

Soil Excavation Work Plan

1302800007N

July 27, 2026

Mr. Ryan Richard
New York State Department of Environmental Conservation
Division of Environmental Remediation – Region 3
21 South Putt Corners Road
New Paltz, NY 12561

Re: **Soil Excavation Work Plan - Final**
Former Tivoli Water Tower Site - NYSDEC Site No.314135
19 Pine Street
Tivoli, New York

Dear Mr. Richard:

T&B Engineering and Landscape Architecture, P.C. (Tighe & Bond) has prepared this Soil Excavation Work Plan on behalf of the Dutchess County Water & Wastewater Authority (DCWWA) for the remediation of contaminated soils at the former location of the Village of Tivoli's water tower ("the site"). Based on a review of the report *Site Characterization Report*, dated August 2025, prepared by the New York State Department of Environmental Conservation (NYSDEC), it has been determined that a localized area of soil, beneath the Village's former water tower, contains concentrations of lead and Polychlorinated Biphenyls (PCBs) above the NYSDEC's unrestricted use standards (restricted residential soil cleanup objectives, RRSCOs). Therefore, the NYSDEC is requiring that the subject site undergo remediation to address this condition. This Soil Excavation Work Plan has been prepared in general accordance with DER-10, *Technical Guidance for Site Remediation* (DER-10).

1 Introduction

During the 2021 demolition of the water tower in Tivoli, soil samples identified elevated lead levels in surface soils. In accordance with 6 NYCRR Part 375 Section 1.8(g)(2)(ii), the site is considered for Restricted Residential use as it is owned by a single owner and includes active recreational uses, which are public uses with a reasonable potential for soil contact. This potential exposure risk warranted additional investigation resulting in the classification as a potential site (P-Site, ID #314135), under the inactive hazardous waste disposal site program or State Superfund (SSF).

The selected remedy is to remove the soils up to a depth of two feet below grade, dispose of the soil at a licensed offsite disposal facility, complete confirmation soil sampling, and backfill and restore the subject site, consistent with the existing landscaped conditions (lawn/grass). Based upon a soil removal area of approximately 20 feet long by 20 feet wide and two feet deep, it is estimated that approximately 30 cubic yards (CY) of material will be removed as part of the site remediation efforts.

1.1 Site Location and Description

The site is located within the property at 19 Pine Street (Tax Parcel ID 459087), a 1.4-acre lot in the Village of Tivoli, Dutchess County, New York. The property is currently owned by the Village of Tivoli. The site is the location of the former water tower directly east of Tivoli Memorial Park (specifically the basketball court). The property is bound to the south by Pine Street, and to the east by a community garden. The outlying surrounding area is

primarily residential in nature. The site location is shown on Figure 1. Figure 2 is a Priority Resource map. Figure 3 "Site Boundary" shows the existing site features.

2 Summary of Previous Environmental Assessment Reports

2022 Tighe & Bond Environmental Assessment Summary Report

In 2022, the Village retained Tighe & Bond to complete additional assessment and sampling of surficial soils in the vicinity of the former water tank, where elevated lead was detected during the 2021 demolition activities. Tighe & Bond developed a soil sampling plan based on the results for the soil samples previously collected as part of the water tank demolition. The sampling approach included establishing a 20-foot sampling grid over an area of approximately 10,000 square-feet (ft²) resulting in 25 sampling locations (identified as S-1 through S-25). A grid sample approach was used to divide the area for equal spatial coverage. Soil samples were collected at each location from depths of 0-6 inches and 6-12 inches. Background soil conditions were assessed by collecting surficial soil samples from four locations outside of the sampling grid at distances of 20 and 40 feet north and east of the sampling grid and former tower footprint (identified as BKG-1 through BKG-4). Additionally, Tighe & Bond obtained two composite samples; one from the community garden (sample ID: CG) located approximately 125 feet east of the former water tower footprint, and one from the playground (sample ID: PG) located approximately 230 feet northwest of the former water tower footprint. Both composite samples were made up of four aliquot samples from each area.

Sample locations were established using ArcGIS to identify sampling coordinates, downloaded to an Arrow 100 GNSS geo-positioning system (GPS) receiver and marked in the field. Samples were collected from each location at 0 to-6 inch and 6 to-12-inch depth intervals using a steel shovel and hand auger. Hand tools were decontaminated between each sample location using a scrub brush, an Alconox detergent/tap water solution, and a subsequent rinse with tap water. Following collection, Tighe & Bond field screened each soil sample for total lead concentrations using a Niton XL3t X-ray Fluorescence (XRF) analyzer. Field screening of soil samples was used to determine which samples would be submitted for laboratory analysis. Soil samples with XRF lead measurements of 100 parts per million (ppm) or greater were selected for laboratory analysis of total lead by EPA Method 6010D.

Site Soil was typically identified as fine to coarse sand with little gravel and trace silt throughout. Tighe & Bond did not observe paint chips or evidence of demolition debris from the former water tower during sample collection. XRF soil screening data generally indicated greater levels of lead in the 0 to 6-inch samples than the 6 to 12-inch samples, and XRF readings were typically higher within the footprint of the former water tower than at the outer extents of the sample grid or at background locations.

Of the 60 soil samples collected, 19 samples were submitted for laboratory analysis of total lead. Based on the soil sample analytical results, samples S-9 (0-6) and S-13 (0-6) exhibited concentrations of total lead above the NYSDEC RRSCO of 400 milligrams per kilogram (mg/kg). Both samples were collected from within the footprint of the former water tower and were collected at surficial depths of 0 to-6-inches below ground surface (bgs). The other 12 samples collected within the footprint of the former water tower contained total lead concentrations ranging from 122 mg/kg (S-21 (0-6-inches)) to 308 mg/Kg (S-8 (0-6-inches)). In general, laboratory results indicated higher total lead concentrations near the center of the former water tower footprint. Except for sample S-22, all samples in which both the 0-6 and 6 to 12-inch depth intervals were submitted for laboratory analysis indicated greater total lead concentrations in the 0 to 6-inch depth interval.

Background samples BKG-1 and BKG-4 were submitted for laboratory analysis of total lead. Total lead concentrations in these samples ranged from 22.7 mg/kg in BKG-4 (0-6-inches) to 137 mg/kg in BKG-1 (0-6-inches). Composite samples CG and PG were collected from 0-6-inch depth intervals. CG contained a total lead concentration of 96.6 mg/Kg and PG contained a total lead concentration of 4.5 mg/Kg.

Soil Excavation Work Plan

With the exception of soil samples S-9 (0-6-inches) and S-13 (0-6-inches), soil samples field screened and/or submitted for laboratory analysis exhibited total lead concentrations below the NYSDEC RRSCO of 400 mg/kg. Based on the results of the soil assessment, lead impacts to soil at and in the vicinity of the former water tower appear to be limited to an area at the center and northeastern leg of the former water tower's location. Soil sample locations are shown on Figure 4.

2024 NYSDEC Site Characterization

NYSDEC prepared a Site Characterization Work Plan, dated May 2024, for additional assessment activities to determine if contaminants were present at concentrations exceeding applicable standards, criteria and guidance (SCGs).

The Site Characterization (SC) was initiated by NYSDEC personnel on May 8, 2024. A Niton XL3t GOLDD+ XRF was used to screen surface soil for lead at approximately every 20 feet in a gridded pattern in the area of the former water tower pad, and up to 40 feet beyond the former pad. Surface soils were screened at the 0 to 2-inch and 6 to 12-inch intervals at 42 locations. An additional six samples from the 0 to 2-inch interval within the community garden beds were screened for lead for a total of 96 samples. Soil sample locations are shown on Figure 4.

NYSDEC reported that a total of 102 samples were screened for lead using the XRF (noting that it was previously indicated that 96 samples were screened). Screening results ranged from 12 ppm at location CG2 in the community garden, to 2,882 ppm at location X82 in the footprint of the former water tower. Forty-two field measurements exceeded the Unrestricted SCO for lead (63 ppm). With the exception of two XRF measurements (X82 and X83), all field measurements were below the RRSCO (400 ppm). During field activities each sample was also screened for total organic vapors (TOVs) using a photoionization detector (PID). No readings above 0.0 ppm were reported. Please refer to Attachment 1: Supplemental Data from NYDEC's 2025 Site Characterization Report for details and locations of the XRF field screening, soil sampling and corresponding laboratory analysis.

Based on the field screening results, 21 surface soils were collected for laboratory analysis. Samples were submitted from the 0 to 2-inch and 6 to 12-inch intervals. Five soil samples were submitted for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), Target Analyte List (TAL) metals, PCBs, pesticides, cyanide, 1,4-dioxane, and per- and polyfluoroalkyl substances (PFAS) analysis. An additional 13 samples were submitted for TAL metals analysis.

Of the 21 samples submitted, exceedances of the RRSCOs were only detected at one location identified as SB4 and SB4A. Lead was detected at 3,800 ppm in the 0-2-inch interval (SB4) and at 4,600 ppm in the 6-12-inch interval (SB4A). Additionally, PCBs were detected at a concentration of 1.1 ppm in sample SB4A, which slightly exceeds the RRSCO of 1.0 ppm.

The SC report documented two deviations from the Work Plan:

- On the day of mobilization, surface water was not observed onsite; therefore, surface water samples or outfall sediment samples were not field screened or collected for laboratory analysis.
- A Human Health Exposure Assessment was not prepared because the purpose of the investigation was to determine if contaminants were present at concentrations exceeding applicable SGCs.

NYSDEC concluded that only one sampling location contained concentrations of lead and PCBs in excess for the RRSCOs. The exceedances were present in the 0 to 2 and 6 to 12-inch intervals at sample location SB4/SB4A, from beneath the former water tower. It was determined that the likely source of the contamination was paint chips from the former water tower. Based on communications with the New York State Department of Health (NYSDOH), NYSDEC recommended that these soils be excavated and removed from the site, under a corresponding Soil Excavation Work Plan.

2.1 Geology and Hydrology of the Site

Investigations at the site indicate that surface soils consist of fine to coarse-grained sand and silt, presumably a component of the glacial till identified on the United States Geological Survey (USGS) surface soil maps for the location. According to the USGS Hudson Mohawk Bedrock geology map, the site is underlain by the Austin Glen Formation, which consists of greywacke, with alternating intervals of sandstone, siltstone, and shale. Depth to bedrock is unknown. Groundwater flow direction is presumed to be to the east towards Stony Creek; however, previous investigations did not include the installation of groundwater monitoring wells.

2.2 Areas of Concern and Contaminated Media

The receptor population includes the people who are or may be exposed to contaminants at a point of exposure. The identification of potential human receptors is based on the characteristics of the site, the surrounding land uses, and the probable future land uses. The site is currently a portion of an existing recreational park; therefore, receptors would include members of the public with a reasonable potential for soil contact, and construction/maintenance workers that may be employed to perform work on the property. Exposure routes would include direct contact activities and/or inhalation and accidental ingestion during ground intrusive activities.

3 Work Plan Objectives

Based on the results of previous investigations and the SC, the objectives of the Soil Excavation Work Plan are intended to make the site protective of human health and the environment consistent with the proposed end use, under the RRSCOs. The proposed use of the site is incorporation of the parcel into an existing municipal park. Upon completion of the Remedial Action, the site will be re-seeded as a landscaped area, consistent with the existing landscaped conditions.

3.1 Additional Soil Investigation

Based on the data obtained from the 2024 NYSDEC SC results, an approximately 20-foot by 20-foot area of surface soils (depth of 2 feet) was identified. To better quantify the limits of the remedial construction, further assessment will be completed in the area of SB4/SB4A. One day of soil sampling will be conducted by a Tighe & Bond environmental scientist sampling soils around SB4/SB4A in a 10 by 10-foot grid. Samples for lead and PCBs analysis will be collected at the 0-2-inch and 6-12-inch intervals. Samples will be collected at four sample locations, with samples at two depth intervals for a total of 8 samples. The laboratory analytical data will be subject to a full data deliverables package (Category B Deliverables). The objective of the sampling is to more precisely define the limits of contamination and thereby potentially reducing the volume of soil to be removed and disposed. Proposed soil sampling locations are shown on Figure 5.

Field sampling procedures, proposed sampling locations, and analyses performed are described in the following sections. Work will be conducted under an updated Health and Safety Plan (HASP) which is included as Attachment 2. Work will be conducted by personnel with Hazardous Waste Sites Operations and Emergency Response training (40-hour HAZWOPER). Prior to conducting intrusive work, Tighe & Bond will pre-mark the location and notify UDig-NY (New York 811). Detailed sample collection, handling, and record keeping procedures are included in the Quality Assurance / Quality Control (QA/QC) Plan, which is included as Attachment 3. Qualitative observations of environmental media will be recorded in the field book and reported in the Construction Completion Report (CCR).

3.1.1 Supplemental Assessment and Waste Characterization

Each of the sampling locations will be located in the field using a hand-held GPS unit. Final sample locations will also be recorded via GPS. Soil samples will be collected using a stainless steel shovel or hand auger. Hand tools will be placed on plastic sheeting and decontaminated using a scrub brush and Alconox solution between each sampling location. It is not anticipated that these activities will generate investigation-derived waste (IDW). Residual soils from sample collection will be placed back into the location of their origin. Waste generated during this exploration (e.g., gloves, paper towels) will be properly disposed of.

A Niton XL3t XRF analyzer and a calibrated PID will be used to field screen the soil samples collected from the 0 to 2-inch and 6 to 12-inch intervals of each of the four sampling locations, for lead and TOVs, respectively. The readings will be recorded in the field notes. Additional information is presented in the QA/QC Plan (Attachment 3).

The following table outlines the proposed soil samples and associated analyses/analytical methods:

TABLE 3-1
Delineation and Waste Characterization Sample Analysis

Sample ID	Sample Matrix	Sample Depth (inches)	Analysis
SB-4-1A	Soil	0-2	Total Lead (USEPA Method 6010), PCBs (USPEA Method 8082)
SB-4-1B	Soil	6-12	Total Lead, PCBs
SB-4-2A	Soil	0-2	Total Lead, PCBs
SB-4-2B	Soil	6-12	Total Lead, PCBs
SB-4-3A	Soil	0-2	Total Lead, PCBs
SB-4-3B	Soil	6-12	Total Lead, PCBs
SB-4-4A	Soil	0-2	Total Lead, PCBs
SB-4-4B	Soil	6-12	Total Lead, PCBs
Matrix Spike	Soil	TBD	Total Lead, PCBs
Matrix Spike Duplicate	Soil	TBD	Total Lead, PCBs
Field Duplicate	Soil	TBD	Total Lead, PCBs
Comp (waste characterization)	Soil	0-24	VOCs (USEPA Method 8260), SVOCs (USEPA Method 8270), TPH (USEPA Method 8015D(M)), TCLP metals (USEPA method 1311), PCBs (USEPA Method 8082), pesticides (USEA Method 8081), herbicides (USEPA Method 8151), pH, corrosivity, reactivity, flashpoint/ignitability, and conductivity

Delineation Soil Samples - Each of the eight soil samples will be collected for lead and PCBs analysis, along with proper QAQC samples. Lead samples will be analyzed using USEPA Method 6010; PCB samples will be

Soil Excavation Work Plan

analyzed using USEPA Method 8082. All samples will be analyzed by a NYSDOH ELAP-certified laboratory with Category B deliverables. Sample collection and analysis will be in accordance with the QA/QC Plan. A field duplicate, and a matrix spike/matrix spike duplicate will also be included.

Waste Characterization Soil Samples - In order to pre-characterize remedial soils for reuse or disposal, ten grab samples will be collected from the 0 to 24-inch interval within the anticipated excavation area. Each sample will be field screened for lead and TOVs using the XRF and PID, respectively. The discrete sample exhibiting the highest PID reading will be preserved for VOCs analysis; the remaining aliquots will be composited into one sample, which will be submitted for disposal characterization analysis. The suite of analyses includes the following: VOCs (USEPA Method 8260), SVOCs (USEPA Method 8270), total petroleum hydrocarbons (TPH, USEPA Method 8015D(M), TCLP metals (USEPA Method 1311), PCBs (USEPA Method 8082), pesticides (USEPA Method 8081), herbicides (USEPA Method 8151), pH, corrosivity, reactivity, flashpoint/ignitability, and conductivity. Sample collection and analysis will be in accordance with the QA/QC Plan.

Based on the waste characterization analytical results, Tighe & Bond will identify an appropriate disposal facility and prepare a pre-qualification application for disposal acceptance of the material. The following documentation will be provided to NYSDEC for review and approval:

- Generator (DCWWA)-signed waste profile and facility approval package;
- Current operating permits; and
- Waste transporter permits.

DCWWA will sign waste shipping manifests and/or Bill of Lading (BOL) documentation for the waste generated by the excavation activities.

It is anticipated that these field activities can be completed in one workday. Tighe and Bond will notify NYSDEC at least 7 days prior to the collection of the delineation and waste characterization soil sample collection, subsequent to the approval of this work plan.

3.2 Remedial Excavation

In consultation with the NYSDOH, the NYSDEC recommended excavation and removal of impacted soils which considered site specific soil cleanup objectives in the August 2025 SC Report. Based on the results of the previous SC and the supplemental surface soil sampling outlined above, the following Remedial Design is anticipated for the Site.

Under this remedial design, identified soils in excess of the RRSCOs will be removed, using a small excavator. The area and volume of soil removal will be conducted based on the NYSDEC characterization activities and pending the results of the supplemental assessment in the S4/S4A area, and as defined above. Tighe & Bond will notify NYSDEC of the results of the additional soil assessment and provide an updated figure indicating the final proposed excavation area and corresponding post-excavation confirmatory sample locations.

During removal activities, a Community Air Monitoring Program (CAMP) will be implemented by a third party. If odors, vapors, or fugitive dust exceeding action levels set forth in the CAMP are identified, work will be halted, and the source identified and controlled. Work will not resume until the conditions are abated. DCWWA and NYSDEC will be notified if odors, vapors, or fugitive dust exceeding action levels are identified. A copy of the CAMP is included in Attachment 4.

It is anticipated that between 10 and 30 CY of lead and PCB-impacted soil will be excavated from the impacted area to a depth of two feet bgs. Excavated soils will be placed directly into over-the-road haul trucks, operated by licensed haulers. In the event that soil needs to be staged and await transport, all soil will be stockpiled,

Soil Excavation Work Plan

encapsulated in poly sheeting and secured. The soils will be transported to an approved disposal facility, in accordance with 6NYCRR Part 360 and Part 364 and applicable federal, state, and local rules and regulations. The subcontractor will submit proposed decontamination procedures for approval. It will be the responsibility of the subcontractor and licensed hauler to implement effective decontamination procedures during the active loading of all impacted soils.

Upon completion of the remedial excavation, up to 13 confirmatory samples will be collected from the limits of the removal area. This sampling frequency assumes that the excavation perimeter will be between 20 and 300 linear feet, and extend to a depth of 2 fbg. One sample will be collected from the 0 to 2-inch interval, from the 6 to 12-inch interval, and the 12 to 24-inch interval of each sidewall (anticipated four locations), and one from the excavation bottom (presuming the excavation will not exceed 900 square feet). If the supplemental investigation indicates that adjustments are necessary for this sampling frequency, the suggested changes will be communicated to NYSDEC for approval prior to commencing the remedial action. Each sample will be field screened for lead using an XRF and TOVs using a PID. Screening results will be logged in the field book and included in the CCR. The locations of the post-excavation samples will be recorded in the field using a hand-help GPS unit. Confirmatory samples will be submitted for lead and PCBs analysis in accordance with the QAQC Plan.

TABLE 3-2
Post Excavation Sample Analysis

Sample ID	Sample Matrix	Sample Depth (inches)	Analysis
PX-1	Soil	0-2	Total Lead, PCBs
PX-1	Soil	6-12	Total Lead, PCBs
PX-1	Soil	12-24	Total Lead, PCBs
PX-2	Soil	0-2	Total Lead, PCBs
PX-2	Soil	6-12	Total Lead, PCBs
PX-2	Soil	12-24	Total Lead, PCBs
PX-3	Soil	0-2	Total Lead, PCBs
PX-3	Soil	6-12	Total Lead, PCBs
PX-3	Soil	12-24	Total Lead, PCBs
PX-4	Soil	0-2	Total Lead, PCBs
PX-4	Soil	6-12	Total Lead, PCBs
PX-4	Soil	12-24	Total Lead, PCBs
PX-Bottom	Soil	24	Total Lead, PCBs
Matrix Spike	Soil	TBD	Total Lead, PCBs
Matrix Spike Duplicate	Soil	TBD	Total Lead, PCBs
Field Duplicate	Soil	TBD	Total Lead, PCBs

Soil Excavation Work Plan

Pending analytical results of the confirmatory samples, the excavation area will be secured with a temporary fence and covered with secured polyethylene sheeting. Provided the post-excavation data is in compliance with the RRSCOs, the excavation will be backfilled with NYSDEC-approved clean fill material. The area will be graded and re-seeded as a grass landscaped area, consistent with the existing landscaped conditions.

It is anticipated that the removal action will be completed in one work day, and the site restoration activities will also be completed in one work day. Tighe and Bond will provide NYSDEC at least 7 days' notice prior to the soil excavation.

The proposed remedy is anticipated to achieve the work plan objectives established for the project. The proposed Remedial Action is protective of human health and the environment, which align with the remedial goals, SCGs, demonstrates short-term and long-term effectiveness. Additionally, the proposed remedial action will result in the reduction of toxicity, mobility, and volume of contaminants through their removal. The proposed remedial action is implementable, cost effective, compatible with existing land use, and will generally be acceptable to the surrounding community.

3.2.1 Supplemental Excavation and Confirmatory Sampling

Based on the results of the Tighe and Bond 2022 assessment, the 2024 NYSDEC Site Characterization, and the additional assessment to be conducted prior to excavation, the need for supplemental remedial excavation and confirmatory sampling is not anticipated.

