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Friday, May 5, 2023

Sent Via email: emily.barry@dec.ny.gov
Ms. Emily Barry, Assistant Geologist
Division of Environmental Remediation, Region 3
New York State Department of Environmental Conservation
21 South Putt Corners Road
New Paltz, New York 12561

Sent Via email: cynleegray@aol.com
Ms. Cynthia Gray
Redscrib, LLC
43 Lafayette Street,
Suffern, New York 10901

RE: NYSDEC Brownfields Cleanup Program BCP No. C344085 - Reds Crib, LLC - 43-45 Lafayette Avenue, Suffern, NY

Dear Ms. Barry and Ms. Gray,

Environmental Consulting & Management Services, Inc. (ECMS)is pleased to provide this Supplemental Remedial Investigation Work Plan ("SRIWP") on behalf of Ms. Cynthia Gray of RedsCrib, LLC for the property located at 43-45 Lafayette Avenue in Suffern Village, New York, herein referred to as "Site" or "Project." This workplan outlines the areas of investigation as was discussed at the site with the NYSDEC and Property owner on February 3, 2023. The following workplan outlines the procedures for conducting this supplemental investigation. The purpose of this supplemental investigation is to evaluate what source in soil remains at the site below the slab.

- ECMS proposes to install as many as four borings to identify if associated soils are impacted.
- If an area is observed in the field the respective area would be investigated by additional sampling to attempt to delineate impacts to soil so a remedial workplan could be developed to address the identified impacts.
    - If possible, one of the borings will be converted into a monitoring well to calculate accurate groundwater flow direction and identify if the groundwater is affected in the respective area.
    - If a well can be installed ECMS will survey the wells at the site to ensure a groundwater flow map can be generated.
- ECMS will collect Soil samples at each of the four borings beneath the slab and at the terminal depth/water table to identify if PCE, TCE or other chlorinated VOCs and their associated breakdown products are present beneath the slab contributing to indoor air detections at the site.
    - During intrusive activities at the site ECMS will collect real time indoor air quality data for VOCs to ensure worker safety according to the enclosed Community Air Monitoring Program.
- ECMS will provide a Supplemental Remedial investigation report detailing additional investigations and recommendations for remediation and/or mitigation.

Background
ECMS initially evaluated the air quality and sub slab vapor at the site on August 11, 2020. On September 9, 2020, the NYSDEC spills hotline was called. Then, on September 15, 2020, EnviroSource conducted confirmatory samples and confirmed ECMS' reporting. Envirosure's report dated January 2021 summarized the September 15, 2020, sampling in a Limited Vapor Intrusion Assessment report. As a result of the report and the site's enrollment in to the NYSDEC Brownfield Cleanup Program (BCP) on April 8, 2021, the NYSDEC Spill No. 2005272 was closed on April 30, 2021. Envirosure completed and obtained approval from the NYSDEC for a Remedial investigation Work Plan dated November 17,

2021. With the approval of the NYSDEC the work plan was conducted starting on January 6, 2022, and was completed on July 8, 2022. Various soil sampling well installation/sampling events and Soil vapor sampling occurred in this time frame. Additionally Concrete chip slab was also analyzed to determine if the building materials were a source of the CVOCs.

Based on the results in the Remedial Investigation Report site contamination includes limited CVOCs in soil vapor related to historic site operations. SVOCs and metals were detected as well. ted to direct contact and the risk of exposure is addressed in a similar way to the VOC. Under current conditions, exposure to soil or groundwater is not likely, as the site is completely capped by a building and concrete sidewalk. Potable water for the Village of Suffern will continue to be sourced from the Municipal Utilities Authority.

All future intrusive work on the Site must be done in accordance with a Site-Specific Health and Safety Plan and donning of PPE. Exposure to sub-slab soil vapor is likely via indoor air and mitigation is required. In most instances, these exposures can be mitigated with engineering controls, including sealing of the basement slab and sump, soil vapor extraction, and/or installation of sub-slab depressurization systems. Currently, all cracks in the basement slab have been sealed, the sump has been covered and sealed to limit vapor intrusion to the basement indoor air.

Proposed Soil Investigation

ECMS proposes installing hand borings to assess and delineate current soil conditions below the slab in the basement. Before boring installation activities begin the NY Dig Safe will be called and the public utility mark out will be conducted. ECMS will adhere to a site-specific health and safety plan. It is enclosed as **Appendix A, Site-Specific Health, and Safety Plan.**

The subsurface conditions at the site will be investigated by advancing soil borings for visual assessment of the soil conditions and for the collection of soil samples for laboratory analysis. The precise location of the soil borings and sampling will be based on field observations and the pre-selected areas as per the February 2, 2023, NYSDEC site meeting. The proposed locations are enclosed as part of **Appendix B, Figure 1 Proposed Sample Location Map.**

The samples will specifically target potential Chlorinated Volatile Organic Compounds (CVOCs) representative samples across the area of concern while at the same time ensuring that impacted soils are adequately delineated. A photoionization detector (PID) will be used to screen soil for total volatile organic compound (VOC) concentrations and observations of soil composition, staining, odors, and PID responses will be recorded for inclusion in the summary report. The PID will be calibrated to accurately portray indoor air concentrations for PCE which is the primary contaminant for concern.

A total of four soil borings are planned and samples will be collected from visually impacted soil, those intervals revealing elevated readings on the PID, and in the smear zone at the water table if encountered. If a perched water table is encountered a temporary well casing will be placed in the bore hole to collect a perched groundwater sample. Otherwise, only soil will be collected at the terminal depth of the boring if no evidence of impacts are present. All Boring information will be recorded in a soil boring log and will be included as part of Remedial Investigation Report Addendum (RIRA). The soil samples will be analyzed using EPA Method 8260 CVOC list compounds.

During intrusive activities if drill cuttings are generated and they exhibit evidence of impacts the soils with the highest PID reading will be retained for analysis to classify soils for disposal offsite. ECMS anticipates approximately four drums will be generated as part of the drilling activities. If evidence of impacts are observed and detected in the waste classification sample the drum will be disposed of at a NYSDEC registered/recognized disposal facility. If impacts are not observed in the field the investigation derived wastes will be deposited onsite back down the respective borehole. If local impacts in soil are the source for the reported concentrations of soil vapor the potentially impacted soils will likely exhibit visual or olfactory evidence of impacts.

Proposed Groundwater and Well installation Investigation.
If possible, a bedrock well will be installed nearest the former location of the dry-cleaning machine samples of groundwater will be collected. Based on prior investigations, bedrock refusal is anticipated at approximately 15 ft below ground surface and the on-site water table ranges from 26 to 30 feet below ground surface. Any well installed as part of this investigation will be conducted of 2-inch dedicated diameter schedule 40 PVC casing and 0.020-inch slotted screen, the wells will be screened 10 feet above the water table to the terminal depth of the borehole.

One permanent monitoring well will be installed, completed with 2-inch dedicated diameter schedule 40 PVC casing and 0.020-inch slotted screen. The monitoring well will be screened across the water table to the terminal depth. Based on the NYS DEC guidance provided during the February 2023 discussions, the permanent monitoring well will be advanced as a bedrock well to a depth of approximately 50 ft as requested. A sand-pack will be placed in the annular space of the well, from the bottom of the soil boring to approximately one foot above the top of the well screen and capped with a bentonite seal. The newly installed monitoring wells will be surveyed into a scaled site plan to generate a groundwater elevation contour map. The groundwater elevation in the newly installed well and existing monitoring wells will be used to determine groundwater flow directions. Historic groundwater flow direction is assumed to the south based on information from the NYSDEC and the general topography of the area.

Prior to sampling the groundwater, the newly installed well will be properly developed to reduce the turbidity and increase the hydraulic interaction between the well and the aquifer. Purged groundwater will be properly pumped into drums until it can be properly disposed via vacuum truck and disposed offsite. As necessary the liquids will be transported and disposed in drums or a vacuum truck depending on the analytical results. Each groundwater sample will be analyzed using EPA Method 8260 CVOC list compounds. The groundwater analytical methods will achieve a minimum reporting limit of 1.0 micrograms per liter. The newly installed monitoring well and/or historical wells will be depicted on a scaled site plan. The relative top of casing elevations will be determined by surveying the top of casing elevations to an arbitrary on-site datum elevation point. Those relative elevations will permit ECMS to interpret groundwater flow direction on the site. ECMS proposes to install one well in soil boring location C; if the bedrock well is not able to be advanced at soil boring location C an alternative location will be selected based on field observations. The sample locations are identified in **Appendix B, Figure 1 Proposed Sample Location Map.**

Community Air Monitoring Plan
The real-time air monitoring for VOCs at the perimeter of the exclusion zone or work area are required. Most sites will involve VOC monitoring; additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

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

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. A periodic monitoring during sample collection might consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities.

ECMS will increase air circulation during intrusive work by using fans to reduce worker exposure to VOCs. Air will be drawn in from one area and discharged from another.

<u>VOC Monitoring, Response Levels, and Actions</u>

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

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

Indoor, Outdoor Air and Sub-Slab Vapor Investigation
ECMS will not collect air samples as part of the investigation as more information cannot be gathered until a potential source is located.

Supplemental Remedial Investigation Report
A revised RIR Addendum Report will include a narrative description of the work performed, tabulated laboratory analytical data, a site plan, boring/well logs, and original laboratory analytical reports to support ECMS' recommendations for remediation and or mitigation.

ECMS requires department approval of this workplan or some variant prior to commencing work at the site. Should you have any questions or comments, please do not hesitate to contact the undersigned via email at harrys@ecmsny.com or via phone at (203)241-1030.

Sincerely,
Environmental Consulting and Management Services, Inc.

Harry Sudwischer, Director of Remediation and Spills

Enclosed:
Appendix A- Site Specific Health and Safety Plan

Appendix B Figure 1 - Proposed Soil Boring and Monitoring Well Location

CC: via email
Mr. Marc Rutstein, ECMS, Inc. – marcr@ecmsny.com

Limitations

The recommendations contained in this workplan represent ECMS's professional opinions based upon currently available information and are arrived at in accordance with currently acceptable professional standards. This workplan is based upon a specific scope of work requested by the client. The contract between ECMS and its client outlines the scope of work and only those tasks specifically authorized by that contract or outlined in this letter were performed. This letter and attachments are intended only for the use of ECMS's client and anyone else specifically listed in this letter. ECMS will not and cannot be liable for unauthorized reliance by any other party. Other than as contained in this paragraph, ECMS makes no express or implied warranty as to the contents of this report.

ENCLOSED

Appendix A- Site Specific Health and Safety Plan

Health, Safety, Security & Environment

Health and Safety Plan

Project Number:	**23.527**
Project Name:	**45 Lafayette Avenue**
Address:	**43-45 Lafayette Avenue**
City, State	**Suffern Village, NY**

Prepared By:	**Environmental Consulting & Management Services, Inc. (ECMS)**
Address:	**10 Filmont Drive**
City, State, Zip:	**New City, NY**

Telephone:	**(203) 241-1030**	**Fax:**	

Updated: **May 05, 2023** (Month, Day, Year)

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Appendix E Job Safety Analysis
Appendix F Behavior Based Safety Observation Field Checklist

FIGURES

Route to Hospital Map
Site Map
Journey Management Plan Map and Instruction

CONSTRUCTION HEALTH AND SAFETY PLAN

ECMS believes that all work-related injuries and illnesses are preventable and has a goal of zero work related injuries and illnesses for its worksites. This plan outlines the processes and procedures ECMS will employ to achieve this goal.

