DECISION DOCUMENT

Charcoal Tablet Mill Site
Brownfield Cleanup Program
Peekskill, Westchester County
Site No. C360186
July 2020

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

DECLARATION STATEMENT - DECISION DOCUMENT

Charcoal Tablet Mill Site
Brownfield Cleanup Program
Peekskill, Westchester County
Site No. C360186
July 2020

Statement of Purpose and Basis

This document presents the remedy for the Charcoal Tablet Mill 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 Charcoal Tablet Mill 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 remedial design program will include:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and,

- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

Conditional Track 1 Area:

2. Excavation

Excavation and off-site disposal of all on-site soils generally from the center of the site to the west and southern borders which exceed Unrestricted Soil Cleanup Objectives (USCOs), as defined by 6 NYCRR Part 375-6.8. Approximately 20,000 cubic yards of contaminated soil will be removed from this portion of the site. Excavation and post-excavation samples will be collected to demonstrate whether USCOs have been achieved.

3. Backfill

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

4. Vapor Intrusion Evaluation

The intent of the remedy is to achieve a Track 1 unrestricted use, therefore, no environmental easement or site management plan is anticipated. If the soil vapor intrusion (SVI) evaluation is not completed prior to completion of the Final Engineering Report, then a Site Management Plan (SMP) and Environmental Easement (EE) will be required to address the SVI evaluation and implement actions as needed; if a mitigation or monitoring action is needed, a Track 1 cleanup can only be achieved if the mitigation system or other required action is no longer needed within 5 years of the date of the Certificate of Completion.

In the event that Track 1 unrestricted use is not achieved, including achievement of groundwater and/or soil vapor remedial objectives, the following contingent remedial elements will be required and the remedy will achieve a Track 2 restricted residential cleanup.

5a. Local Institutional Controls

If no environmental easement or site management plan (SMP) is needed to achieve soil, groundwater, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOH code Chapter 873, article VII of the Laws of Westchester County, which prohibits potable use of groundwater without prior approval. If an environmental easement or SMP is needed to achieve soil vapor remedial action objectives, then the following Institutional Control will be implemented:

5b. Institutional Control

Imposition of an institutional control in the form of an environmental easement for site (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 residential, restricted-residential, commercial or industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws; and,
- requires compliance with the Department approved Site Management Plan.

6. Site Management Plan

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

i. 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 Element 5b above.

Engineering Controls: Any engineering controls that may be required (e.g. sub-slab depressurization system)

This SMP includes, but may not be limited to:

- descriptions of the provisions of the environmental easement including any land use restrictions;
- 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

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

- a schedule of monitoring and frequency of submittals to the Department; and,
- monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

Remainder of the site (Track 2 or 4):

2. Excavation

Excavation and off-site disposal of all remaining on-site soils which exceed Residential Soil Cleanup Objectives (RSCOs) or Restricted Residential SCOs (RRSCOs) as defined by 6 NYCRR Part 375-6.8 in the upper 15 feet (Track 2). This generally comprises the area from the planned building footprint to the north and eastern borders of the site. If a Track 2 residential or restricted residential cleanup is achieved, a cover system will not be a required element of the remedy for this area. Approximately 10,000 cubic yards of contaminated soil is planned to be removed from this portion of the site to achieve a Track 2 residential cleanup. Post-excavation samples will be collected to demonstrate RSCOs have been achieved in the top 15 feet.

Alternatively, if a Track 2 residential cleanup cannot be achieved, the applicant may pursue a Track 2 or Track 4 restricted residential cleanup. If the applicant pursues Track 4 for this portion of the site, all soils in the upper two feet which exceed the restricted residential SCOs will be transported off-site for disposal. Approximately 5,000 cubic yards of contaminated soil will be removed from this portion of the site.

In areas where no remedial excavation is required, or insufficient data is available for the top two feet of existing soil, the applicant has indicated that the top approximately two feet of soil will be removed sitewide as part of the development project. Post-removal verification samples will be taken to demonstrate the applicable SCOs have been achieved at the relevant depths based on the cleanup track.

3. Backfill

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

4. Site Cover

Should the remaining portion of the site not achieve a Track 2 cleanup, a site cover will be required to allow for the restricted-residential use of this area where the upper two feet of exposed surface soil will exceed applicable 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. 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. If a Track 2 cleanup is achieved, a Site Cover will not be a required element of the remedy for this area.

