elevation ranging approximately 20-40 feet above mean sea level. A pedestrian trail known as Fisherman’s Trail is partly located on the site along the western and southern property boundary and provides access to Fishkill Creek. Scenic Hudson (owner of the adjacent parcel) has an access easement to Fisherman’s Trial.

Current Zoning/Use: The site is zoned Industrial: Manufacturing and Processing. However, the site is proposed to be developed as a residential condominium complex. The site is located in a suburban area comprised primarily of single-family residential, recreational, and vacant properties.

Past Use of the Site: The site has a long history of industrial use. The two buildings (B-1 and B-2) were constructed around 1878 as the Tioranda Hat Works. Building B-1 contained the engine room and boiler house and building B-2 was the main factory in which operations such as felting, dyeing, carding and wool sorting were performed. It appears that Tiorando Hat Works occupied the site until 1919. On-site hat works related activities were performed until at least 1946.

By 1962, the complex contained the eight buildings. The Atlas Fiber Company operated in six of them, reclaiming fiber, and the remaining buildings were occupied by Chemical Rubber Products Inc. and BASF Colors and Chemicals. From approximately 1972 to 1995, the buildings were

used for storage by various occupants. The buildings have remained vacant since 1995.

In 1993, six above ground storage tanks (ASTs) used for storage of lubricating oil, hydrochloric and sulfuric acids, and at least ten underground storage tanks (USTs) used for storage of fuel oil, toluene and other chemicals were documented on-site.

In October 2000, as part of the Voluntary Cleanup Program (Site #V00443), four toluene USTs located at building B-5Aand B-5B were removed. All ASTs with exception of four chemical holding tanks located in building B-2 were cleaned and removed from the site. Additionally, one 550-gallon UST was removed from the western side of building B-5B.

Site Geology and Hydrology: The northeastern portion of the site generally consists of brown clay with gravel and fragments of brick (fill) underlain by moist to wet grey silty clay. The western portion of the site generally consists of brown and grey-brown silty clay with sand. The western edge of the site consists of approximately 0.5 to 5 feet of variable fill materials, including construction debris (e.g., concrete blocks, bricks, scrap metal, wood fragment, etc.), fabric, and miscellaneous trash.

The ground water depth varies from approximately 7 feet below ground surface (bgs) to 20 feet bgs on the upland portion of the site. The depth of ground water is approximately 4 feet bgs near Fishkill Creek. Ground water flows in a southern direction, towards Fishkill Creek.

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

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

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

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

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

The analytical data collected on this site includes data for:

- groundwater
- surface water
- soil
- sediment
- soil vapor
- sub-slab vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

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

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

6.1.2: RI Results

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

contaminant(s) of concern identified at this site is/are:

POLYCHLORINATED	BENZO(B)FLUORANTHENE
BIPHENYLS (PCB)	BENZO[K]FLUORANTHENE
LEAD	Chrysene
IRON	indeno(1,2,3-cd)pyrene
MAGNESIUM	TRICHLOROETHENE (TCE)
MAGNESIUM	TOLUENE
SODIUM	ARSENIC
MAGNESIUM	CHROMIUM
BENZO(A)PYRENE	MERCURY

The contaminant(s) of concern exceed the applicable SCGs for:

- groundwater
- soil
- soil vapor intrusion

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:

Soil: The on-site investigation conducted to date indicates elevated concentrations of toluene (0.85 to 4600 ppm) are present in the sub-surface soil in the vicinity of the abandoned rail spur and wood line. Elevated concentrations of PCBs (1.6 to 8.5 ppm) were found on the southwest corner of the site, primarily in the areas where degraded fabric was observed. Low concentrations of toluene (at or below Soil Cleanup Objectives) were detected in subsurface soils beneath the northwest corner of building B-5A (located in a small enclosed room) and the northeast corner of building B-5B. Low levels of PAHs, metals, and pesticides are present in surface soils throughout the site.

An elevated level of arsenic (25.4 ppm) was found in the surface soil sample taken from the off-site area northeast of the site. Arsenic was detected at a concentration of 19.1 ppm in one surface

soil sample taken from the interior portion of the site. However, a surface soil sample taken on-site between these two points did not contain arsenic. Hence, the arsenic found in the off-site surface soil sample is not considered to have originated from the site.

Groundwater, Surface Water and Sediments: No significant contamination of site ground water was encountered with the exception of certain metals (aluminum, iron, lead, magnesium, manganese and sodium). No site related contamination was encountered in surface water and sediments samples.

