MOVE YOUR ENVIRONMENT FORWARD

SITE CHARACTERIZATION WORK PLAN

College Avenue – Site # 851080
City of Corning
Steuben County, New York 14830

Prepared For:

Contract# D009808, Work Assignment No. 61
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233

Prepared By:

HRP Associates, Inc.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065

HRP #: DEC1061.P2

Issued On: July 22, 2026

TABLE OF CONTENTS

1.0 INTRODUCTION 1

1.1 Purpose and Objectives 1
1.2 Site Description and Background Information 1
1.3 Site Geology and Hydrogeology 2

2.0 SITE CHARACTERIZATION SCOPE OF WORK 3

2.1 Preliminary Activities 3
2.1.1 Work Plan 3
2.1.2 Health and Safety Plan 3
2.1.3 Quality Assurance Project Plan 3
2.2 Investigation, Environmental Sampling, and Implementation 4
2.2.1 Underground Utility Clearance 4
2.2.2 Installation of Direct Push Sample Points and Soil Sampling 4
2.2.3 Sediment Sampling 5
2.2.4 Groundwater Characterization 6
2.2.4.1. Monitoring Well Development 6
2.2.4.2. Monitoring Well Sampling 6
2.2.5 Sample Handling Procedures 7
2.2.5.1. PFAS Sampling 7
2.2.5.2. 1,4-Dioxane Sampling 7
2.2.6 Decontamination Procedures 7
2.2.7 Disposal of Investigation Derived Waste 7
2.2.8 Analytical Data Quality Evaluation 8
2.2.9 Base Map Development and Site Survey 8
2.3 Site Characterization Report 9
2.3.1 Report Preparation 9
2.3.2 Electronic Data Delivery 9

3.0 GREEN AND SUSTAINABLE REMEDIATION BEST MANAGEMENT PRACTICES 10

4.0 SITE-SPECIFIC QUALITY ASSURANCE PROJECT PLAN 12

4.1 Site-Specific Sampling 12
4.2 Data Quality Assessment and Usability 12

5.0 PROJECT MANAGEMENT 13

5.1 Project Schedule and Key Milestones 13
5.2 Key Project Personnel 14

6.0 REFERENCES 15

Figures

Figure 1 Site Location
Figure 2 College Ave Proposed Investigation Locations

Tables

Table 1 Site Characterization Sampling Summary
Table 2 Analytical Methods/Quality Assurance Summary

Appendices

Appendix A Site-Specific Health and Safety Plan

1.0 INTRODUCTION

On January 8, 2026, HRP Associates, Inc. (HRP) was authorized to complete this New York State Department of Environmental Conservation (NYSDEC) Work Assignment (WA) No. 61 (D009808-61) for Site Characterization (SC) of the College Avenue Site, which is located in the Town of Corning, Steuben County, New York (the Site). The focus of the College Avenue SC is to characterize potential impacts to soil, groundwater, and sediment related to the presence of ash, brick, and/or glass (ABG) on-site. The scope of work for the SC, was developed based on HRP's review of previous investigations (site visit conducted by the NYSDEC on May 5, 2022) as well as discussions and planning with NYSDEC staff.

1.1 Purpose and Objectives

This site-specific SC Work Plan (WP) describes the details of the scope of work, including all proposed field activities, laboratory analyses, and data Quality Assurance/Quality Control (QA/QC) evaluation that will be associated with the SC at the Site.

The purpose of the SC is to determine the nature and extent of soil, sediment, and groundwater impacts that have been identified at the Site. In accordance with DER-10 *Technical Guidance for Site Investigation and Remediation (May 2010),* the primary objectives of the SC scope of work are to:

- Investigate potential impacts from target fill material containing ABG (glass manufacturing waste);
- Preliminarily delineate the vertical and horizontal extent of contaminated soil and sediment, and determine whether groundwater is impacted; and
- Determine if Site conditions represent a threat to public health or the environment.

The primary contaminants of concern (COCs) are associated with the ABG identified at the Site.

1.2 Site Description and Background Information

The College Avenue Site (#851080), located in the Town of Corning, Steuben County, NY (**Figure 1**), is the focus of this investigation. The Site totals 2.14 acres and consists of 3 residential properties and 1 vacant property. It is located northwest of the Chemung River as depicted on **Figure 2**. The property is bordered by College Avenue and forested land to the west; a residential neighborhood to the north; Narrows Creek and forested land to the east; and a residential neighborhood to the south.

The College Avenue site has been a residential area from 1900 to present day. The four residential buildings on Site were built between 1900 and 1952. Between 2013 and 2016, the building at [redacted] was demolished. No notable land disturbances reportedly occurred in that timeframe.

Through previous initial site inspections conducted by NYSDEC and Parsons, it was discovered that the previous owner of [redacted] suspected there may be glass along Narrow Creek. Trace

cullet glass was observed on the ground surface in the backyard of [redacted]. No ABG was observed along Narrows Creek.

1.3 Site Geology and Hydrogeology

The Site is located in the Chemung River Valley and contains predominately sand and silt deposits of glaciofluvial origin and more recent alluvia deposits. River valley deposits are on the order of 100 feet in thickness in the vicinity of the Site. These river deposits are underlain by low permeability shale/siltstone bedrock. Depth to the water table is expected to be between 0 to 18 inches below grade (in bg). Site groundwater flows southeast towards the Narrows Creek and ultimately, the Chemung River. According to the Bedrock Map of New York – Finger Lakes Group (1970), the bedrock group mapped at the Site is defined as the Gardeau Formation set in the West Falls Group, shale, siltstone, and Roricks Glen Shale. Bedrock depth at the Site is estimated between 12 and 15 feet below grade (ft bg).

2.0 SITE CHARACTERIZATION SCOPE OF WORK

Based on the findings and discussions with the NYSDEC, HRP has developed the following scope of work (SOW) to investigate impacts to Site soil and groundwater related to historic waste disposal operations.

2.1 Preliminary Activities

As part of the SOW, the following documents have been prepared under this WA:

- Project-specific Work Plan (this document)
- Site-specific Health and Safety Plan (HASP) (included as **Appendix A** of this Work Plan)

The site-specific elements are provided below.

2.1.1 Work Plan

This Work Plan has been prepared for use in performing the SC and will serve as the site-specific Field Activities Plan (FAP). This Work Plan identifies the components of the SC and a description of the tasks to be performed including the specific methods or procedures that will be used to conduct the field sampling. A proposed project schedule is included in **Section 5.1** of this Work Plan.

2.1.2 Health and Safety Plan

A site-specific HASP is provided in **Appendix A**. The site-specific HASP provides guidance to maximize health and safety of on-site workers during SC; specific tasks include media sampling, installation of wells, surveying, and other field related activities. Included in the site-specific HASP is a Community Air Monitoring Plan (CAMP) that details procedures for air monitoring during intrusive activities. The generic HASP has guidelines for health and safety supervision, air monitoring, medical monitoring, personal protective equipment, site controls, safe work practices and decontamination, etc.

2.1.3 Quality Assurance Project Plan

A site-specific Quality Assurance Project Plan (QAPP) has been prepared and is included in **Section 4** of this Work Plan. Deviations from the protocols specified in the QAPP will be subject to the NYSDEC approval.

All laboratory analytical work will be performed by a NYSDOH Environmental Laboratory Approval Program (ELAP)-approved laboratory certified in all categories of Contract Laboratory Protocol (CLP) and Solid and Hazardous Waste analytical testing. A Data Usability Summary Report (DUSR) will be included in a SC Report (described in **Section 2.3** of this Work Plan) for each round of analytical work. Category B deliverables will be retained in the project files and available for full data validation by a qualified, independent third party.

2.2 Investigation, Environmental Sampling, and Implementation

The SC will include the components described below. It will consist of the installation of up to 12 direct push soil borings across the Site, and the installation and sampling of three new monitoring wells. The number and types of samples to be collected are discussed below and summarized on **Table 1**. The field investigation tasks for the Site are listed below in the order that they are expected to be completed:

1. Underground Utility Identification
2. Soil and Sediment Characterization (soil boring installation, surface and subsurface soil sampling, and sediment sampling)
3. Groundwater Characterization (monitoring well installation, monitoring well development, and low flow groundwater sampling)
4. Characterization and Disposal of Investigation Derived Waste
5. Analytical Data Quality Evaluation
6. Base Map Development and Site Survey

2.2.1 Underground Utility Clearance

Prior to implementing any intrusive activities, a utility clearance will be conducted. HRP will rely upon multiple lines of evidence to ensure to the maximum extent practicable that subsurface features are identified prior to commencement of intrusive work.

HRP will mark sampling locations prior to installation and contact public utility clearance services to mark out the utilities prior to the survey. The drilling contractor will request utility mark outs through NYS Code Rule 753/Dig Safe System. The dig safe system is limited to public right-of ways and will only identify utilities entering private property rather than utilities present at the monitoring well installation location.

2.2.2 Installation of Direct Push Sample Points and Soil Sampling

Pre-existing conditions at properties that are sampled as part of the PDI will be documented through photographs and/or field notes prior to conducting any intrusive work. The subsurface soil investigation locations (**Figure 2**) will be selected based on property access from property owners in the footprint of the Site. Up to 12 soil borings will be advanced to depth of 15-20 ft bg or refusal via a direct-push Geoprobe or similar motorized drill rig. All soil samples will be screened for volatile organic vapors using a photoionization detector (PID), and any visual or olfactory indications of contamination will be noted and used for the selection of soil samples.

During soil boring installation, continuous soil samples will be collected using macrocore samplers for field characterization (grain size, moisture, color, compaction, staining, odor, and other observations) by the on-site geologist, screened for VOCs using a PID, and the data recorded on boring logs. Any non-native materials present in the soil core will be noted and described, and any layer of fill material including ABG will be noted and photographed in field logs.

Upon completion, each boring that is not converted to a permanent monitoring well (further detailed in **Section 2.3.3**) will be backfilled from total depth to surface using soil cuttings, clean sand, or bentonite chips. After backfilling, the surface and surrounding area will be restored to previous conditions.

Up to two soil samples will be collected from each soil boring/test pit, with sample intervals generally being biased towards surface soil (defined as 0-2 ft bg), any observable ABG, or any other observable impacts. In instances where there are no observable fill or impacts, soil samples may be biased towards surface soil or the water table interface.

Should any vegetable gardens, play areas with exposed soils, or other areas in which receptors may come into contact with surface soil are identified at properties in which access is provided, a surface soil boring will be advanced to a depth of 2 ft bg using a stainless steel hand auger. One surface soil sample will be collected from this interval.

As shown on **Table 1**, all soil samples are being analyzed for total metals (including mercury and boron) by EPA Method 6010 and Method 7471 and TCL SVOCs by EPA Method 8270. The remaining parameters will be analyzed on 20 percent of the samples collected at locations based on field observations. If insufficient volume is recovered for full analyses, material from the sample interval above or below the interval will be included with the target interval for analysis and specified in the sample ID. Additional samples may be collected based on the presence of additional target material, discussions with NYSDEC personnel, or any other field observations.

QA/QC soil samples will be collected at a rate of one for every 20 field samples and analyzed for parameters as described in **Table 1** and **Table 2**.

The laboratory will submit analytical results to HRP in NYSDEC electronic data deliverable (EDD) format. Sample locations and totals are summarized on **Table 1** and laboratory QA/QC details are summarized on **Table 2**.

2.2.3 Sediment Sampling

Sediment samples will be collected using a direct-push stainless steel hand auger or stainless steel trowel from along the western bank of Narrows Creek located on the back side of the properties. Sediment samples will be collected to a depth of up to 2 ft bg. If a depth of 2 ft bg cannot be achieved due to poor recovery, additional sampling locations may be needed until a depth of 2 ft bg is achieved. Sediment samples will be evaluated against *the Screening and Assessment of Contaminated Sediments* guidance document (NYSDEC 2014). All sampling tools are to be decontaminated in between sampling locations using an Alconox-water spray, scrubbed, and rinsed with deionized water.

All sediment collected during sampling will be observed for the presence of ABG and will be recorded on each log. Photographs will be taken of any ABG identified during sediment sampling. Sediment samples will be screened with a PID and headspace VOC readings will be recorded on each log. One sample will be collected from up to eight locations along the western bank of Narrows Creek.

Sediment samples will be submitted to a NYSDOH ELAP certified laboratory for analysis of all parameters as shown on **Table 1.**

QA/QC samples will be collected during sediment sampling for parameters listed in **Table 1** at a rate of one site of QA/QC samples for every 20 regular samples collected. Results from the analytical sampling will be compared to Class A Sediment Guidance Values.

2.2.4 Groundwater Characterization

To evaluate Site groundwater quality and obtain groundwater flow information, up to three soil boring locations may be converted to temporary or permanent overburden groundwater monitoring wells. The locations of the proposed monitoring wells will be selected based on the on-site observations of soil borings.

The wells will be installed to a depth based on soil sampling observations during soil boring installation. The wells will be constructed of 1-inch or 2-inch PVC with PVC 0.010-slot screens with an appropriately sized sand pack. All wells will be screened across the groundwater interface with the top of the screen extending at least two feet above the water table. A bentonite seal will be installed above the sand pack and allowed to hydrate. Permanent wells will be completed with a concrete collar around each flush mount road box.

2.2.4.1. Monitoring Well Development

Temporary monitoring wells will not be developed as part of the SC. The newly installed permanent monitoring wells will be developed a minimum of 24 hours after installation by pumping and surging until the field parameters (temperature, pH, and specific conductance) stabilize for a minimum of three consecutive readings of 10 percent variability or less. In addition, groundwater turbidity must achieve a reading of 50 Nephelometric Turbidity Units (NTUs) or less during the final reading.

All purge water obtained during well development will be containerized in appropriately labeled 55-gallon drums and disposed of in accordance with NYSDEC DER-10. The groundwater will be segregated and handled as described in **Section 2.2.6**. All sampling equipment will be appropriately decontaminated between sampling locations or, if applicable, disposed of after one-time use.

2.2.4.2. Monitoring Well Sampling

Depth to groundwater measurements will be collected from the newly installed monitoring wells to the nearest 0.01 foot from the top of casings (survey details discussed in **Section 2.2.8**) prior to sampling activities, the data will be used to construct a groundwater elevation contour map to determine the direction of groundwater flow and to calculate the apparent hydraulic gradient.

Groundwater sampling at permanent monitoring wells will occur a minimum of one week after development has been completed. Groundwater samples will be collected from the four newly installed wells. Temporary monitoring wells will be sampled as grabs with a 1" bailer or peristaltic pump. Samples will be submitted to a NYSDOH ELAP and NYSDEC approved laboratory. Groundwater

samples from the newly installed wells will be collected in general accordance with low-flow groundwater sampling procedures.

All analytical samples will be completed using QA/QC NYSDEC Method Category B. The laboratory will submit analytical results to HRP in NYSDEC EDD format. All IDW generated during installation, development, and sampling of the groundwater monitoring wells will be disposed of in accordance with DER-10. Groundwater sample totals and analyses are summarized on **Table 1** and laboratory QA/QC details are summarized on **Table 2**.

2.2.5 Sample Handling Procedures

Nitrile gloves will be worn at all times by personnel collecting and handling the samples. All non-disposable equipment and tooling used for sampling will be properly decontaminated between sampling locations and intervals. Decontamination procedures are described in **Section 2.2.5**.

2.2.5.1. PFAS Sampling

Sampling for per- and polyfluoroalkyl substances (PFAS) will occur at the Site during the planned activities covered in this Work Plan. Only regular ice will be used in the transport of samples being analyzed for PFAS. The minimum method achievable Reporting Limits for PFAS will be less than or equal to 2 nanograms/Liter (part per trillion [ppt]) for aqueous samples and 0.5 micrograms/kilograms (parts per billion [ppb]) for solids samples.

2.2.5.2. 1,4-Dioxane Sampling

Sampling for 1,4-dioxane will occur at the Site during the planned activities covered in this Work Plan. The minimum method achievable Reporting Limits for 1,4-dioxane will be less than or equal to 0.35 µg/l (ppb) for aqueous samples and 0.1 mg/kg (parts per million [ppm]) in solids samples.

2.2.6 Decontamination Procedures

Non-dedicated sampling equipment (i.e., submersible pumps, water level indicators, etc.) will be subject to decontamination procedures prior to each sample collected to reduce the potential for cross-contamination. The decontamination procedures will include the use of a scrub wash with a solution consisting of Alconox® detergent and potable water followed by a rinse with Deionized (DI) water. The decontaminated equipment will be stored in clean environments (i.e., the manufacturer's storage case). Decontamination fluids will be properly labeled and securely stored in a designated waste-container staging area.

2.2.7 Disposal of Investigation Derived Waste

It is not expected that any IDW will be generated during the SC, however, any IDW that is generated during the field investigation shall be handled in accordance with NYSDEC DER-10. HRP's subcontractor will be responsible for supplying the equipment and materials necessary for the proper handling and storage of the IDW, such as DOT-approved 55-gallon drums. All containers will be labeled and stored in accordance with applicable NYSDEC regulations at an on-site location. Drums

will be labeled appropriately in a secure location with the permission of the homeowner in which the IDW was generated, coned off or wrapped in caution tape to ensure the drums are not tampered with.

Soil shall be handled and disposed of in accordance with DER-10. If off-site disposal of IDW is required, it will be disposed of or treated according to applicable local, state, and federal regulations. Soils from the investigation may be disposed within the monitoring well borehole as backfill over the bentonite seal provided the cuttings do not exhibit staining, odors, or elevated PID readings.

It is anticipated that purge water generated during the development and sampling of the monitoring wells will require off-site disposal. Decontamination fluids will be containerized separately from other IDW, and any decontamination fluids that do not exhibit evidence of contamination will be containerized separately from those exhibiting evidence of contamination.

2.2.8 Analytical Data Quality Evaluation

This Work Plan and the associated site-specific QAPP Section detail the data quality objectives and analytical requirements needed for this WA.

During the final Work Plan review period, the site-specific QAPP Section and Work Plan will be reviewed and modified according to NYSDEC requirements and comments. Once the plans are finalized, deviations, if required, from protocols specified in the plans will be approved in advance by NYSDEC. As required, the selected analytical laboratory will maintain NYSDOH ELAP certification in all categories of USEPA CLP and Solid and Hazardous Waste analytical testing for the duration of the project.

