

# Remedial Action Plan

909 Bank Street  
Waterbury, Connecticut  
September 2019

*Prepared for:*  
Waterbury Development  
Corporation  
83 Bank Street  
Waterbury, Connecticut 06702

MMI #3806-16-06

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## ABBREVIATIONS AND ACRONYMS

ABCA	Analysis of Brownfield Cleanup Alternatives
AOC	Area of Concern
CGS	Connecticut General Statute
COC	Constituent of Concern
CRP	Community Relations Plan
CTDEEP	Connecticut Department of Energy & Environmental Protection
CY	Cubic Yard
DEC	Direct Exposure Criteria
ECAF	Environmental Condition Assessment Form
ELUR	Environmental Land Use Restriction
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
ESI	Environmental Site Investigation
ETPH	Extractable Total Petroleum Hydrocarbon
Ftbg	Feet below grade
GPR	Ground Penetrating Radar
HASP	Health & Safety Plan
I/C DEC	Industrial/Commercial Direct Exposure Criteria
LEP	Licensed Environmental Professional
MMI	Milone & MacBroom, Inc.
NVCOG	Naugatuck Valley Council of Governments
OSHA	Occupational Safety and Health Administration
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PMC	Pollutant Mobility Criteria
QA/QC	Quality Assurance/Quality Control
RAP	Remedial Action Plan
RCSA	Regulations of Connecticut State Agencies
RDEC	Residential Direct Exposure Criteria
RSR	Remediation Standard Regulation
SVOC	Semivolatile Organic Compound
SWPC	Surface Water Protection Criteria
UST	Underground Storage Tank
VC	Volatilization Criteria
VOC	Volatile Organic Compound
VRP	Voluntary Remediation Program
WDC	Waterbury Development Corporation

## 1.0 INTRODUCTION

### 1.1 Purpose

Milone & MacBroom, Inc. (MMI) was contracted by the Waterbury Development Corporation (WDC) to prepare this Remedial Action Plan (RAP) for the remediation of the 909 Bank Street parcel located in Waterbury, Connecticut, ("site" or "property") (Figure 1). The property is currently owned by the City of Waterbury ("City"). The property was entered in the Voluntary Program with the Connecticut Department of Energy & Environmental Protection (CTDEEP) with the submittal of an Environmental Condition Assessment Form (ECAAF) on September 4, 2019. Therefore, the site is subject to the Connecticut Remediation Standard Regulations (RSRs).

The site is planned to be redeveloped into open space and then eventually into a recreational land use for the neighborhood. This RAP covers the remediation of the parcel's impacted soil in accordance with the proposed land use as "residential" for compliance with the RSRs.

The proposed remedial alternative was selected based upon the findings of the Analysis of Brownfield Cleanup Alternatives (ABCA) completed by MMI in September 2019 and the Phase II Environmental Site Investigation (ESI) completed by HRP, Inc. in 2018. The proposed remedial alternative has been developed with consideration for redevelopment of a vacant parcel in the City's Brooklyn area and protection of human health and the environment in accordance with the RSRs.

Soil assessment data suggest the presence of surficial material containing asphalt and demolition debris from historical developments of the property and a possible underground storage tank (UST). A portion of these subsurface materials encountered contained detectable concentrations of polycyclic aromatic hydrocarbons (PAHs) and extractable total petroleum hydrocarbons (ETPH) at levels above the applicable RSR criteria, therefore requiring some remedial action to demonstrate compliance for redevelopment. There were no indications of release from the UST; however, the tank has not yet been verified through excavation. The tank location is approximated based on historical reports and geophysical survey (ground penetrating radar [GPR]) of the area. The remedial action will include the removal of the tank if located and removal of impacted soil if present.

Soil remediation activities will consist mainly of removing the surficial material that exceeds the RSR criteria and removal of the UST and associated impacted soil if present.

