FORMER LOUDON AND KEM CLEANERS SITE

350 NORTHERN BLVD, ALBANY, NEW YORK

ALBANY COUNTY, NEW YORK

PRE DESIGN INVESTIGATION WORK PLAN

NYSDEC BCP Number: C401060

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JANUARY 5, 2017

CERTIFICATIONS

I, Mark Schnitzer, PE, certify that I am currently a NYS registered professional engineer and that this Remedial Action Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

NYS Professional Engineer # 077506 January 5, 2017 _____

Date Signature

It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

PRE-DESIGN INVESTIGATION WORK PLAN

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1.0 INTRODUCTION

This pre-design investigation work plan document is provided for the former Loudon and Kem Cleaners BCP Site (Site ID401060), as a preliminary design information gathering phase of investigation which will be necessary to provide a comprehensive remedial action work plan (RAWP) for implementation of the selected site remedy. In March of 2015, the New York State Department of Environmental Conservation (DEC) published a final Record of Decision (ROD) stating the identified site impacts, exposures to the public, restrictions imposed on site usage and the selected remedial action (remedy) required for the identified site impacts. On September 8, 2016, DF Acquisitions, LLC of Albany, NY entered into a Brownfield Cleanup Agreement as a pending site owner and volunteer to clean up the site for continued use as a commercial tenant occupied business center. This work plan document has been prepared to perform initial testing on the site to gain the initial data necessary to design the approved remedy. Following the initial data gathering and testing proposed in this plan, a Remedial Action Work Plan will be prepared with design documents for the approved remedy. General site information presented in this work plan has been extracted from preceding public investigation reports for use in establishing site history and background leading up to this phase of work.

1.1 SITE LOCATION AND DESCRIPTION

The Former Loudon and Kem Cleaners site is located in an urban area in the northern section of the City of Albany, NY. The site is northwest of Northern Boulevard, northeast of Albany-Shaker Road, east of Old Hickory Road, and southwest of Loudonville Road (Route 9).

The site area is approximately 3.9 acres and is developed with an L-shaped retail building (strip mall). The building contains many separate businesses that operate in the single-story portion of the building and a three story office building located in the center of the building. The remainder of the site is parking for the businesses and office.

The site is currently zoned commercial and most of the tenant spaces in the strip mall are currently occupied. Tenants include restaurants, offices, retail stores, and a bank. The surrounding parcels include an apartment complex to the north, west, and southeast, a hospital to the south, and a major highway and golf course to the east and northeast. The nearest residence is located approximately 40 feet to the west of the site.

Two separate addresses/tenant spaces were occupied by dry cleaners (known as Loudon Dry Cleaners, Kem Cleaners and possibly other names) that used

tetrachloroethene (Perc, PCE) from approximately 1954 to 1997. Kem cleaner converted to drop-off only service in 1997 and this tenant space is currently occupied Risotto Restaurant and the tenant space formerly occupied by Loudon Cleaners is now vacant. No dry cleaner businesses are currently present at the site. The 3.9-acre property is fully described in prior NYSDEC reports including the "*Final Phase I and Phase II Remedial Investigation Report" (RI)*, by Shaw Environmental & Infrastructure Engineering of New York, PC dated July 24, 2014 and "*Final Feasibility Study Report" (FS)*, Shaw Environmental & Infrastructure Engineering of New York, PC dated December, 2014 . Copies of these reports are available at the Albany Public Library, Reference Desk, 161 Washington Avenue, Albany, NY 12210

1.2 CONTEMPLATED REDEVELOPMENT PLAN

No site re-development is planned at this time. The site use as leased commercial tenant space for retail and office spaces will continue in the current site building areas. The only proposed changes to the site will be general improvements to the site infrastructure and buildings to improve the quality of the existing tenant spaces, public access (parking lots and sidewalks) and infrastructure maintenance and repairs.

1.3 SUMMARY OF THE REMEDIAL INVESTIGATION

The RI has identified contaminants of concern at the site. A "contaminant of concern" is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

Tetrachloroethylene (PCE)
Trichloroethylene (TCE)
1,2-Dichloroethene
Vinyl Chloride

The contaminants of concern exceed the applicable SCGs for groundwater, soil, and soil vapor intrusion. The nature and extent of on-site contamination is identified as follows:

Soil: Only a few site-related COCs were detected above the protection of groundwater soil cleanup objectives (PGWSCOs)/unrestricted use SCOs (UUSCOs) as follows: PCE at 11.9 milligrams per kilogram (mg/kg) or parts per million (ppm) vs. PGWSCO of 1.3 ppm, Cis-DCE at 0.44 ppm vs. PGWSCO of 0.25 and VC at 0.056 ppm vs. PGWSCO of 0.02 ppm.

Site-related soil contamination is not expected to extend off-site based on the available data.

Groundwater: On-site groundwater standards were exceeded for VOCs including: PCE up to 650 micrograms per liter (ug/L) or parts per billion (ppb), TCE up to 36 ug/L, and cis-1,2-DCE up to 190 ug/L. The applicable groundwater standard for all of these compounds is 5 ug/L.

Soil Vapor and Indoor Air: Sub-slab soil vapor and indoor air data were collected from six (6) locations on-site. Based on the data, soil vapor was only a concern under the southeast portion of the on-site building, which contained both former dry cleaners. PCE was detected as high as 130,000 micrograms per cubic meter (ug/m3), with a corresponding indoor air concentration of 9.8 ug/m3, on-site. On-site TCE was also detected in the soil vapor as high as 14,000 ug/m3, with a corresponding indoor air concentration being non detectable. The highest indoor air concentration for TCE was 0.68 ug/m3, on-site. Off-site soil vapor intrusion evaluations were performed on the hospital property and the adjacent apartment complex, and it was determined that no off-site structures require mitigation.

The site geology as defined in previous site investigations is identified as varied medium to fine sands, silts and clays in the overburden. The depth to groundwater varies across the investigation area from 22 to 24 feet bgs on-site (up to 33 feet bgs offsite and downgradient). Depth to groundwater has increased since the on-site monitoring wells were installed in 2011, likely due to significantly more than average precipitation in that year causing a higher than normal groundwater table. The design shall assume average rainfall in future years and average corresponding depth to groundwater and plan to terminate wells related to the SVE design approximately 2 feet above the average depth to groundwater. The groundwater flow direction is to the southeast.

1.4 APPROVED REMEDY

DEC approved Remedial Alternative 6 from the December 2014 FS prepared for DEC under the agencies Inactive Hazardous Waste Disposal Site Program. The on-site approved remedy is described as Soil Vapor Extraction (SVE) and possibly Sub-Slab Depressurization System (SSDS) with Long Term Air and Groundwater Monitoring. This alternative will achieve the remediation goals for the site by the installation, operation and maintenance of a soil vapor extraction (SVE) system using vertical slotted PVC pipes at impacted areas near the structure. The SVE system projected locations were provided in the FS and March, 2015 ROD and are shown on Figure 2 of this work plan. The SSDS will be placed and designed to protect the building spaces throughout the west wing of the building where the dry cleaners were historically located.

2.0 PILOT TESTING

Investigation activities conducted at the site indicate that on-site soil, shallow groundwater and soil gas are affected by CVOCs. NYSDEC study (2014 FS) proposed the installation of SVE and SSDS systems, leading to the March 2015 ROD, requiring the installation of an SVE system to contain and minimize exposure from soil gas vapors to the site buildings. An SSDS is also required to prevent migration of CVOC's into the indoor tenant areas of the west building wing.

The proposed pilot testing will be utilized to provide data that can be used to design and optimize full-scale SVE and SSDS systems. The SVE and SSDS pilot testing system installation and data gathering processes are described in detail in this section of the work plan.

2.1 SVE PILOT TESTING

SVE pilot testing will include the installation of vapor extraction wells in the site areas designated in the ROD. SVE pilot testing will include temporary connection of each pilot well to a vacuum blower and collection of data, including volumetric flow rates, system vacuum pressure, and contaminant levels, from these wells under various (stepped) vacuum and flow conditions.

These SVE system will be designed to:

- Ensure that on-site indoor air concentrations in the occupied area remain below long-term non-residential indoor air criteria (assuming that future operations do NOT contribute CVOCs to the indoor air);
- Reduce or eliminate the potential for lateral migration of affected soil gas from the site; and,
- Extract residual CVOCs from the on-site soil matrix reducing the long-term potential for migration of CVOCs into soil gas and groundwater, i.e. provide source control.

2.1.1 SVE EXTRACTION WELLS

Three extraction wells will be installed around the west wing of the site building at the approximate locations shown on Figure 2. The effectiveness of these wells to extract soil vapors and to establish air flow in surrounding soils will be evaluated using a combination of existing monitoring wells where their locations and screen depths are useful, and through installed multi-depth soil gas vacuum monitoring points. Observation points (or wells) will be equipped with vacuum monitoring gages as described in Section 2.1.2. Details of a typical extraction wells are illustrated on Figure 3.

The pavement parking lot surface at each extraction well location will be saw-cut to expose the underlying soils. Each extraction well will be constructed by drilling an 12-inch (approximate) diameter hole to a depth of approximately 2 feet above the average depth to groundwater, using 8.25-inch inside diameter hollow stem augers. The well will be constructed using a 4-inch diameter 20-slot (0.020-in) PVC slotted well screen (10 ft long section). The annular space surrounding the wells screen will be backfilled with uniform washed pea gravel. Bentonite chips/granular bentonite (hydrated in place) will be placed above the pea gravel well screen pack to provide an effective surface seal and to minimize the potential for drawing air from the surface at each extraction well point. A non-shrinking concrete-bentonite grout will fill the remaining annular space.

The extraction well riser pipe will consist of 4-inch diameter schedule 40 PVC, and will extend from the top of the well screen to approximately 6 inches below the surface. A pipe tee will be installed at the top of the riser pipe, with the horizontal leg of the tee extending a riser pipe at a location accessible for pilot testing or where the pipe can be attached within a trench at a later date. A 90-degree elbow will extend the riser pipe vertically. The horizontal portion. of the riser pipe will be bedded in sand to a location suitable for attachment for pilot study testing.

Headspace samples will be screened using a photoionization detector (PID) equipped with a 10.2 electron volt lamp. The PID will be calibrated in accordance with the manufacturer's specifications to detect volatile organic vapors. The PID detects but does not differentiate volatile organic compounds that possess ionization potentials less than the PID lamp energy, thereby providing a relative indication of the presence of volatile organic compounds.

The SVE extraction wells will be constructed of 4-inch diameter, threaded, schedule 40, PVC pipe. A maximum of 10 feet of 20-slot PVC screen will be used. The top of the screen will be placed a minimum of 5-6 feet below grade so that a sufficient seal can be placed to minimize the potential for short-circuiting along the borehole annulus. The screen length and well depth will be modified to reflect the conditions encountered at each boring location.

The wells will be completed by placing clean, ¼ - ½" pea stone gravel pack approximately 0.5 feet below the base of the screen and extending approximately 1.0 foot above the top of the screen. A bentonite seal with a minimum thickness of four to five feet will be installed above the sand pack. The remainder of the borehole annular space will be grouted to the surface with a cement-bentonite grout and sand packing around the T-joint and vacuum piping. A locking, steel, protective casing will be

cemented over each well to prevent unauthorized access and to provide protection for the wells from driving traffic, plowing and other impacts. A concrete pad will be constructed around the top of each well with a sufficient thickness to minimize frost heave and leakage of surface water around the protective casing. Figure 2 of this report is a diagram of the proposed extraction well installation.

2.1.2 SVE MONITORING POINT

Temporary vacuum monitoring points will be installed using direct-push drilling methods. A 2.5-inch diameter pilot hole will be driven to approximately fifteen feet below grade. The vacuum monitoring points will be completed by placing ¼-inch diameter polyethylene tubing equipped with a 1-inch slotted screen section at depths of approximately 7-8 and 13-14 feet below grade. A clean filter sand pack will be placed approximately 6-12 inches below the base of each screen and extending approximately 6-12 inches above the top of the screen sections. A bentonite seal will be installed between the upper and lower sandpacks and above the upper sandpack. A locking, steel, protective casing will be cemented over each well to prevent unauthorized access and to provide protection for the wells from accidental impact.

No soil samples are anticipated to be retrieved during the installation of the temporary monitoring points, because of the proximity of the monitoring points to existing borings and wells. If additional geologic information is needed to determine the depth of the tubing and screens, then samples may be collected using a Macrocore, or similar, sampling device. The Macrocore sampler consists of a stainless steel tube that is hydraulically pushed in lengths of approximately four to five feet into the ground. The sampler contains a 2-inch diameter, clear, acetate liner (sleeve) that is retrieved and cut lengthwise to allow inspection and sample collection by the on-site hydrogeologist or geologist. The geologic description of the samples will be recorded by the hydrogeologist/geologist and will include the boring identification, depth interval, composition, color, moisture and other notable features.

Tubing from nested pairs will extend at least 12-inches above the top of the bentonite. Each monitoring point will be labeled so that the shallow and deep monitoring points are easy to distinguish. Each probe will be equipped with a barbed hose fitting or fitting appropriate for use with the vacuum gauges. Temporary vacuum monitoring points will be abandoned following installation and evaluation of the full-scale SVE system.

During pilot testing, a portable vacuum gauge will be connected to the probe to measure vacuum propagation away from the extraction wells in order to assess zone of vacuum influence. Vacuum measurements will be taken at both shallow and deep

probes to assess the distribution of subsurface flow vertically throughout the vadose zone soils.

2.1.3 SVE BLOWER

The soil vapor extraction vacuum blower and appurtenances used during the pilot test will be housed on a small portable utility trailer with a generator such that the trailer can be mobilized to all three well locations. The 4-inch diameter manifold pipe will connect to the vacuum inlet pipe of the SVE pilot testing blower system. The pilot testing vacuum system will contain the following components:

- Inlet vacuum gauge and air by-pass valve
- Air-water separation tank
- Inlet air filter
- Air flow meter
- Vacuum relief valve (to reduce blower vacuum in the event of a clogged inlet filter)

The SVE pilot test blower will be a Rotron (or equivalent) regenerative vane vacuum blower capable of extracting up to 200 cubic feet per minute (cfm) at 70-inches Water (vacuum). The blower will be powered with a 3 horsepower motor. The blower will be controlled with a variable frequency drive to enable the blower to run over a range of flow and vacuum conditions, up to the maximum rated flow and pressure. The blower exhaust manifold will be equipped with the following components:

- Sample port (air quality and flow)
- Exhaust stack vented at 13-15’ above the ground surface.
-

For the pilot test, the electrical power to the SVE blower will be supplied using a portable generator.

2.2 SSDS PILOT TEST

The general principle of an SSD system is to remove volatile organic compounds that may be present in soil gas under the site building before it enters the occupied space. The SSD system extracts soil gas and air from below the concrete floor slab within the building and discharges it to the atmosphere above the roof of the building. Extracted soil gas and air travel through sealed, negatively pressurized, piping and through fans

located on the exterior of the building to a positively pressurized exhaust above the roof line of the building.

The RI and FS indicated vapor intrusion was only a concern in the strip mall west wing, where dry cleaning had occurred in the past. This section of the building is the target or "Area of Influence" (AOI), for the SSD system. Figure 2.2a below shows a delineation of the AOI for the SSD system.

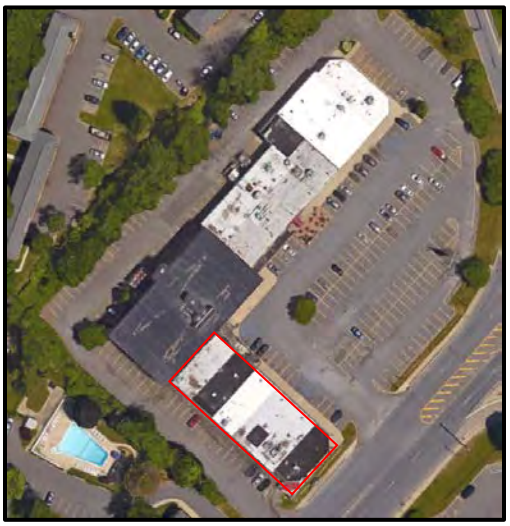


Figure 2.2a: Target Area of influence (in red) of the SSD system at the Subject Property (Interior).

The slab on grade sections in this area of the building step to a lower elevation for each tenant space moving from the northwest to southeast. The AOI section of the building is a single story construction with roof mounted air handing units (AHUs). The interior spaces are divided into six tenant spaces, two of which are vacant as of the date of this work plan.

2.2.1 SSDS EXTRACTION POINT

Test extraction points shall be installed through the concrete floor at the designated locations (Figure 5). Within the extraction point, below the concrete penetration, a minimum of 0.5 cubic foot cavity is necessary for the pilot test. Larger cavities are desirable if conditions permit. See Figure 6 for test configuration.

Test extraction point installation shall be accomplished by coring 4 to 5-inch diameter holes through the concrete floor slab at designated locations. The core shall be advanced through the concrete floor using wet coring methods. A cavity shall be created under the slab at least 0.5 cubic foot in size. The cavity shall be excavated using a drill mounted auger, hand auger, hand tools, and hand digging with impervious gloves. Following testing, the soils shall be placed back into the cavities from which it came.

Following testing, the test extraction points shall be sealed airtight with concrete or a plastic cover and caulk if the extraction point is to be incorporated into the SSDS design. Tools that contact the sub slab soils shall be cleaned with alconox and water solution. Gloves used in contact with sub slab soils shall be disposed of.

2.2.2 SSDS MONITORING PORT

Sub slab monitoring ports (SSMP) are temporary, 0.5 inch diameter holes in the concrete floor surface extending through into the sub slab soils below. They are arranged radiating out from the test extraction point in 5-10 foot increments in three to four perpendicular directions, if conditions permit. The SSMP will be free of loose materials around the SSMP from the installation, as not to effect the seal during testing.

Sub slab pressure monitoring port installation shall be accomplished by coring 0.5 inch diameter holes through the concrete floor slab at locations radiating out from the test extraction holes in multiple directions at 5-10 foot intervals. The drill bit shall be advanced through the concrete floor with water spray and an active vacuum immediately adjacent to the drill hole. The hole and the surrounding shall be cleared of all loose debris.

Following testing, the temporary SSMP shall be sealed airtight with polyurethane caulk. Drill bits that contact the sub slab soils shall be cleaned with alconox and water solution.

