PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67, LOT 38 A
BALLSTON SPA, NY 12020
TEL: 518-885-4399
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CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

20 YEARS
1991 - 2011

April 3, 2014

Mr. Christopher O'Neill, P.E.
Environmental Engineer II
New York State Department of Environmental Conservation
Division of Environmental Remediation
Region IV
1130 North Westcott Road
Schenectady, NY 12306-2014

RE: Proposed Site Characterization Work Plan
Former KEM Cleaners, Curry Road
1911 Curry Road, Rotterdam, NY
NYSDEC Site No.: 447031

Dear Mr. O'Neill:

This letter is intended to represent Precision Environmental Services, Inc.'s (PESs) proposed work plan to perform subsurface investigative work at the above referenced site. Specifically, the investigation will take place at 1911 and 1913 Curry Road Rotterdam, NY. (collectively hereafter referred to as 'The Site') (see Attachment A, Figure 1 for site location details), all of which are currently occupied by Amerada Hess Corporation for purposes of retail petroleum storage and distribution. Work has also been proposed at adjacent off site parcels. The work that has been proposed herein is pursuant to a request made by the New York State Department of Environmental Conservation (NYSDEC) and will be completed under Contract No.: C100906.

PROPOSED WORKSCOPE:
The Site previously included a KEM Cleaners dry cleaning business, and previous environmental data demonstrated the presence of typical dry cleaning fluid (Tetrachloroethene) and its degradation chemicals in the Site soils and groundwater.

The primary objective of this proposed work plan is to investigate the current presence and concentration of volatile organic compounds (VOCs) (especially Tetrachloroethene and associated daughter compounds) within the subsurface at The Site and neighboring properties. Investigative efforts will involve the sampling of existing monitoring wells, installation of soil borings and temporary groundwater monitoring wells as needed to delineate and investigate the extent of VOCs within subsurface soils and groundwater. Ultimately, soil boring and monitoring well locations and quantities will be dependent upon the location of identified subsurface utilities and site-specific empirical data collected during the investigation.

Existing Monitoring Well Sampling:
Groundwater samples will be collected from all existing, available and functioning groundwater monitoring wells. Collected groundwater will be analyzed for VOCs using EPA Method 8260. Encountered Non Aqueous Phase Liquid (NAPL) will be collected, characterized and sampled for identification through laboratory verification. Prior to sample collection wells will be gauged to determine depth to water and various hydrological characteristics of the water table underlying The Site. Sampling and/or gauging order will be formulated based on the information obtained during the installation process and historic knowledge of The Site. Gauging and sampling will be performed from the least to the most contaminated well to minimize the possibility of cross contamination. All sampling devices (i.e.: *bailers and/or water level indicator, etc.*) will be decontaminated before, and between, each well. Samples will be secured in laboratory-supplied glassware, placed on ice and shipped via chain-of-custody protocol to NYSDEC contracted laboratory – Test America Laboratories, Inc., of Amherst, NY (Test America).

Soil Boring Installation:
Soil borings will be installed at the Site utilizing PESs direct push soil probe. A hydraulic percussion hammer will advance the soil probe into the subsurface to retrieve successive soil core samples from the borehole at four-foot increments. A qualified environmental professional from PES will oversee and document all soil boring installation activities including local pedology as ascertained through dissection of the soil cores. Soil samples will be continuously collected and monitored using a photoionization detector (PID) to qualitatively determine the presence and amount of volatile organic compounds (VOCs) and to determine groundwater monitoring well and/or soil vapor collection probe construction. As determined in the field and through soil characteristics discovered at The Site, a minimum of one (1) soil sample from each borehole will be secured in laboratory-supplied glassware, placed on ice and shipped via chain-of-custody protocol under separate contract to Test America. Soil samples will be selected for laboratory analysis based on elevated PID responses, visual or olfactory evidence of impacts and/or the location of the soil relative to the water table interface. The sampling locations will be based on conditions encountered in the field and will be strategically selected to allow for further site characterization and evaluation. The laboratory results will provide quantitative data regarding the soil quality below The Site. The soil samples will be analyzed for VOCs by an ELAP-certified laboratory (Test America) via EPA method 8260.

Soil generated during the investigation will be collected in 55-gallon drums and managed on site as Investigation Derived Waste. All non-dedicated, down-hole equipment will be decontaminated prior to and between use at each boring location. A non-phosphate detergent and tap water wash followed by a tap water rinse will be utilized to ensure equipment is decontaminated.

Temporary Monitoring Well Construction:
At select boring locations, a temporary one (1)-inch diameter, PVC, groundwater monitoring well with 0.010-inch slotted screen will be installed. Each well will be constructed such that the screened section extends across the observed water table. The annular space surrounding the well screen will be filled with #0 silica sand to approximately one (1)-foot above the well screen. A bentonite seal will be placed above the sand to prevent the infiltration of surface waters. The remaining annular space will be filled with concrete/bentonite slurry material to a depth of approximately one (1)-foot below

grade. Monitoring wells will then be completed with a flush-to-grade, bolt down, traffic rated road box set in concrete. Upon completion, each well will be developed by repetitive bailing. The wells will later be gauged and sampled, as described below.

Monitoring Well Development, Surveying and Gauging:
Following installation, newly installed monitoring wells and available existing monitoring wells will developed by surge block method and or over pumping and removing a minimum of three well volumes. Wells will also be surveyed to allow for incorporation into the site map and to determine groundwater elevation and/or groundwater gradient. All elevation data will be relative to an assumed elevation based on a temporary benchmark. The depth to groundwater *(gauging)* and the presence and/or thickness of NAPL will be measured at each well to allow calculation of the groundwater gradient.

Monitoring Well Sampling:
Groundwater samples will be collected from all newly installed monitoring wells and available existing monitoring wells and analyzed for volatile organic compounds (VOCs) using EPA Method 8260. Encountered NAPL will be collected, characterized and sampled for identification through laboratory verification. Sampling and/or gauging order will be formulated based on the information obtained during the installation process and historic knowledge of The Site. Gauging and sampling will be performed from the least to the most contaminated well to minimize the possibility of cross contamination. All sampling devices (i.e.: *bailers and/or water level indicator, etc.*) will be decontaminated before, and between, each well. Samples will be secured in laboratory-supplied glassware, placed on ice and shipped via chain-of-custody protocol to Test America.

Initial groundwater sampling events will be scheduled two weeks and then four months after the new wells are installed and developed.

Laboratory Reporting:
The laboratory will provide an ASP Category B QA/QC deliverable package for associated soil and groundwater analysis. PES will procure a qualified, independent third party data validator to review and validate the data and produce a Data Usability Summary Report (DUSR).

Investigation-Derived Wastes:
All investigation-derived waste (IDW), such as decontamination rinsate, soil cuttings and monitoring well purge water, will be containerized in U.S. Department of Transportation-approved 55-gallon, steel, open-top drums. Drums will be properly labeled and staged on site pending characterization and offsite disposal in accordance with federal and state requirements. Proper off-site disposal will be completed in a timely manner, with anticipated requests to NYSDEC for Contained-In Determinations for the solvent-contaminated materials disposal.

Reporting:
Upon receipt of the laboratory analyses results and Data Usability Study Report (DUSR) for the soil and groundwater samples, a comprehensive subsurface investigation report will be prepared that combines newly acquired and historic information. The report will include:

- Summary of historical data for The Site
- A Brief description of the regional geology, from the literature, and local geology – inferred from the soil boring logs.
- Detailed site map illustrating major surface structures and boring/well locations within the area of study.
- Soil boring data and monitoring well completion details.
- Field observations resulting from soil monitoring with the PID instrument, NAPL occurrence, thickness, etc.
- Groundwater flow direction and gradient will be discussed. A groundwater gradient map for the Site will be included (if appropriate).
- VOC (if present) distribution will be discussed.
- A brief conclusion section regarding soil and groundwater conditions on-site will be included, as supported by the data collected during the investigation.
- All data - well installation, development and sampling logs, laboratory analyses reports and data validation reports will be included as appendices.
- Recommendations for future work will be included at the end of the report.