The ELAP certified laboratory will supply all required data deliverables (USEPA CLP and NYSDEC ASP deliverable format) to enable the data to be validated by a third-party data validation subcontractor. All environmental data will be submitted electronically in a specified format named 'NYSDEC' in accordance with the data submission procedures outlined on the NYSDEC's website (http://www.dec.ny.gov/chemical/62440.html).

Upon receipt of the sample data, the validation contractor will quantitatively and qualitatively validate the laboratory data. The validation of the analytical data will be performed according to the protocols and QC requirements of the analytical methods, the CLP National Functional Guidelines for Organic and Inorganic Data Review (February 1994), the USEPA Region II CLP Data Review SOP, and the reviewer's professional judgment.

2.2.9 Base Map Development and Site Survey

The subject property will be surveyed by a New York State licensed land surveyor. The field survey will include establishing project horizontal control and the collection of planimetric features for the development of 2D mapping. Subsequently, a base map of the Site will be developed using Computer Aided-Design (CAD) software that will be utilized to place all sampling locations from on-site investigations. The sample locations will be placed on the base map by geo-referencing previous figures into the local CAD coordinate system and will include all monitoring wells and soil borings.

Upon completion of the investigation fieldwork, a survey will be conducted to properly locate all sampling points. The elevations of all monitoring well casings will be established to within an accuracy of plus or minus 0.01 feet to North American Vertical Datum (NAVD88). A notch will be etched in all interior casings, or a permanent black mark, to provide a reference point for all future groundwater elevation measurements.

2.3 Site Characterization Report

2.3.1 Report Preparation

The Site Characterization Report (SCR) will provide a description of the field activities, present data collected during field characterization, present a physical description of the Site including geology and hydrogeology, and provide an analysis and interpretation of the available data in the context of existing Site conditions. The SCR will include tabulated laboratory analytical results, Site maps and a discussion of contaminant concentrations, including a comparison to NYSDEC Standards, Criteria and Guidelines as described in Section 3.13 of DER-10.

The SCR prepared as part of this assignment will also provide a summary of the general nature of contamination on the Site to the extent investigated by the SC including, without limitation, the numbers of AOCs requiring further investigation and/or remediation and any significant events or seasonal variation which may have influenced sampling procedures or analytical results. The submitted report will include the report text, appropriate tables, figures, photographs, data summary tables, and boring logs in a PDF format on a compact disc. In addition, a summary of CAMP data collected during field activities will be provided, as well as details related to exceedances of action levels, corrective actions implemented, and their efficacy. The electronic file will contain "bookmarks." In addition, one hard copy of the report will be provided.

2.3.2 Electronic Data Delivery

In addition to appropriate data summary tables and boring logs included in the report, all environmental data will be submitted electronically in a specified EDD format named in accordance with the data submission procedures outlined on the NYSDEC's web site (http://www.dec.ny.gov/chemical/62440.html).

3.0 GREEN AND SUSTAINABLE REMEDIATION BEST MANAGEMENT PRACTICES

Through the course of the SC, HRP will implement Green and Sustainable Best Management Practices (BMPs) to reduce negative impacts to air, water, solid waste, etc.

In consultation with the NYSDEC, quantifiable impact reductions achieved by green and sustainable remediation BMPs implemented during the SC investigations (e.g., tons of carbon reduced, gallons of fuel saved, pounds of waste reduced) may be included in Site fact sheets to promote public awareness of NYSDEC green and sustainable BMPs.

Green and Sustainable Remediation BMPs to be implemented as part of this project are summarized below, organized by BMPs implemented in project planning and field work phases of work.

Project Planning BMPs

BMP 1) A well-conceived dynamic sampling plan has been developed for the Site to assure that the data collected at project on-set adequately addresses Site data gaps, consequently reducing remobilization of field crews and equipment.

BMP 2) Efforts will be made to schedule Site visits and field work to reduce energy consumption and air emissions associated with mobilizations to and from the Site. The following BMPs will be implemented related to HRP mobilization:

- BMP 2a) Field work schedules will be consolidated by coordinating with contractors and property owners.
- BMP 2b) When two or more HRP personnel are involved in a trip to and from the Site which requires a passenger vehicle personnel will "car-pool" by sharing a vehicle, reducing energy consumption and emissions associated with taking multiple vehicles to the Site.

Field Work BMPs

BMP 3) Soil borings will be installed with direct push drilling methods, when possible, to reduce the generation of waste drill cuttings and drill rig operation time.

BMP 4) Monitoring wells will be installed as permanent points with protective road boxes or stick-ups so that they may be utilized for potential future sampling events. This will reduce energy usage, air emissions, and mobilizations associated with installing new soil vapor points if re-sampling is required during a future investigation.

BMP 5) When not in use, vehicles, trucks, drill rigs, and other equipment will be shut off to reduce energy consumption and emissions related to engine idling.

BMP 6) Dedicated plastic tubing will be installed to collect groundwater samples from permanent monitoring wells, reducing waste generated by using new tubing if monitoring wells are sampled during future events.

BMP 7) Waste cardboard generated from labware (sample jars, bottle ware, and summa cannisters) will be reused or recycled to reduce waste.

4.0 SITE-SPECIFIC QUALITY ASSURANCE PROJECT PLAN

The purpose of the QAPP is to specify QA/QC procedures for the collection, analysis, and evaluation of data that will be legally and scientifically defensible.

4.1 Site-Specific Sampling

Soil and groundwater samples will be collected during this site investigation. Matrix types, number of samples (including QA/QC) and analytical details are summarized in **Table 2**.

4.2 Data Quality Assessment and Usability

Data quality objectives for the SC are focused on the characterization of COCs related to ABG impacting on-site soil and groundwater.

To achieve these objectives, QA/QC measures will be implemented throughout the site investigation to provide input as to the validity and usability of data generated through soil and groundwater sampling. The procedures for data QA/QC management includes field documentation; sample handling, custody, and shipping; instrument calibration and maintenance; auditing; data reduction, validation, and reporting; corrective action requirements; and QA reporting specific to the analyses performed by the laboratory under subcontract to HRP. **Table 2** lists the sample containers, preservation, and holding time requirements for the parameters specific to this Site. This table will be referenced by field personnel.

For all data generated, a Category B Data package and DUSR will be prepared to provide a thorough evaluation of analytical data utilizing third-party data validation. Environmental Data Services, Inc. (EDS) will be the third-party data validator for this project.

5.0 PROJECT MANAGEMENT

HRP has the responsibility of the overall management of this project and will respond to any NYSDEC requests. A proposed project schedule, key milestones, key project personnel, and project-specific subcontractors follow.

5.1 Project Schedule and Key Milestones

The proposed project schedule for this WA is outlined below. Key milestones are identified to monitor work progress. Drilling activities will commence following access agreements are signed and returned to the NYSDEC. The following milestones will be applicable for this project:

CATEGORY	TASK	START	END
Task 1 – Preliminary Activities	File Review	01/8/2026	01/16/2026
	Development of 2.11's	01/19/2026	02/13/2026
	Technical Review and Budget Approval	02/13/2026	03/06/2026
	QAPP, Work Plan, and HASP (Includes Department Review and Approval)	03/01/2026	07/26/2026
Task 2 – Field Work/Field Investigation	Utility Clearance, Soil Sampling, Monitoring Well Installation, Well Development, Groundwater Sampling, Site Survey	08/27/2026	09/04/2026
Task 3 – Site Characterization Report	Report Preparation and Submittal	09/04/2026	10/31/2026

5.2 Key Project Personnel

A list of the project personnel of the prime consultant and subcontractors responsible for performance of the investigation has been submitted to the NYSDEC for approval. Primary project staff are listed in the table below.

Personnel	Company	Title for this Work Assignment	Responsibility
Mark Wright, PG (NYSDEC Contract Manager)	HRP Associates, Inc. (Prime Consultant)	Project Manager	Overall management of the WA
Bryan Sherman, CSP (Project Manager)	HRP Associates, Inc.	Office Health and Safety Manager	Approval of HASP and responsible for overall health and safety issues with the WA
Michael Varni (Senior Project Geologist)	HRP Associates, Inc.	Corporate QA/QC Officer	Responsible for QA/QC on the WA
Colin Deubell (Project Consultant)	HRP Associates, Inc.	Field Manager and Site Health & Safety Officer	Responsible for the on-site sampling and investigative tasks

Subcontractors for this project will include:

- Drilling – Matrix Environmental Drilling Inc
- Data Validation – Environmental Data Services, Inc. WBE
- Site Survey – Fagan Engineers and Land Surveyors

6.0 REFERENCES

Community Liaison Plan, Environmental Cleanup in the Greater Corning, NY Area, Steuben County, prepared for the New York State Department of Environmental Conservation and prepared by Parsons dated October 2025.

Fisher, D.W., et. al., 1970, Geologic Map of New York, New York State Museum and Science Service, Map and Chart Series No. 15.

New York State Department of Environmental Conservation, Division of Environmental Remediation, DER-10 Technical Guidance for Site Investigation and Remediation, May 2010.

New York State Department of Environmental Conservation, Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs, October 2020.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. http://websoilsurvey.sc.egov.usda.gov/.

FIGURES

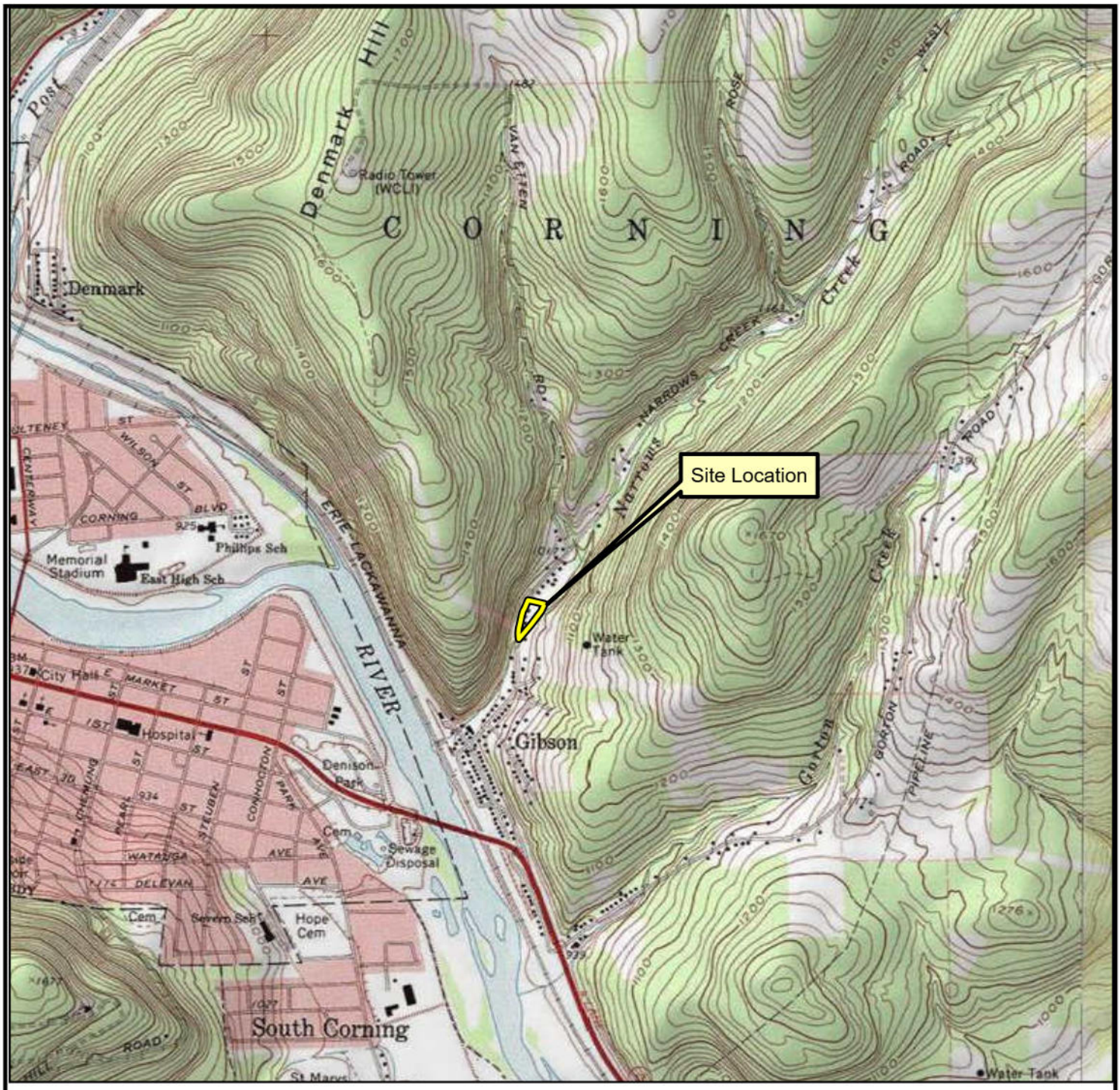


Figure 1
Site Location
College Avenue Site
Corning, New York
HRP # DEC1061.P2
Scale 1" = 2,000'

USGS Quadrangle Information
Quad ID: o42077b1
Name: Corning, New York
Date Rev: 1953
Date Pub: 1969

MOVE YOUR ENVIRONMENT FORWARD
ONE FAIRCHILD SQUARE
SUITE 110
CLIFTON PARK, NY 12065
(518) 877-7101
HRPASSOCIATES.COM

Path: \\hrp-ny-fs2.hrp.local\shared\Data\NNYDEC - NYSDEC\CORNING ABG\DEC1061P2 - College Avenue\GIS\corning site3\college ave.aprx

TABLES

Table 1
Site Characterization Sample Summary
College Avenue - Site # 851080
Corning, New York

Activity/ Matrix	Number of Sample Locations	Location	Samples to be Collected	Analyses
Soil (Including MS/MSD 1 per 20 samples Duplicate 1 per 20 samples)	Up to 12*, 2 samples per boring	See Figure 2 Sampling Locations. One surface soil sample (0-2 feet below grade) and one deeper soil sample to be collected	Up to 30* (Including QA/QC)	TCL SVOCs +20 by EPA Method 8270 TAL Metals by EPA Method 6010B including Mercury and Boron
Soil (Including MS/MSD 1 per 20 samples Trip blank- 1/cooler Duplicate 1 per 20 samples)	Up to 3*	See Figure 2 Sampling Locations	Up to 7* (Including QA/QC)	TCL VOCs by EPA Method 8260 Total Cyanide by EPA Method 9012A Total PCBs by EPA Method 8082 Chlorinated Herbicides by EPA Method 8081 TCL Pesticides by EPA Method 8081B PFAS by EPA Method 1633 1,4-dioxane by EPA Method 8270-SIM
Groundwater Sampling (Including MS/MSD 1 per 20 samples Duplicate 1 per 20 samples)	3	To Be Determined	Up to 6 (Including QA/QC)	TCL SVOCs +20 by EPA Method 8270 TAL Metals by EPA Method 6010B including Mercury and Boron, Dissolved and Total Metals
Groundwater Sampling (Including MS/MSD 1 per 20 samples Trip blank- 1/cooler Duplicate 1 per 20 samples)	1	To Be Determined	Up to 3	TCL VOCs by EPA Method 8260 Total Cyanide by EPA Method 9012A Total PCBs by EPA Method 8082 Chlorinated Herbicides by EPA Method 8081 TCL Pesticides by EPA Method 8081B PFAS by EPA Method 1633 1,4-dioxane by EPA Method 8270-SIM
Sediment Sampling	Up to 8*	To Be Determined	Up to 8*	TCL SVOCs +20 by EPA Method 8270 TAL Metals by EPA Method 6010B including Mercury and Boron TCL VOCs by EPA Method 8260 Total Cyanide by EPA Method 9012A Total PCBs by EPA Method 8082 Chlorinated Herbicides by EPA Method 8081 TCL Pesticides by EPA Method 8081B PFAS by EPA Method 1633 1,4-dioxane by EPA Method 8270-SIM

* The total number of sample locations and number of samples collected is dependent on property access limitations.

Acronym List:
PCBs: Polychlorinated biphenyls
PFAS: Per-and Polyfluoroalkyl Substances
VOCs: Volatile Organic Compounds
SVOCs: Semi-Volatile Organic Compounds
TAL: Target Analyte List
TCL: Target Compound List
QA: Quality Assurance
QC: Quality Control

Table 2
Analytical Methods/Quality Assurance Summary
College Avenue - Site # 851080
Corning, New York

				Containers per Sample			Preservation Requirements			
Parameter	**Number of Samples (including Field QC)**	**Preparation Method**	**Analytical Method***	**No.**	**Size**	**Type**	**Temp.**	**Light Sensitive**	**Chemical**	**Maximum Holding Time**
Soil										
TCL SVOCs by GC/MS	Up to 30*	3546	SW-846 Method 8270C	1	4 oz	amber glass jar	2-6º C	Yes	NA	14 days
TAL Metals (including Mercury and Boron) by ICP	Up to 30*	3050B	SW-846 Method 6010B	1	2 oz	amber glass jar	2-6º C	No	NA	6 months
TCL VOCs by GC/MS	Up to 7*	5035A	SW-846 Method 8260	1	4 oz	amber glass jar	2-6º C	No	NA	14 days/28 days
PFAS	Up to 7*	N/A	SW-846 Method 1633	1	500 ml	HDPE plastic bottle	0-6º C	No	NA	90 days
1,4-dioxane	Up to 7*	3546	SW-846 Method 8270-SIM	1	4 oz	amber glass jar	2-6º C	Yes	NA	14 days
Total PCBs	Up to 7*	3546	SW-846 Method 8082A	1	8 oz	clear glass jar	2-6º C	No	NA	14 days
Chlorinated Herbicides	Up to 7*	3546	SW-846 8082A	1	8 oz	clear glass jar	2-6º C	No	NA	40 days
TCL Pesticides	Up to 7*	3546	SW-846 8151A	1	8 oz	clear glass jar	2-6º C	No	NA	40 days
Total Cyanide	Up to 7*	9012	SW-846 9012B	1	8 oz	Plastic or glass jar	2-6º C	No	NA	14 days
Groundwater										
TCL SVOCs by GC/MS	Up to 3	3546	SW-846 Method 8270C	2	125 ml	Amber jar	2-6º C	Yes	NA	14 days
TAL Metals (including Mercury and Boron) by ICP	Up to 3	3050B	SW-846 Method 6010B	1	250 ml	Plastic bottle	2-6º C	No	HNO3	6 months
TCL VOCs	1	5035A	SW-846 Method 8260	1	40 ml	Glass vial	2-6º C	No	HCl	14 days/28 days
PFAS	1	N/A	SW-846 Method 1633	1	125 ml	Plastic bottle	0-6º C	No	NA	90 days
1,4-dioxane	1	3546	SW-846 Method 8270-SIM	1	1 L	Amber jar	2-6º C	Yes	NA	14 days
Total PCBs	1	3546	SW-846 Method 8082A	1	1 L	Amber jar	2-6º C	No	NA	40 days
Chlorinated Herbicides	1	3546	SW-846 8082A	1	1 L	Amber jar	2-6º C	No	NA	40 days
TCL Pesticides	1	3546	SW-846 8151A	1	1 L	Amber jar	2-6º C	No	NA	40 days

* The total number of sample locations and number of samples collected is dependent on property access limitations.