2.2.3 SSDS FAN

Commercially available, Inline centrifugal fans will be used on the test extraction holes to determine which performs best with the site specific conditions. Inline centrifugal fans are highly energy efficient and durable and are the preferred fan for SSD systems. Additional fans exist for high vacuum requirements for SSD systems. These fans depressurize a vessel, which in turn, creates a vacuum on the intake side. These are referred to as "high suction" or HS Series fans. HS series fans will be available for testing if the centrifugal fans are determined during testing to be insufficient. 110 volt house power will be used for the test.

3.0 PERFORMANCE EVALUATION

Pilot study performance evaluation will be conducted to confirm full-scale system design parameters. Key parameters to be evaluated include:

- Air flow rates achievable from each pilot study extraction well under given vacuum conditions.
- Measurable vacuum at specified distances from each extraction well (zone of vacuum influence).
- Qualitative and quantitative estimates of VOC emissions from the SVE extraction system. A VOC emission evaluation will be used to determine needs for pre-discharge air treatment.
- Overall SVE and SSDS system performance.

The proposed performance evaluation will include short-term stepped-rate tests for estimating individual extraction well capacities/system curves utilizing three SVE extraction wells to evaluate the overall area of influence and extraction system performance.

SSDS performance will be evaluated through stepped tests on representative extraction points. The step levels will be represented with commercial available centrifugal fans with varied capacities/system curves to evaluate the overall radius of influence for depressurization of the slab.

3.1 SVE Test Evaluation

The purpose of the step-rate test is to evaluate vapor recovery rates obtainable at various applied vacuum rates. Data collected will be used to determine possible system curves as well as radius of vacuum influences.

3.1.1 SVE Field Procedures and Data Collection

The following sequence describes the procedures and data collection requirements for performing a single stepped-rate test. Following the completion of this sequence, a different extraction well will be isolated and the sequence will be repeated.

1. Isolate flow to one extraction well by closing all wellhead butterfly valves except for the well to be tested.

2. Completely open the blower dilution valve.

3. Collect baseline readings at all monitoring locations, including the test extraction well, adjacent closed extraction wells, and multi-level vacuum monitoring probes. Data requirements include:

    a. Time of all recorded data.

b. Pressure at the blower, test extraction well, and vacuum monitoring locations.

c. PID readings at the header, before the dilution valve, and extraction wells.

4. Turn on the blower and record:

a. Time

b. Flow rate, pressure, temperature, and PID reading at the header, before the dilution valve.

c. Flow rate, pressure, and temperature at test extraction well.

5. Increase the vacuum at the test extraction well by closing the dilution valve at the blower and varying blower speed with VFD control system. The blower should be adjusted so that a vacuum pressure of approximately 10 inches of water vacuum is being applied to the extraction system header at the blower. Allow the system to stabilize (approx. 10 to 15 minutes) and record:

a. Time

b. Flow rate, pressure, temperature, and PID readings at the header, before the dilution valve.

c. Flow rate, pressure, and temperature at the test extraction well.

d. Pressure at adjacent monitoring locations, including the adjacent closed extraction wells and vacuum monitoring points. If pressure influences are observed at adjacent locations, additional locations moving radially away from the test well should be monitored until no influences are observed.

6. Repeat Step 5, increasing the vacuum applied to the test extraction well by an additional 10 inches of water. Follow Step 5 for the data recording requirements.

7. Repeat Steps 5 and 6 in a series of equal 10 inches of water increases of applied vacuum at the blower until the maximum applied vacuum is achieved at the blower (approx. 50-70 inches water), until to maximum allowable flow rate (approximately 200 SCFM) or until additional flow cannot be obtained from a well at an increased vacuum (*i.e.*, maximum achievable flow of a well is reached). In the event that maximum allowable/achievable flow rates are encountered at low applied vacuum levels, this procedure may be modified to have reduced stepped-rate increases (*i.e.*, 5 inch water increases).

8. Once the stepped-test is complete at a given well, turn off the blower and allow the system to stabilize back to a level where initial background conditions are observed (*i.e.*, zero pressure measured at the test well and adjacent monitoring locations).

9. Repeat the stepped-rate testing at a new test extraction well beginning with Step 1 of this procedure.

3.1.2 SVE Data Evaluation

Following the completion of the stepped-tests, data evaluation will include:

- Preparation of system curves for the four wells tested. System curves will consist of plotting observed wellhead flow versus vacuum applied for each well tested.
- Radius of Influence (ROI) evaluations by plotting applied pressure versus pressure readings observed at all monitoring points during each stepped-test. Additional evaluations, including observed pressure contour maps and statistical analysis of all observed effects may be completed.

3.2 SVE Air Discharge Quality Evaluation

Air samples will be collected at each of the three emission sources during the peak of the step testing for each well. VOC concentrations for the SVE pilot system are expected to decline over time. Therefore the air samples collected during this pilot testing are expected to represent a worst case discharge concentration and will be further evaluated following designed system start-up, approximately 1-week after the SVE system start-up, to confirm the initial sample results and to help develop a correlation between system PID readings and actual VOC concentrations. Samples will be collected as described below:

The grab sample will be collected in a laboratory supplied certified-clean 1-liter SUMMA® sample canister. The canister will be evacuated to a nominal 26 to 30 inches of mercury and shipped to the field under Chain-of-Custody documentation.

The sampling apparatus will be assembled, and a vacuum shut-in test will be performed to confirm that there are no significant leaks in the sample train prior to use.

The valve on the sample canister will then be opened to begin sample collection. The initial canister vacuum and starting sample collection time will be recorded.

Once the vacuum gage indicates that sample collection is complete, the valve on the sample canister will be closed. The final canister vacuum and ending sample collection time will be recorded.

3.3 SSDS Test Evaluation

The purpose of the SSDS step test is to evaluate the radius of influence from individual

extraction points. Data collected will be used to determine the best suited commercially available fans as well as radius of vacuum influences to be used in the layout of extraction points throughout the AOI.

3.3.1 SSDS Field Procedures and Data Collection

The test fan shall be placed on an assembly over the test extraction hole as detailed in Figure 6. The fan shall be secured to the assembly with a flexible PVC coupling in a manner that prevents any air leakage. The test fan assembly shall be secured into the test extraction point, with an airtight seal being created by filling the annulus between the extraction pipe and the concrete floor hole with putty.

A ventilation blower shall be situated and turned on to collect all exhaust that will emanate from the test fan once it has been turned on and discharge the ventilation exhaust outside the rear of building at the roof.

Collect and record pressure and volumetric flow rate of the fan. Collect and record pressure readings at the SSMPs using a digital micro-manometer capable of reading 0.001 inch of water column. Repeat the process with fans of different characteristics as necessary, as well as with no fan operating as a baseline. Additionally, testing in spaces in or adjacent to the restaurant shall perform an additional round of testing with the best operating fan, with all normal exhaust blowers on in the restaurant.

Perform a visual inspection of potential system fan, pipe placement, trench, and other system component installation locations.

Perform a path of construction asbestos inspection to determine if asbestos containing building materials require abatement for the system construction.

Dust control during drilling shall consist of wet coring when possible and active vacuum collection of SSMP drilling dusts during installation.

An active positive flow ventilation fan shall exhaust all test exhaust to the exterior of the building, above the roof, during testing. The fan shall be rated for a minimum of twice the maximum flow rate of the test fan being used. A PID meter shall be used adjacent to each test extraction hole during the removal of soils and during the operation of test fans.

3.3.2 SSDS Data Evaluation

The Performance Criteria is the minimum goal of the SSD system and a successful SSD system shall meet or exceed the Performance Criteria. The Performance Criteria for the

design is to maintain a minimum sub slab to room vacuum pressure of -0.004"WC within the AOI.

The collected data shall be analyzed to determine the radius of influence for the test fans utilized. The ROI shall be based on the distance from the test extraction point where the Performance Criteria is met.

The layout of extraction points will be based on the ROI from the pilot testing, the design layout and overlapping ROI zones, and a safety margin added. Locations will be selected to minimize impact on tenant usage and may include the conversion to a trenched system depending on occupant/owner needs. Pipe layout shall be determined to minimize impact on tenants and owner. The exhaust of all SSD system fans shall be directed to above the roof in accordance with ASTM Standard E2121-13.

3.4 SSDS Pilot Test Exhaust Discharge

SSDS is not intended to remediate any source contamination. As such, the DEC has not generally required testing or treatment of the exhaust discharge for SSD systems. The exhaust discharge during the SSDS pilot testing shall be directed above the roof of the building and comply with system exhaust requirements of ASTM Standard E2121-13.

4.0 COMMUNITY AIR MONITORING PROGRAM (CAMP)

The Community Action Monitoring Plan (CAMP) is provided as Appendix B of this work plan. CAMP monitoring will be performed whenever soils contaminated or potentially contaminated with the VOC contaminants of concern (COC's) are disturbed. The only activities during which subsurface soils will be disturbed, proposed under this work plan during which CAMP monitoring will occur, are when SVE extraction wells are installed through hollow stem auger drilling and short trenching to connect transfer piping.

5.0 INVESTIGATION DERIVED WASTE

Investigation-derived wastes (IDW) such as soil cuttings and equipment cleaning water will be created during the installation of the SVE wells. IDWs will be placed in New York State Department of Transportation (NYSDOT) approved 55-gallon drums, labeled, and stored in a secure on-site location. The IDW streams will be profiled for appropriate disposal. IDWs will be removed from the site within 90 days, after the appropriate documentation, handling, transportation, and disposal method are identified.

6.0 PILOT TEST PERFORMANCE EVALUATION & DESIGN

Results of the stepped rate test evaluation will be used to design a full scale SVE system for the three site treatment areas. It is assumed that the extraction wells installed for the pilot testing will be adequately sized and placed such that they can be re-used as the permanent extraction wells for these areas. A work plan for the Installation of a full-scale SVE system will be prepared which will document the pilot test results and will describe the full-scale system design, installation, and monitoring program.

Results of the stepped rate SSDS test evaluation will be used to design a full-scale SSDS system for the full extent of the west wing building area. Extraction well placement will be placed with consideration for the tenant space uses, structural building elements and walls where piping can be integrated and redial influence for each well. A work plan for the Installation of a full-scale SSDS will be prepared which will document the pilot test results and will describe the full-scale system design, installation, and monitoring program.

7.0 SCHEDULE

The pilot testing will be performed during the Winter of 2017 and system design for approval will follow in the project Remedial Action Work Plan.

8.0 REFERENCES

Final Feasibility Study Report (December 2014); Shaw Environmental and Infrastructure Engineering of NY

Final Phase I & II Remedial Investigation Report (July 2014); Shaw Environmental and Infrastructure Engineering of NY

Proposed Remedial Action Plan (March 2015); NYS DEC

Record of Decision (January 2015); NYS DEC

Army Corp of Engineers; Soil Vapor Extraction and Bio-venting

ASTM E2121-13: "Standard Practice for Installing Radon Mitigation Systems in Existing Low-Rise Residential Buildings"

FIGURES

Figure 1 - USGS Topographic Site Location Map

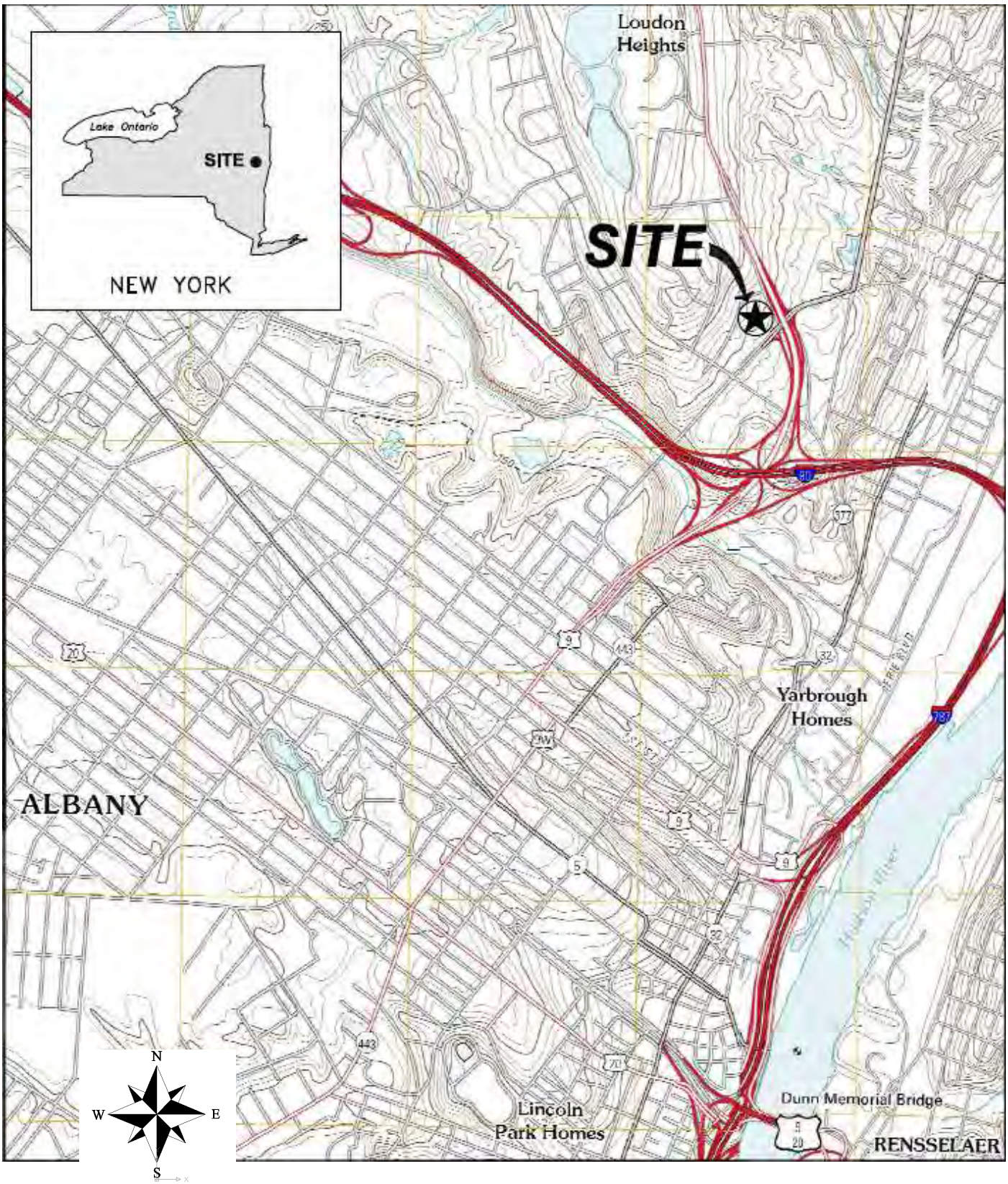
Figure 2 - SVE Pilot Study Extraction Well Locations

Figure 3 - Soil Vapor Extraction Well Diagram

Figure 4 - SVE Vacuum Observation Point Diagram

Figure 5 - Tentative SSDS Pilot Sampling Point Locations

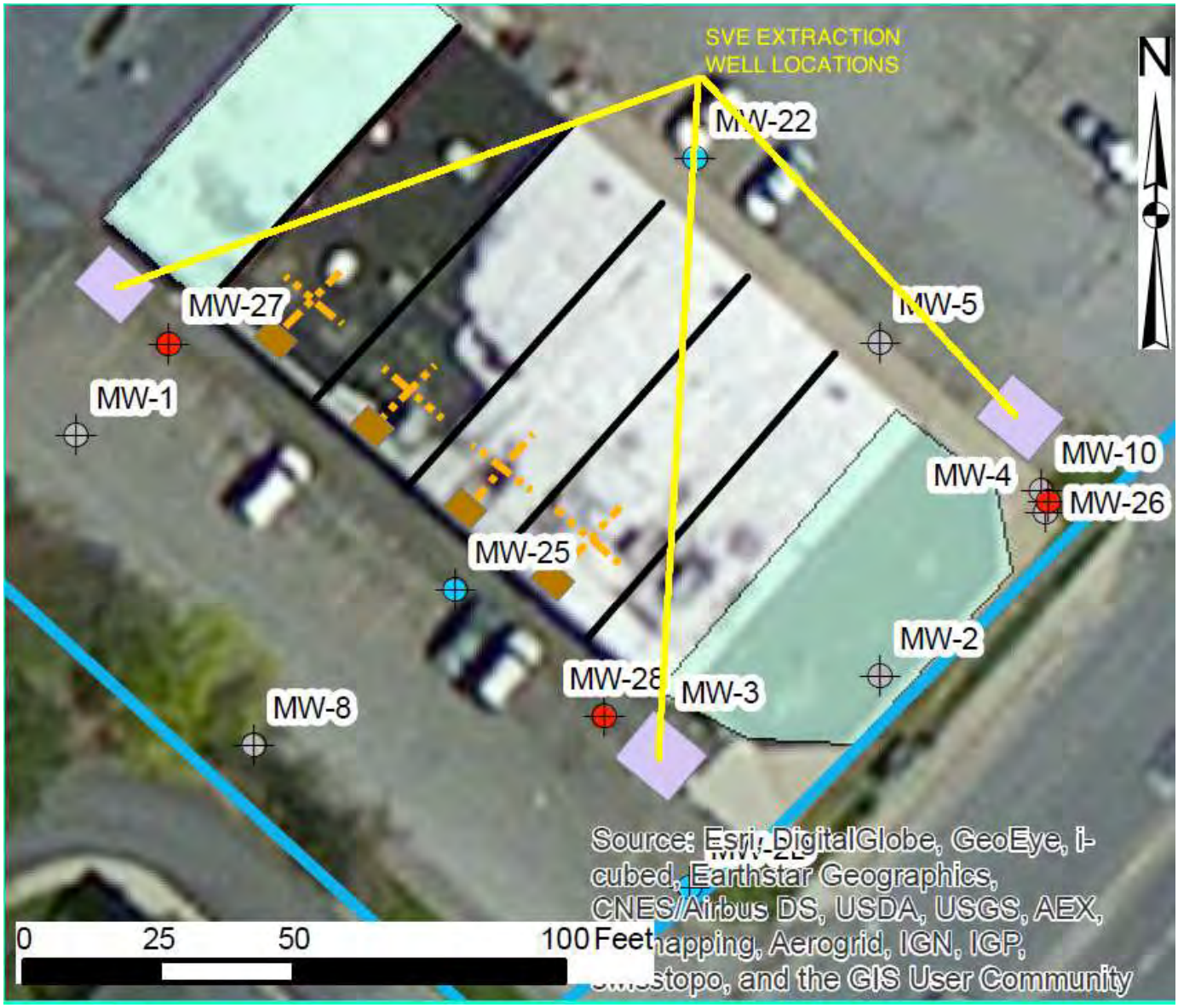
Figure 6 - SSDS Pilot Testing Configuration & Exhaust



