MACTEC

engineering and constructing a better tomorrow

August 12, 2022

Division of Environmental Remediation
Remedial Bureau E, 12th Floor
New York State Department of
Environmental Conservation
625 Broadway
Albany, New York 12233-7016

Attention: Mr. Matthew Dunham, Project Manager

Subject: **Pre-design Investigation Field Activities Plan**
Former Elite Vogue Dry Cleaners Site; Site Number 828164
MACTEC Engineering and Geology, P.C. Project No. 3617217532

Dear Mr. Dunham:

MACTEC Engineering and Geology, P.C. (MACTEC), under contract to the New York State Department of Environmental Conservation (NYSDEC) is submitting this Field Activities Plan (FAP) to perform a second round of pre-design investigation (PDI) activities at the Former Elite Vogue Dry Cleaners site (Site). The Site is listed as Class 2 hazardous waste Site No. 828164 in the Registry of Hazardous Waste Sites in New York State. This FAP has been prepared in accordance with the NYSDEC requirements in Work Assignment (WA) No. D009809-27.

OBJECTIVES

The objective of the field work is to evaluate the soil and groundwater persulfate oxidant demand to support the remedial design for in situ chemical oxidation for treatment of the saturated overburden zone at the Site. The oxidant demand used to calculate oxidant dosing requirements is based on the soil and groundwater analytical data and the native soil oxidation demand. Since the oxidant demand

can change over time, collecting oxidant demand data closer to the time of planned injections (i.e., within a year) can allow for more accurate oxidant dosing calculations. The proposed work outlined in this FAP includes direct push soil sampling coupled with groundwater sampling to evaluate groundwater quality and conduct total oxidant demand tests.

BACKGROUND

The Site is located at 527-533 East Main Street, in the downtown area of the City of Rochester, Monroe County, New York (Figure 1). The Site was occupied by a dry cleaner from 1936 through 2003 (NYSDEC, 2021). The dry cleaner historically reportedly used both Stoddard solvent and tetrachloroethene (PCE) as cleaning solvents.

The Site is comprised of approximately 0.126 acres which is currently entirely covered by a single-story multi-use commercial building. It is bordered to the north by East Main Street, to the east by a paved parking lot, to the west by a commercial building and to the south by Haags Alley and a new apartment complex south of Haags Alley. The Site is currently occupied by a multi-occupant structure and is zoned City Center District (CCD), which allows for residential and commercial use.

Groundwater flow is generally to the east. Groundwater was encountered at an average depth of approximately 10 feet below ground surface (bgs). Soils consist of fill material, silty sand, with lesser amounts of gravel and clay. Bedrock was encountered at approximately 12 feet bgs (NYSDEC, 2021).

A remedial investigation (RI) conducted at the Site identified the following contaminants of concern (COCs): trichloroethene (TCE), tetrachloroethene (PCE), 1,2,4-trimethylbenzene, cis-1,2-dichloroethene (DCE), and vinyl chloride (VC). The media affected includes groundwater, soil, and soil vapor (NYSEC, 2019a). In addition, a petroleum light non-aqueous phase liquid (LNAPL) has historically been measured at monitoring well MW-12, located on the south side of the Site property.

A tank removal Interim Remedial Measure (IRM) was completed in 2014 to remove three underground storage tanks (USTs) within the building. Before the UST pit was backfilled a passive soil vapor extraction system was installed, consisting of a perforated pipe below grade and a solid pipe above grade that extends to an extraction fan on the roof of the building.

A Record of Decision (ROD) was issued in March 2019 that outlined the approved remedial approach for the Site (NYSDEC, 2019). The approved remedy outlined in the ROD includes the following remedial actions:

- Installation of a soil vapor extraction system in conjunction with existing site cover (pavement and concrete) to control soil vapors
- In-situ chemical oxidation to treat groundwater
- Institutional Controls in the form of an environmental easement for the controlled property
- Site Management Plan.

A WA Issuance / Notice to Proceed for the remedial design (D009809-27) was issued on March 16, 2021. This FAP provides details for implementing the pre-design investigation as part of the WA.

SCOPE OF WORK

The pre-design investigation described in this FAP is being conducted to collect data to support the remedial design. The pre-design investigation includes the following components:

- Utility location service for new borings.
- Two direct push soil borings to collect soil samples at two locations i.e., inside the building and outside the building.
    - At each boring location composite soil samples will be collected from 5 - feet below ground surface (ft bgs) to 10 ft bgs. Up to 500 grams of soils will be composited from each location and placed in zipper type plastic bags and laboratory supplied bottles for total oxidant demand (TOD) test and select volatile organic compounds (VOCs) testing. TOD testing will be performed using Provect-Ox (iron activated persulfate powder) as the oxidizing reagent.
- Two groundwater samples will be collected from IW-3 and MW-03 to support analytical testing and oxidant demand testing. The groundwater samples collected from the two locations will be submitted for laboratory analysis for select VOCs.

Proposed field tasks and methodology are summarized below and in Table 1. Table 2 provides the sampling and analytical programs for soil and groundwater. The proposed sampling locations are shown on Figure 2.

Companion documents to this FAP that will govern the execution of the field activities include:

- MACTEC's Program Quality Assurance Program Plan (QAPP, MACTEC, 2020a);
- MACTEC's Program Health and Safety Plan (MACTEC, 2020b);
- Site Specific Health and Safety Plan (Attachment 1); and,
- Field Data Records (Attachment 2).

FIELD OPERATIONS

Access and Clearance. The Site will be accessed from Richmond Street and Haags Alley. The Exterior borings are in paved parking areas that can be accessed from Richmond Street. The interior boring can be accessed from an overhead door that opens to Haags Alley. The NYSDEC will be responsible for securing access with owners of the Site and adjoining properties.

Dig-Safely New York (NY) will be contacted by the drilling firm to mark underground utilities at least three days prior to the start of work. In addition, GPRS of Buffalo, NY will be contracted to conduct a utility survey at the proposed boring locations.

Health and Safety. The Site-specific Health and Safety Plan (HASP) is provided as Attachment 1 to this document. Based on past activities conducted at the Site, MACTEC anticipates that the fieldwork will be conducted in Level D personal protection. Specific investigation activities and required level of personal protection are set forth in the Site-specific HASP. Criteria for upgrading or downgrading the specified level of protection are also provided in the Site-specific HASP. Additional health and safety requirements are set forth in the Program HASP (MACTEC, 2020b). Should conditions pose a threat to those present on-Site, and/or should Site conditions warrant an upgrade from Level D, as defined by the HASP, work will stop and the situation will be re-evaluated by the NYSDEC and MACTEC.

Decontamination. Sampling methods and equipment for this field program have been chosen to minimize decontamination requirements, mitigating potential for cross contamination. Disposable

sampling equipment will be used as much as practical to minimize decontamination time and water disposal. Non-disposable sampling equipment will be decontaminated before and after the collection of each sample. Decontamination methods and materials are described in detail in Standard Operating Procedure (SOP) S20 of the QAPP (MACTEC, 2020a).

Non-disposable sampling equipment will be decontaminated by:

- Washing the sample collection equipment with potable water and Alquinox, rinsing with potable water, rinsing with deionized water, and then allowing the equipment to air dry, or
- Steam cleaning the equipment and then allowing the equipment to air dry.

Investigation Derived Waste. Soils, decontamination fluids, and purge water generated during the investigation will be containerized for disposal at an off-site licensed facility.

Sample Collection

Direct Push Soil Sampling. Drilling will be conducted using direct push drilling method, and saturated soil samples will be collected for TOD tests that will be used to calculate oxidant dosage for the remedial design. Soil samples will also be analyzed for Site COCs i.e., 1,2,4-trimethylbenzene, PCE, TCE, DCE, and VC. A total of 2 borings i.e., 1 inside the building and 1 in the adjacent parking lot of 15 Richmond Street, will be advanced using direct push technology following SOPs S17 (direct push sampling), S13 (soil sampling), and S11 (soil description and identification) in the QAPP (MACTEC, 2020a). Composite soil samples (~500 grams) from 5 ft to 10 ft bgs will be collected at each boring location (samples should be collected from the saturated zone). Sample composition will be biased high towards the highest PID reading. Figure 2 shows the proposed locations of the soil borings.

Groundwater Sampling. Groundwater samples will be collected from IW-3 and MW-3 and sampled for the Site COCs (i.e., 1,2,4-trimethylbenzene, PCE, TCE, DCE, and VC). Samples will be collected from each monitoring well using low-flow sampling procedures as described in SOP S3 (MACTEC, 2020a), if possible.

Field measurements for pH, temperature, specific conductivity, oxidation reduction potential, and dissolved oxygen will be collected through a flow through cell during pre-sample purging. Turbidity

will be measured separately with a turbidity meter. Field measurements and monitoring well sampling activities will be documented using a Low Flow Groundwater Data Record (Attachment 2).

Analytical Methods

Soil and groundwater samples will be submitted for laboratory analyses as shown on Tables 1 and 2 and as described below.