5. 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 2 residential, Track 2 restricted residential or 4 restricted-residential cleanup at a minimum. If the remedy achieves Track 4 in this area (i.e., if soil greater than two feet but less than 15 feet deep does not meet the restricted residential SCOs), the remedy will include imposition of a site cover. See element 4 above.

5a. 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, commercial, or industrial uses 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.

5b. Site Management Plan

i. 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 Element 5a above.

Engineering Controls: The cover system discussed in Element 4 above and the sub-slab depressurization system (if necessary, following the soil vapor intrusion evaluation).

This SMP 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 for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Element 3 above will be placed in any areas

where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);

- 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

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

- a schedule of monitoring and frequency of submittals to the Department; and,
- monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

iii. An Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system(s). The plan includes, but is not limited to:

- procedures for operating and maintaining the system(s);
- compliance inspection of the system(s) to ensure proper O&M as well as providing the data for any necessary reporting;
- maintaining site access controls and Department notification; and,
- providing the Department access to the site and O&M records.

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.

7/8/2020
Date

Janet E Brown
Janet Brown, Director
Remedial Bureau C

DECISION DOCUMENT

Charcoal Tablet Mill Site
Peekskill, Westchester County
Site No. C360186
July 2020

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:

The Field Library
Attn: Jennifer Brown
4 Nelson Ave
Peekskill, NY 10566
Phone: (914) 737-1212

Select documents may also be found at:

DEC Info Locator/On-line Repository: https://www.dec.ny.gov/data/DecDocs/C360186/

**Please note that in-person repositories may be temporarily unavailable due to COVID-19 precautions.*

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program and Resource Conservation and Recovery Act Program. We 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 Charcoal Mill Tablet Site (site) is 1.51 acres in size, located in a mixed-use area of the City of Peekskill, Westchester County, New York. The site is bordered to the north by Main Street and by Central Avenue to the south. McGregory Brook runs along the southern border of the site through an eight-foot diameter culvert pipe. The site is approximately 0.3 miles east of Peekskill Landing Park and the Hudson River.

Site Features: The site has been vacant for 70 years and is currently covered with vegetation. The site has a steep grade, the northern portion of the site is approximately 50 feet higher in elevation than the southern portion of the site. Part of the site is within the McGregory Brook flood zone. This brook flows to the west towards the Hudson River.

Current Zoning and Land Use: Site zoning is currently Waterfront District-Inland (WF-2), which provides for mixed commercial and residential use. The site is currently vacant, and zoning allows for the planned use of the site (affordable housing) following remediation. Surrounding properties are used for a mix of residential, commercial, and industrial purposes.

Past Use of the Site: Site use dates back to as early as 1830, at which time the western portion of the site operated as a stove works facility and the eastern portion of the site operated as a foundry. In 1902, the foundry mill burned down and was rebuilt. In 1923, the stove works facility burned down. The stove works facility was rebuilt and reopened in 1929. The site was later used for clothing manufacturing and charcoal tablet production. In the 1950s, all site use ended, and all site buildings were demolished.

Site Geology and Hydrogeology: The site slopes steeply from north to south. Site soils are characterized as urban land and are generally sandy and gravelly. Depth to groundwater at the site varies due to topography and is approximately 13 feet below ground surface (bgs) in the southern portion of the site. Groundwater flows southwest in the direction of McGregory Brook, an open surface water body bordering the southeastern portion of the site. McGregory Brook is buried in a culvert along the southwest boundary of the site and to the west of the site.