- The Project Manager or Site Safety Officer (SSO) will hold daily on-site safety meetings ***prior to the start of field work*** to review site safety concerns, procedures, review key elements of the Construction Health and Safety Plan (HASP) and Job Safety Analyses (JSAs) with all members of the field crew, including ECMS employees and subcontractors. Other site safety meetings will be held as needed. Subcontractor personnel must participate in safety discussions as requested by ECMS. See ECMS's tailgate meeting checklist and guidance document for details (Appendix A).
- All field team members who may be exposed to site impacts during the course of their work, shall have completed OSHA 40-hour HAZWOPER and annual refresher training (29 CFR 1910.120). ***Documentation of training shall be readily available***.
- Each ECMS team member must review, sign and date the HASP and the ECMS Acknowledgement Agreement at the end of this document. Each subcontractor employee and visitor must review the HASP and sign, date, and describe their affiliation on the Subcontractor Acknowledgement Agreement at the end of this document.
- The signed HASP is kept in the field and readily available for duration of field work and returned to the project file upon completion of field activities.
- The HASP shall be revised or rewritten if site activities are changed significantly, if areas of differing hazard are involved, or as information about contaminants and hazards changes. Changing conditions may justify either increasing or decreasing HASP restrictions and action levels, depending upon the additional information generated.
- **STOP WORK AUTHORITY—ALL WORKERS HAVE THE AUTHORITY AND RESPONSIBILITY TO STOP ANY WORK, OR REFUSE TO DO WORK, THAT THEY FEEL IS UNSAFE.**

1.0 GENERAL INFORMATION

ECMS PROJECT NUMBER:	23.527		
Client:	Redscrib, LLC	Site Owner:	Redscrib, LLC
Site Name:	43 Lafayette Avenue	Client Claim/PO Number:	
Site Address:	43 Lafayette Ave., Suffern, New York 10901		
Project Manager:			
Plan Prepared by:	Harry Sudwischer	Date:	5/05/2022
Approved by:		Date:	
Revised by:		Date:	
Revision Approved by:		Date:	

Place date(s) in appropriate box (es) for current phase(s) of site activities.

Site Activities	Soil Borings	Monitoring Well Installation	Tank Removal	Soil Excavation	Recovery Well Installation	Pilot Tests	Treatment System Construction	Soil Endpoint Sampling	LNAPL Recovery	Vapor Barrier Installation Oversight
Site Inspection and Construction Oversight										
Remedial Investigation										
Site Remediation Activities				X				X		

2.0 EMERGENCY CONTINGENCY PLAN

2.1 Local Emergency Telephone Numbers

Can 911 be used at this site? Yes [X] No [ ] If yes, be certain it is activated and enhanced.

Since cellular telephones may not reach a local 911 operator, also supply the following information. (provide area code)

Ambulance	911	Fire Department	911
Hospital Emergency Room	845-368-5000	Police Department	911
Poison Control Center	1(800) 222-1222	HazMat Response Unit	911
(List utility companies as appropriate)			

2.2 Hospital Routes

INCLUDE A MAP WITH HIGHLIGHTED EMERGENCY HOSPITAL ROUTE(S) at the end of the HASP.

Emergency Hospital* Name: Good Samaritan Hospital Phone number: 845-368-5000

Hospital Address: Emergency Department, 255 Lafayette Ave, Suffern, NY 10901

Hospital Directions: Head east on Lafayette Avenue 1.2 miles
Turn Right Hospital Entrance, and keep right
Destination will be on the right

* **Hospital should be notified immediately if an injury occurs which requires medical attention.**

Estimated driving distance: 1.2 Miles Estimated driving time: 3 Minutes

Does hospital accept chemically contaminated patients? Yes [X] No [ ]

*Inform hospital in advance that chemically contaminated patient is on the way

2.3 Evacuation Routes

Identify prevailing wind direction, if known. Evacuation route and meeting location must be upwind or crosswind:

PRIMARY EVACUATION ROUTE AND MEETING LOCATION: **UPDATE ON SITE AS NECESSARY**

SECONDARY EVACUATION ROUTE AND MEETING LOCATION: **UPDATE ON SITE AS NECESSARY**

2.4 Emergency Contacts

PHONE NUMBERS (provide area codes)			
	Name or Description	**Work**	**24-hr. Emergency**
ECMS Project Manager:	Harry Sudwischer	(203) 241-1030	
Client Contact:	Ms. Cynthia Gray	917-375-6374	

Site Contact:			
Site Owner:	Redscrib, LLC		
Applicable Regulatory Agency:	NYSDEC – Region 3	(845) 256-3000	
		(	

2.5 Reporting Procedures and First Aid

Call emergency services (911) ASAP if situation is an emergency, i.e., workers or the public are in immediate peril.

Report all accidents, injuries, and illnesses IMMEDIATELY to the ECMS PM

Report all NEAR MISSES as soon as reasonably possible (no later than 24 hrs after the event). Use ECMS's online reporting system to submit your near miss. If necessary, use the attached reporting form to capture facts and details immediately while in the field. See Appendix B for reporting form.

2.5.1 First Aid Equipment

- Standard first aid kit/CPR mask
- Portable eye wash

2.5.2 First Aid Procedures

(if an emergency, call 911).

Ingestion:	Follow instructions from Poison Control Center or the SDS, contact Contact Emergency Medical Services as necessary and then ECMS PM.
Inhalation:	Move victim to fresh air. Contact Emergency Medical Services as necessary and then ECMS PM.
Dermal Exposure:	Remove contaminated clothing. Wash thoroughly with soap and water. Contact Emergency Medical Services as necessary and then ECMS PM.

A first aid kit and portable eyewash must be available on site. If a worker suffers a chemical splash in the eye, flush the eye for 15 minutes and arrange for off-site medical treatment immediately. Workers will also be instructed to thoroughly wash with soap and water any unprotected skin that comes in direct contact with contaminated soil or water. COntact Emergency Medical Services as necessary and then ECMS PM.

Trained workers who choose to provide CPR or First Aid must use Universal Precautions to control possible exposure to blood borne and infectious agents.

2.5.3 Site Emergencies

In the event of a fire or explosion, or other imminently dangerous situation (e.g., rupturing a natural gas line), evacuate the site immediately and call the appropriate emergency phone numbers listed in Section 2.1. Call the ECMS PM or Office Leader and inform him/her of the situation as soon as possible.

If a service station product line is damaged, shut down the fuel supply immediately. In many cases, the release from a product line will be contained in the subsurface (e.g., borehole or excavation) limiting the need for immediate spill response. However, if there is a surface release of fuel, call the local fire department or hazardous materials response (HAZMAT) unit. Phone numbers are listed in Section 2.1. Any release of material remaining after the emergency response will be addressed once the area is deemed safe by emergency responders.

a) Small Spills and Releases
Drums containing waste or recovered liquid must be in sound condition (new or reconditioned drums) with lid that seals and can be tightened in place. If possible, drums should be placed on an impermeable surface in a secure location prior to ECMS's field team leaving the site.

For areas where small spills or leaks may occur, suitable quantities of absorbent materials (pads, socks, floor dry, etc.) and salvage drums or containers must be available. Drums and containers used during spill clean-up shall meet the appropriate regulations (DOT, OSHA, and EPA) for the wastes that they contain. Wastes must be properly characterized for disposal.

b) Remediation Systems
See Section 5 (Remediation Systems) for spill prevention measures for remediation systems.

2.6 SITE RESOURCES

If no, identify closest available resource with directions.

Water supply available on site:	Yes	X	No		Bathrooms available on site:	Yes	X	No	
Telephone available on site:	Yes	X	No		Electricity available on site:	Yes	X	No	
Other resources available on site:	Yes		No	X	If "yes", identify:				

2.7 Project HSSE Team

Team Members (list)	
Project Manager:	Harry Sudwischer
Public Information Contact:	
On-site Personnel: (On-site personnel are responsible for site health and safety)	Samantha Steenson, Steve Cutignola
Site Safety Officer:	Harry Sudwischer

PROJECT TEAM OSHA TRAINING RECORDS
(DOCUMENTATION MUST BE AVAILABLE FROM ECMS AND APPROPRIATE CONTRACTORS UPON REQUEST)

Name	40 Hr Training Date	8-Hr Refresher Date	Site Supervisor Training Date
Harry Sudwischer (ECMS)	1/19/2010	2/17/2022	4/19/2016
Sam Steenson (ECMS)	2/4/2022	-	-
Steve Cutignola	08/25/2011	2/172022	-

All workers who have the potential to be exposed to site impacts must have up-to-date HAZWOPER training. In addition, ECMS employees must, at a minimum, have defensive driver training, first aid/CPR and medical monitoring. See subcontractor Section 12 for minimum required subcontractor training.

2.8 Perimeter Establishment

Map/Sketch attached:	**Yes**	**X**	**No**		**Site secured:**	**Yes**	**X**	**No**	
Perimeter identified:	**Yes**	**X**	**No**		**Zone(s) of Contamination identified:**	**Yes**	**X**	**No**	

2.9 Work Zones

An exclusion zone will be identified for each site or site activity. The exclusion zone will be clearly marked with yellow **CAUTION** tape, barricades and\or cones (recommended cone height – 42 inches), as needed. A contamination reduction zone and support

zone will be established for any site with site contaminant levels that pose a health threat to site workers or the public. No person will be allowed in the exclusion zone or contamination reduction zone without approval from the ECMS Site Safety Officer.

2.10 Site Security

Site security must be determined on a site-specific basis. The need for additional personnel, on-site security guards, fencing, etc. should be discussed with the client site manager, or other members of management. Equipment stored overnight will be locked and secured to prevent vandalism and protect the public. A description of the additional safety requirements should be listed below:

LIST SITE SECURITY MEASURES:

N/A

When work scheduling requires that an excavation be left open overnight, security fencing will be erected to restrict access to the site or work zones described in Section 2.9.

2.11 Site Map

Attach a site map to the "Figures" section at the end of the Construction Health and Safety Plan. The Site Map can also to be used to outline Traffic Control (see Section 10).