Soil samples will be submitted for laboratory analyses as follows:

- Soil samples will be submitted to a NYSDEC callout laboratory for select VOCs analysis using United States Environmental Protection Agency (USEPA) Method 8260
- Additional saturated soil samples will be submitted to ReSolution Partners, LLC for TOD analysis

Groundwater samples will be submitted to a NYSDEC callout laboratory and analyzed for select VOCs by United States Environmental Protection Agency (USEPA) Method 8260.

Tentatively identified compounds will not be reported with the VOC analysis.

REPORTING

MACTEC will summarize the investigation and findings in a letter report. The report will include the results of the groundwater sampling and TOD testing that will be used to calculate the oxidant dose for full-scale remedial implementation. The findings from the investigation will be integrated into the final design document that will present the proposed remedial action design details.

If you have questions on the material provided herein, please contact Rick Egan or Chuck Staples, at 207-775-5401.

Sincerely,

MACTEC Engineering and Geology, P.C.

Charles Staples, PG
Technical Project Lead

Richard Egan, PE
Project Manager

REFERENCES

MACTEC, 2020a. Quality Assurance Program Plan and Program Field Activities Plan. Prepared for the New York State Department of Environmental Conservation, Albany, New York. April 2020.

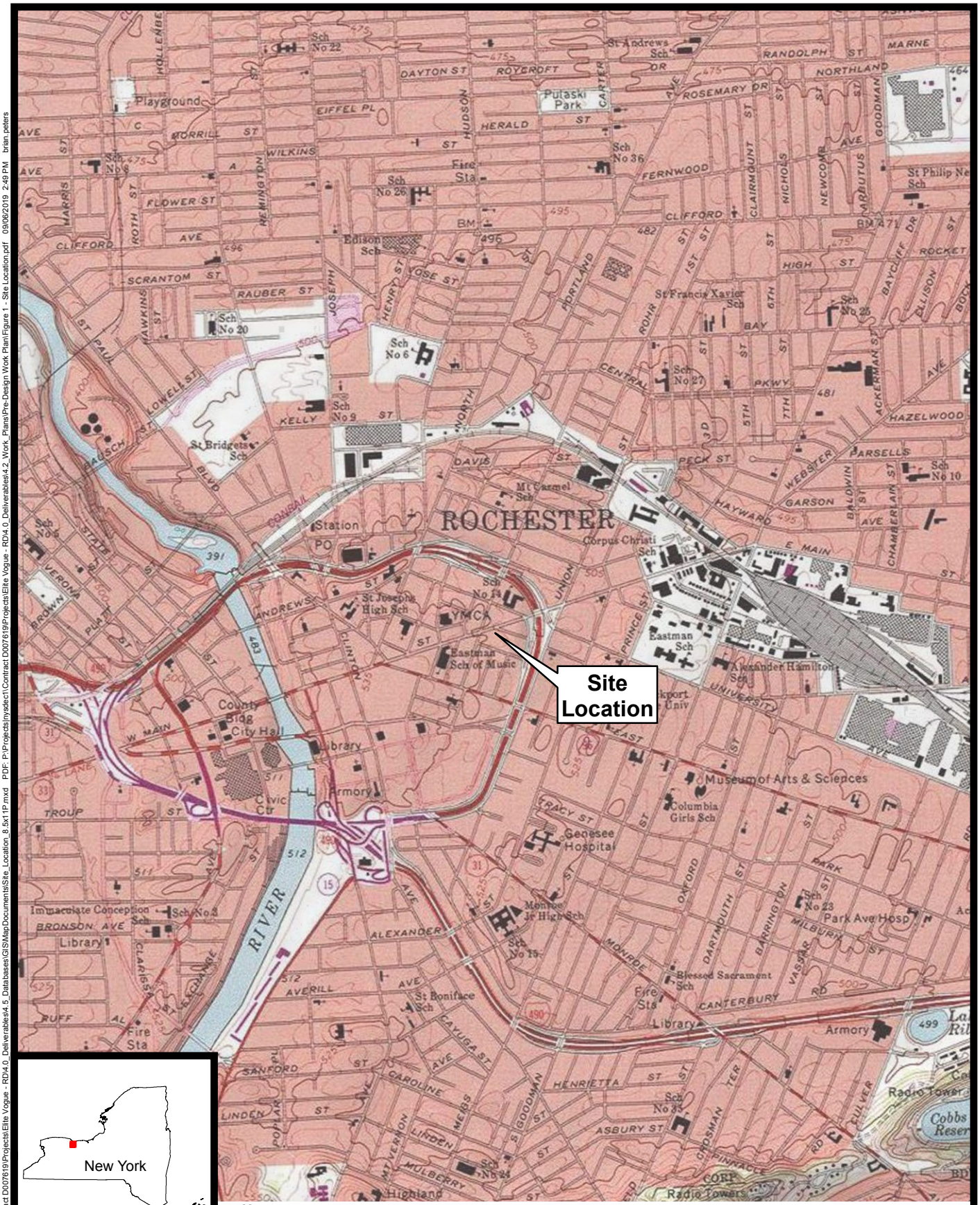
MACTEC, 2020b. Program Health and Safety Plan. Prepared for New York State Department of Environmental Conservation, Albany, New York. February 2020.

New York State, 1999. New York Codes, Rules, and Regulations, Title 6, Part 700-705 Water Quality Regulations Surface Water and Groundwater Classifications and Standards. Amended August 1999.

New York State Department of Environmental Conservation (NYSDEC), 2021. WA Issuance/Notice to Proceed to MACTEC/Engineering and Consulting. Dated March 16, 2021.

NYSDEC, 2019. Record of Decision. Former Elite Vogue Dry Cleaners State Superfund Project, Rochester, Monroe County, Site No. 828164. March 2019.

FIGURES



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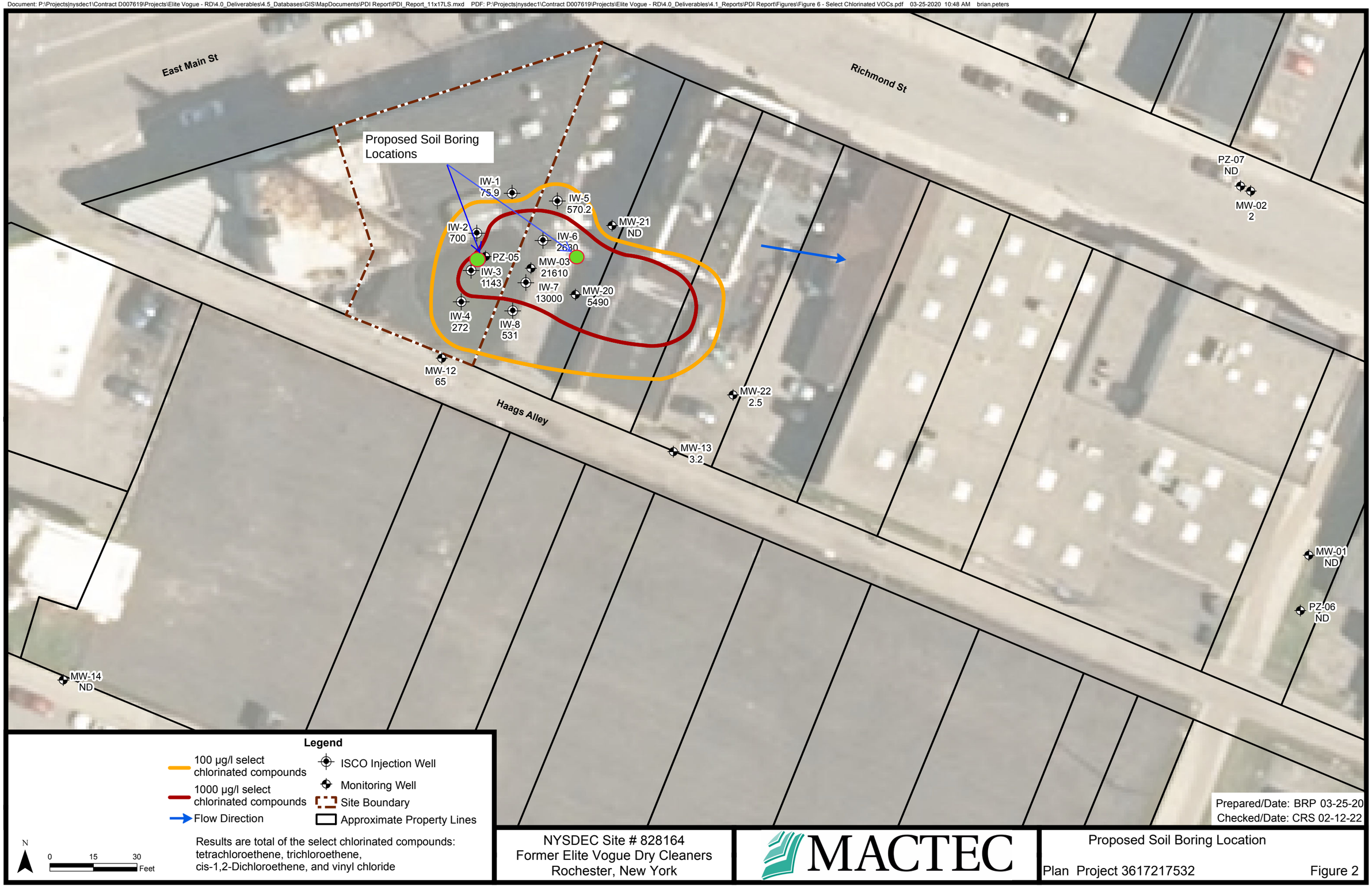
Prepared/Date: BRP 09/06/19
Checked/Date: JKR 09/06/19