Project Organization:
Individual tasks of the proposed work scope will be performed as expediently as possible under the field conditions encountered. All aspects of the project will be coordinated and supervised by experienced representatives of PES. The project team assigned to this work scope will be comprised of experienced personnel capable of completing the technical and logistical aspects of the assignment.

Health and Safety
A site specific Health and Safety Plan (HASP) has been generated from a generic previously-approved HASP, and has been included herein as Attachment B.

Community Air Monitoring Plan
Real time monitoring for VOCs and particulates will be completed down wind at the perimeter of the work area in accordance with NYSDOH Generic Community Air Monitoring Plan (CAMP), a copy of which has been included as Attachment C.

Scheduling:
Albeit unknown at this time, PES is anticipating a minimum of five (5) workdays to complete the fieldwork for the investigation. PES can implement the proposed subsurface investigation within 30 days following approval of this supplemental work plan. A report of findings will be submitted within 45 days after receipt of the validated laboratory analytical data associated with the subsurface investigation work.

Special Consideration for Drilling on Hess Property:
Drilling work to be undertaken on Amerada Hess Corporation property will be in substantive compliance with HESS Corporate EHS & SR "Standard for Pre-Clearing and Remediation Drilling", dated October 26, 2012. This will include the following:

- Submission of the Drilling Request Form thirty days prior to scheduled start date
- Performance of public and private utility clearance (if deemed necessary)
- Implementation of pre-clearing activities including hand digging each location to a depth of 6-feet

Additionally, all work will be completed in accordance with NYSDEC Standby Remedial Prime Contract NO.: C100906 and practices outlined herein, and guided by HESS Corporation's requirements.

PES greatly appreciates the continued opportunity to provide environmental services to the NYSDEC. If you have any questions concerning any aspect of this correspondence, please call the undersigned at (518) 885-4399.

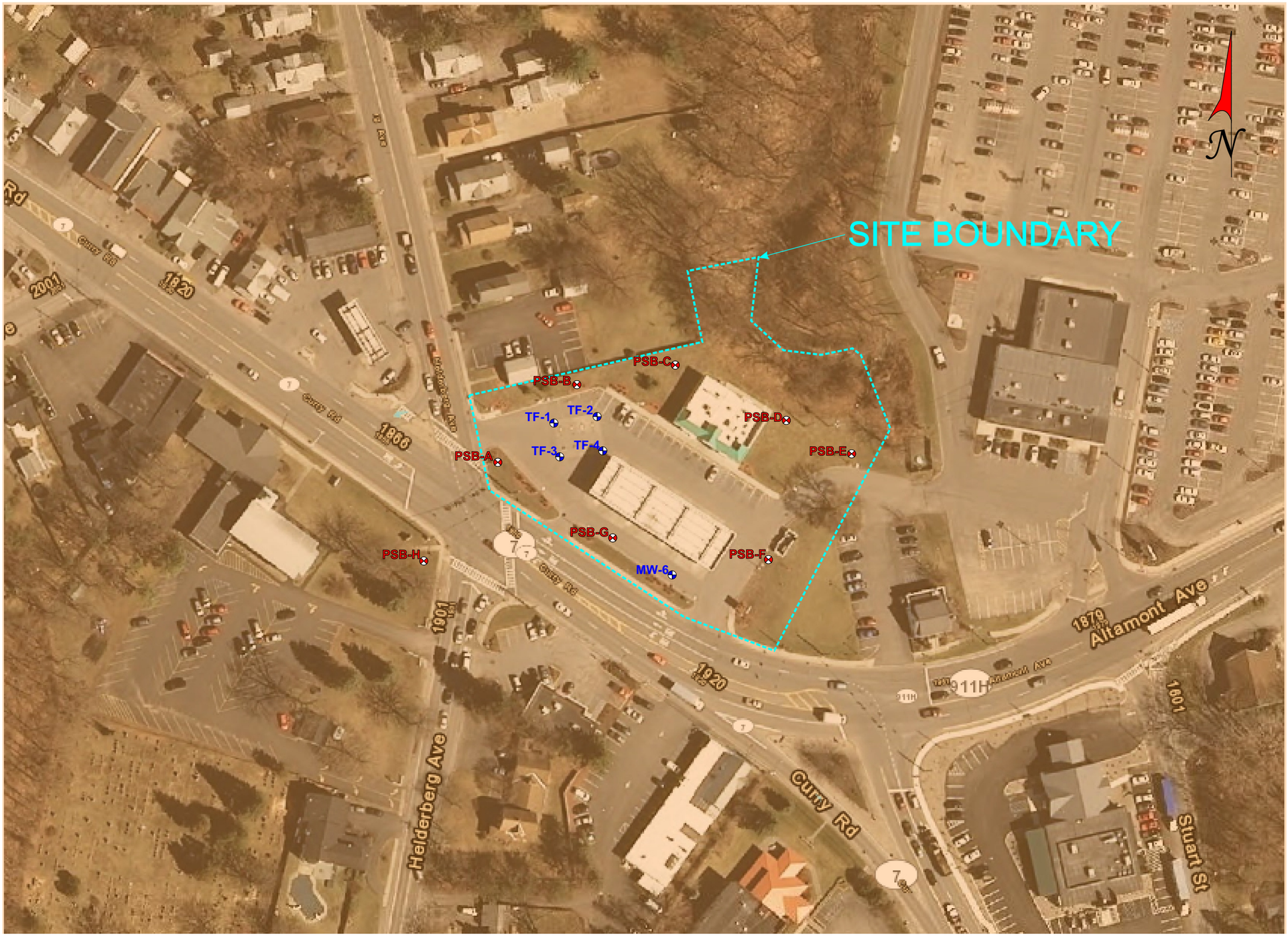
Sincerely,
Precision Environmental Services, Inc.

Stephen M. Phelps
Project Manager

Attachments

Attachment A

PRECISION
ENVIRONMENTAL SERVICES, INC.



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PROPOSED BORINGS

KEM CLEANERS, CURRY ROAD

PROJECT #: NYSDEC SITE NO.: 447031

LOCATION: 1911 CURRY RD., ROTTERDAM, NY

DATE: 3/21/2014	**REVISED BY:** SMP
FIGURE: 1	**SCALE:** AS SHOWN

LEGEND

TF-1	EXISTING TANK FIELD MONITORING WELL
MW-6	EXISTING MONITORING WELL
PSB-A	PROPOSED SOIL BORING/MONITORING WELL

0 100 200
Feet

NOTES:

- 2011 AERIAL IMAGERY PROVIDED COURTESY OF NEW YORK STATE GIS CLEARING HOUSE
- ALL LOCATIONS ARE APPROXIMATE

Attachment B

PRECISION
ENVIRONMENTAL SERVICES, INC.

SITE SPECIFIC HEALTH AND SAFETY PLAN - EXECUTIVE SUMMARY

Project Name:	Former KEM Cleaners, Curry Road	HASP Prepared by:	Precision Environmental Services, Inc.
Site Location:	1911 Curry Road, Rotterdam, NY NYSDEC Site No.: 447031	Approvals:	S. Phelps
Plan Preparation Date:	March 10, 2014	Revision Date:	April 3, 2014

Site Description: Former KEM Cleaners Site, Curry Road (the "Site") is an Inactive Hazardous Waste Disposal Site (Site No. 447031), located on Curry Road, within the Town of Rotterdam, Schenectady County, New York. The Site is currently occupied by Amerada Hess Corporation (Hess) for purposes of retail petroleum storage and distribution.

Site History: KEM Cleaners Inc. previously owned and operated a dry cleaning business at 1913 Curry Road. Hess purchased the property and redeveloped it to accommodate the current retail gas station. A remedial action consisting of mass soil excavation and groundwater pump and treat was implemented at the time of the redevelopment. Subsequent to the remedial action additional groundwater monitoring events completed at the Site have documented the continued presence of dry cleaning solvent Tetrachloroethene and associated daughter compounds Trichloroethene, cis-1,2-Dichloroethene and Vinyl Chhloride.