Soil Vapor: The chlorinated volatile organic compound, trichloroethene, was detected above the guidance value in the sub slab soil vapor sample taken from the building B-7. Several site related volatile organic compounds were detected at low levels in the soil gas samples throughout the site.

Special Resources Impacted/Threatened: The site is located adjacent to the Fishkill Creek. As a part of the remedial investigation, sediment and surface water samples were collected from the Fishkill Creek. The sample results indicate that the site does not impact or threaten any special environmental resources.

Significant Threat: There is no data to indicate that the site poses a significant threat to public health and/or environment.

6.4: Summary of Human Exposure Pathways

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

The site is not fenced and persons who enter the site could contact contaminants in the soil by walking on the soil, digging or otherwise disturbing the soil. 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 the soil, 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 does not represent a current concern. The potential exists for the inhalation of site contaminants due to soil vapor intrusion for any future on-site redevelopment and occupancy. Furthermore, environmental sampling indicates that 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.

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.

Surface Water

RAOs for Public Health Protection

- Prevent surface water contamination which may result in fish advisories.

RAOs for Environmental Protection

- Prevent impacts to biota from ingestion/direct contact with surface water causing toxicity and impacts from bioaccumulation through the marine or aquatic 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 referred to as the Source Area Excavation and Site Cover remedy.

The elements of the selected remedy, as shown in Figure 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 contaminated source areas as described below.

Excavation Area 1 - Toluene-Contaminated Subsurface Soil:
Excavation Area 1, located at the northwest portion of the site, contains approximately 3,600 cubic yards of toluene-contaminated subsurface soil. The areal extent of contamination extends primarily along the abandoned spur and from 10 to 30 feet into the wooded area located on the northwest corner of the site. The maximum depth of excavation is expected to be approximately 14 to 18 feet, tapering upward to between 4 and 6 feet bgs. The extent of excavation will be determined by documenting compliance with restricted residential use SCO for toluene defined in 6 NYCRR Part 375-6.8.

Excavation Area 2 – Low-Level Toluene Contamination:
The areal extent of contamination at Excavation Area 2 includes sub-slab soils beneath the northern portion of building B-5B and the northwestern portion of building B-5A. The area contains approximately 900 to 1,200 cubic yards of toluene contaminated subsurface soil. The maximum depth of excavation is expected to be approximately 10 feet, tapering upward to between 4 and 6 feet bgs. The extent of excavation will be determined by documenting compliance with restricted residential use SCO for toluene defined in 6 NYCRR Part 375-6.8.

Excavation Area 3 – PCB and Metals in Shallow Soil:
Excavation Area 3, located at the southwest portion of the site, contains elevated concentrations of PCBs and metals in shallow soil. Approximately 800 cubic yards of soil will be excavated from the Excavation Area 3 and disposed off-site. Soil to a maximum depth of 2 feet bgs is proposed to be excavated from immediately south of Fisherman's Trail to the top of the slope at Fishkill Creek. The extent of excavation will be determined by documenting compliance with restricted residential use SCOs for metals and PCBs defined in 6 NYCRR Part 375-6.8.

Excavation Area 4 – Metals in Shallow Soil:

Excavation Area 4, located at the southwest exterior corner of building B-5B, contains elevated concentrations of several metals, and low-level exceedances of SVOCs, in shallow soil (0 to 4 inches). Approximately 140 cubic yards of soil will be excavated from the Excavation Area 4 and disposed off-site. Excavation in this area is expected to be limited to 0 to 2 feet bgs. The primary contaminants of concern are metals, primarily lead. The extent of excavation will be determined by documenting compliance with restricted residential use SCOs for metals defined in 6 NYCRR Part 375-6.8.

In addition, any grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u) will be excavated for off-site disposal if discovered upon removal of the existing slabs, pavement or other intrusive activity.

The site will be re-graded to accommodate installation of a cover system as described in remedy element #3 below. On-site soil derived from the re-grading which does not exceed the lower of restricted residential use SCOs or the protection of groundwater SCOs may be used to backfill the excavation.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil or complete the backfilling of the excavation and establish the designed grades at the site.

If groundwater is encountered during excavation, the excavation will be dewatered and liquids properly managed. Appropriate authorization will be obtained for discharge to the Publicly Owned Treatment Works (POTW), or other appropriate means of discharge.