NYSDEC Site # 828164
Former Elite Vogue Dry Cleaners
Rochester, New York

MACTEC

Site Location

Project 3617217532 Figure 1



NYSDEC Site # 828164
Former Elite Vogue Dry Cleaners
Rochester, New York

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Proposed Soil Boring Location

Plan Project 3617217532 Figure 2

TABLES

Table 1: Proposed Field Tasks and Methodology

LOCATION TYPE	DESCRIPTION AND METHODOLOGY	RATIONALE	ANALYTICAL
Sample Collection			
Utility Clearance	A private utility locator will be used to clear boring locations, as well as to locate sub-slab utilities within the Site building.	Clearance will be conducted to minimize the potential to contact underground utilities during the field effort.	NA
Monitoring Well Groundwater Sampling	Measure depth to water and collect groundwater samples from MW-03 and IW-3	Groundwater samples will be obtained to evaluate groundwater quality prior to TOD test to establish an oxidant dose.	2 groundwater samples for select VOCs
Soil Boring and Soil Sampling	Complete two direct push soil borings to 10 feet (bedrock is estimated at 12 ft bgs). Soil characteristics will be logged for the entire boring and two composite samples from 5 ft to 10 ft bgs will be collected from each boring for laboratory analysis. Samples will be collected based on PID readings and visual/olfactory observations. Sample composition will be biased high towards the highest PID reading. After sample collection all boring locations will be plugged back using bentonite and/or cement plug	Four soil samples (two each at T-1 and T-2) will be collected to perform TOD tests and to evaluate concentration of COCs to establish an oxidant dose.	2 soil samples for select VOCs and 2 saturated soil samples for TOD testing

Notes:
ft bgs = feet below ground surface
VOCs = volatile organic compounds
NA = Not Applicable
TOD = total oxidant demand test

Table 2: Proposed Sampling and Analytical Program

Site Type	Media	Location ID	Sampling Interval (feet BGS)	Sample ID	Select VOCs (Method 8260B)	TOD
Interior Soil Sampling						
Direct Push	Soil	T-1	Grab sample from 5 to 10 ft bgs based on high PID	828164-T1___	1	
Direct Push	Soil	T-1	Saturated composite sample from 5 to 10 ft bgs	828164-T1___		1
Exterior Soil Sampling						
Direct Push	Soil	T-2	Grab sample from 5 to 10 ft bgs based on high PID	828164-T2___	1	
Direct Push	Soil	T-2	Saturated composite sample from 5 to 10 ft bgs	828164-T2___		1
Baseline Groundwater Sampling						
Monitoring Well	Groundwater	IW-3	12 ft bgs	828164-IW03012	1	
Monitoring Well	Groundwater	MW-03	14 ft bgs	828164-MW03014	1	
TOTAL SAMPLES					4	2

NOTES:

BGS = below ground surface; "-" indicates above ground sample; TBD = To Be Determined in field (based on high PID reading for soils)

Sample ID: 828164 = NYSDEC Site No.; followed by well ID and sample depth (three digits); __ represents the 3 digit sample depth to be determined in field

Select VOCs = Select Volatile Organic Compounds include 1,2,4-trimethylbenzene, tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethane (DCE), and vinyl chloride (VC) ; Soil VOC samples to include percent moisture samples

TOD = total oxidant demand test using Provect-Ox (iron activated persulfate powder)

ATTACHMENT 1

SITE SPECIFIC HASP

MACTEC, Inc.

Site-Specific Health and Safety Plan
Short Form

Site: Elite Vogue Dry Cleaners Job #/Task # 3617217532
Street Address: 527-533 East Main Street, Rochester, NY
Proposed Date(s) of Investigation: January 2022- December 2022
Prepared by: Sachin Sharma Date: 01/28/2022
*Approved by: Richard Egan Date: 02/09/2022
Site Description: **(attach map)** A former dry cleaner with contaminants of concern consisting of chlorinated solvents and fuel related compounds. The property is zoned City Center District residential and commercial. The property is relatively flat in an urban setting with pavement concrete and building covered surfaces.
Comments:

*Approval also serves as certification of a Hazard Assessment as required by 29 CFR 1910.132

Overall Project Characterization "Color" (See SMARTool Form):

☐ Green ☐ Yellow ☑ Orange 1 ☐ Orange 2 ☐ Orange 3 ☐ Red

Tasks:

MACTEC	Sub	Task Description	AHA Attached?
☑	☐	Water levels	☑
☑	☑	Utility Locate	☑
☑	☐	Soil and Groundwater sampling	☑
☑	☑	Oversight of direct push temporary wells	
☑	☑	Oversight of in situ chemical oxidant (ISCO) injections using direct push injections and permanent well injections	☐
☑	☑	Soil Vapor Extraction System plumbing and Startup	☐

High Hazard Activities:

MACTEC	Sub	Activity	Wood	Sub	Activity
☐	☐	Confined space entry	☐	☑	Operating drill rig
☐	☐	Entering excavations	☐	☑	Operating other heavy equipment
☐	☐	Hot work	☐	☐	Using aerial lift
☐	☐	Lockout/tagout	☐	☐	Working from scaffolding
☐	☑	Operating forklift	☐	☐	Working at heights >6 feet

Stand up for Safety:

The above tasks could expose Wood E&IS employees and subcontractors to hazards associated with the following Stand up for Safety Initiatives:

- ☑ Driving
- ☐ Dropped Objects
- ☐ Energy Isolation (Lockout/Tagout)
- ☐ Working at Height

Life Saving Rules:

The following Wood Life Saving Rules potentially apply to the work being conducted at the site:

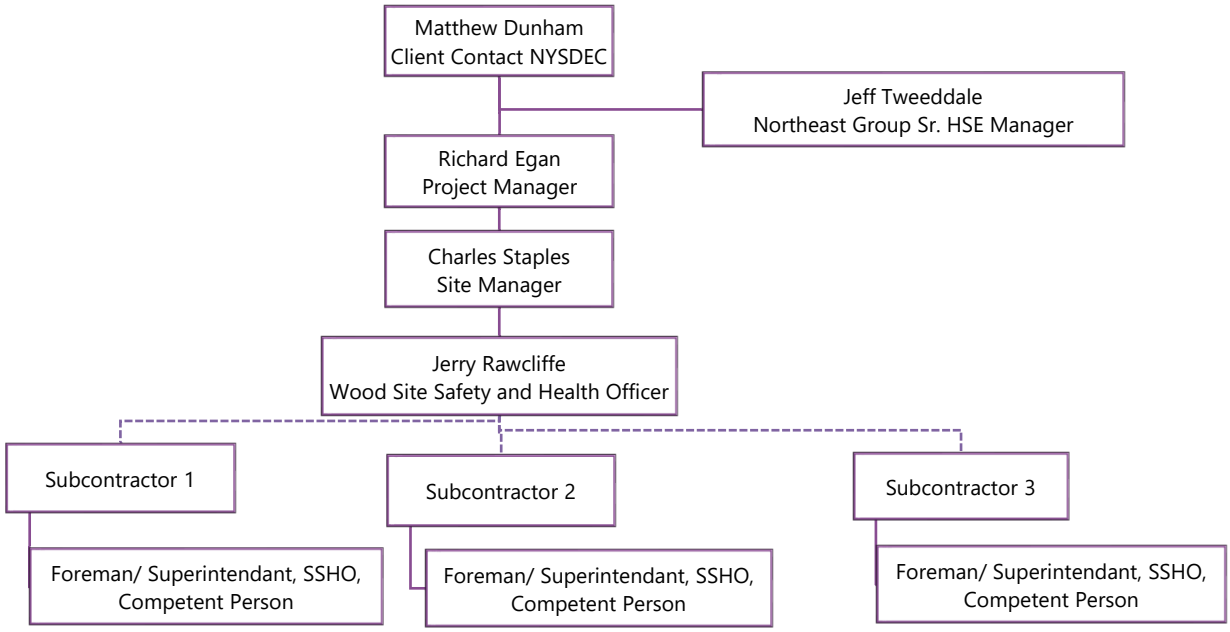
☐ **Bypassing Safety Controls** - Obtain authorization before overriding or disabling safety controls

MACTEC, Inc.