Project: Former Loudon/Kem Cleaners Site
DRAWING DATE: October, 2016
NYSDEC BCP Site Number: C401060

FIGURE – 1 SITE LOCATION

Alpine Inc.
ENVIRONMENTAL SERVICES

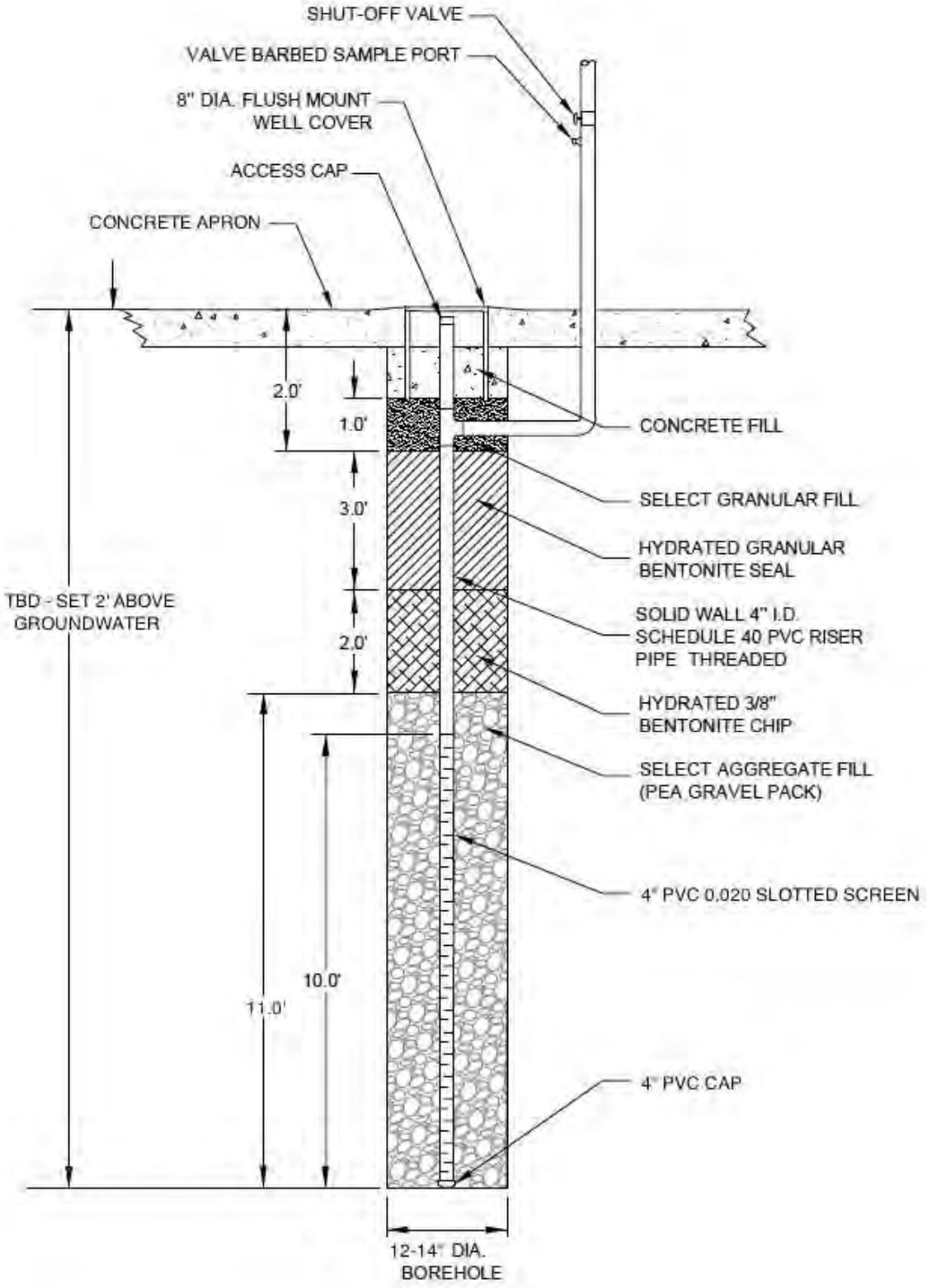


N
W E
S

FIGURE – 2 SVE Pilot Study Extraction Well Locations

Project: Former Loudon/Kem Cleaners Site
DRAWING DATE: October, 2016
NYSDEC BCP Site Number: C401060

Alpine Inc.
ENVIRONMENTAL SERVICES



Project: Former Loudon/Kem Cleaners Site
DRAWING DATE: October, 2016
NYSDEC BCP Site Number: C401060

FIGURE – 3 SVE EXTRACTION WELL

Alpine Inc.
ENVIRONMENTAL SERVICES

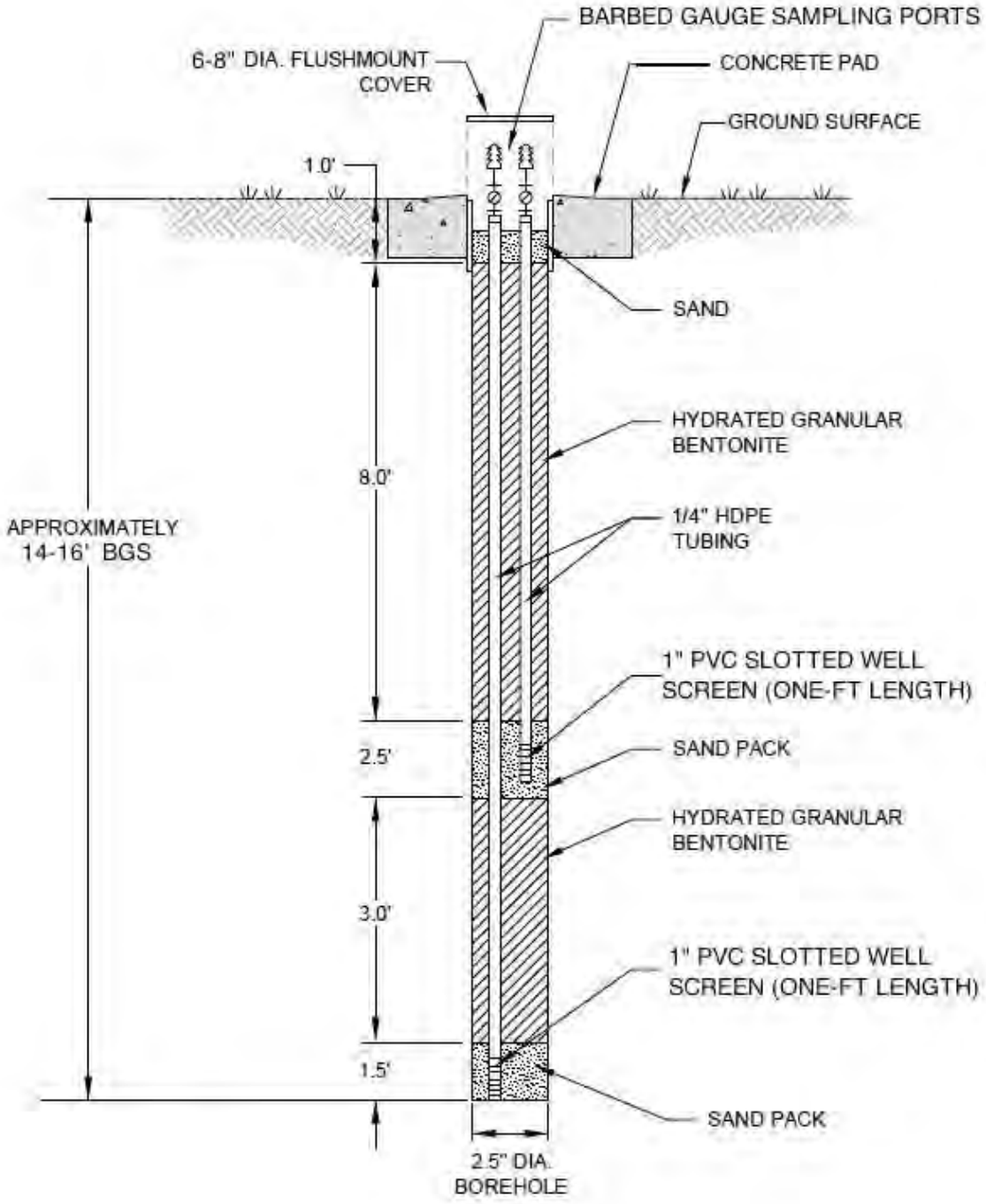


FIGURE – 4 SVE VACUUM OBSERVATION POINT

Project: Former Loudon/Kem Cleaners Site
DRAWING DATE: October, 2016
NYSDEC BCP Site Number: C401060

Alpine Inc.
ENVIRONMENTAL SERVICES

FIGURE – 5 SSDS Pilot Test Locations

Project: Former Loudon/Kem Cleaners Site
DRAWING DATE: October, 2016
NYSDEC BCP Site Number: C401060

Alpine Inc.
ENVIRONMENTAL SERVICES

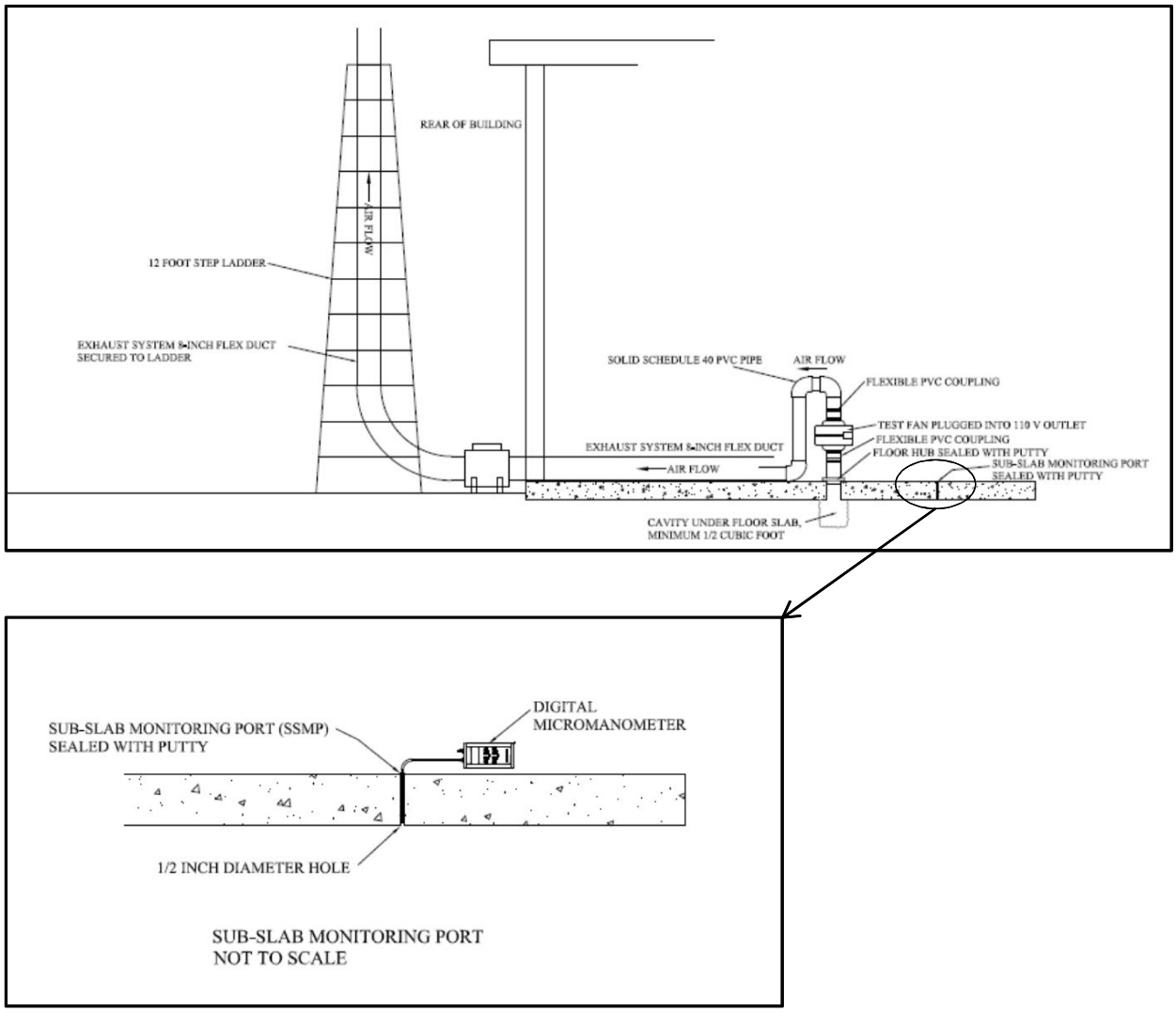


FIGURE – 6 **SSDS Pilot Testing Configuration & Exhaust**

Project: Former Loudon/Kem Cleaners Site
DRAWING DATE: October, 2016
NYSDEC BCP Site Number: C401060

Alpine Inc.
ENVIRONMENTAL SERVICES

Appendix A:

Health And Safety Plan

SITE SPECIFIC HEALTH AND SAFETY PLAN
FOR THE REMEDIAL PROGRAM

FORMER LOUDON & KEM CLEANERS
CITY OF ALBANY, NEW YORK

NYSDEC BCA Number: C401060

Prepared for:

DF Acquisitions, LLC
27 Burton Lane
Albany, New York 12011

Prepared by:

Alpha Geoscience
679 Plank Road
Clifton Park, New York 12065

October 2016

APPROVALS:

Project Manager: Scott M. Hulseapple	Signature	10/11/16 Date
Project Health Safety Officer: Scott M. Hulseapple	Signature	10/11/16 Date
Alpha Corporate Health and Safety Officer: Michael D. Palleschi	Signature	10/11/2016 Date

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Attachment 1: Hospital Route Map
Attachment 2: Material Safety Data Sheets
Attachment 3: Community Air Monitoring Plan
Attachment 4: Health and Safety Forms

1.0 GENERAL INFORMATION

1.1 Introduction

This Site Specific Health and Safety Plan (HASP) addresses the activities associated with the scope of work stated herein and will be implemented by the On-Site Safety Representative (OSSR) and Field Manager during site work. Compliance with this HASP is required of all persons and third parties who enter this site work area(s). Assistance in implementing this plan can be obtained from the Alpha Geoscience Corporate Health and Safety Officer, Project Health and Safety Officer (HSO), or the Project Manager. The content of the HASP may change or be revised based on additional information made available to health and safety personnel, monitoring results, or changes in the scope of work. Any proposed changes must be reviewed by the OSSR and Project Manager and are subject to approval by the HSO.

This HASP has been written for the use of Alpha Geoscience (Alpha) and its employees. It may also be used as a guidance document by properly trained and experienced third parties and subcontractors; however, Alpha Geoscience does not guarantee the health or safety of any person entering this site. All subcontractors and third parties are responsible for the health and safety of their own employees.

Due to the potential hazards in the work areas and the activities occurring therein, it is not possible to discover, evaluate, and provide protection for all possible hazards that 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 HASP were prepared for a specific project scope of work and should not be used on any other project or site without prior research by trained health and safety specialists.

Alpha Geoscience specifically disclaims any responsibility for the use of this HASP by unauthorized persons. The HASP is written for the specific site conditions, purpose, dates, and specified personnel and must be amended if these conditions change.

Alpha Geoscience, Alpine Environmental Services, Inc. (Alpine), subcontractors, and DF Acquisitions, LLC will be solely responsible for the health and safety of their respective employees. All personnel conducting the proposed site work will be properly trained in accordance with OSHA requirements for the respective work performed.

1.2 Project Personnel

1.2.1 Personnel Responsibilities

Alpha site project personnel will include the Project Manager (PM), Corporate Health and Safety Officer (HSO), On-Site Safety Representative (OSSR), and Field Personnel. The responsibilities and required qualifications of these personnel are described in Table 1-1.

TABLE 1-1

PERSONNEL RESPONSIBILITIES AND QUALIFICATIONS

TITLE/NAME	GENERAL DESCRIPTION	SPECIFIC RESPONSIBILITIES	REQUIRED TRAINING AND MEDICAL SURVEILLANCE
Project Manager _____ Scott M. Hulseapple	Has authority to direct site operations. Responsible for control over site activities.	Prepares and organizes the background review of the job at hand, the Sampling and Analysis Plan, the Health and Safety Plan, and the field team. Obtains permission for site access and coordinates activities with appropriate DF Acquisitions personnel. Briefs the field teams on their specific assignments. Confers with the HSO and the OSSR to ensure that safety and health requirements are met. Responsible for preparation of the final report and support files for the site activities.	40-hr. Hazardous Waste Training including 8-hr. update (29 CFR 1910.120). 8-hr. Manager/Supervisor Hazardous Waste Training (29 CFR 1910.120). Respirator use training (if on-site work). Initial site specific training (if required by on-site work). Medical surveillance participant (if on-site work).