Project Description: The primary objective of the proposed work is to investigate the current presence and concentration of volatile organic compounds (VOCs) (especially Tetrachloroethene and associated daughter compounds) within the subsurface at The Site and neighboring properties. Investigative efforts will involve the sampling of existing monitoring wells, installation of soil borings and temporary groundwater monitoring wells as needed to delineate and investigate the extent of VOCs within subsurface soils and groundwater. Ultimately, soil boring and monitoring well locations and quantities will be dependent upon the location of identified subsurface utilities and site-specific empirical data collected during the investigation. Investigative derived wastes (soil and water) will be containerized, staged, sampled, characterized and disposed of.

PRIMARY PHYSICAL HAZARDS					
x	Underground Utilities	x	Traffic Control		
x	Overhead Utilities	x	Slips, Trips/Walking Surface		
x	Drill Rig Operations	x	Manual Lifting		

CHEMCIAL HAZARDS, MONITORING, ACTION LEVELS		
Chemical of Concern	**MONITORING**	**ACTION LEVELS**
Volatile Organic Compounds (VOCs): • Tetrachloroethene • Trichloroethene • cis-1,2-Dichloroethene • Vinyl Chloride	PID with 10.6eV (general field screening during boring install and sample collection)	Upgrade to Level C at 5 ppm sustained in the work area within breathing zone

CONTENTS

1.0 INTRODUCTION

This Health and Safety Plan (HASP) provides a general description of the levels of personal protection and safe operating guidelines expected of each employee associated with the site characterization project planned at the Former KEM Cleaners, Curry Road site, located at 1911 Curry Road, Rotterdam, NY. This HASP also identifies chemical and physical hazards known to be associated with the planned site activities as described in the work plan dated March 26, 2014 and submitted under separate cover.

1.1 GENERAL

The provisions of this HASP are mandatory for all PES personnel engaged in fieldwork associated with the environmental services being conducted at The Site. A copy of this HASP and any applicable HASP Supplements shall be accessible on site and available for review at all times. In the event of a conflict between this HASP and federal, provincial, state, and local regulations, workers shall follow the most stringent/protective requirements. Concurrence with the provisions of this HASP are mandatory for all personnel at the site covered by this HASP and must be signed on the acknowledgement page.

1.2 PROJECT POLICY STATEMENT

PES is committed to protecting the safety and health of our employees, properties and infrastructure that are affected by our activities and protecting and preserving the natural environment in which we operate. The safety of persons and property is of vital importance to the success of this project and accident prevention measures shall be taken toward the avoidance of needless waste and loss. PES personnel will maintain a safe and healthy working environment. Subcontractors shall comply with the requirements of this HASP, provisions contained within the contract document and all applicable rules, requirements and health, safety and environmental regulations. All practical measures shall be taken to promote safety and maintain a safe place to work.

1.3 REFERENCES

This HASP conforms to the regulatory requirements and guidelines established in the following documents:

- Title 29, Part 1910 of the Code of Federal Regulations (29 CFR 1910), *Occupational Safety and Health Standards* (with special attention to Section 120, *Hazardous Waste Operations and Emergency Response*).
- Title 29, Part 1926 of the Code of Federal Regulations (29 CFR 1926), *Safety and Health Regulations for Construction*.

2.0 SITE INFORMATION AND SCOPE OF WORK

PES will conduct site characterization activities at The Site and neighboring properties. Work will be performed in accordance with the applicable Proposed Site Characterization Work Plan, dated March 26, 2014. Deviations from the Work Plan may require that changes be made to this HASP, to ensure adequate protection of personnel and other property.

The following is a summary of relevant data concerning the project and the work procedures to be performed.

2.1 SITE INFORMATION

This section provides a general description and historical information associated with the site.

2.1.1 General Description

The Site is located on Curry Road, within the Town of Rotterdam, Schenectady County, New York. The Site is currently occupied by Amerada Hess Corporation (Hess) for purposes of retail petroleum storage and distribution. The majority of The Site is covered with asphalt. Adjacent land use consists of residential and light commercial/retail.

2.1.2 Site Background/History

KEM Cleaners Inc. previously owned and operated a dry cleaning business at 1913 Curry Road. Hess purchased the property and redeveloped it to accommodate the current retail gas station. A remedial action consisting of mass soil excavation and groundwater pump and treat was implemented at the time of the redevelopment. Subsequent to the remedial action additional groundwater monitoring events completed at the Site have documented the continued presence of dry cleaning solvent Tetrachloroethene and associated daughter compounds Trichloroethene, cis-1,2-Dichloroethene and Vinyl Chloride

2.1.3 Previous Investigations

Table 2-1 presents historical available data and potential exposure concentrations.

Table 2-1: Previous Investigation Data

Contaminant	Reported Low Groundwater Concentration (ug/L)	Reported High Groundwater Concentration (ug/L)
Tetrachloroethene	5.3	721
Trichloroethene	0.84	9.3
Cis-1,2-Dichloroethene	2.7	14.1
Vinyl Chloride	4.5	5.4

2.2 SCOPE OF WORK

The purpose of the work is to investigate the current presence and concentration of volatile organic compounds (VOCs) within the subsurface at The Site and neighboring properties.

2.2.1 Mobilization/Demobilization

Mobilization and demobilization represent limited pre and post-task activities. These activities include driving to and from the site; initial site preparations, such as drilling setup and staging of equipment; and post-work activities, such as removing equipment and general housekeeping. This activity does not represent any intrusive activities.

2.2.2 Site Preparation

Site preparation includes utility mark-out and clearance, and the set-up of other work support related items are included as well. Other site preparation activities will include the verification of utility mark-outs (on-site). All utility clearance shall be obtained by the authorizing authority for the subject site. If utility locations cannot be verified on-site by the public authority, then a private utility location contractor may need to be utilized to confirm/deny the presence of private underground utilities on The Site. Typical lead time is 72 hours and the permits generally valid for 14 days.

2.2.3 Direct Push Subsurface Investigation

Direct Push borings will be advanced through the subsurface and into the apparent water table in four-foot increments. Discrete macro-core samples will be collected continuously throughout boring advancement. Soil samples will be field screened for VOCs using a calibrated PID. Select Soil samples will be collected and submitted for laboratory analysis. Soil boring locations and elevations will be surveyed into existing site datum following boring installation. Soil cuttings generated during boring installation will be temporarily staged on-site in 55-gallon drums while awaiting characterization.

2.2.4 Monitoring Well Installation

Monitoring wells will be designed and installed based on the results of the Direct Push borings install. The monitoring wells will be constructed using one-inch diameter Schedule 40 polyvinyl chloride (PVC) well casing and slotted PVC well screen. A sand filter pack will be installed in the annular space between the borehole and the well screen and casing from the bottom of the boring to approximately one foot above the screened interval. Approximately two feet of bentonite clay will then be placed on top of the sand pack and hydrated to form a seal above the sand. After allowing the bentonite to set, the remaining portion of the annular space will be

filled with a bentonite-portland cement mixture to grade. Each monitoring well will be completed inside a traffic- rated road box/well vault.

Following installation, the wells will be developed using a surge block/bailer or pump. Purge water will be temporarily staged on-site in 55-gallon drums while awaiting characterization

Drill cutting and development water will be managed as described below. Top of casing elevations and locations for each groundwater monitoring well will be surveyed into existing Site datum by PES.

2.2.5 Monitoring Well Gauging and Sampling

All groundwater monitoring wells will be allowed to equilibrate after development and prior to groundwater sample collection. Prior to the groundwater sampling, a site-wide water level measurement event will be performed in order to determine groundwater elevations at The Site and accurately characterize local groundwater flow conditions.

Groundwater samples will be collected from monitoring wells with disposable bailers or pumps using low-flow sampling techniques. Disposable sampling materials, decon water and purge water will be containerized and properly disposed.

2.2.6 Investigation-Derived Waste (IDW) Management

IDW will be collected and categorized as non-hazardous or hazardous. Potentially hazardous IDW (purge water, and decontamination fluids, and soil/sediment cuttings) will be tested and disposed of in a timely manner upon completing the field activities.

2.2.7 Equipment Decontamination

PES will perform decontamination of equipment used to perform work within controlled work areas.