However, following the prescribed excavation, an XRF will be used to field screen each excavation sidewall and the excavation bottom for the presence of lead. If lead is detected above the RRSCO, the excavation will be widened (or deepened), until the XRF screening verifies that the lead levels are below RRSCO. Note that since there is not an available option for field screening of PCB concentrations in soil, PCBs will be assessed upon receipt of the laboratory analytical report. Further, since the presence of PCBs are likely associated with the former water tower (industrial paint containing lead), field screening with the XRF can offer a line of evidence to support excavation limits. If PCBs are detected above RRSCO, an addendum to this work plan will describe the supplemental remedial efforts.

If the excavation is widened or deepened, post-excavation confirmatory soil samples will include any supplemental excavation extents and will follow sampling protocols detailed in DER-10 and Attachment 3 - QA/QC Plan.

3.3 Reporting

Upon completion of the Remedial Action, Tighe & Bond will prepare a draft CCR for submittal to NYSDEC. This report will include documentation for the remedial program necessary to support the certification requirement of the CCR. The CCR will provide a narrative of the remedial actions completed, document compliance with the work plan objectives and RRSCOs, provide figures showing excavation limits and sample locations, include waste disposal manifests, along with any other associated documentation related to the work to be completed under this plan, and identify any Institutional or Engineering Controls required for site closure. If necessary, the CCR will include a Site Management Plan (SMP).

4 Green and Sustainable Remediation

The following Best Management Practices (BMPs) applied to make the remedial action practices greener and more sustainable, include:

Soil Excavation Work Plan

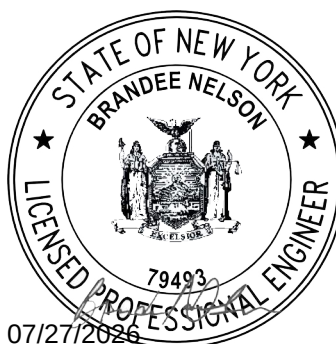
- The use of hand tools wherever it is practicable; and
- The performance of additional assessment to potentially reduce the volume of waste generated by the remedial action, therefore reducing the efforts (excavating, hauling, disposing) required to achieve the objectives.

5 Schedule

Following review and approval of this Soil Excavation Work Plan, additional assessment, remedial design and the bidding process will be addressed, reviewed and amended if applicable. Following the approval of this work plan, Tighe and Bond will provide the NYSDEC at least 7 days' notice prior to any field work mobilization. It is anticipated that the remedial soil excavation will commence in the last week of September 2026 and all excavation, sampling, backfill and restoration activities will be completed within the last week of September 2026. Subsequently, the CCR will be submitted within 60 days of the remedial excavation. A chart depicting the proposed schedule for the remedial action is included as Attachment 5.

Certification

"I, Brandee K. Nelson, PE, LEED AP, certify that I am currently a NYS registered professional engineer and that this Soil Excavation Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10)."



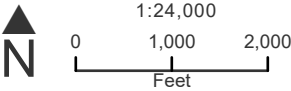
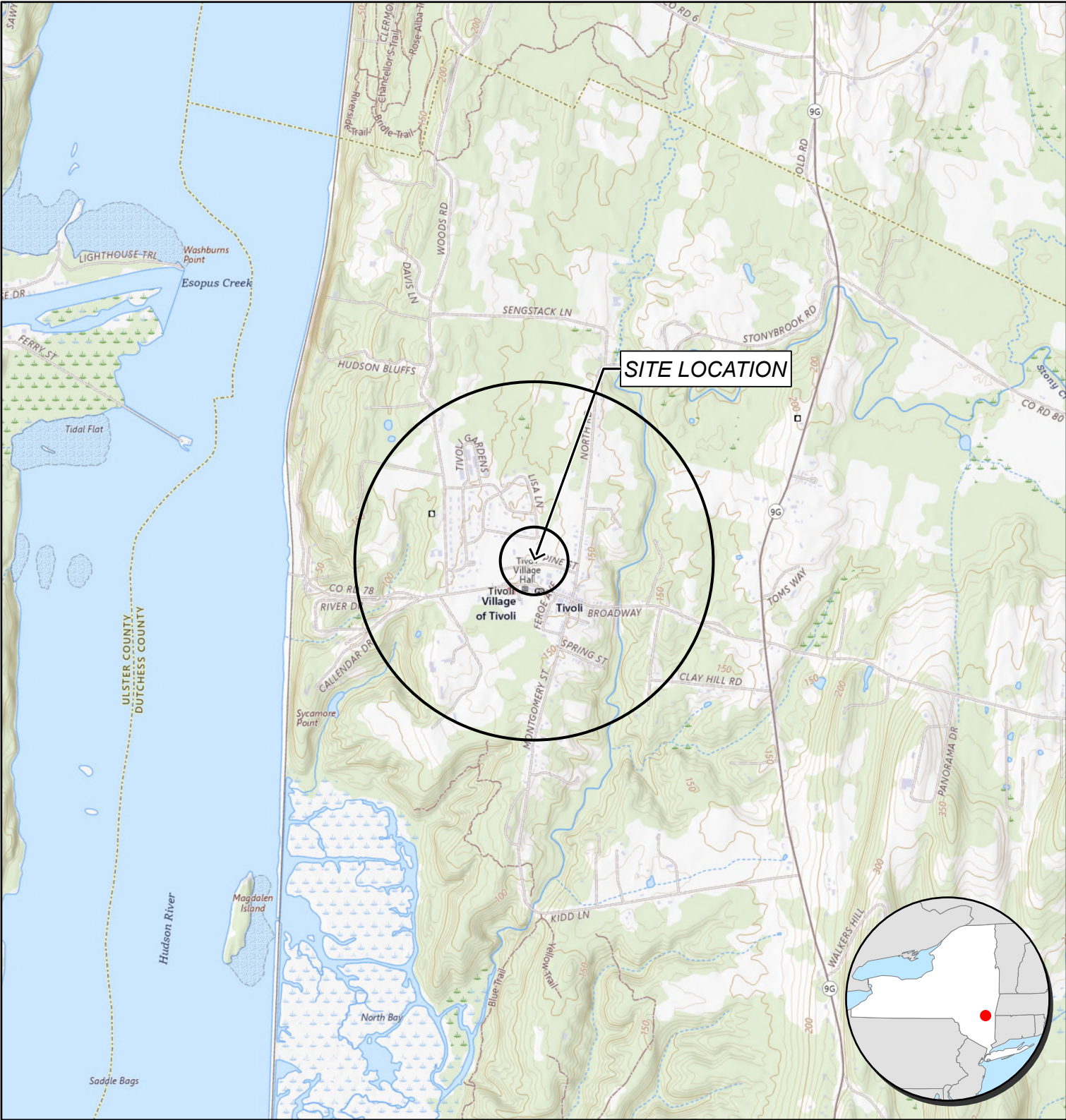
Name	Date	Signature
Enclosures:		
Figure 1 - Site Location		
Figure 2 - Priority Resources		
Figure 3 - Site Boundary		
Figure 4 - Pre-Characterization Soil Sample Locations		
Figure 5 - Proposed Sample Locations		
Attachment 1 - Supplemental Data from NYSDEC's 2025 Site Characterization Report		
Attachment 2 - Health and Safety Plan		
Attachment 3 - Quality Assurance / Quality Control Plan		
Attachment 4 - Community Air Monitoring Plan		
Attachment 5 - Proposed Schedule		

Soil Excavation Work Plan

*Copy: Mark Sergott, Department of Health (mark.sergott@health.ny.gov)
Steve McCague, Regional Hazardous Waste Engineer (steven.mccague@dec.ny.gov)
Gary Banks, Dutchess County Water and Wastewater Authority
Mayor Emily Majer*



Figures



Based on USGS The National Map Topo Basemap.
Contour Interval Equals 10 Feet.
Circles indicate 500-foot and half-mile radii.

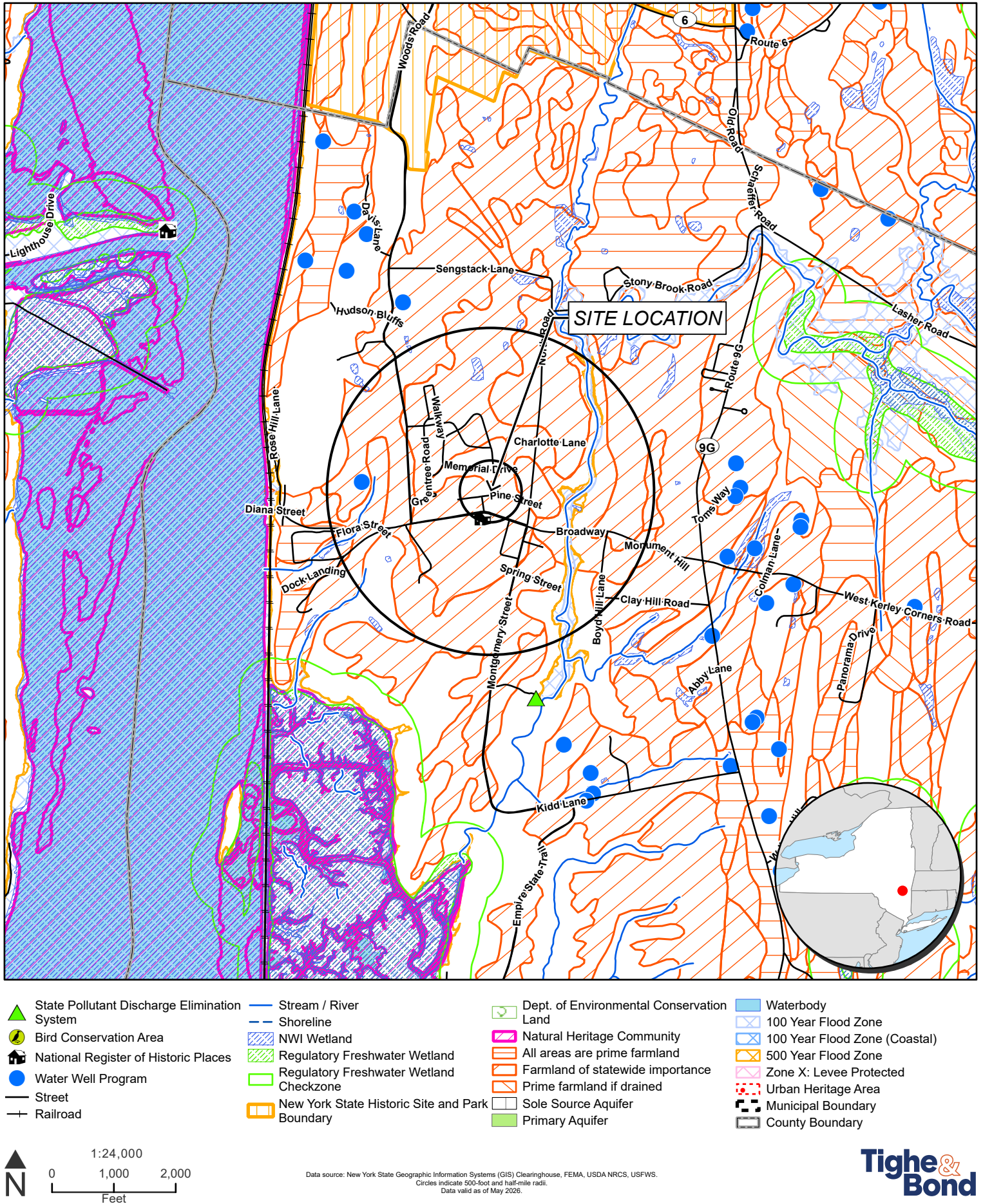


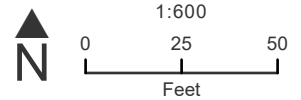
FIGURE 3
SITE BOUNDARY
May 2026

Former Tivoli Water Tower
Soil Excavation Work Plan
19 Pine Street
Tivoli, New York



- Approximate Site Boundary
- Approximate Parcel Boundary

Based on latest Nemap Imagery.
Parcel boundaries were provided by
NYS GIS Clearinghouse and are approximate.



Tighe & Bond

FIGURE 4
NYDEC MAY 2024
SOIL SAMPLE
LOCATIONS
May 2026

Former Tivoli Water Tower
Soil Excavation Work Plan
19 Pine Street
Tivoli, New York



- 5/8/24 Field Screened Locations
- Composite Sample Aliquots
- 5/8/24 Field Screened and Sample Locations
- 20x20ft Grid
- Approximate Site Boundary
- Approximate Parcel Boundary

Based on latest Nearmap Imagery. Parcel boundaries were provided by Dutchess County (2023) and are approximate. Sample points collected in field. Grid represents 20 ft x 20 ft area. Based on Figure 3 from NYDEC's August 2025 Site Characterization Report.

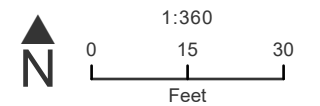


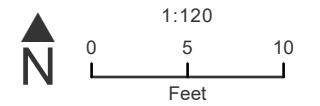
FIGURE 5
WORK AREA
May 2026

Former Tivoli Water Tower
Soil Excavation Work Plan
19 Pine Street
Tivoli, New York



- Proposed Additional Sampling Locations - 2026
- NYDEC 5/8/24 Field Screened and Sample Locations
- 10x10ft Grid
- 20x20ft Grid

Based on latest Nearmap Imagery. Parcel boundaries were provided by Dutchess County (2023) and are approximate. Sample points collected in field. Grid represents 20 ft x 20 ft area. Proposed sample points to be collected in field. Grid represents 10 ft x 10 ft area.





**Attachment 1:
Supplemental Data from
NYSDEC's 2025 Site
Characterization Report**

XRF Screening Results

*(2025 NYSDEC Site Characterization Report - Table 1)

Description	Screened Lead Concentration (ppm)	Cross Reference
X23	36	
X24	53	
X25	34	
X26	33	
X27	70	
X28	24	
X29	50	
X30	44	
X31	29	
X32	34	
X33	29	
X34	32	
X35	28	
X36	29	
X37	145	
X38	128	
X39	151	
X40	161	
X41	60	
X42	56	
X43	36	SB1
X44	31	SB1A, (MS/MSD)
X45	31	
X46	35	
X47	17	
X48	24	
X49	44	
X50	39	
X51	93	
X52	89	
X53	104	
X54	90	
X55	131	SB2
X56	61	SB2A
X57	41	
X58	48	
X59	90	
X59	90	
X60	27	
X62	187	
X63	169	
X64	191	
X65	154	
X66	171	
X67	116	
X68	44	

Description	Screened Lead Concentration (ppm)	Cross Reference
X69	32	
X70	17	
X71	15	
X74	19	
X75	25	
X76	50	SB3
X77	41	SB3A
X80	117	
X81	81	
X82	2882	SB4
X83	2359	SB4A
X84	67	SB5
X85	55	SB5A
X86	31	
X87	37	
X88	87	
X89	21	
X90	207	
X91	312	
X92	30	
X93	76	
X94	157	SB6
X95	129	SB6A
X96	40	
X97	21	
X98	26	
X99	18	
X100	54	
X101	64	
X102	177	
X103	114	
X104	98	
X105	58	
X106	46	
X107	62	
X108	206	SB7 (DUP)
X110	139	SB7A
X111	64	
X112	52	
X110	139	
X111	64	
X112	52	
B1	84	
B1A	94	
CG1	18	
CG1	46	

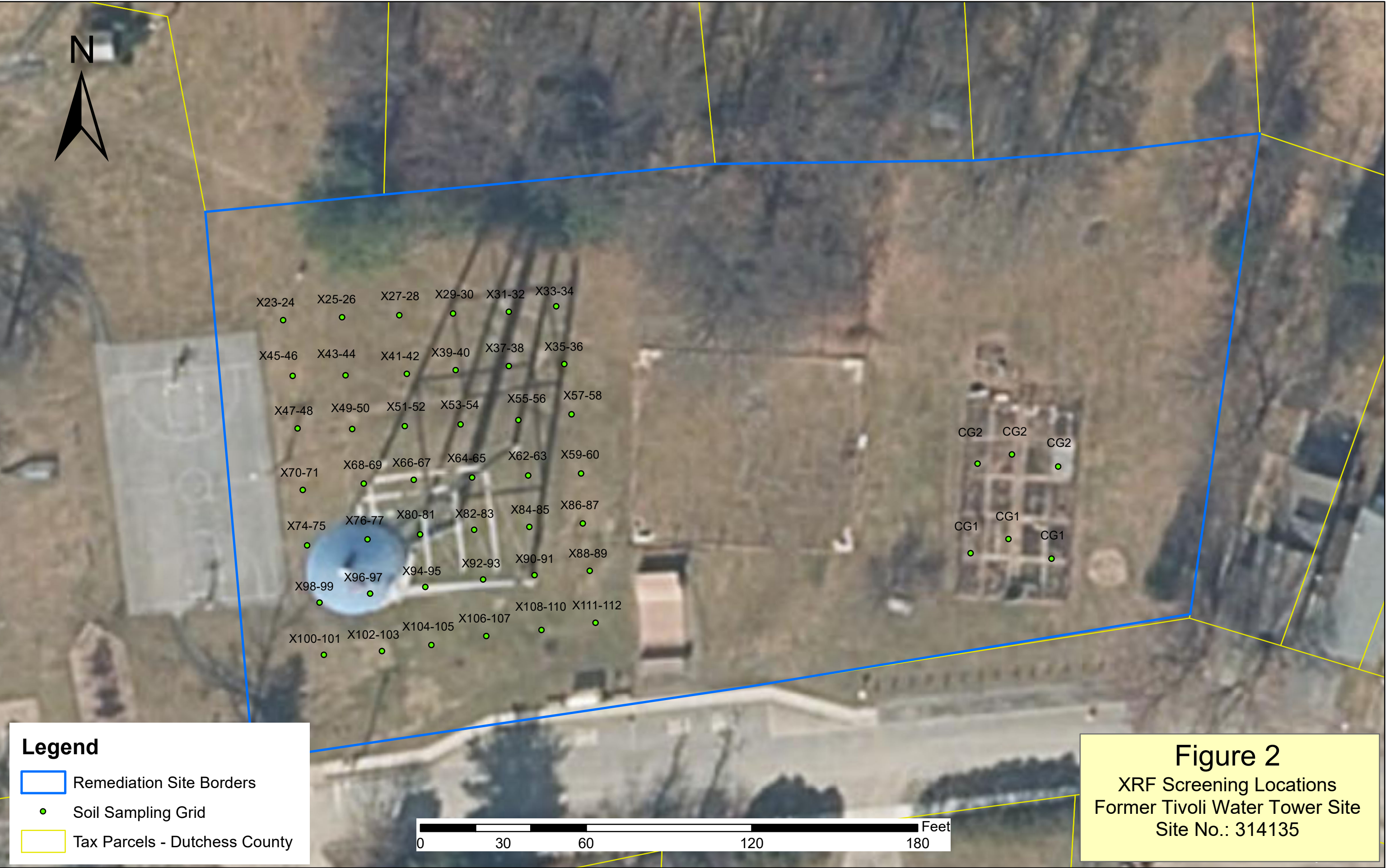
Description	Screened Lead Concentration (ppm)	Cross Reference
CG2	39	
CG2	29	
CG2	12	



Above RRSCOs
Above UUSCOs

XRF Screening Locations

*(2025 NYSDEC Site Characterization Report - Figure 2)



Soil Data Tables

*(2025 NYSDEC Site Characterization Report - Table 2)

Table 2A Metals in Soil

NYSDEC Sample ID Date Sampled Matrix	CG-1 5/8/24 Soil	CG-2 5/8/24 Soil	B1 5/8/2024 Soil	B1A 5/8/24 Soil	SB1 5/8/24 Soil	SB1A 5/8/24 Soil	SB2 5/8/24 Soil	SB2A 5/8/24 Soil	SB3 5/8/2024 Soil	SB3A 5/8/24 Soil	SB4 5/8/24 Soil	SB4A 5/8/24 Soil	SB5 5/8/24 Soil	SB5A 5/8/24 Soil	SB6 5/8/2024 Soil	SB6A 5/8/24 Soil	SB7 5/8/24 Soil	SB7A 5/8/24 Soil	DUP 5/8/24 Soil
Compound	RRSCO																		
Aluminum	11000	9600	15000	9500	15000	16000	16000	16000	15000	15000	16000	18000	16000	17000	15000	16000	14000	13000	14000
Antimony	<0.67	<0.68	<0.74	<0.50	<0.64	<0.60	<0.62	<0.55	<0.51	<0.52	<0.57	<0.54	<0.61	<0.58	<0.54	<0.53	<0.62	<0.53	<0.63
Arsenic	4.7	3.9	6.9	5.2	4.4	5.4	5.5	6.3	6.1	5.1	7	6.8	5.1	5.4	8.9	6.3	4.6	4.9	4.7
Barium	400	96	80	110	69	91	91	160	100	100	330	390	130	140	150	120	100	99	100
Beryllium	72	0.47	0.43	0.73	0.4	0.7	0.69	1.1	0.77	0.65	0.67	1.1	1.1	0.86	0.9	0.76	0.87	0.57	0.54
Cadmium	4.3	0.49	0.42	0.47	0.28	0.29	0.26	0.3	0.26	0.32	0.36	1.8	4	0.29	0.28	0.29	0.28	0.38	0.41
Calcium	20000	17000	6700	41000	4100	5300	4200	9700	11000	9300	9900	12000	4200	3900	26000	4200	5500	9300	4800
Chromium	15	14	19	10	18	17	25	20	18	19	110	150	22	23	24	23	20	22	19
Cobalt	8.6	7.4	10	6.6	11	11	16	14	12	12	16	17	13	14	12	14	9.6	8.9	9.8
Copper	270	41	36	38	20	37	34	88	180	40	39	120	75	62	62	56	59	40	43
Iron	400	22000	21000	30000	20000	30000	29000	35000	34000	33000	35000	43000	49000	32000	33000	33000	36000	27000	26000
Lead	44	36	150	55	45	41	200	120	76	64	3800	4800	110	110	220	130	190	190	170
Magnesium	6100	7200	5300	12000	4200	4200	5200	6000	5900	6400	5500	6700	5100	5300	5300	5900	4600	6800	4400
Manganese	2000	880	630	640	650	510	560	740	820	660	810	670	850	740	740	570	630	620	600
Mercury	0.81	0.066	0.056	0.14	0.11	0.063	0.057	0.083	0.071	0.048	0.058	0.15	0.14	0.068	0.076	0.069	0.075	0.071	0.065
Nickel	310	19	17	24	15	26	24	52	57	27	29	63	46	38	38	34	39	23	24
Potassium	1700	1700	1800	1400	750	910	890	1800	1600	1500	1500	2000	2000	2000	2000	1900	1900	1100	1000
Selenium	180	<1.3	<1.3	<1.4	<0.93	<1.2	<1.1	<1.1	<1.0	<0.94	<0.97	<1.1	<1.0	<1.1	<1.1	<1.0	<0.98	<1.1	<0.99
Silver	180	<0.31	<0.31	<0.34	<0.23	<0.30	<0.28	<0.28	<0.25	<0.23	<0.24	<0.26	<0.25	<0.28	<0.27	<0.25	<0.24	<0.28	<0.29
Sodium		<75	<75	<83	<56	<72	<67	<69	67	<56	<58	75	82	<68	<65	73	61	<69	<59
Thallium		<0.80	<0.81	<0.89	<0.60	<0.77	<0.74	<0.66	<0.61	<0.62	<0.68	<0.64	<0.73	<0.70	<0.64	<0.63	<0.74	<0.64	<0.76
Vanadium		17	16	31	23	22	26	24	22	23	25	27	24	26	24	25	30	36	27
Zinc	10000	130	98	160	68	94	88	210	130	100	100	730	1100	150	140	140	150	120	130