In general, the remedial activities associated with this RAP include the following:

1. Excavation of an area approximately 100 feet by 60 feet by up to 4 feet deep in the northwest portion of the property for off-site disposal of soil that exceeds specific RSR criteria
2. The existing asphalt, base material, and foundations will be removed to a depth of 2 feet below grade and sent for off-site disposal as solid waste or recycled material.
3. Inspection of the UST through excavation of the top of the tank; pump-out and disposal of the contents, if present; removal and disposal of the tank at an approved

off-site facility; and excavation and off-site disposal of impacted soil surrounding the tank that exceeds specific RSR criteria

4. Backfill of the excavations with clean fill to preremediation grades and stabilization of the site

Details regarding pertinent site history and specific tasks and procedures associated with implementing this RAP are provided herein.

## 2.0 SITE SETTING AND DESCRIPTION

### 2.1 Location and Legal Description

The site consists of a 0.4-acre parcel identify by the City tax assessor as Map 367, Block 18, Lot 77 (Figure 1). The site is currently vacant and located in a mix of high-density residential and commercial properties. Historically, the site was occupied by residential structures, a shed, a bakery, and a restaurant. The dwellings on the west side of the site were demolished prior to the construction of the restaurant in the 1930s. In 2011, the restaurant burned down, and the building was subsequently demolished in 2012. A concrete slab and the remains of the lower portion of the brick walls currently occupy the area of the former restaurant building. The remaining portions of the site are paved and/or covered with vegetation (Figure 2).

The 1950 and 1977 Sanborn Fire Insurance Maps noted a gasoline tank in the northwest corner of the property. There were no records of the tank in state or municipal files. The presence of the tank was tentatively confirmed through a GPR survey conducted in August 2018. The age, current contents, and condition of the tank are unknown, but it appears to be roughly 7.5 by 5.5 feet in size.

### 2.2 Site Geology, Groundwater, and Surface Water Classification

The surficial geology at the site is mapped as glacial meltwater deposits or sand and gravel overlying sand. The bedrock geology is mapped as Waterbury Gneiss described as a gray to dark-gray, fine- to medium-grained schist and gneiss. Bedrock was not encountered at the site.

The shallow subsurface materials encountered during advancement of soil borings consisted of fill material within the upper 1 to 4 feet underlain by native brown to tan sand and sandy silt. The fill material contained variously sized pieces of concrete, asphalt, asphalt subbase, and brick. Deeper fill was observed in the western portion of the property in the area of the former residential structures and may represent materials placed in the former basements. The following deeper fill descriptions were reported by HRP in its Phase II ESI report:

- SS-01: Brick fragments from 10 to 11 feet below grade (ftbg) were observed within the footprint of a former building.
- SS-02: brick fragments from 5 to 6 ftbg and concrete from 6 to 7 ftbg within the footprint of a razed dwelling
- SS-12: layers of brick and mortar from 5 to 7 ftbg within the footprint of a razed dwelling
- MW-02: fill materials from grade to 5.5 ftbg within the footprint of a razed dwelling
- SS-06: GPR identified approximately 80 square feet of shallow subsurface rubble in the area near the former restaurant.

#### Groundwater

Groundwater beneath the site and within the vicinity is classified by the CTDEEP as GB. This designation is defined as groundwater within an area of industrial process water and cooling

waters, base flow for hydraulically connected surface water bodies, and/or presumed not suitable for human consumption without treatment.

Based on the groundwater measured in the existing monitoring wells and soil boring observations, the water table ranges from 38 to 41 ftbg.

### Surface Water

The nearest surface water body is the Naugatuck River, which is located approximately 0.2 miles east-southeast of the site. The Naugatuck River is classified by the CTDEEP as Class B, which designates uses for industrial and agricultural water supply, recreation, navigation, and habitat for fish and other aquatic life and wildlife.

## **2.3 Regulatory Criteria**

The Connecticut RSRs were used to evaluate the analytical data collected during the environmental investigations conducted at the site. The RSRs are used to provide analytical criteria and procedures to evaluate actions required to address identified releases of hazardous substances to protect human health. As of September 2019, the site is in the Voluntary Remediation Program (VRP), and site remediation will be compliant with the RSRs.