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 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
- soil
- soil vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

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

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. 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:

lead
benzo(a)anthracene
benzo(a)pyrene
benzo(b)fluoranthene
chrysene
dibenz[a,h]anthracene
indeno(1,2,3-CD)pyrene
mercury
cadmium
selenium
barium
arsenic
cyanides
methylene chloride
tetrachloroethene (PCE)
trichloroethene (TCE)

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 and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), metals, cyanide, pesticides, and the emerging contaminants per- and polyfluorinated substances (PFAS) and 1,4-dioxane. Soil vapor samples were analyzed for VOCs. Based on investigations conducted to date, the primary contaminants of concern include SVOCs, metals and PFAS in soils, metals and PFAS in groundwater, and VOCs in soil vapor

Soil: Surface (0-2 inches) and subsurface soil (deeper than 2 inches) samples were collected throughout the site during the RI to document soil conditions in all areas of the site. Surface soil samples were collected from five locations from a depth of 0-2 inches and subsurface samples were collected from 43 locations to depths of up to 40 feet below ground surface (bgs). No VOCs were detected in the soil. Several SVOCs and metals were identified at concentrations that exceed their Restricted Residential Soil Cleanup Objectives (RRSCOs) and Unrestricted Soil Cleanup Objectives (USCOs) including benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-c,d)pyrene, cadmium, lead, mercury, selenium, barium, and arsenic. The greatest concentrations for SVOCs were benzo(a)anthracene and benzo(b)fluoranthene at 4.7 parts per million (ppm) each (RRSCO: 1 ppm). These exceedances were found at a depth of 12.5-13 feet bgs. The greatest concentrations for metals encountered were lead at 771 ppm (RRSCO: 400 ppm), barium at 657 ppm (RRSCO: 400 ppm), arsenic at 16.1 ppm (RRSCO: 16 ppm), cadmium at 9.5 ppm (RRSCO: 4.3 ppm), selenium at 4.9 ppm (RRSCO: 4 ppm), and mercury at 1.1 ppm (RRSCO: 0.73 ppm). Within the central portion of the site, USCOs exceedances were encountered to a maximum depth of 16 feet; however, some areas within the central portion did not exceed USCOs. USCO exceedances are present at depths greater than 15 feet in soils along the northern perimeter of the site, but none above RRSCOs in that area, with the exception of the eastern-most sample location. There were several locations across the site that did not exceed any of the unrestricted SCOs (e.g., the southern perimeter). The presence of PAHs and metals on site is related to the historical use of the site and/or was present in fill material added to the site in the past. Detections of perfluorooctanesulfonic acid (PFOS) were found in several soil samples up to 11.1 parts per billion (ppb), compared to the screening level of 1 ppb. Detections of PFOA (perflouorooctanoic acid) were reported in soil samples up to 0.078 ppb; however, all detections were qualified from the laboratory as having blank contamination. VOCs were not detected in site soils. There is no indication soil contamination is migrating off-site.

Groundwater: Groundwater samples were collected from 13 monitoring wells throughout the site. Groundwater samples were analyzed for VOCs, SVOCs, metals, cyanide, pesticides, and PCBs as well as the emerging contaminants PFAS and 1,4-dioxane. No VOCs, SVOCs, pesticides, PCBs

or 1,4-dioxane were detected in any groundwater samples. Cyanide and the metals iron, manganese, and sodium were detected in groundwater samples collected from the site in exceedance of groundwater standards. The metals observed above standards in groundwater are commonly associated with naturally occurring phenomenon and/or road salt application and were present across the site. Cyanide marginally exceeded the groundwater standard of 0.2 parts per billion (ppb) at one well (MW-11) with a total concentration of 0.22 ppb. The cyanide is possibly associated with historic site operations or an additive to road salt. (PFOA and (PFOS were reported at concentrations of up to 35.5 and 42.5 parts per trillion (ppt), respectively, exceeding the 10 ppt screening levels for groundwater for each. No other individual (non PFOA/PFOS) PFASs exceeded the 100 ppt screening level. The concentrations of total PFAS, including PFOA and PFOS, were reported at levels up to 169.94 ppt, below the 500 ppt screening level for total PFAS in groundwater. Similar concentrations of PFAS were detected in monitoring wells at both the up gradient and down gradient boundaries of the site; however, based on the distribution of PFOS in the soil samples, there may be a slight on-site contribution to PFOS concentrations in groundwater.