Units: mg/kg

Table 2B PFAS and 1,4 Dioxane in Soil

NYSDEC Sample ID Date Sampled Matrix		CG-2 5/8/24 Soil	B1A 5/8/24 Soil	SB1A 5/8/2024 Soil	SB4A 5/8/24 Soil	SB7 5/8/24 Soil	DUP 5/8/24 Soil
Compound	RRSCO						
1,4-Dioxane	13 (mg/kg)	<0.061 (mg/kg)	<0.044 (mg/kg)	<0.054 (mg/kg)	<0.051 (mg/kg)	<0.055 (mg/kg)	<0.056 (mg/kg)
Perfluorobutanoic acid (PFBA)		<0.32	<0.32	<0.32	<0.32	<0.32	<0.32
Perfluoropentanoic acid (PFPeA)		0.17	<0.044	0.05	0.1	0.082	0.13
Perfluorohexanoic acid (PFHxA)		0.23	0.051	0.053	0.1	0.083	0.12
Perfluoroheptanoic acid (PFHpA)		0.085	0.043	0.048	0.081	0.12	0.14
Perfluorooctanoic acid (PFOA)	6.6	0.29	0.2	0.2	0.33	0.49	0.4
Perfluorononanoic acid (PFNA)		0.13	0.031	0.077	0.11	0.21	0.2
Perfluorodecanoic acid (PFDA)		0.15	0.018	0.043	0.046	0.11	0.096
Perfluoroundecanoic acid (PFUnA)		0.085	<0.023	0.044	0.048	0.12	0.11
Perfluorododecanoic acid (PFDoA)		0.08	<0.021	<0.022	0.023	0.047	0.041
Perfluorotridecanoic acid (PFTriDA)		0.036	<0.022	<0.022	0.023	0.04	0.031
Perfluorotetradecanoic acid (PFTeDA)		0.039	<0.020	<0.020	<0.020	0.023	<0.020
Perfluorobutanesulfonic acid (PFBS)		0.035	<0.020	0.021	0.035	0.035	0.034
Perfluoropentanesulfonic acid (PFPeS)		<0.025	<0.025	<0.026	<0.025	<0.025	<0.026
Perfluorohexanesulfonic acid (PFHxS)		<0.078	<0.077	<0.078	<0.077	<0.077	<0.079
Perfluoroheptanesulfonic acid (PFHpS)		<0.021	<0.021	<0.021	<0.021	<0.021	<0.021
Perfluorooctanesulfonic acid (PFOS)	8.8	0.45	0.14	0.25	0.3	0.62	0.55
Perfluorononanesulfonic acid (PFNS)		<0.022	<0.022	<0.022	<0.022	<0.022	<0.022
Perfluorodecanesulfonic acid (PFDS)		<0.032	<0.031	<0.032	<0.031	<0.031	<0.032
Perfluorododecanesulfonic acid (PFDoS)		<0.030	<0.030	<0.030	<0.030	<0.030	<0.031
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)		<0.069	<0.068	<0.070	<0.068	<0.068	<0.070
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)		<0.50	<0.49	<0.50	<0.49	<0.49	<0.50
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)		<0.092	<0.091	<0.093	<0.091	<0.091	<0.093
Perfluorooctanesulfonamide (PFOSA)		<0.031	<0.030	<0.031	<0.030	<0.030	<0.031
N-methyl perfluorooctanesulfonamide (NMeFOSA)		<0.025	<0.024	<0.025	<0.024	<0.024	<0.025
N-ethyl perfluorooctanesulfonamide (NEtFOSA)		<0.023	<0.023	<0.023	<0.023	<0.023	<0.023
N-MeFOSAA (NMeFOSAA)		<0.036	<0.035	<0.036	<0.035	<0.035	<0.036
N-EtFOSAA (NEtFOSAA)		<0.030	<0.029	<0.030	<0.029	<0.029	<0.030
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)		<0.21	<0.21	<0.22	<0.21	<0.21	<0.22
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)		<0.21	<0.21	<0.21	<0.21	<0.21	<0.22
Hexafluoropropylene oxide dimer acid (HFPO-DA)		<0.051	<0.050	<0.051	<0.050	<0.050	<0.051
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)		<0.059	<0.058	<0.060	<0.058	<0.058	<0.060
9Cl-PF3ONS (F53B Minor)		<0.057	<0.056	<0.058	<0.056	<0.056	<0.058
11Cl-PF3OUdS (F53B Major)		<0.088	<0.086	<0.088	<0.086	<0.087	<0.089
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)		<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)		<1.3	<1.3	<1.3	<1.3	<1.3	<1.3
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)		<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)		<0.031	<0.031	<0.031	<0.031	<0.031	<0.032
Perfluoro-3-methoxypropanoic acid (PFMPA)		<0.032	<0.032	<0.033	<0.032	<0.032	<0.033
Perfluoro-4-methoxybutanoic acid (PFMBA)		<0.033	<0.032	<0.033	<0.032	<0.032	<0.033
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)		<0.060	<0.059	<0.060	<0.059	<0.059	<0.060

Units: µg/kg

Table 2C Pesticides and PCBs in Soil

NYSDEC Sample ID Date Sampled Matrix		CG-2 5/8/24 Soil	B1A 5/8/24 Soil	SB1A 5/8/2024 Soil	SB4A 5/8/24 Soil	SB7 5/8/24 Soil	DUP 5/8/24 Soil
Compound	RRSCO						
alpha-Chlordane	4.2	<0.034	<0.051	<0.0031	<0.028	<0.064	<0.033
gamma-Chlordane		<0.032	<0.047	<0.0029	<0.027	<0.060	<0.031
Aldrin	0.097	<0.0073	<0.011	<0.00065	<0.0060	<0.013	<0.0069
alpha-BHC	0.48	<0.035	<0.052	<0.0031	<0.029	<0.065	<0.033
beta-BHC	0.36	<0.039	<0.058	<0.0035	<0.033	<0.073	<0.038
delta-BHC	100	<0.039	<0.058	<0.0035	<0.033	<0.073	<0.037
gamma-BHC (Lindane)		<0.010	<0.015	<0.00092	<0.0085	<0.019	<0.0098
4,4'-DDD	13	<0.013	<0.019	<0.0011	<0.010	<0.023	<0.012
4,4'-DDE	8.9	<0.0066	<0.0096	<0.00058	<0.0054	<0.012	<0.0062
4,4'-DDT	1.7	<0.0076	0.021	<0.00068	<0.0063	<0.014	<0.0073
Dieldrin	0.2	<0.0071	<0.010	<0.00063	<0.0059	<0.013	<0.0067
Endosulfan I	24	<0.036	<0.052	<0.0032	<0.029	<0.066	<0.034
Endosulfan II	24	<0.032	<0.047	<0.0028	<0.026	<0.059	<0.030
Endosulfan Sulfate	24	<0.029	<0.042	<0.0026	<0.024	<0.053	<0.027
Endrin	11	<0.038	<0.055	<0.0034	<0.031	<0.070	<0.036
Endrin Aldehyde		<0.029	<0.043	<0.0026	<0.024	<0.054	<0.028
Endrin Ketone		<0.030	<0.044	<0.0027	<0.025	<0.055	<0.028
Heptachlor	2.1	<0.0081	<0.012	<0.00073	<0.0068	<0.015	<0.0078
Heptachlor Epoxide		<0.0086	<0.013	<0.00077	<0.0071	<0.016	<0.0082
Methoxychlor		<0.071	<0.11	<0.0064	<0.059	<0.13	<0.068
Toxaphene		<0.62	<0.91	<0.055	<0.51	<1.1	<0.59
Aroclor-1016		<0.029	<0.022	<0.026	<0.024	<0.027	<0.028
Aroclor-1221		<0.055	<0.040	<0.048	<0.046	<0.051	<0.052
Aroclor-1232		<0.029	<0.021	<0.025	<0.024	<0.027	<0.028
Aroclor-1242		<0.033	<0.024	<0.029	<0.027	<0.030	<0.031
Aroclor-1248		<0.028	<0.021	<0.025	<0.024	<0.026	<0.027
Aroclor-1254		0.089	<0.026	<0.031	1.1	0.091	0.11
Aroclor-1260		<0.025	<0.018	<0.022	<0.020	<0.023	<0.023
Aroclor-1262		<0.031	<0.023	<0.027	<0.025	<0.028	<0.029
Aroclor-1268		<0.031	<0.023	<0.027	<0.026	<0.029	<0.030
Total PCBs	1	0.089	ND	ND	1.1	0.091	0.11

Units: mg/kg

Table 2D SVOCs in Soil

NYSDEC Sample ID Date Sampled Matrix		CG-2 5/8/24 Soil	B1A 5/8/24 Soil	SB1A 5/8/2024 Soil	SB4A 5/8/24 Soil	SB7 5/8/24 Soil	DUP 5/8/24 Soil
Compound	RRSCO						
Acetone	100	<0.080	<0.080	<0.065	0.056	<0.078	0.073
Benzene	4.8	<0.00097	<0.00096	<0.00079	<0.00067	<0.00094	<0.00088
Bromochloromethane		<0.0013	<0.0013	<0.0011	<0.00092	<0.0013	<0.0012
Bromodichloromethane		<0.00079	<0.00079	<0.00064	<0.00055	<0.00077	<0.00072
Bromoform		<0.0014	<0.0013	<0.0011	<0.00094	<0.0013	<0.0012
Bromomethane		<0.0027	<0.0027	<0.0022	<0.0019	<0.0027	<0.0025
2-Butanone (MEK)	100	<0.013	<0.013	<0.011	<0.0091	<0.013	<0.012
n-Butylbenzene	100	<0.0011	<0.0011	<0.00091	<0.00078	<0.0011	<0.0010
sec-Butylbenzene	100	<0.0012	<0.0012	<0.0010	<0.00086	<0.0012	<0.0011
tert-Butylbenzene	100	<0.0011	<0.0011	<0.00091	<0.00078	<0.0011	<0.0010
Carbon Disulfide		<0.016	<0.015	<0.013	<0.011	<0.015	<0.014
Carbon Tetrachloride	2.4	<0.00090	<0.00089	<0.00073	<0.00062	<0.00087	<0.00082
Chlorobenzene	100	<0.00074	<0.00074	<0.00061	<0.00052	<0.00073	<0.00068
Chlorodibromomethane		<0.0010	<0.0010	<0.00083	<0.00071	<0.00099	<0.00093
Chloroethane		<0.0022	<0.0022	<0.0018	<0.0015	<0.0021	<0.0020
Chloroform	49	<0.0010	<0.0010	<0.00082	<0.00070	<0.00099	<0.00092
Chloromethane		<0.0019	<0.0019	<0.0015	<0.0013	<0.0018	<0.0017
Cyclohexane		<0.0063	<0.0063	<0.0051	<0.0044	<0.0061	<0.0057
1,2-Dibromo-3-chloropropane (DBCP)		<0.0012	<0.0012	<0.0010	<0.00087	<0.0012	<0.0011
1,2-Dibromoethane (EDB)		<0.0011	<0.0011	<0.00092	<0.00078	<0.0011	<0.0010
1,2-Dichlorobenzene	100	<0.00099	<0.00098	<0.00080	<0.00069	<0.00097	<0.00090
1,3-Dichlorobenzene	49	<0.00089	<0.00089	<0.00072	<0.00062	<0.00087	<0.00081
1,4-Dichlorobenzene	13	<0.00096	<0.00095	<0.00078	<0.00067	<0.00094	<0.00088
Dichlorodifluoromethane (Freon 12)		<0.0014	<0.0013	<0.0011	<0.00094	<0.0013	<0.0012
1,1-Dichloroethane	26	<0.00094	<0.00094	<0.00076	<0.00066	<0.00092	<0.00086
1,2-Dichloroethane	3.1	<0.0011	<0.0011	<0.00086	<0.00074	<0.0010	<0.00097
1,1-Dichloroethylene		<0.0015	<0.0015	<0.0012	<0.0010	<0.0014	<0.0014
cis-1,2-Dichloroethylene	100	<0.0011	<0.0011	<0.00087	<0.00075	<0.0010	<0.00098
trans-1,2-Dichloroethylene	100	<0.00092	<0.00092	<0.00075	<0.00064	<0.00090	<0.00084
1,2-Dichloropropane		<0.00095	<0.00095	<0.00077	<0.00066	<0.00093	<0.00087
cis-1,3-Dichloropropene		<0.0012	<0.0012	<0.00095	<0.00082	<0.0011	<0.0011
trans-1,3-Dichloropropene		<0.0012	<0.0012	<0.00097	<0.00083	<0.0012	<0.0011
Ethylbenzene	41	<0.00089	<0.00089	<0.00072	<0.00062	<0.00087	<0.00081
2-Hexanone (MBK)		<0.011	<0.011	<0.0086	<0.0074	<0.010	<0.0097
Isopropylbenzene (Cumene)		<0.0012	<0.0012	<0.00097	<0.00083	<0.0012	<0.0011
p-Isopropyltoluene (p-Cymene)		<0.0010	<0.0010	<0.00081	<0.00070	<0.00098	<0.00091
Methyl Acetate		<0.0021	<0.0020	<0.0017	<0.0014	0.0022	<0.0019
Methyl tert-Butyl Ether (MTBE)	100	<0.0014	<0.0014	<0.0011	<0.00095	<0.0013	<0.0012
Methyl Cyclohexane		<0.0011	<0.0011	<0.00090	<0.00077	<0.0011	<0.0010
Methylene Chloride		<0.0014	<0.0014	<0.0012	<0.0010	<0.0014	<0.0013
4-Methyl-2-pentanone (MIBK)		<0.014	<0.014	<0.011	<0.0095	<0.013	<0.012
Naphthalene		<0.0015	<0.0015	<0.0012	<0.0011	<0.0015	<0.0014
n-Propylbenzene		<0.0010	<0.0010	<0.00083	<0.00071	<0.0010	<0.00093
Styrene		<0.00098	<0.00098	<0.00080	<0.00068	<0.00096	<0.00090
1,1,2,2-Tetrachloroethane		<0.0012	<0.0012	<0.00097	<0.00083	<0.0012	<0.0011
Tetrachloroethylene	19	<0.0013	<0.0013	<0.0011	<0.00094	<0.0013	<0.0012
Toluene		<0.00091	<0.00091	<0.00074	<0.00064	<0.00089	<0.00084
1,2,3-Trichlorobenzene		<0.0010	<0.0010	<0.00083	<0.00071	<0.0010	<0.00093
1,2,4-Trichlorobenzene		<0.0010	<0.0010	<0.00083	<0.00071	<0.00099	<0.00093
1,1,1-Trichloroethane	100	<0.00092	<0.00091	<0.00074	<0.00064	<0.00089	<0.00084
1,1,2-Trichloroethane		<0.00080	<0.00079	<0.00065	<0.00055	<0.00078	<0.00073
Trichloroethylene		<0.0012	<0.0012	<0.00095	<0.00081	<0.0011	<0.0011
Trichlorofluoromethane (Freon 11)		<0.0018	<0.0018	<0.0015	<0.0013	<0.0018	<0.0017
1,2,3-Trichloropropane		<0.0013	<0.0012	<0.0010	<0.00087	<0.0012	<0.0011
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		<0.0016	<0.0016	<0.0013	<0.0011	<0.0016	<0.0015
1,2,4-Trimethylbenzene	52	<0.0015	<0.0015	<0.0012	<0.0010	<0.0015	<0.0014
1,3,5-Trimethylbenzene	52	<0.0012	<0.0012	<0.0010	<0.00086	<0.0012	<0.0011
Vinyl Chloride	0.9	<0.0012	<0.0012	<0.00098	<0.00084	<0.0012	<0.0011
m+p Xylene		<0.0022	<0.0022	<0.0018	<0.0016	<0.0022	<0.0020
o-Xylene		<0.0010	<0.0010	<0.00085	<0.00073	<0.0010	<0.00095
Xylenes (total)	100	<0.0031	<0.0031	<0.0025	<0.0022	<0.0030	<0.0028
Cyanide	27	0.88	<0.41	<0.48	<0.44	0.53	<0.53

Units: mg/kg

Table 2E VOCs in Soil

NYSDEC Sample ID Date Sampled Matrix		CG-2 5/8/24 Soil	B1A 5/8/24 Soil	SB1A 5/8/2024 Soil	SB4A 5/8/24 Soil	SB7 5/8/24 Soil	DUP 5/8/24 Soil
Compound	RRSCO						
2,3,4,6-Tetrachlorophenol		<0.072	<0.053	<0.063	<0.058	<0.065	<0.065
Atrazine		<0.068	<0.050	<0.060	<0.055	<0.062	<0.062
Benzaldehyde		0.18	<0.063	<0.075	<0.068	0.086	0.098
Biphenyl		<0.067	<0.050	<0.059	<0.054	<0.061	<0.061
Caprolactam		<0.092	<0.068	<0.081	<0.074	<0.084	<0.084
Acenaphthene	100	<0.051	<0.038	<0.045	<0.041	<0.046	<0.046
Acenaphthylene	100	<0.048	<0.035	<0.042	<0.039	<0.044	<0.044
Acetophenone		<0.055	<0.041	<0.049	<0.045	<0.050	<0.050
Aniline		<0.092	<0.068	<0.081	<0.074	<0.084	<0.084
Anthracene	100	<0.047	<0.035	<0.041	<0.038	<0.043	<0.043
Benzo(a)anthracene	1	0.11	0.041	<0.038	<0.035	<0.039	<0.039
Benzo(a)pyrene	1	0.16	0.058	<0.042	<0.039	<0.044	<0.044
Benzo(b)fluoranthene	1	0.28	0.064	<0.038	<0.035	<0.039	<0.039
Benzo(g,h,i)perylene	100	0.21	0.065	<0.067	<0.061	<0.069	<0.069
Benzo(k)fluoranthene	3.9	0.098	<0.035	<0.042	<0.039	<0.044	<0.044
Bis(2-chloroethoxy)methane		<0.057	<0.042	<0.050	<0.046	<0.052	<0.052
Bis(2-chloroethyl)ether		<0.075	<0.056	<0.067	<0.061	<0.069	<0.069
Bis(2-chloroisopropyl)ether		<0.33	<0.25	<0.30	<0.27	<0.30	<0.30
Bis(2-Ethylhexyl)phthalate		<0.063	<0.046	<0.055	<0.051	<0.057	<0.057
4-Bromophenylphenylether		<0.048	<0.036	<0.043	<0.039	<0.044	<0.044
Butylbenzylphthalate		<0.059	<0.044	<0.052	<0.048	<0.054	<0.054
Carbazole		<0.053	<0.040	<0.047	<0.043	<0.049	<0.049
4-Chloroaniline		<0.094	<0.069	<0.083	<0.076	<0.086	<0.085
4-Chloro-3-methylphenol		<0.055	<0.041	<0.049	<0.045	<0.050	<0.050
2-Chloronaphthalene		<0.046	<0.034	<0.041	<0.037	<0.042	<0.042
2-Chlorophenol		<0.053	<0.039	<0.047	<0.043	<0.049	<0.048
4-Chlorophenylphenylether		<0.044	<0.032	<0.039	<0.035	<0.040	<0.040
Chrysene	3.9	0.18	0.06	<0.042	<0.038	<0.043	<0.043
Dibenz(a,h)anthracene	0.33	<0.073	<0.054	<0.065	<0.059	<0.067	<0.067
Dibenzofuran		<0.047	<0.035	<0.042	<0.038	<0.043	<0.043
Di-n-butylphthalate		<0.20	<0.15	<0.18	<0.16	<0.18	<0.18
3,3-Dichlorobenzidine		<0.11	<0.085	<0.10	<0.092	<0.10	<0.10
2,4-Dichlorophenol		<0.050	<0.037	<0.044	<0.041	<0.046	<0.046
Diethylphthalate		<0.051	<0.038	<0.045	<0.041	<0.047	<0.047
2,4-Dimethylphenol		<0.12	<0.091	<0.11	<0.099	<0.11	<0.11
Dimethylphthalate		<0.050	<0.037	<0.044	<0.040	<0.046	<0.046
4,6-Dinitro-2-methylphenol		<0.42	<0.31	<0.37	<0.34	<0.38	<0.38
2,4-Dinitrophenol		<0.41	<0.30	<0.36	<0.33	<0.37	<0.37
2,4-Dinitrotoluene		<0.054	<0.040	<0.047	<0.043	<0.049	<0.049
2,6-Dinitrotoluene		<0.056	<0.041	<0.049	<0.045	<0.051	<0.051
Di-n-octylphthalate		<0.075	<0.055	<0.066	<0.060	<0.068	<0.068
Fluoranthene	100	0.16	0.063	0.071	<0.035	<0.040	<0.040
Fluorene	100	<0.047	<0.035	<0.042	<0.038	<0.043	<0.043
Hexachlorobenzene		<0.051	<0.038	<0.045	<0.041	<0.047	<0.047
Hexachlorobutadiene		<0.048	<0.035	<0.042	<0.039	<0.044	<0.044
Hexachlorocyclopentadiene		<0.35	<0.26	<0.31	<0.28	<0.32	<0.32
Hexachloroethane		<0.049	<0.036	<0.043	<0.039	<0.045	<0.045
Indeno(1,2,3-cd)pyrene	0.5	0.19	<0.064	<0.076	<0.069	<0.078	<0.078
Isophorone		<0.056	<0.042	<0.050	<0.045	<0.051	<0.051
1-Methylnaphthalene		<0.053	<0.039	<0.047	<0.043	<0.048	<0.048
2-Methylnaphthalene		<0.045	<0.033	<0.040	<0.036	<0.041	<0.041
2-Methylphenol		<0.071	<0.052	<0.063	<0.057	<0.065	<0.065
3/4-Methylphenol		<0.070	<0.052	<0.062	<0.056	<0.064	<0.064
Naphthalene	100	<0.093	<0.069	<0.082	<0.075	<0.085	<0.085
2-Nitroaniline		<0.064	<0.048	<0.057	<0.052	<0.059	<0.059
3-Nitroaniline		<0.11	<0.082	<0.097	<0.089	<0.10	<0.10
4-Nitroaniline		<0.059	<0.044	<0.052	<0.048	<0.054	<0.054
Nitrobenzene		<0.067	<0.049	<0.059	<0.054	<0.061	<0.061
2-Nitrophenol		<0.052	<0.038	<0.046	<0.042	<0.047	<0.047
4-Nitrophenol		<0.14	<0.10	<0.12	<0.11	<0.13	<0.13
N-Nitrosodiphenylamine/Diphenylamine		<0.067	<0.050	<0.059	<0.054	<0.061	<0.061
N-Nitrosodi-n-propylamine		<0.074	<0.055	<0.065	<0.060	<0.067	<0.067
Pentachlorophenol	6.7	<0.19	<0.14	<0.17	<0.15	<0.17	<0.17
Phenanthrene	100	<0.047	<0.035	<0.042	<0.038	<0.043	<0.043
Phenol		<0.067	<0.050	<0.059	<0.054	<0.061	<0.061
Pyrene	100	0.15	0.11	0.082	<0.045	0.053	0.057
Pyridine		<0.062	<0.046	<0.055	<0.050	<0.056	<0.056
1,2,4,5-Tetrachlorobenzene		<0.052	<0.039	<0.046	<0.042	<0.048	<0.048
2,4,5-Trichlorophenol		<0.054	<0.040	<0.048	<0.044	<0.049	<0.049
2,4,6-Trichlorophenol		<0.050	<0.037	<0.044	<0.041	<0.046	<0.046