TABLE 1-1

PERSONNEL RESPONSIBILITIES AND QUALIFICATIONS

TITLE/NAME	GENERAL DESCRIPTION	SPECIFIC RESPONSIBILITIES	REQUIRED TRAINING AND MEDICAL SURVEILLANCE
Corporate Health & Safety Officer _____ Michael D. Palleschi _____	Advises the Project Manager on all aspects of project health and safety matters. Recommends stopping work if any operations threaten worker or public health or safety.	Coordinates safety and health program activities. Monitors compliance with Heath and Safety Plan and addresses site safety questions or issues. Participates in preparation of the HASP. Ensures that site workers are familiar with the requirements and function of protective clothing and equipment. Knows emergency procedures, evacuation routes, and the telephone numbers of the ambulance, local hospital, poison control center, fire and police department. Notifies emergency personnel, when necessary. Coordinates the acquisition of emergency medical care.	40-hr. Hazardous Waste Training including 8-hr. update (29 CFR 1910.120). 8-hr. Manager/Supervisor Hazardous Waste Training (29 CFR 1910.120) Respirator use training Initial site specific training (if required by on-site work). Initial HASP review Medical surveillance participant

TABLE 1-1

PERSONNEL RESPONSIBILITIES AND QUALIFICATIONS

TITLE/NAME	GENERAL DESCRIPTION	SPECIFIC RESPONSIBILITIES	REQUIRED TRAINING AND MEDICAL SURVEILLANCE
Site Safety Officer Representatives _____ Scott M. Hulseapple _____	Coordinates with the HSO and Project Manager on all aspects of health and safety on site. Recommends stopping work if any operations threaten worker or public health or safety.	Coordinates and implements field aspects of the health and safety plan. Conducts Tailgate Safety Meetings and completes all documentation forms required by the HASP. Monitors site personnel for signs of stress, such as cold exposure, heat stress and fatigue. Monitors on-site hazards and conditions. Ensures that protective clothing and equipment are properly used, stored and maintained. Knows emergency procedures, evacuation routes, and the telephone numbers of the ambulance, local hospital, poison control center, fire and police department. Notifies emergency personnel, when necessary. Coordinates the acquisition of emergency medical care.	40-hr. Hazardous Waste Training including 8-hr. update (29 CFR 1910.120). 8-hr. Manager/Supervisor Hazardous Waste Training (29 CFR 1910.120) Respirator use training Initial site specific training (if required by on-site work). Initial HASP review Daily review of site conditions Daily site specific "Tailgate" safety meeting. Medical surveillance participant

TABLE 1-1

PERSONNEL RESPONSIBILITIES AND QUALIFICATIONS

TITLE/NAME	GENERAL DESCRIPTION	SPECIFIC RESPONSIBILITIES	REQUIRED TRAINING AND MEDICAL SURVEILLANCE
Field Personnel _____ Kevin Phelan Josh Gowan Trevor Gowan Matt Dupee Steve Trader _____	Responsible for field team operations and safety Reports to Project Manager, HSO, and SSO.	Manages field operations. Executes the Work Plan and schedule. Enforces safety procedures. Coordinates with the On-Site Safety Officer in determining protection level. Enforces site control. Documents field activities and sample collection. Complies with Health and Safety Plan. Notifies the On-Site Safety Officer, HSO, or Project Manager of unsafe conditions	40-hr. Hazardous Waste Training including 8-hr. update (29 CFR 1910.120). Respirator use training. Initial site specific training (if required by on-site work). Initial HASP review Daily site specific "Tailgate" safety meeting. Medical surveillance participant

1.2.2 Authorized Site Personnel

The Project Manager must approve personnel who will be authorized to work at the subject site while operations are being conducted. Authorization requires confirmation of conformance with OSHA 29 CFR 1910.120 training and medical examination requirements and other applicable regulations and review and sign-off of this HASP. Documentation of training and medical examination will be submitted for each employee and subcontractor assigned to perform field work. All personnel must comply with facility safety requirements, as applicable. Table 1-2 provides a list of Alpha personnel who may perform work at the site, and their health and safety related qualifications.

TABLE 1-2
ALPHA STAFF TRAINING SUMMARY

Name	40-hr. Haz-woper	8-hr. Haz-woper	8-hr. Super/ Mgr	CPR	First Aid
Michael D. Palleschi	X	X	X		
Scott M. Hulseapple	X	X	X	X	X
Josh Gowan	X	X	X	X	X
Trevor Gowan	X	X			
Matt Dupee	X	X			
Kevin J. Phelan	X	X			

1.2.3 Emergency Coordinator

The Site Emergency Coordinator shall be the SSO. The SSO shall verify appropriate emergency contacts before beginning work on-site.

1.2.3.1 Emergency Phone Numbers

Albany County Sheriff Department:	**911** or (518) 487-5400
NY State Police	**911** or (518) 783-3211
Albany Fire & Emergency Services:	**911**
Albany Memorial Hospital Emergency Department:	(518) 471-3111
Hospital Address:	*600 Northern Boulevard Albany, New York 12204*
Ambulance:	**911**

1.2.3.2 National or Regional Sources of Assistance

EPA (RCRA-Superfund Hotline) 800-424-9346
Chemtrec (24 Hours) 800-424-9300
Bureau of Explosives (24 Hours).....202-293-4048
Centers for Disease Control (Biological Agents) 404-633-5313
National Response Center (NRC).....800-424-8802
DOT (Office of Hazardous Operations) 202-426-0656
DOT (Regulatory Matters).....202-426-2075
Pesticide Health Hotline 800-858-7378
Occupational Medical Services, P.C. (Saratoga Care-Corp Health) ..518-580-2296

1.2.3.3 Hospital Route

Albany Memorial Hospital is located across the street from the site. From the site, turn right onto Northern Boulevard and turn left into the entrance of Albany Memorial Hospital. Follow the signs for the emergency care department. A hospital route map is included in Attachment 1.

1.2.4 Subcontractors

Subcontracts may be issued for various tasks including remedial system installation, soil borings, and well installation. Other subcontracts may be issued for additional tasks, as needed. Subcontractors shall comply with the requirements outlined in this HASP and in accordance with OSHA 29 CFR 1910 and 29 CFR 1926; but in all cases subcontractors shall be responsible for site safety related to or affected by their own field operations (*e.g.*, heavy equipment operations).

1.3 Signature and Acknowledgment

SITE NAME: DF Acquisitions, LLC; Former Loudon & Kem Cleaners

All personnel working at or visiting the site within the exclusion zone must acknowledge by signing below that they have reviewed the contents of this HASP. All personnel acknowledge that they participate in a medical surveillance program and have been trained in accordance with 29 CFR 1910.120 (OSHA's Hazardous Waste Operations and Emergency Response standard). Each person agrees that he/she has read and understands this HASP and agrees to comply with it.

	Name	**Signature**	**Date**	**Company**
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				

1.4 Medical Surveillance

Alpha Geoscience personnel, and subcontractors, working at the site will participate in a medical surveillance program that meets the requirements of 29 CFR 1910.120. Alpha's medical surveillance program is outlined in the Corporate Policy Manual, Medical Surveillance Program.

Employees working at hazardous waste sites are provided with annual and termination medical examinations to ensure that they are medically fit to perform work and wear personal protective equipment. The scope of the medical exams includes a physical examination, audiometric testing, pulmonary function testing, visual testing, blood testing and urinalysis. The results of the examinations are confidential. Employees are provided with medical certificates and employees and their supervisors are informed of any restrictions or limitations.

Employees may access their medical records by contacting Alpha's Corporate Health and Safety Officer.

2.0 PROJECT INFORMATION

2.1 Site Description

The Former Loudon and Kem Cleaners site is located in an urban area in the northern section of the City of Albany, NY. The site is northwest of Northern Boulevard, northeast of Albany-Shaker Road, east of Old Hickory Road, and southwest of Loudonville Road (Route 9). The site is being investigated in accordance with Brownfield Cleanup Agreement Number A5-0532-1205 between DF Acquisitions, LLC (DF Acquisitions) and the New York State Department of Environmental Conservation (NYSDEC). The NYSDEC Site number for the site is 546028.

2.2 Background Information

The site area is approximately 3.9 acres and is developed with an L-shaped retail building (strip mall). The building contains many separate businesses that operate in the single-story portion of the building and a three story office building located in the center of the building. The remainder of the site is parking for the businesses and office.

Two separate addresses/tenant spaces were occupied by dry cleaners (known as Loudon Dry Cleaners, Kem Cleaners and possibly other names) that used tetrachloroethene (also known as Perc or PCE) from approximately 1954 to 1997. The recent dry cleaner business, Kem Cleaners converted to 'drop-off service only' in 1997. There are currently no dry cleaning operations conducted on site.

Based on investigations conducted to date by others, the primary contaminants of concern (COC)

for the site include the following chlorinated solvents: tetrachloroethene (PCE), trichloroethene (TCE), 1,2-dichloroethene (cis-DCE), and vinyl chloride (VC). PCE and its breakdown products are found in on-site and/or off-site soil, ground water, and soil vapor that exceed standards, criteria, or guidance values (SCGs). The NYSDEC published a Record of Decision (ROD) in March 2015 that outlined a remedy for on-site and off-site impacts. DF Acquisitions, as a Volunteer in the BCA, has committed to implementing the on-site portions of the remedy, which includes installing and operating a soil vapor extraction system (SVE), sub-slab depressurization systems (SSDS), and performing long-term monitoring.

2.3 Purpose of Site Work

The remedial program is being conducted in accordance with the BCA. The objective of the remedial program is to design, install, operate, and monitor soil vapor extraction (SVE) systems and sub-slab depressurization systems to mitigate levels of chlorinated solvents related to former dry cleaning operations to concentrations that are protective of human health and the environment. The following section presents the tasks which will be performed during the Pre-Design Investigation (PDI) portion of the remedial program.

2.4 Scope of Work

The work to be performed under this Health and Safety Plan includes installing SVE wells and piping, installing SSDS extraction points, performing SVE and SSDS systems pilot tests, and collecting soil vapor and/or ground water samples from existing site wells.

The tasks that will be performed during the proposed work include:

Task 1 **Soil Vapor Extraction Well Installation:** Monitoring wells will be installed using a hollow stem auger type drilling rig. Soil samples will be screened in the field by the site geologist or hydrogeologist. PVC piping will be installed in shallow trenches from each well to system fans and control units that will be located on the west side of the building.

Task 2 **Soil Vapor Extraction Pilot Test:** The SVE system will be operated using temporary, trailer-mounted equipment. The radius of influence around each SVE well will be assessed using a series of temporary soil vapor monitoring points. Selected soil vapor samples may be submitted for laboratory analysis.

Task 3 **Sub-Slab Depressurization System Pilot Test:** Temporary test holes will be cored through the concrete floor in selected units and testing the pressure field created beneath the slab with a series of test fans and pressure sensors. Selected soil vapor samples may be submitted for laboratory analysis.

Task 4 **Ground Water and Soil Vapor Sampling:** Ground water samples may be collected from existing monitoring wells using the USEPA's low-flow sampling protocols. Indoor air and/or soil vapor samples will be collected using suma canisters. Samples will be collected by the site geologist or hydrogeologist and submitted for laboratory analysis.

These task numbers are referenced in the following sections pertaining to potential hazards, risks, and personal protection.

2.5 Scheduled Dates of Site Work

Pre-Design Investigation field activities are anticipated to be completed during the late fall of 2016. Field work is anticipated to be completed Monday through Friday during regular business hours (8:00 AM to 5:00 PM). The schedule may be altered to accommodate the site occupants and to make use of available daylight hours. The Project Manager will be responsible for notifying the On-Site Safety Representative and subcontractors of the specific schedule for project tasks to be performed that are governed by this HASP.

3.0 HEALTH AND SAFETY RISK ANALYSIS

3.1 Hazard Analysis

Chemical and non-chemical hazards may be associated with the sampling and well installation tasks.

The overall hazard is considered to be:

___ Low
_X_ Moderate
___ High

3.2 Non-Chemical Hazard Summary

Table 3-1 provides a summary assessment of non-chemical hazards. A review of potential hazards will be performed at least five working days prior to commencing work, to identify site conditions that may have changed.

TABLE 3-1

ASSESSMENT OF NON-CHEMICAL HAZARDS
(Hazard mitigation is discussed in Sections 5 and 6 for each "Yes" response)

Non-Chemical Hazard	Yes	No	Task No.(s)	Non-Chemical Hazard	Yes	No	Task No.(s)
1. Electrical (overhead lines)	X		1,2	16. Shoring		X	
2. Electrical (underground lines)	X		1,2	17. Biologic		X	
3. Gas/Water lines	X		1,2	18. Holes/Ditches	X		1,2,3,4
4. Drilling Equipment	X		1,2	19. Steep Grades	X		1,2,3,4
5. Excavation Equipment	X		1	20. Slippery Surfaces	X		1,2,3,4
6. Machinery	X		1,2,3	21. Uneven Terrain	X		1,2,3,4
7. Heat Exposure	X		1,2,3,4	22. Unstable Surfaces		X	
8. Cold Exposure	X		1,2,3,4	23. Elevated Surfaces (scaffolding)		X	
9. Oxygen Deficiency		X		24. Poor Lighting		X	
10. Confined Spaces		X		25. Vehicle Traffic	X		1,2,3,4
11. Noise	X		1,2,3	26. Insects/vermin	X		1,2,3,4
12. Ionizing Radiation		X		27. Poisonous Plants		X	
13. Non-ionizing Radiation		X		28. Water Bodies		X	
14. Fire	X		1,2,3	29. Unstable Soil Conditions		X	
15. Explosive Atmospheres		X		30. Dust/particulates	X		1,2,3

3.3 Site Contaminant Source(s) and Data

The site area is approximately 3.9 acres and is developed with an L-shaped retail building (strip mall). The building contains many separate businesses that operate in the single-story portion of the building and a three story office building located in the center of the building. The remainder of the site is parking for the businesses and office.

Two separate addresses/tenant spaces were occupied by dry cleaners (known as Loudon Dry Cleaners, Kem Cleaners and possibly other names) that used tetrachloroethene (Perc, PCE) from approximately 1954 to 1997. The current dry cleaner business, Kem Cleaners converted to 'drop-off service only' in 1997. The remedial program focuses on the southwestern "leg" of the building, where the former dry cleaners were located.

Based on investigations conducted to date, the primary contaminants of concern (COC) for the site include the following chlorinated solvents: tetrachloroethene (PCE), trichloroethene (TCE), 1,2-dichloroethene (cis-DCE), and vinyl chloride (VC).

Soil: Only a few site-related COCs were detected above the protection of groundwater soil cleanup objectives (PGWSCOs)/unrestricted use SCOs (UUSCOs) as follows: PCE at 11.9 milligrams per kilogram (mg/kg) or parts per million (ppm) vs. PGWSCO of 1.3 ppm, Cis-DCE at 0.44 ppm vs. PGWSCO of 0.25 ppm, and VC at 0.056 ppm vs. PGWSCO of 0.02 ppm. No metals, SVOCs, PCB/pesticides, or other VOCs were found above the commercial SCOs for soil.

Groundwater: On-site groundwater standards were exceeded for VOCs including: PCE up to 650 micrograms per liter (ug/L) or parts per billion (ppb), TCE up to 36 ug/L, and cis-1,2-DCE up to 190 ug/L. The applicable groundwater standard for all of these compounds is 5 ug/L. No metals, SVOCs, PCB/pesticides, or other VOCs were found above groundwater standards.

Soil Vapor and Indoor Air: Sub-slab soil vapor and indoor air data were collected from six (6) locations on-site and two (2) locations off-site. Based on the data, soil vapor was only a concern under the southeast portion of the on-site building, which contained both former dry cleaners. PCE was detected as high as 130,000 micrograms per cubic meter (ug/m3), with a corresponding indoor air concentration of 9.8 ug/m3, on-site. On-site trichloroethylene (TCE) was also detected in the soil vapor as high as 14,000 ug/m3, with a corresponding indoor air concentration being non detectable. The highest indoor air concentration for TCE was 0.68 ug/m3, on-site. Carbon tetrachloride was detected in soil vapor as high as 44,000 ug/m3, with corresponding indoor air concentration of 0.31 ug/m3.

3.4 Chemical Hazard Summary

The following chemicals are known or suspected to be encountered during the investigation. Material Safety Data Sheets are included in Attachment 2.

TABLE 3-2

ASSESSMENT OF CHEMICAL HAZARDS

Chemical Name	OSHA PEL[(1)]	Maximum Concentration Present[(2)]			Ionization Potential (eV)	Health Hazards/ Target Organs	Symptoms Of Overexposure
		Soil	Ground Water	Soil Vapor			
Tetrachlorethylene (PCE, Perc) Used as a dry cleaning solvent	100 ppm	11.9 mg/kg	650 ug/L	130,000 ug/m^3	9.32	Eyes, skin, respiratory system, liver, kidneys, central nervous system	Irritation of eyes, skin, nose, throat; nausea; flush face/neck; vertigo, dizziness, incoordination; headache, drowsiness; skin erythema; liver damage; potential occupational carcinogen
Trichloroethhylene (TCE) Breakdown product of PCE	100 ppm	Not detected	36 ug/L	14,000 ug/m^3	9.45	Eyes, skin, respiratory system, heart, liver, central nervous system	Irritation of eyes, skin; headache, vertigo, visual disturbances, fatigue, giddiness, tremors, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias or paresthesia; liver injury; potential occupational carcinogen
cis-1,2 Dichloroethylene (cis-DCE) Breakdown product of PCE	200 ppm	0.44 mg/kg	190 ug/L	720 ug/m^3	9.65	Eyes, respiratory system, central nervous system	Irritation of eyes, skin, nose, throat; CNS depression
Carbon Tetrachloride (CT, carbon tet) Used as a dry cleaning solvent	10 ppm	Not detected	Not detected	44,000 ug/m^3	11.47	Central nervous system, eyes, lungs, liver, kidneys, skin	Irritation of eyes, skin; CNS depression; nausea, vomiting; liver injury; drowsiness, dizziness, incoordination; potential occupational carcinogen
Hydrochloric acid (sample preservative)	5 ppm	NA	NA	NA	12.74	Eyes, skin, respiratory system	Irritation nose, throat, larynx; cough, choking; dermatitis; solution: eye, skin burns; laryngeal spasm; pulmonary edema

Notes:

(1) Permissible exposure limit established by the US Department of Labor Occupational Safety and Health Administration. Unless noted otherwise, the PELs are time weighted averages (TWA) for up to a 10-hour work day during a 40-hour work week.

(2) Maximum concentrations based on data contained in the Record of Decision (March 2015)

ppm – parts per million

mg/m^3 – milligrams per cubic meter or air

NA – Not applicable

3.5 Natural Hazards

Natural hazards such as unfavorable weather conditions, poisonous plants and bites from poisonous or disease-carrying animals and insects (e.g., snakes, ticks) cannot always be avoided.

Please refer to Section 7.0 for a discussion of precautions and emergency procedures.

3.6 Confined Space Entry

Confined space entry is not anticipated and therefore is not addressed in this HASP. If confined space entry is necessary, work will be halted and the Project HSO will be notified prior to proceeding.

3.7 Spill Containment

Field activities associated with this site are unlikely to require spill containment and therefore spill containment is not addressed in this HASP.