3.0 SITE CHARACTERIZATION

A. Summary of Previous Site Investigation(s): No RECs associated with the site

B. Source of Previous Site Investigation Information: Remedial Investigation Report 2022

April 2022 Remedial Investigation

C. General Facility Description:

Gasoline Service Station [ ] Refinery [ ] Bulk Terminal [ ] Other: Former Parking lot

Description: Active [X] Years has the site been operating: [ ] Closed/Abandoned [ ]

Current property use (operations on-site, products, raw materials used, etc.): Commercial Building

Was the site previously used for industrial purposes: Yes [ ] No [X]

Describe previous site uses:

Surface cover on-site includes:

[ ]	Soil/bare ground	[ ]	Clay caps	[ ]	Plastic cover
[ ]	Grass	[X]	Paving/asphalt	[ ]	Water bodies
[ ]	Woods	[ ]	Swamp	[ ]	Brush/scrub
[X]	Buildings	[ ]	Unpaved roads	[ ]	Other

Approximate site surface area: 5,000 sq. ft. or acres

Percentage of surface area: paved 100 % bare soil % vegetated % under water %

Potential for dust generation on-site: High [ ] Medium [X] Low [ ]

Any site access restrictions: Yes [ ] No [X] Please list:

Fenced/locked [ ] Posting (signs) [ ] Security guards [x]

Evidence of public access to the site? Yes [ ] No [X]

If "yes," describe:

D. Regulatory Contacts

Are regulatory agencies involved with the site (Y/N)? Federal? [ ] State? [Y] Local? [ ]

Name	Agency	Phone (incl. area code)
NYS DEC - Emily Barry	NYSDEC Region 3	

4.0 WASTE CHARACTERIZATION

4.1 Waste/Contaminant Type(s)

Characteristic(s):

	Liquid	x	Soil		Solid		Sludge		Gas
	Corrosive		Ignitable		Radioactive		Explosive		Flammable
	Volatile		Toxic		Reactive	x	Unknown		Other

4.2 Major Spills/Releases

Type	Date	Chemical	Quantity	Impacted Media*
NA				

(*air, surface water, soil, or ground water)

Free Product: Yes [ ] No [X] Dissolved: Yes [ ] No [ ]

Have removal actions occurred? Yes [ ] No [X]

If "yes," describe: _____

Is there evidence that contaminants present could cause vapor problems in structures on-site?

Yes [ ] No [X] If "yes," is building mechanically ventilated? Yes [ ] No [ ]

Exhaust Ventilation: _____ General Building Ventilation: _____

4.3 Chemicals/Waste Stored On-site (including petroleum products)

		How Many?	Size?	Chemical?
	Drums	X	NA	
	Tanks	X	NA	
	Gasoline USTs	X	NA	
	Surface impoundments	X	NA	
	Pits/landfills	X	NA	
	Other			

Identify all chemical products ECMS will use or store on site:

NA

Safety Data Sheets (SDS) are **required** for site chemicals.
Please indicate where SDS can be found for this site:

[X] SDS Log/Binder (In Field) [ ] Attached (Additional Info. Optional)

5.0 REMEDIATION SYSTEM INFORMATION

(If not applicable, continue to the next section.)

Is there a remediation system onsite? Yes [ ] No [X]

Describe _____

List the Remediation System hazards identified at this site:

[ ] Inadequate Ventilation	[ ] Unguarded Equipment	[ ] Slip, trip, fall or overhead hazards
[ ] Noise Exposures	[ ] Confined Space	[ ] Security Issues
[ ] Energized Equipment requiring lockout/tagout	[ ] Temperature Extremes	[ ] List Other:

If building ventilation system is not adequate, identify manual ventilation procedure: _____

Identify PPE/procedures required to mitigate the remaining system hazards identified above: _____

Have sound level surveys been conducted on site? Yes [ ] No [X]

If "Yes," record range of survey results and approximate distance from source. Note: hearing protection must be worn if noise levels prevent normal conversation at a distance of three feet, or anytime noise levels are measured to be over 85 dB.

dBA	Source	Distance from Source	Date

Check all energy sources on the remediation site:

[ ] Electrical	[ ] Mechanical	[ ] Other (describe) _____
[ ] Thermal	[ ] Hydraulic	
[ ] Chemical	[ ] Pneumatic	

Are written Lockout/Tagout procedures required? Yes [ ] No [ ] Where are they located? _____

Remediation Systems in Shutdown Mode (See ECMS's Lockout/tagout practice for details)
Remediation systems that are shut down for **service or maintenance** reasons for extended periods of time, will be locked and tagged in accordance with the requirements of 29 CFR 1910.147, OSHA's Lockout/tagout standard, outlined in ECMS's Lockout/Tagout written practice.

Remediation systems shut down for business reasons **other than equipment service or maintenance** (i.e., outside the scope of 29 CFR 1910.147), and which will be left in that condition at least until the next visit by a ECMS employee, will be secured in accordance with the following procedure.

a) The system will be locked, using a standard ECMS padlock, so that the power cannot be turned on, and a yellow "caution" tag will be applied. The tag must include the following information:

1) Caution
2) Do not operate
3) Do not remove the tag unless authorized
4) Name of person applying the tag
5) Date tag applied
6) Reason why equipment is shut down

b) Systems shutdown and locked for other business reasons can only be unlocked and have the tag removed with the approval of the ECMS Project Manager for the site or the Office Leader for that region. However, unlike systems locked and tagged under 29 CFR 1910.147:

- The person applying or removing the lock and tag does not have to be an authorized LOTO trained employee under 29 CFR 1910.147.
- The person removing the lock and tag does not have to be the same person who applied the devices.

Remediation System Spill Prevention
ECMS remediation systems are often designed with several controls to prevent spills. Check the controls below found on the system onsite.

☐	high/high alarms	☐	redundant high/high float	☐	List Other:
☐	secondary containment	☐	floor sump		
☐	transfer tank	☐	backwash tank		

Vessels, piping, valves, and other system components should be inspected to detect leaks or the potential for future leaks. Floats should be routinely cleaned and tested to ensure for their proper functionality. Inspections and tests should occur at the frequencies outlined in the system O&M Manual or other maintenance documents.

In case of an emergency: shut down the system (if it is safe to do so), evacuate to the designated meeting point, and follow the emergency contact procedures in Section 2, as necessary.

Have procedures for remediation system shutdown or emergency procedures been provided to site owner or manager?

☐ Yes ☐ No

6.0 HAZARD EVALUATION

Identify all chemicals that are present or are suspected of being present on site and list their maximum concentrations in soil/water. Information on hazardous properties is listed in **Appendix C.** For chemicals not shown in **Appendix C**, enter the hazardous property information in the spaces provided and attach a Material Safety Data Sheet. See notes below.

Based on the results in the Remedial Investigation Report site contamination includes limited Chlorinated Volatile Organic Compounds (CVOCs) in soil vapor related to historic site operations. VOCs, SVOCs and metals were detected as well. ted to direct contact and the risk of exposure is addressed in a similar way to the VOC.

Chemical Name	TLV/*PEL*	**Maximum Concentration in Soil	*Maximum Concentration in Water	Health Hazards/ Comments
Trichloro-ethene (TCE)	PEL TWA 100 mg/m³	0.47 mg/kg	5 ug/l	irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; [potential occupational carcinogen]
Tetrachloro-ethene (PCE / PERC)	PEL TWA 100 mg/m	1.3 mg/kg	0.7 ug/l	irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; [potential occupational carcinogen]
Total Lead (elemental)	PEL TWA 0.05 mg/m³	1630 mg/kg	0.144 ug/l	lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation eyes; hypertension
Nickel	PEL TWA 1 mg/m³	682 mg/kg	0.068 ug/l	sensitization dermatitis, allergic asthma, pneumonitis; [potential occupational carcinogen]
benzo(a)anthracene	PEL TWA 0.2 mg/m³	2,400 ug/kg	15 15	dermatitis, bronchitis, [potential occupational carcinogen] [lung, kidney & skin cancer]
benzo(a)pyrene	PEL TWA 0.2 mg/m³	1,900 ug/kg	14 ug/l	dermatitis, bronchitis, [potential occupational carcinogen] [lung, kidney & skin cancer]
benzo(b)fluoranthene	PEL TWA 0.2 mg/m³	1,700 ug/kg	8.6 ug/l	dermatitis, bronchitis, [potential occupational carcinogen] [lung, kidney & skin cancer]
benzo(k)fluoranthene	PEL TWA 0.2 mg/m³	1,500 ug/kg	9.1 ug/l	dermatitis, bronchitis, [potential occupational carcinogen] [lung, kidney & skin cancer]
Chrysene	PEL TWA 0.2 mg/m³	2,500 ug/kg	17 ug/l	dermatitis, bronchitis, [potential occupational carcinogen] [lung, kidney & skin cancer]

Potential Hazards (check boxes that apply to the site):

	corroded containers		open lagoons		underground tanks		air stack emissions
	overhead electric lines		visible leachate		surface tanks		visible on-site releases
	visible soil contamination		odors		observed tanks		visible off-site releases
	observed free product	x	dust		confined spaces		visible on-site erosion
	underground utilities	x	open pits		excess debris		on-site surface water contamination
	building contamination		no hazards		high traffic issues		off-site surface water contamination

List Other Open excavations, Heavy equipment Traffic

7.0 PERSONAL PROTECTION & MONITORING EQUIPMENT GUIDELINES

7.1 Personal Protection

Level of Protection: B [ ] C [ ] D [X] List any modifications: _____

1. **All personnel working on ECMS sites must wear: long pants, sleeved shirt (short sleeves are acceptable), hard hat, ANSI Class 2 high visibility traffic safety vests, safety glasses and safety boots. Personnel may need to wear additional or more protective eye, ear, and hand PPE appropriate for their work tasks.**

2. Nitrile (list if other) gloves

3. Hearing protection must be worn if noise levels prevent normal conversation at a distance of three feet, or anytime noise levels are measured to be over 85 dB.

4. No smoking, eating, or drinking is allowed in the exclusion or contamination reduction zones. Smoking is only allowed in areas pre-approved by the ECMS PM and client.

5. No ECMS personnel shall conduct a permit required confined space entry. In addition, no personnel shall approach any excavation area where there is danger of a wall collapse.

6. Respiratory protection is dependent on conditions listed below Section 7.2. Minimum Level C respiratory protection for petroleum release sites consists of a half-face air purifying respirator with organic vapor cartridges. However, recommended cartridges for petroleum release sites are combination P100 filters with organic vapor/acid gas cartridges.

7.2 Surveillance Equipment and Materials

1. Calibration: A qualified individual will calibrate before and after field activities the photo ionization detector (PID) or flame ionization detector (FID).
2. Frequency: The worker breathing zone will be initially monitored every hour (at a minimum) during ground disturbance activities. If previous site monitoring data indicates that exposures are below action level, monitoring frequency may be reduced, as long as site conditions have not changed, and site activities will not create new exposures. Periodic monitoring can be stopped when site monitoring data indicates that breathing zone shows no hazardous conditions or air contaminants. However, if monitoring is stopped, data to support this decision must be available onsite for review.
   In addition to periodic site monitoring, breathing zone monitoring should always be conducted and documented during tasks that may result in continuing or new exposures, such as active drilling, probing, or excavating.
   If there are more stringent state or federal regulatory requirements for site monitoring, those requirements must be followed.