Before direct push drilling or sampling has begun, and at the completion of activities, PES will decontaminate the drill rig, casing, samplers, and all other drilling equipment that will be used on site. Soil sampling equipment shall be decontaminated between each use, using a phosphate free detergent and potable water. PES will construct a temporary decontamination pad to contain all decontamination water generated during decontamination of tools.

Pre-cleaned and dedicated sampling materials/equipment will be used to collect the soil and groundwater samples for laboratory analysis. After the samples are collected, any disposable, or one-time use equipment (tubing, bladders, etc.) will be placed in a plastic bag for disposal in accordance with the paragraph above. Non-disposable sampling and drilling equipment that contacted the soil and/or groundwater will be decontaminated between each sampling location. Gross sediments and/or contamination will first be removed from the sampling and drilling equipment. The equipment will then be washed with DI water and Alconox detergent and then rinsed with potable water.

3.0 HEALTH AND SAFETY HAZARD ASSESSMENT

The potential exists for personnel coming into contact with hazardous materials as well as physical hazards during the performance of the work. All potential hazards will be addressed prior to the start of operations. Observation of activities and air monitoring during the operation will be continuous.

3.1 PHYSICAL HAZARDS

The following physical hazards are anticipated to be present on the site.

3.1.1 Slips, Trips, Falls, and Protruding Objects

A variety of conditions may exist that may result in injury from slips, trips, falls, and protruding objects. Slips and trips may occur as a result of wet, slippery, or uneven walking surfaces. To prevent injuries from slips and trips, always keep work areas clean; keep walkways free of objects and debris; and report/clean up liquid spills. Protruding objects are any object that extends into the path of travel or working area that may cause injury when contacted by personnel. Always be aware of protruding objects and when feasible remove or label the protruding object with an appropriate warning.

Slippery, uneven footing and tripping hazards will likely be present at the site. Be vigilant, avoid puddles, and wear footwear with slip resistant soles.

Walk around, not over or on top of debris or trash piles. When carrying equipment, identify a path that is clear of any obstructions. It might be necessary to remove obstacles to create a smooth, unobstructed access point to the work areas on site.

During the winter months, snow shovels and salt crystals should be kept on site to keep work areas free of accumulated snow and ice. Furthermore, use sand or other aggregate material to help keep work surfaces from being slippery, especially where salt/calcium chloride cannot be used. In addition, make sure work boots have soles that provide good traction.

Maintaining a work environment that is free from accumulated debris is the key to preventing slip, trip and fall hazards at construction sites. Essential elements of good housekeeping include

- Orderly placement of materials, tools and equipment out of walkways;
- Placing trash receptacles at appropriate locations for the disposal of miscellaneous rubbish; and,
- Prompt removal and secure storage of items that are not needed to perform the immediate task at hand.

3.1.2 Housekeeping

During site activities, work areas will be continuously policed for identification of excess trash and unnecessary debris. Excess debris and trash will be collected and stored in an appropriate container (e.g., plastic trash bags, garbage can, roll-off bin) prior to disposal. At no time will debris or trash be intermingled with waste PPE or contaminated materials.

3.1.3 Manual Lifting

Most materials associated with investigation and remedial activities are moved by hand. The human body is subject to severe damage in the forms of back injury, muscle strains, and hernia if caution is not observed in the handling process. Whenever possible, use mechanical assistance to lift or move materials and at a minimum, use at least two people to lift, or roll/lift with your arms as close to the body as possible.

3.1.4 Utilities

Various forms of underground/overhead utility lines or pipes may be encountered during site activities. Prior to the start of intrusive operations, utility clearance is mandated, as well as obtaining authorization from all concerned public utility department offices. If insufficient data is available to accurately determine the location of the utility lines, PES will hand clear or use soft dig techniques to a depth of at least six (6) feet below ground surface in the proposed areas of subsurface investigation. Should intrusive operations cause equipment to come into contact with utility lines, the Site Safety Officer (SSO) and PES management will be notified immediately. Work will be suspended until the applicable utility agency is contacted and the appropriate actions for the particular situations can be taken. The phone number for the applicable state agency is provided in the Emergency Contacts list found in Section 8.

Ensure drill rig and operators, truck drivers, etc. and signal person are aware of overhead power lines when working around overhead power lines. Overhead power and utility lines may be present on, or adjacent to, the site and represent a potential hazard during the mobe/demobe of equipment and supplies. Maintain a minimum of 10 feet between overhead power lines and drill rig mast. Any deviation must be approved by the SSO and PES management.

3.1.5 Drilling Operations

Drilling operations, including direct push drilling, present their own set of hazards. Several basic precautions that should be taken include, but are not limited to, confirming locations of underground and overhead utilities, wearing of appropriate PPE and the avoidance of loose clothing or jewelry, staying clear of moving parts, knowing the locations of emergency shut-off switches.

3.1.6 Dust and Odor Control

While dust generation is not anticipated, specific controls will be implemented if needed. If dust is observed in the work area or reaching or approaching the site boundary, activities causing the dust will be immediately stopped. Dust control measures (water spray, soil covers, slower work pace, or change in work activities) will be deployed prior to resuming work.

Based on available data, odors are not anticipated to be of concern at The Site. In the event that an odor complaint is received, the SSO will immediately assess site conditions and determine the probable cause or causes. Appropriate odor mitigation measures will be deployed. These measures may include deploying odor suppressing foam, implementation of air monitoring or discontinuing activities that are generating the odor.

3.1.7 Traffic Control

During certain work tasks, the establishment of traffic control to adequately protect workers and the public may be required. Site specific requirements will be determined by the SSO on a case-by-case basis. General traffic control precautions include placing a work vehicle between your worksite and oncoming traffic whenever possible. Not only is it a large, visible warning sign, but also if an oncoming car should fail to yield or deviate, the parked vehicle rather than your body would absorb the first impact of a crash. Turn the vehicle wheels so that if it was struck, it would swing away from the worksite. When using cones or other devices to modify traffic flow, ensure use of the proper taper length and device spacing to provide adequate warning distance to on-coming motor vehicles. In addition, proper PPE is to be worn during traffic operations, to include hardhat and high-visibility vests.

3.2 CHEMICAL HAZARDS

Employees can be exposed by inhalation to the chemicals of concern during intrusive activities. Another route of potential exposure is via direct dermal contact with soils and groundwater during sampling. Although highly unlikely, exposure to all of the chemicals of concern can occur via ingestion (hand-to-mouth transfer). The decontamination procedures described in Section 6 address personal hygiene issues that will limit the potential for contaminant ingestion.

The chemical hazards associated with site activities can be controlled in several ways, including:

- Maintaining a upwind position;
- Use of personal protective equipment;
- Avoiding direct contact with contaminated media;
- Slow equipment down to prevent dusting;
- Use of water to prevent or minimize the generation of dust;
- Following decontamination procedures; and
- Washing hands prior to eating or using tobacco products.

TABLE 3-2.1: Assessment of Chemical Hazards

Contaminant	*Unrestricted Use mg/kg (ppm)*	*Protection of Groundwater mg/kg (ppm)*	*OSHA PEL-TWA*	*OSHA PEL-STEL (ppm)*	*OSHA PEL-C (ppm)*	*IDLH (ppm)*	*Acute Health Effects*	*Chronic Health Effects*
Tetrachloroethene (PCE)	1.3	1.3	100 ppm	none	none	150	Irritation to eyes, skin, nose, throat,and respiratory system. Nausea. Dizziness. Drowsiness. Weakness. Muscle incoordination.	Liver changes in animals. Liver cancer.
Trichloroethene (TCE)	0.47	0.47	100 ppm	200	300	1000	Irritation to eyes and skin. Headache. Visual disturbance. Lassitude. Dizziness. Tremor. Drowziness. Nausea. Vomiting.	Dermatitis. Cardiac arrhythmia. Paresthesia. Liver injury. Carcinogen.
cis-1,2-Dichloroethene (cis-1,2-DCE)	0.25	0.25	200 ppm (790 mg/m^3)	none	none	1000	Irritation to eyes and respiratory system.	Central nervous system depression.
Vinyl Chloride	0.02	0.02	1 ppm	5	5	none	Lassitude. Abdominal pain. Gastrointestinal bleeding.	Enlarged liver. Pallor or cyan of extremities. Frostbite from liquid form. Carcinogen.