4.0 HEALTH AND SAFETY FIELD IMPLEMENTATION

4.1 Personal Protective Equipment (PPE) Requirements

PPE may be upgraded or downgraded by the Corporate HSO, Project HSO, or qualified On-Site Safety Representative based on site conditions. Reference to required PPE will be by Level of Protection (A-D). A summarized description of PPE by level of protection is indicated below:

LEVEL A: Should be worn when the highest level of respiratory, skin and eye protection is needed.

LEVEL B: Should be worn when the highest level of respiratory protection is needed, but a lesser level of skin protection. Level B is the primary level of choice when encountering unknown environments.

LEVEL C: Should be worn when the criteria for using air-purifying respirators are met and a lesser level of skin protection is needed.

LEVEL D: Should be worn only as a work uniform and not in any area with respiratory or skin hazards. It provides minimal protection against chemical hazards.

Table 4-1 presents the specific PPE requirements for the proposed work.

TABLE 4-1

PERSONAL PROTECTIVE EQUIPMENT (PPE) REQUIREMENTS

Job Task	Level of Protection	PPE Suit	PPE Gloves	PPE Feet	PPE Head	PPE Eye	PPE Ear	PPE Respirator	Level of Upgrade
1	D	Std., Road	L	Sturdy/ Steel	HH	Glass	Plugs or muff	Monitor	Half APR, OV, HEPA
2	D	Std., Road	L	Sturdy/ Steel	HH	Glass	Plugs or muff	Monitor	Half APR, OV, HEPA
3	D	Std.	L	Sturdy/ Steel	HH	Glass	Plugs or muff	Monitor	Half APR, OV, HEPA
4	D	Std., Road	L	Sturdy	--	Glass	--	Monitor	Half APR, OV/AG

SUIT:
Std = Standard work clothes
Tyvek = Uncoated Tyvek disposable coverall
PE Tyvek = Polyethylene-coated Tyvek
Lt PVC = Light wt. PVC raingear
Med PVC = Medium wt. PVC suit
Road = Roadwork vest
Float = Lifevest

GLOVES:
Work = Work gloves (canvas,leather)
Neo = Neoprene gloves
PVC = PVC gloves
N = Nitrile gloves
V = Vinyl gloves
L = Latex gloves

FEET:
Sturdy= Sturdy work boots
Steel = Steel-toe boots
Steel+ = Steel toe PVC boots
Booties = PVC booties
Water = Water proof hip waders

HEAD:
HH = Hardhat

EYE:
Glass = Safety glasses
Goggle = Goggles
Shield = Face shield

EAR:
Plugs = Earplugs
Muff = Ear muff

RESPIRATOR:
APR = Air purifying respirator
Full APR = Full face APR
Half APR = Half face APR
PAPR = Powered APR
SAR = Airline supplies air respirator
OV = Organic Vapor cartridge
AG = Acid gas cartridge
OV/AG = Organic vapor/Acid gas cartridge
D/M = Dust/mist pre-filter and cover for cartridge
HEPA = High efficiency particulate air filter cartridge
Monitor = perform air monitoring to determine need for respirator; add respiratory protection if needed.

OTHER:
* = use if contact with wet soil or water

4.2 Monitoring of Work Areas

Visual monitoring will be conducted by the On-Site Safety Representative or designee. Cement and/or bentonite dust will be generated during the preparation of the grout for SVE well installation (Tasks 1). Dust and organic vapors may be generated during SVE well drilling and piping installation activities (Task 1), SSDS extraction and monitoring point installation (Task 3), and during pilot testing of the SVE and SSDS systems (Tasks 2 and 3). The OSSR will instruct the Alpha field personnel to don particulate respirators and goggles when handling dry cement and bentonite. Field personnel who are not actively involved with handling, mixing, and installing

grout will remain upwind and outside the immediate work area to avoid exposure to organic vapors, dust, and/or particulates.

4.3 Site Zones/Delineation

The site is an active commercial retail and office building. Several site tenant spaces are occupied by businesses open to the public. There is also an active public bus stop located on the southwest corner of the property, near the proposed work areas. Site traffic will include vehicles and pedestrians. The work areas will be clearly marked and cordoned off to prevent unauthorized entry.

Exclusion Zone:

___X___ Areas within cones and/or caution tape.
___X___ Within 40-ft radius of drill rig operations, or as practical based on site conditions.

4.4 Site Communication

___X___ By telephone/cell phone
_____ By other means (describe):

4.5 Site Security

___X___ Restricted access: Cones will delineate the work area and non-authorized personnel will remain outside the work area.
_____ Fenced

5.0 AIR MONITORING AND ACTION LEVELS

5.1 General

Atmospheric conditions will be monitored during on-site field sampling activities to determine the possible need to upgrade the personal protection of on-site workers and/or continue the work under the provisions of a Vapor Emission Response Plan as outlined in the Community Air Monitoring Plan (Attachment 3). Atmosphere at the sample extraction point, soil cuttings, and fluids produced during drilling shall be monitored. In addition, real-time air monitoring will be performed in the worker's breathing zone (BZ) and at the perimeter of the work area during all ground intrusive activities.

These activities shall be initiated in modified Level D protection with the contingency to upgrade the level of protection based on the comparison of real-time monitoring results to the action levels outlined in this HASP.

Monitoring shall be performed regularly during the drilling activities. A photoionization detector (PID) shall be used to monitor the BZ, the borehole, and all geological samples upon their retrieval. Drill cuttings and fluids produced during drilling shall also be monitored. A Combustible Gas Indicator (CGI) equipped with an oxygen alarm shall be used to monitor the borehole for the presence of combustible gases if compounds of concern include potentially combustible gases. Any soil cuttings or fluids produced during drilling shall also be monitored using a PID.

5.1.2 Monitoring Well Development and Groundwater Sample Collection

These activities shall be initiated in modified Level D protection with the contingency to upgrade the level of protection based on the comparison of real-time monitoring results to the action levels outlined in this HASP.

The PID shall be used to monitor both the worker's BZ and the area immediately around the well casing. Prior to initiating development, testing, or sampling activities, the field team will stand upwind of the well casing and remove the well cap, stand back, and allow the well casing to vent. If action levels are not exceeded in the worker's BZ, development, testing, and/or sampling activities may proceed.

5.2 Action Levels

Instrumentation will include a PID equipped with an 11.7 electron volt (eV) lamp. A real-time particulate monitor such as the MIE *personal*DataRAM® (pDR), will be used as conditions warrant. The action levels in this HASP will apply to all site work conducted during the duration of activities at the project site.

If visible dust from work activities is noted while working in modified Level D, engineering controls, such as wetting the work zone area with water to control dust, will be implemented to the extent feasible. However, an upgrade to Level C respiratory protection is required if engineering controls do not successfully address the problem.

INSTRUMENT	READING/ACTION LEVELS	LEVEL OF RESPIRATORY PROTECTION/ACTION
PID	Continuous sustained readings of up to 1 ppm above background (typically to 0.2 ppm) in the Breathing Zone (BZ)	Modified Level D
PID	Continuous sustained readings of 1 ppm to 5 ppm above background in the BZ	Level C
PID	Continuous readings at 5 to 250 ppm above background in the BZ	Level B
pDR	Downwind particulate level must be less than 150 ug/m^3 greater than the upwind particulate level	Cease work, implement dust control, and restart work only after the particulate levels are acceptable

5.3 Exposure Monitoring/Air Sampling Program

The determination to perform personal and perimeter air monitoring will be determined by the SSO in consultation with the PM. A work site perimeter air monitoring program for ground intrusive activities consistent with the Community Air Monitoring Plan (Attachment 3).

5.4 Instrument Calibration and Maintenance

Instrument calibration and maintenance shall be performed according to manufacturer's specifications and documented on Field Instrument Calibration Logs or in the Field Log Book. At a minimum, PID calibration will be completed on a daily basis. The CGI will be calibrated according to manufacturer's recommended frequency (*e.g.*, daily or weekly).

6.0 SITE OPERATING PROCEDURES

6.1 Initial Site Entry Procedures

- Review Initial Health and Safety Mobilization Checklist.
- Locate nearest available telephone or check cell phone reception.
- Determine prevailing wind direction; establish exclusion zone and equipment cleaning area.
- Provide Emergency Information. Confirm emergency phone numbers and hospital route.
- Ensure availability of at least one vehicle for emergency use.
- Determine location of site emergency response office/personnel.
- Prior to working on site, conduct an inspection for physical and chemical hazards.
- Conduct or review utility clearance prior to start of work with appropriate site personnel.
- Note specialized protocols or permits particular to work tasks associated with the project.

6.2 Daily Operating Procedures

- Conduct and document daily Tailgate Safety Meetings prior to work start.
- Use personal protective equipment (PPE) as specified.
- Mark work area with cones and taping to prevent entry by unauthorized personnel and pedestrians and to direct vehicle traffic around work zone.
- Remain upwind of operations and airborne sources, if possible.
- Establish a work/rest regime when ambient temperatures and protective clothing create a potential heat or cold stress hazard.
- Do not carry cigarettes, gum, etc. into exclusion areas.
- Refer to On-Site Safety Representative for specific concerns for each individual site task.
- Use buddy system where appropriate.
- Be alert to your own physical condition. Watch buddy for signs of fatigue, exposure, etc.
- All accidents must be reported immediately to the OSSR and HSO.
- Contain liquids and cuttings generated during drilling.
- Limit contact of clean equipment with subsurface materials and waste.
- Practice contamination avoidance, on- and off-site. Activities should be planned ahead of time.
- Apply immediate first aid to cuts, scratches, abrasions, etc.

6.3 Utility Clearance

The location, identification, and marking of all utilities will be the responsibility of DF Acquisitions, Inc. Alpha or its subcontractor will file a Utility Clearance Request with Dig Safely-New York and review those identified utility locations with DF Acquisitions representative prior to commencing work.

6.3.1 Electrical Overhead Lines

The presence of overhead electrical lines presents a potential electrical shock hazard for drilling tasks. Equipment used for drilling has the potential to come in contact with the overhead wires. If possible, the sampling locations will be moved to a safe location that meets the objective of the work plan. If this is not possible, the lines must be fitted with insulator sleeves and equipment should be kept a safe distance (minimum of 20 feet clearance, horizontal and vertical) from the overhead electrical lines at all times. Alpha Geoscience's Field Manager and the drilling contractor will review the drilling locations to verify safe distances from overhead lines, if the work site is within 20 feet of those lines.

6.3.2 Underground Utilities

Equipment used for drilling has the potential to come in contact with underground utilities. No ground penetration work will occur until Dig Safely-New York utility clearance has been obtained and DF Acquisitions' site representative has inspected the drilling locations. A private utility

locator service may be used to identify on-site utilities, if reliable as-built diagrams cannot be provided or obtained.

6.4 Additional Site-Specific Operating Procedures

Non-chemical hazards have been identified (Table 3-1) in association with certain tasks or activities. The following sections describe precautions that should be considered to mitigate the identified hazards.

6.4.1 Airborne Dust/Particulates

The potential for generating excessive fugitive dust during drilling activities is very low because of the moisture content of the natural soil. Dust likely will be generated during the preparation of the slurry grout to backfill each borehole. Worker exposure can be mitigated by employing work practices that will minimize or eliminate dust and particulates in the work zone. Work practices include wetting dry or dusty materials as soon as practical and remaining upwind of work areas whenever possible. Airborne particulates will be monitored by visual observation and corrective measures will be implemented for control, as necessary. A *Community Air Monitoring Plan* (CAMP) is included in Attachment 3.

6.4.2 Drilling Equipment

Drilling equipment represents hazards primarily from moving parts and the creation of pinch points during work. Additional hazards may exist due to the presence of overhead or underground utilities, as described and addressed above. Operators of heavy equipment are to be responsible for the safe operation of the equipment and must be familiar with all controls. All personnel working within the vicinity of heavy equipment should be familiar with the location of emergency shut-off devices.

6.4.3 Machinery

A variety of mechanical, hydraulic, pneumatic and electrical machinery may be used during drilling activities. Machinery may include pumps, generators, hand drills, jack hammers, tampers, etc. Work crews will be cognizant of the hazards inherent in the use of such machinery and will take precautionary measures to reduce or eliminate the risk of fire, electrical shock or explosion. The operator will inspect machinery prior to use to ensure that moving parts and electrical cables are not excessively worn or deteriorated. Machinery with the potential to create a shock hazard will be properly grounded during use.

6.4.4 Overt Chemical Exposure

Typical response procedures include:

SKIN CONTACT:	Use copious amounts of cleaner and water. Wash/rinse affected area thoroughly, and then provide appropriate medical attention. Eye wash will be provided on-site at the CRZ and/or SZ. Eyes should be rinsed for 15 minutes upon chemical contamination.
INHALATION:	Move to fresh air and/or, if necessary, decontaminate/transport to hospital.
INGESTION:	Decontaminate and transport to emergency medical facility.
PUNCTURE WOUND OR LACERATION:	Decontaminate and transport to emergency medical facility. The SSO will provide medical data sheets to medical personnel as requested.

6.4.5 Adverse Weather Conditions

In the event of adverse weather conditions, the Field Manger or SSO will determine if work can continue without endangering the health and safety of field workers. Some items to be considered before determining if work should continue are:

- Potential for heat stress and heat-related injuries.
- Potential for cold stress and cold-related injuries.
- Treacherous weather-related working conditions (*e.g.*, mud, ice, rain).
- Limited visibility.
- Potential for electrical storms.

6.4.6 Cold Exposure and Heat Stress (Seasonal Applicability)

Prolonged exposure to cold environments can result in reduced mental alertness, confusion, irritability, and loss of consciousness. High wind can aggravate exposure to cold temperatures due to wind chill effects. Personnel working in cold environments will be familiar with the symptoms of excessive exposure to cold including severe shivering and/or pain in the extremities. The effects of a cold environment will be minimized by wearing appropriate clothing and covering the extremities (including face, hands, and feet). Periodic warm up at breaks may be necessary depending on the temperatures and the work schedule.

Heat stress can be a major hazard for workers in hot weather and when wearing protective clothing. Heat stress can occur very rapidly, within as little as 15 minutes, depending on the ambient conditions and the work performed. Heat stress can cause rashes, cramps, discomfort, and drowsiness in its early stages, resulting in impaired functional ability. Continued heat stress can lead to heat stroke and death. Heat stress will be controlled and minimized by training, judiciously

scheduling work and rest periods if necessary, frequently replacing fluids, avoiding excessive protective clothing, and monitoring personnel who wear protective clothing that limits the dissipation of body heat and moisture.

6.4.7 Occupational Noise

Excessive levels of noise will be generated by drilling equipment during site work. Personnel working in the vicinity of such equipment should use either earplugs or protective hearing muffs to reduce the noise to acceptable levels. Documentation of training and audiometric testing will be submitted for employees and subcontractors who are assigned to field work.

6.4.8 Fire Hazards

The potential risk of a fire hazard is considered very low based on the type of work that will be performed, the equipment to be used, and the anticipated work environment. The primary risk of fire likely is associated with the fuel to be used for the drilling rig or other equipment. Monitoring of the atmosphere in the work zone will be based on observation of the presence or accumulation of petroleum vapors that may indicate a potential fire hazard. Care will be taken to avoid generating ignition sources if such vapors are present during work activities, and corrective measures will be taken to eliminate the source or the accumulation of such vapors. The work will be performed entirely outside and although there is a low risk of fire hazard from the presence of motor fuels, it is not anticipated that there is a risk of explosive vapors. A PID or combustible gas indicator will be used to monitor vapors at the work sites.

Personnel within the work zone will be familiar with the location, operation, and proper selection of fire extinguishing equipment. Fully charged and inspected fire extinguishers will be immediately available at the work site. Emergency plans must be immediately implemented in the event of a fire.

6.4.9 Snakes And Ticks

6.4.9.1 Snake Bite Prevention and First Aid

On project sites, precautions against the possible presence of snakes should be taken when walking through overgrown vegetation and when moving debris (*e.g.*, lumber, scrap metal, *etc.*). If someone is bitten by a snake, and the snake bite occurs in a location that is within an hour's drive of a medical facility, a conservative approach is safest. Keeping the victim quiet, lying or sitting, and reassuring him/her are all that is required. He/she should be transported safely (no speeding) to the nearest medical facility.

Even when significant envenom occurs, symptoms develop slowly over many hours and can usually be controlled with appropriate treatment. Field treatments advised against include ice,

cutting and suction around the wound, and tourniquets. Studies indicate that ice leads to increased tissue destruction. Cutting and sucking out the wound can be shown to offer some help if it is done with the correct technique and equipment and if the victim has received a large dose of venom. In light of the damage that can be done, the risk of such a procedure is too high. It is best to transport the person immediately to a medical facility.

6.4.9.2 Tick Bite Prevention and First Aid

Routinely check for ticks after being outdoors. Remove ticks as soon as possible before they embed. To minimize exposure, wear light-colored clothing so ticks may be more easily detected. Tuck pants into boots or socks and wear long sleeved shirts. Apply tick/insect repellent to clothing.

When a tick is found embedded, remove it by grasping it with a tweezers as close to the skin as possible and gently pull it straight out. Do not twist or jerk the tick because the head may remain embedded. Once the tick is removed, wash the bite area and your hands with soap and water and apply an antiseptic to the bite. Save the tick in a jar labeled with the date and the place where the tick was acquired. A physician may find this information and the tick specimen helpful in diagnosis if an infection results.

6.4.10 Vehicle Traffic

Most of the work areas are located at or near roads, parking areas, or other areas of the facility that receive traffic. The primary vehicular traffic through these areas is expected to be associated with facility operations. Where applicable, vehicular movement near the work area will be controlled using traffic cones or similar methods to protect workers and equipment.

6.4.11 Lockout/Tagout

A lockout/tagout program will be implemented for work performed near potentially energized systems. The SSO will determine the need for the lockout/tagout system at each work area.

6.4.12 Insects, Vermin, and Poisonous Plants

The potential exists for field personnel to encounter insects, vermin, and poisonous plants, because work will be performed outdoors. Level D personal protective equipment is specified for the proposed work (Table 4-1). The work boots and sturdy work clothes (long sleeves and long pants) are expected to provide adequate protection from potential exposure to insects, vermin, and poisonous plants. Insect repellent that is applied directly to the skin also may be used, if necessary. No other insecticides or insect repellent will be allowed. Field personnel that are injured by insects, vermin, or poisonous plants will notify the SSO for assistance, if medical attention is required.