Site-Specific Health and Safety Plan
Short Form

- ☐ **Confined Space** - Obtain authorization before entering a confined space
- ☑ **Driving** - Follow safe driving rules
- ☐ **Energy Isolation** - Verify isolation and zero energy before work begins
- ☐ **Hot Work** - Control flammables and ignition sources
- ☐ **Line of Fire** - Keep yourself and others out of the line of fire
- ☑ **Safe Mechanical Lifting** - Plan lifting operations and control the area
- ☐ **Work Authorization** - Work with a valid permit when required
- ☐ **Working at Height** - Protect yourself against a fall when working at height

Project Organization Chart:



Dates of Required Training and Medical Surveillance:

Add additional training topics, as required. **Verify training in online training database: LINK**

Name:	Jerry Rawcliffe				
Job duties:	**Site Manager/SSHO**				
	Dates	**Dates**	**Dates**	**Dates**	**Dates**
Medical Surveillance	02/10/2022				
-Exam Type (A3, B, C)	C				
40-Hour Initial	5/1/85				
8-Hour Supervisor[2]	8/1/95				
8-Hour Refresher	02/4/2022				
First Aid[1]	04/30/2020				
CPR[1]	04/30/2020				
Hazard Communication	06/13/2012				
Fire Extinguisher	08/19/2014				

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Site-Specific Health and Safety Plan
Short Form

Name:	Jerry Rawcliffe				
Job duties:	**Site Manager/SSHO**				
	Dates	**Dates**	**Dates**	**Dates**	**Dates**
Working in the Field during COVID-19 outbreak	Continues to be vaccinated for booster doses				

[1] At least one worker must be trained in First Aid/CPR

[2] Required for Site Manager and Site Health and Safety Officer

[3] **Medical Surveillance Exam A has no respiratory clearance so can only be used for Level D PPE.** . Exam A (basic HAZWOPER), Exam B (respirator & HAZWOPER under 40 years old), Exam C (respirator & HAZWOPER over 40 years old), Exam E (DOT), Exam F (asbestos monitoring), Exam G (lead monitoring) etc. **Contact HSE Coordinator or Jeff Tweeddale to determine type of exam employee received.**

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Site-Specific Health and Safety Plan
Short Form

Goals/Targets:

The following goals/targets have been established for the project:

- [x] Zero OSHA Recordable Incidents
- [ ] Weekly HSE Inspections (documented Project Safety Checklist)
- [ ] XX Leadership (PM) HSSE Inspections
- [ ] XX HEART observations per day/week/month
- [ ]

Meetings:

The following meetings will be held at the site:

Meeting	Lead by		Frequency				
	Wood	Sub	Initial	Daily	Weekly	Monthly	As Needed
Project Kick-off [1]	☑	☐	☑	☐	☐	☐	☐
Tailgate [2]	☑	☐	☑	☑	☐	☐	☐
Safety Committee [1]	☐	☐	☐	☐	☐	☐	☐
Incident Reviews [1]	☐	☐	☐	☐	☐	☐	☑
E&IS Monthly Safety Topics [1]	☑	☐	☐	☐	☐	☑	☐
HSSE Closeout Meetings [1]	☐	☐	☐	☐	☐	☐	☑
	☐	☐	☐	☐	☐	☐	☐

[1] Attended by subcontractor management representative
[2] Attended by all subcontractor employees and supervisors.

Inspections:

Regular inspections will be conducted by Wood E&IS and/or subcontractor personnel. Inspections will be documented, and corrective actions established for all findings. Corrective actions will be tracked to closure. HEART observations will be entered into the HEART database.

Inspection Type	Lead by		Frequency			
	Wood	Sub	Daily	Weekly	Monthly	Before Use
HSE (Visual)	☑	☑	☑	☐	☐	☐
HSE (Documented)	☑	☑	☐	☑	☐	☐
Leadership HSE (e.g., PM)	☐	☐	☐	☐	☐	☐
Scaffolding	☐	☐	☐	☐	☐	☐
Excavations	☐	☐	☐	☐	☐	☐
Heavy Equipment	☐	☑	☑	☐	☐	☑
PPE	☑	☑	☑	☐	☐	☐
Tools/Equipment	☐	☑	☑	☐	☐	☐
HEART/Observations	☑	☐	☑	☐	☐	☐
PoWRA	☐	☐	☑	☐	☐	☐
	☐	☐	☐	☐	☐	☐

MACTEC, Inc.

Site-Specific Health and Safety Plan
Short Form

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Site-Specific Health and Safety Plan
Short Form

INSERT SITE MAP(s) HERE

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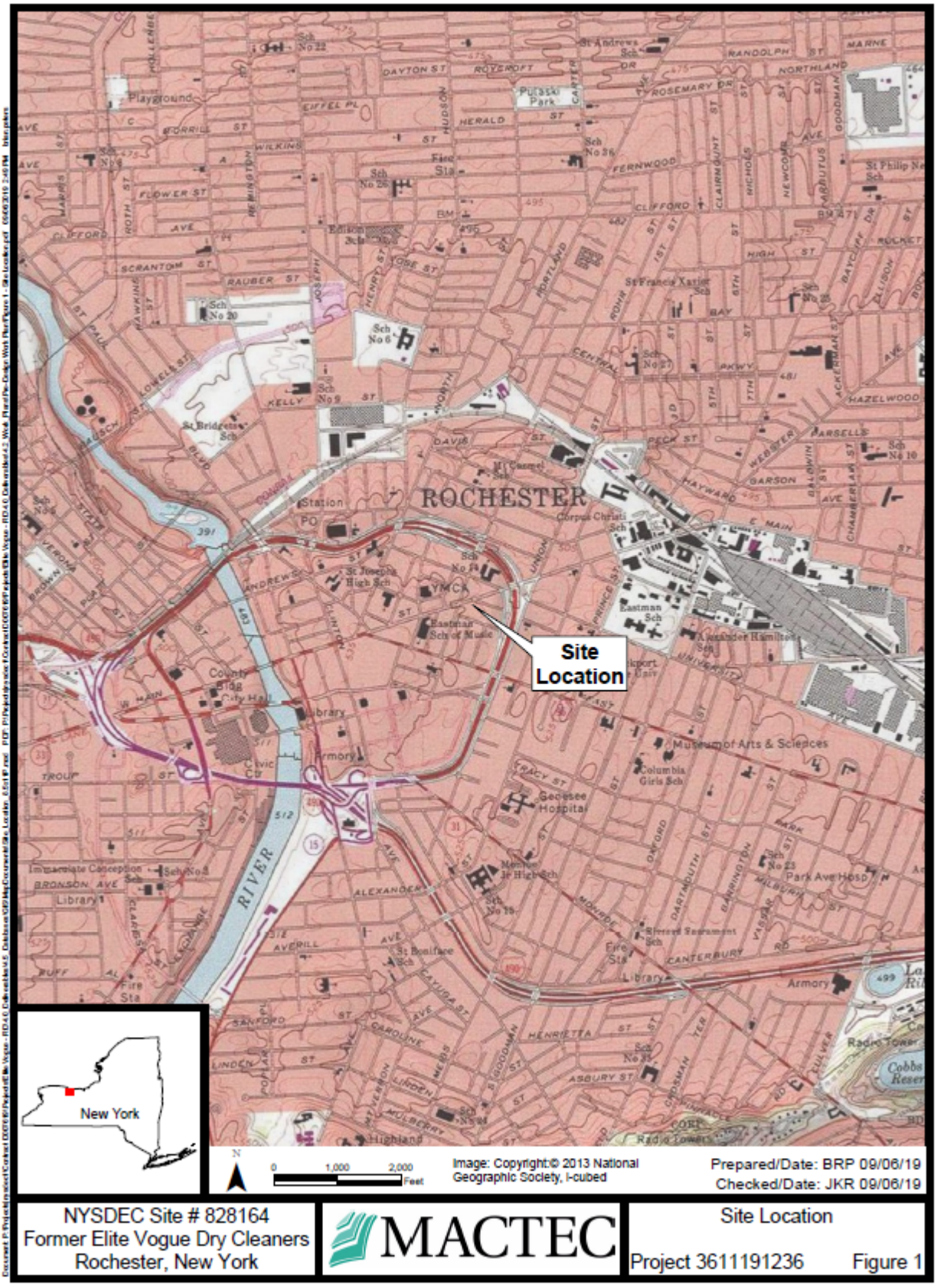
Site-Specific Health and Safety Plan
Short Form



MACTEC, Inc.

Site-Specific Health and Safety Plan
Short Form

Journey Management Plan:

A Journey Management Plan will be developed to address non-routine/non-commute type travel to and from the project site. Considerations will include anticipated weather, work duration prior to travel, travel route, etc. See the Vehicle Travel – Journey Management Plan AHA.