Acronym List:

GC: Gas Chromatography
ICP: Inductively Coupled Plasma
Ml: Milliliter
HCL: Hydrochloric Acid
TAL: Target Analyte List
PCBs: Polychlorinated Biphenyls
VOCs: Volatile Organic Compounds
HNO3: Nitric Acid
SVOCs: Semi-Volatile Organic Compounds
NA: Not Applicable
L: Liters
Oz: Ounce
HCl: Hydrochloric Acid
C: Celsius

Table 2
Analytical Methods/Quality Assurance Summary
College Avenue - Site # 851080
Corning, New York

				Containers per Sample			Preservation Requirements			
Parameter	**Number of Samples (including Field QC)**	**Preparation Method**	**Analytical Method***	**No.**	**Size**	**Type**	**Temp.**	**Light Sensitive**	**Chemical**	**Maximum Holding Time**
Sediment										
TCL SVOCs by GC/MS	Up to 8*	3546	SW-846 Method 8270C	1	4 oz	amber glass jar	2-6º C	Yes	NA	14 days
TAL Metals (including Mercury and Boron) by ICP	Up to 8*	3050B	SW-846 Method 6010B	1	2 oz	amber glass jar	2-6º C	No	NA	6 months
TCL VOCs by GC/MS	Up to 8*	5035A	SW-846 Method 8260	1	4 oz	amber glass jar	2-6º C	No	NA	14 days/28 days
PFAS	Up to 8*	N/A	SW-846 Method 1633	1	500 ml	HDPE plastic bottle	0-6º C	No	NA	90 days
1,4-dioxane	Up to 8*	3546	SW-846 Method 8270-SIM	1	4 oz	amber glass jar	2-6º C	Yes	NA	14 days
Total PCBs	Up to 8*	3546	SW-846 Method 8082A	1	8 oz	clear glass jar	2-6º C	No	NA	14 days
Chlorinated Herbicides	Up to 8*	3546	SW-846 8082A	1	8 oz	clear glass jar	2-6º C	No	NA	40 days
TCL Pesticides	Up to 8*	3546	SW-846 8151A	1	8 oz	clear glass jar	2-6º C	No	NA	40 days
Total Cyanide	Up to 8*	9012	SW-846 9012B	1	8 oz	Plastic or glass jar	2-6º C	No	NA	14 days

* The total number of sample locations and number of samples collected is dependent on property access limitations.

Acronym List:

GC: Gas Chromatography
ICP: Inductively Coupled Plasma
Ml: Milliliter
HCL: Hydrochloric Acid
TAL: Target Analyte List
PCBs: Polychlorinated Biphenyls
VOCs: Volatile Organic Compounds
HNO3: Nitric Acid
SVOCs: Semi-Volatile Organic Compounds
NA: Not Applicable
L: Liters
Oz: Ounce
HCl: Hydrochloric Acid
C: Celsius

APPENDIX A
Site-Specific Health and Safety Plan

MOVE YOUR ENVIRONMENT FORWARD

SITE-SPECIFIC HEALTH AND SAFETY PLAN (HASP)

College Avenue – Site # 851080
City of Corning
Steuben County, New York 14830

Prepared For:

Contract# D009808, Work Assignment No. 61
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233

Prepared By:

HRP Associates, Inc.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065

HRP #: DEC1061.P2

Issued On: August 21, 2026

ADDENDUM LOG		
Addendum Number	**Date Issued**	**Modification(s) Needed/Reason(s)**
1	7/20/2026	DOH comments

DISCLAIMER

HRP Associates, Inc. does not guarantee the health or safety of any person entering this site. Due to the potential hazards of this site and the activity occurring thereon, it is not possible to discover, evaluate, and provide protection for all possible hazards which may be encountered. Strict adherence to the health and safety guidelines set forth herein will reduce, but not eliminate, the potential for injury at this site. The health and safety guidelines in this plan were prepared specifically for this site for use and should not be used on any other site.

If unexpected conditions were to arise, any employee will have "Stop Work Authority." Employees should be capable of identifying existing and predictable hazards in their surroundings or working conditions that are unsanitary, hazardous, or dangerous to the workers. The employee(s) has the authority to impose prompt corrective measures to eliminate these hazards. Some examples include the ability to stop work, close a jobsite, or evacuate workers if needed.

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 EMERGENCY CONTACTS AND PROCEDURES 2

2.1 Contacts 2
2.2 Emergency Procedures 2
2.3 Emergency Supplies and Equipment 3

3.0 SCOPE OF WORK 4

3.1 Site's Background 4
3.2 Project's Description 5
3.3 Site Type 5
3.4 Scope of Work 5
3.4.1 Underground Utility Clearance and Ground Penetrating Radar Survey 5
3.4.2 Installation of Direct Push Sample Points and Soil Sampling 6
3.4.3 Groundwater Characterization 7
3.4.3.1. Monitoring Well Development 7
3.4.3.2. Monitoring Well Sampling 7
3.4.4 Sample Handling Procedures 8
3.4.4.1. PFAS Sampling 8
3.4.4.2. 1,4-Dioxane Sampling 8
3.4.5 Decontamination Procedures 8
3.4.6 Disposal of Investigation Derived Waste 8
3.4.7 Base Map Development and Site Survey 9

4.0 ROLES AND RESPONSIBILITIES 10

5.0 PROJECT HAZARDS AND CONTROL MEASURES 11

5.1 Identifying Hazards 11
5.2 Task Policy Reminders 11
5.3 Community Air Monitoring (required by DER 10) 13
5.4 Equipment Usage 17

6.0 SUSPECTED CONTAMINATION AND DECONTAMINATION 18

6.1 Suspected Contamination 18
6.2 Protective Zones 18
6.3 Decontamination Procedures 18
6.4 Emergency Decontamination 19
6.5 Personal Hygiene 19

7.0 PERSONAL PROTECTIVE EQUIPMENT 20

7.1 Levels of Personal Protective Equipment 21

8.0 TRAINING/MEDICAL SURVEILLANCE 22

8.1 Training Requirements 22
8.2 Pre-Entry Briefing 23
8.3 Toolbox Talk (Daily Job Brief) 23
8.4 Medical Surveillance 23

9.0 AUTHORIZATION 23

10.0 RECORDKEEPING 24

11.0 SITE-SPECIFIC HEALTH AND SAFETY PLAN APPROVAL 24

12.0 FIELD TEAM ACKNOWLEDGMENT 26

Figures

Figure 1 Site Location Map
Figure 2 Site Plan with Areas of Environmental Concern
Figure 3 Route and Map to Nearest Hospital

Tables

Table 1 General Information
Table 2 Emergency Contacts
Table 3 Emergency Supplies/Equipment
Table 4 Site Type
Table 5 Tasks
Table 6 Roles and Responsibilities
Table 7 Action Levels
Table 8 Hazards Known or Suspected Onsite
Table 9 Hazardous Material Summary
Table 10 Equipment Usage
Table 11 Personal Protective Equipment
Table 12 Potential Field Activity Tasks and Associated PPE
Table 13 Contaminants of Known or Suspected Onsite (FOLLOWS TEXT)

Appendices

Appendix A Safety and Logistics Planning Call Log
Appendix B Personnel Log
Appendix C Job Safety Analysis (JSA)
Appendix D Toolbox Talk
Appendix E Specific Procedures (Not Included)
Appendix F Safety Data Sheets (for chemicals brought to the site)
Appendix G Community Air Monitoring Program (CAMP)

1.0 INTRODUCTION

This Health and Safety Plan (HASP) has been prepared for the College Avenue (NYSDEC Site # 851080) Site Characterization (SC). The general and contact information of the site can be found on **Table 1** below.

This HASP has been developed in accordance with HRP Associates, Inc.'s (HRP) Health and Safety (H&S) procedures as required under the Occupational Safety and Health Administration's (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) regulation (Code of Federal Regulations (CFR), 29 CFR 1910.120). Specific H&S information for the project is contained in this HASP. This Plan has also been developed to establish minimum standards necessary for onsite investigation activities to protect the H&S of HRP personnel.

HRP personnel and associated contractors shall be familiar with this HASP prior to conducting proposed site work. This plan must be present onsite and be available for reference/inspection when the subject site work is being conducted.

All project personnel shall sign the certification page acknowledging that they have read and understand this HASP. Changes in the scope of the project or introduction of new hazards to the project shall require revision of the HASP, and approval by the Project Manager (PM) under the Addendum Log.

TABLE 1 GENERAL INFORMATION		
Project Number	DEC1061.P2	
Site/Project Name	College Avenue – Site # 851080	
Site Address/Location	College Avenue, Corning NY	
CONTACTS		
HRP's Contacts		
Title	**Name**	**Phone Number**
Project Manager	John Gorman	716-225-5545
Site Safety Officer	Stephanie Pascual	518-914-6012
Site-Specific Contacts		
Name	Thoren Gianuzzi, Project Manager	
Title	Project Manager, New York State Department of Environmental Conservation	
Phone	518-402-8246	

2.0 EMERGENCY CONTACTS AND PROCEDURES

2.1 Contacts

Table 2 presents the Emergency Contact information associated with the planned SC work. The following information, including directions to the nearest hospital shall be posted at the Site. When contacting the local authorities, be sure to provide: your name, facility name, full address, telephone number, and the nature of the emergency. The information on **Table 2** should be revised, if necessary, upon review of the work to be completed and prior to initializing the activities.

TABLE 2
EMERGENCY CONTACTS

Contact	Name	Phone Number
Local Police	Corning City Police Department	607-962-0340 ext. 1500
Local Ambulance	Schuyler County Ambulance	607-535-7273
Local Fire Department	North Corning Volunteer Fire Department	607-962-3778
Poison Control Center		1-800-222-1222
National Response Center		800-424-8802
Spill Response Agency	NYSDEC Spills Hotline	1-800-457-7362
Local Hospital	Guthrie Corning Hospital Emergency Room	607-937-7200
Local Hospital Address (Map in **Figure 3**)	1 Guthrie Dr, Corning, NY 14830	
HRP's Site Safety Officer	Stephanie Pascual	518-914-6012
Project Manager	John Gorman	716-225-5545
DEC Inspector	Scott Williams	585-226-5448
State Agency PM (if applicable)	Thoren Gianuzzi, Project Manager, NYSDEC	518-402-8246

For the police, ambulance, and fire department, contact 9-1-1.

The Site Safety Officer will coordinate the entry and exit of response personnel in the event of an emergency.

Map and directions to the following medical facilities are provided on **Figure 3**.

2.2 Emergency Procedures

In the event of a worker injury, fire, explosion, spill, flood, or other emergency that threatens the safety and health of site workers, the following procedure will be followed:

1. If the emergency originates within the work area covered by this Plan, the HRP Site Safety Officer shall act as the Emergency Coordinator. The emergency evacuation signal is an air

horn or a loud yell. All emergency situations (including worker injuries, no matter how small) will be reported to the Site Safety Officer, who will determine the appropriate emergency response, up to and including evacuation. The Site Safety Officer will be responsible for reporting any emergency situation to the appropriate authorities, using a telephone or other appropriate method.

2. In the case of an evacuation, site workers will exit the site along the safest route(s) and assemble with team members at a safe rally point. Those workers in the Exclusion Zone will follow the emergency decontamination procedures outlined in **Section 6.4**. Accounting for all site personnel will be conducted by the Site Safety Officer using the personnel log at a location determined by the Site Safety Officer.
3. HRP personnel are not permitted to participate in handling the emergency. Fire and medical emergencies will be handled by the local fire department and ambulance service. In the case of a spill of hazardous materials, a local commercial spill clean-up firm should be contacted.

   If the spill begins to flow overland and threatens to contaminate a storm drain or surface water, HRP personnel may attempt to contain and isolate the spill using any available resources, but only if, in the judgment of the Site Safety Officer, such action will not expose the workers to dangerous levels of hazardous substances and is necessary to preserve life or property. In the event that a spill of material of any amount threatens to reach navigable waters, the National Response Center (NRC) shall be contacted.
4. Once initial emergency procedures to protect worker safety and health have been addressed, and control of emergency has been completed, the Site Safety Officer will complete HRP's Incident Investigation Report and submit this form to the appropriate personnel (HRP and/or client contact).
5. All site workers will be familiarized with the above procedures during the pre-entry briefing to be conducted before site work begins.

In the event of an evacuation, meet at the following rally point (Shown on **Figure 2**):

- Calvary Baptist Church 2915 Main St, Corning, NY 14830

2.3 Emergency Supplies and Equipment

Table 3 presents the appropriate Emergency Supplies and Equipment List for the planned listed work. Select the appropriate supplies and equipment based on the proposed work. The information on **Table 3** should be revised, if necessary, upon review of the listed work and prior to initializing the activities.

TABLE 3
EMERGENCY SUPPLIES/EQUIPMENT

SUPPLY ITEM	LOCATION ONSITE
☒ First Aid Kit	In Vehicle
☒ Fire Extinguisher	In Vehicle
☒ Eye Wash (Bottle)	In Vehicle

TABLE 3 EMERGENCY SUPPLIES/EQUIPMENT	
SUPPLY ITEM	**LOCATION ONSITE**
☒ Spill Kit	In Vehicle
☒ Hand Sanitizer	In Vehicle
☒ Caution Tape, Cones	In Vehicle
☐ Air Horn	
☒ Flashlight	In Vehicle
☒ Water or Other Fluid	In Vehicle
☒ Wash and Dry Towels	In Vehicle
☒ Sunscreen	In Vehicle
☒ Insect Repellant	In Vehicle
☒ Cooling Aids (cooling towels, vests, etc.)	In Vehicle
☐ Other	

3.0 SCOPE OF WORK

3.1 Site's Background

The College Avenue Site (#851067), located in the City of Corning, Steuben County, NY (**Figure 1**), is the focus of this investigation. The Site totals 2.14 acres and consists of 3 residential properties and 1 vacant property. It is located northwest of the Chemung River as depicted on **Figure 2**. The property is bordered by College Avenue and forested land to the west; a residential neighborhood to the north; Narrow Creek and forested land to the east; and a residential neighborhood to the south.

The College Avenue site has been a residential area from 1900 to present. The four residential buildings on Site were built between 1900 and 1952. Between 2013 and 2016, the building at [redacted] was demolished. No notable land disturbances reportedly occurred in that timeframe.

The previous owner of [redacted] suspected there may be glass along Narrow Creek. NYSDEC and Parsons staff conducted a site visit on May 5, 2022, to inspect [redacted] Trace cullet glass was observed on the ground surface in the backyard. No other target fill material such as ash, brick, and/or glass (ABG) was observed along Narrow Creek.

Figure 1 shows the site's location map.

3.2 Project's Description

This investigation will consist of the installation of up to 12 direct push soil borings across the Site, and the installation and sampling of three new monitoring wells. The number and types of samples to be collected are discussed in the Site Characterization Work Plan. This investigation is designed to characterize the site and determine if the site poses a threat to human health or the environment.

Figure 2 shows the areas of environmental concern(s).

Refer to the Introduction (**Section 1.0**) for the site's information and contacts.

3.3 Site Type

**TABLE 4 SITE TYPE **(Check all that may apply to the site/project.)	
☒ Active	☐ Abandoned
☐ Industrial	☐ Landfill
☐ Inactive	☐ Unsecured
☐ Well Field	☐ Water Work
☒ Residential	☐ Railroad
☐ Undeveloped	☐ Commercial
☐ Secure	☐ Service Station
☐ Other – Specify	

3.4 Scope of Work

In general, the work to be performed by HRP and/or HRP's subcontractors consists of investigative methods to evaluate the environmental condition of the Site. The fieldwork for this task includes the following subtasks:

1. Underground Utility Identification and Clearance using Ground-Penetrating Radar (GPR)
2. Soil Characterization (soil boring installation and surface and subsurface soil sampling)
3. Groundwater Characterization (monitoring well installation, monitoring well development, and low flow groundwater sampling)
4. Characterization and Disposal of Investigation Derived Waste
5. Base Map Development and Site Survey

3.4.1 Underground Utility Clearance and Ground Penetrating Radar Survey

Prior to implementing any intrusive activities, a utility clearance will be conducted. HRP will rely upon multiple lines of evidence to ensure to the maximum extent practicable that subsurface features are identified prior to commencement of intrusive work.

HRP will mark sampling locations prior to installation and contact public utility clearance services to mark out the utilities prior to the survey. The drilling contractor will request utility mark outs through NYS Code Rule 753/Dig Safe System. The dig safe system is limited to public right-of ways and will only identify utilities entering private property rather than utilities present at the monitoring well installation location.

HRP will utilize a qualified subcontractor to conduct a GPR survey to attempt to locate any privately installed underground structures or utilities to ensure boring areas are clear of obstructions and identify any other potential AOCs. The GPR survey and underground utility markout will be completed within a minimum 10-ft radius of each soil boring and monitoring well location.

GPR is a non-destructive and non-intrusive geophysical exploration technique that uses radar waves to detect subsurface objects, such as tanks, drums, and piping. The GPR is also capable of detecting discontinuities in the subsurface materials indicative of excavated and backfilled areas, such as those associated with possible underground storage tank (UST) graves. The objective of performing this survey is not only to make subsurface investigation as safe as possible for the field staff while protecting utilities, but also to identify possible sources and migration pathways (utility corridors, etc.). All anomalies identified during the GPR survey will be marked out in the field.

If necessary, the upper 5 feet of soil borings will be cleared of any underground utilities by non-mechanical means, such as hand-digging methods.