Soil Vapor: Soil vapor samples were collected at seven locations throughout the site. Soil vapor samples were collected at a depth of 15 feet bgs in the southern portion of the site and a depth of 30 feet bgs in the northern portion of the site. These sampling depths coordinate with the proposed building (parking garage) excavation depths. Soil vapor samples were analyzed for VOCs. The VOCs methylene chloride, tetrachloroethene (PCE), and trichloroethene (TCE) were detected at elevated levels in soil vapor samples. Methylene chloride was detected in two soil vapor samples with a maximum concentration of 240 micrograms per cubic meter (ug/m^3) PCE was detected in all seven soil vapor samples with a maximum concentration of 150 ug/m^3, and TCE was detected in two out of seven soil vapor samples with a maximum concentration of 19 ug/m^3.The results of on-site soil vapor sampling indicate further evaluation of soil vapor intrusion for any future buildings on the site is warranted. Soil vapor contamination is likely from an off-site source since VOCs were not detected in soil or groundwater.

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 vapor (air spaces within 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 there are no on-site buildings, inhalation of site contaminants in indoor air due to soil vapor intrusion does not represent a concern for the site in its current condition. However, the potential exists for the inhalation of site contaminants due to soil vapor intrusion for any future on-site development. 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.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- 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 migration of contaminants that would result in groundwater or surface water contamination.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation and 6 NYCRR Part 375.

The selected remedy is a Multiple Cleanup Tracks remedy.

The selected remedy is referred to as the Soil Excavation remedy.

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

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 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 remedial design program will include:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and,
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

<u>Conditional Track 1 Area:</u>

2. Excavation

Excavation and off-site disposal of all on-site soils generally from the center of the site to the west and southern borders which exceed Unrestricted Soil Cleanup Objectives (USCOs), as defined by 6 NYCRR Part 375-6.8. Approximately 20,000 cubic yards of contaminated soil will be removed from this portion of the site. Excavation and post-excavation samples will be collected to demonstrate whether USCOs have been achieved.

3. Backfill

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

4. Vapor Intrusion Evaluation

The intent of the remedy is to achieve a Track 1 unrestricted use, therefore, no environmental easement or site management plan is anticipated. If the soil vapor intrusion (SVI) evaluation is not completed prior to completion of the Final Engineering Report, then a Site Management Plan (SMP) and Environmental Easement (EE) will be required to address the SVI evaluation and implement actions as needed; if a mitigation or monitoring action is needed, a Track 1 cleanup can only be achieved if the mitigation system or other required action is no longer needed within 5 years of the date of the Certificate of Completion.

In the event that Track 1 unrestricted use is not achieved, including achievement of groundwater and/or soil vapor remedial objectives, the following contingent remedial elements will be required and the remedy will achieve a Track 2 restricted residential cleanup.

5a. Local Institutional Controls

If no environmental easement or site management plan (SMP) is needed to achieve soil, groundwater, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOH code Chapter 873, article VII of the Laws of Westchester County, which prohibits potable use of groundwater without prior approval. If an environmental easement or SMP is needed to achieve soil vapor remedial action objectives, then the following Institutional Control will be implemented:

5b. Institutional Control

Imposition of an institutional control in the form of an environmental easement for site (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 residential, restricted-residential, commercial or industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws; and,
- requires compliance with the Department approved Site Management Plan.

6. Site Management Plan

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

i. 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 Element 5b above.

Engineering Controls: Any engineering controls that may be required (e.g. sub-slab depressurization system)

This SMP includes, but may not be limited to:

- descriptions of the provisions of the environmental easement including any land use restrictions;
- 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

ii. A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
    - a schedule of monitoring and frequency of submittals to the Department; and,
    - monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

Remainder of the Site (Track 2 or 4):

2. Excavation

Excavation and off-site disposal of all remaining on-site soils which exceed Residential Soil Cleanup Objectives (RSCOs) or Restricted Residential SCOs (RRSCOs) as defined by 6 NYCRR Part 375-6.8 in the upper 15 feet (Track 2). This generally comprises the area from the planned building footprint to the north and eastern borders of the site. If a Track 2 residential or restricted residential cleanup is achieved, a cover system will not be a required element of the remedy for this area. Approximately 10,000 cubic yards of contaminated soil is planned to be removed from this portion of the site to achieve a Track 2 residential cleanup. Post-excavation samples will be collected to demonstrate RSCOs have been achieved in the top 15 feet.

Alternatively, if a Track 2 residential cleanup cannot be achieved, the applicant may pursue a Track 2 or Track 4 restricted residential cleanup. If the applicant pursues Track 4 for this portion of the site, all soils in the upper two feet which exceed the restricted residential SCOs will be transported off-site for disposal. Approximately 5,000 cubic yards of contaminated soil will be removed from this portion of the site.