6.4.13 Uneven Terrain/Holes and Ditches

There is uneven terrain, a drainage ditch, and/or holes within the work area. The Field Manager and field personnel will inspect the immediate work area at each work location prior to commencing work at that area, and will identify and delineate areas of hummocky ground, depressions, or other hazards. Workers will avoid walking or working in these areas.

6.4.14 Steep Slopes

There are several small, but steep, slopes along some areas where samples are to be collected. The work area will be inspected by the Field Manager and field personnel prior to work at each well location. Workers will avoid these slopes whenever possible or take appropriate safety precaustions when working on or near slopes.

6.4.15 Slippery Surfaces

The preparation of cement and bentonite slurry (Task 2) will generate a wet mixture that is slippery and may spill or splash onto work surfaces. Field personnel will use work practices to minimize material spillage and will use clean water to rinse slurry off surfaces or equipment. The work areas and wet areas will be controlled by limiting access, working upslope where practical, and wearing foot wear or protective boots that have gripper soles.

6.5 Cleaning Procedures

Depending on the specific job task, cleaning may include individual personnel and/or heavy equipment. Cleaning procedures will depend on the level of dust and/or soil particles, if any.

The specified level of protection for the two tasks (Level D) does not itself define the extent of personal protection or equipment decontamination. Heavy equipment normally will require cleaning of excess soil particles between well locations. The following sections summarize general cleaning protocols.

6.5.1 Heavy Equipment

Heavy equipment will be cleaned between work areas, at the end of the day, and before leaving the site. Operators or other designated personnel will remove loose soil and pressure or steam wash the equipment after use, preferably at or near each individual work site. The wheel wells, tires, sides of vehicles, etc. may be pressure washed or brushed clean of debris. Containment systems

for collection of decontamination fluids and materials are not necessary based on the anticipated low levels of contamination.

6.5.2 Cleaning Wastes

Spent cleaning water will be contained in a 55 gallon steel drum until the results of the soil and water sample analyses are received. The containerized cleaning fluids will be spread on-site if no contaminants are detected in the samples collected. The containerized cleaning water will be retained for disposal at a later date if compounds of concern are detected in the samples.

Hexane may be used to decontaminate soil sampling equipment if gross, oily contamination is encountered. The quantity used is anticipated to be small. If used, the hexane will be allowed to evaporate.

6.5.3 Personnel and PPE

Protective gloves will be disposed and replaced between areas of activity and whenever the gloves become soiled. Soil adhering to footwear will be manually removed at each work location using a brush or suitable implement.

6.6 Procedures for Waste Handling of Anticipated Cleaning Wastes

6.6.1 Waste Generation

Anticipated: Yes __X__ No _____

Types: Liquid __X__ Solid __X__ Sludge _____ Gas _____

Quantity: The expected volume of solids (soil and plastic) is less than one cubic yard at each drilling location. The expected volume of liquid is less than 5 gallons at each drilling location.

Characteristics:

Corrosive ___ Ignitable ___ Radioactive ___ Volatile ___
Toxic ___ Reactive ___ Unknown ___ Carcinogenic ___
Other (specify): ____non-toxic/inert_____

Known Non-Hazardous: Yes __X__ No ____

Known Hazardous Waste or Extremely Hazardous waste: Yes ____ No __X__

Potentially Hazardous Waste or Extremely Hazardous Waste: Yes ___ No _X__

Waste Requires Analysis: Yes _X_ No ____

Specify Type: Cleaning wastes, if any, will be combined with soil and solid wastes for disposal as described in Section 6.6.3.

6.6.2 Storage Methods Proposed

Investigation-derived wastes (IDW) such as soil cuttings and equipment cleaning water will be created during the installation of the SVE wells and SSDS extraction points. IDWs will be placed in New York State Department of Transportation (NYSDOT) approved 55-gallon drums, labeled, and stored in a secure on-site location. The IDW streams will be profiled for appropriate disposal. IDWs will be removed from the site within 90 days, after the appropriate documentation, handling, transportation, and disposal method are identified.

The drums will be labeled with the following information.

(1) The composition of the waste (e.g. soil, plastic, etc.)
(2) The nature of the waste (e.g., drill cuttings, cleaning fluid).
(3) The name of owner (DF Acquisitions)
(4) The date of accumulation; and,
(5) A phone contact for questions (the Alpha Geoscience office)

6.6.3 Disposal

DF Acquisitions will be responsible for the collection, transportation, and disposal of all wastes generated during the remedial investigation, as necessary. Alpha will coordinate disposal, as an agent for DF Acquisitions.

6.7 Site Inspections

It is anticipated that the scope of work associated with this HASP will be conducted within six months. Weekly site inspections, when field activities are being performed, will be conducted and documented by the SSO or Field Manager.

7.0 EMERGENCY RESPONSE PROCEDURES

The Emergency Response Plan will be prepared to address the site specific nature of hazards and potential emergencies. Emergency procedures will be implemented as appropriate.

7.1 Emergency Response Planning

Step 1: Distribute site map which includes site layout, and evacuation route. Review this information during initial Tailgate Safety training and periodically.

Step 2: Distribute Emergency Response Contact List and directions and map to the nearest hospital**.** Ensure that emergency communication equipment is available.

Step 3: Notify site representatives of your presence.

Step 4: Provide emergency equipment for initial first aid, fire protection, and personal protection. Designate a vehicle for emergency transport.

Step 5: Ensure that personnel who are certified in first aid and CPR are available to respond to injuries in an emergency.

Step 6: Conduct training for site personnel in emergency response during initial orientation. Establish alarm and methods of notification and communication during an emergency.

7.2 Lines of Authority and Personnel Responsibilities

During an emergency, the Field Personnel shall have the authority to commit the necessary resources for responding to the emergency and shall assume the following responsibilities:

Step 1: Determine the extent of the incident and direct the initial response. At a minimum, the Project Manager and the Health and Safety Officer must be notified as soon as possible. Additional notifications and assistance from outside agencies may be made based on the extent of the incident. Make the additional required notifications.

Step 2: Direct the OSSR to conduct perimeter air monitoring, and monitor wind speed and wind direction to determine the extent of impacted areas.

Step 3: Alert personnel of the emergency using an air horn or other suitable means of communication. Initiate evacuation procedures, if necessary.

Step 4: Prepare the Accident/Injury Report and send it to Alpha's Corporate Health and Safety Officer.

7.3 Evacuation Procedures

If evacuation is required, the Field Personnel shall:

Step 1: Activate the communication system to alert site workers of evacuation. Personnel shall be advised to remain upwind of contaminants, if possible, and to proceed to the local assembly area that is designated by the OSSR at each work location.

Step 2: Account for all personnel at the assembly area.

Step 3: Notify site representative of the need to initiate evacuation procedures for other site personnel.

Step 4: Notify the Fire and Police Departments and request their assistance for evacuating the surrounding area and residences.

7.4 Emergency Medical Treatment

Refer to the Hospital Route directions and map (Attachment 1). If an injury/medical emergency occurs, the following procedures shall be used:

Step 1: Notify the Field Manager immediately.

Step 2: The Field Manager shall ensure that medical treatment is provided for the injured person immediately. The Field Manager shall summon first aid responders and notify the hospital and the local Emergency Medical Service (EMS) if necessary.

Step 3: If the injured/ill person is within the exclusion zone, steps should be taken to decontaminate him/her and remove the PPE if it can be done without worsening the injury.

Step 4: First aid responders shall use universal precautions for infection control when providing first aid.

Step 5: Prepare an Accident/Injury Report and deliver it to Alpha's Corporate Health and Safety Officer within 24 hours.

7.5 Spill Control

If a spill of hazardous material occurs, the following steps shall be taken to mitigate the incident:

Step 1: Notify the Field Manager, and he/she shall assess the extent of the spill to determine if it can be safely mitigated with the personnel and protective equipment available at the site.

Step 2: If the release is beyond the field team's mitigation capabilities, the Field Manager shall evacuate the site personnel to a safe location upwind of the release and notify the Project Manager and Fire Department and Emergency Response.

Step 3: The Project Manager shall notify DF Acquisitions, the Corporate Health and Safety Officer, and regulatory agency(s), if necessary.

Step 4: If the spill can be safely mitigated using defensive actions, first don the appropriate PPE. Initially, Level C PPE should be worn unless air monitoring indicates a downgrade in PPE is acceptable.

Step 5: Takes steps to secure the area and to prevent unauthorized persons from entering the area.

Step 6: Takes steps to contain the spill and to prevent it from reaching sewers, storm ditches, etc.

Step 7: Clean up the spill with absorbent and/or neutralizers, and remove affected soil as appropriate. Place waste in sealed, labeled containers for disposal.

7.6 Emergency and Medical Resources

Job related injuries must be immediately reported to the OSSR or the Corporate HSO. An accident/injury/illness report will be completely and properly filled out and submitted to the project HSO and Corporate HSO, in accordance with applicable reporting procedures.

Any personnel requiring emergency medical attention will be evacuated from the work zone if doing so would not endanger the life of the injured person or otherwise aggravate the injury. Personnel will not enter the area to attempt a rescue if their own lives would be threatened.

7.7 Fire Contingency Measures

The likelihood of fire for the work at the well locations is very low. Alpha personnel and subcontractors are not trained professional fire fighters. Whether or not a fire can be quickly

contained and extinguished, personnel will notify the OSSR, Corporate HSO, DF Acquisitions, and others in the area and vacate the structure or area. Anyone who sees a fire shall immediately notify emergency personnel.

Personnel who use fire extinguishers shall be trained in their use.

The following procedures will be used to prevent the possibility of fires and resulting injuries:

- All combustible materials shall be stored away from energized equipment, fuel-powered equipment and flammable materials.
- Fire extinguishers will be placed in areas where a fire hazard may exist.
- When a fire cannot be controlled with the fire extinguisher, the exclusion zone will be evacuated.
- Before workers begin operations in an area, the OSSR will give instruction on egress procedures and assembly points.

Response: The following procedures will be used in the event of a fire:

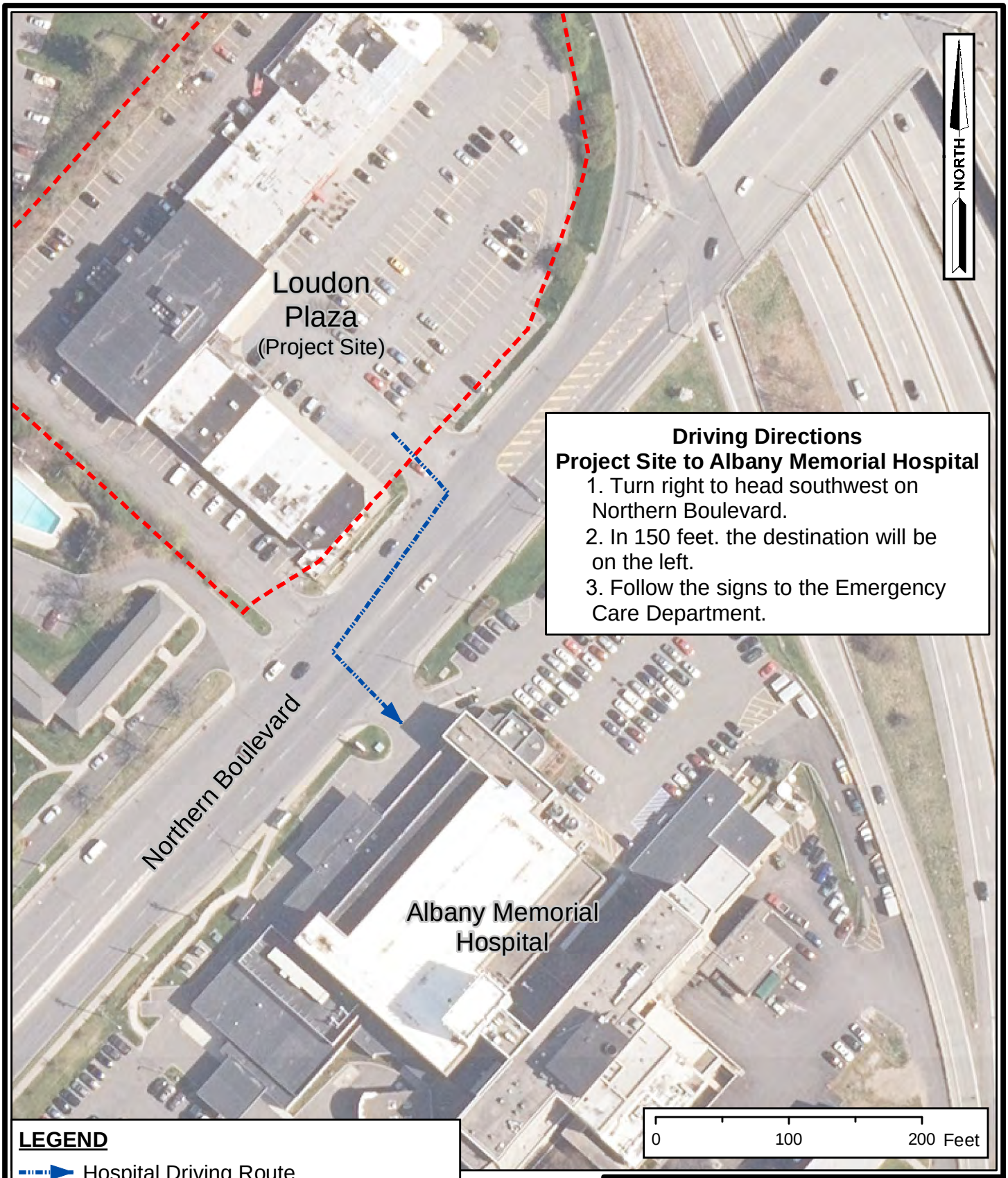
- Anyone who sees a fire will summon help then notify the OSSR.
- When the emergency alarm sounds, workers will disconnect electrical equipment in use (if possible) and proceed to the nearest muster location.
- Field team members shall attempt to utilize the buddy system immediately after being alerted of the fire and remain together throughout the emergency. Workers will assemble at a predetermined muster point for a head count.
- When a worker has extinguished a small fire, the OSSR, Corporate HSO, and DF Acquisitions will be notified.

8.0 RECORDKEEPING

The Project Manager and Corporate Health and Safety Officer will assure that field documentation is properly completed in a timely manner. Copies of forms to be used during field work are included in Attachment 4. All HASP documentation, including tailgate safety meeting forms and OSSR/Field Manager Jobsite Safety Checklists, are to be forwarded to the Project Manager or the Corporate Health and Safety Officer for review on a regular basis. Health and safety forms and documentation will be retained in the project file after the review process.

ATTACHMENT 1

Hospital Route Map



Driving Directions
Project Site to Albany Memorial Hospital

1. Turn right to head southwest on Northern Boulevard.
2. In 150 feet. the destination will be on the left.
3. Follow the signs to the Emergency Care Department.

LEGEND

- Hospital Driving Route
- Proposed BCP Site Property Boundary

Notes:
-Basemap: Albany County 12-inch resolution natural color orthoimagery (2014), NYS Office of Information Technology Services (ITS) (http://www.nysgis.state.ny.us).
-Locations and boundaries are approximate.

ALPHA GEOSCIENCE
Proj. No. 16117

Hospital Route Map

Former Loudon & Kem Cleaners
Northern Boulevard
City of Albany
Albany County, New York

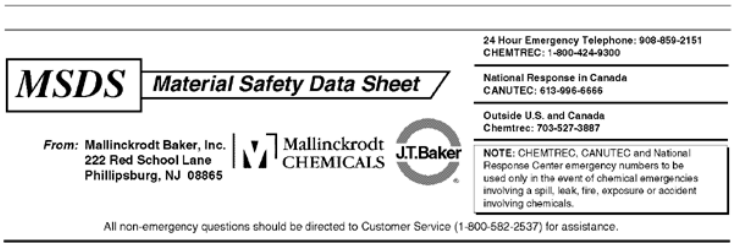
Path: C:\Users\scott.ALPHAGEO.000\Desktop\16117 - Loudon Plaza\15_0 GIS\Hospital_Route_Map.mxd
Date Saved: 10/11/2016 10:14:31 AM

ATTACHMENT 2

Material Safety Data Sheets

Hydrochloric Acid
Isobutylene

MSDS Number: **H3886** * * * * * *Effective Date:* ***02/16/06*** * * * * * *Supercedes:* ***05/07/03***



HYDROCHLORIC ACID (10%-33%)

1. Product Identification

Synonyms: This MSDS applies to the concentrated standard used to make laboratory solutions and any solution that contains more than 10% but less than 33% Hydrochloric acid. For diluted product, see MSDS for Hydrochloric Acid (less than 10%).
CAS No.: 7647-01-0
Molecular Weight: 36.46
Chemical Formula: HCl in H2O
Product Codes:
J.T. Baker: 0323, 0327, 0365, 4654, 4657, 5618, 5619
Mallinckrodt: 2608, 2625, H151, H168, V035

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Hydrogen Chloride	7647-01-0	10 - 33%	Yes
Water	7732-18-5	67 - 90%	No

3. Hazards Identification

Emergency Overview

POISON! DANGER! CORROSIVE. LIQUID AND MIST CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED OR INHALED.

SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 3 - Severe (Poison)
Flammability Rating: 0 - None
Reactivity Rating: 2 - Moderate
Contact Rating: 4 - Extreme (Corrosive)
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
Storage Color Code: White (Corrosive)

Potential Health Effects

Inhalation:
Corrosive! Inhalation of vapors can cause coughing, choking, inflammation of the nose, throat, and upper respiratory tract, and in severe cases, pulmonary edema, circulatory failure, and death.
Ingestion:
Corrosive! Swallowing hydrochloric acid can cause immediate pain and burns of the mouth, throat, esophagus and gastrointestinal tract. May cause nausea, vomiting, and diarrhea, and in severe cases, death.
Skin Contact:
Corrosive! Can cause redness, pain, and severe skin burns. Concentrated solutions cause deep ulcers and discolor skin.
Eye Contact:
Corrosive! Vapors are irritating and may cause damage to the eyes. Contact may cause severe burns and permanent eye damage.
Chronic Exposure:
Long-term exposure to concentrated vapors may cause erosion of teeth. Long term exposures seldom occur due to the corrosive properties of the acid.
Aggravation of Pre-existing Conditions:
Persons with pre-existing skin disorders or eye disease may be more susceptible to the effects of this substance.