3.4.2 Installation of Direct Push Sample Points and Soil Sampling

The subsurface soil investigation locations (**Figure 2**) will be selected based on property access from property owners in the footprint of the Site. Up to 12 soil borings will be advanced to depth of 15-20 ft bg or refusal via a direct-push Geoprobe or similar motorized drill rig. All soil samples will be screened for volatile organic vapors using a photoionization detector (PID), and any visual or olfactory indications of contamination will be noted and used for the selection of soil samples.

During soil boring installation, continuous soil samples will be collected using macrocore samplers for field characterization (grain size, moisture, color, compaction, staining, odor, and other observations) by the on-site geologist, screened for VOCs using a PID, and the data recorded on boring logs. Any non-native materials present the soil core will be noted and described, and any layer of fill material including ABG will be noted and photographed in field logs.

Upon completion, each boring that is not converted to a permanent monitoring well will be backfilled from total depth to surface using clean sand or bentonite chips. After backfilling, the surface and surrounding area will be restored to previous conditions.

Up to two soil samples will be collected from each soil boring, with sample intervals generally being biased towards any observable ABG or fill or any other observable impacts. In instances where there are no observable fill or impacts, soil samples may be biased towards the water table interface.

All soil samples are being analyzed for total metals (including mercury) by EPA Method 6010 and Method 7471 and TCL SVOCs by EPA Method 8270. The remaining parameters will be analyzed on 20 percent of the samples collected at locations based on field observations. If insufficient volume is

recovered for full analyses, material from the sample interval above or below the interval will be included with the target interval for analysis and specified in the sample ID. Additional samples may be collected based on the presence of additional target material, discussions with NYSDEC personnel, or any other field observations.

3.4.3 Groundwater Characterization

To evaluate Site groundwater quality and obtain groundwater flow information, up to three soil boring locations may be converted to permanent overburden groundwater monitoring wells. The locations of the proposed monitoring wells will be selected based on the on-site observations of soil borings.

The wells will be installed to a depth based on soil sampling observations during soil boring installation. The wells will be constructed of 2-inch PVC with PVC 0.010-slot screens with an appropriately sized sand pack. All wells will be screened across the groundwater interface with the top of the screen extending at least two feet above the water table. A bentonite seal will be installed above the sand pack and allowed to hydrate. Each well will be completed with a concrete collar around each flush mount road box.

3.4.3.1. Monitoring Well Development

The newly installed monitoring wells will be developed a minimum of 24 hours after installation by pumping and surging until the field parameters (temperature, pH, and specific conductance) stabilize for a minimum of three consecutive readings of 10 percent variability or less. In addition, groundwater turbidity must achieve a reading of 50 Nephelometric Turbidity Units (NTUs) or less during the final reading.

All purge water obtained during well development will be containerized in appropriately labeled 55-gallon drums and disposed of in accordance with NYSDEC DER-10. The groundwater will be segregated and handled as described in **Section 3.4.6**. All sampling equipment will be appropriately decontaminated between sampling locations or, if applicable, disposed of after one-time use.

3.4.3.2. Monitoring Well Sampling

Depth to groundwater measurements will be collected from the newly installed monitoring wells to the nearest 0.01 foot from the top of casings (the survey is discussed in **Section 3.4.7**) prior to sampling activities, the data will be used to construct a groundwater elevation contour map to determine the direction of groundwater flow and to calculate the apparent hydraulic gradient.

Groundwater sampling will occur a minimum of one week after development has been completed. Groundwater samples will be collected from the three newly installed wells. A complete synoptic round of water levels will be taken prior to the start of groundwater sampling. Samples will be submitted to a NYSDOH ELAP and NYSDEC approved laboratory. Groundwater samples from the newly installed wells will be collected in general accordance with low-flow groundwater sampling procedures.

3.4.4 Sample Handling Procedures

Nitrile gloves will be worn at all times by personnel collecting and handling the samples. All non-disposable equipment and tooling used for sampling will be properly decontaminated between sampling locations and intervals. Decontamination procedures are described in **Section 3.4.5**.

3.4.4.1. PFAS Sampling

Sampling for per- and polyfluoroalkyl substances (PFAS) will occur at the Site during the planned activities covered in this Work Plan. Specific requirements for field sampling procedures including precautions to be taken, pump and equipment types, decontamination procedures, and a list of approved materials to be used during sampling for PFAS compounds are included in Section 14.1 of HRP's Generic FAP. Only regular ice will be used in the transport of samples being analyzed for PFAS. The minimum method achievable Reporting Limits for PFAS will be less than or equal to 2 nanograms/Liter (part per trillion [ppt]) for aqueous samples and 0.5 micrograms/kilograms (parts per billion [ppb]) for solids samples.

3.4.4.2. 1,4-Dioxane Sampling

Sampling for 1,4-dioxane will occur at the Site during the planned activities covered in this Work Plan. Specific requirements for field sampling procedures include precautions to be taken, pump and equipment types, detailed decontamination procedures, a prohibition on using Liquinox, and approved materials only to be used for 1,4-dioxane are included in Section 14.2 of HRP's Generic Field Activities Plan. The minimum method achievable Reporting Limits for 1,4-dioxane will be less than or equal to 0.35 µg/l (ppb) for aqueous samples and 0.1 mg/kg (parts per million [ppm]) in solids samples.

3.4.5 Decontamination Procedures

Non-dedicated sampling equipment (i.e., submersible pumps, water level indicators, etc.) will be subject to decontamination procedures prior to each sample collected to reduce the potential for cross-contamination as described in the Generic FAP on file with NYSDEC. The decontamination procedures will include the use of a scrub wash with a solution consisting of Alconox® detergent and potable water followed by a rinse with Deionized (DI) water. The decontaminated equipment will be stored in clean environments (i.e., the manufacturer's storage case). Decontamination fluids will be properly labeled and securely stored in a designated waste-container staging area.

3.4.6 Disposal of Investigation Derived Waste

IDW that is generated during the field investigation and the development of monitoring wells shall be handled in accordance with NYSDEC DER-10. HRP's subcontractor will be responsible for supplying the equipment and materials necessary for the proper handling and storage of the IDW, such as DOT-approved 55-gallon drums. All containers will be labeled and stored in accordance with applicable NYSDEC regulations at an on-site location.

Soil shall be handled and disposed of in accordance with DER-10. If off-site disposal of IDW is required, it will be disposed of or treated according to applicable local, state, and federal regulations.

Soils from the investigation may be disposed within the monitoring well borehole as backfill over the bentonite seal provided the cuttings do not exhibit staining, odors, or elevated PID readings.

It is anticipated that purge water generated during the development and sampling of the monitoring wells will require off-site disposal. Decontamination fluids will be containerized separately from other IDW, and any decontamination fluids that do not exhibit evidence of contamination will be containerized separately from those exhibiting evidence of contamination.

3.4.7 Base Map Development and Site Survey

The subject property will be surveyed by a New York State licensed land surveyor. The field survey will include establishing project horizontal control and the collection of planimetric features for the development of 2D mapping. Subsequently, a base map of the Site will be developed using Computer Aided-Design (CAD) software that will be utilized to place all sampling locations from on-site investigations. The sample locations will be placed on the base map by geo-referencing previous figures into the local CAD coordinate system and will include all monitoring wells and soil borings.

Upon completion of the investigation fieldwork, a survey will be conducted to properly locate all sampling points. The elevations of all monitoring well casings will be established to within an accuracy of plus or minus 0.01 feet to North American Vertical Datum (NAVD88). A notch will be etched in all interior casings, or a permanent black mark, to provide a reference point for all future groundwater elevation measurements.

Check the box for the following topics that are applicable to the project being completed (**Table 5**).

TABLE 5 TASKS	
☐ Site Inspections (e.g., ESA)	☒ Drum Sampling
☐ Industrial Hygiene	☒ Ground Water Sampling
☐ Asbestos Survey	☐ Landfill Sampling
☐ Bridge Inspections	☐ Product Sampling
☒ Drilling/Probing	☐ Remediation Monitoring (air/water)
☐ Well Repair/Abandonment	☐ Soil Gas Sampling
☐ Stack Testing	☐ Stormwater Sampling
☐ Surface Water Sampling	☐ Surveying
☐ Wastewater Sampling/Benchmark Test	☐ Confined Space Entry
☐ Excavation	☐ Emergency Spill Response Oversight
☐ Chemical/Waste Exposure/Handling	☐ Other

Should conditions or the scope of work described herein change significantly; a HASP Addendum will be completed.

A Safety and Logistics Planning call will be held prior to conducting any intrusive activities at the site. Representatives from HRP and each subcontractor will attend the call to discuss logistical and safety challenges general to the scope of work and specific to the Site. This call is documented on the Safety and Logistics Planning Log in **Appendix A**.

Specific procedures may be needed for certain job tasks, include at the end of this HASP.

4.0 ROLES AND RESPONSIBILITIES

The following personnel on **Table 6** are designated to perform the stated project activities and to ensure that the requirements of this HASP are met. The same person may fill more than one role, and/or serve as an alternate in the absence of the designated team member.

A complete list of HRP employee and subcontractor responsibilities (as applicable) can be found in the HRP's H&S procedures.

NOTE: Any employee has the STOP WORK AUTHORITY (sometimes known as PAUSE WORK).

TABLE 6
ROLES AND RESPONSIBILITIES

Project Team Member	Responsibilities and Tasks
Stephanie Pascual, Consultant	**HRP's Site Safety Officer:** Ensuring all site work is performed in accordance with HRP's H&S Programs, as well as in accordance with local, state, and federal regulations. • Directing and implementing HRP's HASP. • Reviewing the Subcontractor's HASP and being aware of the hazards detailed therein. • Conduct a job orientation meeting and routine safety meetings for HRP employees and subcontractors, as applicable. • Provide copies of these inspections, recordkeeping/personnel logs to the engineer/contractor as required. • Ensuring all project personnel have been adequately trained in the recognition and avoidance of unsafe conditions. • Address Stop Work Orders that shall be executed upon the determination of an imminent H&S concern and will notify the appropriate contacts upon issuance of this order. • Authorizing work to resume, upon approval from the Contractor. • Directing activities, as defined in the HRP's and the Contractor's written HASP, during emergency situations. • Providing personnel monitoring where applicable. • Ensuring that adequate personal protective equipment (PPE) and first aid supplies are available. • Ensure site security, to the extent practicable. • Ensure accident victims are promptly cared for, and the incident is investigated and properly reported. • Communicating with HRP's PM, Office H&S Manager (OHSM), and others when needed. • Report all injuries, illnesses, and other incidents to the PM.

TABLE 6 ROLES AND RESPONSIBILITIES	
Project Team Member	**Responsibilities and Tasks**
John Gorman – Project Manager **Mark Wright, DEC Contracts Manager**	**HRP's Site Supervisor/Project Manager** • Monitor and assist the Site Safety Officer. • Maintain appropriate rules, regulations, and codes at the job site. • Provide advanced safety planning for all activities through the use of scheduling and administrative controls. • Obtain site-specific H&S information and communicate that information with the appropriate personnel (i.e., contractors, client, etc.) • Report all injuries, illnesses, and other incidents to the Regional Office Manager (ROM) and Corporate H&S Officer (CHSO). If ROM or CHSO cannot be reached, contact Chief Operating Officer (COO) or Human Resources. • Ensure all HRP personnel are trained and qualified to perform site work.
Site Workers (Subcontractors)	**Site Workers** • Read and work in accordance with this HASP. • Report all unsafe work practices to the Site Safety Officer. • Report all incidents, including near-misses to the Site Safety Officer. • Work in a safe manner. • Provide designated Competent Person

*A list of site workers will be maintained in the Personnel Log (**Appendix B**).

5.0 PROJECT HAZARDS AND CONTROL MEASURES

5.1 Identifying Hazards

The Site Supervisor/PM shall complete the Job Safety Analysis (JSA) in **Appendix C** prior to the start of the project. The JSA identifies the steps of the task to be performed with its hazards, unsafe conditions, and materials that are known or suspected to be onsite. The hazards that are listed in the JSA must be ranked using HIGH (H), MEDIUM (M), or LOW (L) based on current site knowledge. Use the results of this analysis to verify that controls in the JSA are adequate to mitigate task hazards.

Details of specific hazards associated with individual tasks will be discussed in the Toolbox Talk (formerly known as the Daily Job Brief Record (**Appendix D**)). **The Toolbox Talk is the key to the entire operation**. We are writing this HASP prior to going onsite and therefore cannot anticipate all of the site-specific hazards. The PM must do a thorough job on the Toolbox Talk, so we remain compliant. The Daily Toolbox Talk records will be reviewed by the PM at the conclusion of the field work.

5.2 Task Policy Reminders

Confined Spaces

Only properly trained HRP personnel are authorized to enter confined spaces. Confined space entry may be performed by subcontractors who have the proper training and experience to conduct this work.

Emergency Spill Response Oversight

HRP personnel are not permitted to participate in handling the emergency, only the oversight of such activities.

Excavations

It is HRP's policy to ensure that for excavation projects the subcontracted environmental contractor will provide a competent person to perform daily and as needed inspections of excavation sites. This policy will be conveyed through the subcontract agreement with the environmental contractor. At a minimum HRP will provide our employees involved with construction projects with awareness level training regarding excavation hazards and notify the subcontracted firm if any obvious excavation safety hazard exists during the course of onsite activities.

Drilling

HRP employees will not perform drilling, rather HRP will use a competent subcontractor to perform drilling services. At a minimum, HRP will provide our employees involved with this type of project with awareness level training regarding drilling, the hazards of the equipment and distance of the drilling.

Chemical Hazards

Hazardous materials and/or chemicals are listed on **Table 9**. Contaminants that are known or suspected onsite are listed at the end of this document on **Table 13** includes Chemical name, odor threshold OSHA permissible exposure limit (PEL), the American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit value (TLV), OSHA short-term exposure limit (STEL), Immediately Dangerous to Life or Health (IDLH) Concentrations, routes of exposure, and symptoms of acute exposure. Chemicals likely to be encountered during site work are highlighted.

Physical Hazards

Physical hazards known or suspected to be onsite are listed on **Table 8**. **Table 8** includes description of potential hazards, methods to identify/minimize them, potential for occurrence and potentially affected tasks.

Air Monitoring

In order to determine potential health hazards and to determine the level of personal protection needed during drilling, excavation, and sampling activities within the areas of concern, a photoionization detector (PID) will be periodically operated to monitor air quality for the purpose of ensuring minimal exposure to volatile organic compounds.

Background ambient air levels will be established outside the exclusion zone prior to commencement of site work. Ambient air sampling will occur in the breathing zone of site workers for comparison to the action levels (described below). Additionally, air sampling will be conducted in the vicinity of any intrusive exploration (i.e., near excavations, trenches, etc.) to determine if any contaminants are present. See **Table 7** for action levels to be used.

TABLE 7 ACTION LEVELS Use the following Action Levels		
INSTRUMENT	**ACTION LEVEL**	**LEVEL OF PROTECTION OR ACTION REQUIRED**
PID	<5 ppm	• Continue to monitor • Recheck levels after fifteen minutes • If levels are sustained, reassess • Use engineering controls to lower breathing zone vapors • Level C protection (at the H&S Officer's (HSO) discretion)
PID	>5 ppm	• Stop work and evacuate exclusion zone • Recheck levels after fifteen mins • Use engineering controls to lower breathing zone vapors • If levels are sustained, contact CHSO and/or OHSM, and re-evaluate HASP
NOTE: When the background reading is >1 ppm, assess the area and equipment, but continue PID monitoring and wear Level D protection ppm = parts per million		

When an action level is equaled or exceeded, the work area should be evacuated, and the area re-tested with the sampling device. If the appropriate action level continues to be exceeded, the Site Safety Officer will have to assess the use of engineering controls to lower vapor levels or availability of required increased personal protection equipment before authorizing re-entry.

5.3 Community Air Monitoring (required by DER 10)

AWARENESS FOR NEW YORK ONLY:

The Community Air Monitoring Program (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. To ensure the protection of receptors surrounding the site HRP has developed and will implement a CAMP, which requires real time monitoring of volatile organics and dust during the remedial investigation. The CAMP will be implemented during all intrusive activities.

All CAMP exceedances must be reported to NYSDEC and NYSDOH's Project Managers the same day, or next business day if after hours, along with the reason for exceedance, what was done to correct it, and if the action was effective.

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than ten micrometers (10 µm) in size (PM-10) and capable of integrating over a period of fifteen minutes (or less) for comparison to the airborne particulate action level. The equipment will be

equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities.

If the downwind PM-10 particulate level is 100 micrograms per cubic meter($\mu g/m^3$) greater than the background (upwind perimeter) for the fifteen-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work may continue with dust suppression techniques provided that no visible dust is migrating from the work area.

If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 $\mu g/m^3$ above the upwind level, work will 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 $\mu g/m^3$ of the upwind level and in preventing visible dust migration.

Additional details related to the CAMP are provided in **Appendix G.**

TABLE 8
HAZARDS KNOWN OR SUSPECTED ONSITE
*Check all that may potentially apply to the tasks being performed. Chemical Hazards are included on **Table 8**.

PHYSICAL HAZARDS	SAFETY HAZARDS	BIOLOGICAL HAZARDS	ERGONOMIC HAZARDS	PSYCHOLOGICAL HAZARDS
☐ Structure Unsafe	☒ Slipping/Tripping/Falling	☐ Bacteria	☒ Repetitive Movements	☒ Workload
☒ Uneven Floors/Surfaces	☐ Improper Machine Guard	☐ Viruses	☐ Improper Work Setup	☐ New Worker
☐ Ceiling Unsafe	☐ Equipment Malfunction	☒ Insects	☐ Poor Equipment Design	☐ Lone Worker
☐ Falling Objects/Loads	☐ Struck By	☒ Plants	☐ Poor Workstation Design	☐ Stress
☐ Flying Debris	☐ Homeless Encampments	☒ Animals/Birds	☐ Postural/Workflow	☐ Harassment
☒ Slippery Floor/Ground	☐ Falling Into	☐ Other (Specify)	☒ Manual Handling	☐ Communication Issue
☐ Obstructed Walking Areas	☐ Cave In/Collapses		☐ Other (Specify)	☐ Other (Specify)
☐ Misuse of Machinery	☒ Underground Utilities			
☐ Excessive/Loud Noise	☐ Excavation Spoils			
☐ Poor Lighting	☐ Superimposed Loads			
☐ Fire	☒ Mobile Equipment/Machinery			
☐ Radiation	☐ Electrical			
☐ Magnetic Fields	☐ Poor Housekeeping			
☐ Pressure Extremes	☐ Suspicious Activity/Person			
☐ Extreme Heat/Cold	☐ Security			
☐ Inclement Weather	☐ Traffic			
☐ Confined Space Entry	☐ Other (Specify)			
☐ Atmosphere				
☐ Drowning				
☐ Flooding				
☐ Poor Visibility				
☐ Other (Specify)				

CONTROL MEASURES AND WORK PRACTICES

NOTE: Hand signals are encouraged to communicate during a job where hearing is limited, but vision is not. These hand signals should be listed within the Toolbox Talk and JSA.