### Soil Criteria

The RSRs (Regulations of Connecticut State Agencies [RCSA] Section 22a-133k-2) require polluted soil at a release site to be remediated to meet the Direct Exposure Criteria (DEC) to protect human health from exposure to constituents of concern (COCs). The Pollutant Mobility Criteria (PMC) are used to evaluate the potential of the COCs to impact groundwater by leaching from impacted soil.

In general, the DEC apply to soil located within 15 feet of the ground surface. The DEC are divided by potential exposure scenarios into Residential DEC (RDEC) and Industrial/Commercial DEC (I/C DEC). The RDEC are not dependent upon zoning or property use but apply to all sites unless an Environmental Land Use Restriction (ELUR) has been filed on the property deed. The use of the less stringent I/C DEC requires an ELUR on the property that restricts future use of the property to industrial or commercial use. The DEC are not applicable to inaccessible soils (i.e., soil that is more than 4 feet below the ground surface, 2 feet below pavement that is at least 3 inches thick, or below an existing building) provided that an ELUR to maintain these barriers has been placed on the property deed. In some specific cases, polluted fill may be considered inaccessible if 3 inches of pavement is present. An ELUR is not currently in place for the property; therefore, the RDEC will be used to evaluate the site at this time.

The PMC are risk-based standards that were developed by the CTDEEP to be protective of groundwater by ensuring that the potential for leaching of contaminants from impacted soils into groundwater is minimized. The PMC are dependent upon the groundwater quality classification of the site, and therefore, the GB PMC are applicable for soil at the subject site. The GB PMC apply to soil from the ground surface to the seasonal high-water table. Under certain conditions, the PMC do not apply to fill that is polluted only with coal ash, wood ash, and asphalt paving

fragments. The PMC also do not apply to soils that meet the definition of environmentally isolated. To use this exception, an ELUR must be placed, which ensures that soils do not become exposed.

### Groundwater

The Groundwater RSRs (RCSA Section 22a-133k-3) require that a groundwater plume meet the Surface Water Protection Criteria (SWPC) and Volatilization Criteria (VC) or the background concentration for groundwater for each substance in such plume. Remediation of groundwater plume in a GB area shall also result in the reduction of each substance to a concentration that does not interfere with any existing use of groundwater. The VC apply to residential or industrial/commercial land uses and to Volatile Organic Compounds (VOCs) in groundwater within 15 feet of the ground surface or building. The industrial/commercial criteria may only be used with an ELUR that prohibits residential land use on the property or can be rendered inapplicable if an ELUR is in place which prohibits a building from being constructed over the affected groundwater.

## 2.4 Previous Environmental Investigations

Previous environmental investigations conducted at the site include Phase I Environmental Site Assessments (ESA) completed in 2015 and 2018 and a Phase II ESI completed in 2018 by HRP, Inc. The assessments and investigation were completed utilizing a Brownfield Grant through the Naugatuck Valley Council of Governments (NVCOG). A Site-Specific Quality Assurance Project Plan prepared by HRP was approved by the Environmental Protection Agency (EPA) for the Phase II investigation.

The following areas of concern (AOCs) were identified and investigated by HRP:

- AOC-1: Historical Gasoline Tank
- AOC-2: Former Shed
- AOC-3: Former Dwellings
- AOC-4: Former Restaurant
- AOC-5: Former Bakery
- AOC-6: Potential Polluted Fill

Based on the findings and conclusions of the Phase I ESA, HRP conducted a Phase II ESI of the site in 2018. The investigation included the installation of three groundwater monitoring wells, GPR survey to identify the historical gasoline tank, the drilling of soil test borings, and the collection and laboratory analysis of soil and groundwater samples.

Following is a summary of the findings reported in the Phase II ESI:

- Subsurface materials consist of a shallow fill underlain by native brown to tan sand, sandy silt, and silt. Most of the site is paved with asphalt, and the concrete slab of the former restaurant remains. The fill contains some asphalt debris, brick, and concrete fragments that may be from demolition of the former buildings.