TABLE 3-2.2: Monitoring of Chemical Hazards

Contaminant	Monitoring Equipment	Monitoring Protocol	Monitored Level for Mandatory Respirator Use	Monitored Level for Mandatory Stop Work
Tetrachloroethene (PCE)	PID	Initial and Continuous Through Shift	>5 ppm in Breathing Zone	>25 ppm
Trichloroethene (TCE)	PID	Initial and Continuous Through Shift	>5 ppm in Breathing Zone	>25 ppm
cis-1,2-Dichloroethene (cis-1,2-DCE)	PID	Initial and Continuous Through Shift	>5 ppm in Breathing Zone	>25 ppm
Vinyl Chloride	N/A	N/A	N/A	N/A

3.3 WEATHER HAZARDS

The Site Safety Officer will be attentive to daily weather forecasts for the project area each morning. Predicted weather conditions of potential field impact are to be included in safety briefings for that day. Weather-related hazards will directly correlate to the type of weather involved. Hot, dry weather may cause greater dust emissions, particularly during intrusive activities. Rain and snow may increase slip/trip hazards, particularly for ground workers.

Severe weather can occur with little warning. Employees will be vigilant for the potentials for storms, lightning, high winds, and flash flood events. Additionally, lightning strikes during electrical storms could also be a potential hazard. The following procedures will be implemented once thunder is heard or lightning spotted:

1) If thunder is heard, all site personnel are to be alert of any visible lightning flashes. The SSO will observe the storm front and track the direction it is moving. The SSO will continue to observe the storm front until it passes or until the prevailing direction is determined to be away from the site.

2) If lightning is observed, the SSO is to be notified. When the next lightning flash is observed, a "second" count shall be initiated from the time the lightning is observed until the thunder from the strike is heard.

3) The following action guidelines shall be implemented once the "second" count is </= 30 seconds:

   a) "second" count > 30, the SSO will continually observe the storm front. If the front is moving away, work will continue. If the front is moving towards the site, the SSO will initially place workers on alert for potential evacuation.

   b) "second" count </= 30, the SSO will issue the evacuation command and all workers are to vacate the work area and equipment. Work can be re-initiated once the front has passed by and thunder has not been heard for 30 minutes.

4) If lightning is observed and the storm front is moving away from or around the site and is > 20 miles away, work will be permitted to continue. The location of the storm can be confirmed via internet access to a local weather website that has a Doppler radar tracking system.

3.4 OTHER HAZARDS

A Task specific hazard assessment has been completed for all tasks identified in the Scope of Work. These tasks include:

1. Mobe/Demobe,
2. Drilling Oversight and Sampling
3. Groundwater sampling,
4. Soil Sampling (Hand Auger)

TABLE 3-4: Assessment of Non-Chemical Hazards

Non-Chemical Hazard	*Applicable?*	*Task No.(s)*
Electrical (overhead lines)	Yes	1,2,4
Electrical (underground lines)	Yes	2,4
Gas/Water Lines	Yes	2,4
Drilling Equipment	Yes	1,2,4
Excavation Equipment	No	
Machinery	Yes	1,2
Heat Exposure	No	
Cold Exposure	Yes	2,3,4
Oxygen Deficiency	No	
Confined Spaces	No	
Noise	Yes	2
Ionizing Radiation	No	
Non-ionizing Radiation	No	
Fire	No	

As a result of unanticipated work activities or changing conditions, additional hazard assessments may be required. All additional assessments will be reviewed and approved by the SSO and PES management.

Community air monitoring will be done throughout the project as deemed necessary by the SSO, given the work tasks that are being performed and site specific conditions encountered.

4.0 PROJECT PERSONNEL RESPONSIBILITIES

4.1 PROJECT MANAGER

This person will act in a supervisory capacity over all employees and activities with respect to The Site. The Project Manager has the authority to direct response operations and assumes total control over all site activities. Stephen Phelps is the Project Manager. Stephen Phelps can be reached at 518-885-4399 (office) or at 518-528-1427 (cell phone).

4.2 SITE SAFETY OFFICER (SSO)

This individual advises the project manager/supervisor on all aspects of health and safety on site. This individual also has the authority to stop work if any operation threatens workers or public safety and health. Depending on circumstances, the Project Manager may act as the SSO as well. The SSO will be assigned at the start of the project.

4.3 EMPLOYEES

Responsibilities of employees associated with this project include, but are not limited to:

- Understanding and abiding by the policies and procedures specified in the HASP and other applicable safety policies, and clarifying those areas where understanding is incomplete.
- Providing feedback to health and safety management relating to omissions and modifications in the HASP or other safety policies.
- Notifying the SSO immediately and then in writing, of unsafe conditions and acts.

4.4 SUBCONTRACTORS

Each PES subcontractor is responsible for assigning specific work tasks to their employees. Each subcontractor's management will provide qualified employees and allocate sufficient time, materials, and equipment to safely complete assigned tasks. In particular, each subcontractor is responsible for equipping its personnel with any required personnel protective equipment (PPE and all required training).

PES considers each subcontractor to be an expert in all aspects of the work operations for which they are tasked to provide, and each subcontractor is responsible for compliance with the regulatory requirements that pertain to those services. Each subcontractor is expected to perform its operations in accordance with its own unique safety policies and procedures, in order to ensure that hazards associated with the performance of the work activities are properly controlled. Copies of any required safety documentation for a subcontractor's work activities will be provided to PES for review prior to the start of onsite activities, if required.

Hazards not listed in this HASP but known to any subcontractor, or known to be associated with a subcontractor's services, must be identified and addressed to the PES PM or the SSO prior to beginning work operations. The SSO or authorized representative has the authority to halt any subcontractor operations, and to remove any subcontractor or subcontractor employee from the site for failure to comply with established health and safety procedures or for operating in an unsafe manner.

4.5 VISITORS

Authorized visitors (e.g., client representatives, regulators, PES management staff, etc.) requiring entry to any work location on the site will be briefed by SSO on the hazards present at that location. Visitors will be escorted at all times at the work location and will be responsible for compliance with their employer's health and safety policies. In addition, this HASP specifies the minimum acceptable qualifications, training and personal protective equipment which are required for entry to any controlled work area; visitors must comply with these requirements at all times.

4.5.1 Visitor Access

Visitors to any HAZWOPER controlled-work area must comply with the health and safety requirements of this HASP, and demonstrate an acceptable need for entry into the work area. All visitors desiring to enter any controlled work area must observe the following procedures:

1. A written confirmation must be received by PES documenting that each of the visitors has received the proper training and medical monitoring required by this HASP. Verbal confirmation can be considered acceptable provided such confirmation is made by an officer or other authorized representative of the visitor's organization.
2. Each visitor will be briefed on the hazards associated with the site activities being performed and

acknowledge receipt of this briefing by signing the appropriate tailgate safety briefing form.

3. All visitors must be escorted by an PES employee.

5.0 PERSONAL PROTECTIVE EQUIPMENT

5.1 PERSONAL PROTECTIVE EQUIPMENT

The purpose of personal protective equipment (PPE) is to provide a barrier, which will shield or isolate individuals from the chemical and/or physical hazards that may be encountered during work activities. Table 7-1 lists the minimum PPE required during site operations and additional PPE that may be necessary. All personnel will be provided with appropriate personal safety equipment and protective clothing. Each individual will be properly trained in the use of this safety equipment before the start of field activities. Safety equipment and protective clothing shall be used as directed by the SSO. All such equipment and clothing will be cleaned and maintained in proper condition by the personnel. The SSO will monitor the maintenance of personal protective equipment to ensure proper procedures are followed.

By signing this HASP the employee agrees having been trained in the use, limitations, care and maintenance of the protective equipment to be used by the employee at this project. If training has not been provided, request same of the PM/SSO for the proper training before signing.

The personal protective equipment levels designated below are in conformance with EPA criteria for Level A, B, C, and D protection. All respiratory protective equipment used will be approved by NIOSH/MSHA.