REQUIRED PERMITS

☒ None ☐ Excavation ☐ Encroachment ☐ Confined Space Entry ☐ Hot Tap ☐ Street Open/Closing ☐ Hot Work
☐ Energized Equipment ☐Other (Specify)

***These permits may not be issued by HRP employees. You may reference them as needed.**

TABLE 9
HAZARDOUS MATERIAL SUMMARY
Check all that may apply onsite. Attach Safety Data Sheets (SDS) in **Appendix F** for each chemical that will be brought to the site.

HAZARDOUS MATERIAL LIST		KNOWN CHEMICALS List the actual chemical name that HRP employees are exposed to.
☐ Acids	☐ Diesel Fuel/Oil	Arsenic, barium, boron, cadmium, chromium, lead, mercury
☐ Pickling Liquors	☐ Lubricants	Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene
☐ Caustics	☒ PCBs	Chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, phenol
☒ Pesticides	☒ PAHs	Trichloroethylene, 1,4-dioxane, 1,4-dichlorobenzene
☐ Dyes/Inks	☐ Kerosene	PFOS
☐ Cyanides	☐ Propane	PCBs
☒ Phenols	☒ PFAS	P,P'-DDD, P,P'-DDE, P,P'-DDT
☐ Halogens	☐ Mold	
☐ Dioxins	☐ Distillation Bottoms	**CONTROL MEASURES:**
☒ Fly Ash	☐ Fecal Matter/Animal Waste	
☐ Asbestos	☐ Laboratory Waste	
☐ Millings/Mine Tailings	☐ Pharmaceuticals	
☐ Ferrous Smelter	☐ Hospital Waste	
☐ Non-Ferrous Smelter	☐ Radiological Waste	
☒ Metals	☐ Municipal Waste	
☒ Chlorinated Solvents	☒ Construction Debris	
☐ Hydrocarbons	☐ Aluminum	
☐ Alcohols	☐ Paint	Avoid skin contact with surface soil. Wear nitrile gloves when sampling/handling soils.
☐ Ketones	☐ Pigments	
☐ Esters	☐ Metal Sludges	
☐ Ethers	☐ POTW Sludges	
☐ Oily Wastes	☒ Glass	
☐ Gasoline		

5.4 Equipment Usage

Table 10 below lists the equipment that will be used for the above task(s). Equipment must be included in the JSA and/or Toolbox Talk for proper hazard identification of tasks being performed.

TABLE 10
EQUIPMENT USAGE

EQUIPMENT/ INSTRUMENT	USED FOR	CALIBRATION BY	CALIBRATION DATE
MiniRae 3000 PID	Screening Soils		
MiniRae 3000 PID x 2	CAMP - VOCs		
DustTrack x 2	CAMP – Particulates		

6.0 SUSPECTED CONTAMINATION AND DECONTAMINATION

6.1 Suspected Contamination

Prior to commencement of work in the area of suspected contamination, protective zones specific for each phase of the HASP will be established by the Site Safety Officer, if necessary, prior to the start of field work. These zones will be defined during the Toolbox Talk.

The purpose of the protective zones is to prevent potential cross-contamination of adjacent areas as well as to protect project personnel from exposure to contaminated areas.

6.2 Protective Zones

Protective zones shall be delineated as follows:

- **Exclusion Zone:**

  This is the contaminated area in which intrusive activities are performed. The area of environmental concern (AOEC) is located within this area. A single access point for entrance and exit should be established and maintained, if possible. This zone should be delineated from the Contaminant Reduction Zone via perimeter cones or caution tape, or other applicable method. Work areas are shown on **Figure 2**. The Exclusion Zone delineation and any necessary modifications will be based onsite conditions.

- **Contaminant Reduction Zone:**

  This zone is a transition zone located between the Exclusion Zone and the Support Zone and is utilized to decontaminate personnel and equipment.

- **Support Zone:**

  This zone will be utilized by equipment and vehicle storage and will be kept free of contaminated material. The Site Safety Officer will determine the location of this zone. In the event of a site evacuation, see **Figure 2** for the rally point. The designated rally point may be relocated by the Site Safety Officer based on project or site conditions. All site workers will be notified of any relocation prior to implementation.

NOTE: Protective zones are not anticipated for this project.

6.3 Decontamination Procedures

All personnel and equipment leaving the exclusion zone must be properly cleaned and decontaminated. When there is evidence of chemical contamination during the site operations, all personnel will be decontaminated under the direction of the Site Safety Officer. Clean-up and/or decontamination of personnel shall consist of washing off excessively soiled PPE with a disinfectant detergent scrub and water. At the very least, all personnel should wash their hands and face before leaving the exclusion zone. After washing, all disposable clothing (Tyvek, gloves, etc.) will be removed and placed in a double lined plastic bag.

Sampling tools and any other non-disposable items will be decontaminated between sampling points, and at the direction of HRP personnel, to prevent cross-contamination of work areas or environmental samples, as applicable.

6.4 Emergency Decontamination

If immediate medical attention is required in an emergency, decontamination will be performed after the victim has been stabilized. If a worker has been exposed to an extremely toxic or corrosive material, then emergency decontamination will consist of flushing with copious amounts of water. If the victim cannot be decontaminated because it will interfere with emergency medical aid being administered, then the victim should be wrapped with plastic or other available items (i.e., an uncontaminated coverall) to reduce potential contamination of other personnel or medical equipment.

If a site worker has been overcome by heat related illness, then any protective clothing should be removed immediately. In the case of non-medical emergency evacuation, decontamination should be performed as quickly as possible, unless instant evacuation is necessary to save life or prevent injury.

6.5 Personal Hygiene

All employees will be required to wash their hands and face prior to eating, smoking, drinking, and going to the bathroom. Workers will be required to remove contaminated PPE and clothing prior to leaving the Contaminant Reduction Zone. All field personnel should avoid contact with potentially contaminated substances such as puddles, pools, mud, etcetera.

7.0 PERSONAL PROTECTIVE EQUIPMENT

There is different equipment that is worn to minimize exposure to hazards that can cause serious work injuries and illnesses. **Table 11** will list out the PPE that is required onsite and for the job that needs to be performed.

TABLE 11
PERSONAL PROTECTIVE EQUIPMENT
Check all the PPE that may apply and give the description of PPE.

TYPE of PPE	DESCRIPTION of PPE
HEAD AND FACE: ☐ Not Needed ☒ Safety Glasses ☐ Safety Goggles ☐ Face Shield ☒ Hard Hat ☒ Hearing ☐ Other	Hearing protection needed when drilling
FEET: ☐ Not Needed ☒ Steel Toes ☐ Overboots ☐ Disposable Booties ☐ Rubber Boots ☐ Electrostatic Discharge (ESD) ☐ Chemical Resistant ☐ Other	
PROTECTIVE CLOTHING: ☐ Not Needed ☐ Encapsulated Suit ☐ Splash Suit ☐ Apron ☒ High Visibility Vest ☐ Coveralls ☐ Other	
HANDS: ☐ Not Needed ☐ Cut Resistant ☐ Chemical Resistant ☐ Under Gloves ☐ Over Gloves ☐ Heat Resistant ☒ Other	Nitrile Gloves
RESPIRATOR: ☒ Not Needed ☐ Supplied Air ☐ APR	☐ Filtering Face Piece (N95/Dust Mask) ☐ Half Face ☐ Full Face

7.1 Levels of Personal Protective Equipment

As identified in **Section 5.0**, the overall H&S risk associated with chemical hazards for HRP, and associated contractors is considered significant. This is primarily due to the moderate concentrations of chemical contaminants expected based on minimal contact personnel will have with any potentially contaminated media. Therefore, the minimal level of protection for HRP personnel during the conduct of all the environmental work performed at the site will be Level D PPE. The following constitute Level D PPE; it may be used as appropriate:

- Coveralls
- Gloves, as applicable
- Chemical-resistant steel toe and shank shoes
- Boots, outer, chemical-resistant (disposable), as applicable
- Safety glasses or chemical splash goggles
- Hard hat, as applicable
- Escape mask, as applicable
- Face shield, as applicable

If site conditions warrant, an upgrade to Level C PPE may be required. If required, the Contractor will make Level C PPE readily available. The following constitute Level C PPE; it may be used as appropriate:

- Full-face or half-mask, air purifying respirators (National Institute for Occupational Safety and Health (NIOSH) approved)
- Hooded chemical-resistant clothing (e.g., Tyvek, overalls, two-piece chemical-splash suit, disposable chemical-resistant overalls)
- Coveralls, as applicable
- Gloves, outer, chemical-resistant
- Gloves, inner, chemical-resistant
- Boots (outer), chemical-resistant steel toe and shank, as applicable
- Boot-covers, outer, chemical-resistant (disposable), as applicable
- Hard hat, as applicable
- Escape mask, as applicable
- Face shield, as applicable

NOTE: Safety vest may or may not be required depending onsite conditions/location and will be addressed at the time of task assignment by the Site Safety Officer.

If the Toolbox Talk determines that protection beyond Level D is required, HRP will re-evaluate the HASP as well as the site conditions, and will revise the HASP as required.

NOTE: The level of protection identified here does not include the necessary equipment for entering confined spaces.

The following table provides a general description of potential field activity tasks to be performed and associated (recommended) PPE. The use of this PPE may or may not vary depending onsite conditions and will be addressed at the time of task assignment by the Site Safety Officer.

TABLE 12
POTENTIAL FIELD ACTIVITY TASKS AND ASSOCIATED PPE

Task Description	Invasive (Y/N)	Protection Level
Site Mobilization - Surveying, fence and barrier installation, hay bale installation, decon and work zone set up, soil staging areas preparation	N	Level D
Soil and Water Sampling - Drilling, sampling, soil moving as needed.	Y	Modified Level D or Level C – Respirator as needed based on monitoring. Eye protection required during collection of any liquid sample
Soil Excavation, Staging and Load-Out	Y	Modified Level D – or Upgrade to Level C dependent on monitoring
Decontamination - Truck dry sweeping, decon pressure wash of equipment, PPE change out	Y	Modified Level D – or Upgrade to Level C dependent on monitoring
Waste Management - Soil load-out for offsite disposal, water removal for disposal, PPE disposal	Y	Modified Level D – or Upgrade to Level C dependent on monitoring
Site Control (Exclusion, Decontamination, Support Zones)	N	Modified Level D – or Upgrade to Level C dependent on monitoring
Communications - Use of hand signals, backup alarms, and voice	N	NA
Site Restoration	Y	Level D

8.0 TRAINING/MEDICAL SURVEILLANCE

8.1 Training Requirements

All HRP and HRP subcontractor personnel who enter the work zone and/or Exclusion Zone must have successfully completed the 40-hour or 24-hour training requirement outlined in 29 CFR 1910.120(e). If the 40-hour or 24-hour training of any person occurred more than twelve months prior to commencement of work, then that person must have attended an 8-hour refresher course within the twelve months prior to commencement of work.

If respirators are in use in the Exclusion Zone, then all personnel must have undergone respirator training and a fit test within the last twelve months.

Training certificates and records for HRP employee(s) are maintained by HRP. All other contractors will be required to supply written proof of training before being allowed into the Exclusion Zone.

8.2 Pre-Entry Briefing

Prior to commencement of work in an area of suspected contamination, HRP's HSO will conduct a pre-entry briefing with onsite contractors, which will include the following:

- Name of the Site Safety Officer and person responsible for the visitor log
- Description of the parcel as well as location of emergency telephones and the location/boundaries of the Exclusion Zone, Contamination Reduction Zone, and Support Zone, if established
- Review of hospital locations and directions
- Review of tasks to be conducted within the parcel by the site workers
- Review of the Emergency Action Plan and rally point, including the nearest emergency communications and telephone numbers
- The nature, level, and degree of anticipated hazards (physical and chemical) involved in the site work
- Required PPE
- Decontamination procedures

The Site Safety Officer should also, at this time, ensure that all onsite HRP and HRP subcontractor personnel have read the HASP and signed the Field Team Acknowledgement (**Section 12.0**). If additional information on the site becomes available, the Site Safety Officer will call additional briefings, as necessary.

8.3 Toolbox Talk (Daily Job Brief)

The HRP Site Safety Officer will conduct a safety overview meeting at the beginning of each workday on the site. The meeting will be given in addition to any safety meetings that the subcontractor conducts. A summary of the meeting topics signed by the personnel attending the meeting is included in **Appendix D**.

8.4 Medical Surveillance

All HRP and HRP subcontractor personnel entering the Exclusion Zone must have had a physical within the twelve months prior to commencement of site work. A physician's written opinion regarding fitness for work for each employee including work limitations, if any, is on file at HRP, as applicable. A written opinion for all other site personnel must be supplied prior to commencement of site work to the HRP Site Safety Officer. Any work limitations for site personnel, or relevant medical information (i.e., allergic reactions to medication) should be included in this Plan.

9.0 AUTHORIZATION

Personnel authorized to enter the Exclusion Zone include the personnel listed from **Table 6** of this plan. Persons not listed on **Table 6** may enter the Exclusion Zone only if the appropriate training and medical fitness certifications have been supplied to either the HRP PM or OHSM and the Site

Safety Officer or his/her designee onsite has approved site entry. All personnel entering or leaving the Exclusion Zone must sign in and sign out with the recordkeeper.

10.0 RECORDKEEPING

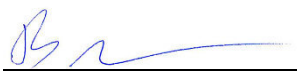
By the completion of the Project this Site-Specific HASP document, and all associated records (Toolbox Talks, JSA, Monitoring data, etc.) must be provided to the appropriate personnel at the office that implemented the Project. The appropriate personnel will then electronically store these records into the project folder. It is expected that some scanning will be necessary.

11.0 SITE-SPECIFIC HEALTH AND SAFETY PLAN APPROVAL

This plan meets the minimum requirements of 29 CFR 1910.120 and 29 CFR 1929.65 and has been written for specified site conditions, dates, and personnel, and must be amended if conditions change. By their signature, the undersigned certify that this HASP is approved and will be utilized during activities at the project.



4/10/2026
John Gorman — Date
Project Manager



4/10/2026
Bryan Sherman — Date
Office Health and Safety Manager

Subcontractor:
I have been provided a copy of this HASP for review.

[Name] — Date

Representing _____

The Designated Competent person representing [subcontractor] at the site will be:

_____.

Any alternate Competent Person will be noted in the Toolbox Talk (**Appendix D**).

ADDITIONAL APPROVALS (or Re-Approvals)	
Name:	**Date:**

12.0 FIELD TEAM ACKNOWLEDGMENT

All HRP personnel shall sign below after reading this HASP and shall agree with the following statement:

*"I have read and understand this Site-Specific Health and Safety Plan.
I will comply with the provisions set forth therein."*