3. Instrumentation

Instrument	Breathing Zone Reading	PPE Upgrade or Other Actions to Be Taken
Photo ionization detector (PID) or Flame ionization detector (FID)	Total Org.Vapors Bkgrd - 2 ppm 2 - 100 ppm 100 - 300 ppm 300- 500 ppm >500 ppm	**Level D.** Work may continue. **Level D.** Collect benzene detector tubes (unless there is previous site data to show that benzene at these PID levels is below 0.5 ppm) **Level C.** Air-purifying respirator with organic vapor canisters required if levels continue for **two hours or more** in the breathing zone. Workers can choose to don respirators at lower levels if nuisance odors are a concern. Collect benzene detector tubes. **Level C if levels continue for 15 minutes in the breathing zone**. If levels continue beyond 15 minutes **STOP WORK**. Contact Corporate HSSE. **STOP WORK, leave immediate area --** Contact Corporate HSSE
Benzene Detector Tube (Draeger, Rae, etc.)	< 0.5 ppm 0.5-1 ppm >1 ppm	**Level D.** Work may continue. **Level C.** Work may continue. **STOP WORK**—Contact Corporate HSSE
Explosion Meter	< 10% of LEL 10 - 20% of LEL > 20% of LEL	**Work may continue. Evaluate inhalation potential.** **Work may continue. Eliminate all ignition sources, Reduce the concentration &increase monitoring** frequency, consider use of ventilation. **Work must stop until LEL is Below 10%!**
Oxygen Meter	< 19.5% O_2 19.5% to 23.5% O_2 >23.5% O_2	**Leave area.** Re-enter only with SCBA. **Work may continue.** Investigate causes of changes above/below 21%. **Work must stop.** Ventilate before returning and retest atmosphere. O_2-rich atmospheres pose explosion hazards.
Hydrogen Sulfide (H_2S) Colorimetric Tubes or Monitors -- Some states with high regional H_2S have special, local monitoring requirements.	0-5 ppm 5-10 ppm >10 ppm	**Continue working.** **Requires Level B** including supplied air respirator or SCBA. Increase monitoring frequency. Contact Corporate HSSE. Supplied air respirator required due to poor warning properties and toxicity.
Sound Level Meter	< 85 dBA 85 - 90 dBA > 90 dBA	Suggest wearing hearing protection when it is necessary to raise voice to be heard at distance of 3 feet. **Hearing protection required.** Install warning signs for fixed noise sources. **Hearing protection required.** Employer must have Hearing Conservation Program.

8.0 SAFETY STANDARD OPERATING PROCEDURES (ALSO SEE APPENDIX D FOR SITE SAFETY CHECKLIST)

8.1 Chemical Hazards

A photo ionization detector (PID) or flame ionization detector (FID) will be used to measure the relative concentration of hydrocarbon vapors. Monitoring for exposure to benzene vapors may be done using activated charcoal tubes and vacuum pumps, vapor badges, or benzene colorimetric tubes in the breathing zone when working with heavily contaminated soil or water. Action limits for use of respiratory protective equipment are outlined in Section 7.2 above. All respiratory protection equipment shall be NIOSH/MSHA-approved and use shall conform to OSHA 29 CFR 1910.134. ECMS's written Respiratory Protection Program detailing selection, use, cleaning, storage, medical monitoring, training, and fit testing of respiratory protective equipment is available to all employees via ECMS's intranet.

In addition to being inhalation hazards, hydrocarbon compounds can also be absorbed through the skin. Skin contact with liquid hydrocarbons or fuel hydrocarbon-bearing soil should be prevented. In situations where sampling would result in direct skin contact with hydrocarbon liquids, saturated soil or contaminated equipment, nitrile gloves will be worn.

Drilling or digging may also liberate pockets of hydrogen sulfide (H_2S). While the characteristic "rotten egg" odor of H_2S is detectable at levels as low as 0.0005 ppm, prolonged detection is unreliable due to its olfactory fatigue properties. In open air on a typical petroleum remediation site, risk from exposure to H_2S is minimal. However, should H_2S be encountered or expected, workers shall be instructed to stop drilling/digging and move to an upwind location until the vapors have dissipated, as measured

by H_2S colorimetric detector tubes or other direct-reading instruments. The bore hole or excavation will be immediately backfilled.

When working in areas that are not open air and/or have to potential to accumulate gases or vapors, a combination explosimeter/oxygen (O_2) meter will be available on-site to monitor the levels of flammable gases, such as petroleum vapors and methane. An explosimeter should be used by a subcontractor to verify that the atmosphere inside an underground storage tank has been inerted prior to allowing the tank to be moved from its location.

8.2 Physical Hazards

1. Mechanical hazards: Ensure that mechanical equipment is properly guarded, and overhead hazards are removed or secured to prevent being struck or entrapped by moving parts or heavy equipment or falling objects.

   Maintain a safe distance from heavy equipment and moving machinery parts.

   Tools and equipment used on site shall be in proper working condition. Workers using tools and equipment must be properly trained in their use.

   ECMS has adopted a practice to eliminate the wide-spread use of fixed open-bladed knives (FOBKs), such as pocket or utility knives. FOBKs are not allowed on ECMS field sites without prior approval by the ECMS PM. Safer alternatives such as safety knives, shears, etc. should be used in place of FOBKs. See ECMS's FOBK practice for more details.

2. Electrical hazards: Be aware of underground and overhead utilities. For protective measures against underground electrical cables see Section 8.3 Underground Utilities.

   For overhead power lines, OSHA requires a minimum distance of 10 feet from overhead lines transmitting up to 50kVs and an additional 4" of distance for every 10kV after 50kV, from any unguarded, energized overhead line. For example: 15 feet from lines transmitting up to 200kVs and 25 feet from 350kV lines. However, because power lines, rig masts and other elevated objects can move due to wind or other forces, **it is ECMS's policy is to maintain at least 20 feet clearance from any lines, or an additional 5 feet from any OSHA minimum distance that exceeds 20 feet.** If it is critical to work within 20 feet of a line, or at OSHA minimum distance, efforts should be made to have the lines covered ("shrouded") or shut off and locked out by the local power company. If neither can be accomplished, contact ECMS Corporate HSSE.

   Generators, powered hand tools and extension cords used on ECMS sites must be grounded. Extension cords must be inspected at the start of each work day to ensure that they are not damaged. Frayed or otherwise damaged extension cords shall not be used onsite and must be taken out of service unless they can be properly repaired.

   Heavy equipment, including drilling rigs and vacuum trucks, must be grounded when the potential for static electricity buildup and its uncontrolled release exists. Confirm with the equipment operator that equipment is grounded as needed. All equipment will be properly locked/tagged out when required by the Energy Lockout/Tagout Program and Safe Electrical Work Policy and Procedure for ECMS Project Work. Do not stand in water when operating electrical equipment.

3. Open excavations: Open excavations deeper than 6 feet that are not clearly visible to site workers and the public must have fall protection measures in place, such as barricades and warning signs. When scheduling or work conditions necessitate leaving excavations open overnight, security fencing will be erected to restrict access to the site or work zones described in Section 2.9

   Excavations must be properly constructed and maintained as per Section 8.11 of this HASP.

4. Hazardous plants or animals: Poisonous plants, and stinging, biting or other dangerous animals can be encountered on field sites. Identify workers with any allergies. Do not touch any plants that you cannot identify. Clear brush from well locations and other work areas. If necessary, arrange for vegetation removal by a landscaping company. Do not approach or provoke any animals, including spiders or insects. If a worker is bitten or stung by insect or spider, provide first aid and monitor the worker for a reaction. If an insect, or spider bite is suspected to be serious, or a worker is bitten by snake or other animal, seek medical attention immediately.

5. Slip, trip fall hazards: will be minimized by maintaining good housekeeping practices at all times. Keep the work area free of debris, unused tools, extra supplies, or any other objects that could interfere with walking and working surfaces.

8.3 Underground Utilities

A minimum of 72 working hours prior to excavating, Underground Service Alert or the state equivalent:

Name New York 811 Call Before You Dig Phone 811

will be contacted and informed of the scheduled field activities. The underground service locator company will identify which underground utilities (e.g., electrical, gas, sewer, water, telephone, cable TV) are present and will notify their respective owners. The utilities will be located by their owners. **Prior to drilling or direct push, air excavate (120% the width of the hole) and to a depth of at least 5 feet will be performed at all times** to ensure no utilities, lines or tanks are in the way. See Excavation Section 8.11. **Look for overhead utilities** as well.

Utility service locator company has been notified? **If applicable attach contact sheet to back of document.**	Date(s)	_____ _____	Confirmation #, if applicable:	_____ _____

If you are planning to drill the same location as a previously installed point and the diameter of the new boring/well is larger, you must manually clear the borehole.

8.4 Work Limitations (time of day, weather, heat/cold stress)

In the event of severe weather, such as high winds, heavy rain or snow, tornadoes, electrical storms, or extreme temperatures, the SSO and PM shall determine whether work can continue without compromising site worker health and safety.

In high ambient temperatures (especially with high humidity), ***follow heat-stress precautions***. Drink plenty of cool water and/or electrolyte-replacement beverages (e.g., Gatorade). Take frequent breaks out of direct sunlight, removing protective clothing. Provide shade to workers if necessary. Increase number of breaks if pulse does not return to normal resting pulse during breaks. Alter schedules so work is conducted during early morning or evening. Work shall progress only under conditions of adequate lighting.

Symptoms of heat exhaustion and heat stress include:

- Profuse sweating **or** complete cessation of sweating;
- Changes in skin color;
- Increased respiration;
- Vision problems, confusion;
- Body temperatures in excess of 100°F; and
- Increased heart rate.

Any member of the work team who exhibits these symptoms should immediately be removed from the area and observed while resting in a shaded area after removal of impervious or restrictive clothing and after consumption of cool water or electrolyte fluid. If symptoms persist, immediate medical attention shall be sought.

In cold temperatures, especially when combined with high wind, follow hypothermia precautions:

- Drink warm liquids and take frequent work breaks in a wind-sheltered area. Monitor co-workers for signs of shivering, lack of coordination, or confusion. and remove workers exhibiting these signs from the work area to a heated warming shelter.
- Dress in removable layers of insulated clothing to prevent sweating and use protective waterproof gear.
- Frostbite (superficial or deep tissue) can occur on any exposed skin at temperatures of 30.2°F or colder.
- If available clothing does not give adequate protection to prevent hypothermia or frostbite (which can occur on any exposed skin), work should be modified or suspended until adequate clothing is available or until conditions improve.

If extreme cold conditions are encountered (e.g., < 10° F), discuss proper clothing requirements and a warming break schedule with the Project Manager. Consider rescheduling the work if possible.

8.5 Fire and Explosion Hazards

Each site will be inspected for fire and explosion hazards during a pre-work site walk-through.

During the course of underground storage tank removal, drilling, or remediation of petroleum impacted soil or ground water, the potential for fire and explosion of flammable vapors exists. Extreme caution should be taken to monitor for the presence of flammable vapors or conditions that could create flammable conditions. Explosimeters are available for this monitoring and action levels are defined in Section 7.2. Fire extinguishers must be available on all sites with the potential for flammable vapors or electrical fires (i.e., systems, control panels). Use of fire extinguishers by employees trained in their use is limited to employee rescue or extinguishing relatively small, controllable fires. ECMS does not expect or require its employees to fight fires.