In areas where no remedial excavation is required, or insufficient data is available for the top two feet of existing soil, the applicant has indicated that the top approximately two feet of soil will be removed sitewide as part of the development project. Post-removal verification samples will be taken to demonstrate the applicable SCOs have been achieved at the relevant depths based on the cleanup track.

3. Backfill

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

4. Site Cover

Should the remaining portion of the site not achieve a Track 2 cleanup, a site cover will be required to allow for the restricted-residential use of this area where the upper two feet of exposed surface soil will exceed applicable 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. 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. If a Track 2 cleanup is achieved, a Site Cover will not be a required element of the remedy for this area.

5. 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 2 residential, Track 2 restricted residential or 4 restricted-residential cleanup at a minimum. If the remedy achieves Track 4 in this area (i.e., if soil greater than two feet but less than 15 feet deep does not meet the restricted residential SCOs), the remedy will include imposition of a site cover. See element 4b above.

5a. 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, commercial, or industrial uses 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.

5b. Site Management Plan

i. 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 Element 5a above.

Engineering Controls: The cover system discussed in Element 4 above and the sub-slab depressurization system (if necessary, following the soil vapor intrusion evaluation).

This SMP includes, but may not be limited to:

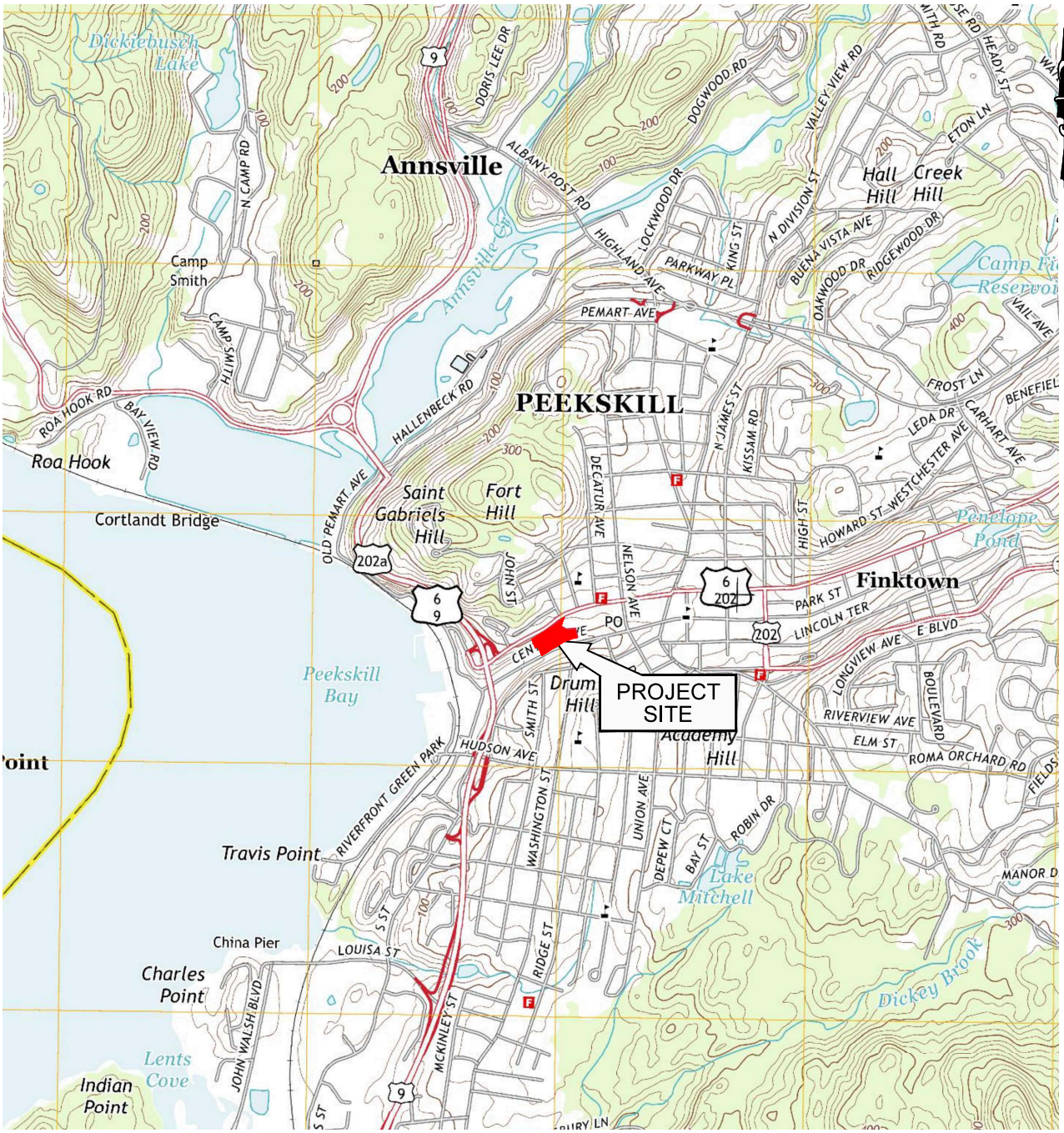
- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Element 3 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);
- 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