Printed Name	Signature	Date

FIGURES

Figure 1
Site Location Map

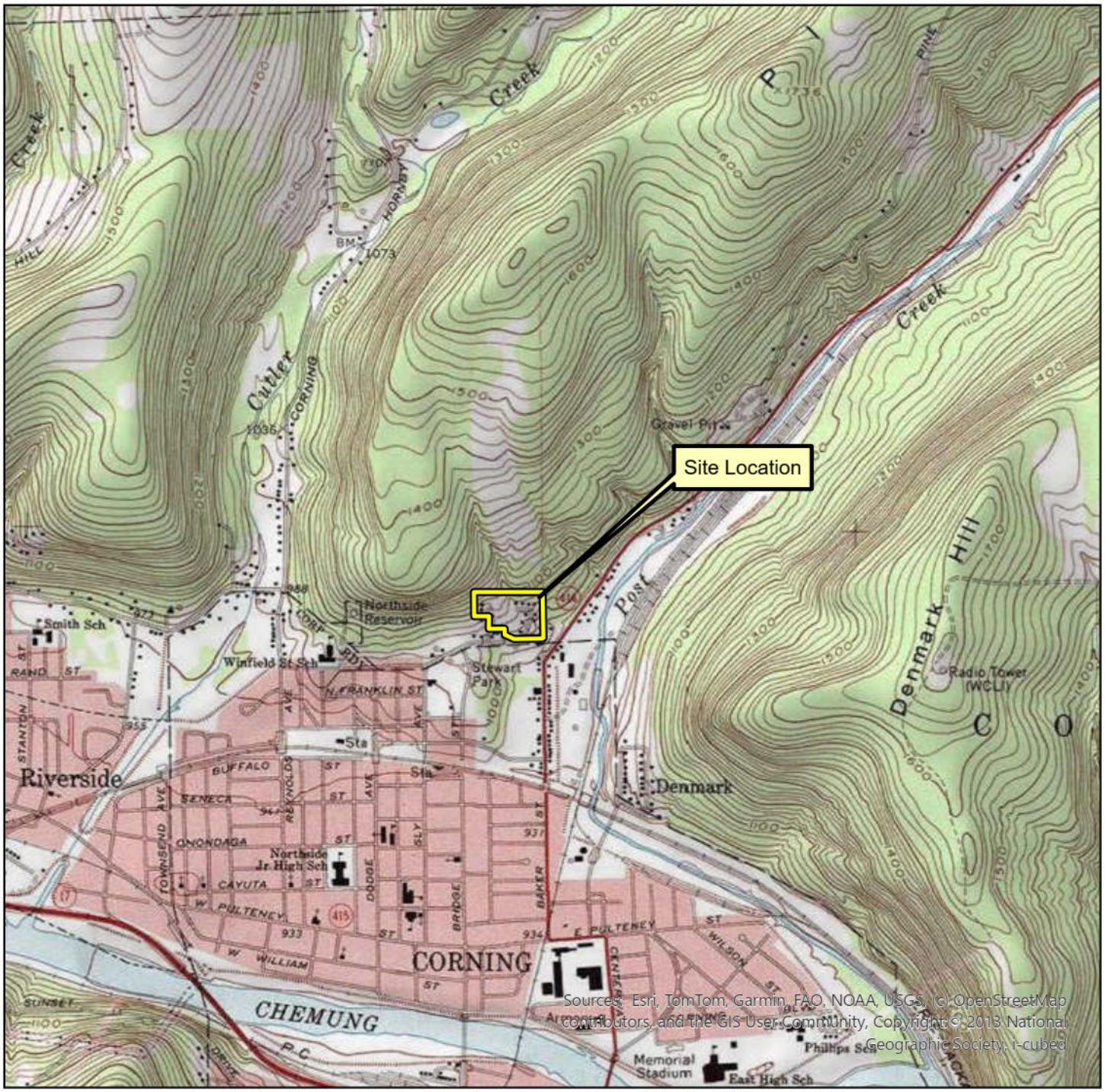


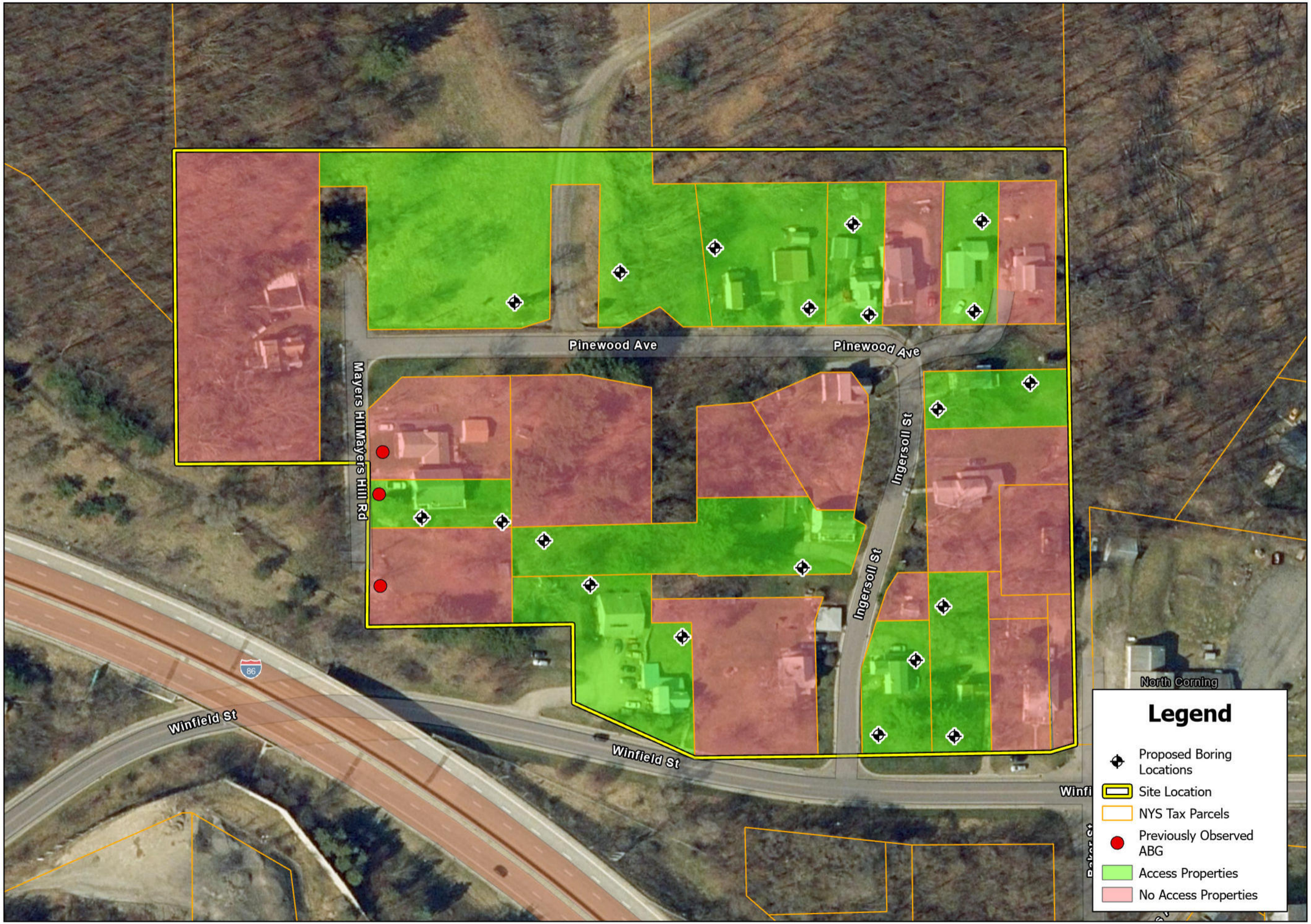
Figure 1
Site Location
Pinewood Avenue Site
Corning, New York
HRP # DEC1060.P2
Scale 1" = 2,000'

USGS Quadrangle Information
Quad ID: o42077b1
Name: Corning, New York
Date Rev: 1953
Date Pub: 1969

HRP
MOVE YOUR ENVIRONMENT FORWARD
ONE FAIRCHILD SQUARE
SUITE 110
CLIFTON PARK, NY 12065
(518) 877-7101
HRPASSOCIATES.COM

Path: \\hrp-ny-fs2.hrp.local\shared\Data\NYDEC - NYSDEC\CORNING ABG\DEC1060P2 - Pinewood Avenue\GIS\Pinewood\Pinewood.aprx

Figure 2
Site Plan with Areas of Environmental Concern



HRP
MOVE YOUR ENVIRONMENT FORWARD
ONE FAIRCHILD SQUARE
SUITE 110
CLIFTON PARK, NY 12065
(518) 877-7101
HRPASSOCIATES.COM

North

0 50 100 Feet

Revisions		
No.	Date	
1	07/09/2026	

Designed By: CMS
Drawn By: MJM
Reviewed By: DRAFT

Issue Date: 03/11/2026
Project No: DEC1060.P2
Sheet Size: 11x17

Subsurface Investigation Plan

Corning, New York

Figure No.
2

Path: S:\Data\NYDEC - NYSDEC\CORNING ABG\DEC1060P2 - Pinewood Avenue\GIS\Pinewood.aprx

Figure 3
Route and Map to Nearest Hospital

Directions to Guthrie Corning Hospital Emergency Room

Starting Address: [redacted]
Ending Address: 1 Guthrie Dr, Corning, NY 14830

Total Estimated Time: 8 minutes
Total Estimated Distance: 5.1 miles



TABLES

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
*HIGHLIGHT THOSE THAT APPLY TO THE TASK BEING PERFORMED.

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
1,1,1 Trichloroethane	44 ppm	350 ppm	350 ppm	---	700 ppm	Inh, Ing, Con	Head, Lass, CNS, Derm
1,1,2-Trichloroethane	---	10 ppm	10 ppm	----	[100 ppm]	Inh, Ing, Abs, Con	Eyes, Nose Irrit, Resp Irrit, CNS, Liver, Kidney Damage, Derm, [Carc]
1,2,4 Trimethylbenzene 1,3,5 Trimethylbenzene		25 mg/m^3	25 ppm	25 mg/m^3	ND	Inh, Ing, Con	Irrit Eyes, Skin, Nose, Throat, Resp Sys, Bron, Hyprochronic Anemia, Head, Drow, Ftg, Dizz, Nau, Inco, Vomit, Conf, Chemical Pneu (aspir lig)
1,1' Biphenyl	0.0062 mg/m^3	0.2 ppm	0.2 ppm	---	100 mg/m^3	Inh	
1,1-Dichloroethane	120 ppm	100 ppm	100 ppm	---	3,000 ppm	Inh, Ing, Con	CNS Depres, Skin Irrit, Liver, Lung, and Kidney Damage
1,1-Dichloroethylene***	500 ppm	---	5 ppm	---	---	Inh, Con	CNS depress, Resp, [Carc]
1,2-Dichlorobenzene	50 ppm	50 ppm	25 ppm		200 ppm	Inh, Ing, Abs, Con	Irrit, Resp
1,2-Dichloroethylene	26-87 ppm	200 ppm	200 ppm	---	1,000 ppm	Inh, Ing, Con	Vomit, Irrit Eyes, Resp Sys; CNS Depres
1,2-Dichloropropane	130-190 ppm	75 ppm	75 ppm	---	[400 ppm]	Inh, Con, Ing	Eye irritation, Drow, light-headedness; irritated skin, [Carc]
1,3-Dichlorobenzene	---	----	---	----	---	----	----
1,4-Dichlorobenzene	20 ppm	75 ppm	10 ppm	----	[150 ppm]	Inh, Ing	[Carc], Eye Irrit, swelling around eye, headache, nausea, vomiting
1-Methylnaphthalene	0.02 ppm	---	---	---	---	---	---
2,4-Dichlorophenol	1.4007 mg/m^3	---	---	---	---	---	---
2,4-Dimethylphenol	0.001 mg/m^3	---	---	---	---	---	---
2-Methylnaphthalene	0.01 ppm	---	---	---	---	---	---
2-Methylphenol (o-cresol) [skin]	1.4 mg/L	5 ppm	5 ppm	---	250 ppm	Inh, Abs, Ing, Con	Confusion, depression, Resp Fail; difficulty breathing, irregular rapid respiration, weak pulse; skin, eye burns; dermatitis

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
*HIGHLIGHT THOSE THAT APPLY TO THE TASK BEING PERFORMED.

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
3, 3'-Dichlorobenzidine	---	None	---	---	---	Inh, Abs, Ing, Con	Sens, Derm, Head, Dizz, Burns, GI Upset, [Carc]
4-Isopropyltoluene	---	---	---	---	---	Con, Inh, Ing	Defat, Eryt
Acenephthene	0.5048 mg/m^3	---	---	---	---	---	---
Acenaphthylene	---	---	---	---	---	---	---
Acetone	47.5 mg/m^3	1,000 ppm	500 ppm		2,500 ppm	Ing, Inh, Con	Head, Dizz; Irrit Eyes, Nose, Throat; Derm, CNS, Depress, Derm
Acetonitrile	70 mg/m^3	40 ppm	20 ppm	---	500 ppm	Inh, Ing, Abs, Con	Asphy; Nau, Vomit; Chest Pain; Weak, Stupor, Convuls; Eye Irrit
Aldrin	---	0.25 mg/m^3	0.25 mg/m^3	---	25 mg/m^3	Inh, Abs, Ing, Con	Head, Dizz, Nau, Vomit, Mal, Myo, [Carc]
Anthracene (Coal Tar Pitch)	---	0.2 mg/m^3			[80 mg/m^3]	Inh, Con	Derm, bron, [carc]
Antifreeze		50 ppm	100 mg/m^3 (aerosol)	---	ND	Inh, Ing, Con	Irrit Eyes, Skin, Nose, Throat, Nau, Vomit, Abdom Pain, Lass, Dizz, Stup, Conv, CNS, Depres, Skin Sen
Arsenic	----	0.010 mg/m^3	0.01 mg/m^3	----	[5 mg/m^3]	Abs, Inh, Con, Ing	Derm; GI; Resp Irrit; ulceration of nasal septum; Resp, Irrit, Hyper Pig of Skin, [Carc]
Barium (elemental)	---	0.5 mg/m^3	0.5 mg/m^3		50 mg/m^3 (barium components)	Inh, Ing, Con	Resp. Irrit, GI, Muscle Spasm, Eye Irrit, Slow Pulse; skin burns
Benzene*	4.7 ppm	1 ppm	0.5 ppm	5 ppm	[500 ppm]	Inh, Ing, Abs, Con	Irrit Eyes, Nose, Throat; Head, Nau, Derm, Ftg, Anor, Lass, [Carc]
Benzo(a)anthracene (coal tar pitch)	---	0.2 mg/m^3			[80 mg/m^3]	Inh, Con	[Carc], Derm, Bron
Benzo(a)pyrene (coal tar pitch)	---	0.2 mg/m^3	---		[80 mg/m^3]	Inh, Con	[Carc], Derm, Bron

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
*HIGHLIGHT THOSE THAT APPLY TO THE TASK BEING PERFORMED.

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
Benzo(b)fluoranthene (coal tar pitch)	---	0.2 mg/m^3	---		[80 mg/m^3]	Inh, Con	[Carc], Derm, Bron
Benzo(g,h,i)perylene (coal tar pitch)	---	0.2 mg/m^3			[80 mg/m^3]	Inh, Con	[Carc], Derm, Bron
Benzo(k)fluoranthene (coal tar pitch)	---	0.2 mg/m^3			[80 mg/m^3]	Inh, Con	[Carc], Derm, Bron
Bis (2-ethylhexyl) Phthalate**	N/A	5 mg/m^3	5 mg/m^3	10 mg/m^3	[5,000 mg/m^3]	Inh, Ing, Con	[Carc], Irrit Eyes
Cadmium (dust)	---	0.005 mg/m^3	Lowest concentration feasible 0.01 mg/m^3	---	[9 mg/m^3]	Inh, Ing	CNS, Resp, Irrit, Vomit, Cough, Head, Chills, Nau, Diarr, Pulm Edema, Dysp, Chest Tight, [Carc]
Carbazole	---	---	---	---	---	Inh	---
Carbon disulfide	0.1-0.2 ppm	20 ppm	1 ppm	30 ppm	500 ppm	Inh, Abs, Ing, Con	Diz, Head,Ftg, Ner, anorexia, trembling hands, loss of fine motor coord, gastritis, eye, skin burns, Derm
Carbon Tetrachloride***	21.4 ppm	10 ppm	5 ppm	25 ppm	[200 ppm]	Inh, Abs, Con, Ing	CNS Depres, Nau, Vomit, Irrit, Irrit Eyes, Skin, Drow, Dizz, [Carc]
Chlorobenzene***	0.98 mg/m^3	75 ppm	10 ppm	---	1,000 ppm	Inh, Ing, Con	Irrit, Drow, CNS, Depres, Eyes, Skin, Nose, Inco.
Chloroform***	85 ppm	50 ppm	10 ppm	50 ppm	[500 ppm]	Inh, Ing. Con, Abs	Dizz, Dullness, Nau, Head, Ftg, Irrit Eyes, Skin, Conf, [Carc]
Chromium	---	1 mg/m^3	0.5 mg/m^3	---	250 mg/m^3	Inh, Ing, Con	Irrit Eyes, Sens Derm
Chrysene (coal tar pitch)		0.2 mg/m^3	---		[80 mg/m^3]	Inh, Con	Derm, Bron, [Carc]
Cis-1-2-Dichloroethylene	---	200 ppm	200 ppm	----	1000 ppm	Inh, Con, Ing	Irrit Eyes, Resp, CNS Depress
Copper (dusts and mists) (fumes)		1 mg/m^3 0.1 mg/m^3	1 mg/m^3 0.2 mg/m^3	----	100 mg/m^3	Inh, Ing, Con	Vomit, Derm, CNS, Irrit, Derm, Nau, Taste (metallic)

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
*HIGHLIGHT THOSE THAT APPLY TO THE TASK BEING PERFORMED.

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
Cyanide	0.9 mg/m^3	5 mg/m^3	5 mg/m^3 (10 min)	5 mg/m^3	25 mg/m^3	Inh, Ing, Abs, Con	Weak, Head, Nau, Conf, Cyan
Dibenzo(a,h)anthracene						Inh, Ing	
Dichloromethane	540 mg/m^3	25 ppm	50 ppm	125 ppm	[2,300 ppm]	Inh, Abs, Ing, Con	Irrit Eyes, Skin, lass, drow, dizz, Numb, tingl, Nau, [Carc]
Diethylphthalate**	---	None	5 mg/m^3	---	N.D.	Inh, Ing, Con	Irrit Eyes, Skin, Nose, Throat, Head, Dizz, Nau, Lac, Possible Polyneur, Vestibular Dysfunc, Pain, Numb, lass, Spasms in Arms and Legs
Di-n-octylphthalate	---	---	---	---	---	Inh, Ing, Con	---
Dimethylpthalate	---	5 mg/m^3	5 mg/m^3	---	2,000 mg/m^3	Inh, Ing, Con	Irrit, Resp, Abdom
Ethyl Benzene*	8.7 mg/m^3	100 ppm	100 ppm	125 ppm	700 ppm	Inh, Abs, Con	Head. Irrit, Derm, Narc., Irrit Eyes, Skin; Coma
Fluoranthene		0.2 mg/m^3	0.2 mg/m^3			Ing, Inh	[Carc]
Fluorine*	6 mg/m^3	0.1 ppm	1 ppm	2 ppm	25 ppm	Inh, Con	
Fuel Oil/#2	----	----	300 ppm	----		Inh, Abs, Ins, Con	Irrit Eyes, Skin, Derm, Head, Ftg, Blurred Vision, Dizz, Conf
Ideno(1,2,3-cd)pyrene		0.2 mg/m^3				Ing, Inh	
Lead (inorganic forms and dust as Pb)****		0.05 mg/m^3	0.05 mg/m^3		100 mg/m^3	Inh, Ing, Con	Irrit, Cns, Vomit, Narco, Weak, Pall, Insom, Lass, Abdom, Constip
Mercury (organic alkyl compounds) [skin]		0.01 mg/m^3	0.01 mg/m^3	0.03 mg/m^3	2 mg/m^3	Inh, Abs, Ing, Con	Irrit Eyes, Skin; Cough & Chest Pain, Bron Pneu, Tremor, Insom, Irrty, Indecision, Head, Ftg, Weak, Stomatitis, Salv, GI Dist, Anor, Low-wgt, Ataxia

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
*HIGHLIGHT THOSE THAT APPLY TO THE TASK BEING PERFORMED.