TABLE 5-1: Personal Protective Equipment

TYPE	MATERIAL	ADDITIONAL INFORMATION	TASK
Minimum PPE			
Safety Vest	ANSI Type II high-visibility	Must have reflective tape/be visible from all sides	1,2,3,4
Boots	Leather	ANSI approved safety toe	1,2,3,4
Safety Glasses		ANSI Approved	1,2,3,4
Hard Hat		ANSI Approved	2,3,4
Work Uniform		No shorts/cutoff jeans or sleeveless shirts	1,2,3,4
Additional PPE:			
Hearing Protection	Ear plugs and/ or muffs	In hazardous noise areas	2
Leather Gloves		If working with sharp objects or powered	2, 4
Protective Chemical Gloves	Nitrile	During handling of all potential chemically impacted media.	2,3,4
Protective Chemical Coveralls	Tyvek	For use where contact potential with chemically impacted media exists.	2 (as needed)
Protective Chemical Boots	Rubber Overbooties or dedicated rubber boots	For use where contact potential with chemically impacted media exists.	2 (as needed)
Level C Respiratory Protection	MSA (Full Face or equivalent) equipped with GME/P100	Upgrade based on air monitoring requirements established in Table 3-2.2	2 (as needed)
Sunscreen	SPF 30 or higher		2,3,4

Cold Weather Gear	Hard hat liner, hand warmers, insulated gloves		2,3,4

5.2 PPE DOFFING AND DONNING INFORMATION

The following information is to provide field personnel with helpful hints that, when applied, make donning and doffing of PPE a more safe and manageable task:

- Never cut disposable booties from your feet with basic utility knives. This has resulted in workers cutting through the booty and the underlying sturdy leather work boot, resulting in significant cuts to the legs/ankles. Recommend using a pair of scissors or a package/letter opener (cut above and parallel with the work boot) to start a cut in the edge of the booty, then proceed by manually tearing the material down to the sole of the booty for easy removal.
- When applying duct tape to PPE interfaces (wrist, lower leg, around respirator, etc.) and zippers, leave approximately one inch at the end of the tape to fold over onto itself. This will make it much easier to remove the tape by providing a small handle to grab while still wearing gloves. Without this fold, trying to pull up the tape end with multiple gloves on may be difficult and result in premature tearing of the PPE.
- Have a "buddy" check your ensemble to ensure proper donning before entering controlled work areas. Without mirrors, the most obvious discrepancies can go unnoticed and may result in a potential exposure situation.
- Never perform personal decontamination with a pressure washer.

6.0 DECONTAMINATION

6.1 GENERAL REQUIREMENTS

All possible and necessary steps shall be taken to reduce or minimize contact with chemicals and contaminated/impacted materials while performing field activities (e.g., avoid sitting or leaning on, walking through, dragging equipment through or over, tracking, or splashing potential or known contaminated/impacted materials, etc).

All personal decontamination activities shall be performed with an attendant (buddy) to provide assistance to personnel that are performing decontamination activities. Depending on specific site hazards, attendants may be required to wear a level of protection that is equal to the required level in the Exclusion Zone (EZ).

All persons and equipment entering the EZ shall be considered contaminated, and thus, must be properly decontaminated prior to entering the CRZ.

Decontamination procedures may vary based on site conditions and nature of the contaminant(s). If chemicals or decontamination solutions are used, care should be taken to minimize reactions between the solutions and contaminated materials. In addition, personnel must assess the potential exposures created by the decontamination chemical(s) or solutions. The applicable Material Safety Data Sheet (MSDS) must be reviewed, implemented, and filed by personnel contacting the chemicals/solutions.

All contaminated PPE and decontamination materials shall be contained, stored and disposed of in accordance with site-specific requirements determined by site management.

6.2 DECONTAMINATION EQUIPMENT

The equipment required to perform decontamination may vary based on site-specific conditions and the nature of the contaminant(s). The following equipment is commonly used for decontamination purposes:

- Soft-bristle scrub brushes or long-handled brushes to remove contaminants;
- Hoses, buckets of water or garden sprayers for rinsing;
- Large plastic/galvanized wash tubs or children's wading pools for washing and rinsing solutions;
- Large plastic garbage cans or similar containers lined with plastic bags for the storage of contaminated clothing and equipment;
- Metal or plastic cans or drums for the temporary storage of contaminated liquids; and
- Paper or cloth towels for drying protective clothing and equipment.

6.3 PERSONAL/EQUIPMENT DECONTAMINATION

All equipment leaving the EZ shall be considered contaminated and must be properly decontaminated to minimize the potential for exposure and off-site migration of impacted materials. Such equipment may include, but is not limited to: sampling tools, heavy equipment, vehicles, PPE, support devices (e.g., hoses, cylinders, etc.), and various handheld tools.

All employees performing equipment decontamination shall wear the appropriate PPE to protect against exposure to contaminated materials. The level of PPE may be equivalent to the level of PPE required in the EZ. Other PPE may include splash protection, such as face-shields and splash suits, and knee protectors. Following equipment decontamination, employees may be required to follow the proper personal decontamination procedures above.

Personnel decontamination should consist of the following procedure:

1. For Overbootie Removal
    - Grasp top of overbootie and roll downward (inside out)
    - Using gloved hands, place booties in receptacle
2. For Suit Removal
    - Unzip suit and remove arms, turning inside-out
    - Slide suit down, over waist
    - Slide suit downward over legs, and step out
    - Using gloved hands, grasp inside of suit, and place in receptacle.
3. For Glove removal:
    - Grasp the cuff of the dominant hand and pull glove over the bulk of the hand, leaving the fingers inside the glove.
    - Use the dominant hand to grasp the cuff of the non-dominant hand and pull the glove completely off (inside-out) and place inside of the dominant hand glove.
    - Once removed, employee should only touch the inside material of the dominant hand glove.
    - Thoroughly wash hands.
4. For APR Removal
    - Remove cartridges and place in receptacle
    - Loosen straps, grasp back strap and face piece, and doff mask
    - Decon mask and hang to dry

All employees who are expected to don respiratory protection must have successfully passed a qualitative or quantitative fit-test within the past year for the brand, model and size respirator they plan to don. If worn, respirators will be cleaned after each use with respirator wipe pads and will be stored in plastic bags after cleaning. Respirators will be thoroughly cleaned using disinfectant material within one week following any respirator use. Refer to the cleaning instructions provided with the respirator or specified in the OSHA regulations at 29 CFR 1910.134.

For larger equipment, a high-pressure washer may need to be used. Some contaminants require the use of a detergent or chemical solution and scrub brushes to ensure proper decontamination. Before heavy equipment and trucks are taken offsite, the SSO will visually inspect them for signs of contamination. If contamination is present, the equipment must be decontaminated.

For smaller equipment, use the following steps for decontamination:

1. Remove majority of visible gross contamination in EZ.
2. Wash equipment in decontamination solution with a scrub brush and/or power wash heavy equipment.
3. Rinse equipment.
4. Visually inspect for remaining contamination.
5. Follow appropriate personal decontamination steps outlined above.

All decontaminated equipment shall be visually inspected for contamination prior to leaving the Contaminant Reduction Zone (CRZ). Signs of visible contamination may include an oily sheen, residue or contaminated soils left on the equipment. All equipment with visible signs of contamination shall be discarded or re- decontaminated until clean. Depending on the nature of the contaminant, equipment may have to be analyzed using a wipe method or other means.

7.0 RESPONSE/WORK AREAS

7.1 GENERAL

The purpose of site control is to minimize potential contamination of workers, protect the public from site hazards, and prevent vandalism. The degree of site control necessary depends on the site characteristics, site size, and the surrounding community.

Controlled work areas will be established at each work location, and if required, will be established directly prior to the work being conducted. Diagrams designating specific controlled work areas will be drawn on site maps, posted in the support vehicle or trailer and discussed during the daily safety meetings. If the site layout changes, the new areas and their potential hazards will be discussed immediately after the changes are made.