- Groundwater is approximately 38 ftbg with no evidence of contamination based on one round of results.
- Evidence of a suspected UST was identified approximately 2.5 ftbg and approximately 3 feet east of the sidewalk beneath a concrete pad. The tank's contents remain unknown; however, soil results indicate that a release has not occurred. The tank's dimensions are estimated to be 7.5 feet by 5 feet, which suggests a tank of up to 1,000 gallons in size.
- PAH compounds were detected above applicable regulatory criteria in three soil samples. ETPH and PAH compounds were detected above the detection limit but below the applicable regulatory criteria in an additional seven samples. The samples that exceeded regulatory criteria were collected within the upper 3 feet of soil.

Based on the subsurface investigations, HRP concluded that the detections of ETPH and PAH compounds are related to surficial fill material containing asphalt and demolition debris from historical developments of the property. The results of the investigations are not believed to be indicative of on-site "releases" and are likely from incidental sources. There appears to be no immediate or ongoing threat to the environment. Recommended soil remediation activities included the removal of the shallow impacted material encountered within the upper 3 to 4 feet at the site and the removal of the UST in accordance with the RSRs.

## 2.5 Conceptual Remedial Approach

This RAP includes a discussion of RSR compliance issues and a description of the proposed soil remedial approach as well as site management activities including health and safety protocols, waste management procedures, project scheduling, sedimentation and erosion controls, decontamination, site restoration, and documentation of remedial activities. The conceptual remedial plans and specifications are provided in Appendix A.

The soils that exceed the RSR criteria for DEC and PMC will be excavated and disposed of at an approved off-site facility. The area of excavation is approximately 60 feet by 100 feet and 3 feet deep located in the northwestern portion of the property. Any concrete, brick, or other possible foundation materials will be segregated and disposed of as general construction debris. Waste characterization sampling will be conducted prior to disposal to facilitate approval at the disposal facility. Confirmation soil samples will be collected to verify that the extent of remediation has achieved compliance with the RSRs. The remaining 2 feet of asphalt, subbase, and structural material encountered at the site will be segregated and disposed of as either recycled material (asphalt) or general construction debris.

The tank will be uncovered and its contents investigated. The contents, if present, will be pumped out and disposed of at an off-site facility. The tank will be removed, cleaned, and disposed of at an approved off-site facility. Any impacted soil will be excavated with confirmation soil samples collected following soil removal, if needed, to demonstrate compliance with the RSRs.

Groundwater remediation is not necessary based upon the results of the Phase II ESI completed in 2018. The on-site groundwater monitoring wells will be utilized to achieve compliance with postremediation groundwater monitoring. At least four rounds of groundwater samples will be collected to demonstrate compliance with the RSRs.

## 3.0 REMEDIATION PLANNING

The following sections describe the remediation planning tasks to be performed in conjunction with the implementation of the selected remediation alternative.

### 3.1 Health and Safety

A Health & Safety Plan (HASP) will be developed that meets the requirements of 29 CFR 1910.120 prior to any remedial activities. The HASP is intended to cover MMI employees and site visitors. The selected remediation contractor will be required to develop and follow its own HASP during all site activities conducted by that contractor. All soil remediation work should be conducted by personnel that have 40-hour Hazwoper Occupational Safety and Health Administration (OSHA) training. The HASP will include, at a minimum, the following:

- Brief site description
- Potential site safety hazards
- Chemical COCs
- Project personnel
- Personal protective equipment requirements
- Air monitoring requirements
- Decontamination procedures
- Work zones
- Emergency resources

### 3.2 Permits and Approvals

The project will be completed as a Licensed Environmental Professional (LEP)-led site, with work completed under the Voluntary Remediation Program and funded through the NVCOG's grant through EPA. The primary remedial action is the excavation and disposal of impacted soil. The CTDEEP requires those persons conducting the temporary staging and/or storage of greater than 10 cubic yards (cy) but less than 1,000 cy of contaminated soil to conduct such activities in accordance with the conditions of the General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer) but does not require a registration to be filed, nor does the activity require the approval of the CTDEEP.

Local permits required for the implementation of the remedial action may include a street opening permit for the removal of the UST, a demolition permit for removal of the building remnants, and/or an excavation permit for the removal of soil. The City will determine the applicability of these or any other local permits.