In the event of a fire or explosion, the following action plan should be followed:

Shut down equipment and shut off all supply lines immediately if this can be done safely. (Notify the site operator to shut down operations if necessary.)

Evacuate the immediate area. At this point you may not know if a soil vapor fire has started or if a supply line, natural gas line, etc. has been hit. Tank, supply line, or remediation system fires are extremely hazardous and precautions must be taken to evacuate the area immediately.

Call 911 to notify the fire department. ECMS employees are not trained fire brigades. Every fire should be treated as an emergency. Even if site personnel extinguish the fire, professional fire departments should evaluate the situation to ensure that the danger is over and that a fire will not reoccur.

Evaluate the situation to identify the source of the flammable vapors and to assess the danger to employees, the public and property. From a safe distance, try to determine if the fire is due to a ruptured supply line, ignited soil vapors or methane, or is electrical. This information should be communicated to the fire department. Small fires from known sources (i.e., engine fires, electrical panel fires, etc.) may be extinguished if the employee can do it without high risk. A soil vapor fire may eventually burn itself out. Soil stockpiles must be placed away from nearby structures and property lines. Extinguishing fires in fuel vapor-laden soils with clean soil may be possible. **Employees or subcontractors shall not enter an excavation to attempt to extinguish a fire.**

Fire, Explosion and Vacuum Truck Operations—vacuum truck operators must ensure that the truck and hoses are properly bonded and grounded prior to initiating vacuum operations and that vacuum truck hoses are properly tested for continuity each work shift.

Vacuum truck operators must ensure that the materials to be collected are compatible with residual materials that may already be in the truck or the truck must be washed prior to use. Hydrocarbons and other vapors created by the vacuum pump exhaust shall be vented away from the work area and away from areas where people are present.

8.6 Noise/Hearing Protection

Workers shall be instructed in the recognition of noise hazards and shall be provided, and trained in the use of, hearing protective devices. If monitoring has not been performed for suspected noise sources, hearing protection must be worn. As a general rule, hearing protection should be worn when working around heavy equipment, particularly drill rigs, or when background noise is such that a worker has to raise their voice to be heard at a distance of 3 feet.

8.7 Levels of Protection

Work on petroleum remediation sites must be performed, at a minimum, in the following Level D protection:

- hard hat (an ECMS requirement, unless wearing the hard hat creates additional safety risks and there are no overhead hazards present),
- steel-toed (safety-toed) work shoes/boots, meeting ANSI/ASTM standards
- sleeved shirt (short sleeve minimum) and long pants, or cotton coveralls
- eye protection- safety glasses (ANSI Z87), goggles or face shield as required
- high visibility safety vest (ANSI Class 2)
- gloves- sampling (nitrile) or work (leather, synthetic leather, Kevlar, etc. depending on work tasks), and
- hearing protection, as needed.

If monitoring equipment or site conditions indicate the need to upgrade the level of protection to Level C at a petroleum release site, air-purifying respirators with organic vapor canisters (at a minimum) will be donned, Tyvek coveralls with hoods, chemical resistant inner and outer gloves, and disposable boot covers will be donned as necessary. Contact Corporate HSSE regarding dermal protection.

At no time will an ECMS employee conduct work on any site requiring Level A protection. On work sites requiring Level B protection, workers will be provided with additional training and equipment. Corporate HSSE must review and approve the work plan for Level B work before the work can be performed.

8.8 Decontamination Procedure

Level:	B.		C.		D.	X

Contamination may result from walking through contaminated soils or liquids, splashing liquids during sampling, use of or contact with contaminated equipment, or contact with air contaminants. Due to the volatile nature of petroleum hydrocarbons that may be encountered during drilling, hand-augering and sample collection procedures, the need to decontaminate equipment and vehicles will be minimal. Field team workers will be instructed to observe the following precautions to assure contaminants will not remain in contact with their skin.

- Tools, equipment, and personnel will be decontaminated using procedure appropriate for level of personal protection worn.

- All contaminated, disposable clothing will be properly bagged for disposal and left on site. All personnel will be instructed to wash hands, face, neck, and forearms at the end of the work shift and to shower at the end of the workday.

- No eating or drinking will be permitted in the vicinity of heavy equipment and/or drilling and excavating activities. Smoking is only permitted in pre-designated area when approved by ECMS and the client.

Special decontamination requirements: _____

8.9 Confined Spaces

If entry into a confined space is necessary, a trained ECMS subcontractor shall be used and a Confined Space Entry Permit must be completed and authorized, and confined space entry procedures followed. Detailed information on ECMS's Confined Space Entry procedures can be found in the ECMS Health & Safety Manual. Contact Corporate HSSE before any permit required confined space entry.

Does this site have any permit-required confined spaces?	Yes		No	X
Does someone need to enter the permit-required confined space as part of the work?	Yes		No	X

If "yes," the ECMS project team must confirm the subcontractor's permit required confined space program and employee training have been reviewed as part of the ECMS pre-qualification process.

8.10 Investigation – Derived Material Disposal

Soil cuttings and well development or sampling water shall be placed in 55-gallon drums on-site unless on-site disposal is allowed under both regulatory and client requirements. Drums must be in sound condition (new or reconditioned drums) with lid that seals and can be tightened in place. Disposal methods of drummed soil and water will be determined based on laboratory analytical data.

Drums stored on site until disposal shall be labeled, sealed, and if possible, placed on an impermeable surface in a secure location prior to ECMS's field team leaving the site. At a minimum, non-hazardous waste containers must be marked with a description of the material, and emergency contact information (company name and phone number). Hazardous waste must be marked and labeled so that the container complies with applicable DOT or RCRA requirements. Drums must be removed within 90 days of waste generation.

9.0 INTRUSIVE ACTIVITIES HEALTH AND SAFETY GUIDANCE PROCEDURES

9.1 Preparation

Prior to conducting any subsurface intrusive work, a markout must ALWAYS be called in (approximately three working days before field work is scheduled - depending on the area). In some areas, not all markouts are performed by the "Call Before You Dig System," thus contacting the appropriate utility companies and assuring their markouts must be tracked by ECMS or the subcontractor responsible for the markouts. Private utility mark-outs should also be arranged when site work and conditions warrant it.

- Always search the file and request the client search files for an as-built of the site.

9.2 When on Site

- Subcontractors are required to perform an on-site inspection of their heavy machinery each day prior to the start of fieldwork. The ECMS Site Safety Officer (SSO) will observe the inspection. Any safety concerns identified by the subcontractor must be addressed prior to the use of the equipment. During the inspection, the subcontractor must verify that all rig/vehicle kill switches are working properly. ECMS employees on-site must be informed of the location of the kill switches and how to operate them.

- As part of your on-site health and safety meeting, walk the site with the field team to identify any additional site hazards and determine possible boring locations (make sure the locations shown on the work plan/site plan are in areas free of utilities/subsurface structures). Make sure all utilities have been marked out properly. It is ECMS's responsibility to ensure all boring or excavation locations are clear of utilities prior to drilling. Often "as-builts" are incorrect or not available.

- Attempt to determine how all utilities are running. For the most part, utilities can run anywhere and can bend and twist in any direction but, there are a few basic things to keep in mind. Usually, water and sewer lines will run to a bathroom. Electrical lines will run in between on-site lights, the kiosk, service station and car wash buildings. Storm water drains usually tie into one another and you can get a general idea of how they run by looking into them and seeing what direction the line is going. Obviously any cut outs in the asphalt should be avoided, especially if observed around the USTs (often, leak detection is an afterthought and is added following the completion of the service station rebuild and its location is obvious due to a continuous cut out in the asphalt around the tank field).

- WE SHOULD NOT DRILL OR EXCAVATE WITHIN TEN FEET OF THE TANK FIELD, USTs, OR PUMP ISLANDS. IN ADDITION, DO NOT DRILL IN BETWEEN THE PUMP ISLAND OR THE TANK FIELD, unless required by government agencies and approved by the client. Should drilling be required within Ten feet of the above noted systems, an "air knife" should be utilized to a depth of at least ten feet below grade surface (bgs). Drilling within five feet of the above noted systems will require the station and tank systems to be shut down. It may be helpful to open up tank field manways and identify the general direction that the product lines are running.

- ALWAYS AIR EXCAVATE (120% the width of the proposed hole) TO A DEPTH ONE FOOT BELOW THE ESTIMATED DEPTH OF UTILITIES AND AT LEAST FIVE FEET bgs. If you are drilling in the same location as a previously installed point and the diameter of the new boring/well is larger, you must manually clear the borehole. In addition, if you didn't advance the "old" boring yourself, you can't assume that it is a safe drilling location. Refusal may have been encountered in the "old"

location. If refusal is encountered prior to five feet, move to a new location. If you make three attempts without success, call the project manager to discuss alternatives. If you can't reach the PM contact your Office Leader for further instruction.

- If you encounter pea-gravel while excavating STOP. Call the ECMS PM for further instruction. Utilities or USTs may be present.

- If you hit/damage any utility/subsurface feature IMMEDIATELY contact the office for further instruction. If you can't reach the PM contact your Office Leader for further instruction.

9.3 Intrusive Activities

- Drilling operations shall at all times be under the immediate supervision of a contractor's representative who has authority to modify the work methods as necessary to ensure safety.
- Contractors shall ensure properly designed cribbing (i.e., wooden mats) is always carried with mobile drill rig to work site.
- Where practical, drilling should always take place on "level" surfaces. If the proposed site is not level, consideration should be given to selecting another suitable site that is level, or to leveling the site by re-grading.
- Drilling locations must be clear of underground and overhead hazards as discussed in this HASP.
- Additionally, the guidance provided in the Environmental Remediation Drilling Safety Guidelines (ERDSG) industry document **should** be followed.

9.4

10.0 TRAFFIC CONTROL AND ON-SITE VEHICLES/MOBILE EQUIPMENT

Site work frequently necessitates working in parking lots, streets, or other areas with vehicular traffic. In such instances, the work team will be wearing high visibility traffic safety vests (ANSI Class 2 minimum recommended) and will use a combination of traffic cones (recommended height - 42-inches) and barricades as necessary to prevent contact between workers, pedestrians, and motor vehicles. Proper placement of large contractor vehicles such as field trucks and drill rigs to add a layer of protection should be considered.

Check for specific DOT requirements when working in or near a road or road right-of-way. In such cases, traffic control set up will need to be subcontracted to a traffic control subcontractor.

The PM shall develop a **Site-Specific Traffic Control Plan** for high traffic sites, or other high-risk locations. The plan (map) should include known site traffic patterns and the control equipment set up used to divert or restrict traffic and to define site work (exclusion) zones. **Include Traffic Control Plan in the "Figures" section at the end of the HASP.**

Onsite Vehicles:

- Enter and exit through the gates or pathway provided and designated for this use.
- Vehicles will not be driven over unprotected hoses or exposed piping.
- Vehicles may be left running **only** when operating auxiliary equipment or lights, and then only when driver can ensure the vehicle is secure with the transmission in park or neutral, the parking brake set, and the wheels chocked.