7.2 CONTROLLED WORK AREAS

Each HAZWOPER controlled work area will consist of the following three zones:

- Exclusion Zone (EZ): Contaminated work area.
- Contamination Reduction Zone (CRZ): Decontamination area.
- Support Zone (SZ): Uncontaminated or "clean area" where personnel should not be exposed to hazardous conditions.

Each zone will be periodically monitored in accordance with the air monitoring requirements established in this HASP. The Exclusion Zone and the Contamination Reduction Zone are considered work areas. The Support Zone is accessible to the public (e.g., vendors, inspectors).

7.2.1 Exclusion Zone

The Exclusion Zone is the area where primary activities occur, such as sampling, remediation operations, installation of wells, cleanup work, etc. This area must be clearly marked with hazard tape, barricades or cones, or enclosed by fences or ropes. Only personnel involved in work activities, and meeting the requirements specified in this HASP will be allowed in an Exclusion Zone.

The extent of each area will be sufficient to ensure that personnel located at/beyond its boundaries will not be affected in any substantial way by hazards associated with sample collection activities.

- **Direct Push Drilling Activities**. A distance of 20 feet (minimum) in all directions will be cleared from the rig. The cleared area will be sufficient to accommodate movement of necessary equipment and soil sampling supplies. Vehicles and other hard barriers should be used where applicable to protect employees and public.
- **Hand Augering/GW Sampling**. A distance of 10 feet (minimum) will be cleared in all directions from the sampling location in order to accommodate additional sampling equipment. Vehicles and other hard barriers should be used where applicable to protect employees and public.

All personnel should be alert to prevent unauthorized, accidental entrance into controlled-access areas (the EZ and CRZ). If such an entry should occur, the trespasser should be immediately escorted outside the area, or all HAZWOPER-related work must cease. All personnel, equipment, and supplies that enter controlled-access areas must be decontaminated or containerized as waste prior to leaving (through the CRZ only).

7.2.2 Contamination Reduction Zone

The Contamination Reduction Zone is the transition area between the contaminated area and the clean area. Decontamination is the main focus in this area. The decontamination of workers and equipment limits the physical transfer of hazardous substances into the clean area. This area must also be clearly marked with hazard tape and access limited to personnel involved in decontamination.

7.2.3 Support Zone

The Support Zone is an uncontaminated zone where administrative and other support functions, such as first aid, equipment supply, emergency information, etc., are located. The Support Zone shall have minimal potential for significant exposure to contaminants (i.e., background levels).

Employees will establish a Support Zone (if necessary) at the site before the commencement of site activities. The Support Zone would also serve as the entry point for controlling site access.

8.0 EMERGENCY PROCEDURES

Although the potential for an emergency to occur is remote, an emergency action plan has been prepared for this project should such critical situations arise. In the event of a site emergency, fire, medical, spill, site personnel will immediately notify on site or outside emergency personnel. The PM/SSO if not on site will be immediately notified.

8.1 SAFETY ACCIDENT/INCIDENT REPORTING

All accidents and incidents that occur on-site during any field activity will be promptly reported to the SSO and the immediate supervisor.

If any PES employee is injured and requires medical treatment, the Site Supervisor will report the incident in accordance with PES's incident reporting procedures. A copy of the final Supervisor's Report of Incident will be provided to PES Management before the end of the following shift.

If any employee of a subcontractor is injured, documentation of the incident will be accomplished in accordance with the subcontractor's procedures; however, copies of all documentation (which at a minimum must include the OSHA Form 301 or equivalent) must be provided to the SSO within 24 hours after the accident has occurred.

All accidents/incidents will be investigated.

8.2 ENVIRONMENTAL SPILL/RELEASE REPORTING

All environmental spills or releases of hazardous materials (e.g., fuels, solvents, etc.), whether in excess of the Reportable Quantity or not, will be reported to the PM and PES management. In determining whether a spill or release must be reported to a regulatory agency, the Site Supervisor will assess the quantity of the spill or release and evaluate the reporting criteria against the state-specific reporting requirements, applicable regulatory permit, and/or client-specific reporting procedures.

TABLE 8-2: Emergency Contacts

Nearest Hospital: Ellis Health Center, 600 McClellan St. (Map and Directions provided in Appendix A)		518-382-2000
Ambulance		911
Fire Department		911
Emergency Control		911
Police Department		911
Poison Control Center	Upstate Medical Center	800-336-6997
US Government Chemical Toxin Spills, Oil Spills, and Pollutant Discharges		800-424-8802
National Response Center (for all emergencies)		800-424-8800
NYSDEC Oil & Chemical Spills 24-hour Hotline		800-457-7362
PES Project Manager Stephen Phelps		518-528-1427
NYSDEC Project Manager Chris O'Neill		518-357-2394
Dig Safely NY - Call Before You Dig		800-962-7962

9.0 MISCELLANEOUS HEALTH AND SAFETY ITEMS

9.1 HEAT STRESS

Pervious clothing: when the ambient air temperature has exceed 80º F for more than one hour the Safety Officer will begin to monitor employees for signs of heat stress. Monitoring will take the form of measuring oral temperatures. The air temperature will be measured after every shift at a minimum or as determined by the Safety Officer.

Impervious clothing: when the ambient air temperature has exceeded 70ºF for one hour, the Safety Officer will begin to monitor employees for signs of heat stress. Monitoring will take the form of measuring oral temperatures. As the air temperature exceeds 85ºF, oral temperatures will be measured after every shift at a minimum or as determined by the Safety Officer.

In the event that the oral temperature at the beginning of the rest period exceeds 100ºF, the employee will be decontaminated and be advised to proceed to an air conditioned room or to apply wet cloths to his/her head and neck areas and to drink some fluids. At the end of the rest period, the oral temperature will be taken again to ensure that the employee's temperature is below 100ºF. If the oral temperature has remained above 100ºF, the employee will be advised to take a shower to reduce his/her temperature. However, if the oral temperature still remains above 100ºF after the shower, the employee will be immediately sent to consult a physician.

9.2 COLD WORK ENVIRONMENTS

Planning for work in cold weather is the most important defense. Wearing the appropriate clothing and being aware of how your body is reacting to the cold are important to preventing cold stress. Avoiding alcohol, certain medications and smoking can also help minimize the risk.

Protective clothing: Wearing the right clothing is the most important way to avoid cold stress. The type of fabric also makes a difference. Cotton loses its insulation value when it becomes wet. Wool, on the other hand, retains its insulation even when wet. The following are recommendations for working in cold environments:

Wear at least three layers of clothing:
- An outer layer to break the wind and allow some ventilation (Goretex® or nylon)
- A middle layer of down or wool to absorb sweat and provide insulation even when wet
- An inner layer of cotton or synthetic weave to allow ventilation

Wear a hat. Up to 40% of body heat can be lost when the head is left exposed.
Wear insulated boots or footwear.
Have a change of dry clothes available.

Work Practices

Drink lots of fluids. Avoid caffeine and alcohol.
If possible, heavy work should be scheduled during the warmer parts of the day.
Take breaks.

Signs and Symptoms:

Mild Hypothermia
Shivering
Lack of coordination, stumbling
Fumbling hands
Slurred speech
Memory Loss
Pale, cold skin

Moderate Hypothermia
Shivering stops
Unable to walk or stand
Confused and irrational

Severe Hypothermia
Severe muscle stiffness
Very sleepy or unconscious
Ice cold skin
Death

What To Do: Move to warm area, stay active, remove wet clothes and replace with dry clothes or blankets, cover the head, drink warm (not hot) sugary drink. Moderate to severe hypothermia all of the above plus call 911, cover all extremities completely, place hot packs or water bottles on the victim's neck, head, chest and groin. Severe hypothermia do not re-warm the body.

Frostbite
Cold, tingling or aching feeling in frostbitten area, followed by numbness.
Skin color turns red, then purple, then white or very pale. Cold to the touch.
Blisters in severe cases.

What to Do: Call 911. Don't rub the area. Wrap in soft cloth. Run under warm water not hot water if help is delayed.

10.0 SAFETY MEETINGS/COMMUNICATION

10.1 TAILGATE MEETINGS

Prior to the commencement of daily project activities, a tailgate meeting will be conducted by the PM/SSO to review the specific requirements of this HASP. Attendance at the daily tailgate meeting is mandatory for all employees at the site covered by this HASP and must be documented on the attendance form. All safety training documentation is to be maintained in the project file by the SSO.