### 3.3 Public Notification

The CTDEEP RSRs require public notification of remediation activities. The public notification process will be conducted in accordance with Connecticut General Statute (CGS) 22a-134(a)(h)(2)(i). The notification must be placed in the local newspaper (listed with the CTDEEP) a minimum of 45 days prior to the start of soil remediation. A notification letter must be provided to the Director of Public Health and to each owner of record that abuts the parcel.

The City has developed a Community Relations Plan (CRP) that designates the WDC as community relations spokesperson for the project. The CRP outlines steps to provide reasonable notice of the proposed remediation and development, opportunity for public involvement, response to comments, and administrative records of the process that are available to the public.

The WDC will prepare a publication available to the public that provides the following information:

- An overview of the project
- Identification of the funding mechanisms for the development
- Identification of the spokesperson and point of contact
- General background information on the site history
- The development vision
- A summary of potential threats to the public health and environment

The WDC will host a public information meeting to provide a presentation of the CRP to the community. The remedial alternatives will be presented to the community, and comments will be addressed to ensure that the most appropriate cleanup alternative is selected and communicated to the community. The WDC will post a public notice in the local newspaper, put up signage at the site, and provide mailings to abutters to notify the community of the CRP meeting.

In addition, the following efforts will be utilized to keep the community informed through the duration of the project:

- Posted signage at the site through the duration of the project with contact information provided
- Informational repository for the project to be maintained at the WDC offices
- CRP publication posted on the WDC website

### **3.4 Waste Management**

The anticipated waste streams generated during remedial activities include contaminated soil, underground storage tank, brick, concrete, and miscellaneous solid materials such as glass and plastic. Groundwater is not anticipated to be encountered during development of the site. The following presents a summary of the anticipated waste streams and the proposed management processes.

- Contaminated soil excavated as part of the remediation and tank removal will be treated as a controlled material. The soil will be temporarily stockpiled on site, characterized, and subsequently loaded into transport vehicles for shipping to an approved off-site facility permitted to accept the waste. Any stockpiles of contaminated material will be covered with plastic sheeting and secured with sandbags and hay bales.
- The UST contents, if present, will be removed by the remediation contractor, profiled, and disposed of at an approved off-site facility permitted to accept the waste.

- The tank will be cleaned off site and disposed of or recycled at an approved off-site facility to accept the material.
- All decontamination media will be collected, characterized, and transported for off-site disposal at a facility to accept these wastes.
- The asphalt, subbase, and foundations removed from the site will be recycled or disposed of as general construction debris at an approved off-site facility that accepts these wastes.
- Other solid materials (such as plastic sheeting, hay bales, and sandbags) used during the remediation activities will be segregated from other waste streams. If the solid materials were in contact with contaminated materials, then they will be disposed of along with the contaminated materials. If the solid materials do not come into contact with contaminated materials, they will be treated as municipal waste and disposed of as such.

Any waste removed from the site will be documented by manifest or bill of lading. The City will be named the generator of the waste, and a representative of the City will sign the waste profile forms and manifests. The waste disposal contractor will prepare disposal manifests or bills of lading and documentation for the City's use.

### 3.5 Sedimentation and Erosion Control

Sediment and erosion controls will be required at the site due to its proximity to residential homes and City streets. Prior to any remedial activities, an erosion and sedimentation control system (silt fence, hay bales) will be installed along the perimeter of the parcel boundary. These controls will be installed and maintained in accordance with the *Connecticut Guidelines for Soil Erosion and Sediment Control*. These controls will remain in place until stabilization of the soils on the site is completed.

### 3.6 Dust Control

Best management practices will be incorporated to minimize the potential for the COCs at the site to be released in particulate form during site activities. Dust control measures will be implemented if dust is observed during remedial activities. These measures will include the use of water to pre-wet soil to prevent airborne migration when visible dust is observed near the site boundary.

### 3.7 Decontamination

Decontamination of on-site heavy equipment will be performed as necessary to minimize the potential spreading of contamination. Brushing, high-pressure water, or a steam cleaner will be used for equipment decontamination. All decontamination materials will be disposed of as controlled material with fluids contained on site for infiltration back onto the site. All equipment shall be decontaminated before leaving the site.