Earth Moving Activities:

All mobile earth-moving equipment on-site must comply with 29 CFR 1926.602 for back-up alarms or signal persons.

Dig and Haul Projects:

Dump trucks should only dump the load on **level** ground so the hazard of "tip-over" is avoided. If absolutely necessary, the dump truck can dump into the slope (i.e., back of truck facing directly uphill).

Any truck that has a raised bed dumping feature (i.e., dump-truck) must always lower bed before driving forward to leave the immediate work area. This is due to two hazards:

- *Tip-over* due to change in gravity of raised bed and
- *Hitting overhead obstacles* (like power lines or canopies).

11.0 JOURNEY MANAGEMENT PLAN

Provide directions for the preferred route from ECMS's office to the field site, with the preferred/safest exit and entry points to the site. Also, provide any specific information of problem traffic areas that should be avoided when traveling in the area of the site. Information can be provided via maps, written instruction, or both, as appropriate and available. Use the "Figures" section at the end of the HASP. (Information regarding onsite traffic flow and mobile equipment is provided in ECMS's Traffic Control Plan in Section 10.)

Additional Comments:

- Seatbelts must be worn by all occupants in traveling vehicles
- Including the requirements for drivers to have all appropriate licenses, and to have received defensive driver training within the last two years.

11.1 Lone or Isolated Worker

Workers should not be put into a situation where they are left alone or isolated with no means of quickly summoning help should he/she become incapacitated due to injury or vehicle accident.

- A positive means of communication, i.e., a device such as a walkie-talkie, vehicle radio or cell phone, should be provided to all field personnel.
- Lone employees should check in with their supervisor or their field office at the start of the day, mid-day, and a final status report call at the end of the day (so others know where the worker is and that he/she is safe).
- In high hazard/crime affected areas, operations teams should consider assigning two workers or hiring a security guard during site work. If the area appears too dangerous, work should be postponed until an appropriate security plan can be developed.

12.0 SUBCONTRACTOR TRAINING AND SAFETY DOCUMENTS

All subcontractors must meet OSHA training requirements for the work they will perform while onsite. Subcontractor workers that have the potential to be exposed to site impacts must have initial HAZWOPER training and up-to-date annual 8-hr refresher training. In addition, subcontractors driving on ECMS business must have completed a defensive driver training class within the last two years.

Subcontractors shall be responsible for the development and implementation of their own HASP and/or JSAs to cover duties and hazards specific to that subcontractor's area of expertise or on-site functions. Subcontractors are given the opportunity to review ECMS's HASP, and must sign the document, prior to the start of on-site work. Subcontractors are required to provide job safety analyses (JSAs) or written safety standard operating procedures, for the primary tasks they perform on-site. Contractors are required to review these safety documents with the work team during the appropriate on-site safety meetings (tailgate, etc.). Any discrepancies or conflicting safety requirements between ECMS and subcontractor HASPs shall be addressed prior to the start of field work.

All subcontractor employees must attend and participate in all on-site safety meetings as required by ECMS. All on-site subcontractor workers must be able to effectively communicate with all field workers in English. If not, a translator/mentor must be assigned to those employees that cannot communicate in English to assure that all employees understand the safety information communicated on-site.

Any hazardous work situations, unsafe acts and conditions, near misses, or other safety incidents must be reported to the ECMS Site Safety Officer immediately so that corrective measures may be taken, and the information can be reported to ECMS management in a timely manner.

13.0 BEHAVIORAL SAFETY OBSERVATIONS

Behavior Based Safety is an established method of using reinforcement to change unsafe individual behaviors. The process starts with a behavioral hazard analysis to identify "at-risk" behaviors. These can be determined by using near miss/incident reviews, JSAs, audits, etc. Using the inventory of at-risk behaviors, a checklist is then developed to assist in the observation of work behavior. Observers record safe and at-risk behaviors and provide feedback to workers about their performance. The feedback reinforces the necessity for safe behaviors. Observation data also is used to identify barriers to safe behavior. Removing these barriers lowers the workers' exposure to at-risk conditions and makes it easier for employees to work safely. ECMS has developed a behavior-based safety observation (BBSO) checklist from an analysis of its near miss/incident data, JSAs and auditing data.

The checklist is attached as Appendix F. Field teams should perform one BBSO per field event. BBSOs can be performed on ECMS employees or subcontractors.

14.0 ACKNOWLEDGMENT AGREEMENT

14.1 ECMS Employee

CONSTRUCTION HEALTH AND SAFETY PLAN REVIEW RECORD

I acknowledge that I have read and understood the contents of this Construction Health and Safety Plan, and I agree to abide by all provisions as set forth. I have also checked in with the site client contact to alert them of our presence and for any daily safety issues. Please note: "no implements are to be brought on a ECMS site, or while performing ECMS business that are, or are intended to be used, as weapons (such as: guns, knives, etc.)". Firearms are expressly prohibited. By signing below, you are certifying, that this policy is upheld. ECMS retains the option to audit your personnel and equipment to assure your compliance.

NAME	SIGNATURE	CELL PHONE	DATE

NAME	SIGNATURE	CELL PHONE	DATE

14.2 Subcontractor & Visitor

SITE HEALTH AND SAFETY PLAN REVIEW RECORD

I have been given the opportunity to review the Health and Safety Plan for this site and have been briefed on its contents and on the nature of the contaminants and the level and degree of exposure likely as a result of participation in this project. I agree to conform to all the requirements of this plan. (This HASP does not replace the requirement or liability for your company to have its own safety program and HASP.) I also acknowledge that this plan is specific for this ECMS site and may not address unforeseen hazards not included in the Construction Health and Safety Plan or your specific contracted task. Please note: "no implements are to be brought on a ECMS site, or while performing ECMS business that are, or are intended to be used, as weapons (such as: guns, knives, etc.)". Firearms are expressly prohibited.

By signing below, I am certifying that this policy is upheld. ECMS retains the option to audit your personnel and equipment to assure your compliance.

ALL WORKERS HAVE THE AUTHORITY TO STOP, AND/OR REFUSE TO PERFORM, ANY UNSAFE WORK.

NAME & AFFILIATION	SIGNATURE	CELL PHONE	DATE

NAME & AFFILIATION	SIGNATURE	CELL PHONE	DATE

APPENDIX A
DAILY TAILGATE MEETING
OUTLINE/CHECKLIST

DAILY TAILGATE MEETING OUTLINE/CHECKLIST

SITE INFORMATION	
Date:	
Site Name:	
Site Location:	
Project / Site Number:	
Name of ECMS Employee Leading Meeting	
Title of ECMS Employee Leading Meeting:	

	YES	NO
Are all field team members in attendance for the tailgate meeting?		
Are there potential language barriers or concerns?		
Is safety information provided in language(s) that all workers understand? (If no interpreter is required.)		
Identified worker with the least years of experience. Name: Company:		
How many years (or months) experience for worker? # of yrs / months:		
How many workers have less than 1 year experience?		
Is each one assigned an on-site mentor?		

TAILGATE DISCUSSIONS POINTS **(*see next page for additional guidelines*)**	**COVERED**	
	YES	**NO**
INTRODUCTION- site background, field team introductions, training documentation review		
SITE HAZARDS- perform site walk-thru with team, locate utility markings, work locations, ID any site hazards		
Locate site/facility Emergency Stop switches		
EMERGENCY ACTION PLAN - emergency #s, evacuation signal & routes (walk them), 1st aid kits, training, etc.		
WORK HAZARDS- scope-of-work, etc.		
ECMS discuss safety of ECMS tasks to be performed- review JSAs		
Contractor(s) discusses safety of contractor work tasks to be performed- review JSAs		
List JSAs reviewed		
Heavy machinery inspection, kill switches located and tested		
Hand tools, power tools and other equipment inspected ***INSPECT portable fire extinguishers onsite***		
On-site impacts, other chemical on-site- monitoring procedures, PPE upgrade and action levels		
ONSITE VEHICLE MOVEMENT AND SPOTTER REQUIREMENTS - discuss movement of work vehicles and spotter procedures		
HIGHLIGHT SPECIFIC WORK CONCERNS- e.g., excavation, drilling, utilities, power lines, traffic, weather, etc.		
PPE REVIEW - review standard PPE, upgrades needed		
Gloves available on site match the glove type(s) listed in the JSAs for today's work? *NOTE: Any gloves not listed in JSA cannot be used onsite without management approval and field editing of onsite JSA*		
ECMS OR CLIENT SPECIFIC SAFETY PROTOCOLS- FOBK practice, utility clearance requirements, etc.		
REQUIRED PERMITS. LIST:		
PROACTIVE SAFETY ACTIONS - report all near misses, stop work authority, STOP WORK as needed,		
FEEDBACK - Worker questions, comments, concerns		
Have all worker signed the site health and safety plan?		

DAILY TAILGATE MEETING OUTLINE/CHECKLIST

TAILGATE MEETING ATTENDANCE *(use additional sheets if required)*		
Worker Name	**Company Name**	**Signature**

AFTERNOON TAILGATE MEETING		YES	NO
Afternoon Tailgate held?			
List Topics:			
Name & Title or worker leading afternoon tailgate meeting:			

DAILY TAILGATE MEETING OUTLINE/CHECKLIST

DAILY TAILGATE MEETINGS

Daily tailgate meetings shall be held at the start of each work day, shift or task change.

The daily tailgate meetings shall review the planned work activities for the day, discuss and resolve the risks and mitigations, discuss any Health, Safety, Security and Environment (HSSE) concerns, and raise the HSSE consciousness of each worker before they start work.

These meetings shall include, but are not limited to:

- A review of relevant Construction Health and Safety Plan (CHASP) elements to be performed at an appropriate frequency. A review shall be done whenever the HASP is updated and should also be done regularly to remind workforce of relevant elements.
- A Hazard Communication (HAZCOM) review.
- Address the risks of any issues arising from the site walk and the location of on-site equipment and materials.
- Complete the tailgate safety meeting forms.
- A review of applicable permit/s.
- A review of the right and obligation to 'Stop Work.'
- Complete and review *Job Safety Analyses* (JSAs) for the tasks to be completed. The focus should be on how to complete activities on a given site during that work day and activity. The JSA discussion should include identification of 'Stop Work' triggers.
- Implement the controls set forth in the HASP and JSAs. Verify that all parties on site have a complete understanding of the work plan and controls that are in place.
- In addition, allocate resources and complete permits.

PARTICIPATION AND PREPARATION

Effective daily tailgate meetings require participation. Team members should recognize the connection between the meetings and their personal safety.

Involvement of all team members is a critical factor for a successful meeting.

The conductor of the daily tailgate meeting shall prepare by achieving a thorough understanding of: JSAs, HASP, the scope of work, the subcontractors on site, and client requirements.

Additionally, the conductor of the meeting should have the required checklists available to verify that he or she covers all applicable and necessary topics.