Units: mg/kg

Soil Sample Locations

*(2025 NYSDEC Site Characterization Report - Figure 3)



	RRSCO	SB4	SB4A
Lead	400	3800	4600
Total PCBs	1	NS	1.1

SB1/SB1A

SB2/SB2A

SB3/SB3A

SB4/SB4A

SB5/SB5A

SB6/SB6A

SB7/SB7A

B1/B1A

CG2

CG1

Legend

-  Remediation Site Borders
-  Soil Sampling Locations
-  XRF Screening Grid
-  Tax Parcels - Dutchess County

Katherine Lane

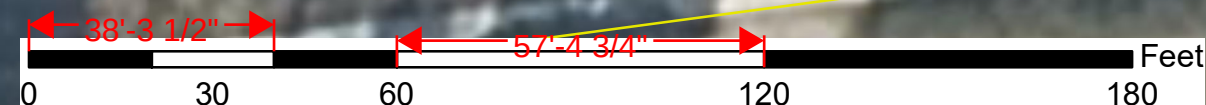


Figure 3

Soil Sample Locations
Former Tivoli Water Tower Site
Site No.: 314135



Attachment 2: Health and Safety Plan



Tighe & Bond

Partnership
with purpose

Former Tivoli Water Tower Site -
NYSDEC Site No.314135
19 Pine Street Tivoli, New York

Health and Safety Plan

Village of Tivoli
May 2026

Table of Contents

List of Acronyms

SECTION 1 Project Description	1-1
1.1 PROJECT WORKPLAN	1-2
1.1.1 Task 1: Additional Soil Sampling.....	1-2
1.1.2 Task 2: Soil Excavation Oversight	1-3
SECTION 2 Comprehensive Site & Work Plan	2-1
2.1 EMERGENCY INFORMATION/LOCAL RESOURCES	2-1
2.2 PROJECT TEAM/ORGANIZATIONAL STRUCTURE	2-1
2.2.1 Project Team Roles and Responsibilities	2-2
2.3 HAZARDS ANALYSIS/HAZARD CONTROLS.....	2-3
2.3.1 Chemical Hazards	2-5
2.3.2 Slips, Trips, and Falls at Level.....	2-8
2.3.3 Heavy/Construction Equipment.....	2-9
2.3.4 Excessive Noise	2-9
2.3.5 Ground Disturbance Activities	2-10
2.3.6 Extreme Heat, Cold, or Weather Conditions.....	2-13
2.3.7 Driver Safety (Personal or Company Cars)	2-14
2.3.8 Hand and/or Power Tools	2-14
2.3.9 Exposures to Mosquitos, Animal Droppings, Rodents	2-14
2.3.10 Hazardous Ticks and Insects	2-15
2.3.11 Hazardous or Poisonous Plants.....	2-15
2.3.12 Working Alone	2-15
2.3.13 Using and XRF Device	2-16
2.3.14 Sample collection with Chemical preservatives or other hazardous materials.	2-16
2.4 EMERGENCY RESPONSE PLAN	2-16
2.4.1 Medical Emergencies/First Aid	2-17
2.4.2 Fires.....	2-17
2.4.3 Chemical Exposures.....	2-17
2.4.4 Oil and Hazardous Material Spills	2-18
2.4.5 Emergency Evacuation Plan	2-18
2.5 PERSONAL PROTECTIVE EQUIPMENT	2-19
2.6 Site Field and Safety Equipment	2-20
2.7 WORK ZONES, ACTION LEVELS, AIR MONITORING	2-21
2.7.1 General Work Zone Designations.....	2-21

Table of Contents

2.7.2	General Work Zone Procedures	2-22
2.7.3	Site-Specific Work Zone Activities.....	2-22
2.7.4	Field Monitoring in the Exclusion Zone.....	2-23
SECTION 3 Decontamination Procedures.....		3-1
3.1	DECONTAMINATION	3-1
3.1.1	Personal Hygiene	3-1
3.1.2	Personnel Decontamination	3-2
3.1.3	Equipment Decontamination	3-2
3.1.4	PPE, Soils, and Waste Disposal.....	3-3
SECTION 4 Training and Medical Programs		4-1
4.1	TRAINING PROGRAM.....	4-1
4.1.1	Project Specific Training Requirements	4-1
4.2	MEDICAL MONITORING PROGRAM	4-2
4.3	TIGHE & BOND-SPECIFIC S&H PROGRAMS.....	4-3
4.4	CLIENT OR JOB-SPECIFIC S&H PROGRAMS	4-3
SECTION 5 Worker Acknowledgements		5-1
5.1	Site Access Training & HASP Acknowledgement Form.....	5-1

Appendices

Appendix A: Additional Chemical Safety Information

Appendix B: Hospital Map and Directions

Acronym List

ACGIH:	American Conference of Governmental Industrial Hygienists
ACM:	Asbestos-Containing Material
AL:	Action Level
AOC:	Area of Concern
AUL:	Activity and Use Limitation
BEI:	Blood Exposure Indices
BTEX:	Benzene, Toluene, Ethylbenzene and Xylenes
CBYD:	Call Before You Dig
CFR:	Code of Federal Regulations
CGI:	Combustible Gas Indicator
CHMM:	Certified Hazardous Material Manager
CIH:	Certified Industrial Hygienist
COC:	Contaminants of Concern or Constituents of Concern
CSHD:	Corporate Safety and Health Director
CSP:	Certified Safety Professional
DAF:	Dilution Attenuation Factor
DEP:	Department of Environmental Protection (Massachusetts)
DEEP:	Department of Energy and Environmental Protection (Connecticut)
DNAPL:	Dense Non-Aqueous Phase Liquid
EP:	Environmental Professional
EPA:	U.S. Environmental Protection Agency
EPH:	Extractable Petroleum Hydrocarbons
GW:	Ground Water
HASP:	Health and Safety Plan
HAZWOPER:	Hazardous Waste Operations and Emergency Response
IARC:	International Agency for Research on Cancer
IDLH:	Immediately Dangerous to Life or Health
IRA:	Immediate Response Action
LEL:	Lower Explosive Limit
LEP:	Licensed Environmental Professional
LSP:	Licensed Site Professional
MCL:	Maximum Contaminant Level
mg:	Milligram
mg/m ³	Milligrams/cubic meter
ug/m ³	Micrograms/cubic meter
MODF:	Mineral Oil Dielectric Fluid
NIOSH:	National Institute for Occupational Safety and Health
NTP:	National Toxicology Program
OHM:	Oil and/or Hazardous Material
OSHA:	Occupational Safety and Health Administration
PAH:	Polycyclic (or Polynuclear) Aromatic Hydrocarbons

PCB:	Polychlorinated Biphenyls
PCE:	Perchloroethylene (Tetrachloroethylene)
PD:	Project Director
PEL:	Permissible Exposure Limit
PID:	Photoionization Detector
PM:	Project Manager
PPE:	Personal Protective Equipment
PPM:	Part Per Million
PRP:	Potentially Responsible Party
RC:	Reportable Concentration
RCRA:	Resource, Conservation, and Recovery Act
REL:	Recommended Exposure Limit
RTN:	Release Tracking Number
SDS:	Safety Data Sheet
SHSO:	Site Health and Safety Officer
SPM:	Senior Project Manager
STEL:	Short-Term Exposure Limit
SVE:	Soil Vapor Extraction
SVOC:	Semi-volatile Organic Compound
TCE:	Trichloroethylene
TLV:	Threshold Limit Value
TPH:	Total Petroleum Hydrocarbons
TWA:	Time-Weighted Average
VOC:	Volatile Organic Compound
VPH:	Volatile Petroleum Hydrocarbons

SECTION 1 | Project Description

A. Site Name	Tivoli Park Former Water Tower
B. Client Name	Dutchess County Water and Wastewater Authority
C. Location/Address	Pine Street, Tivoli, NY
D. Tighe & Bond Project Number	D-02800007N
E. Regulatory Reference or Site Number	New York State Department of Environmental Conservation (NYSDEC) Site No. 314135
F. Business Line:	Environmental
G. Background Information	- Elevated concentrations of lead and polychlorinated biphenyls (PCBs) were identified in post water tower demolition soil samples collected as part of the water tower demolition project and NYSDECs Site Characterization. - Several soil samples exhibited concentrations above the NYSDEC regulations as identified in 6 NYCRR 375-6, Remedial Program Soil Cleanup Objectives for Residential and Restricted Residential scenarios.
H. Property Owner	Village of Tivoli
I. General Scope of Work	- Collection of surficial soil samples (<12 inches below surface grade) for field screening using an X-Ray Fluorescence (XRF) field analyzer, photoionization detector (PID), and laboratory analysis to determine the extent of elevated lead levels in the vicinity of the former water tower. - Observation during soil excavation activities (Remedial Action)
J. Tighe & Bond Subcontractors	N/A

1 Project Description

If the project requires the purchase of or the need to bring hazardous or potentially hazardous materials back to an office, you must read and follow the Waste Management Protocol. Examples include but are not limited to: HBMA, soil or water samples, sample preservatives, etc.	APPENDIX B: Potential Hazardous Materials Disposal Protocol

1.1 PROJECT WORKPLAN

For all project observers and site workers: Always stay alert and aware of safety risks to you and your team. If you observe a contractor working unsafely or in a manner that puts you or the site at risk of injury, immediately alert your project or site manager and document the event.

1.1.1 Task 1: Additional Soil Sampling

Objective/Purpose:

The objective of this task is to collect additional soil samples in the SB-4/SB-4A area to determine the limits of elevated lead and PCB concentrations. Tighe & Bond will have 1-2 environmental scientists on site performing this work.

The purpose of this task is to:

- Determine the extent of elevated lead and PCB concentrations in the vicinity of the former water tower.

Personal Protective Equipment:

Field work for this task will be completed by Tighe & Bond personnel in Level D PPE (See Section 2.5 of this HASP for additional detail). Modifications, if any, are provided below:

- Not Applicable

Tools/Resources:

Tools, resources, and field equipment for this work may include, but may not be limited to the following:

- PPE - Level D
- Soil Sampling Equipment: hand auger, trowel, soil jars
- XRF screening device
- PID
- Decontamination Equipment

Special Instructions/Methods:

None

1 Project Description

1.1.2 Task 2: Soil Excavation Oversight

Objective/Purpose:

The objective of this task is to observe the excavation of lead and PCB-impacted soils from the Site, and to field screen post-excavation soils. Tighe & Bond will have 1-2 environmental scientists on site performing this work.

The purpose of this task is to:

- Oversee the removal of lead and PCB-impacted soils from the Site, and to collect post-excavation confirmatory samples for laboratory analysis.

Personal Protective Equipment:

Field work for this task will be completed by Tighe & Bond personnel in Level D PPE (See Section 2.5 of this HASP for additional detail). Modifications, if any, are provided below:

- Not Applicable

Tools/Resources:

Tools, resources, and field equipment for this work may include, but may not be limited to the following:

- PPE - Level D
- Soil Sampling Equipment: hand auger, trowel, soil jars
- XRF screening device
- PID
- Decontamination Equipment

Special Instructions/Methods:

None

SECTION 2 | Comprehensive Site & Work Plan

2.1 EMERGENCY INFORMATION/LOCAL RESOURCES

Public and Private Resources	Telephone Numbers
Ambulance	(911)
Police	(911) or 845-486-3800
Fire	(911) or 845-757-4445
Client-Specific Emergency Reporting	N/A
Northern Dutchess Hospital	845-876-3001
New York Department of Environmental Conservation	518-402-9167
National Response Center	800-424-8802
National Poison Control	800-682-9211
UDig NY	811 or 315-437-7394

To help find a medical provider near your project, click this link, and enter your project address in the search box. <http://www.ushospitalfinder.com/>

Remember the 24-7 TravCARE Nurse Line can be reached simply by calling 800.238.6225 and follow the prompts • Press 1 • Press 1 • Press 4 • Press 2 • Press 2 • Press 1

Nearest Hospital or Clinic: Northern Dutchess Hospital

- 6511 Spring Brook Ave. Rhinebeck, NY
- Approx. 10 miles
- Approx. 15 minutes

2.2 PROJECT TEAM/ORGANIZATIONAL STRUCTURE

Role	Team Member	Telephone Number
General Supervisor (PD/Senior PM)	Brandee Nelson	845-516-5803
Project Manager (PM)	Abby Albano	413-237-3285
Senior Field Engineer/Scientist	Shawn Rising	413-875-1615
Site Health and Safety Officer (SHSO)	Jason Hayward	508-471-9614
Environmental Professional (LSP, LEP, etc.)	Shawn Rising	413-875-1615
Corporate Safety and Health Director (CSHD)	Scott Smith CSP	781-888-8330 (cell)
Tighe & Bond Field Team Members	Samuel Evans	413-562-3297
Contractor(s)	N/A	

2.2.1 Project Team Roles and Responsibilities

General Supervisor: The General Supervisor may be the Tighe & Bond Project Director (PD) or Senior Project Manager (SPM) or his/her designee, on a project-by-project basis.

The General Supervisor has the responsibility and authority for the following:

- To ensure the HASP is developed and approved by the SSHS prior to the start of field work
- To direct all hazardous waste/Site operations, through the PM
- To halt Site operations if deemed to be unsafe for the project team

Project Manager (PM): The Tighe & Bond PM has overall responsibility for preparing and directing project operations. The PM reports to the General Supervisor and to the SSHS. All other Site personnel report to the PM unless otherwise noted.

The Project Manager has the responsibility and authority for the following:

- To prepare and coordinate the Site work plan
- To work with the SHSO to prepare the HASP and obtain HASP approval from the CSHD
- To coordinate safety and health functions with the SHSO
- To ensure the HASP is properly and effectively implemented
- To direct project/Site operations
- To provide the Senior Field Engineer/Scientist with work assignments and to oversee their performance
- To ensure effective communication
- To halt Site operations if deemed to be unsafe for the project team
- To implement duties assigned by this HASP during emergency situations
- To serve as the primary liaison with public agencies and Site contractors

Site Health and Safety Officer (SHSO): The SHSO reports to the PM and shall work with the PM to develop the HASP. The SHSO must be on Site or readily accessible to the Site during all work operations.

The SHSO has the responsibility and authority for the following:

- To assist in the preparation and review of the HASP
- To implement the HASP
- To coordinate with the project team and Supervisors as necessary for safety and health efforts
- To verify compliance during project implementation
- To manage the safety and health functions on the Site
- To serve as the Site's point of contact for safety and health matters
- To ensure Site monitoring, worker training, and effective selection and use of PPE
- To assess Site conditions for unsafe conditions and to provide corrective action
- To monitor for unsafe actions and to provide corrective action
- To halt Site operations if deemed to be unsafe for the project team
- To implement duties assigned by this HASP during emergency situations

Environmental Professional (As Needed): If required by local, state, or federal regulation, the Environmental Professional (EP) will report to the PM and help maintain compliance with applicable local, state, and/or federal regulations for investigation, remediation, and other activities on local, state, and/or federal-regulated contaminated sites.

2 Comprehensive Site & Work Plan

The EP has the responsibility and authority for the following:

- To oversee and certify the completion of Site activities in compliance with their license obligations
- To implement duties assigned by this HASP during emergency situations

Senior Field Engineer/Scientist: The Senior Field Engineer/Scientist ensures the implementation of the HASP requirements and procedures in the field. The Senior Field Engineer/Scientist reports to the PM and may also serve as the SHSO and/or the EP.

The Senior Field Engineer/Scientist has the responsibility and authority for the following:

- To execute the work plan and schedule as detailed by the PM
- To coordinate with the SHSO on safety and health
- To ensure Site work compliance with the requirements of the HASP
- To implement duties assigned by this HASP during emergency situations

Corporate Safety and Health Director: The Corporate Safety and Health Director (CSHD) is independent of the project team. The CSHD must hold a CSP or CIH designation and has the responsibility and authority for the following:

- To review, provide input, and approve HASPs developed for Tighe & Bond field activities
- To periodically inspect or audit sites to verify compliance with this HASP and applicable safety and health requirements
- To halt Site operations if deemed to be unsafe for the project team

Tighe & Bond Field Team: The Tighe & Bond Field Team will be staffed based on the requirements of the project, as detailed in the Site work plan. Field Team Members report to the Senior Field Engineer/Scientist unless otherwise noted.

Tighe & Bond Field Team members have the responsibility for the following:

- To read, understand, and comply with the HASP
- To follow established safety and health procedures
- To use proper PPE
- To report all incidents, accidents, near misses, and unsafe conditions
- To not conduct unsafe actions
- To follow the lines of authority established for the project

2.3 HAZARDS ANALYSIS/HAZARD CONTROLS

- *Do not perform any task if it is deemed to be unsafe*
- *For hazards which cannot be safely controlled, do not initiate the task. Inform your Project Manager and/or Project Director and assist in the development of an alternate and acceptable work plan.*
- *Immediately report work-related Safety Incidents and Near Miss incidents to your Project Manager and/or Project Director*

(INCIDENT AND NEAR MISS REPORT FORMS ARE AVAILABLE ON SHAREPOINT)

Actual and potential hazards that may be present or may be encountered during each identified work task are provided in the table below. For each actual or potential hazard, hazard controls are provided in sub-sections below. These hazard controls must be implemented to help eliminate, minimize, or control the risk.

SITE HAZARDS			
Potential Hazards	Task 1	Task 2	Task 3
Chemical hazards ¹ (LINK to T&B SDS FOLDER)	X	X	
Heat Stress / Heat Disorders			
Slip, trip, and fall hazards	X	X	
Heavy/construction equipment		X	
Water hazards			
Excessive noise		X	
Ground disturbance activities	X	X	
Drilling hazards			
Exposures to Hazardous Building Materials (Structural, Soil, Water)			
Working in High Crime Rate Area			
Ergonomic Hazards (Heavy Lifting)			
Vehicular Traffic			
Extreme Heat, Cold, or Weather Conditions	X	X	
Driver Safety (Personal Vehicle Use)	X	X	
Hand and power tools	X	X	
Exposure to Mosquitoes. Animal Droppings, Rodents	X	X	
Hazardous ticks and insects	X	X	
Hazardous or Poisonous Plants	X	X	
Unsafe Structures / Abandoned Buildings			
Confined space entry ²			
Lock Out Tag Out (Energy Management) ³			
Exposure to Overhead Powerline or Powered Electrical Systems			
Fall Hazards Greater than 4 feet			
Explosion Hazards (surface or subsurface liquid or gas risks)			
Work Within a Substation ⁴			
Per- and polyfluoroalkyl substances (PFAS) (Sampling)			

SITE HAZARDS			
Potential Hazards	Task 1	Task 2	Task 3
Per- and polyfluoroalkyl substances (PFAS) (Contact)			
Working Alone	X		
Installing a shallow groundwater piezometer			
Use of an XRF Device	X	X	
Working in Heavy Vegetation			
Nanoparticle Risks			
(Note: SOP available: P:\Business Lines\Environmental\SOPs - Draft\Existing Resources)			
Other Hazards: (SPECIFY OTHER HAZARDS - ADD ROWS AS NECESSARY)			

¹A NIOSH Chemical Information Sheet, Safety Data Sheet (SDS) or other chemical hazard information sheet **must** be copied and included in Appendix A of this HASP for each Constituent of Concern (COC) noted in the Chemical Hazard Table below so it can be referred to in the event of a chemical emergency or injury.