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

- a schedule of monitoring and frequency of submittals to the Department; and,
- monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

iii. An Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system(s). The plan includes, but is not limited to:

- procedures for operating and maintaining the system(s);
- compliance inspection of the system(s) to ensure proper O&M as well as providing the data for any necessary reporting;
- maintaining site access controls and Department notification; and,
- providing the Department access to the site and O&M records.



This report includes information from the following map sheet(s).

NW N NE
W E
SW S SE

TP, Peekskill, 2013, 7.5-minute

SITE NAME: 645 Main Street, Peekskill, NY
ADDRESS: 645 Main Street
Peekskill, NY 10566
CLIENT: SESI Consulting Engineers

FIG-1.1

PEEKSKILL APARTMENTS
645 MAIN STREET
PEEKSKILL, NEW YORK

SITE LOCATION MAP

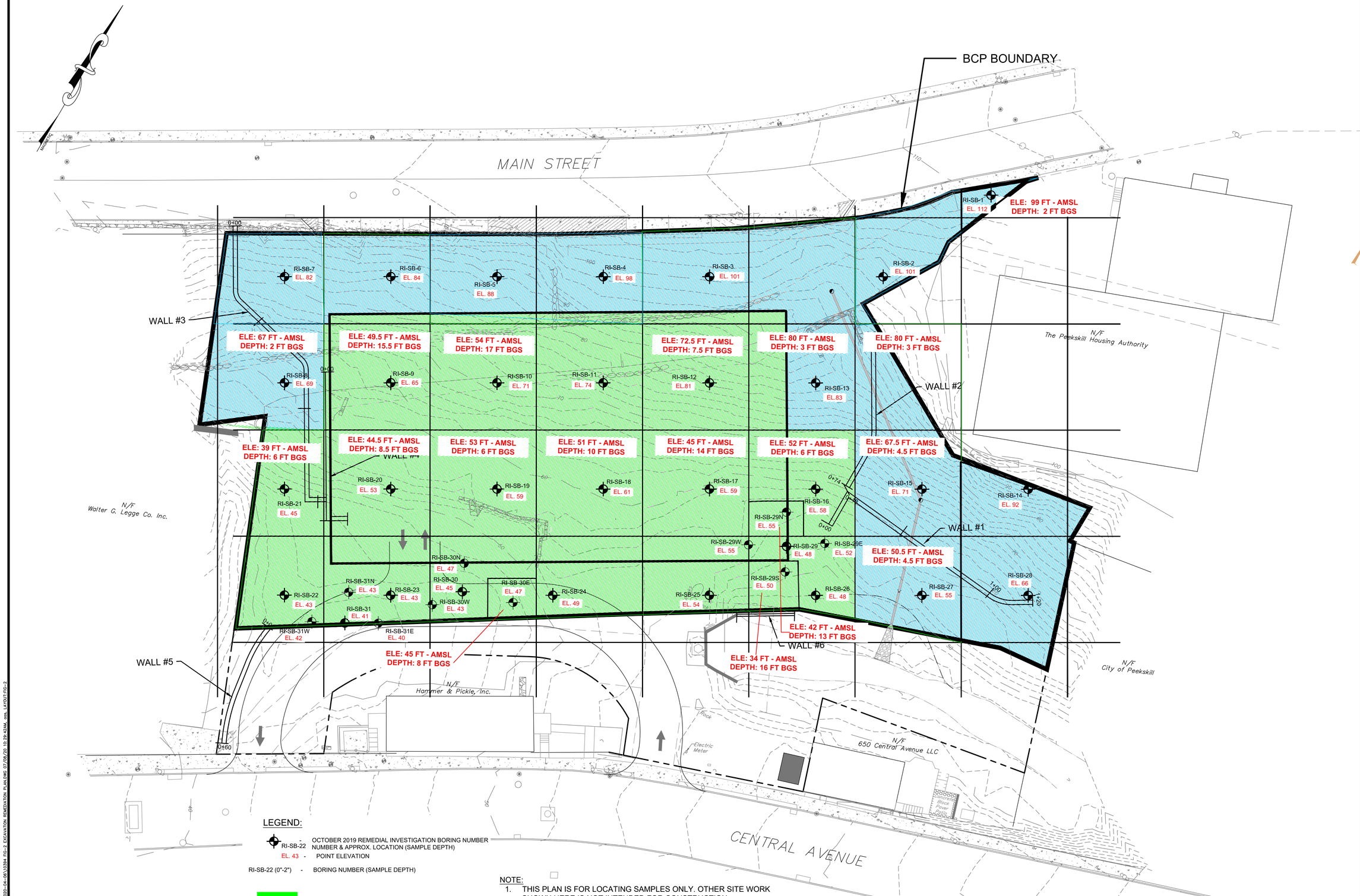
SESI CONSULTING ENGINEERS D.P.C.