TAILGATE MEETING LOCATIONS

When selecting the location of the meetings, the following shall be considered:

- Safety of personnel.
- Background noise.
- Uncomfortable or cramped locations.
- Weather and environment.

APPENDIX B
I-3 FIRST REPORT FIELD FORM

DAILY TAILGATE MEETING OUTLINE/CHECKLIST

GENERAL INFORMATION	
ECMS Employee Name Reporting:	
Date of Incident:	
City/State of ECMS Office:	
Site Project/ID Number:	
Site Location (Street, City, State):	
ECMS Project Manager Name:	
Subcontractor Name (if applicable):	
Incident Location (Street, City, State):	
Short Description of Incident:	

CONDITIONS					
Weather:		**Temperature:**		**Lighting:**	

WHEN DID INCIDENT OCCUR						
	Month	**Day**	**Year**	**Time (hrs)**	**(min)**	**AM/PM**
Occurred						
Reported						

DETAILS		
Witness Name (s)	**Employee/Contractor/Other**	**Phone #**

Equipment Involved:	
Incident Type:	

Environmental Release Info	Product / Material	Amount	Unit

Full Description of Incident:	
Immediate Actions Taken:	

Reported by:	
Date:	

DAILY TAILGATE MEETING OUTLINE/CHECKLIST

APPENDIX D
FIVE (5) DAY SAFETY CHECKLIST

DAILY TAILGATE MEETING OUTLINE/CHECKLIST

5 DAY SITE SAFETY CHECKLIST

Site Name:	
Project Number:	

DATE:			
Pre-Mobilization		**OK**	**NA**
Updated health and safety plan			
Emergency phone numbers for utilities included			
Proper personal protective equipment (PPE) selected & inspected			
• Hard Hat			
• Safety Glasses (with side shields)			
• Safety Vest			
• Work Gloves			
• Sampling gloves (PM specify type):			
• Protective coveralls (specify, Tyvek, Nomex, etc.):			
• Safety Boots			
• Respirator/cartridges (PM identify proper cartridges) :			
Other Protective Equipment			
Eye wash (check expiration date)			
Fire extinguisher (visually inspected within last 30 days)			
First aid kit (inventory and check expiration dates)			
Safety cones (or flashing traffic light)			
Underground utility hazards identified and addressed			
Underground utility hazards identified and addressed (provide public utility one-call ticket or job number			

On-Site Pre-Work	**DATE (mm/dd/yy)**				
Review site hazards and HASP w/ site workers					
Review route to hospital					
Site workers sign HASP acknowledgement page					
Place HASP and emergency numbers in visible location					
Designate evacuation signal and meeting place					
Delineate exclusion zone					
Check subcontractor PPE-					
• Hard Hat					
• Safety Glasses (with side shields)					
• Work Gloves					
• Sampling Gloves					
• Protective Coveralls (specify, Tyvek, Nomex, etc.).					
• Safety Boots					
• Respirator					
• Subcontractors					

DAILY TAILGATE MEETING OUTLINE/CHECKLIST

5 DAY SITE SAFETY CHECKLIST (OPTIONAL) (continued)

On-Site Pre-Work	DATE (mm/dd/yy)				
Subcontractors-					
• Subcontractor has own HASP or field SOPs on-site (when required)					
• Confirm sub. Equipment (e.g., drill rig, ext. cords) is in sound working condition)					
• *Drilling subcontractor:* drill rig kill switch identified, located, and tested					

On-Site Work	DATE (mm/dd/yy)				
Proper PPE worn by site workers					
Breathing zone monitoring performed and recorded					

(Specify any new hazards identified on-site not addressed by site HASP. If new hazard cannot be mitigated by the existing scope-of-work and/or available equipment on-site, stop work and immediately contact the site project manager.)

(Sign and date at the end of the field work.)

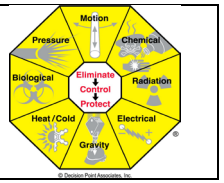
Name:	
Signature:	
Date:	

REPORT ALL INCIDENTS AND NEAR MISSES IMMEDIATELY

DAILY TAILGATE MEETING OUTLINE/CHECKLIST

APPENDIX E
JOB SAFETY ANALYSIS

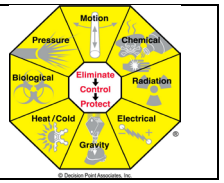
JOB SAFETY ANALYSIS



Job Safety Analysis for: ***(State Task)***			
CONTRACTOR:	*ECMS Consultants*	DATE:	
PROJECT MANAGER/SITE SUPERVISOR (List Name(s)::**			
PERMITS REQUIRED (Y/N) List Type: **?**			
JSA TEAM MEMBERS:			
LOCATION OF WORKSITE	Street, w/Cross Street:		
	City, State, Zip:		
DESCRIPTION OF WORK:			
Team Leader Reviewed by Signature:		Date:	

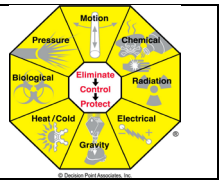
Sequence of Basic Job/Task Steps *List the tasks required to perform the activity in the sequence they are carried out.*	**Potential Hazards (Energy Sources) Involved with Task/Environment** *Against each task list the hazards that could cause injury when the task is performed.*	**Control Measures (Eliminate, Control, Protect)** *List the control measures required to eliminate or minimize the risk of injury arising from the identified hazard.*	**Stop Work Triggers** 

JOB SAFETY ANALYSIS



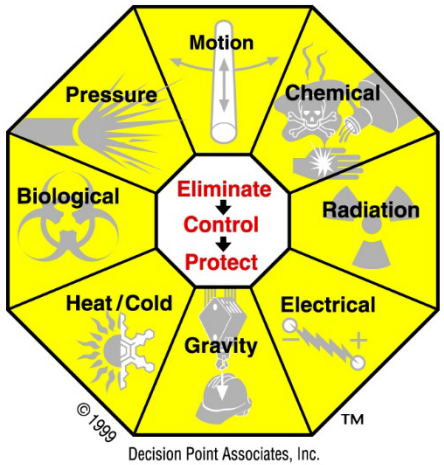
Sequence of Basic Job/Task Steps *List the tasks required to perform the activity in the sequence they are carried out.*	**Potential Hazards (Energy Sources) Involved with Task/Environment** *Against each task list the hazards that could cause injury when the task is performed.*	**Control Measures (Eliminate, Control, Protect)** *List the control measures required to eliminate or minimize the risk of injury arising from the identified hazard.*	**Stop Work Triggers** 

JOB SAFETY ANALYSIS



Sequence of Basic Job/Task Steps *List the tasks required to perform the activity in the sequence they are carried out.*	**Potential Hazards (Energy Sources) Involved with Task/Environment** *Against each task list the hazards that could cause injury when the task is performed.*	**Control Measures (Eliminate, Control, Protect)** *List the control measures required to eliminate or minimize the risk of injury arising from the identified hazard.*	**Stop Work Triggers** 

HRP Team Process
Worksite Hazard Assessment Tool
(WHAT energy is present?)



For use with a JSA big picture or a worksite HSE inspection. Using the HRP Octagon in a clockwise manner starting with Energy of Motion, assess the worksite and determine what energy sources are present and/or what recognized hazards are associated with those energy sources.

Use the following to help you DRAFT the job steps before starting the JSA:

DRAFT STEPS

1.

2.

3.

4.

5.

6.

7.

8.

ADDITIONAL FIELD NOTES/OBSERVATIONS:

APPENDIX F
BEHAVIOR BASED SAFETY OBSERVATION FIELD CHECKLIST

BEHAVIOR BASED SAFETY OBSERVATION
FIELD CHECKLIST

Date:		Time:	
Site Name:		Worker Observed:	
Project Number:		Observer:	

Observations	Safe	Unsafe
	Write NA for any Non-applicable items	
Attended/participated in tailgate meeting		
Follows JSA and HASP work steps and safety procedures		
Works safely within defined work areas, traffic control/exclusion zone set up		
Wears required PPE		
PPE is good condition		
Uses correct tool(s) for job		
Tools inspected and/or in safe working condition		
Maintains good housekeeping		
Uses safe lifting techniques/ does not lift over 50 lbs without assistance		
Overall assessment of worker behaviors		

Feedback
Other Observations/Comments (areas of strong performance and areas for improvement):

Commitment (observed worker please sign)

I, _____ (print name), have been informed of the above assessment, I understand all feedback, and I am committed to performing my work safely by:

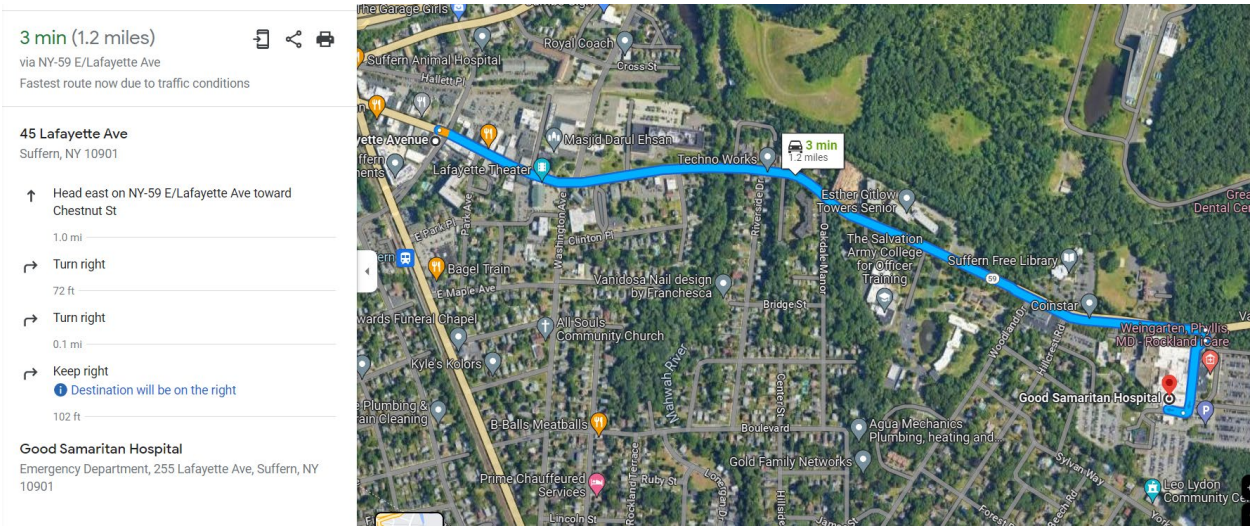
- reporting to work physically rested and mentally alert
- observing and coaching my co-workers to ensure they work safely
- following procedures and not taking short cuts or improvising
- stopping all unsafe work, and
- demonstrating ZERO tolerance for willful unsafe actions.