²Confined space entry requires special procedures, permits, and training and must be approved by the Corporate Safety and Health Director.

³Work/entry within an electrical substation requires the completion of Eversource's three (3) Substation Safety Trainings (Substation Escorted Access, Personal Protective Equipment, and Substation & Electrical Hazard Awareness) prior to entering the station. For access to Eversource's Substation Safety Training please contact Colleen Brothers (cbrothers@tighebond.com).

⁴The application of lockout tagout tools requires special training. Do not apply energy control measures on energized systems without authorized LOTO training.

2.3.1 Chemical Hazards

Before conducting field activities, Tighe & Bond employees shall familiarize themselves with the signs and symptoms of overexposure for each chemical listed in the table below in addition to the emergency and medical response information presented in the corresponding Chemical Safety Information provided in Appendix A.

Hazard Description/Details:

Chemical hazard contaminants are most likely to be encountered in the form of dust, splashes from the chemical hazard contaminant or contaminated water, or through direct contact with contaminated soils, debris, or other media. In the event of visible emissions during Site activities, dust control in the form of water shall be sufficiently sprayed by the Contractor to reduce visible emissions.

The Chemical Hazards Table below summarizes the known or suspect contaminants at the Site, including the associated signs and symptoms of acute exposure. OSHA, NIOSH, SDS' and/or other information sheets are provided for these chemicals in Appendix A. Since additional unknown or unsuspected

2 Comprehensive Site & Work Plan

contaminants may exist at the Site, periodic evaluation of Site conditions will be performed during all on-Site activities.

In general, workers should monitor and be aware of exposure signs and symptoms for themselves and others, as detailed in the Chemical Hazards Table below. However, the signs and symptoms provided in this table are broad indicators and should not be considered an all-inclusive list of potential chemical exposure.

Additional signs and symptoms of potential chemical exposure may include, but are not limited to the following:

- Signs and symptoms typically observable by others:
 - Changes in complexion or skin discoloration
 - Lack of coordination
 - Changes in demeanor
 - Papillary response
 - Changes in speech pattern
 - Difficulty breathing
- Signs and symptoms typically observable by the affected person:
 - Headache
 - Dizziness
 - Blurred vision
 - Cramps
 - Irritation of eyes, skin, or respiratory tract
 - Nausea
 - Chills

Any new constituents of concern (COC), conditions of concern, or Site conditions indicating a potential chemical exposure risk must be immediately reported to the Project Manager (PM) and the Site Health and Safety Officer (SHSO).

As appropriate, the PM or SHSO will notify on-site Tighe & Bond personnel of the new COCs as described in the Organizational Structure in Section 2.2 of this HASP.

Hazard Controls:

The most effective hazard controls for chemical hazard contaminants is to minimize exposure. Routes of exposures include the following:

- Inhalation (breathing)
- Skin or eye absorption
- Ingestion (swallowing)
- Injection (through penetration or puncture)

Specific hazard controls for this site to minimize exposures include the following:

- Minimize contact to the maximum extent possible
- Monitor yourself and other for signs and symptoms of exposure (refer to the Chemical Hazards Table below). If there are indications of hazardous exposures:

2 Comprehensive Site & Work Plan

- Immediately move away from the source of the hazardous material
- Seek immediate medical treatment if necessary
- Contact the PM and/or SHSO for additional instructions
- Use appropriate PPE as detailed in Section 2.5 of this HASP
- Follow decontamination procedures as detailed in Section 3 of this HASP

CHEMICAL HAZARDS TABLE

Known and Suspect Chemical Contaminants

Potential Hazards Exposure Signs/Symptoms	OSHA PEL (8-Hour TWA) ¹	NIOSH or ACGIH Limit ²
POTENTIAL HAZARDS: Toxic by ingestion, inhalation and contact. Can affect eyes, gastrointestinal tract, central nervous system, kidneys, blood, and gingival tissue. ACUTE EXPOSURE SIGNS/SYMPTOMS: Lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation eyes; hypertension.	Inorganic Lead Compounds are Probably Carcinogenic (IARC Group 2A) 0.05 mg/m³TWA (8-Hour Avg)	0.05 mg/m³ (NIOSH REL) (10-Hr TWA)
POTENTIAL HAZARDS: Toxic/carcinogenic by ingestion, inhalation, and skin absorption. Can affect skin, eyes, liver, and reproductive system. ACUTE EXPOSURE SIGNS/SYMPTOMS: Irritation of the nose and lungs, skin irritations such as severe acne (chloracne) and rashes, and eye problems.	Carcinogenic to humans (IARC Group 1) 0.5 mg/m³TWA	0.001 mg/m³ (NIOSH REL) (10-Hr TWA)

¹ OSHA PEL (8-Hour TWA): OSHA's Permissible Exposure Limit (PEL) is based on an 8-hour Time Weighted Average (TWA). PELs are obtained from OSHA's Annotated Table Z-1 (29 CFR Part 1910, Subpart Z).

² NIOSH: National Institute for Occupational safety and Health

- NIOSH Recommended Exposure Limits (RELs) are based on an 8-hour or 10-hour Time Weighted Average (TWA). RELs are obtained from the NIOSH Pocket Guide, inclusive of Appendix A.
- NIOSH Short Term Exposure Limits (STELs) are based on a 15-minute Time Weighted Average (TWA) that should not be exceeded during the workday. STELs are obtained from the NIOSH Pocket Guide, inclusive of Appendix A.
- NIOSH Ceiling REL limits should not be exceeded at any time during the workday. Ceiling limits are obtained from the NIOSH Pocket Guide, inclusive of Appendix A.

² ACGIH: American Conference of Governmental Industrial Hygienists

- ACGIH Threshold Limit Values (TLVs) are based on an 8-hour Time Weighted Average (TWA). TLVs are obtained from the ACGIH Pocket Guide of TLVs and BEIs

CHEMICAL HAZARDS TABLE

Known and Suspect Chemical Contaminants

Potential Hazards Exposure Signs/Symptoms	OSHA PEL (8-Hour TWA) ¹	NIOSH or ACGIH Limit ²
- ACGIH Short Term Exposure Limits (STELs) are based on a 15-minute Time Weighted Average (TWA) that should not be exceeded during the workday. STELs are obtained from the ACGIH Pocket Guide of TLVs and BEIs - ACGIH Ceiling limits should not be exceeded at any time during the workday. Ceiling limits are obtained from the ACGIH Pocket Guide of TLVs and BEIs		

2.3.2 Slips, Trips, and Falls at Level

This Site is a community park and location of a former water tower. Slip, trip, and fall hazards could be present throughout the Site due to litter on the ground, uneven surfaces, and vegetation.

Hazard Description/Details:

Slips, trips, and falls account for a significant number of accidents, incidents and injuries at project/worksites. These accidents can result in cuts, bruises, strains, sprains, or broken bones.

Slip, trip, and fall incidents are caused by a wide variety of factors, which can include, but are not limited to:

- Uneven terrain
- Wet, icy, or slippery surfaces
- Tripping hazards (natural hazards or poor housekeeping)
- Inattention/distractions
- Improper footwear
- Working from heights

Hazard Controls:

The following hazard controls must be followed to minimize the potential for slip, trip, or fall injuries at this Site:

HAZARD CONTROLS BASED ON PRIOR INCIDENTS:

- Be careful on muddy/wet surfaces such as ramps

PROJECT-SPECIFIC HAZARD CONTROLS

- Wear a high-visibility shirt, jacket, or vest with reflective striping at all times
- Be aware of your surroundings
- Always watch your path of travel
- Note and avoid slip, trip, and fall hazards
- Carefully navigate rough terrain and watch for holes and undergrowth
- Place caution tape or orange cones near hazards
- Be aware and take extreme care on wet and slippery surfaces
- Be aware and take extreme care on unstable surfaces
- Wear sturdy shoes/boots with good ankle support and good traction

2.3.3 Heavy/Construction Equipment

Hazard Description/Details:

The operation of heavy/construction equipment poses a variety of hazards, most notably struck-by hazards and caught in-between hazards. In addition, hazards may be encountered with the malfunction, misuse, or improper operation of such equipment.

Hazard Controls:

Personnel not directly involved with equipment operation should maintain a safe distance away from heavy/construction machinery at all times.

The following hazard controls must be followed to minimize the potential for injury due to heavy/construction equipment:

- Stay alert at all times when heavy/construction equipment is present
- Wear reflective vest when working near heavy/construction equipment
- Keep a safe distance from heavy/construction equipment if not directly involved in the work
- Keep off the equipment unless authorized
- Avoid blind spots - especially behind heavy/construction equipment
- Pay attention to all backup alarms
- Be aware of the swing zone of excavators, cranes, backhoes and other similar equipment and stay out of this zone
- Stay clear of dumping or lifting devices
- Do not pass in front or behind heavy/construction equipment unless contact is made with the equipment operator and the operator signals it is safe to pass
- Be aware of current soil conditions underneath heavy construction equipment and how it may affect the stability and operation of the heavy construction equipment.

2.3.4 Excessive Noise

NOTE: High noise areas can generally be identified as areas where you must shout to be heard by someone standing 2-3 feet away from you. Avoid high noise areas when possible. Limit your time in high noise areas. If you can distance yourself from the source of high noise, move away until the high noise has subsided. If you must be in an area with high noise, wear hearing protection.

Hazard Description/Details:

Site activities covered by this HASP could expose workers to excessive noise (ambient noise levels requiring you to shout in order to be heard). Examples include working in close proximity to drilling activities and/or near heavy/construction equipment.

Hazard Controls:

The following hazard controls must be followed to minimize the potential for injury due to high noise:

- Avoid high noise areas when possible and/or limit your time in high noise areas
- If you must be in an area with high noise, wear hearing protection

2.3.5 Ground Disturbance Activities

Tighe & Bond staff are not allowed to call for/request utility mark outs for work performed by contractors or subcontractors

Tighe & Bond staff are required to call for/request utility mark outs for applicable ground disturbance activities conducted by Tighe & Bond staff

The full Tighe & Bond policy on Utility Mark Out can be found in Tighe & Bond's Safety & Health Program #107, Appendix E

Hazard Description/Details:

Directly beneath the surface of the ground, there are often a variety of utility lines. If underground utilities are accidentally impacted by ground disturbance activities related to Site operations, significant and potentially deadly consequences can occur. Each time ground disturbance activities are being planned to dig, drill, excavate, or otherwise disturb the ground surface, marking of underground utility lines is required prior to the start of the ground disturbance activity.

Tighe & Bond staff may not provide this service for others, but it is important to understand the requirements and monitor the utility marking process.

Prior to starting ground disturbance activities, all underground installations, both public and private must be identified and marked as clearly as possible to locate potentially dangerous utilities. In order to start this process, the exact location of the planned ground disturbance activities must be clearly identified and closely monitored throughout the project. Once the ground disturbance area is established, a state approved utility marking service must be arranged to identify the location of publicly owned utility lines. In addition, private utility lines must also be marked, with support from the property owner or the owner's representative.

Document the utility mark out process completed for this project:

COMPLETE AND LEAVE THIS SECTION IF GROUND DISTURBANCE ACTIVITIES WILL BE PERFORMED BY A CONTRACTOR OR SUBCONTRACTOR

- Contractor/Subcontractor planning to conduct ground disturbance activities:
 - CONTRACTOR/SUBCONTRACTOR COMPANY NAME
- Contractor/Subcontractor requesting utility mark out:
 - CONTRACTOR/SUBCONTRACTOR COMPANY NAME
- Utility mark out service contacted (i.e. Dig-Safe, Call Before You Dig, Safely NY):
 - NAME OF MARK OUT SERVICE
- Utility Mark out reference number:
 - REFERENCE NUMBER OR NA
- Tighe & Bond staff monitoring the mark out:
 - TIGHE & BOND EMPLOYEE NAME

COMPLETE AND LEAVE THIS SECTION IF GROUND DISTURBANCE ACTIVITIES WILL BE PERFORMED BY TIGHE & BOND STAFF

- Tighe & Bond employee(s) planning to conduct ground disturbance activities:
 - Samuel Evans

2 Comprehensive Site & Work Plan

- Tighe & Bond employee requesting utility mark out:
 - Samuel Evans
- Utility mark out service contacted (i.e. Dig-Safe, Call Before You Dig, Safely NY):
 - UDig NY
- Utility Mark out reference number:
 - **TBD**
- Tighe & Bond staff monitoring the mark out:
 - Samuel Evans

Color Coding System

Color coding is used to identify the type of underground facilities

RED	Electric Power Lines, Cables, Conduit and Lighting Cables	GREEN	Sewers and Drain Lines
YELLOW	Gas, Oil, Steam, Petroleum or Gaseous Materials	PURPLE	Reclaimed Water, Irrigation and Slurry Lines
ORANGE	Communication, Alarm or Signal Lines, Cables or Conduit	PINK	Temporary Survey Markings
BLUE	Potable Water	WHITE	Proposed Excavation

Hazard Controls:

The following hazard controls must be followed to minimize the potential for injury due to underground utilities:

- Tighe & Bond should determine if there are any State and/or municipality-specific requirements regarding utility mark outs and/or excavations (Note: Requirements can vary from State to State and from municipality to municipality)
- Tighe & Bond should mark the location of the planned ground disturbance activity, consistent with mark out service requirements. Marking may include:
 - In cross-country, or off-road areas, the general location should be marked with a stake or flag surrounded by a five-foot diameter painted circle
 - In pavement areas, a painted boring or test pit symbol is appropriate
- If performing work outside a public right of way, the owner of the property must be contacted by Tighe & Bond to obtain available utility plans and to discuss the location of the proposed ground disturbance activity
 - Tighe & Bond should meet at the project site with the ground disturbance contractor and with the owner of the property to agree upon safe locations for the ground disturbance activities
 - If possible, the property owner should sign off on a plan or other document indicating the agreed upon location(s) and photos should be taken
- The ground disturbance contractor should be notified by Tighe & Bond that the general locations have been marked and are ready for utility mark out notification

2 Comprehensive Site & Work Plan

- The ground disturbance contractor should notify the appropriate agency (Dig Safe, Call Before You Dig, Safely NY, etc.) a minimum of 72 hours prior to beginning ground disturbance activities (excluding weekends and legal holidays)
- Tighe & Bond should verify that a minimum of 72 hours has elapsed prior to beginning any ground disturbance activities by reviewing the "ticket" issued for the notification

The notification ticket should remain on site during all ground disturbance activities

- Note that utility mark outs are only valid for 30 days, after which time a new mark out request must be called in using the standard 72-hour wait period before continuing ground disturbance activities
- State law requires that all utilities listed on the notification ticket must be accounted for before beginning ground disturbance activities. Tighe & Bond should verify that this has been done prior to starting work.

If all utilities are NOT marked, the ground disturbance contractor MUST contact the missing utilities directly before starting work. If there is any question as to whether an appropriate mark out has been completed, move to the next marked/safe/clear location and request that the ground disturbance contractor contact the utilities that are potentially missing to request a field consultation or additional mark out.

- Prior to the start of ground disturbance activities, Tighe & Bond should review the planned ground disturbance location in relation to completed utility mark outs with the ground disturbance contractor.
 - While Tighe & Bond may provide input to the ground disturbance contractor regarding changes in location due to utility conflicts or other project design related factors, the final decision as to where to dig, drill, excavate or otherwise disturb the ground is to be made by the ground disturbance contractor.
 - Whenever possible, ground disturbance activities should be kept a minimum of two feet away from adjacent utilities. If it is not clear in the field that a safe location is available, proceed to the next marked/safe/clear location and request that the ground disturbance contractor contact the utilities that are in possible conflict with the proposed location to request a field consultation to determine a safe/clear location. Always be sure to document these conversations and decisions.
- If there are any project design plans (regardless of completion level) or available project survey or existing condition plans, they should be on-site at all times during the field work and reviewed to verify if there are any other known or suspected utilities that may not have been marked out.

If Tighe & Bond identifies a utility on a plan that does not appear to have been marked out, the ground disturbance contractor is to be notified immediately.

- The depth of underground utilities varies; therefore, state law requires that non-mechanical means be utilized when digging within 18" of a marked underground utility
 - Note the current depth of a utility may also not be the same as when it was originally installed, due to soil erosion, grading, paving, or other factors.
 - To ensure the safety of excavators, driller, and other ground disturbance contractors and to avoid accidents and utility disruption, non-mechanical means should be utilized whenever possible.
 - In certain circumstances, air clearing (vacuum excavation) may be an appropriate method to locate a utility prior to additional ground disturbance activities.
- **THE FOLLOWING PROCEDURES MUST BE FOLLOWED IF A UTILITY IS HIT:**
 - If the incident results in an injury to a site worker, initiate emergency medical care immediately (refer to Section 2.4.1 of this HASP)

2 Comprehensive Site & Work Plan

- If there is a possibility that the damage may pose a threat to the health and safety of the public, call emergency services (refer to Section 2.1 of this HASP) to dispatch local officials who will determine whether the community is in immediate danger
- Next, or if there is not an immediate threat to the public, per state law, it is the responsibility of the ground disturbance contractor to notify the affected utility company directly after damage occurs
- State law prohibits the contractor from attempting to repair the utility, or from backfilling the hole or excavation before the damaged utility has been repaired by the appropriate utility company
- Tighe & Bond field staff should notify the PM as soon as possible. The PM should then contact both the PD and CSHD

2.3.6 Extreme Heat, Cold, or Weather Conditions

CHECK NOAA AND LOCAL WEATHER REPORTS BEFORE PERFORMING OUTDOOR WORK

<https://www.weather.gov/>

HIGH HEAT RISKS

(Sustained temps > 80 degrees F is a baseline point for elevated Heat)

Pace your work based on the environmental conditions. Schedule work during cooler times of day, if possible. Drink plenty of fluids. Take frequent breaks in cool and/or shady areas as necessary. Wear loose, light colored clothing. Monitor self and others for heat stress. Immediately address signs/symptoms of heat stress. (e.g. headache, nausea, dizziness, weakness, irritability, confusion, thirst, heavy sweating, muscle pains, and heat rash). If extreme heat is in the forecast, or if field exposures become extreme, contact your PM for directions to either stay or delay travel to site.

COLD WEATHER RISKS

Pace your work based on environmental conditions. Schedule work during warmer times of day, if possible. Drink plenty of fluids. Take frequent breaks in warm/dry/calm areas as necessary. Wear layers of warm clothing. 3 layers are recommended. Monitor self and others for cold stress. Immediately address signs/symptoms of cold stress. (e.g. reddening skin, tingling, pain, swelling, leg cramps, numbness, and blisters). If extreme cold weather is in the forecast, or if field exposures become extreme, contact your PM for direction to either stay or delay travel to site.

LIGHTNING RISKS

Follow all NOAA and other public safety instructions. Always check for lightning storms/risks before using boats or working near water bodies - never work from a boat or near water if lightning is a risk. If you hear thunder or see lightning while working in a boat or near water, clear the area immediately. Never work from ladders, scaffolding, walls, roof tops, cranes, or hoists during lightning events. Immediately take shelter at the sound of thunder (remain in cover for 30 minutes "after" you hear the last thunder strike). Do not shelter in sheds, pavilions, tents, or covered porches as they do not provide adequate protection from lightning. Avoid isolated tall trees, hilltops, utility poles, cell phone towers, cranes, large equipment, ladders, scaffolding, or rooftops. Avoid open areas, wiring, plumbing, fencing, water, or fields. Never lie flat on the ground. Never leave a site during high electrical, rain, wind, or other environmental conditions that impact driver safety. If thunderstorms are forecast, or if in the field they last longer than 30 minutes, contact your PM for directions to either stay or delay travel.

HIGH WINDS

Follow all NOAA and other public safety instructions. High winds generally refers to speeds above 40 miles per

hour (MPH) or 30 MPH if material handling is being performed. Do not work on scaffolding, walls, ladders, hoist, cranes, or any elevated structure if winds are above 20 MPH or are gusting 25 - 30 MPH. If wind speeds result in materials, tools, equipment, or heavy equipment to blow around or tip, take shelter in a rigid structure or your vehicle. Do not stand or position yourself in an area where a crane, elevated structure, power lines, or other objects subject to tipping may fall. If high winds / wind advisory are forecast or winds become elevated while on site, contact your PM for directions to either stay at or not go to the project.

Extreme: Sustained winds >58 MPH, High: Sustained winds 40 - 57 MPH
Low: 21 - 25 MPH

Moderate winds: 26 - 39 MPH

2.3.7 Driver Safety (Personal or Company Cars)

All staff driving personal vehicles to project sites must submit a copy of their valid driver's license in accordance with the Drivers Safety Program 154. Before starting, plan the trip, including directions and travel time. Factor weather, traffic, gas, and brakes for departure planning. Practice defensive driving. Drive at posted speed limits. Follow all traffic safety laws. Avoid driving distractions. Use a hands-free device or pullover if you need to answer the phone. Do not text or email while driving. Complete driver safety training if you drive an average of 300 miles or 8 hours per week or drive a company vehicle. Report all vehicle accidents

2.3.8 Hand and/or Power Tools

Wear safety glasses and work gloves. Conduct a pre-use inspection to verify the electrical equipment is free from recognized hazards - Do not use defective equipment. Equipment must be properly grounded. Ground-fault circuit interrupters (GFCIs) must be used for all 120-volt, single phase, 15 and 20-ampere outlets used on construction/project sites. Extension cords shall be visually inspected before each day's use for external defects and for indications of possible internal damage - Do not use defective extension cords. Flexible cords, cables and extension cords shall be protected from damage. Appropriate guarding must be in place and remain in place when using power tools. Ensure all monitoring or measurement tools have been calibrated as required by manufacturer, project, and work scope.

2.3.9 Exposures to Mosquitos, Animal Droppings, Rodents

West Nile Virus: Leading mosquito born illness in the United States, contracted through the bite from an insect carrying the virus. Minimizing exposure to mosquitos with the use of insect repellant is the best prevention tool. Legionnaires: A severe form of pneumonia caused by exposure to contaminated water or soil (often from stagnant water). Wear an N95 mask or better, overalls, safety glasses or goggles, gloves, disposable booties, and decontaminate all tools including boots when leaving area.