3. Cover System

A site cover will be required to allow for restricted residential use of the site. The cover will consist either of the structures such as buildings, pavement, sidewalks comprising the site development underlain by one foot of soil or a soil cover in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) restricted residential use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation 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. Institutional Control

Imposition of an institutional control in the form of a Environmental Easement for the controlled property that

- 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);

- allows the use and development of the controlled property for restricted residential, 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; and
- requires compliance with the Department approved Site Management Plan.

5. Site Management Plan

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

a. An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls:	The Environmental Easement discussed in Paragraph 4 above.
Engineering Controls:	The soil cover discussed in Paragraph 3.

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 use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion should the on-site buildings become occupied, and 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 the ground water 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 re-occupied or developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

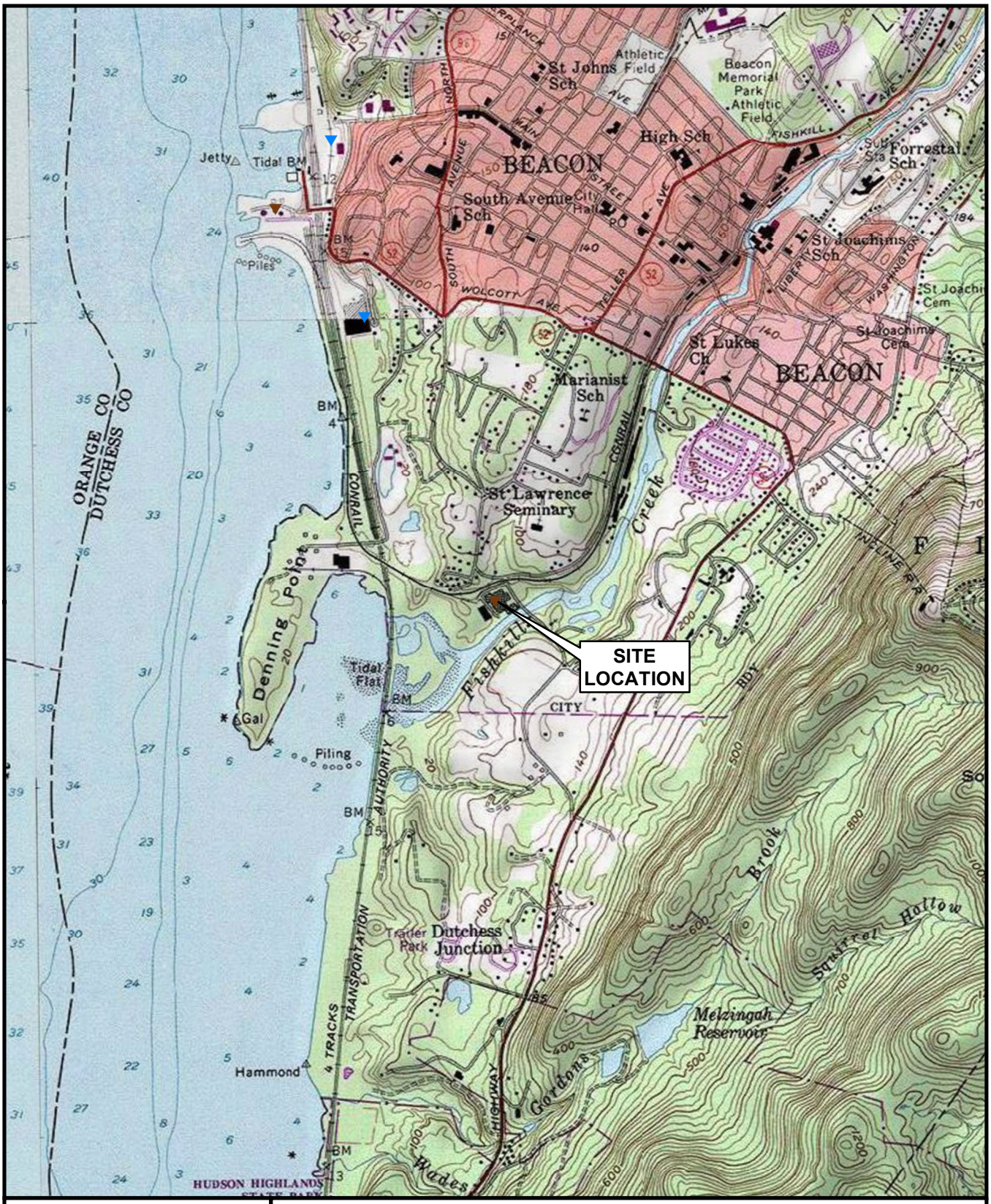

Figure 1

Site Location Map

Beacon Terminal

City of Beacon, Dutchess County

Site No. C314117

DEPARTMENT OF ENVIRONMENTAL CONSERVATION • NEW YORK STATE •

Ecosystems Strategies, Inc.