Signature:		Date:	

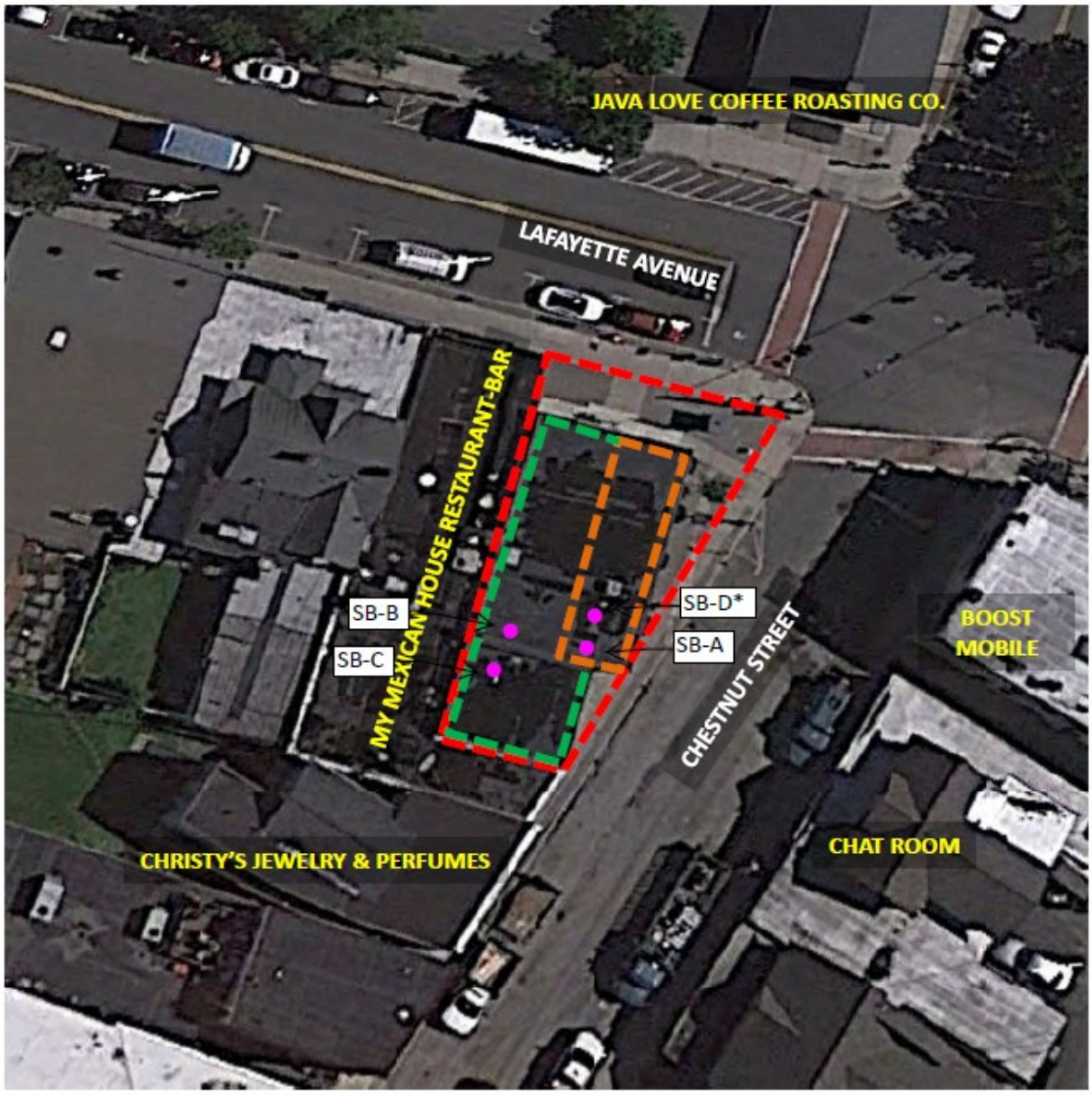
FIGURES

ROUTE TO HOSPITAL MAP
SITE MAP
JOURNEY MANAGEMENT PLAN MAP AND INSTRUCTION
TRAFFIC CONTROL PLAN MAP

ROUTE TO HOSPITAL MAP: NEW YORK PRESBYTERIAN LOWER MANHATTAN HOSPITAL



SITE MAP



Notes: Soil boring locations able to be advanced to 26-30 feet will be converted into a monitoring well. With an exception of SB-A due to it's placement inside the former basement sump.
Boring Locations: SB-A inside basement sump SB-B inside former boiler room closest to former dry-cleaning equipment SB-C Located under the former dry cleaning machine.
SB-D placed adjacent the boring with the most field evidence of impacts it's placement will be determined in the field.

Environmental Consulting & Management Services, Inc. 10 Filmont Drive, New City, NY 10956	SOURCE: GOOGLE EARTH PRO, IMAGE DATE 6/25/2019	FIGURE 1 Proposed Sample Location Map 43-45 LAFAYETTE AVENUE SUFFERN VILLAGE ROCKLAND COUNTY, NEW YORK
	APPROVED BY H. Sudwischer	
	DRAWN BY H. Sudwischer	
	PROJECT DRAWING NO. 23.514	SCALE 1":38 feet DATE 2/14/23

JOURNEY MANAGEMENT PLAN MAP AND INSTRUCTION

10 Filmont Dr
New City, NY 10956

- Head north on Filmont Dr toward N Little Tor Rd
  0.2 mi
- Turn right onto N Little Tor Rd
  1.2 mi
- Turn left onto S Mountain Rd
  1.7 mi
- Slight right to stay on S Mountain Rd
  72 ft
- Turn right onto NY-45 N
  0.6 mi
- Use the left 2 lanes to turn left onto US-202 W
  Pass by Wells Fargo Bank (on the right)
  8.4 mi
- Turn left onto Lafayette Ave
  Destination will be on the right
  0.1 mi

21 min (12.1 mi)

45 Lafayette Ave
Suffern, NY 10901

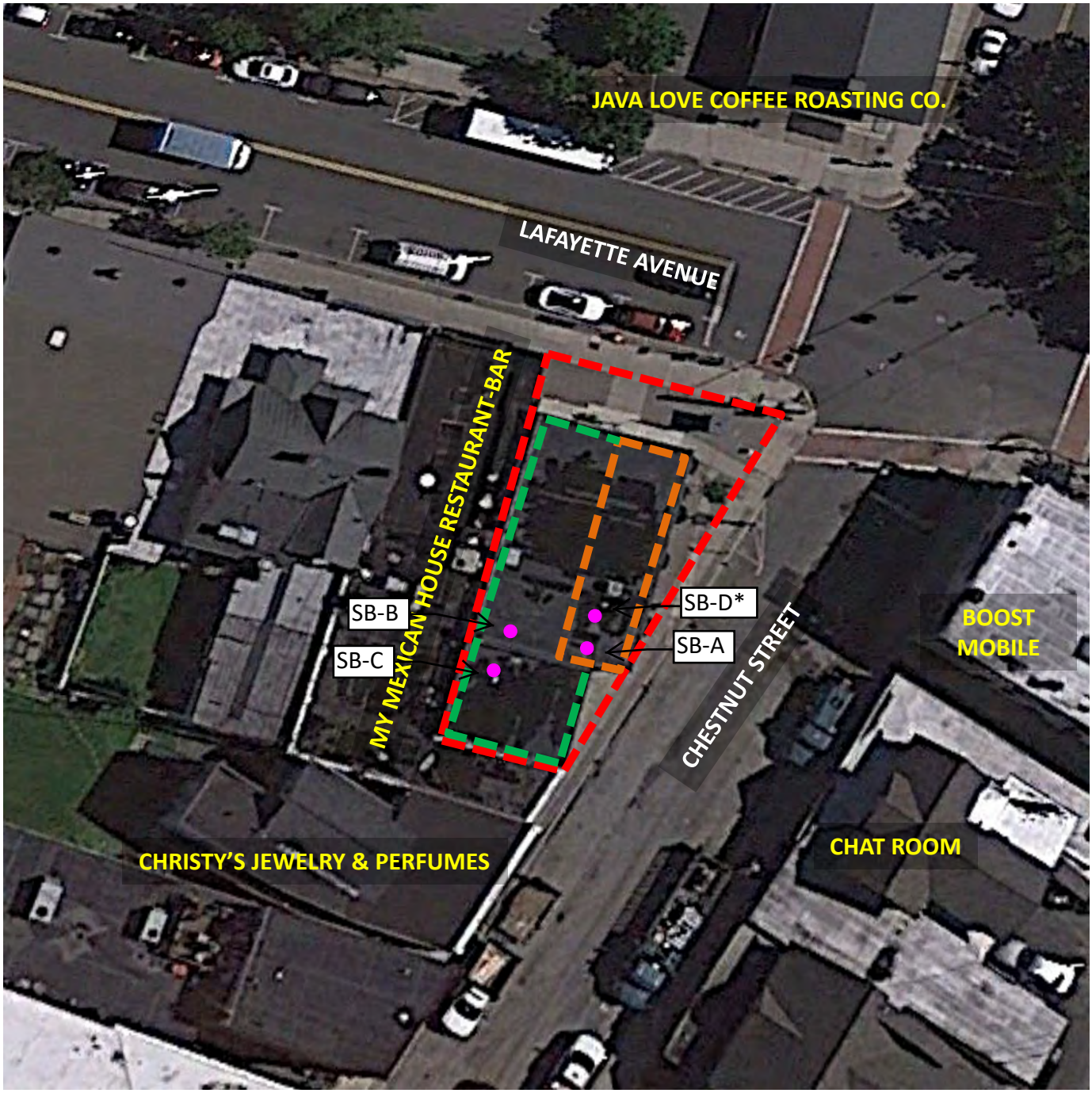
45 Lafayette Ave
Suffern, NY 10901

- Head west on Lafayette Ave toward Orange Ave
  0.1 mi
- Turn right onto Orange Ave
  269 ft
- Turn right onto US-202 E/Wayne Ave
  Continue to follow US-202 E
  Pass by Wells Fargo Bank (on the left in 8.3 mi)
  8.3 mi
- Turn right onto NY-45 S
  0.6 mi
- Turn left onto S Mountain Rd
  1.7 mi
- Turn right onto N Little Tor Rd
  1.2 mi
- Turn left onto Filmont Dr
  Destination will be on the right
  0.2 mi

22 min (12.1 mi)

10 Filmont Dr
New City, NY 10956

Appendix B Figure 1 - Proposed Soil Boring and Monitoring Well Location



Notes: Soil boring locations will be be advanced to hand auger refusal .SB-C will be converted into a bedrock monitoring well. Boring Locations: **SB-A** inside basement sump **SB-B** Inside former boiler room closest to former dry-cleaning equipment **SB-C** Located under the former dry cleaning machine. **SB-D** placed adjacent the boring with the most field evidence of impacts it's placement will be determined in the field.

Environmental Consulting & Management Services, Inc. 10 Filmont Drive, New City, NY 10956	SOURCE: GOOGLE EARTH PRO, IMAGE DATE 6/25/2019	# FIGURE 1 Proposed Sample Location Map 43-45 LAFAYETTE AVENUE SUFFERN VILLAGE ROCKLAND COUNTY, NEW YORK
	APPROVED BY H. Sudwischer	
	DRAWN BY H. Sudwischer	
	PROJECT DRAWING NO. 23.527	SCALE 1":38 feet DATE 2/14/23