Histoplasmosis: An infection caused by a fungus that lives in the environment, particularly in soil or areas that contain large amounts of bird or bat droppings. Wear an N95 filtering face piece or better, overalls, safety glasses or goggles, gloves, disposable booties, and decontaminate all tools including boots when leaving area.

Hantavirus: A virus spread mainly by rodents (deer mice) that can cause diseases in humans. Wear an N95 filtering face piece or better, overalls, safety glasses or goggles, gloves, disposable booties, and decontaminate all tools including boots when leaving area.

Eastern equine encephalitis (EEE): virus is spread to people by the bite of an infected mosquito. Only a few cases are reported in the United States each year. Most cases occur in eastern or Gulf Coast states. Although rare, eastern equine encephalitis is very serious. Approximately 30% of people who develop severe eastern equine encephalitis die, and many survivors have ongoing neurologic problems. Symptoms of eastern equine

2 Comprehensive Site & Work Plan

encephalitis can include fever, headache, vomiting, diarrhea, seizures, behavioral changes, and drowsiness. There are no vaccines to prevent or medicines to treat eastern equine encephalitis. You can reduce your risk of infection with eastern equine encephalitis virus by preventing mosquito bites through sprays and avoiding working outdoors from dusk to dawn.

2.3.10 Hazardous Ticks and Insects

Lyme Disease: Lyme disease is the most common vector-borne disease in the United States, spread by ticks. symptoms include fever, headache, fatigue, and a characteristic skin rash called erythema migraines. NOTE: Sting wipes are available in each office safety supply room.

Apply tick repellent to clothing before entering a site, tape the bottom of your pants, and leave no exposed skin. Check for ticks throughout the day on the arms, legs, neck, hair, and underarms. Brush them off or remove them immediately. Shower within 2 hours of leaving a site with potential tick exposures and do another full body check for ticks. Perform a site walk to look for hazards including stinging insects. Wear light colored clothing including long sleeve shirts and long pants when working in the areas where stinging insects are common, e.g., flowering plants, areas of discarded food, observed nests. Avoid perfumed soaps, shampoos, cologne, and perfumes. Remain calm if a single stinging insect is observed, swatting it may cause it to sting. If attacked by multiple insects, remove yourself quickly from the area. If a stinging insect is in your vehicle, stop and open the windows.

If allergic to stinging insects, consider carrying an EpiPen and/or medical ID bracelet stating the allergy.

If stung:

Wash the sting site with soap and water. Remove the stinger immediately by wiping with gauze or scraping over the area with a fingernail. Never squeeze the stinger as it can release more venom. Apply ice to reduce swelling. Do not scratch the area, it can increase swelling, itch, or risk of infection. Apply an antihistamine/sting relief wipe if necessary. If swelling moves to other parts of the body proceed to the emergency room, an allergic reaction could be happening. Immediately report to your Project Manager, Project Director or Team Leader if stung by a stinging insect. By the end of the day, complete and submit an incident report if a sting requires treatment.

2.3.11 Hazardous or Poisonous Plants

Inspect the work area to identify the areas where poisonous plants are located. (Guide from link below can be printed / saved to device). Continually inspect for poisonous plants and avoid contact. Wear long-sleeved shirts, pants, and gloves. The less skin exposed the better. If working in areas where poisonous plants are present, consider using barrier creams. Clean tools and equipment after every use with rubbing alcohol or soap and water. Wear disposable gloves when cleaning tools and equipment. If exposure to poisonous plants occurs, rinse the affected skin immediately with soap and water or poison plant wash. Immediately report to your Project Manager, Project Director, or Team Leader if effects from poisonous plants are observed. Wash exposed clothing separately in hot water with detergent. Click the [Guide to Poisonous Plants](#) to access the quick refresher trainer with photos of risky plants.

2.3.12 Working Alone

Do not perform work alone if the work is considered highly hazardous. Ensure your Project Manager, Project Director, Team Leader or a co-worker is aware of your exact location and planned work activities. Establish a check-in and check-out protocol with the Project Manager or Project Director, minimally prior to and at the

2 Comprehensive Site & Work Plan

completion of work. Establish a check-in and check-out process with the contractor so they are aware of your time on-site. Protect your personal safety - Do not take unnecessary chances or risks.

2.3.13 Using and XRF Device

Complete hands-on instructional training from rental provider. Review the instrument's user guide prior to use. Inspect unit for damage prior to use. Contact rental provider if equipment is suspected to be damaged. Remove battery pack and disconnect all power and do not use instrument. Be aware of X-ray travel direction. Do not put body parts into the x-ray pathway. Move body parts away from examination area. Be aware of others in the area. Do not hold a sample being analyzed by hand. Understand the risks operating an XFR while pregnant. Do not defeat safety proximity sensors.

2.3.14 Sample collection with Chemical preservatives or other hazardous materials.

If you will be using sample preservatives or generating any hazardous or potentially hazardous wastes in sampling, review Appendix B in the Program 115 Project-Specific Safety and Health Planning Program. The total amount of hazardous materials allowed to be transported under this Material of Trade exemption is: Gasoline or diesel fuel: 8 gallons and all other hazardous material: 20 pounds (Tighe & Bond limitation). All hazardous materials (other than gas cylinders) must be marked with a common name or proper shipping name to identify the material it contains. The operator and passenger(s) of the motor vehicle must be aware of the presence of the hazardous material and must be informed of the requirements of this appendix. A hard copy of a safety data sheet (SDS) for each hazardous material being transported must be kept in the vehicle. Plan for the disposal of wastes before the job begins. Do not bring hazardous wastes back to an office without letting Sue Courtemanche and the Corporate Safety and Health director know. All containers must be stored in a secure container to prevent tipping in transport. No containers can be transported with open lids or tops. Always use proper gloves when handling chemicals and generated hazardous wastes in preparation, collection, and preserving samples. All spills/releases of hazardous materials must be immediately reported to the Project Manager or Director and the Corporate Safety and Health Director. All sample containers must be properly labeled.

2.4 EMERGENCY RESPONSE PLAN

This section of the HASP is designed to provide general response actions for potential emergencies situations which could occur at the Site. Emergencies covered by this plan include any situation which occurs at the site that poses an immediate risk to health, life, property, or the environment, including, but not limited to the release of hazardous material.

Tighe & Bond field staff are not authorized to take actions to mitigate emergencies but are required to respond as detailed below in order to protect themselves and others. In the event of an emergency, the most senior member of the field staff (PM, SHSO, EP, or Senior Field Engineer/Scientist) will act as the Incident Commander of Tighe & Bond staff, coordinating emergency response actions.

All emergency situations, incidents, accidents, injuries, illnesses, first-aids and near misses at the Site must be immediately reported to the PM and SHSO. As soon as possible, the PD and the Corporate Safety and Health Director must be notified. In the event of an injury, illness, first-aid or chemical exposure, the Human Resources Department must also be notified. A written Incident Report or Near Miss report may be required by the end of the day, as detailed below. Appropriate medical treatment and/or calling for emergency medical services must be prioritized. The 24-7 Nurse Line can be reached at 1-800-238-6225 using the prompt sequence 1 - 1 - 4 - 2 - 2 - 1.

2.4.1 Medical Emergencies/First Aid

When an injured person is encountered, Tighe & Bond employees with up to date first-aid/CPR training can intervene and provide emergency medical care to the degree they are trained and qualified to perform. Otherwise, employees should immediately contact emergency medical services (refer to Section 2.1 of this HASP).

- When providing on-site medical care, employees should not initiate first-aid/CPR without first assessing the hazards around the area of the injured individual. Only after the area has been assessed and deemed safe should responders approach the victim.
- Prior to treatment and care, employees should exercise universal precautions to prevent exposure to blood or other bodily fluids, which could be infectious to the responder. Universal precautions require the responder to "treat all human blood, bodily fluids, and other potentially infectious materials as if they are infectious."

If not trained on how to safely protect yourself from bloodborne pathogens, including universal precautions, do not attempt a response or post-incident clean-up which could result in exposures to bloodborne pathogens. In this situation, secure the area and immediately contact emergency medical services (refer to Section 2.1 of this HASP).

For incidents involving on-Site emergency response or required medical care of another Tighe & Bond employee, personnel should remain with the injured staff until emergency response personnel arrive (provided it is safe to do so) and leave when directed by the emergency responder.

A written Incident Report is required to be completed and provided to the PM, CSHD and Human Resources as soon as possible, but no later than by the end of the day. All incidents that resulted in an injury, near miss, or employee exposure must be reported to the Corporate Safety and Health Director by the end of day and communicated to the client project contact within 24 hours. Incident reporting forms can be found at the SharePoint [Safety & Health](#) page.

2.4.2 Fires

Large and/or High Hazard Fires: Large and/or high hazard fires (such as flammable gas or liquid fires) must be addressed by the local Fire Departments or by the client's on-site fire/emergency response departments.

Upon discovery, Tighe & Bond staff are expected to immediately vacate the area and contact the appropriate emergency responder provided in Section 2.1 of this HASP.

Early Stage, Small, or Incipient Fires: Early stage, small, or incipient fires may be extinguished by on-site personnel using an appropriate fire extinguisher, provided the person using the fire extinguisher has been adequately trained on its use and it is safe to do so.

2.4.3 Chemical Exposures

Tighe & Bond employees shall familiarize themselves with the signs and symptoms of chemical overexposure for each chemical listed in the table in Section 2.3.1 in addition to the emergency and medical response information presented in the corresponding chemical information sheet provided in Appendix A.

If a person experiences a hazardous exposure to a chemical contaminant, promptly obtain a safety data sheet (SDS) or corresponding chemical's information sheet provided in Appendix A and follow the treatment instructions. Depending on the type and amount of chemical exposure, a call to emergency medical services

2 Comprehensive Site & Work Plan

may be necessary. If in doubt, call for help. If chemical exposure is minor, then follow the treatment instructions described if able and/or comply with directions from emergency personnel.

Unless otherwise noted in the SDS or chemical information sheet, the following general first-aid procedures should be provided:

- If the contaminant contacts the eyes, irrigate immediately with large amounts of water
- If the contaminant contacts skin, promptly wash the affected area with soap and water
- If the contaminant is inhaled, move the exposed person to fresh air at once
 - If the worker's breathing has stopped or is labored, immediately contact emergency medical services (refer to Section 2.1 of this HASP)
 - Perform artificial respiration ONLY if appropriately trained/certified

A written Incident Report is required to be completed and provided to the PM, CSHD and Human Resources as soon as possible, but no later than by the end of the day. All incidents that resulted in an injury, near miss, or employee exposure must be reported to the Corporate Safety and Health Director by the end of day and communicated to the client project contact within 24 hours.

2.4.4 Oil and Hazardous Material Spills

Tighe & Bond field staff are not authorized to clean up spills of oil of hazardous materials that pose an immediate risk to health, life, property, or the environment. Incidental spills, such as minor drips, may be cleaned by field staff, provided they have been trained on how to safely clean the spill, have the appropriate PPE, and it is safe to do so.

Spill response/clean-up for hazardous material spills associated with the contractor's or subcontractor's equipment or work activities is the responsibility of the contractor or subcontractor.

Tighe & Bond personnel should immediately notify the PM/SHSO in the event of an oil or hazardous material spill that requires actions by a spill response team, or which enters a catch basin, manhole, wetland, surface water or other potentially sensitive receptor. The PM shall discuss the potential need for spill reporting to local, state, and/or federal agencies with the client and the appropriate regulatory agencies, including notifying local first responders, as appropriate.

Spills reportable to local, state, and/or federal agencies should be addressed with the client and the appropriate regulatory agencies, including notifying local first responders, as appropriate. All incidents that resulted in an injury, near miss, or employee exposure must be reported to the Corporate Safety and Health Director by the end of day and communicated to the client project contact within 24 hours.

2.4.5 Emergency Evacuation Plan

Evacuation Muster Area:	To be determined on Site. Once muster point is determined, work will not begin until all operators have been made aware of and process to get to the established point.
Headcount Leader:	To be determined on Site. Once the headcount leader is determined, work will not begin until all operators have been made aware of and process to get to the established point.

2 Comprehensive Site & Work Plan

In the event of an emergency which could present a hazard to field staff within a certain geographic area of the Site, it is important to identify and communicate Site-specific evacuation plans, to ensure staff may safely evacuate the affected area and be safe and protected from the effects of the emergency.

The following steps should be taking during an evacuation of the project Site or section of the project site:

1. Immediately proceed to the designated evacuation muster area, following the designated evacuation route shown on the attached Evacuation Map.
2. Notify emergency response personnel as soon as possible (fire, police, and/or ambulance), using the contacts provided in Section 2.1 of this HASP.
3. The Headcount Leader (provided in the table above) must conduct a Tighe & Bond personnel head count at the designated evacuation muster area.

If a field staff member cannot be located, emergency response personnel must be notified immediately, followed by notification to the PM and/or SHSO. Under no circumstances should any personnel re-enter the evacuated area without appropriate approvals.

Appropriate off-site Tighe & Bond staff must be notified of the situation as soon as possible (includes the PD, PM, SHSO, EP, Senior Field Engineer/Scientist, and CSHD).

A written Incident Report is required to be completed and provided to the PM, PD, and CSHD as soon as possible, but no later than by the end of the day.

2.5 PERSONAL PROTECTIVE EQUIPMENT

MINIMUM PPE BY TASK			
Required PPE	Task 1	Task 2	Task 3
Standard Level D Protection ¹	X	X	
Standard Level C Protection ^{2 and 3}			
PPE Detail and Additionally Required PPE			
Hard hat	X	X	
Safety glasses w/side shields	X	X	
Face shield			
Chemical splash goggles			
Steel/composite-toe and shank footwear			
Electric-rated footwear (EH)			
Electric-rated clothing (EH) FR)			
Hearing protection			
Hi-Vis Vest (Class 2, Type R) < 45 MPH Traffic	X	X	
Hi-Vis Vest (Class 3, Type R) >45 MPH traffic			
Tyvek coveralls (coated)			
Tyvek coveralls (uncoated)			
Disposable boot covers			
Work gloves (leather)			
Inner gloves (nitrile)	X	X	
Gloves, other (specify by task)			

Half-face respirator ³			
Full-face respirator ³			
Respirator Cartridges:			
Organic Vapor Cartridges			
Acid gas cartridges			
Other cartridges:			
Dust mask (voluntary use) ⁴			
Waders			
Personal Flotation Device (PFD)			
Coast Guard Approved Lifer Vest			
Personal Fall Arrest System (Work at Height)			
Personal Fall Arrest System (Confined Space)			
Other PPE: SPECIFY TYPE AND ADD ROWS BELOW AS NEEDED			
Steel/composite-toe and shank footwear	X	X	

1 - Standard Level D protection for Tighe & Bond staff includes (at a minimum): Work clothes (long-sleeve shirt and long pants); coveralls; gloves (as needed); safety glasses w/side shields; steel/composite-toe and shank, chemical-resistant footwear; outer boot covers (as needed); hard hat; and high-visibility safety vest. Additional PPE may be added as necessary to address the task risk.

2 - Standard Level C protection for Tighe & Bond staff includes (at a minimum): Work clothes (long-sleeve shirt and long pants); hooded chemical -resistant clothing; coveralls (optional); NIOSH-approved air purifying respirator; eye/face protection; chemical resistant inner and outer protective gloves; steel/composite-toe and shank footwear (chemical resistant as needed); outer boot covers (as needed); hard hat; escape mask (as needed); and high-visibility safety vest. Additional PPE may be added as necessary to address the task risk.

3 - The use of a NIOSH-approved air purifying respirator requires that staff be qualified and authorized by Tighe & Bond. This includes being enrolled in Tighe & Bond's medical surveillance program, annual fit testing, and annual training.

Tighe & Bond field work employees approved for respirator use must be specifically listed below.

4 - Dust masks may not be used if chemical concentrations are above OSHA a permissible exposure limit (PEL) or other established, recognized exposure limit. The use of a dust mask requires that staff sign a voluntary use form and submit the form to the Corporate Safety and Health Director.

2.6 Site Field and Safety Equipment

Minimum Required Safety Equipment			
Safety Equipment	Task 1	Task 2	Task 3
Required Equipment:			
First Aid Kit	X	X	
Insect/Tick Repellant (for all outdoor work)	X	X	
Wash water and soap or hand sanitizer	X	X	
Emergency communication system:	X	X	
(Provide Detail): Cell Phone			

Additional Field and Safety Equipment			
Cell Phone	X	X	
Flashlight			
Ladder			
Safety Cones	X	X	
Manhole Popper			
Metal Detector			
Police Detail			
Sunscreen			
Fire Extinguisher	X	X	
Spill clean-up supplies			
Field Book	X	X	
Survey Equipment			
Camera	X	X	
Tape Measure	X	X	
Sample Bottles	X	X	
Cooler and Ice	X	X	
Sharpie and Labels	X	X	
Trowel, Shovel, Auger	X	X	
Ziploc Bags, Head Screening Jars	X	X	
Foil	X	X	
Trash Bags	X	X	
Other Equipment/Rental Equipment: SPECIFY TYPE AND ADD ROWS BELOW AS			
XRF Analyzer	X	X	
PID	X	X	

2.7 WORK ZONES, ACTION LEVELS, AIR MONITORING

2.7.1 General Work Zone Designations

Regulated sites subject to the OSHA HAZWOPER standards are segmented into various areas classified into one of three site work zones. The SHSO is designated as the person responsible for establishing work zones and coordinating access control into the various work zones.

The following work zones are established pursuant to the OSHA HAZWOPER standard:

- **Exclusion Zone (Hot Zone)**

The Exclusion Zone is the area where contamination is present or suspected to be present in concentrations that are hazardous to workers. Conservative boundaries shall be maintained around the Exclusion Zone. For excavations or soil borings, the Exclusion Zone is typically established approximately 15-feet around the excavation or borings. Refer to the table in Section 2.7.5 for additional information regarding the Exclusion Zone.

- **Contamination Reduction Zone (Warm Zone)**

The Contamination Reduction Zone is the transition area between the Exclusion Zone (i.e. contaminated area) and the Support Zone (i.e. the uncontaminated area). This zone is intended to be the buffer between the Exclusion Zone and the Support Zone to minimize the transfer of hazardous substances into uncontaminated areas in the Support Zone. The degree of contamination in the Warm Zone decreases as teams move from the Exclusion Zone to the boundary with the Support Zone. Decontamination occurs in the Contamination Reduction Zone.

- **Support Zone (Cold Zone)**

The Support Zone is the area outside the Contamination Reduction Zone and is considered free from hazardous concentrations of hazardous substances. The Contamination Reduction Zone is where administrative and other support functions typically occur. Personnel in the Support Zone may wear normal work clothes (specified in Section 2.5) as it is considered an uncontaminated area.

2.7.2 General Work Zone Procedures

The following general workplace safety requirements apply to Tighe & Bond employees and subcontractors who enter and/or work at the site (any zone):

- All Tighe & Bond personnel and subcontractors must review and sign the HASP on the form provided in Section 6 to acknowledge that they have read, understood, and agree to follow the site-specific HASP.
- No visitors will be allowed access to the site without the knowledge and consent of the SHSO or other Tighe & Bond Field Engineers or Scientist. Visitors will be required to be briefed on safety procedures and will be required to be escorted while on-site.

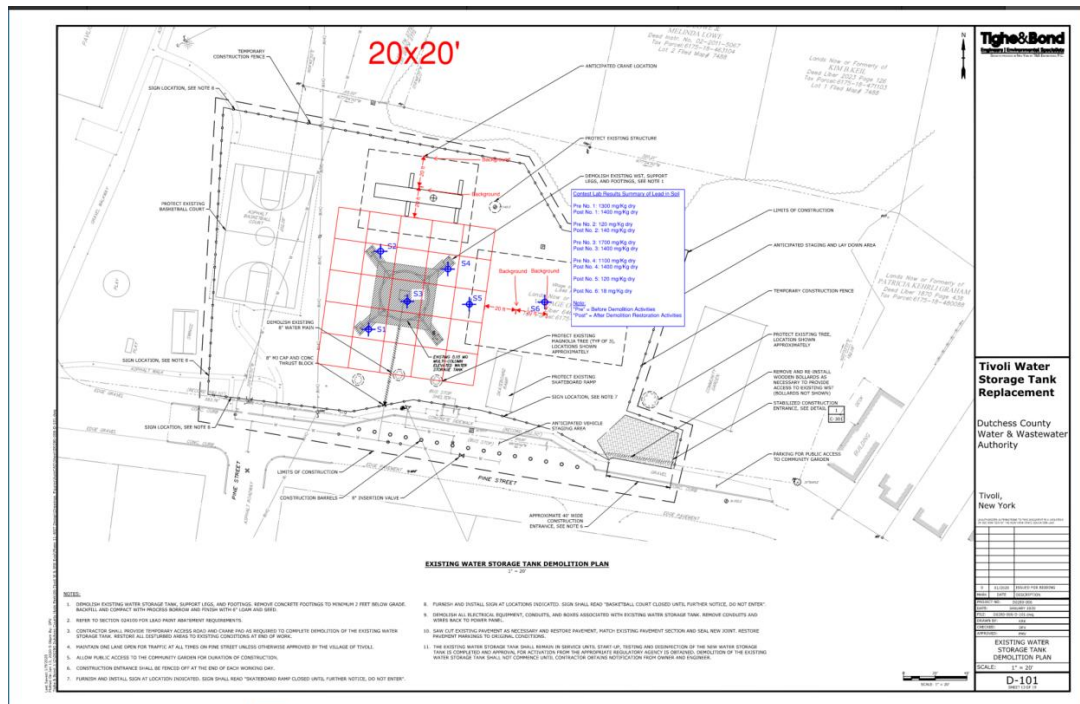
The following general workplace safety requirements apply to the Exclusion and Contamination Reduction Zones (i.e. the "restricted" zones):

- Personnel shall not enter the Exclusion Zone or Contamination Reduction Zone without appropriate HAZWOPER training and approval from the Site's SHSO.
- There will be no activities conducted in the restricted zones without sufficient backup personnel. At a minimum, two persons must be present at the work zone (*Note: This can be contractor and Tighe & Bond personnel. Tighe & Bond personnel shall not be in these zones alone*)
- All contractor or subcontractor personnel are expected to notify the SHSO or other Tighe & Bond Field Engineers or Scientists of any unsafe condition or practice associated with the Site activities that they are unable to correct themselves
- No smoking, eating, drinking, chewing gum or tobacco, or applying cosmetics is allowed in the restricted zones
- Hands shall be thoroughly cleaned prior to smoking, eating or other activities outside the restricted zones
- Team members must avoid unnecessary contamination (i.e., walking through known or suspected "hot" zones or contaminated puddles, kneeling or sitting on the ground, leaning against potentially contaminated barrels or equipment)

2.7.3 Site-Specific Work Zone Activities

Site plans/sketches showing the approximate locations of work zones, exit and entry points, and other pertinent site information is provided on the following page(s).