4. First Aid Measures

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion:
DO NOT INDUCE VOMITING! Give large quantities of water or milk if available. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Skin Contact:
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Eye Contact:
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:
Not considered to be a fire hazard. May react with metals or heat to release flammable hydrogen gas.
Explosion:
Not considered to be an explosion hazard.
Fire Extinguishing Media:
Water or water spray. Neutralize with soda ash or slaked lime.
Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Structural firefighter's protective clothing is ineffective for fires involving hydrochloric acid. Stay away from ends of tanks. Cool tanks with water spray until well after fire is out.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Neutralize with alkaline material (soda ash, lime), then absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

J. T. Baker NEUTRASORB® acid neutralizers are recommended for spills of this product.

7. Handling and Storage

Store in a cool, dry, ventilated storage area with acid resistant floors and good drainage. Protect from physical damage. Keep out of direct sunlight and away from heat, water, and incompatible materials. Do not wash out container and use it for other purposes. When diluting, the acid should always be added slowly to water and in small amounts. Never use hot water and never add water to the acid. Water added to acid can cause uncontrolled boiling and splashing. When opening metal containers, use non-sparking tools because of the possibility of hydrogen gas being present. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:
For Hydrochloric acid:
- OSHA Permissible Exposure Limit (PEL):
5 ppm (Ceiling)
- ACGIH Threshold Limit Value (TLV):
2 ppm (Ceiling), A4 Not classifiable as a human carcinogen

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.
Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded and engineering controls are not feasible, a full facepiece respirator with an acid gas cartridge may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.
Skin Protection:
Rubber or neoprene gloves and additional protection including impervious boots, apron, or coveralls, as needed in areas of unusual exposure to prevent skin contact.
Eye Protection:
Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:
Clear, colorless liquid.
Odor:
Pungent odor.
Solubility:
Infinitely soluble.
Density:

1.05 @ 15C (59F)
pH:
For HCL solutions: 0.1 (1.0 N), 1.1 (0.1 N), 2.02 (0.01 N)
% Volatiles by volume @ 21C (70F):
100
Boiling Point:
101 - 103C (214 - 217F)
Melting Point:
No information found.
Vapor Density (Air=1):
No information found.
Vapor Pressure (mm Hg):
No information found.
Evaporation Rate (BuAc=1):
No information found.

10. Stability and Reactivity

Stability:
Stable under ordinary conditions of use and storage.
Hazardous Decomposition Products:
When heated to decomposition, emits toxic hydrogen chloride fumes and will react with water or steam to produce heat and toxic and corrosive fumes. Thermal oxidative decomposition produces toxic chlorine fumes and explosive hydrogen gas.
Hazardous Polymerization:
Will not occur.
Incompatibilities:
A strong mineral acid, concentrated hydrochloric acid is highly reactive with strong bases, metals, metal oxides, hydroxides, amines, carbonates and other alkaline materials. Incompatible with materials such as cyanides, sulfides, sulfites, and formaldehyde.
Conditions to Avoid:
Heat, direct sunlight.

11. Toxicological Information

Hydrochloric acid: Inhalation rat LC50: 3124 ppm/1H; Oral rabbit LD50: 900 mg/kg. Investigated as a tumorigen, mutagen, reproductive effector.

--------\Cancer Lists\----------

Ingredient	---NTP Carcinogen--- Known	Anticipated	IARC Category
Hydrogen Chloride (7647-01-0)	No	No	3
Water (7732-18-5)	No	No	None

12. Ecological Information

Environmental Fate:
When released into the soil, this material is not expected to biodegrade. When released into the soil, this material may leach into groundwater.
Environmental Toxicity:
This material is expected to be toxic to aquatic life.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: HYDROCHLORIC ACID
Hazard Class: 8
UN/NA: UN1789
Packing Group: II
Information reported for product/size: 200L

International (Water, I.M.O.)

Proper Shipping Name: HYDROCHLORIC ACID
Hazard Class: 8
UN/NA: UN1789
Packing Group: II
Information reported for product/size: 200L

15. Regulatory Information

```
--------\Chemical Inventory Status - Part 1\---------------------------------
Ingredient                                    TSCA  EC   Japan  Australia
----------------------------------------------  ----  ---  -----  ---------
Hydrogen Chloride (7647-01-0)                  Yes  Yes   Yes      Yes
Water (7732-18-5)                              Yes  Yes   Yes      Yes

--------\Chemical Inventory Status - Part 2\---------------------------------
                                                      --Canada--
Ingredient                                    Korea  DSL   NDSL  Phil.
----------------------------------------------  -----  ---   ----  -----
Hydrogen Chloride (7647-01-0)                  Yes   Yes   No     Yes
Water (7732-18-5)                              Yes   Yes   No     Yes

--------\Federal, State & International Regulations - Part 1\----------------
                                          -SARA 302-    ------SARA 313------
Ingredient                                RQ    TPQ     List  Chemical Catg.
----------------------------------------  ---   -----   ----  --------------
Hydrogen Chloride (7647-01-0)             5000  500*    Yes        No
Water (7732-18-5)                         No    No      No         No

--------\Federal, State & International Regulations - Part 2\----------------
                                                  -RCRA-    -TSCA-
Ingredient                                CERCLA     261.33     8(d)
----------------------------------------  ------     ------    ------
Hydrogen Chloride (7647-01-0)             5000       No         No
Water (7732-18-5)                         No         No         No


Chemical Weapons Convention:  No     TSCA 12(b):  No     CDTA:  Yes
SARA 311/312:  Acute: Yes      Chronic: Yes  Fire: No  Pressure: No
Reactivity: No          (Mixture / Liquid)
```

Australian Hazchem Code: 2R
Poison Schedule: None allocated.
WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

---

16. Other Information

NFPA Ratings: Health: **3** Flammability: **0** Reactivity: **0**
Label Hazard Warning:
POISON! DANGER! CORROSIVE. LIQUID AND MIST CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED OR INHALED.
Label Precautions:
Do not get in eyes, on skin, or on clothing.
Avoid breathing vapor or mist.
Keep container closed.
Use with adequate ventilation.
Wash thoroughly after handling.
Label First Aid:
If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. In all cases call a physician.
Product Use:
Laboratory Reagent.
Revision Information:
No Changes.
Disclaimer:
****
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****
Prepared by: Environmental Health & Safety
Phone Number: (314) 654-1600 (U.S.A.)

Instrumentation for Environmental, Process & Industrial Hygiene Monitoring

Isobutylene in Air MSDS

Home

MATERIAL SAFETY DATA SHEET - CALIBRATION CHECK GAS/ISOBUTYLENE IN AIR

PRODUCT NAME: 100 PPM ISOBUTYLENE/AIR (100 PPM ISOBUTYLENE/AIR) MSDS
Version:4 Date: January, 2004

---

1. Chemical Product and Company Identification **PID ANALYZERS, LLC** 25 Walpole Park Drive South Walpole, MA 02081 TELEPHONE NUMBER: (508) 660-5001 **24-HOUR EMERGENCY NUMBER: 1-617-699-4307** FAX NUMBER: (508) 660-5040 E-MAIL: sales@hnu.com

PRODUCT NAME: ISOBUTYLENE (100 PPM – 0.9%) IN AIR
CHEMICAL NAME: Isobutylene in air

COMMON NAMES/ SYNONYMS: Calibration Gas

CLASSIFICATION: 2.2 WHIMIS CLASSIFICTATION: A, D2A, D2B

---

2. COMPOSITION/ INFORMATION ON INGREDIENTS
INGREDIENT %: Isobutylene 0.0001-0.9/Air 99-99.9999
VOLUME:17L
PEL-OSHA: N/A
TLV-ACGIH: N/A
LD50or LC50Route/Species:N/A
FORMULA: C4H8/Air 99.0

---

3. HAZARDS IDENTIFICATIONEMERGENCY OVERVIEW Release of this product may produce oxygen-deficient atmospheres (especially in confined spaces or other poorly ventilated environments); individuals in such atmospheres may be asphyxiated. Isobutylene may cause drowsiness and other central nervous system effects in high concentrations; however, due to the low concentration of this gas mixture, this is unlikely to occur.

ROUTE OF ENTRY:
Skin: No
Contact Skin: No
Absorption: No
Eye Contact: No
Inhalation: Yes
Ingestion:No

HEALTH EFFECTS:
Exposure Limits: Yes
Irritant: No
Sensitization: No
Reproductive Hazard: No

Mutagen: No
Carcinogenicity: No
NTP: No
IARC: No
OSHA: No

EYE EFFECTS: N/A.
SKIN EFFECTS: N/A.

MATERIAL SAFETY DATA SHEET - CALIBRATION CHECK GAS
PRODUCT NAME: ISOBUTYLENE (1 PPM – 0.9%) IN AIR
INGESTION EFFECTS: Ingestion unlikely. Gas at room temperature.
INHALATION EFFECTS: Due to the small size of this cylinder, no unusual health effects from over-exposure are anticipated under normal routine use.

NFPA HAZARD CODES HMIS HAZARD CODES RATING SYSTEM
Health: **1**
Flammability: **0**
Flammability: **0**
Reactivity: **0**

***0= No Hazard, 1= Slight Hazard, 2= Moderate Hazard, 3= Serious Hazard, 4= Severe Hazard**

---

4. FIRST AID MEASURES EYES: N/A

SKIN: N/A

INGESTION: Not required

INHALATION: PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASED OF OVEREXPOSURE. RESCUE PERSONNEL SHOULD BE EQUIPPED THE SELF-CONTAINED BREATHING APPARATUS. Victims should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. If breathing has stopped administer artificial resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

---

5. FIRE-FIGHTING MEASURES These containers hold gas under pressure, with no liquid phase. If involved in a major fire, they should be sprayed with water to avoid pressure increases, otherwise pressures will rise and ultimately they may distort or burst to release the contents. The gases will not add significantly to the fire, but containers or fragments may be projected considerable distances - thereby hampering fire fighting efforts.

---

6. ACCIDENTAL RELEASE MEASURES In terms of weight, these containers hold very little contents, such that any accidental release by puncturing etc. will be of no practical concern.

---

7. HANDLING AND STORAGE Suck back of water into the container must be prevented. Do not allow backfeed into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Use only in well-ventilated areas. Do not heat cylinder by any means to increase rate of product from the cylinder. Do not allow the

temperature where cylinders are stored to exceed 130oF (54oC).

---

8. EXPOSURE CONTROLS/PERSONAL PROTECTION Use adequate ventilation for extended use of gas.

MATERIAL SAFETY DATA SHEET - CALIBRATION CHECK GAS PRODUCT NAME:
ISOBUTYLENE (1 PPM – 0.9%) IN AIR

---

9. PHYSICAL AND CHEMICAL PROPERTIES PARAMETER: VALUE: Physical state : Gas Evaporation point : N/A pH : N/A Odor and appearance : Colorless, odorless gas

---

10. STABILITY AND REACTIVITY Stable under normal conditions. Expected shelf life 24 months.

---

11. TOXICOLOGICAL INFORMATION No toxicological damage caused by this product.

---

12. ECOLOGICAL INFORMATION No ecological damage caused by this product.

---

13. DISPOSAL INFORMATION Do not discharge into any place where its accumulation could be dangerous. Used containers are acceptable for disposal in the normal waste stream as long as the cylinder is empty and valve removed or cylinder wall is punctured.

---

14. TRANSPORT INFORMATION
United States DOT/Canada TDG PROPER SHIPPING NAME:
Compressed Gas N.O.S. Compressed Gas N.O.S. (Isobutylene in Air)
HAZARD CLASS: 2.2
IDENTIFICATION NUMBER: UN1956
SHIPPING LABEL: NONFLAMMABLE GAS

---

15. REGULATORY INFORMATION Isobutylene is listed under the accident prevention provisions of section 112(r) of the Clean Air Act (CAA) with a threshold quantity (TQ) of 10,000 pounds.

---

16. OTHER INFORMATION This MSDS has been prepared in accordance with the Chemicals (Hazard Information and Packaging for Supply (Amendment) Regulation 1996. The information is based on the best knowledge of PID Analyzers, LLC , and its advisors and is given in good faith, but we cannot guarantee its accuracy, reliability or completeness and therefore disclaim any liability for loss or damage arising out of use of this data. Since conditions of use are outside the control of the Company and its advisors we disclaim any liability for loss or damage when the product is used for other purposes than it is intended.
MSDS/S010/248/January, 2004

Top

ATTACHMENT 3

Community Air Monitoring Plan

Community Air Monitoring Plan
Former Loudon & Kem Cleaners
Albany, New York
NYSDEC Site No. C401060

This Community Air Monitoring Plan (CAMP) has been prepared to be implemented during the remedial program, including Pre-Design Investigation and remediation construction, at the Former Loudon and Kem Cleaners Site, City of Albany, Albany County, New York (the "Site"). The site is being investigated in accordance with the Brownfield Cleanup Agreement (#C401060-08-16) between DF Acquisitions, LLC (Volunteer) and the New York State Department of Environmental Conservation (NYSDEC).

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

Site Background

The Former Loudon and Kem Cleaners site is located in an urban area in the northern section of the City of Albany, NY. The site is northwest of Northern Boulevard, northeast of Albany-Shaker Road, east of Old Hickory Road, and southwest of Loudonville Road (Route 9). The site area is approximately 3.9 acres and is developed with an L-shaped retail building (strip mall). The building contains many separate businesses that operate in the single-story portion of the building and a three story office building located in the center of the building. The remainder of the site is parking for the businesses and office.

Two separate addresses/tenant spaces were occupied by dry cleaners (known as Loudon Dry Cleaners, Kem Cleaners and possibly other names) that used tetrachloroethene (Perc, PCE) from approximately 1954 to 1997. The the most recent dry cleaner business, Kem Cleaners, converted to 'drop-off service only' in 1997 and no longer used PCE on-site. There are currently no dry cleaning businesses on-site.

Based on investigations conducted to date, the primary contaminants of concern (COC) for the site include the following chlorinated solvents: tetrachloroethene (PCE), trichloroethene (TCE), 1,2-dichloroethene (cis-DCE), and vinyl chloride (VC). PCE and its breakdown products are found in on-site and/or off-site soil, ground water, and soil vapor that exceed standards, criteria, or guidance values (SCGs). The NYSDEC published a Record of Decision (ROD) in March 2015 that outlined a remedy for on-site and off-site impacts. DF Acquisitions, as a Volunteer in

the BCA, has committed to implementing the on-site portions of the remedy, which includes installing and operating a soil vapor extraction system (SVE), sub-slab depressurization systems (SSDS), and performing long-term monitoring.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area may be necessary.

The scope of work to be performed during the remedial program at the Former Loudon and Kem Cleaner Site includes installing a SVE, SSDS, and performing long-term monitoring. Ground intrusive tasks will include the installation wells and piping for the SVE system.

Periodic monitoring for VOCs will be conducted consistent with the monitoring requirements specified in the Site Health and Safety Plan. "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.

Continuous monitoring consists of measuring air quality using a device capable of continuous measurement and data logging. The device can display instantaneous and time-averaged values. Continuous particulate monitoring will be performed if visible dust cannot be controlled in the work area as described below. Continuous VOC monitoring will be conducted if periodic photoionization detector (PID) measurements are greater than the action levels described below.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) will be monitored in the work area on a periodic basis using a PID equipped with a 11.7 electron volt (eV) lamp. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. The PID will be calibrated at least daily following the manufacturer's instructions.

- 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 15-minutes, work activities will 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 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 based on a continuous 15-minute average.

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

All readings will be recorded and documented in a log book, field notes, or appropriate field data form.

Particulate Monitoring, Response Levels, and Actions

The potential for generating excessive fugitive dust during drilling and well installation activities is very low because of the anticipated moisture content of the soil that will be encountered. Dust likely will be generated for short periods of time during the preparation of the slurry grout to backfill each borehole. Exposure can be mitigated by employing work practices that will minimize or eliminate dust and particulates in the work zone. Work practices include wetting dry or dusty materials as soon as practical. Airborne particulates will be monitored by visual observation and corrective measures will be implemented for control, as necessary.

Fugitive dust migration will be visually assessed during all work activities. If dust cannot be controlled in the work area, or persists for more than 15 minutes, then particulate concentrations will be monitored continuously at the 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 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.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter ($\mu g/m^3$) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed

- 150 $\mu g/m^3$ above the upwind level and 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 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.

All readings will be recorded and documented in a log book, field notes, or appropriate field data form.

ATTACHMENT 4

HASP Forms

Initial Site Visit Check List
Daily Safety Meeting Log
Incident Report
Air Monitoring Log
Instrument Calibration Log

DAILY SAFETY MEETING LOG
ALPHA GEOSCIENCE

PROJECT No. and Name: _____ _____

DATE: _____ _____

Description of Work to be Performed:

Description of Concerns or Modifications:

Description/Discussion of Potential Hazards and Protections: (check those that apply for the work shift)

Excessive Noise:	_____	Heavy Equipment:	_____
Overhead Elec. or Objects:	_____	Explosive Gas:	_____
PPE	_____	Traffic	_____
Chemical Splash/Exposure:	_____	Scaffolding:	_____
Heat/Cold Stress:	_____	Confined Space Entry:	_____
Slip/Trip:	_____	First Aid Kit:	_____
Excavation/Shoring:	_____	Utilities	_____
Electrical Shock:	_____	Emergency Routes:	_____
Fire Extinguisher	_____	Pinch Points	_____
Slopes	_____	Surface Water	_____
Pressure Hoses	_____	Hand Tool Use	_____

NAME:	COMPANY:

Meeting Conducted by : _____

Name and Signature

INITIAL MOBILIZATION HEALTH AND SAFETY CHECKLIST

This checklist should be used by the Site Safety Officer during the initial site mobilization to ensure that all site personnel are aware of applicable site H&S requirements and complying with the HASP.