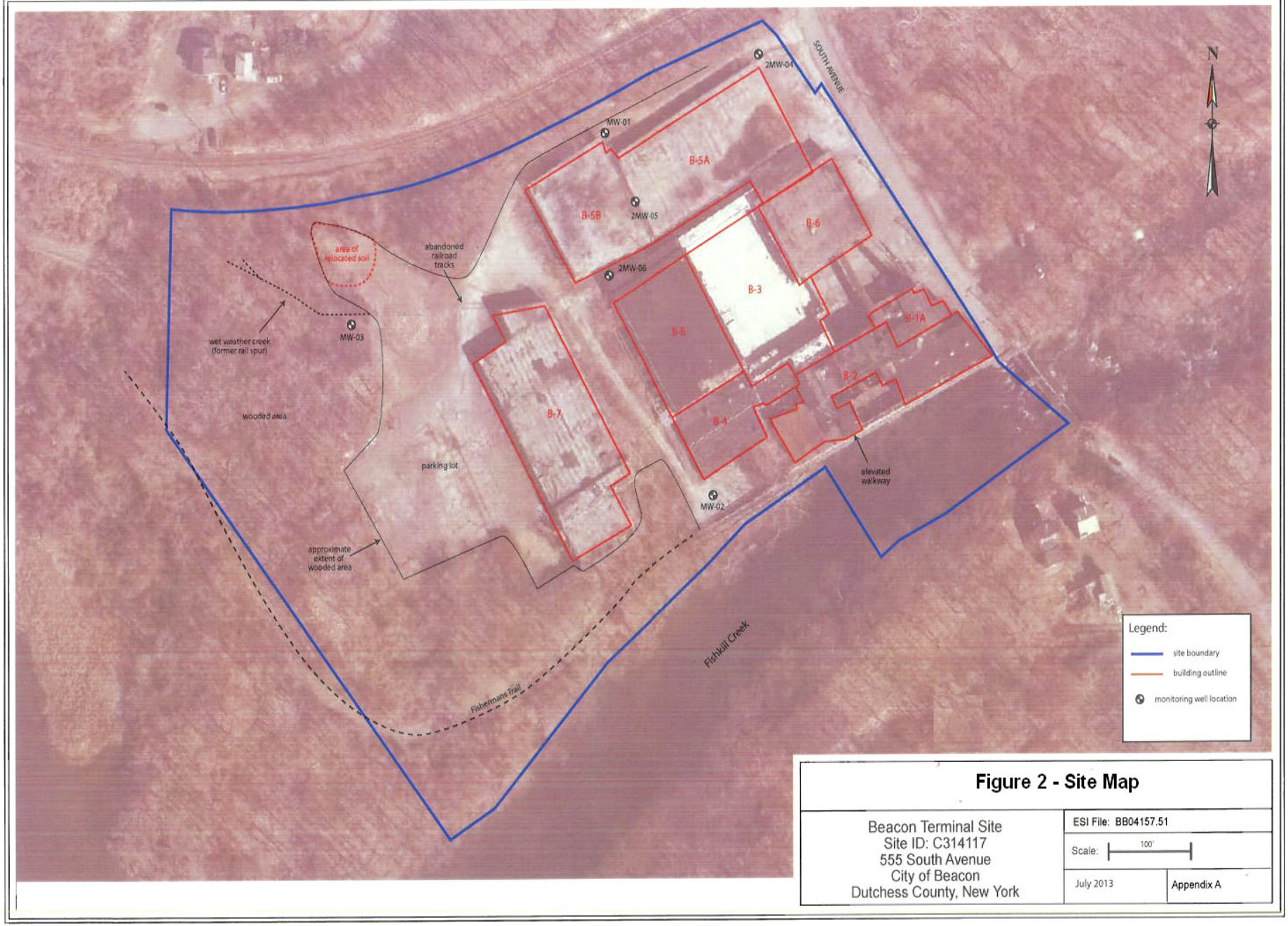

Figure 2 - Site Map

Beacon Terminal Site Site ID: C314117 555 South Avenue City of Beacon Dutchess County, New York	ESI File: BB04157.51 Scale: 100' July 2013 | Appendix A