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
Mercury (compounds)	----	0.1 mg/m^3	0.025 mg/m^3	0.1 mg/m^3	10 mg/m^3	Inh, Abs, Ing, Con	Irrit Eyes, Skin; Cough & Chest Pain, Bron Pneu, Tremor, Insom, Irrty, Indecision, Head, Ftg, Weak, Stomatitis, Salv, GI Dist, Anor, Low-wgt, Ataxia
Methanol	13.1150 mg/m^3	200 ppm	200 ppm	---	6,000 ppm	Inh, Abs, Ing, Con	Irrit Eyes, Skin, Resp, Head, drow, dizz, Nau, Vomit, vis dist, Optic, derm
Methyl Ether	----	----	---	----	---	Inh	Poison
Methyl Ethyl Ketone (2-Butanone)***	0.7375 mg/m^3	200 ppm	200 ppm	300 ppm	3,000 ppm	Inh, Con, Ing	Irrit Eyes, Skin, Nose, Throat, Head, Dizz, Vomit, Derm
Methylene Chloride	540 mg/m^3	25 ppm	50 ppm	125 ppm	[2,300 ppm]	Inh, Ing, Con, Abs	Ftg, Weak, dizz, drow, Numb, Tingle [carc], Irrit Eyes, Skin, Nau
Mineral Spirit	20 ppm	500 ppm	100 ppm	---	20,000 mg/m^3	Inh, Ing, Con	Irrit Eyes, Nose, Throat, Dizz, Derm, Chemical pneu
Methyl tert butyl ether (MTBE)	---	---	50 ppm	---		Inh, Abs	
Naphtha	0.86 ppm	100 ppm	400 ppm	---	1,000 ppm	Inh, Con, Ing	Light Head, Drow, Irrit, Derm, Irrit Eyes, Skin, Nose
Naphthalene*	0.084 ppm	10 ppm	10 ppm	15 ppm	250 ppm	Inh, Abs, Ing, Con	Eye irritation; headache; confusion, excitement, malaise (vague feeling of ill-being); nausea, vomiting, abdominal pain; irritated bladder; profuse sweating; renal shutdown; dermatitis
Nickel (metal)	---	1 mg/m^3	1.5 mg/m^3	---	[10 mg/m^3]	Inh, Ing, Con	Head, Verti, Nau, Vomit, Pain, Cough, Weak, Convuls, Delirium, Pneu, ,[Carc]
Nitrobenzene	0.0235 mg/m^3	1 ppm	1 ppm	---	200 ppm	Inh, Abs, Ing, Con	Irrit Eyes, Skin, Anoxia, Derm, Anem, Methem

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
*HIGHLIGHT THOSE THAT APPLY TO THE TASK BEING PERFORMED.

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
n-Butylbenzene	---	---	---	---	---	---	---
n-Propylbenzene	---	---	---	---	---	---	---
PCBs 42% chlorine (Aroclor 1242)	---	1 mg/m^3 (skin)	1 mg/m^3 (skin)	---	[5 mg/m^3]	Inh, Abs, Ing, Con	Irrit Eyes, Chloracne, Liver Damage [carc]
PCBs 54% chlorine (Aroclor 1254)	---	0.5 mg/m^3 (skin)	0.5 mg/m^3 (skin)	---	[5 mg/m^3]	Inh, Abs, Ing, Con	Irrit Eyes; Chloracne, Liver Damage [carc]
PFAS	There are currently no established exposure limits for PFAS. If your project involves potential exposure to PFAS, reach out to the CHSO or OHSM about current best practices relative to exposure controls.						
Petroleum Distillates	---	500 ppm	100 ppm		[1,100 ppm]	Inh, Ing, Con	Dizz, Drow, Head, Dry Skin, Nau, Irrit Eyes, Nose, Throat, [Carc]
Phenanthrene (Coal Tar Pitch)		0.2 mg/m^3	0.2 mg/m^3		[80 mg/m^3]	Inh, Con	Derm, bron, (carc)
Phenol**	0.1786 mg/m^3	5 ppm	5 ppm	---	250 ppm	Inh, Abs, Ing, Con	Irrit Eyes, Nose, Throat, Anor, Low Wgt, Weak Musc Ache, Pain, Dark Urine, Cyan, Liver, Kidney Damage, Skin, Burns, Derm, Ochronosis, Tremor, Convuls, Twitch
Pyrene		0.2 mg/m^3			[80 mg/m^3]	Inh, Con	[Carc]
Sec-Butylbenzene	---	---	---	---	---	---	---
Selenium	N/A	0.2 mg/m^3	0.2 mg/m^3	Unknown	1 mg/m^3	Inh, Ing, Con	Irrit, Head, Fever, Chills, Skin/Eye Burns, Metallic Taste, GI, Dysp, Bron
Silver (metal and soluble compounds as Ag)	----	0.01 mg/m^3	Metal = 0.1 mg/m^3 Soluble 0.01 mg/m^3		10 mg/m^3	Inh, Ing, Con	Blue-gray Eyes, Nasal Septum, Throat, Skin; Irrit, Ulcer, Skin, GI Dist
Tetrachloroethylene (a.k.a. perchloroethylene)***	4.68 ppm	100 ppm	25 ppm	200 ppm	[150 ppm]	Inh, Ing, Con, Abs	Irrit Eyes, Skin, Nose, throat, Resp. Nau, flush face, Neck, dizz, inco, head, drow, eryth, [Carc]

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
*HIGHLIGHT THOSE THAT APPLY TO THE TASK BEING PERFORMED.

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
Toluene*	2.14 ppm	200 ppm	50 ppm	300 ppm	500 ppm	Inh, Abs, Ins, Con	Resp, Irrit, Ftg, Conf, Dizz, Head, Derm, Euph, Head, Dilated Pupils, Lac, Ner, Musc FTg, Insom, Pares, Derm, lass
Petroleum Distillates (naphtha)	10 ppm	100 ppm	400 ppm	---	1,000 ppm	Con, Inh, Ing	---
Trans 1,2-Dichloroethylene	0.3357 mg/m^3	200 ppm	200 ppm	---	1,000 ppm	Inh, Con	Irrit, Resp, CNS depress
Trichloroethylene***	21.4 ppm	100 ppm	50 ppm	200 ppm	[1,000 ppm]	Inh, Con, Abs, Ing	Head, Vert, Nau, Vomit, Derm, Vis Dist, Tremors, Som, Nau, Irrit Eyes, Skin, Card Acc., Ftg, [Carc]
Trichlorofluoromethane	28 mg/m^3	1,000 ppm	1,000 ppm		2,000 ppm	Inh, Con, Ing	Inco, trem, derm, card, asph, frost
Trichlorotrifluoroethane	45 ppm	1,000 ppm	1,000 ppm	1,250 ppm	2,000 ppm	Inh, Con, Ing	Irrit Skin, throat, Drow, Derm, CSN, Depress
Vinyl Chloride***	10-20 ppm	1 ppm	1 ppm	5 ppm	ND	Inh, Con	Lass, Abdom, Gi Bleeding; Hepatomegaly; Pallor or Cyan of Extremities; Liq: Frostbite; [Carc]
VM&P Naphtha (petroleum naphtha)	---	---	300 ppm	---	ND	Con, Ing, Inh	Irrit Eyes, Nose, Throat, Dizz, drow, head, nau, dry skin, chem. Pneumonitis
Xylene*	4.5 mg/m^3	100 ppm	100 ppm	150 ppm	900 ppm	Inh, Ing, Abs, Con	Dizz, Drow, Irrit, Excite, Nau, Vomit, Eyes, Skin, Nose, Throat
Zinc (oxide)	---	5 mg/m^3	2 mg/m^3	---	500 mg/m^3	Inh	Dry Throat, Cough, Chills, Tight Chest, Blurred Vision
4,4' DDD	---	---	---	---	---	Ing, Inh, Con	---
4,4' DDE	---	---	---	---	---	Ing, Inh, Con	---
4,4' DDT	5.0725 mg/m^3	1 mg/m^3	1 mg/m^3	---	[500 mg/m^3]	Inh, Abs, Ing, Con	Irrit Eyes, Skin, Pares, Tongue, Lips, Face, Trem, Anxi, Dizz, Conf, Mal, Head, Lass, Conv, Paresi Hands, Vomit, [Carc]

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
*HIGHLIGHT THOSE THAT APPLY TO THE TASK BEING PERFORMED.

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
Aldrin		0.25 mg/m^3	0.25 mg/m^3	---	[25 mg/m^3]	Inh, Abs, Ing, Con	Head, Dizz, Nau, Vomit, Mal, Myo [Carc]
Chlordane [skin]	0.0084 mg/m^3	0.5 mg/m^3	0.5 mg/m^3		[100 mg/m^3]	Inh, Abs, Ing, Con	Blurred vision, confusion, delirium, cough; abdominal pian, nausea, vomiting diarrhea; irritability, tremor, convulsions [Carc]
EDB	76.8 mg/m^3	20 ppm		30 ppm	[100 ppm]	Inh, Abs	Resp. Irr, Eye Irr. [Carc]
Endosulfan I Endosulfan II	---	0.1 mg/m^3	0.1 mg/m^3	---	N.D.	Inh, Abs, Ing, Con	Irrit, Skin, Nau, Conf, Agit, Flush, Dry, Trem, Conv, Head
Endosulfan Sulfate		---	0.1 mg/m^3	---	---	Ing, Con	---
Endrin	1.8 x 10^{-2} ppm	0.1 mg/m^3	0.1 mg/m^{-3}	---	2 mg/m^3	Inh, Abs, Ing, Con	Epil Conv, Stup, Head, Dizz, Abdom, Nau, Vomit, Insom, Agress, Conf, Drow, Lass, Anor
Endrin Aldehyde	1.8 x 10^{-2} ppm	---	---	---	---	Inh, Con	---
Endrin Ketone	---	---	---	---	---	---	---
Heptachlor	0.02 ppm	0.5 mg/m^3	0.05 mg/m^3	---	[35 mg/m^3]	Inh, Abs, Ing, Con	In animals, Trem, Conv, [Carc]
Heptachlor epoxide	0.02 ppm	---	0.05 mg/m^3	---	---	Ing, Inh	Trem, Conv, [Carc]
Hydrogen Cyanide(Hydrocyanic Acid)	0.9 mg/m^3	10 ppm (11 mg/m^3)	4.7 ppm	4.7 ppm	50 ppm	Con, Inh, Ing, Abs	Asphy & death at high levels; Weak, Head, Conf, Nau, Vomit, Incr. Rate and Depth of Respiration or Respiration Slow and Gasping

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
*HIGHLIGHT THOSE THAT APPLY TO THE TASK BEING PERFORMED.

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]

NOTES

* = Constituent found in ETPH

**=Constituent found in Acid/Base/Neutral Extractable Compounds

***=Constituent found in Volatile Organic Compounds

****=Constituent found in Leaching Lead

[1]PEL = Permissible Exposure Limit. If no PEL is available, then the NIOSH Threshold Limit Value (TLV) should be used, if available.

[2]Ceiling limit or Short-Term Exposure Limit (STEL), if available. Again, the NIOSH TLV may be used if no OSHA standard exists.

[3]Abbreviations are contained on the next page

[ ] = Potential Occupational Carcinogen

ND = Not Been Determined

ABBREVIATIONS

abdom = Abdominal
abs = Absorption
aggress = Aggressiveness
agit = Agitation
anor = Anorexia
anos = Anosmia (loss of the sense of smell)
Anxi = anxiety
anem – Anemia
aspir = Aspiration
asph – asphyxia
bron = Bronchitis
bron pneu = Bronchitis pneumonitis
[carc] = Potential occupational carcinogen
Card = Cardiac arrhythmias
CNS = Central nervous system
conf = Confusion
constip = Constipation
con = Skin and/or eye contact
conv = Convulsions
corn = Corneal
cyan = Cyanosis
defat = Defatting
depres = Depressant/Depression
derm = Dermatitis
diarr = Diarrhea
dist = Disturbance
dizz = Dizziness
drow = Drowsiness
dry = Dry mouth
dysp = Dyspnea (breathing difficulty)
emphy = Emphysema
epil-conv = Epileptiform convulsions
eryth = Erythema
euph = Euphoria
fib = Fibrosis
frost = frostbite
ftg = Fatigue
flush = Flushing
GI = Gastrointestinal
head = Headache
hyperpig = Hyperpigmentation
inco = Incoordination
ing = Ingestion
inh = Inhalation
inj = Injury
insom = Insomnia
irrit = Irritation
irrty = Irritability
lac = Lacrimination (discharge of tears)
lass = Lassitude (weakness, exhaustion)
li-head = Lightheadedness
liq = Liquid
low-wgt = Weight loss
mal = Malaise (vague feeling of discomfort)
malnut = Malnutrition
methem = Methemoglobinemia
myo = Myochonic (jerks of limbs)
mg/m = milligrams/cubic meter
muc memb = Mucous membrane
mus ftg = Muscle fatigue
narco = Narcosis
nau = Nausea
ner = Nervousness
numb = Numbness
optic = Optic nerve damage (blindness)
pall = Facial pallor
parap = Paralysis
ppm = Parts per million
pares = Paresthesia
paresi = Paresis
peri neur = Peripheral neuropathy
pneu = Pneumonitis
prot = Proteinuria
pulm = Pulmonary
peri neur = Peripheral neuropathy
pneu = Pneumonia
prot = Proteinuria
pulm = Pulmonary
repro = Reproductive
resp = Respiratory
skin sen = skin sensitization
salv = Salvation
som = Somnolence (sleepiness unnatural drowsiness)
subs = Substernal (occurring beneath the sternum)
stup = Stupor
sys = System
tingle = tingle limbs
trem – Tremors
verti = Vertigo
vis dist = Visual disturbance
vomit = Vomiting
weak = Weakness

APPENDIX A
Safety and Logistics Planning Log

Safety and Logistics Planning Log
DEC009808

Date of Call	
Work Assignment Number / Task	
DEC Site Name and Number	

ATTENDEES		
HRP		
POSITION	**NAME**	**NUMBER**
HRP PM		
HRP SSO		
HRP Other:		
HRP Other:		
SUBCONTRACTORS		
POSITION	**NAME**	**NUMBER**
Driller Contact		
Utility Survey		
Surveyor		
Construction		
Other		
DEC		
POSITION	**NAME**	**NUMBER**
DEC PM		
DEC Other:		
DEC Other:		

BRIEF DESCRIPTION: SCOPE OF WORK (Task Specific)	*Use additional forms for additional tasks

LOGISTICS			
Date of Work		Time to Meet	
Site Contact (phone)			
Notification of Site Contact made by			
Describe any unusual site-specific conditions/logistics here (if any):			

QUESTIONS	**Y/N**	**NOTES**
Water Needed? Source Confirmed?	Y / N	
Electricity Needed? Source Confirmed?	Y / N	
Water Storage Needed?	Y / N	
Water Discharges? Permits Needed/Attained?	Y / N	
Air Monitoring – CAMP?	Y / N	
Will there be intrusive work?	Y / N	
Locations marked in the field?	Y / N	
NYS Code Rule 753/Dig Safe System	Y / N	Ticket Number:
Confirmed that mark-out complete?	Y / N	
Anticipated Subsurface Conditions (Geology, Utilities, etc.):		
Anticipated Depth to Groundwater:		
Will NAPL/Product be Present?	Y / N Describe:	
Will there be any other parties entering the work zones? Describe control measures.		

APPENDIX B
Personnel Log

PERSONNEL LOG				
Name	**Representing**	**Date**	**Time In**	**Time Out**

APPENDIX C
Job Safety Analysis (JSA)

JSA Completed By	

HAZARD RANKING CHART

SEVERITY	CONSEQUENCE	PROBABILITY				
	Injury	**Frequent**	**Likely**	**Occasional**	**Seldom**	**Unlikely**
	Fatality	**H**	**H**	**H**	**H**	**M**
	Injury Requiring Hospitalization	**H**	**H**	**H**	**M**	**L**
	Injury Requiring Medical Treatment Beyond First Aid	**H**	**M**	**M**	**L**	**L**
	Injury Requiring First Aid	**M**	**L**	**L**	**L**	**L**

TASK			
LOCATION OF TASK PERFORMED		**DATE OF JSA**	

TASK DESCRIPTION

*There are different categories of hazards to include: Biological, Physical, Safety, Chemicals, and Ergonomics

STEPS	HAZARD	CONTROL MEASURES	RISK RATING

APPENDIX D
Toolbox Talk

TOOLBOX TALK

GENERAL INFORMATION		
Person Conducting	**Site Name/Address**	**HRP Client Name/Job #**
Client Contact/Phone	**HRP H&S Rep.**	**HRP Supervisor**
Date/Time	**Number Attending**	**Weather**
Designated Competent Person:		
Description of Work		

ATTENDEES (Use additional sheets as needed)		
Name	**Company**	**Signature**

EMERGENCY CONTACT INFORMATION		
Emergency Telephone Numbers	FIRE / POLICE / AMBULANCE: 911	
Hospital Name & Location:		
NYSDEC Spill Line: 1-518-457-7362	National Response Center: 800-424-8802	CBYD: 800-922-4455
Health & Safety Manager:		

HAZARDS		
☐ Toxic	☐ Extreme Cold/Heat	☐ Soil Excavation
☐ Corrosive	☐ Drains/Sumps	☐ Tank Excavation
☐ Flammable	☐ Sharp Objects	☐ Trenching
☐ Combustible	☐ Drilling in Soil	☐ Floor Holes
☐ Reactive	☐ Lighting	☐ Working on/near Water
☐ Path Waste	☐ Slips/Trips/Falls	☐ Underground/Overhead Utilities
☐ Asbestos	☐ Lead	☐ Power washing
☐ Abrasive Blasting	☐ Abrasive Blasting	☐ Lifting
☐ Drum Handling	☐ Live Electrical Circuits	☐ Noise
☐ Pneumatic Tools	☐ Elevated Work Area	☐ Ladders
☐ Vac Truck	☐ Hot Work	☐ Vehicle Traffic
☐ Other (s):		

TOOLBOX TALK

PERSONAL SAFETY / PERSONAL PROTECTIVE EQUIPMENT (PPE)			
☐ Supplied Air Respirator	☐ SAR w/Egress Bottle	☐ SCBA	☐ Air Purifying Respirator Cartridge:
☐ Fully Encapsulating Suit	☐ Flash Suit	☐ NOMEX (flam resistant)	☐ Protected Coveralls, Type:
☐ Overboots	☐ Lifebelt/Lanyard	☐ Hardhats	☐ Outer Gloves, Type:
☐ Safety Glasses	☐ Chemical Goggles	☐ Face Shield	☐ Inner Gloves, Type:
☐ Reflective Vests	☐ Eye Wash	☐ Safety Shower	☐ First Aid Kit
☐ Hearing Protection	☐ Evacuation Plan	☐ Communications	☐ Properly Sloped Excavation/ Trench
☐ PFD's	☐ Ventilation	☐ Steel Toe Boots	

FIRE SAFETY			
☐ Fire Extinguishers	☐ Hot Work Permit	☐ Fire Blanket	☐ Explosion-Proof Equipment
☐ Equipment Grounded & Bonded	☐ Non-Sparking Tools	☐ Eliminate Ignition Sources	☐ Area Kept Wet
☐ Smoking Area Designated Location:	☐ Fire Hose Laid Out	☐ Alarm Box in Area, Location:	

ISOLATE EQUIPMENT & ELECTRICAL EQUIPMENT			
☐ Establish Exclusion Zone/Traffic Cones	☐ Work Signs	☐ LockOut/TagOut	☐ Non-Conductive Tools
☐ Stop Transfers	☐ Caution Tape Area	☐ Equipment Grounded	☐ FR Suits/Coveralls
☐ GFCIS	☐ Temporary Fencing		

AIR MONITORING			
Type of Meter:		Date last calibrated:	
SUBSTANCE	**LEVEL B MAX.**	**ACTION LEVEL/LEVEL C MAX.**	**LEVEL D MAX.**

HEALTH & SAFETY COMMENTS-QUESTIONS-CONCERNS / TOPICS & SAFET RULES REVIEWED

Contaminants of Concern:			
HEALTH & SAFETY SIGNATURE:		Date:	

Is there a Health & Safety Plan available on-site? Yes ☐ No ☐

☐ HAZARD ZONES NOT APPLICABLE, GENERAL WORK AREA Level D ☐ Modified Level D ☐ Level C ☐

Anything above Level C, foreman should use a Confined Space Permit/Form.