		Initials
1.	HASP cover sheet is signed and current.	_____
2.	Review Health and Safety Plan (HASP) with employees.	_____
3.	All site personnel (and subcontractors) must sign HASP Acknowledgement Sheet.	_____
4.	Check that training certifications are current and available on-site for all site personnel:	
	- 40-Hour HAZWOPER Training	_____
	- 8-Hour Refresher Training (within past year)	_____
	- Supervisor Training (for Field Supervisor and Project Manager)	_____
	- Medical Certification	_____
	- Respirator Fit Test (if Level C PPE may be required)	_____
	- First Aid and CPR Certification (for at least one person on-site)	_____
5.	The following notices should be posted in the office area:	
	- OSHA Poster	_____
	- Hospital Route Map	_____
	- Emergency Contacts/Telephone List	_____
	- Site Map showing evacuation routes and assembly areas	_____
	- State posters as required	_____
6.	Check that PPE is available on-site as specified in the HASP. At a minimum, most projects require Level D with provisions for upgrading to Level C:	
	- Hard hat (check that suspension is properly attached and in good condition)	_____
	- Safety glasses with side shields (check for ANSI Z87.1 embossment on frames)	_____
	- Steel-toed safety boots	_____
	- Ear plugs available, if needed	_____
	- Respirators stored in a clean, sanitary condition (i.e., sealed bags)	_____
	- Chemical protective clothing with duct tape (if upgrade is needed)	_____
7.	Ensure that air monitoring equipment and required calibration gas/devices are available on-site as specified in the HASP.	_____
8.	Ensure that decontamination equipment is available as specified in the HASP. Generally, the following decontamination equipment is often required for personnel decontamination stations:	
	- Containers and labels for disposal of used PPE	_____
	- Plastic sheeting to cover ground	_____
	- Tubs and scrub brushes for outer PPE/boot wash and rinse	_____
	- Detergent and rinse water	_____
	- Separate provisions for cleaning, disinfecting and drying respirators	_____
9.	Ensure that the site control and emergency response equipment is readily available on-site as specified in the HASP. Generally, the following equipment is required for most sites:	
	- First aid kit and bloodborne pathogens response kit and blanket	_____
	- Communications equipment	_____
	- Vehicle designated for emergency use	_____
	- Fire extinguisher (ensure it is charged and inspected monthly)	_____
	- Emergency eyewash/flushing equipment (if corrosive chemicals are used)	_____
	- Hazard warning tape	_____
	- Flashlight and tool kit	_____
10.	Ensure that containers of chemicals brought on-site are labeled with the identity and appropriate hazard warning. Also, MSDSs must be on-site for each chemical.	_____
11.	Ensure that the required forms are available on-site and used to document field activities in accordance with the HASP.	_____

Alpha Geoscience
Job-Related Injury/Accident/ Illness Report

Initial Report Date:
Job Site/Project No.:
Personnel Involved:
Date/Time of Incident:

Location:

Description of Conditions:

Description of Injury/Illness:

Date/Time of Report to Alpha:

Action:

Follow-up:

Summary/Closure:

Reporting:

Corrective Actions:

Prepared by: _____

Signature and Date

AIR MONITORING FORM

Project Name:_____ Date:_____ Analyst:_____
Project No.:_____ Equipment Type:_____

Weather Conditions: _____

Calibration Information: _____

Monitoring Limits: _____

Field Operation/Activity:_____

_____

Parameter*	Location	Time	Measurement

*Parameters: Organic Vapors (OV), Hydrogen Sulfide (H_2S),
Percent Lower Explosive Limit (%LEL),
Oxygen (O_2), Methane (CH_4), etc.

INSTRUMENT CALIBRATION LOG

Client Name and Site:	Project Manager:	Task Number:

Calibration Event:

Person Calibrating:	Date:
Instrument Type:	Calibration Gas:
Model:	Calibration Gas Concentration (ppm):
Serial #:	Reading (ppm):
Calibrator Model:	Adjusted Reading (If Necessary):
Comments:	

Person Calibrating:	Date:
Instrument Type:	Calibration Gas:
Model:	Calibration Gas Concentration (ppm):
Serial #:	Reading (ppm):
Calibrator Model:	Adjusted Reading (If Necessary):
Comments:	

Person Calibrating:	Date:
ument Type:	Calibration Gas:
Model:	Calibration Gas Concentration (ppm):
Serial #:	Reading (ppm):
Calibrator Model:	Adjusted Reading (If Necessary):
Comments:	

Person Calibrating:	Date:
Instrument Type:	Calibration Gas:
Model:	Calibration Gas Concentration (ppm):
Serial #:	Reading (ppm):
Calibrator Model:	Adjusted Reading (If Necessary):
Comments:	

Person Calibrating:	Date:
Instrument Type:	Calibration Gas:
Model:	Calibration Gas Concentration (ppm):
Serial #:	Reading (ppm):
Calibrator Model:	Adjusted Reading (If Necessary):
Comments:	

nts:

NOTE: Return to HSM Upon Completion of Site Work.

Appendix B:

Addendum to Community Participation Plan

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

STATE SUPERFUND PROGRAM

ADDENDUM TO CITIZEN PARTICIPATION PLAN

FOR

FORMER LOUDON AND KEM CLEANERS

BASED UPON

BROWNFIELD CLEAN UP AGREEMENT BETWEEN

THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AND

VOLUNTEER, DF ACQUISITIONS, LLC
350 Northern Boulevard
Albany, New York 12207

December 2016

This Addendum to the Citizen Participation Plan is prompted by the voluntary commitment of DF Acquisitions, LLC ("DF") to participate in and implement the on-site portions of the approved remedy at Loudon Plaza through the Brownfield Cleanup Program (BCP). A Remedial Action Work Plan will be implemented by DF to construct and operate the on-site portion of the site remedy set forth in the March 2015 Record of Decision ("ROD")..

INTRODUCTION

The former Loudon and Kem Cleaners site located at 350 Northern Boulevard in the City of Albany, Albany County, New York is a Class II Inactive Hazardous Waste Disposal Site (the "Site"). It is listed as Site No. 401060. In March 2015, the New York State Department of Environmental Conservation, Division of Environmental Remediation (the "Department") issued a ROD that describes the selected remedy for the Site. The remedy was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375. The ROD was made available for citizen review in a document repository.

The ROD is based on the administrative record of the New York State Department of Environmental Conservation for the Site and the public's input to the proposed remedy presented by the Department.

The ROD for the Site is attached hereto as Exhibit A. Upon issuance of the ROD, the Department published a Citizens' Participation Plan ("CPP") attached hereto as Exhibit B.

On or about September 8, 2016, DF became a volunteer under the New York State Brownfield Cleanup Program and executed a Brownfield Cleanup Agreement ("BCA") with the Department. The BCA requires DF to implement those portions of the ROD that call for remedial action, engineering controls and institutional controls within the real estate parcel

located at 350 Northern Boulevard, at Loudon Plaza (known as the on-site portion of the remedy). This document serves as an addendum to the Department's CPP, based upon DF's work as a volunteer under the BCA.

CITIZEN PARTICIPATION PLAN BY VOLUNTEER

DF, as volunteer, will submit a work plan for on-site engineering controls in accordance with the ROD and the BCA. Upon approval of this volunteer's work plan by the Department, DF shall place the work plan at the document repository identified in Appendix A of the original Citizen Participation Plan.

DF shall place the work plan in the document repository before the start of remedial action.

PUBLIC INFORMATION

Upon deposit of the approved work plan for onsite engineering controls, DF shall: (1) inform all persons on the Site Contact List that the work plan has been approved; (2) Provide those citizens with information as to the public location of the work plan; and (3) provide the persons on the Site Contact List with an approximate date upon which the field work shall begin.

When the Department issues a Certificate of Completion ("COC") or similar Site closure document relating to DF's onsite work, DF shall place the Certificate of Completion in the document repository within ten (10) days of the Department's issuance of the COC. At that time, DF shall also distribute a fact sheet to the Site Contact List that announces the issuance of the COC.

The Site Project Contact and Locations of Reports is attached as Appendix A.

Appendix C:

Project & Tenant Contact Lists

Former Loudon and Kem Cleaners BCP Contact List

Name	Address 1	Address 2	City	State	Zip Code
Media:					
Times Union	News Plaza	Box 15000	Albany	NY	12212
The Record	501 Broadway		Troy	NY	12181
The Daily Gazette	2345 Maxon Road		Schenectady	NY	12308
Document Repository	Albany Public Library, Reference Desk	161 Washington Avenue	Albany	NY	12210
Local Officials:					
Mayor	Albany City Hall	24 Eagle Street	Albany	NY	12207
Albany Common Council Chair	Albany City Hall	24 Eagle Street	Albany	NY	12207
Albany City Clerk	Albany City Hall	24 Eagle Street	Albany	NY	12207
Chairman	City of Albany Dept. of Dev & Planning	200 Henry Johnson Boulevard, Ste #3	Albany	NY	12210
Chief Executive Office	City of Albany Industrial Development Agency	21 Lodge Street	Albany	NY	12207
Chairman	Department of Water & Water Supply	10 N. Enterprise Drive	Albany	NY	12204
County Officials:					
Chair, Albany County Legislature	Albany County	112 State St., RM 710	Albany	NY	12207
Albany County Executive		112 State St., RM 200	Albany	NY	12207
County Clerk	Albany County	32 North Russell Road	Albany	NY	12206
Dept. of Eco Dev't, Cons. and Plng.	Albany County	112 State St., RM 720	Albany	NY	12207
Commissioner	Albany County Health Dept.	175 Green Street	Albany	NY	12202
Chair, Albany County Planning Board	Albany County Dept. of Public Works	449 New Salem Road	Voorheesville	NY	12186
State Elected Officials:					
Assemblymember, District 108 (John T. McDonald III)	LOB 417		Albany	NY	12248
NYS Senator, District 44 (Neil D. Breslin)	172 State StreetRoom 414, Capitol		Albany	NY	12247
Federal Elected Officials:					
Hon. Kirsten Gillibrand, US Senator	Leo O'Brien Building, 11A Clinton Avenue, Room 821		Albany	NY	12207
Hon. Charles Schumer, US Senator	Leo O'Brien Building, 11A Clinton Avenue, Room 420		Albany	NY	12207
Paul Tonko, Congressman	61 Columbia Street, 4th Floor		Albany	NY	12210
Residents, Property Owners, Businesses:					
Sky Four Realty Company	372 Northern Blvd.		Albany	NY	12204
David Gruenberg	54 Second Street		Troy	NY	12180
Albany Memorial Hospital c/o NE Health	Larry Tilton, Manager Plant Operations	600 Northern Blvd.	Albany	NY	12204
Albany Memorial Hospital c/o NE Health	George Seabury, Dir. Facilities Operations	600 Northern Blvd.	Albany	NY	12204
Loudon Arms Apartment c/o Loudon Village LLC		20 Corporate Woods Blvd.	Albany	NY	12211
Dawn Homes Management	Mark Rosen	20 Corporate Woods Blvd.	Albany	NY	12211
Omni Development Company, Inc.	Mark L. Aronowitz	40 Beaver Street	Albany	NY	12207
Omni Management Group, Ltd.	Paul G. Long RPA	40 Beaver Street	Albany	NY	12207

Former Loudon and Kem Cleaners BCP Contact List (continued)

Loudon Plaza Tenants and Contact Information

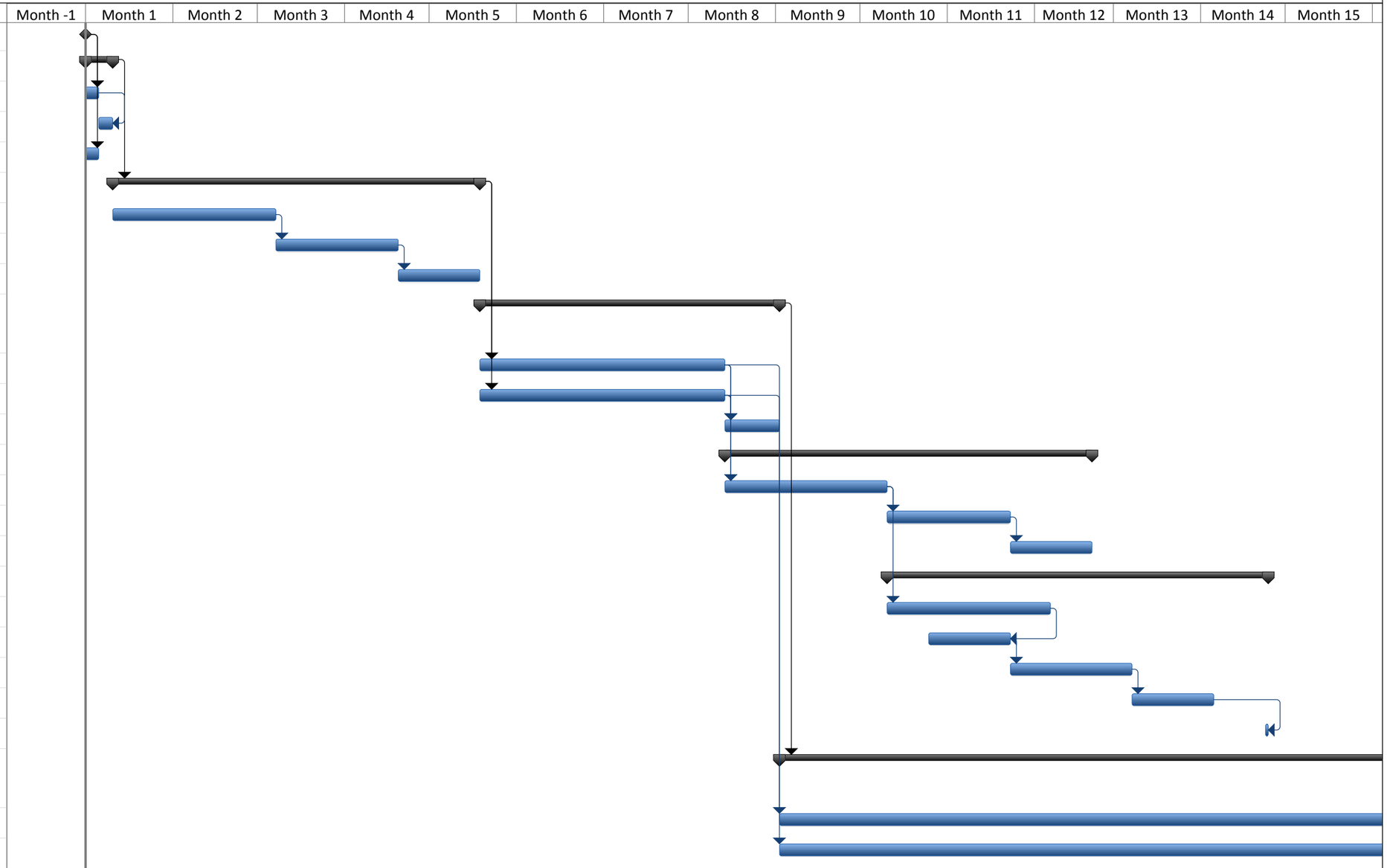
Name	Name	Address 1	Address 2	City	State	Zip Code
David Camacho	Core 4 Corporatic	25 Fletcher Rd		Albany	NY	12203
Jenna Fiman DMD		160 Hasgate Drive		Delmar	NY	12054
Iana Capistrano	Town Total Healt	532 Broadhollw Rd		Melville	NY	11747
Zef Boga	I Love NY Pizza	350 Northern Blvd	Suite 5	Albany	NY	12204
Sheila Freije	Mr. Subb	601 Columbia Street		Cohoes	NY	12047
Mr. Subb	c/o Tuczinski Cav	54 State Street		Albany	NY	12207
Omid Temouri &	Ships Pub/286 La	301 Lark Street		Albany	NY	12210
Sue Garla	Edward D. Jones	12555 Manchester Rd		St. Louis	MO	63131
Frank Marchesin	Edward D. Jones	350 Northern Blvd	Suite 10B	Albany	NY	12204
Jerry Gus	KAMMA INC DBA	350 Northern Blvd	Suite 11	Albany	NY	12204
Sal Graziano	Graziano Insuran	350 Northern Blvd	Suite 12A	Albany	NY	12204
Antonio Puorto	Loudon Barbers	350 Northern Blvd	Suite 12B	Albany	NY	12204
Maya Endres	Trustco Bank	3 Sarnowski Drive		Glenville	NY	12302
Michael Bolton	Advanced Orthot	350 Northern Blvd	Suite 101	Albany	NY	12204
Paul Otto	James Otto	350 Northern Blvd	Suite 108	Albany	NY	12204
Julie Moses	Dr. Joel Moses	350 Northern Blvd	Suite 105	Albany	NY	12204
Joseph Graziano		350 Northern Blvd	Suite 109	Albany	NY	12204
Brayton Construction Inc.		350 Northern Blvd	Suite 111	Albany	NY	12204
Howard L. Tannebaum MD		350 Northern Blvd	Suite 301	Albany	NY	12204
Lynn Thibeault	Best Systems	107 Everett Rd	Suite 105	Albany	NY	12205
Richard J. Ferrara	Hudson River/Bla	350 Northern Blvd	Suite 302	Albany	NY	12204
Charles Braverma	Hobbees & Brave	350 Northern Blvd	Suite 305	Albany	NY	12204
Mark Kriss	Kris, Kriss & Brigo	350 Northern Blvd	Suite 306	Albany	NY	12204
Peter Mirabile	TSI Transportatio	TSI Transportation Inc.	Suite 308	Albany	NY	12204

Appendix D:

Project Schedule

Remedial Program Schedule
Former Loudon & Kem Cleaners
Albany. New York
NYSDEC Site No. C401060

ID	Task Name	Duration
1	DF Acquisitions Takes Ownership	0 days
2	**Pre-Design Investigation**	**10 days**
3	SVE Well Installation	1 wk
4	SVE Pilot Test	1 wk
5	SSDS Pilot Study	1 wk
6	**Remedial Action Work Plan**	**135 days**
7	Prepare RAWP	60 days
8	NYSDEC Review	45 days
9	Finalize RAWP	30 days
10	**Remedial Construction & Implementaion**	**110 days**
11	Install & Test SVE	90 days
12	Install & Test SSDS	90 days
13	Final Site Survey	4 wks
14	**Final Engineering Report**	**135 days**
15	Prepare FER	60 days
16	NYSDEC Review	45 days
17	Finalize FER	30 days
18	**Site Management Plan**	**140 days**
19	Deed Restrictions	60 days
20	Prepare SMP	30 days
21	NYSDEC Review	45 days
22	Finalize SMP	30 days
23	Certificate of Completion	1 day
24	**Operation, Maintenance, & Monitoring**	**1200 days**
25	SVE O&M	60 mons
26	SSDS O&M	60 mons



Project: Project Schedule_rev
Date: Tue 10/11/16

Task	Project Summary	Inactive Milestone	Manual Summary Rollup	Deadline	
Split	External Tasks	Inactive Summary	Manual Summary	Progress	
Milestone	External Milestone	Manual Task	Start-only		
Summary	Inactive Task	Duration-only	Finish-only		