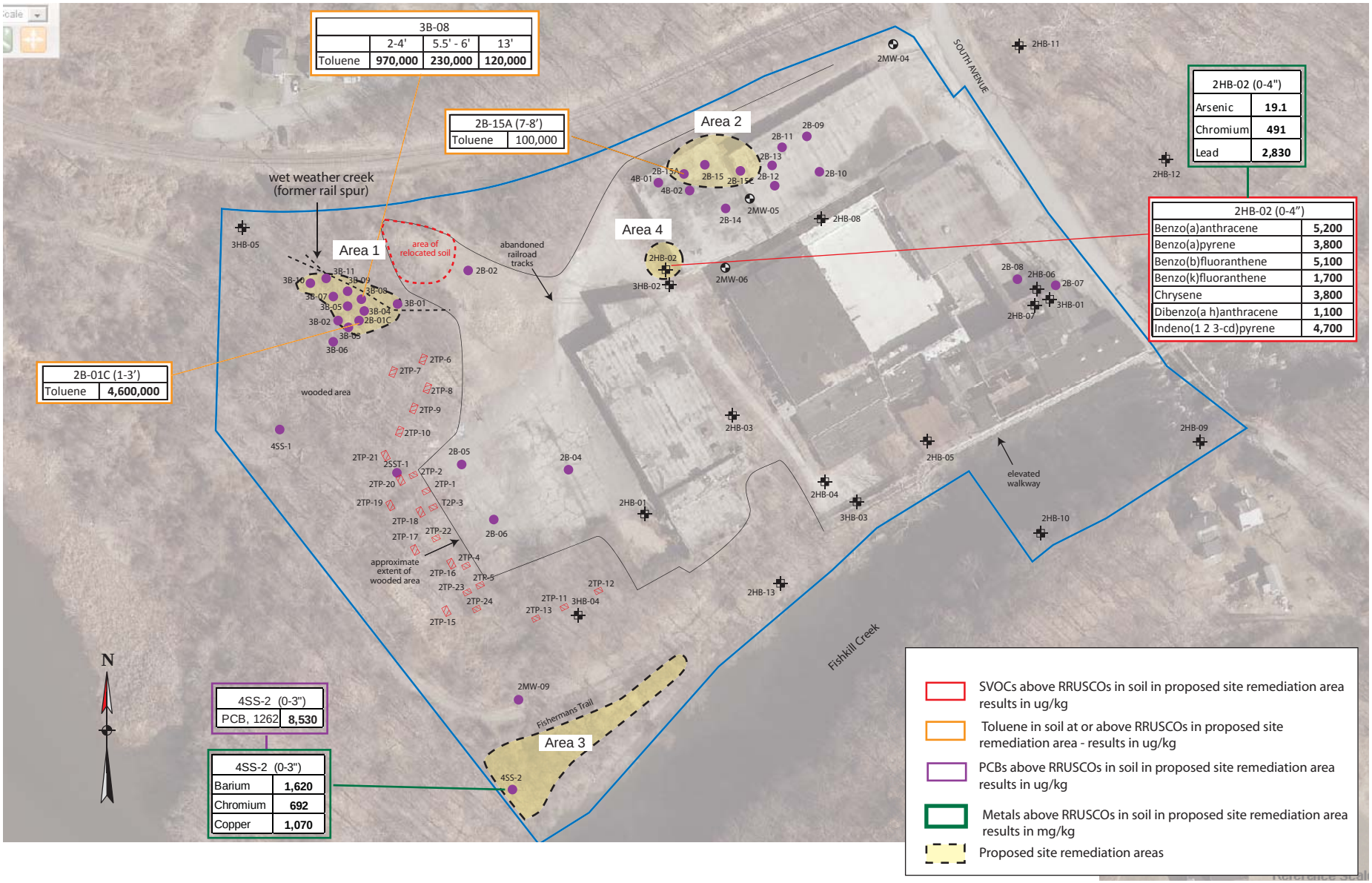

Figure 3 - Proposed Site Remediation Map

Beacon Terminal Site
Site ID: C314117
555 South Avenue
City of Beacon
Dutchess County, New York

Legend:

- site boundary
- test pit location
- boring location
- surface sample location
- monitoring well location
- 1 - 4 Excavtion areas

ESI File: BB04157.51

Scale: 100'