2 Comprehensive Site & Work Plan



The following work activities are planned to be conducted within the Exclusion Zone:

- Task 1: Soil Sampling
- Task 2: Excavation Oversight and Soil Sampling

2.7.4 Field Monitoring in the Exclusion Zone

Table 2.7.5.1 below identifies the initial Exclusion Zone for the site, based on the known/suspected contaminants at the site.

Upon creation of the initial Exclusion Zone, Table 2.7.5.2 lists field monitoring to be conducted within the Exclusion Zone, with response actions to be followed, based on the monitoring results.

Note: The Limits of the Exclusion Zone may need to be adjusted based on site-specific conditions encountered, including the results of the field monitoring performed.

Table 2.7.4.1
Initial Exclusion Zone

Exclusion Zone Boundary	
Description of initial Exclusion Zone boundary:	15-feet around the excavation or sample locations.

Table 2.7.4.2
Monitoring Plan and Response Actions:

Monitoring / Response Actions Within the Exclusion Zone		
Action Level	Air Monitoring Equipment	Required Response
Total VOC > 1 ppm (sustained > 1 minute)	Photoionization detector (PID)	Modify work practices to minimize volatilization of contaminants Increase monitoring frequency to monitor impact of modified work practices
Initial Monitoring Frequency: As Needed		

SECTION 3 | Decontamination Procedures

3.1 DECONTAMINATION

Decontamination priorities, based on site work zones, are summarized below:

- Exclusion Zone: Personnel and equipment within the Exclusion Zone are the most likely to be impacted by hazardous chemicals. The goal of decontamination of personnel and equipment exiting the Exclusion Zone is to prevent the spread of contamination outside the Exclusion Zone and into the Support Zone.
- Contaminant Reduction Zone: The designated area between the Exclusion Zone and the Support Zone is considered the Contaminant Reduction Zone. All personnel and equipment exiting the Exclusion Zone must be decontaminated in this zone, prior to continuing on to the Support Zone.
- Support Zone: The zone immediately outside the Contaminant Reduction Zone is the Support Zone. This zone must remain free of hazardous chemical contamination, through effective decontamination measures in the Contaminant Reduction Zone.

The following tools and equipment are needed at this site to effectively implement the decontamination program:

DECONTAMINATION TOOLS AND EQUIPMENT		
Equipment/tools	Required	Quantity
Distilled water		
Tap water (if available on-site)	X	As Needed
Bottled water		
Alconox Soap	X	As Needed
Hexane		
Methanol		
Disposable towels	X	As Needed
5-gallon pails	X	As Needed
Brushes	X	As Needed
Poly sheeting	X	As Needed
Other Tools/Equipment:		

3.1.1 Personal Hygiene

The following minimum personal hygiene practices shall be adhered to by all field staff:

- No smoking, vaping, or use of tobacco products is allowed on the Site
- No eating or drinking is allowed in the Exclusion or Contaminant Reduction Zones
- All personnel must wash or sanitize their hands before leaving the Site
- To the extent possible, it is recommended that personnel shower at home at the end of each day of working on the Site.

3 Decontamination Procedures

3.1.2 Personnel Decontamination

Personnel decontamination is necessary to minimize worker contact with contaminants and to protect against the transfer of contamination to clean areas of the site and away from the site. When workers access the Exclusion Zone, decontamination is required to take place in the Contaminant Reduction Zone.

Personnel Decontamination Procedures:

The procedures below shall be followed each time a field worker exits the Exclusion Zone to ensure effective decontamination:

- Brush off and/or rinse boots/boot covers with soap and water
- Remove boots or boot covers
- Brush off or rinse Tyvek coveralls or outer clothing with water
- Remove Tyvek coveralls or outer clothing
 - Dispose of heavily contaminated coveralls
 - Bag launderable clothing for future washing
- Rinse your outer gloves with soap and water
- Remove outer gloves
- Remove respirator, wipe clean and store
- Remove and wipe/clean your hard hat
- Remove inner gloves
 - Dispose of inner gloves
- Wash hands, forearms, face, and other exposed skin

The procedures below must be followed periodically throughout the workday (based on incidental contact with hazardous materials), prior to eating, drinking, smoking, or applying lotions or cosmetics, and each time a field worker is preparing to leave the site:

- Brush off and/or rinse boots/boot covers with water
- Brush off or rinse Tyvek coveralls or outer clothing with water
 - Replace coveralls that become heavily contaminated
- Rinse your outer gloves with water
- Remove and wipe/clean your hard hat
- Replace inner gloves
- Wash hands, forearms, face, and other exposed skin

3.1.3 Equipment Decontamination

Proper decontamination of equipment exposed to hazardous materials is necessary to avoid transferring contaminants from the site, thereby increasing the potential for exposure of on-site and off-site personnel. The measures described below should be followed prior to leaving the Exclusion Zone and/or the site, as applicable to the equipment being used.

All equipment decontamination should be conducted on-site and not at a Tighe & Bond office.

To the extent possible, efforts should be taken to limit the degree of contamination to hand tools, sampling, and other equipment. Proper PPE must be worn while performing decontamination, as detailed in the procedures provided below.

3 Decontamination Procedures

Equipment Decontamination Procedures:

The procedures below shall be followed each time a field worker exits the Exclusion Zone or the site to ensure effective decontamination:

Initial equipment decontamination (i.e. stiff brushing or wiping to remove soil on sampling tools so it remains in the Exclusion Zone) should be conducted in the Exclusion Zone unless otherwise specified.

Pretreatment of heavily contaminated equipment may be conducted as necessary:

- Remove gross contamination using a brush or wiping with a paper towel
- Soak in a solution of Alconox and water
- Wipe off excess contamination with a paper towel
- Clean with hexane or acetone

Standard decontamination procedure:

- Wash using a solution of Alconox and water
- Rinse with potable water
- Rinse with methanol (if deemed necessary)
- Rinse with distilled water (if deemed necessary)

3.1.4 PPE, Soils, and Waste Disposal

Waste, inclusive of PPE, soils, and equipment should be minimized as much as possible. This is best managed by minimizing contact with hazardous materials and through effective decontamination. However, when site waste is generated, the procedures provided below shall be followed to ensure waste is managed safely and in accordance with regulatory requirements.

Disposal Methods for Uncontaminated Soils and Other Materials:

Excess sample solids, decontamination materials, PPE, rags, brushes, poly sheeting, etc. that are determined to be free of contamination through visual observation and/or field screening can typically be disposed as general solid waste.

Disposal Methods for Contaminated Soils and Other Materials:

Contaminated soil cuttings and spoils shall be returned to the point of generation. If excess contaminated soils are generated, the soils must be drummed for future disposal unless otherwise specifically directed by the PM. Contact the EP for specific instructions regarding storage and disposal of waste soils.

Decontamination materials, PPE, rags, brushes, poly sheeting, etc. that are determined to be contaminated through visual observation and/or field screening may need to be managed as special waste. Contact the EP for specific instructions regarding storage and disposal of waste materials. Training & Medical Monitoring

SECTION 4 | Training and Medical Programs

4.1 TRAINING PROGRAM

- Field staff, contractors, and subcontractors actively working on the site must maintain a valid, 40-hour HAZWOPER certification, with up-to-date refreshers*.
- All personnel entering an active Exclusion Zone or Contamination Reduction Zone must maintain a valid, 40-hour HAZWOPER certification, with up-to-date refreshers*.
 - *OSHA HAZWOPER training standards (29 CFR §1910.120 and 29 CFR §1926.65) require refresher trainings to be completed annually (every 12-months). For Tighe & Bond staff, if refresher training is not completed within 12-months, refresher training must be completed as soon as possible, but no later than 24-months following the most recent refresher training.
- Prior to the start of work, Tighe & Bond staff must be provided, read this HASP, and be briefed by the SHSO, EP, and/or PM on project safety risks. The briefing must be documented by signing the form contained in Section 6.
- Visitors to the site must be briefed on site-specific safety procedures and be escorted while on-Site. The briefing must be documented by signing the form contained in Section 6.
- Tailgate Meetings:
 - Tailgate meetings are typically conducted by the remediation or construction contractor at the start of each workday. Tighe & Bond will participate in these meetings and provide input based on the day's planned work activities.
 - If there are multiple Tighe & Bond staff members at the Site and hazardous work activities are planned and/or work activities may reasonably be expected to expose employees to hazardous substances, a tailgate meeting should be held with Tighe & Bond staff if not held jointly with a remediation or construction contractor.

4.1.1 Project Specific Training Requirements

The PM and SHSO must verify that the Tighe & Bond staff assigned to the project have appropriate and up-to-date training for their assigned tasks. Indicate training requirements below. Check all that apply to this project.

Employee training records can be checked here: [Training Records](#)

Employee Certification Records can be checked here: [Certifications](#)

Tighe & Bond General Safety Computer Based Training	"X" Apply
CBT 100T - Field Health & Safety: Part 1 Required for all Field Work	X
Intro to SSSP-HASPs, Confined Space, LOTO, Fall Protection, Ladder, Aerial Lift Awareness, Scaffold, Working from Heights, Trench and Excavation, and Electrical Safety Awareness	
CBT 101T - Field Health & Safety: Part 2 Required for all Field Work	X
OSHA Focus 4, Vehicle Safety, Weather, Silica, General Worksite Hazards, Working on and over water, Poisonous Plants, Ticks and Insects, PPE, First aid in the Field, Bloodborne Pathogens	

4 Training and Medical Programs

CBT 105T - Lock-out Tag-out: Affected Employee	
CBT 108T - Hazardous Materials Awareness	
CBT 110T - Project Safety & Health Planning	
Tighe & Bond Specialized Safety Computer Based Training	"X" Apply
CBT 200T - Confined Space: Non-Permit Entry	
CBT 202T - Lock-out Tag-out: Authorized Employee	
CBT 203T - Respiratory Protection	X
CBT 205T - Hearing Conservation	X
CBT 207T - Hazard Communication	X
CBT 210T - Using a Personal Fall Protection System	
Third Party Specialized Training	"X" Apply
OSHA HAZWOPER 40-Hour	X
OSHA HAZWOPER 8-Hour Refresher	X
OSHA 10-Hour Construction Safety	
OSHA 30-Hour Construction Safety	
OSHA 10-Hour Safety for General Industry	
OSHA 30-Hour Safety for General Industry	
Driver Safety Training	X
Boom lift & Scissor Lift Operator	
First Aid / CPR / AED	
Boat and Watercraft Safety	
Client/State Safety Programs/Trainings/Licenses	"X" Apply
CBT - Eversource - Substation Escorted Access	
CBT - Eversource - Personal Protective Equipment	
CBT - Eversource - Substation & Electrical Hazard Awareness	
Eversource Contractor Safety Policy (SMS-POL-005 Rev 3.1)	
Eversource Pre-shift Tailgate Safety Meeting	
National Grid Contractor Safety Requirements (N-1402 Rev 20)	
RWA Contractors Safety Manual	
Asbestos Inspector License	
Asbestos Project Monitor License	
(FIRSTLIGHT) HSEF-100 North ContractorSafetyEnvironmentalWorkRules_Rev4	
Link to Client Specific Safety Program	
Additional Trainings Not Listed Above	"X" Apply

4.2 MEDICAL MONITORING PROGRAM

Tighe & Bond has established a medical monitoring and surveillance program for Tighe & Bond employees. This program is documented as Tighe & Bond's Safety and Health Program #109 (Medical Monitoring and Surveillance Program). Medical monitoring is conducted and documented for those Tighe & Bond employees subject to the HAZWOPER medical monitoring requirements.

The purpose of the medical monitoring and surveillance program is to define and document the Tighe & Bond program used to manage both initial and ongoing medical monitoring and surveillance for applicable Tighe & Bond employees.

4 Training and Medical Programs

A copy of the Tighe & Bond, Medical Monitoring and Surveillance Program is available on the Tighe & Bond intranet page. Additional S&H Programs

4.3 TIGHE & BOND-SPECIFIC S&H PROGRAMS

Tighe & Bond has established and documented safety and health programs applicable to all employees. These programs address generally foreseeable safety and health hazards at all work locations, inclusive of this Site. Employees working at this Site are expected to comply with all applicable requirements contained in the Tighe & Bond Safety and Health programs.

The Tighe & Bond Safety and Health programs are available on the Safety and Health page of the Tighe & Bond intranet and cover the following topics:

- Tighe & Bond Program #100: General Safety and Health
- Tighe & Bond Program #101: Hazard Communication
- Tighe & Bond Program #102: Confined Space Entry
- Tighe & Bond Program #103: Trenches and Excavations
- Tighe & Bond Program #104: Personal Protective Equipment
- Tighe & Bond Program #105: Respiratory Protection
- Tighe & Bond Program #106: Hearing Conservation Program
- Tighe & Bond Program #107: Site Work - General Safety
- Tighe & Bond Program #108: Working from Heights
- Tighe & Bond Program #109: Medical Surveillance Program
- Tighe & Bond Program #111: Respirable Crystalline Silica
- Tighe & Bond Program #112: Control of Hazardous Energy
- Tighe & Bond Program #113: Bloodborne Pathogens
- Tighe & Bond Program #114: Electrical Safety
- Tighe & Bond Program #115: Project Safety and Health Planning
- Tighe & Bond Program #117: Site Work - Hazardous Material Awareness
- Tighe & Bond Program #119: Lead Protection Program
- Tighe & Bond Program #120: COVID-19 Preparedness and Response Program

4.4 CLIENT OR JOB-SPECIFIC S&H PROGRAMS

List any client-specific or job-specific safety and health programs and requirements. Refer to Tighe & Bond Safety & Health Program #201 (Client-Specific Safety and Health Programs) for the safety and health expectations of various, larger clients. Other safety and health expectations may apply to this project and should be listed below.

Not Applicable

[illegible]



Appendix A

MATERIAL SAFETY DATA SHEET FOR LEAD

SECTION 1 – MATERIAL IDENTIFICATION

Material Name: **Lead**

Description: Bluish-Grey metal, apparently odorless

Other Designations: Soft lead, Hard Lead, Calcium lead.

Manufacturer: Mars Metal Company,
4130 Morris Drive,
Burlington, Ontario
L7L 5L6

Emergency Phone Number: (905) 637-3862

SECTION II – HAZARDOUS INGREDIENTS EXPOSURE GUIDELINES

Base Metal: Lead – C.A.S. #7439-9201/Exposure Limits: 1.05 Mg/M3 ACGIH TWA
Alloys: Sb, Sn, As, Cu, Ca – Antimony C.A.S. #7440-36-0/
Exposure Limits: 0.50 Mg/M3 ALGIH TWA

SECTION III – PHYSICAL DATA:

Boiling Point: 3164 degrees Fahrenheit
Melting Point: 622 degrees Fahrenheit
Specific Gravity: (H_o = 1) Approximately 10.3
Vapour Pressure: (MM HG) N.A.
Solubility in Water: Negligible

SECTION IV – FIRE AND EXPLOSION DATA

Hazards: Toxic fumes and vapours are produced by molten lead.
Dust explosion potential exists

Extinguishing Media: Dry chemical or carbon dioxide should be used on surrounding Area.

Firefighting Procedures: Full body protective clothing should be worn and positive pressure breathing apparatus used.

Flammability: Metal is not flammable, powders or dust may be flammable.

SECTION V – REACTIVITY DATA

Chemical Stability: Metal is stable.

Incompatibility: Strong oxidizers, Hydrogen Peroxide, Active metals.

Hazardous Decomposition Products: High temperature may produce hazardous fumes.

SECTION VI – HEALTH HAZARD DATA AND FIRST AID

Threshold Limit Value: Time weighed average exposure 0.15 MG/M3. Short term Exposure 0.30 MG/M3.

Routes of Exposure: Ingestion, Inhalation, and Eyes.

EFFECTS OF EXPOSURE:

Acute Overexposure: May cause weakness, vomiting, loss of appetite and Constipation.

Chronic Exposure: May cause weakness, Insomnia, Hypertension, Anemia, Neuromuscular dysfunction's and joint paint.

EMERGENCY AND FIRST AID PROCEDURES:

Ingestion: Rinse mouth, give plenty of water, get medical attention.

Inhalation: Remove from exposure to fresh air, get medical attention.

Eyes: Rinse thoroughly with water, get medical attention.

Skin: Remove contaminated clothing and wash effected area with water and soap.

SECTION VII – SPILL AND LEAK PROCEDURES:

Released or Spilled: Sweep up carefully using water (or other suitable wetting agent) to prevent emissions, place waste in sealable containers which are to be disposed of in accordance with local legislation.

Waste Disposal Method: Contact local authorities for instructions on proper disposal procedures in your area.

SECTION VIII – SPECIAL PROTECTION INFORMATION:

Respiratory: Use respirators as per the regulations respecting Lead.

Eye Protection: Face shield/approved safety glasses.

Hands: Protective gloves should be worn when handling Lead.

Other Protective Equipment: Clean overalls, safety boots, and helmets.

Local Exhaust: Adequate local and general ventilation must be provided.

SECTION IX – SPECIAL PRECAUTIONS:

Handling and Storage: Lead dust should be handled in sealed containers. Every effort should be made to prevent dusts from becoming airborne.

Other Precautions: Use wet methods for dust control whenever possible. Ensure that there is sufficient ventilation in areas of lead use.

January 2008

SAFETY DATA SHEET

1. SUBSTANCE AND SOURCE IDENTIFICATION

Product Identifier

SRM Number: 3079
SRM Name: Aroclor 1254 in Transformer Oil
Other Means of Identification: Not Applicable.

Recommended Use of This Material and Restrictions of Use

This Standard Reference Material (SRM) is a solution of Aroclor 1254 in transformer oil. This SRM is intended primarily for calibrating chromatographic instrumentation and methods of analysis used for the determination of Aroclor 1254 and polychlorinated biphenyls (PCBs) in transformer oil. A unit of SRM 3079 consists of five 2 mL ampoules, each containing approximately 1.2 mL of transformer oil.

Company Information

National Institute of Standards and Technology
 Standard Reference Materials Program
 100 Bureau Drive, Stop 2300
 Gaithersburg, Maryland 20899-2300

Telephone: 301-975-2200
 FAX: 301-948-3730
 E-mail: SRMMSDS@nist.gov
 Website: <http://www.nist.gov/srm>

Emergency Telephone ChemTrec:
 1-800-424-9300 (North America)
 +1-703-527-3887 (International)

2. HAZARDS IDENTIFICATION

Classification

Physical Hazard:	Not classified.	
Health Hazard:	Carcinogenicity	Category 1B
	Reproductive Toxicity	Category 2
	Aspiration Hazard	Category 1

Label Elements
Symbol

Signal Word

DANGER

Hazard Statement(s)

H304	May be fatal if swallowed and enters airways.
H350	May cause cancer <inhalation, ingestion>.
H361	Suspected of damaging fertility or the unborn child.

Precautionary Statement(s):

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P280	Wear protective gloves, protective clothing, and eye protection.
P308+P313	If exposed or concerned: Get medical attention.
P301+P310	If swallowed: Immediately call a doctor.
P331	Do NOT induce vomiting.
P405	Store locked up.
P501	Dispose of contents and container according to local regulations.

Hazards Not Otherwise Classified: Not applicable.

Ingredients(s) with Unknown Acute Toxicity: Not applicable.

3. COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

Substance: Aroclor 1254 in transformer oil.

Other Designations:

Transformer oil (hydrotreated light naphthenic distillate (petroleum), hydraulic petroleum oil, distillates, petroleum).

Aroclor 1254 (PCB 1254; chlorodiphenyl (54% Cl); polychlorinated biphenyl; chlorobiphenyls; PCB; PCBs)

Components are listed in compliance with OSHA 29 CFR 1910.1200.

Hazardous Component(s)	CAS Number	EC Number (EINECS)	Nominal Mass Concentration (%)
Transformer oil	64742-53-6	265-156-6	>99
Aroclor 1254	11097-69-1	215-648-1 ^(a)	0.3

^(a) EC Number as PCB, polychlorinated biphenyl

4. FIRST AID MEASURES

Description of First Aid Measures:

Inhalation: If adverse effects occur, remove to uncontaminated area. If not breathing, give artificial respiration or oxygen by qualified personnel. Seek immediate medical attention.

Skin Contact: Wash exposed skin with soap and water for at least 15 minutes. Seek medical attention if needed.

Eye Contact: Immediately flush eyes, including under the eyelids with copious amounts of water for at least 15 minutes. Seek immediate medical attention.

Ingestion: Aspiration hazard. Do not induce vomiting. If vomiting occurs, keep head lower than hips to prevent aspiration. If not breathing, give artificial respiration by qualified personnel. Seek immediate medical attention.

Most Important Symptoms/Effects, Acute and Delayed: Irritation, dizziness, nausea, coughing, and aspiration.

Indication of any immediate medical attention and special treatment needed, if necessary: Not applicable.

5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Slight fire hazard. See Section 9, "Physical and Chemical Properties" for flammability properties.

Extinguishing Media:

Suitable: Regular dry chemical, carbon dioxide, regular foam.

Unsuitable: Straight streams of water.

Specific Hazards Arising from the Chemical: None listed.

Special Protective Equipment and Precautions for Fire-Fighters: Avoid inhalation of material or combustion byproducts. Wear full protective clothing and NIOSH approved self-contained breathing apparatus (SCBA).

NFPA Ratings (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health = 2

Fire = 1

Reactivity = 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Use suitable protective equipment; see Section 8, "Exposure Controls and Personal Protection".