JOURNEY MANAGEMENT PLANNING		
All projects with a field component must have a journey management plan completed for each work location. Complete the below as accurately as possible with your knowledge of the project, site location, time of year, etc. If there are significant changes to the scope of the project, or the conditions of travel, the plan must be updated, or new journey management plan must be completed. ***Not required for city or urban driving***		
	Points	**List Control Measures**
1. How many total hours will the driver have been on duty at the end of the journey? Note: Maximum 14 duty hours permitted. (12+ hours = 10 pts)		
2. Will the overall journey distance exceed 120 miles/~200km? (Yes = 10 pts)		
3. Will the journey require driving in wet, flooded, icy, and/or snowy roads? (Yes = 10 pts)		
4. Will the journey require driving in conditions that limit visibility (dark, fog, snow, hail, etc.)? (Yes = 10 pts)		
5. Will the journey require driving overnight (after 9pm - 5am)? (Yes = 10 pts)765		
6. Is the driver familiar with the route for this journey? (No = 5 pts)		
7. How many hours of sleep has the driver had in the past 24 hours? (If < 8 hrs = 5 pts)		
8. Will there be a passenger in the vehicle during the journey? (No = 5 pts)		
9. Is heavy traffic congestion expected during the journey? (Yes = 5 pts)		
10. Was a pre-trip inspection performed (walk around, towing, load securement, etc.)? (No = 5 pts)		
11. Is the vehicle towing a heavy or oversized load OR permit required? (Yes = 5 pts)		
12. Will the driver encounter unpaved or mountainous road conditions? (Yes = 5 pts)		
13. In case of emergency, will the driver have suitable means of communication? (No= 5 pts)		
14. Are there elevated security risks associated with this journey? (Yes = 5 pts)		
15. Is there an elevated risk of striking an animal on the roadway during this journey? (Yes = 5 pts)		
TOTAL		**Low Risk = 0-25 pts, Medium Risk = 30-55 pts requires mitigation, High = 60 or more requires Management Approval**
Workers must also establish a check in/check out system for any project where there is significant driving and where they will not be returning to the office at the end of the day. This process should be documented.		

Known or Suspected Contaminants (include PELs/TLVs): LINK to COC Library

Contaminants of Concern (COC) (Attach Fact Sheets*)	Maximum Concentrations		PEL/TLV**
	Soil (mg/kg)	Water/Groundwater (µg/l)	
PCE	1400 mg/Kg	19 ug/L	25 ppm
TCE	23 mg/Kg	74 ug/L	10 ppm
1,2,4-trimethylbenzene	260 mg/Kg	ug/L	25 ppm
1, 2 DCE	16 mg/Kg	14,000 ug/L	200 ppm
Vinyl chloride	- mg/Kg	900 ug/L	1 ppm

*Workers must be made aware of the signs, symptoms, and first aid for each COC. Information is located on the COC fact sheets.
**See (LINK) for OSHA PELs and ACGIH TLVs

Air Monitoring Action Levels:

PID/FID Reading[1]	Detector Tube[1]	Dust Meter[1]	LEL[2]/O_2[1]	Action
Anything above background	<0.5 ppm			Continue to monitor with PID. Modified Level D
41 ppm	<0.5 ppm			Continue to monitor with PID/DT. Level C.
Anything above background	>0.5 ppm		>10% LEL	Stop work. Evacuate area. Consider return with ventilation system and spark proof/intrinsically safe equipment.
Above 92 ppm	>0.5 ppm		<19.5% O_2	Stop work and evacuate area.

[1] Sustained readings measured in the breathing zone
[2] Readings at measured at the source (borehole, well, etc.)

AHAs:

Check and attach all that apply (add applicable AHAs not already listed) **(LINK to AHA Library):**

Activity Specific AHAs:

- [x] Mobilization/Demobilization and Site Preparation
- [x] Vehicle Travel – Journey Management Plan
- [x] Field Work - General
- [x] Field Work - Oversight
- [x] Decontamination
- [x] Utility Clearance Activities
- [x] Groundwater Sampling
- [x] Soil Sampling
- [x] Geoprobe
- [ ] Excavations and Backfilling
- [ ] Stream/Wetlands Work

Hazard Specific AHAs:

- [ ] Insect Stings and Bites
- [ ] Gasoline
- [ ] Working with Preservatives (Acids)
- [x] General PPE Use
- [x] COVID-19 related AHAs (3)
- [x] Concrete Replacement

Review of AHAs and Point of Work Risk Assessments

Supervisors shall conduct a daily tailgate meeting, specifying the applicable AHAs and ensure that everyone involved in the work acknowledges the AHA or daily renewal forms applicable to their work.

The work area shall be inspected for any additional hazards prior to initiating work. Where additional hazards are present, the hazards and controls shall be identified prior to initiating the work and documented on the AHA and the Point of Work Risk Assessment (PoWRA) form.

If there is a change or deviation from the planned activity, you must stop the job and re-evaluate the risk assessment and the precautions taken. Any changes to the work described in the AHA shall require a review by a Qualified Person.

- PoWRA Form (printable): LINK
- PoWRA electronic version: LINK
- PoWRA electronic version QR Code:

PPE and Monitoring Instruments:

Initial Level of PPE *

☐ Level D ☑ Modified Level D ☐ Level C * Cannot use Short Form HASP for Level B or A or Confined Space Entry work

Standard PPE

☑ Hard Hat ☑ Safety boots ☑ Safety glasses ☑ High visibility vest/clothing

Eye and Face Protection

☐ Face shield ☐ Vented goggles ☐ Unvented goggles ☐ Indirect vented goggles

Hearing Protection

☐ None ☑ Ear plugs ☐ Ear Muffs ☐ Ear plugs and muffs

Respiratory Protection (for Injection/field Oversight)

☑ None ☐ Upgrade Only ☐ Dust mask ☐ Full Face APR ☐ Half Face APR

Cartridge Type: e.g., MSA GMC Change Cartridges: e.g., Daily/Twice Daily

For oxidant handling, mixing and injection work, the selected subcontractor to provide the appropriate respiratory protection to his field crew

Protective Clothing

☑ Work uniform ☐ White uncoated Tyvek® ☐ Poly-coated Tyvek® ☐ Saranex®
☐ Boot covers ☐ Reflective vest/clothing ☐ Chaps or Snake Legs ☐ Other: _____

Hand Protection

☐ None ☐ Cotton gloves ☐ Leather gloves ☐ Glove liners ☐ Cut-resistant gloves ☐ Other: _____
☑ Outer Gloves: List Type: Nitrile or Vinyl ☐ Inner Gloves: List Type: _____

Monitoring Instruments Required*

Periodic monitoring shall be conducted when the possibility of an IDLH condition or flammable atmosphere has developed or when there is indication that exposures may have risen over permissible exposure limits or published exposure levels since prior monitoring. Situations where it shall be considered whether the possibility that exposures have risen are as follows:

- When work begins on a different portion of the site.
- When contaminants other than those previously identified are being handled.
- When a different type of operation is initiated (e.g., drum opening as opposed to exploratory well drilling.)
- When employees are handling leaking drums or containers or working in areas with obvious liquid contamination (e.g., a spill or lagoon.)

☐ LEL/O2 Meter ☑ PID: ☑ 10.0/10.6 eV Lamp ☐ 11.7 eV Lamp ☐ FID ☐ Hydrogen Sulfide meter ☐ Carbon Monoxide meter

☑ Dräger Pump (or equivalent) ☑ Dust Meter: ☐ Respirable dust ☐ Total dust ☐ Other: _____

List Tubes: Vinyl Chloride

*Monitoring instruments will be calibrated daily in accordance with manufacturer's instructions. Results will be recorded in the field logbook.

Chemicals Brought to the Site:

List all chemicals brought to the site (e.g., preservatives, decon solutions, calibration gases, gasoline, etc.).

Product Identifier: (Note: Name listed below must match name on label and SDS)	**SDS Attached?**
HCL	☑
METHANOL	☑
ISOBUTYLENE	☑
ALCONOX	☑
PH 4, PH 7, PH 10 BUFFER SOLUTION	☑
YSI OXYGEN PROBE ELECTROLYTE SOLUTION	☑
CONDUCTIVITY CALIBRATION SOLUTION	☑
PROVECT-OX® SELF ACTIVATING ISCO ENHANCED BIOREMEDIATION REAGENT	☑
	☐

Chemicals will be kept in their original containers. If transferred to another container, aside from day use by one individual, the new container will be clearly labeled with the name of the chemical (product identifier), signal word, hazard statement, pictogram(s), precautionary statement, and name, address and telephone number of the chemical manufacturer, importer or other responsible party.

Work Zones:

The work zones will be defined relative to the location of the work activity. The Exclusion Zone is considered the area within a 10-foot diameter of the sampling location. The Contamination Reduction Zone is considered to be the area with in a 20-foot diameter of the sampling location. The Decontamination Zone is to be located upwind of the work area. Work zones will be maintained through the use of:

- ☑ Warning Tape
- ☑ Cones and Barriers
- ☑ Visual Observations

Decontamination Procedures and Equipment:

Note: See Decontamination AHA for further information

Level D Decontamination Procedures

Decontamination Solution:	Detergent and Water
Station 1: Equipment Drop	Deposit equipment used on-site (tools, sampling devices and containers, monitoring instruments, radios, etc. on plastic drop cloths. Segregation at the drop reduces the probability of cross contamination. During hot weather operations, a cool-down station may be set up within this area.
Station 2: Outer Boots, and Gloves Wash and Rinse (if worn)	Scrub outer boots, and outer gloves decon solution or detergent water. Rinse off using copious amounts of water.
Station 3: Outer Boot and Glove Removal (if worn)	Remove outer boots and gloves. Deposit in plastic bag.
Station 4: Inner glove removal	Remove inner gloves and place in plastic bag.
Station 5: Field Wash	Hands and face are thoroughly washed. Shower as soon as possible.