Note: HOT WORK requires a hot work permit and minimum 20# fire extinguisher. Foreman or HSM must record at least one contaminant of concern above. Toxic plants may be considered a COC if no chemical hazards are expected.

LEVEL C

Respirator Type:	

Name	Zone	Time In	Time Out	Decon Type

Before performing Level C work, ALL employees must review HRP's Respiratory Protection Program - a copy of which must be on-site along with a HASP.

APPENDIX E
Specific Procedures (Not Included)

APPENDIX F

Safety Data Sheets

(for chemicals brought to the site)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

1 Identification of the substance/mixture and of the supplier

1.1 Product identifier

Trade Name: Alconox
Synonyms:
Product number: Alconox

1.2 Application of the substance / the mixture : Cleaning material/Detergent

1.3 Details of the supplier of the Safety Data Sheet

Manufacturer	**Supplier**
Alconox, Inc. 30 Glenn Street White Plains, NY 10603 1-914-948-4040	Not Applicable

Emergency telephone number:
ChemTel Inc
North America: 1-800-255-3924
International: 01-813-248-0585

2 Hazards identification

2.1 Classification of the substance or mixture:

In compliance with EC regulation No. 1272/2008, 29CFR1910/1200 and GHS Rev. 3 and amendments.

Hazard-determining components of labeling:
Tetrasodium Pyrophosphate
Sodium tripolyphosphate
Sodium Alkylbenzene Sulfonate

2.2 Label elements:

Skin irritation, category 2.
Eye irritation, category 2A.

Hazard pictograms:



Signal word: Warning

Hazard statements:
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements:
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 If on skin: Wash with soap and water.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P321 Specific treatment (see supplemental first aid instructions on this label).
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P501 Dispose of contents and container as instructed in Section 13.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

Additional information: None.

Hazard description

Hazards Not Otherwise Classified (HNOC): None

Information concerning particular hazards for humans and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to EC regulation No. 1272/2008, 29CFR1910/1200 and GHS Rev. 3 and amendments, and extended by company and literature data. The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.

3 Composition/information on ingredients

3.1 Chemical characterization : None

3.2 Description : None

3.3 Hazardous components (percentages by weight)

Identification	Chemical Name	Classification	Wt. %
CAS number: 7758-29-4	Sodium tripolyphosphate	Skin Irrit. 2 ; H315 Eye Irrit. 2; H319	12-28
CAS number: 68081-81-2	Sodium Alkylbenzene Sulfonate	Acute Tox. 4; H303 Skin Irrit. 2 ; H315 Eye Irrit. 2; H319	8-22
CAS number: 7722-88-5	Tetrasodium Pyrophosphate	Skin Irrit. 2 ; H315 Eye Irrit. 2; H319	2-16

3.4 Additional Information : None.

4 First aid measures

4.1 Description of first aid measures

General information: None.

After inhalation:

Maintain an unobstructed airway.

Loosen clothing as necessary and position individual in a comfortable position.

After skin contact:

Wash affected area with soap and water.

Seek medical attention if symptoms develop or persist.

After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes.

Remove contact lens(es) if able to do so during rinsing.

Seek medical attention if irritation persists or if concerned.

After swallowing:

Rinse mouth thoroughly.

Seek medical attention if irritation, discomfort, or vomiting persists.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

4.2 Most important symptoms and effects, both acute and delayed

None

4.3 Indication of any immediate medical attention and special treatment needed:

No additional information.

5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition.

For safety reasons unsuitable extinguishing agents : None

5.2 Special hazards arising from the substance or mixture :

Thermal decomposition can lead to release of irritating gases and vapors.

5.3 Advice for firefighters

Protective equipment:

Wear protective eye wear, gloves and clothing.
Refer to Section 8.

5.4 Additional information :

Avoid inhaling gases, fumes, dust, mist, vapor and aerosols.
Avoid contact with skin, eyes and clothing.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures :

Ensure adequate ventilation.
Ensure air handling systems are operational.

6.2 Environmental precautions :

Should not be released into the environment.
Prevent from reaching drains, sewer or waterway.

6.3 Methods and material for containment and cleaning up :

Wear protective eye wear, gloves and clothing.

6.4 Reference to other sections : None

7 Handling and storage

7.1 Precautions for safe handling :

Avoid breathing mist or vapor.
Do not eat, drink, smoke or use personal products when handling chemical substances.

7.2 Conditions for safe storage, including any incompatibilities :

Store in a cool, well-ventilated area.

7.3 Specific end use(s):

No additional information.

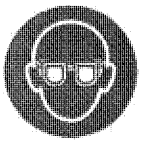
Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

8 Exposure controls/personal protection





8.1 Control parameters :

7722-88-5, Tetrasodium Pyrophosphate, OSHA TWA 5 mg/m3.

8.2 Exposure controls

Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

Respiratory protection:

Not needed under normal conditions.

Protection of skin:

Select glove material impermeable and resistant to the substance.

Eye protection:

Safety goggles or glasses, or appropriate eye protection.

General hygienic measures:

Wash hands before breaks and at the end of work.
Avoid contact with skin, eyes and clothing.

9 Physical and chemical properties

Appearance (physical state, color):	White and cream colored flakes - powder	**Explosion limit lower:** **Explosion limit upper:**	Not determined or not available. Not determined or not available.
Odor:	Not determined or not available.	**Vapor pressure at 20°C:**	Not determined or not available.
Odor threshold:	Not determined or not available.	**Vapor density:**	Not determined or not available.
pH-value:	9.5 (aqueous solution)	**Relative density:**	Not determined or not available.
Melting/Freezing point:	Not determined or not available.	**Solubilities:**	Not determined or not available.
Boiling point/Boiling range:	Not determined or not available.	**Partition coefficient (n-octanol/water):**	Not determined or not available.
Flash point (closed cup):	Not determined or not available.	**Auto/Self-ignition temperature:**	Not determined or not available.
Evaporation rate:	Not determined or not available.	**Decomposition temperature:**	Not determined or not available.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

Flammability (solid, gaseous):	Not determined or not available.	**Viscosity**:	a. Kinematic: Not determined or not available. b. Dynamic: Not determined or not available.
Density at 20°C:	Not determined or not available.		

10 Stability and reactivity

10.1 Reactivity : None

10.2 Chemical stability : None

10.3 Possibility hazardous reactions : None

10.4 Conditions to avoid : None

10.5 Incompatible materials : None

10.6 Hazardous decomposition products : None

11 Toxicological information

11.1 Information on toxicological effects :

Acute Toxicity:

Oral:

: LD50 > 5000 mg/kg oral rat - Product .

Chronic Toxicity: No additional information.

Skin corrosion/irritation:

Sodium Alkylbenzene Sulfonate: Causes skin irritation. .

Serious eye damage/irritation:

Sodium Alkylbenzene Sulfonate: Causes serious eye irritation .

Tetrasodium Pyrophosphate: Rabbit - Risk of serious damage to eyes .

Respiratory or skin sensitization: No additional information.

Carcinogenicity: No additional information.

IARC (International Agency for Research on Cancer): None of the ingredients are listed.

NTP (National Toxicology Program): None of the ingredients are listed.

Germ cell mutagenicity: No additional information.

Reproductive toxicity: No additional information.

STOT-single and repeated exposure: No additional information.

Additional toxicological information: No additional information.

12 Ecological information

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

12.1 Toxicity:

Sodium Alkylbenzene Sulfonate: Fish, LC50 1.67 mg/l, 96 hours.
Sodium Alkylbenzene Sulfonate: Aquatic invertebrates, EC50 Daphnia 2.4 mg/l, 48 hours.
Sodium Alkylbenzene Sulfonate: Aquatic Plants, EC50 Algae 29 mg/l, 96 hours.
Tetrasodium Pyrophosphate: Fish, LC50 - other fish - 1,380 mg/l - 96 h.
Tetrasodium Pyrophosphate: Aquatic invertebrates, EC50 - Daphnia magna (Water flea) - 391 mg/l - 48 h.

12.2 Persistence and degradability: No additional information.

12.3 Bioaccumulative potential: No additional information.

12.4 Mobility in soil: No additional information.

General notes: No additional information.

12.5 Results of PBT and vPvB assessment:

PBT: No additional information.

vPvB: No additional information.

12.6 Other adverse effects: No additional information.

13 Disposal considerations

13.1 Waste treatment methods (consult local, regional and national authorities for proper disposal)

Relevant Information:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities. (US 40CFR262.11).

14 Transport information

14.1	**UN Number:** ADR, ADN, DOT, IMDG, IATA	None
14.2	**UN Proper shipping name:** ADR, ADN, DOT, IMDG, IATA	None
14.3	**Transport hazard classes:** ADR, ADN, DOT, IMDG, IATA	**Class:** None **Label:** None **LTD. QTY:** None

US DOT

Limited Quantity Exception: None

Bulk:	**Non Bulk:**
RQ (if applicable): None	**RQ (if applicable):** None
Proper shipping Name: None	**Proper shipping Name:** None
Hazard Class: None	**Hazard Class:** None
Packing Group: None	**Packing Group:** None
Marine Pollutant (if applicable): No additional information.	**Marine Pollutant (if applicable):** No additional information.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

	Comments: None	**Comments:** None
14.4	**Packing group:** ADR, ADN, DOT, IMDG, IATA	None
14.5	**Environmental hazards** :	None
14.6	**Special precautions for user:**	None
	Danger code (Kemler):	None
	EMS number:	None
	Segregation groups:	None
14.7	**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.	
14.8	**Transport/Additional information:**	
	Transport category:	None
	Tunnel restriction code:	None
	UN "Model Regulation":	None

15 Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture.

North American

SARA

Section 313 (specific toxic chemical listings): None of the ingredients are listed.
Section 302 (extremely hazardous substances): None of the ingredients are listed.

CERCLA (Comprehensive Environmental Response, Clean up and Liability Act) Reportable

Spill Quantity: None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

Inventory: All ingredients are listed.
Rules and Orders: Not applicable.

Proposition 65 (California):

Chemicals known to cause cancer: None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females: None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males: None of the ingredients are listed.

Chemicals known to cause developmental toxicity: None of the ingredients are listed.

Canadian

Canadian Domestic Substances List (DSL):
All ingredients are listed.

EU

REACH Article 57 (SVHC): None of the ingredients are listed.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

Germany MAK: Not classified.

Asia Pacific

Australia

Australian Inventory of Chemical Substances (AICS): All ingredients are listed.

China

Inventory of Existing Chemical Substances in China (IECSC): All ingredients are listed.

Japan

Inventory of Existing and New Chemical Substances (ENCS): All ingredients are listed.

Korea

Existing Chemicals List (ECL): All ingredients are listed.

New Zealand

New Zealand Inventory of Chemicals (NZOIC): All ingredients are listed.

Philippines

Philippine Inventory of Chemicals and Chemical Substances (PICCS): All ingredients are listed.

Taiwan

Taiwan Chemical Substance Inventory (TSCI): All ingredients are listed.

16 Other information

Abbreviations and Acronyms: None

Summary of Phrases

Hazard statements:

H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements:

P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 If on skin: Wash with soap and water.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P321 Specific treatment (see supplemental first aid instructions on this label).
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P501 Dispose of contents and container as instructed in Section 13.

Manufacturer Statement:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

NFPA: 1-0-0

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

HMIS: 1-0-0

SAFETY DATA SHEET

Version 5.2
Revision Date 02/24/2014
Print Date 11/13/2016

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : Distilled water

Product Number : 07-6061
Brand : Katayama OEM Partner
REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No. : 7732-18-5

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula : H2O H_2O
Molecular Weight : 18.02 g/mol
CAS-No. : 7732-18-5
EC-No. : 231-791-2

No ingredients are hazardous according to OSHA criteria.
No components need to be disclosed according to the applicable regulations.

4. FIRST AID MEASURES

4.1 Description of first aid measures

If inhaled
If not breathing give artificial respiration

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
no data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture
no data available

5.3 Advice for firefighters
no data available

5.4 Further information
The product itself does not burn.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
For personal protection see section 8.

6.2 Environmental precautions
no data available

6.3 Methods and materials for containment and cleaning up
Wipe up with absorbent material (e.g. cloth, fleece).

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
No special storage conditions required.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters
Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice.

Personal protective equipment

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min

Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Respiratory protection
No special protective equipment required.

Control of environmental exposure
Prevent product from entering drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	no data available
c)	Odour Threshold	no data available
d)	pH	6.0 - 8.0 at 25 °C (77 °F)
e)	Melting point/freezing point	0.0 °C (32.0 °F)
f)	Initial boiling point and boiling range	100 °C (212 °F) - lit.
g)	Flash point	not applicable
h)	Evapouration rate	no data available
i)	Flammability (solid, gas)	no data available
j)	Upper/lower flammability or explosive limits	no data available
k)	Vapour pressure	no data available
l)	Vapour density	no data available
m)	Relative density	1.000 g/cm3 at 3.98 °C (39.16 °F)
n)	Water solubility	completely miscible
o)	Partition coefficient: n-octanol/water	no data available
p)	Auto-ignition temperature	no data available
q)	Decomposition temperature	no data available
r)	Viscosity	no data available
s)	Explosive properties	no data available
t)	Oxidizing properties	no data available

9.2 Other safety information
no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity
no data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
no data available

10.4 Conditions to avoid
no data available

10.5 Incompatible materials
no data available

10.6 Hazardous decomposition products
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
no data available

Inhalation: no data available

Dermal: no data available

no data available

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitisation
no data available

Germ cell mutagenicity
no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
no data available

no data available

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Additional Information
RTECS: ZC0110000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
no data available

12.2 Persistence and degradability
not applicable

12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Taking into account local regulations the product may be disposed of as waste water after neutralisation.

14. TRANSPORT INFORMATION

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

15. REGULATORY INFORMATION

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
No SARA Hazards

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Water	7732-18-5	

New Jersey Right To Know Components

	CAS-No.	Revision Date
Water	7732-18-5	

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

HMIS Rating

Health hazard:	0
Chronic Health Hazard:	
Flammability:	0
Physical Hazard	0

NFPA Rating

Health hazard:	0
Fire Hazard:	0
Reactivity Hazard:	0

Further information

Copyright 2014 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Preparation Information

Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 5.2 Revision Date: 02/24/2014 Print Date: 11/13/2016

REVISION HISTORY

REVISION AND APPROVAL LOG			
REVISION DATE	**REVISION CONTENT**	**REVISED BY**	**APPROVED BY**
1/18/2021	Initiation of document/Reviewed by Jackie Baxley	SF	TAG
6/6/2024	- Update formatting - Update order of headers - Implemented tables within HASP, not as Appendix - Combining NY and other states – generic HASP to make site-specific - Checkbox formatting - Updated Action Levels Table	JLE	TAG

APPENDIX G

Community Air Monitoring Program (CAMP)

Community Air Monitoring Plan
College Avenue Site, Corning, New York

This 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 during remedial activities at the site. The CAMP is not intended for use in establishing action levels for workers 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.

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

Depending on the nature of known or potential contaminants at the site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary.

Continuous monitoring will be required for all ground intrusive activities. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil samples. "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, continuing monitoring may be required during sampling activities.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. A third CAMP monitor station will be setup and ran if receptors are determined to be in close proximity to any active work areas as any added measure of protection. The particulate monitoring will 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 will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities. Work will be completed in accordance with Appendix 1B: Fugitive Dust and Particulate Monitoring of DER-10.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than the background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work may continue with dust suppression techniques provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work will 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 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings will be recorded and be available for State (DEC and DOH) personnel to review.

VOC Monitoring, Response Levels, and Actions

VOCs will 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 will be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work will be performed using a photo ionization detector (PID) equipped with a 10.2 eV bulb. The PID will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- 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.

- 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 will be halted, the source of the 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.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shutdown.

All 15-minute readings will be recorded and be available for State (NYSDEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded. Readings are to be provided at least on a weekly basis with all exceedances reported to the NYSDEC and NYSDOH on the same day, or next business day if exceedances are identified after work hours, along with any suspected reasoning, any corrective measures executed, and a conclusion if the corrective measures were effective.

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 degrees C (14 to 122 degrees 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.

Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative- pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined response levels (response actions should also be pre-determined). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.

If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/m3, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m3 or less at the monitoring point.

Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

Special Requirements for Indoor Work With Co-Located Residences or Facilities

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall be as stated above under "Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures" except that in this instance "nearby/occupied structures" would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, should be understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls be used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g. weekends or evenings) when building occupancy is at a minimum.

REVISION HISTORY

REVISION AND APPROVAL LOG			
REVISION DATE	**REVISION CONTENT**	**REVISED BY**	**APPROVED BY**
1/18/2021	Initiation of document/Reviewed by Jackie Baxley	SF	TAG
6/6/2024	- Update formatting - Update order of headers - Implemented tables within HASP, not as Appendix - Combining NY and other states – generic HASP to make site-specific - Checkbox formatting - Updated Action Levels Table	JLE	TAG