Methods and Materials for Containment and Clean up: Absorb spilled material with sand or non-combustible material and collect in appropriate container for disposal. Keep out of water supplies and sewers.

7. HANDLING AND STORAGE

Safe Handling Precautions: See Section 8, “Exposure Controls and Personal Protection”.

Storage: Store and handle in accordance with all current regulations and standards. The storage floor must be impermeable and form a collecting basin so that, in the event of an accident spillage, the liquid cannot spread beyond the storage area.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:

Transformer oil: No occupational exposure limits established.

Aroclor 1254: NIOSH (TWA): 0.001 mg/m³ (related to 1,1'-Biphenyl, chloro derivatives)

Engineering Controls: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection Measures: In accordance with OSHA 29 CFR 1910.132, subpart I, wear appropriate Personal Protective Equipment (PPE) to minimize exposure to this material.

Respiratory Protection: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye/Face Protection: Wear splash resistant safety goggles with a face shield. An eye wash station should be readily available near areas of use.

Skin and Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Chemical-resistant gloves should be worn at all times when handling chemicals.

9. PHYSICAL AND CHEMICAL PROPERTIES

Descriptive Properties

Appearance (physical state, color, etc.):

Molecular Formula:

Molar Mass (g/mol):

Odor:

Odor threshold:

pH:

Evaporation rate:

Melting point/freezing point:

Pour point:

Density:

Vapor Pressure:

Vapor Density (air = 1):

Kinematic Viscosity:

Solubility(ies):

Partition coefficient (n-octanol/water):

Transformer oil (>99 %)

clear, yellow liquid

not applicable

not applicable

not available

not available

not available

not available

–55 °C (–67 °F)

–40 °C (–40 °F)

0.8912 g/mL at 22 °C^(b)

0.1 mmHg 20 °C^(a)

>5 at 101 kPa^(a)

12 cSt (12 mm²/s) at 40 °C

insoluble in water

>6.5^(a)

Thermal Stability Properties

Autoignition Temperature:

>315 °C (599 °F)^(a)

Thermal Decomposition:

not available

Initial boiling point and boiling range:

260 °C to 371 °C (500 °F to 700 °F)

Explosive Limits, LEL:

not available

Explosive Limits, UEL:

not available

Flash Point:

>145 °C (293 °F)^(a)

Flammability (solid, gas):

not applicable

^(a) Physical property listed in the NIST Certificate of Analysis. Values are not certified.

^(b) Vendor supplied health and safety information.

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressure.

Stability: X Stable Unstable

Possible Hazardous Reactions: None listed.

Conditions to Avoid: Avoid excessive heat; high energy ignition sources.

Incompatible Materials: Oxidizers.

Fire/Explosion Information: See Section 5, "Fire Fighting Measures".

Hazardous Decomposition: Oxides of carbon, sulfur oxides, aldehydes.

Hazardous Polymerization: Will Occur X Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Exposure: X Inhalation X Skin X Ingestion

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Dizziness, nausea, coughing.

Potential Health Effects (Acute, Chronic and Delayed):

Inhalation: Acute exposure to high levels of vapor from transformer oil may cause central nervous system depression, headache, dizziness, nausea, vomiting, anorexia, incoordination and unconsciousness. Prolonged or repeated exposure may cause irritation. Short term exposure to Aroclor 1254 may cause irritation or liver damage; long term exposure may cause rash, itching, hair loss, digestive issues, headache, dizziness, impotence, coma, and cancer.

Skin Contact: Short term and long term contact with transformer oil may cause skin irritation and dermatitis. Short-term exposure to Aroclor 1254 may cause skin irritation or liver damage; long term exposure to Aroclor 1254 may cause same effects as for inhalation, plus hair loss and reproductive effects.

Eye Contact: Acute exposure of liquid or vapor may cause irritation.

Ingestion: Acute ingestion of transformer oil may cause abdominal pain, nausea, and vomiting. Small amounts of oil aspirated during ingestion or vomiting may cause lung damage; no information available for long-term exposure to transformer oil. Short term exposure to Aroclor 1254 may cause liver damage; long term exposure to Aroclor 1254 may cause same effects as for inhalation, plus hyperactivity, menstrual disorders, reproductive effects.

Numerical Measures of Toxicity:

Acute Toxicity: Not classified.

Component: Transformer oil

Rat, Oral LD50: >5000 mg/kg

Rat, Inhalation LC50: 2180 mg/m³ (4 h)

Rabbit, Skin LD50: >2000 mg/kg

Component: Aroclor 1254

Rat, Oral LD50: 1010 mg/kg

Skin Corrosion/Irritation: Not classified.

Transformer oil, Rabbit, skin: 0.5 mL/24 h, moderate

Serious Eye Damage/ Eye Irritation: Not classified.

Transformer oil, Rabbit, eye: 0.1 mL, mild

Respiratory Sensitization: No data available; not classified.

Skin Sensitization: No data available; not classified.

Germ Cell Mutagenicity: No data available; not classified.

Carcinogenicity: Category 1B

Listed as a Carcinogen/Potential Carcinogen X Yes No

Transformer oil is not listed by NTP, IARC, or OSHA as a carcinogen/potential carcinogen.

Aroclor 1254 is listed by NTP as *reasonably anticipated to be a human carcinogen* (as PCB, polychlorinated biphenyl, CAS number 1336-36-3) and by IARC as Group 1, *carcinogenic to humans* (related to Polychlorinated biphenyls).

Reproductive Toxicity: Category 2

Aroclor 1254: Overexposure has resulted in decreased birth weight in offspring of exposed mothers. Significant exposure to PCBs that reach the fetus can cause teratogenic effects.

Oral Mammal TDLo - species unspecified: 14 mg/kg, prior to copulation 30 day(s)

STOT, Single Exposure: No data available; not classified.

STOT, Repeated Exposure: Not classified; this SRM contains less than 1 % of Archlor 1254, a Category 2 target organ toxicant.

Aspiration Hazard: Category 1

Transformer oil is a human aspiration toxicity hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data:

Transformer oil: Fish, Rainbow Trout (*Oncorhynchus mykiss*) LC50: >5000 mg/L (96 h)

Invertebrate, Water flea (*Daphnia magna*) EC50: >1000 mg/L (48 h)

Aroclor 1254: No data available.

Persistence and Degradability: Has the potential to biodegradable.

Bioaccumulative Potential: No data available

Mobility in Soil: Expected to migrate from land to water and vice versa.

Other Adverse effects: Keep out of water supplies.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose of waste in accordance with all applicable federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: This material is not regulated by IATA or DOT.

15. REGULATORY INFORMATION

U.S. Regulations:

CERCLA Sections 102a/103 (40 CFR 302.4): Aroclor 1254, 1 lb. (0.454 kg) final RQ.

SARA Title III Section 302 (40 CFR 355.30): Not regulated.

SARA Title III Section 304 (40 CFR 355.40): Not regulated.

SARA Title III Section 313 (40 CFR 372.65): Aroclor 1254, 0.1 % supplier notification limit (related or polychlorinated biphenyls).

OSHA Process Safety (29 CFR 1910.119): Not regulated.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21):

ACUTE HEALTH: Yes.

CHRONIC HEALTH: Yes.

FIRE: No.

REACTIVE: No.

PRESSURE: No.

State Regulations:

California Proposition 65:

WARNING! This product contains a chemical (Aroclor 1254, related to PCBs) known to the state of California to cause cancer, reproductive, and/or developmental effects.

U.S. TSCA Inventory: Transformer oil is listed.

TSCA 12(b), Export Notification: Aroclor 1254 is listed in Section 6, 50 ppm de minimis concentration (see 40 CFR 761, related to polychlorinated biphenyls).

Canadian Regulations:

WHMIS Information: Not provided for this material.

16. OTHER INFORMATION

Issue Date: 27 May 2015

Sources: ChemADVISOR, Inc., SDS, *Aroclor 1254*, 20 March 2015.

ChemADVISOR, Inc., SDS, *Transformer Oil*, 20 March 2015.

Vendor MSDS, Exxon Mobile Corporation, UNIVOLT N 61 B, 30 May 2014.

Key of Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists	NRC	Nuclear Regulatory Commission
ALI	Annual Limit on Intake	NTP	National Toxicology Program
CAS	Chemical Abstracts Service	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
CFR	Code of Federal Regulations	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	REL	Recommended Exposure Limit
EINECS	European Inventory of Existing Commercial Chemical Substances	RQ	Reportable Quantity
EPCRA	Emergency Planning and Community Right-to-Know Act	RTECS	Registry of Toxic Effects of Chemical Substances
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments and Reauthorization Act
IATA	International Air Transportation Agency	SCBA	Self-Contained Breathing Apparatus
IDLH	Immediately Dangerous to Life and Health	RM	Reference Material
LC50	Lethal Concentration	STEL	Short Term Exposure Limit
LD50	Median Lethal Dose or Lethal Dose, 50 %	STOT	Specific Target Organ Toxicity
LEL	Lower Explosive Limit	TLV	Threshold Limit Value
MSDS	Material Safety Data Sheet	TPQ	Threshold Planning Quantity
NFPA	National Fire Protection Association	TSCA	Toxic Substances Control Act
NIOSH	National Institute for Occupational Safety and Health	TWA	Time Weighted Average
NIST	National Institute of Standards and Technology	UEL	Upper Explosive Limit
		WHMIS	Workplace Hazardous Materials Information System

Disclaimer: Physical and chemical data contained in this SDS are provided only for use in assessing the hazardous nature of the material. The SDS was prepared carefully, using current references; however, NIST does not certify the data in the SDS. The certified values for this material are given in the NIST Certificate of Analysis.

Users of this SRM should ensure that the SDS in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srmmsds@nist.gov; or via the Internet at <http://www.nist.gov/srm>.



Appendix B

Google Maps

Northern Dutchess Hospital, 6511 Spring Brook Ave, Rhinebeck, NY 12572 to 19 Pine St, Tivoli, NY 12583

Drive 9.9 miles, 16 min

Imagery ©2025 Airbus, Google, Map data ©2025 , Map data ©2025 Google 1 mi

Northern Dutchess Hospital
6511 Spring Brook Ave, Rhinebeck, NY 12572

- ↑

1. Head northeast on US-9 N/Spring Brook Ave toward Mulberry St

i

Continue to follow US-9 N

1.8 mi
- ↶

2. Turn left onto NY-9G N

3.3 mi
- ↑

3. Continue straight to stay on NY-9G N

4.1 mi
- ↶

4. Turn left onto Broadway

0.7 mi
- ↷

5. Turn right onto Pine St

i

Destination will be on the left

410 ft

19 Pine St
Tivoli, NY 12583



Attachment 3: Quality Assurance / Quality Control Plan

1.0 Introduction

This Quality Assurance/Quality Control (QAQC) Plan has been prepared for the Soil Excavation Work Plan (SEWP) for the "Former Tivoli Water Tower Site" remediation project; New York State Department of Environmental Conservation (NYSDEC) Site No.: 314135. The purpose of this document is to provide QAQC methods and procedures for the collection, analysis, and evaluation of data collected during the assessment and Remedial Actions outlined in the SEWP. The purpose of the SEWP is to further define the limits of lead and polychlorinated biphenyls (PCBs) present in the area of the former water tower, field screen soils during and after excavation, and collect post-removal confirmatory samples.

2.0 Objectives

The QAQC Plan is developed and implemented to ensure that the quality of the data is legally and scientifically defensible and is applicable for its anticipated use. Site-specific objectives have been developed, which are based on factors presented in the work plan and below. Sampling protocols and analytical method requirements will be outlined for all contaminant groups, detection limits for all samples will be provided to ensure all results are able to be reported below the regulatory standard, and data validity will be performed for quality assurance.

3.0 Analytical Plan and Methodology

Samples will be analyzed in accordance with applicable EPA methods by a laboratory that is accredited pursuant to the New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP) Contract Laboratory Procedure (CLP)-certified laboratory for the proposed analysis, with associated NYSDEC Analytical Services Protocol (ASP) Category B deliverables.

The sampling plan for this SEWP includes eight surface soil samples, collected from the 0 to 2-inch and 6 to 12-inch depth intervals at four locations surrounding boring SB-4/SB-4A, and 13 post-excavation ("PX") confirmatory samples upon completion of the removal action. One composite sample ("Comp") will also be collected from the excavation area for waste characterization analyses, including VOCs (USEPA Method 8260), SVOCs (USEPA Method 8270), total petroleum hydrocarbons (TPH, USEPA Method 8015D(M), TAL metals (USEPA Method 6010/7471), PCBs (USEPA Method 8082), pesticides (USEPA Method 8081), herbicides (USEPA Method 8151), pH, corrosivity, reactivity, flashpoint/ignitability, and conductivity.

The following table outlines the proposed soil samples and associated analyses/analytical methods:

TABLE 3-1
Sample Analysis

Sample ID	Sample Matrix	Sample Depth (inches)	Analysis
SB-4-1A	Soil	0-2	Total Lead (USEPA Method 6010), PCBs (USEPA Method 8082)
SB-4-1B	Soil	6-12	Total Lead, PCBs
SB-4-2A	Soil	0-2	Total Lead, PCBs
SB-4-2B	Soil	6-12	Total Lead, PCBs
SB-4-3A	Soil	0-2	Total Lead, PCBs

TABLE 3-1
Sample Analysis

Sample ID	Sample Matrix	Sample Depth (inches)	Analysis
SB-4-3B	Soil	6-12	Total Lead, PCBs
SB-4-4A	Soil	0-2	Total Lead, PCBs
SB-4-4B	Soil	6-12	Total Lead, PCBs
Matrix Spike	Soil		
Matrix Spike Duplicate			
Field Duplicate	Soil		Total Lead, PCBs
PX-1	Soil	0-2	Total Lead, PCBs
PX-1	Soil	6-12	Total Lead, PCBs
PX-1	Soil	12-24	Total Lead, PCBs
PX-2	Soil	0-2	Total Lead, PCBs
PX-2	Soil	6-12	Total Lead, PCBs
PX-2	Soil	12-24	Total Lead, PCBs
PX-3	Soil	0-2	Total Lead, PCBs
PX-3	Soil	6-12	Total Lead, PCBs
PX-3	Soil	12-24	Total Lead, PCBs
PX-4	Soil	0-2	Total Lead, PCBs
PX-4	Soil	6-12	Total Lead, PCBs
PX-4	Soil	12-24	Total Lead, PCBs
PX-Bottom	Soil	24	Total Lead, PCBs
Matrix Spike			
Matrix Spike Duplicate			
Field Duplicate	Soil		Total Lead, PCBs
Comp	Soil	0-24	VOCs (USEPA Method 8260), SVOCs (USEPA Method 8270), TPH (USEPA Method 8015D(M)), TAL metals (USEPA Method 6010/7471), PCBs (USEPA Method 8082), pesticides (USEPA Method 8081), herbicides (USEPA Method 8151), pH, corrosivity, reactivity, flashpoint/ignitability, and conductivity

4.0 Quality Control Sampling

One field duplicate, a matrix spike and a matrix spike duplicate will be requested as part of the sampling program. The steps for collecting a duplicate sample include collecting twice as much materials from one sampling location, mixing the sample in a stainless steel bowl, and dividing the material into two sets of laboratory glassware. The field duplicate will be submitted as a blind sample. A trip blank, prepared by the laboratory, will be included with each sample shipment.

5.0 Field Screening Procedures

A Niton XL3t XRF analyzer will be used to field screen soils for the presence of lead during sample collection. A photoionization detector (PID) will be used to field screen soils for the presence of total organic vapors (TOVs) during sample collection. The instruments and equipment used during sampling and screening will be operated, calibrated, and maintained in accordance with the manufacturer's guidelines and recommendations. Operations, calibration, and maintenance will be conducted by personnel properly trained in these procedures. Documentation of the calibration will be maintained in the field notes collected during the assessment and remedial action. Calibration records will be documented within the SEWP.

6.0 Decontamination Procedures

Sample collection equipment will be decontaminated prior to sample collection, after the collection of each sample, and upon completion of sample collection activities. A temporary decontamination area will be prepared in the field prior to commencement of work. The decontamination procedure includes the following:

- Brush cleaning equipment to be free of foreign matter;
- Scrubbing the equipment with brushes in an Alconox/water solution;
- Rinsing equipment with clean water; and
- Allowing equipment to air dry, or drying with a dedicated clean paper towel.

Residual soils that are not retained for laboratory analysis will remain on-site, being placed back into the same location as its origin.

7.0 Surface Soil Sampling Procedures

The anticipated soil sampling and analytical plan is summarized in Section 3.0. Soil samples will be collected using stainless steel hand tools, in tandem with the use of dedicated nitrile gloves (per sample). Mixing will also be conducted using stainless steel bowls and spoons. Soil samples will be screened (XRF/PID) directly upon collection. As outlined in the SEWP, soil sample locations will be recorded in the field using a hand-held global positioning system (GPS) unit, and soil characteristics will be logged by field personnel in the field book.

7.1 Sample Collection and Preservation

Upon field screening and characterization, soil samples will be immediately transferred to laboratory-provided glassware. Composite samples will be mixed using stainless steel equipment as described above. It is anticipated that one soil sample will be submitted for volatile organic compounds (VOCs) analysis; this sample will be collected discreetly, and preserved using laboratory-provided methanol preservative. The remaining samples will require chilling to 4 degrees Celsius during the remainder of sample custody.

Samples will be logged and labeled with the following information:

- Site name and number
- Sample name and number
- Sample depth interval
- Date of collection

- Time of collection
- Sampler name/initials
- Field screening results (field book)

Other pertinent information, including site personnel, weather conditions, equipment used, and additional relevant occurrences will be recorded in the field book.

7.2 Sample Handling Procedures

Each sample will be recorded on a laboratory-provided chain of custody (COC), and will include the information listed in Section 7.1, as well as the requested analyses, and reporting contact information (company, project manager, etc.). The COC will record the information and signatures for personnel relinquishing and receiving the samples.

Samples will be shipped (via courier) or dropped off at the laboratory within 24-hours of collection, upon which the receiving laboratory will complete the signatures on the COC, and verify the condition of the samples received (including time, temperature and condition).

8.0 Data Usability Summary

Upon receipt of the laboratory analytical report as an electronic data deliverable (EDD) and Category B data package, the data and data package will be reviewed for validity and usability (including precision, accuracy and completeness). QA/QC requirements from both methodology and laboratory protocols will be strictly adhered to during sampling and analytical work. Data generated will be reviewed by comparing and interpreting results from instrumental responses, retention time, determination of percent recovery of spiked samples or blanks, and reproducibility of duplicate sample results.

The following is a brief outline of the data validation process:

- Compilation of samples with the dates of sampling, laboratory receipt, and analysis;
- Compilation of QC samples, such as field blanks, field duplicates, MS/MSD samples, laboratory blanks, and laboratory replicates;
- Review of chain-of-custody documents for completeness and correctness;
- Review of laboratory analytical procedure and instrument performance criteria;
- Qualification of data outside acceptable QC criteria ranges;
- Preparation of a memorandum summarizing any problems encountered and the potential effects on data usability;
- Tabulation of field duplicates, laboratory replicate, and blank results.

Copies of data validation and usability reports, as well as all data summary packages will be provided as a Data Usability Summary Report (DUSR) in the ensuing reports, presented to NYSDEC.



Attachment 4: Community Air Monitoring Plan

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.
4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed $150 \text{ mcg}/\text{m}^3$ above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than $150 \text{ mcg}/\text{m}^3$ above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within $150 \text{ mcg}/\text{m}^3$ of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

Appendix 1B

Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.
2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.
3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM₁₀) with the following minimum performance standards:
 - (a) Objects to be measured: Dust, mists or aerosols;
 - (b) Measurement Ranges: 0.001 to 400 mg/m³ (1 to 400,000 :ug/m³);
 - (c) Precision (2-sigma) at constant temperature: +/- 10 :g/m³ for one second averaging; and +/- 1.5 g/m³ for sixty second averaging;
 - (d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
 - (e) Resolution: 0.1% of reading or 1g/m³, whichever is larger;
 - (f) Particle Size Range of Maximum Response: 0.1-10;
 - (g) Total Number of Data Points in Memory: 10,000;
 - (h) Logged Data: Each data point with average concentration, time/date and data point number
 - (i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
 - (j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
 - (k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
 - (l) Operating Temperature: -10 to 50° C (14 to 122° F);
 - (m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.
4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.
5. The action level will be established at 150 ug/m³ (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m³, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m³ above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m³ continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM₁₀ at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

- (a) Applying water on haul roads;
- (b) Wetting equipment and excavation faces;
- (c) Spraying water on buckets during excavation and dumping;
- (d) Hauling materials in properly tarped or watertight containers;
- (e) Restricting vehicle speeds to 10 mph;
- (f) Covering excavated areas and material after excavation activity ceases; and
- (g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m³ action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.



Attachment 5: Proposed Schedule

TIVOLI WATER TOWER REMEDATION - PROJECT SCHEDULE																																																							
Task			Responsible Entity		Start	Nov				Dec				Jan				Feb				Mar				Apr				May				June				July				Aug				Sep				Oct				Nov	
						1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2												
Project Kickoff			Tighe & Bond/DCWWA/NYSDEC			X																																																	
Task 1 - Remedial Work Plan			Tighe & Bond				X	X	X	X	X																																												
Task 1A - Remedial Work Plan Review/Approval			NYSDEC								X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																								
Task 2 - Additional Assessment			Tighe & Bond																																																				
Task 3 - Remedial Design			Tighe & Bond																																																				
Task 4 - Bidding Documents			Tighe & Bond/DCWWA																																																				
Task 5 - Bidding			Tighe & Bond/DCWWA																																																				
Task 5A - DCWWA Contract Administration			DCWWA																																																				
Task 6 - Constuction-Remediation			Selected Contractor																																																				
Task 7 - Prepare Remedial Closure Certification			Tighe & Bond																																																				
Task 8 - Closure Certification Review/Approval																																																							
Task 9 - DCWWA Close Out with EFC																																																							
Task 10 - Agency Progress Meetings								X							X				X											X																									