Additional safety meetings will be held on an as required basis.

10.2 HAZARD COMMUNICATION

Hazardous materials that may be encountered as existing on-site environmental or physical/health contaminants during the work activities are addressed in this HASP and their properties, hazards and associated required controls will be communicated to all affected staff and subcontractors.

All personnel shall be briefed on the hazards of any chemical product they use, and shall be aware of and have access to all MSDS.

All containers on site shall be properly labeled to indicate their contents. Labeling on any containers not intended for single-day, individual use shall contain additional information indicating potential health and safety hazards (flammability, reactivity, etc.).

10.3 BUDDY SYSTEM

All field personnel will use the buddy system when working within any controlled work area. Personnel belonging to another organization on site can serve as "buddies" for PES personnel. Under no circumstances will any employee be present alone in a controlled work area.

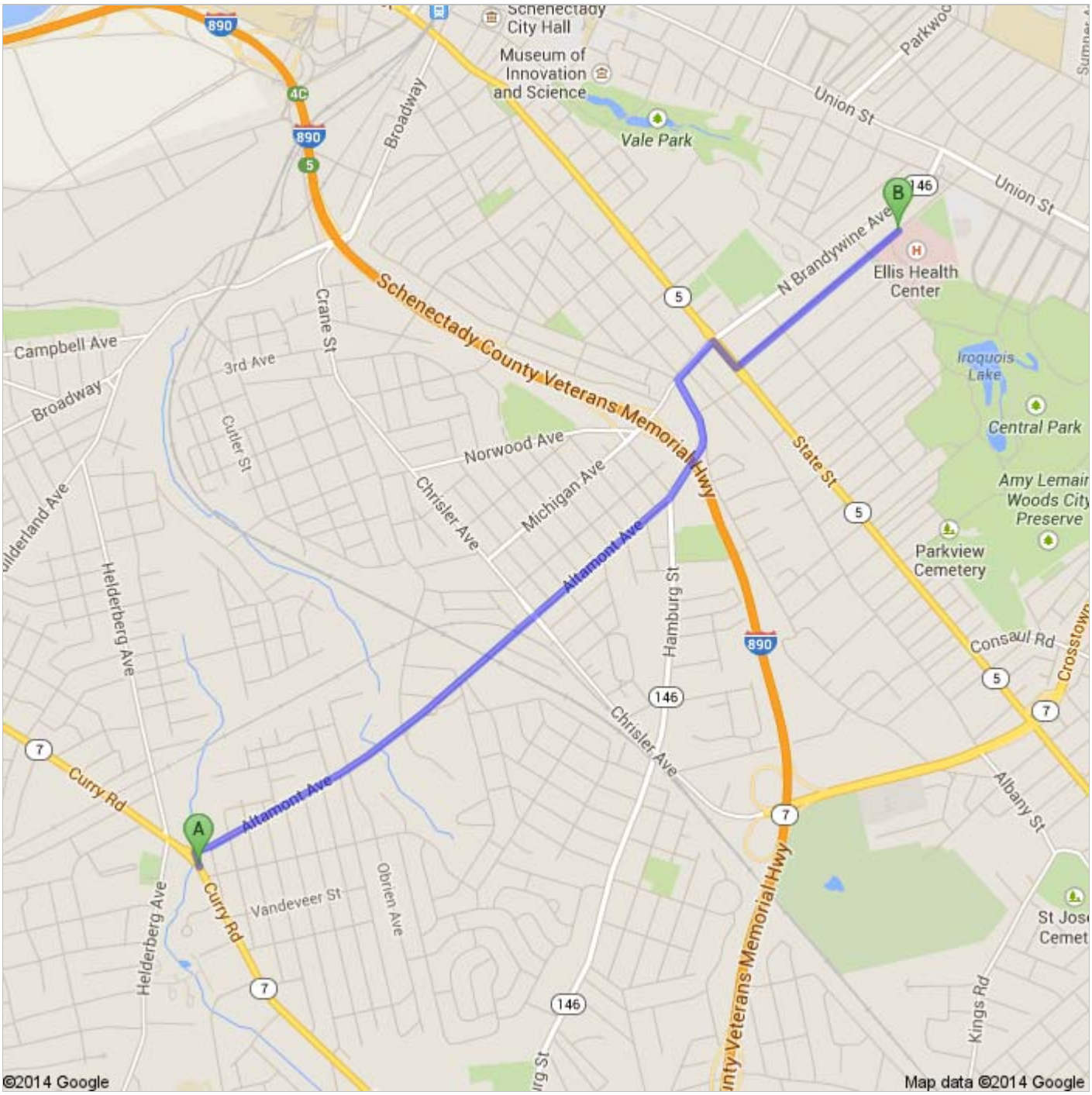
11.0 TRAINING

All field personnel will be 40 Hour HAZWOPER and 10 Hour Construction Safety trained.

Appendix A

Google

Directions to 600 McClellan St, Schenectady, NY 12304
2.9 mi – about **7 mins**



1913 Curry Rd, Schenectady, NY 12303

	1. Head **northwest** on **Curry Rd**	go 23 ft total 23 ft
	2. Continue onto **Altamont Ave**	go 210 ft total 233 ft
	3. Turn right to stay on **Altamont Ave** About 4 mins	go 1.8 mi total 1.9 mi
	4. Continue onto **Duane Ave**	go 0.2 mi total 2.1 mi
	5. Turn right onto **S Brandywine Ave**	go 0.1 mi total 2.2 mi
	6. Take the 3rd right onto **State St**	go 0.1 mi total 2.3 mi
	7. Turn left onto **McClellan St** Destination will be on the right About 2 mins	go 0.6 mi total 2.9 mi

600 McClellan St, Schenectady, NY 12304

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

Appendix B

PES
PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67, LOT 38 A
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

Former KEM Cleaners Curry Rd Site
1911 Curry Road, Rotterdam, NY

Health & Safety Plan Acknowledgement

The undersigned have reviewed and are familiar with the Site Specific Health & Safety Plan for work at Former KEM Cleaners Curry Rd Site

Name	Signature	Company	Date

Appendix C

PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67, LOT 38 A
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

DAILY TAILGATE SAFETY MEETING

SITE:
LOCATION:
SUPERVISOR/FOREMAN:
DESCRIPTION OF WORK:

ATTENDEES:

DATE	COMPANY	NAME	SIGNATURE

TOPICS COVERED:

SUBJECT	YES	NO
PPE – HEAD PROTECTION, EYE, EAR, DERMAL, RESPIRATORY	☐	☐
ELECTRICAL – LOCK OUT/TAG OUT	☐	☐
CONFINED SPACE (SEPARATE PERMIT REQ'D)	☐	☐
SLIP, TRIP, FALL – UNEVEN TERRAIN	☐	☐
HEAVY EQUIPMENT	☐	☐
EXCAVATION, TRENCHES, EARTHWORK	☐	☐
FALL PROTECTION	☐	☐
FIRE PREVENTION & PROTECTION	☐	☐
FLAMMABLE & COMBUSTABLE LIQUIDS	☐	☐
FIRST AID	☐	☐
HAZARDOUS COMMUNICATION PROGRAM (HAZ COM)	☐	☐

SUBJECT	YES	NO
HEAT STRESS	☐	☐
COLD WEATHER WORK	☐	☐
LADDER SAFETY	☐	☐
SILICA DUST	☐	☐
POWER TOOLS AND EQUIPMENT	☐	☐
TRAFFIC CONTROL	☐	☐
HOT WORK	☐	☐
SPECIALIZED TRAINING	☐	☐
BIOLOGICAL VECTORS	☐	☐
OTHER:	☐	☐
OTHER:	☐	☐

Attachment C

PRECISION
ENVIRONMENTAL SERVICES, INC.

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

Overview

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

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

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

Community Air Monitoring Plan

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

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

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

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

VOC Monitoring, Response Levels, and Actions

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

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

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

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

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

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

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

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

December 2009