Modified Level D and Level C PPE Decontamination Procedures

Decontamination Solution:	Detergent and Water
Station 1: Equipment Drop	Deposit equipment used on-site (tools, sampling devices and containers, monitoring instruments, radios, etc. on plastic drop cloths. Segregation at the drop reduces the probability of cross contamination. During hot weather operations, a cool-down station may be set up within this area.
Station 2: Outer Garment, Boots, and Gloves Wash and Rinse	Scrub outer boots, outer gloves, and splash suit with decon solution or detergent water. Rinse off using copious amounts of water.
Station 3: Outer Boot and Glove Removal	Remove outer boots and gloves. Deposit in container with plastic liner.
Station 4: Canister or Mask (Level C only) Change	If worker leaves exclusion zone to change canister (or mask), this is the last step in the decontamination procedure. Worker's canister is exchanged, new outer gloves and boot covers are donned, joints are taped, and worker returns to duty.
Station 5: Boot, Gloves and Outer Garment Removal	Boots, chemical resistant splash suit, and inner gloves are removed and deposited in separate containers lined with plastic.
Station 6: Face Piece Removal (Level C only)	Facepiece is removed. Avoid touching face with fingers. Facepiece is deposited on plastic sheet.
Station 7: Field Wash	Hands and face are thoroughly washed. Shower as soon as possible.

Site Communication:

- [x] Verbal
- [ ] Two-way radio
- [x] Cellular telephone
- [ ] Hand signals
  - Hand gripping throat ---------- Out of air, can't breathe
  - Grip partner's wrist or both hands around waist ---------- Leave area immediately
  - Hands on top of head ---------- Need assistance
  - Thumbs up ---------- OK, I am all right, I understand
  - Thumbs down ---------- No, negative
- [ ] Horn
- [ ] Siren
- [ ] Other: _____

EMERGENCY CONTACTS

NAME	TELEPHONE NUMBERS		DATE OF PRE-EMERGENCY NOTIFICATION (if applicable)
Fire Department:	911		
Hospital: Highland Hospital	(585) 473-2200		
WorkCare (Early case management)	1-888-449-7787		
Police Department:	911		
	Office	**Cell**	
Site Safety and Health Officer: Jerry Rawcliffe	207-828-3614	207-415-6211	
Client Contact: Matthew Dunham	518-402-9814		
Project Manager: Charles Staples	207-828-3571	207-450-9772	
*Northeast Sr. HSE Manager: Jeff Tweeddale	860-529-7191	860-670-5908	
Corporate SVP of HSE: Vlad Ivensky	610-877-6144	484-919-5175 (Cell) 215-947-0393 (Home)	
EPA/DEP (if applicable):			
Other: Ambulance	911		

*See Incident Flow Chart for additional Group HSE Manager's Contact Information

Emergency Equipment:

The following emergency response equipment is required for this project and shall be readily available:

- ☑ Field First Aid Kit (including bloodborne pathogen kit/supplies)
- ☑ Fire Extinguisher (ABC type)-to be provided by subcontractor
- ☑ Eyewash (Note: 15 minutes of free-flowing fresh water)-to be provided by subcontractor
- ☐ Other: _____

Emergency Procedures:

- The SSHO (or alternate) should be immediately notified via the on-site communication system. The HSO assumes control of the emergency response.
- The SSHO notifies the Project Manager and client contact of the emergency.
- If the emergency involves an injury to a Wood employee, the HSE Coordinator or Site Manager are to implement the Wood Early Injury Case Management program. See procedures and Flow Diagram below:

- If applicable, the SSHO shall notify off-site emergency responders (e.g. fire department, hospital, police department, etc.) and shall inform the response team as to the nature and location of the emergency on-site.
- If applicable, the SSHO evacuates the site. Site workers should move to the predetermined evacuation point (See Site Map).
- For small fires, flames should be extinguished using the fire extinguisher but only if trained within the past year. Use the **PASS** method (**P**ull the pin, **A**im at the base of the fire, **S**queeze the trigger, use a **S**weeping motion to put out the fire) when extinguishing fires. Large fires should be handled by the local fire department.
- In an unknown situation or if responding to toxic gas emergencies, appropriate PPE (e.g., level C or B PPE - if available), should be donned. If appropriate PPE is unavailable, site workers should evacuate and call in emergency personnel.
- For chemical spills, follow the job specific AHA and SDS for spill containment and spill handling procedures.
- If chemicals are accidentally spilled or splashed into eyes or on skin, use eyewash bottle/station for the eyes and wash affected area. Site worker should shower as soon as possible after incident.
- If the emergency involves toxic gases, workers will back off and reassess. Prior to re-entering the work zone, the area must be determined to be safe, that the required PPE and air monitoring equipment is available. Entry is prohibited if PPE or air monitoring equipment is inadequate.
- An injured worker shall be decontaminated appropriately.
- Within 24 hours after any emergency response, the initial Incident Analysis Report shall be completed and submitted to the Group Sr. HSE Manager. If the injury involves vehicles or overhead/underground utilities, also complete the Vehicle Incident Report (VIR) and Ground Disturbance Report (GDR), respectively. When the use of drugs or alcohol cannot be ruled out as a factor in the incident, contact P&O to determine if post accident drug testing is required.

Wood E&IS Early Injury Case Management Program

NON-EMERGENCY INCIDENT	EMERGENCY INCIDENT
Steps 1 & 2 must be completed before seeking medical attention other than local first aid. 1. Provide first-aid as necessary. Report the situation to your immediate supervisor AND HSE coordinator (all incidents with the apparent starting event should be reported immediately but no later than within 1 hour of occurrence). 2. Injured employee:	1. Provide emergency first aid. Supervisor on duty must immediately call 911 or local emergency number; no employee may respond to outside queries without prior authorization. Any outside media calls concerning this incident must be referred immediately to external communications manager, Lauren Gallagher 602-757-3211. 2. Once medical attention is sought and provided, the supervisor must:
Call WorkCare 24/7 Hotline* (888) II-XPRTS or (888) 449-7787	
WorkCare will assess the situation and determine whether the incident requires further medical	WorkCare will be responsible for performing the following:

attention. During this process, WorkCare will perform the following: • Explain the process to the caller. • Determine the nature of the concern. • Provide appropriate medical advice to the caller. • Determine appropriate path forward with the caller. • Maintain appropriate medical confidentiality. • Help caller to execute path forward, including referral to the appropriate local medical facility. • Send an email notification to the Corporate HSE Department.	• Contact the treating physician. • Request copies of all medical records from clinic. • Send an email update to the Corporate HSE Department.

3. IMMEDIATELY after contacting WorkCare send a brief email notification AND inform verbally (direct contact is required) ONE of HSE corporate representatives on the following page.

4. Make all other local notifications and client notifications.

5. Review and follow client and E&IS post-incident alcohol and drug testing requirements.
   - E&IS Canada Post-Incident D&A Info
   - E&IS U.S. Post-Incident D&A Info

6. WITHIN 24 HOURS - Local Supervisor, HSE Coordinator, Project HSE Officer and any applicable safety committees to complete preliminary investigation, using the **Incident Analysis Report Form**, and supporting forms for **Vehicle Incident** or **Ground Disturbance** and provide to Corporate HSE Department.

7. Corporate Loss Prevention Manager to complete Worker's Compensation Insurance notifications as needed.

8. Corporate HSE to conduct further incident notifications, investigation, include in statistics, classify, and develop lessons learned materials.

* - **NOTE: Step 2 is only applicable to the North-American operations and to incidents involving E&IS personnel. High potential near misses, workplace violence/harassment and security incidents, subcontractors' incidents, regulatory inspections, spills and property damages above $1,000 should be reported immediately, following directions from Step 3.**

Site Specific Emergency Procedures are as follows:

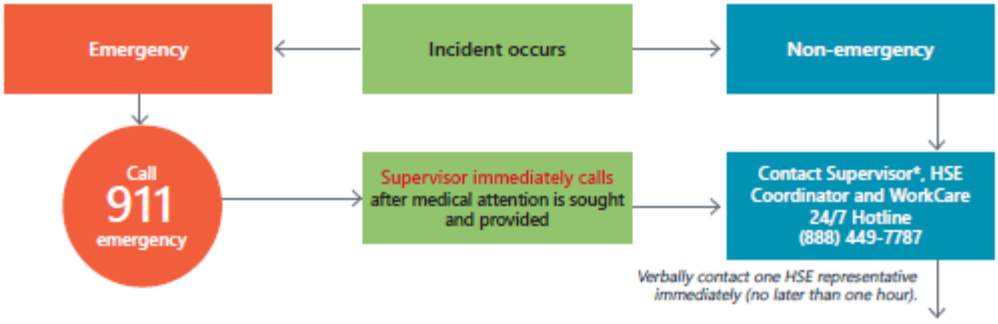
Utility locator contractor required to clear for underground/ aboveground utilities.
Dust suppression measures will be used to minimize the generation of dust. In the event that dust conditions do arise, a respirable dust meter will be used to monitor particulates in

accordance with NYSDOH CAMP rev 1 06/00. If particulate levels exceed 100 ug/m3 above background or greater than 150 ug/m3, work will be stopped and dust control measures and continuous particulate monitoring will be instituted prior to work being resumed.