All vehicular traffic entering and leaving the site will utilize an established construction entrance where an antitracking pad will help to minimize tracking of material from the site onto the surrounding streets.

### **3.8 Site Security**

Temporary fencing will be used at the property to provide security during remediation activities. Signage will be used to alert the public to the site conditions and the nature of the project activities and to provide contact information. The entrance to the site will be gated and locked during nonworking hours to prevent public access to the property for the duration of the remedial activities.

### **3.9 Site Restoration**

Following the excavation of soil, management of controlled material, and placement of clean fill, site restoration activities will be completed. Site restoration activities will include the placement of seed or other stabilization material that will minimize potential erosion of the soil to surrounding properties.

## 4.0 SITE REMEDIATION ACTIVITIES

The following sections will provide detail on the selected remedial action with the intent of achieving compliance with the RSRs. In general, remedial activities will include the direct excavation of impacted soil for off-site disposal, removal of the UST, and removal of the impervious surface and foundations within the upper 2 feet of soil.

### 4.1 Overview of Selected Remedial Action

Under this action, the underground storage tank and any impacted soil will be removed and disposed of at an approved off-site facility, and impacted fill material with a concentration of greater than the RDEC would be excavated and removed from the site. Clean fill will be imported and excavation backfilled to grade.

The remediation excavation of impacted soil will result in achieving compliance with the RSRs by removing all the applicable DEC-impacted soil from the site and would not require a land use restriction. The excavation of the remaining asphalt and foundations to a depth of 2 feet across the site will remove any potential incidental source of PAHs from mixing with the underlying soil.

The estimated cost of this alternative includes the remediation of impacted soils, removal of the tank, placement of clean fill, and confirmation soil sampling for a total of \$82,000. This remedial action is the most effective in removing the public health concern, achieving compliance with the RSRs, and providing any type of reuse of the site.

### 4.2 Areas of Remedial Activity

The area of the impacted soil above the RSR criteria is approximately 100 feet by 45 feet by 4 feet deep for an estimated volume of 18,000 cubic feet or 900 tons. The impacted soil would be characterized for off-site disposal, and clean fill would be imported, placed, and compacted.

The UST is located in the northwestern corner of the property. The top of the tank will be exposed to verify the location; the contents pumped out (if present); and then the tank removed from the ground, cleaned, and disposed of off site. Any impacted soil will be excavated, characterized, and disposed of off site. Confirmation sampling will be conducted to confirm soil conditions.

### 4.3 Approach to Site Remediation

The approach for the site's remediation will consist of excavation of contaminated soil and removal of an UST to achieve compliance with the RSRs. In general, the tasks for site remediation will include at a minimum the following:

- Site preparation activities
- Excavation and disposal of impacted soil
- Removal of UST and impacted soil, if present
- Removal and disposal of upper 2 feet of impervious material and remaining foundations

- Placement and grading of imported clean fill
- Development of a groundwater monitoring plan to achieve compliance with RSRs

#### 4.4 Site Preparation Activities

Prior to conducting any activity at the site, the City will meet with the contractor and LEP to discuss the project goals, evaluate potential structural issues, and evaluate equipment and material staging areas. Site preparation activities will include the posting of public notice, notification of Call Before You Dig, and installation of sedimentation and erosion controls. A construction entrance with an antitracking pad will be established to allow access to the site and prevent cross contamination of the adjacent road surfaces. Site access will be gated to prevent public access during the project.

Signage will be placed at the site prior to the start of any activities in accordance with the CTDEEP Public Notice requirements and agreement with NVCOG. At a minimum, the signage will include the following language:

*"Remediation Work is being financed in part by an EPA Revolving Loan Fund and the Naugatuck Valley Council of Governments and providing the appropriate contacts for obtaining information on activities being conducted at the site and for reporting suspected criminal activities. The sign erected on the Property site shall comply with all requirements of the state and local law applicable to on premise outdoor advertising."*

#### 4.5 Excavation and Disposal of Impacted Soil

Based on the results of the previous environmental investigation, the area of remediation is focused upon the upper 3 to 4 feet of soil with concentrations of PAHs above the RSR cleanup numeric criteria. Soil removed from the area of remediation will be managed as a controlled material and in accordance with the construction specifications. Controlled material will be stockpiled, characterized, and disposed of at an approved disposal facility.