SOILS / FOUNDATIONS
SITE DESIGN
ENVIRONMENTAL

12A MAPLE AVE. PINE BROOK, N.J. 07058 PH: 973-808-9050

DRAWN BY: yy
CHECKED BY: TK
SCALE: N.T.S.
DATE: 11/15/19
JOB NO.: 10394

N:\ACAD\10394\RIR\10394 FIG-1.1 SITE LOCATION MAP.DWG 04/06/20 10:00:24AM, aas, LAYOUT:FIG-1.1



LEGEND:

RI-SB-22 - OCTOBER 2019 REMEDIAL INVESTIGATION BORING NUMBER
NUMBER & APPROX. LOCATION (SAMPLE DEPTH)

EL. 43 - POINT ELEVATION

RI-SB-22 (0"-2") - BORING NUMBER (SAMPLE DEPTH)

- TRACK 1

- TRACK 2 RESIDENTIAL OR
TRACK 2/4 RESTRICTED - RESIDENTIAL

NOTE:

1. THIS PLAN IS FOR LOCATING SAMPLES ONLY. OTHER SITE WORK SHOWN HERE IS NOT INTENDED FOR CONSTRUCTION.
2. IN AREAS WHERE NO REMEDIAL EXCAVATION IS REQUIRED, OR INSUFFICIENT DATA IS AVAILABLE FOR THE TOP TWO FEET OF EXISTING SOIL, THE TOP APPROXIMATELY TWO FEET OF SOIL WILL BE REMOVED SITE WIDE AS PART OF THE DEVELOPMENT PROJECT.

Scale: 1"= 20'

0 10 20 40 60 80

N:\V2020\10394\RAWP\2020-04-08\10394 FIG-2 EXCAVATION REMEDIATION PLAN.DWG 07/08/20 10:29:42AM, cas, LAYOUT FIG-2

rev	date	description	by

dwg by: yy
chk by: SG
scale: AS NOTED
date: 07/08/2020

SESI CONSULTING ENGINEERS
CERT. OF AUTH. # 24GA27934700
SOILS / FOUNDATIONS
SITE DESIGN
ENVIRONMENTAL
12A MAPLE AVE. PINE BROOK, NJ. 07058 PH: 973-808-9050

RAWP
PEEKSKILL APARTMENTS
645 MAIN STREET
PEEKSKILL, NEW YORK

drawing title: EXCAVATION/REMEDIATION PLAN

job no. 10394
drawing no.

FIG - 2