INCIDENT FLOW CHART

Incident flow chart

Call immediately



Name/E-Mail	Region	Contact Information
US West		
Bruce Voss bruce.voss@woodplc.com	Cathedral City, CA	951.897.6381 (cell)
Chad Barnes chad.barnes@woodplc.com	Phoenix, AZ	480.495.9846 (cell)
US East		
Cindy Sundquist cynthia.sundquist@woodplc.com	Portland, ME	207.650.7593 (cell)
Kirby Lastinger Kirby.lastinger@woodplc.com	Southeast Region, US East	863-2724775 (cell)
Michele Barnhart Michele.Barnhart@woodplc.com	Central Region, US East	919.491.7710 (cell)
Jeff Tweeddale jeff.tweeddale@woodplc.com	Northeast Region, US East	860-670-5908 (cell)
Canada		
Philip Neville philip.neville@woodplc.com	St Catharines, ON	905.380.4465 (cell)
Tim Kihn tim.kihn@woodplc.com	Edmonton, AB	780.717.5058 (cell)
Lori Dowling lori.dowling@woodplc.com	Prince George, BC	250.564.3243 (office)
Remediation		
Greg Ertel Gregory.ertel@woodplc.com	Rochester, NY	585-465-0557 (cell)
Loss Prevention		
Karla St. John karla.stjohn@woodplc.com	Minneapolis, MI	612-750-1341 (cell)
Vlad Ivensky (can call 24/7) vladimir.ivensky@woodplc.com	Plymouth Meeting, PA	484.919.5175 (cell) 215.947.0393 (home)

High potential near misses, unsafe work refusals, workplace violence/harassment and security incidents, subcontractor incidents, regulatory inspections, spills, and property damage should be reported immediately to one of the above HSE Representatives.

*Supervisor Responsible For:

- D&A Testing Coordination as per client and Wood E&IS requirements, Local/Client Notifications, and Completing Initial IAR within 24 hours and forwarding to Corporate HSE.

E&IA, North America | Rev. January 2021

Field Team Review:

I acknowledge that I understand the requirements of this HASP, and agree to abide by the procedures and limitations specified herein. I also acknowledge that I have been given an opportunity to have my questions regarding the HASP and its requirements answered prior to performing field activities. Health and safety training and medical surveillance requirements applicable to my field activities at this site are current and will not expire during on-site activities.

Name: _____ Date: _____

Name: _____ Date: _____

Name: _____ Date: _____

Name: _____ Date: _____

Name: _____ Date: _____

Routes to Emergency Medical Facilities:

HOSPITAL(for immediate emergency treatment):

Facility Name: Highland Hospital

Address: 1000 South Avenue, Rochester, NY

Telephone Number: (585) 473-2200

Highland Hospital - University of Rochester Medical Center

DIRECTIONS TO PRIMARY HOSPITAL (attach map):

Bing Maps - Directions, trip planning, traffic cameras & more Page 1 of 2

bing maps

A 531 E Main St, Rochester, NY 14604
B Highland Hospital, 1000 South Ave, Rochester, NY 14620

12 min , 2.1 miles
Moderate traffic (3 min delay)
Via Woodbury Blvd, South Ave
· Local roads

Primary Hospital Route Directions

A 531 E Main St, Rochester, NY 14604

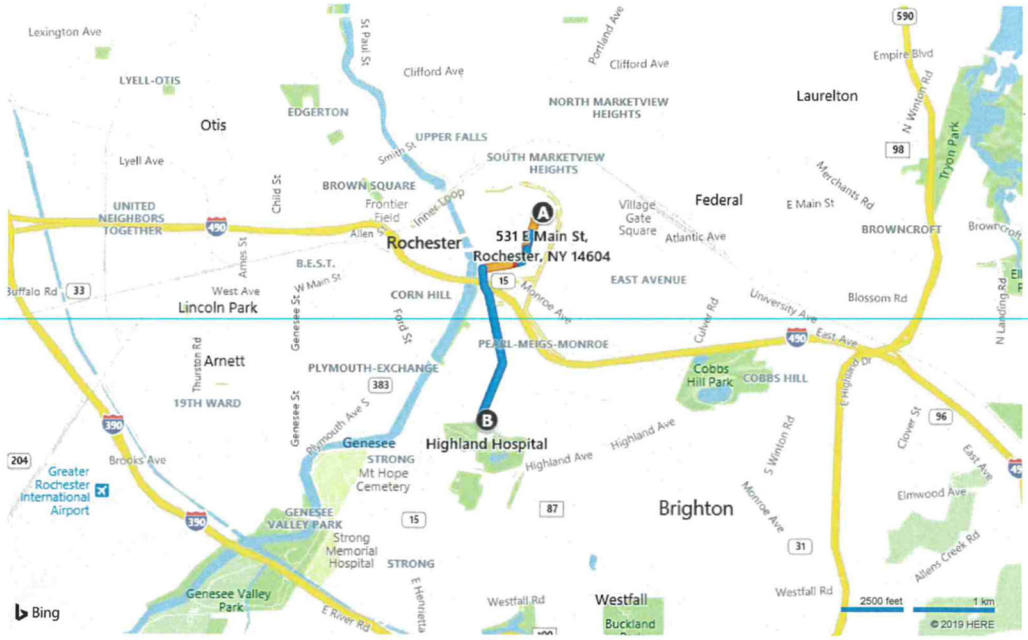
↑	1.	Head <CmpsDir>west</CmpsDir> on **E Main St** toward Haags Alley	171 ft
↰	2.	Bear **left** onto **Scio St**	0.2 mi
↑	3.	Road name changes to **Broadway St**	518 ft
⟳	4.	At roundabout, take **2nd** exit onto **Manhattan Square Dr**	0.2 mi
↑	5.	Road name changes to **Woodbury Blvd**	0.2 mi
↰	6.	Turn **left** onto **South Ave**	1.3 mi
↰	7.	Turn **left** onto **Bellevue Dr**	108 ft
↰	8.	Turn **left**	180 ft
↱	9.	Turn **right**	138 ft
	10.	Arrive at your destination on the right	

B Highland Hospital

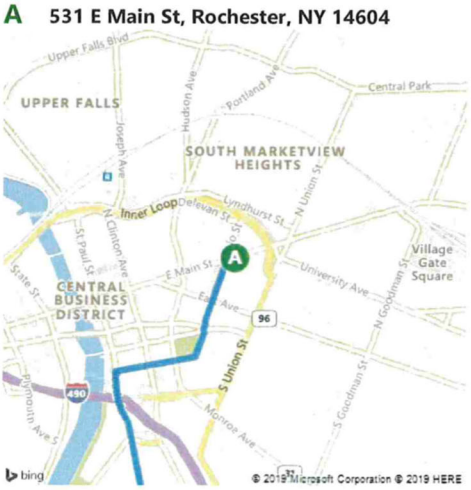
https://www.bing.com/maps/ 9/25/2019

Bing Maps - Directions, trip planning, traffic cameras & more

Page 2 of 2



A 531 E Main St, Rochester, NY 14604



B Highland Hospital, 1000 South Ave, Roch...

These directions are subject to the Microsoft® Service Agreement and are for informational purposes only. No guarantee is made regarding their completeness or accuracy. Construction projects, traffic, or other events may cause actual conditions to differ from these results. Map and traffic data © 2019 HERE™.

https://www.bing.com/maps/

9/25/2019

CLINIC (for non-emergency medical treatment)

Facility Name: Rochester Regional Health Immediate Care – Wilson Center

Address: 1425 Portland Avenue, Rochester, NY 14621

Telephone Number: (585) 338-1200

DIRECTIONS TO CLINIC (attach map):