#### 4.6 Development of a Groundwater Monitoring Program

A groundwater monitoring plan will be developed in accordance with the RSRs to verify that the soil remediation was successful. The monitoring plan, at a minimum, shall include the installation of groundwater monitoring wells in the overburden and at least four rounds of groundwater sampling and laboratory analysis for PAHs. The groundwater monitoring results will be used to verify that the site is achieving compliance with the RSRs.

## 5.0 SAMPLING AND ANALYSIS PLAN

Soil sampling during remediation activities will include sampling of clean fill materials prior to their delivery to the site, UST closure sampling, and waste characterization of any material prior to leaving the site for disposal.

### 5.1 Clean Fill Sampling

The conceptual site design and potential remedial alternatives will require importation of clean fill in order to achieve the proposed final grading at the site. At a minimum, one sample of the fill material will be collected and analyzed unless multiple sources are used for the material, in which case one sample will be obtained per source. The samples will be submitted to a certified environmental testing laboratory for analysis of ETPH, VOCs, semivolatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), pesticides, and herbicides. As an alternative, the suppliers may issue recent analysis of the material from each source for review. All data will be reviewed prior to delivery to the site.

### 5.2 Waste Characterization

Waste characterization sampling will be performed to supplement existing information and data for the purpose of satisfying the requirements of the disposal facility. Sampling frequency and analytical parameters will be in accordance with the disposal facility requirements. Waste characterization samples will be submitted to a certified environmental testing laboratory for analysis.

Documentation of the sampling procedures, sample location, laboratory results, and manifests will be maintained in a project file by the contractor for the duration of the project.

### 5.3 UST Closure Sampling

Upon completion of the tank and soil removal, if necessary, soil confirmation sampling will be completed based upon CTDEEP guidelines. At a minimum, a soil sample will be collected from each sidewall of the excavation and from the bottom of the excavation for a total of five soil samples. The confirmation soil samples will be submitted to a state-certified laboratory for analysis of ETPH, VOCs, and total lead.

Documentation of the sampling procedures, sample location, laboratory results, and manifests will be prepared for submittal of a tank closure report or as part of the remedial action report at the end of the project.

### 5.4 Laboratory Analysis

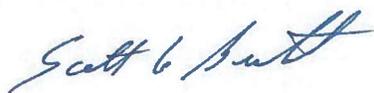
All proposed laboratory analyses will be performed by a laboratory certified to perform such analyses in the state of Connecticut. The detection limits will be selected to be below the DEC and GA PMC criteria and below the disposal facility requirements. The laboratory will be required to perform all quality control procedures specified in the analytical methods requested. The laboratory will provide a Quality Assurance/Quality Control (QA/QC) report for review by the LEP for quality control of the data.

## 6.0 DOCUMENTATION OF REMEDIAL ACTIVITIES

Remedial activities will be conducted under the direction of an LEP to allow for changes and/or modifications of the remedial actions if deemed necessary by site conditions or changes to site design plans. At the completion of the site remedial activities, a final Remedial Action Report will be provided to the City. The Remedial Action Report will include a project narrative, summary of the activities completed, data compilation of laboratory results, documentation of all materials incorporated into the project, and photographic documentation of completed activities. If necessary, recommendations for future actions, including the groundwater monitoring plan, will be included.

## 7.0 SCHEDULE

Remedial actions and redevelopment of the site are intended to be completed by December 2019. However, the schedule is dependent on project bidding; available funding; and final approval of construction specifications, design, and permitting. The anticipated time frame to complete this remedial action is approximately 3 weeks upon clearing of the site.



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## FIGURES

**APPENDIX A**  
CONCEPTUAL REMEDIATION DRAWINGS

## **APPENDIX B**

### REMEDIATION SPECIFICATIONS