Bing Maps - Directions, trip planning, traffic cameras & more Page 1 of 2

bing maps

A 531 E Main St, Rochester, NY 14604
B 1425 Portland Ave, Rochester, NY 14621

12 min , 2.7 miles
Light traffic
Via Scio St, Portland Ave
· Local roads

Type your route notes here

A 531 E Main St, Rochester, NY 14604

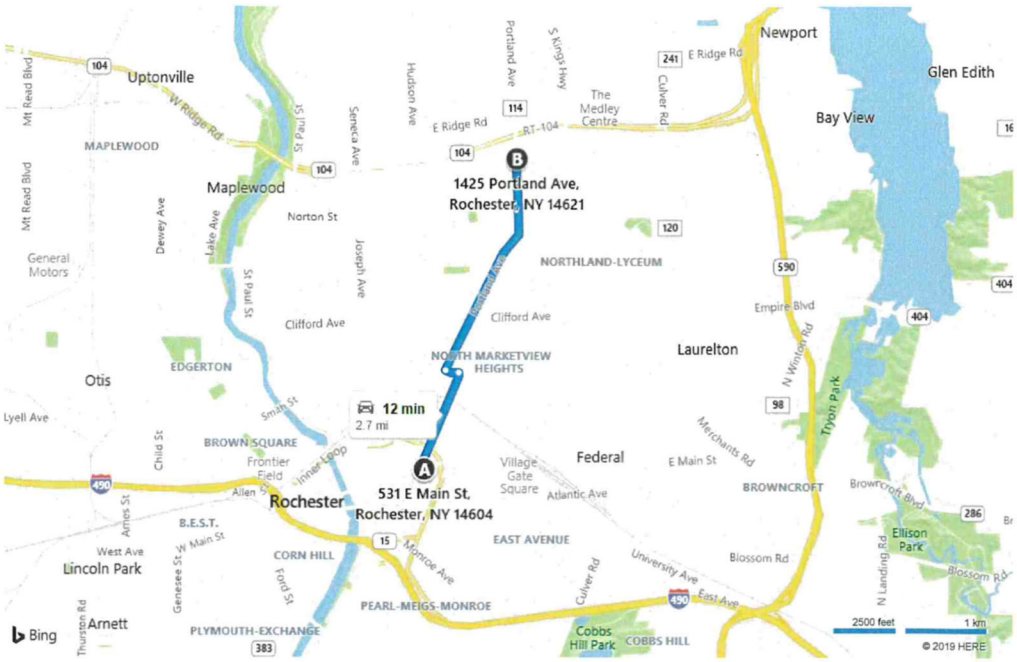
↑	1.	Head <CmpsDir>west</CmpsDir> on **E Main St** toward Haags Alley	171 ft
↱	2.	Turn **right** onto **Scio St**	0.8 mi
↰	3.	Turn **left** onto **Central Park**	0.1 mi
↱	4.	Turn **right** onto **Portland Ave** Pass Exxon in 0.5 mi	1.7 mi
	5.	Arrive at **Portland Ave / CR-114** The last intersection is Onondaga Rd If you reach St Anns Dr, you've gone too far	

B 1425 Portland Ave, Rochester, NY 14621

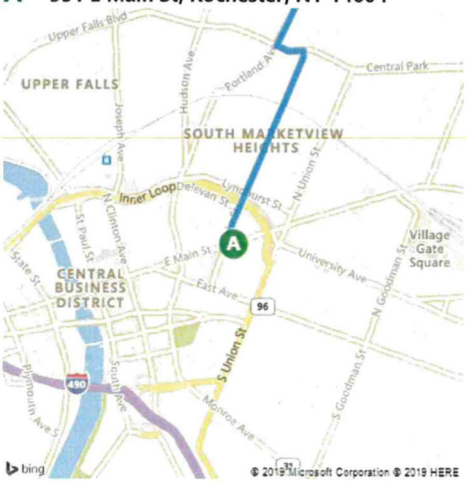
https://www.bing.com/maps/ 9/25/2019

Bing Maps - Directions, trip planning, traffic cameras & more

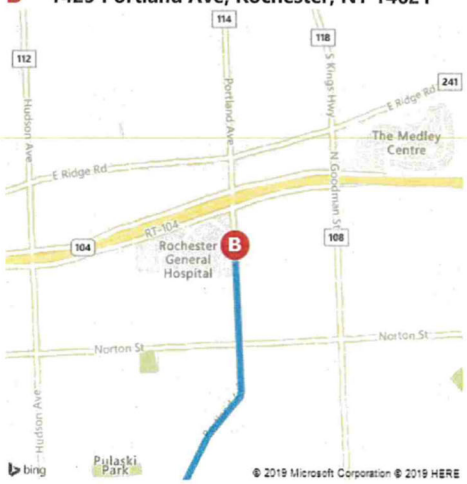
Page 2 of 2



A 531 E Main St, Rochester, NY 14604



B 1425 Portland Ave, Rochester, NY 14621



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https://www.bing.com/maps/

9/25/2019

Wood HSSE Management System "Blue Book:"

The Wood HSSE management system is defined by the HSSE Management System Standard -the Blue Book. It consists of fifteen elements that set mandatory minimum standards for the management of HSSE across Wood. These minimum standards define how Wood leads, plans and organizes itself to ensure HSSE risks are controlled and to deliver continuous improvement in HSSE performance. The Blue Book is supported by Wood HSSE standards, procedures, guidelines and tools which provide further direction and advice on how to comply with the Blue Book's requirements.

Wood's core ***Vision*** is to:

Inspire with ingenuity, partner with agility, create new possibilities...

The Wood ***Values*** are:

- ***Care*** -Working safely, with integrity, respecting and valuing each other and our communities
- ***Commitment*** - Consistently delivering to all our stakeholders
- ***Courage*** - Pushing the boundaries to create smarter, more sustainable solutions

The Wood HSSE management system helps translate our Vision and Values into action by:

- Providing structure and consistency in the way we manage HSSE
- Focusing our attention on risk management, ensuring compliance and undertaking assurance activities
- Supporting the development of a positive HSSE culture which in turn supports the management system
- Providing a framework for continuous improvement

Refer to the Wood "Blue Book" for additional information (LINK).

Wood E&IS HSE Management System Manual and California IIPP):

The Wood E&IS Health, Safety, Security and Environment (HSSE) Management System Manual and California Injury and Illness Prevention Plan (IIPP) describes the HSSE system and tools developed & implemented at Wood E&IS. The manual addresses HSSE requirements for offices, laboratories and projects, including those of various duration, scale, location, and jurisdiction.

Wood E&IS's Safety philosophy as it pertains to all work conducted whether in the office, laboratory or in the field is:

- All incidents and injuries can be prevented.
- Management and staff are responsible for preventing injuries and occupational illnesses.
- Occupational safety and health are part of every employee's total job performance.
- Working safely is a condition of employment.
- All workplace hazards can be safeguarded.
- Training employees to work safely is essential and is the responsibility of management/supervision.
- Prevention of personal injuries and incidents and protection of environment is good business.

These principles tie into the Wood plc Health, Safety, Security and Environment (HSSE) Policy Statement:

Our HSSE Policy

At Wood, we care for our people and the environment. We ensure that our people have a safe, healthy and secure workplace; this is a fundamental right. This policy explains how we provide this.

We will:

- Care for our people.
- Identify and manage hazards to eliminate or mitigate resultant risks.
- Prevent injury, ill-health, pollution and loss resulting from our activities.
- Be responsible in our approach to protecting the environment and minimising our impacts.
- Deliver continual improvement in our health, safety, security and environmental performance.

Name Robin Watson
Position **Chief Executive**
Date 01 January 2021

We do this by:

- Ensuring we have exemplary HSSE leadership and management.
- Having effective, efficient and applied HSSE management systems.
- Understanding and complying with all legal, industry and other external requirements.
- Establishing and attaining clear HSSE objectives.
- Learning lessons from our incidents and preventing reoccurrence.
- Engaging with our people on HSSE issues.
- Working with our customers, regulators and others to promote continuous improvement.
- Training our people to be competent and safe in undertaking their roles.
- Helping our supply chain and partners to meet our own policy obligations.
- Promoting a positive HSSE culture that drives HSSEA improvement.
- Encouraging anyone to stop a job if they perceive any HSSE shortfall.

We commit ourselves to this Policy.

A metaphor for protection - pulls together our HSSE processes and procedures to drive a simplistic and consistent message to our workforce around HSSE.

Aligned with our values, the three elements of the shield are:

- Prepare: It takes commitment to prepare.
- Engage: It takes care to engage.
- Intervene: It takes courage to intervene.

The Safety Shield seeks to educate, inform, monitor, improve and recognize our employees.

wood.
Safety Shield
Prepare. Engage. Intervene.

Six Safety Essentials:

The Six Safety Essentials are designed to support the safe execution of work in all our operating locations with the development of a "common set of behaviors" that we can all share. Wood, in our goal to be recognized as a world-class leader in HSSE safety must strive to ensure our daily overall consistency of HSE standards, leadership and performance.

When performing work at the site, the Wood **Six Safety Essentials** will be followed:

- Always Take Care
- Follow the Rules
- Do a Risk Assessment
- You Must Intervene
- Manage Any Change
- Wear the Correct PPE

Wood Nine Life Saving Rules:

The Life Saving Rules are Wood's minimum standard - it is an expectation that everyone must comply with the rules. Everyone needs to understand that:

- You must comply with the Life Saving Rules because non-compliance could result in serious injury or fatality to you or your colleagues
- If you breach a Life Saving Rule you may be subject to disciplinary action.

Supervisors and Managers must understand that:

- Breaking the Life Saving Rules will not be tolerated - no matter how urgent or important a task is.
- You have a duty to ensure that people undertaking a task have the right instruction, equipment and training to comply with the Life Saving Rules.

Bypassing Safety Controls

Confined Space

Driving

Energy Isolations

Hot Work

Line of Fire

Safe Mechanical Lifting

Work Authorization

Working at Height

Stand Up for Safety:

Wood's Stand up for Safety initiative focuses on four hazards that were identified by analyzing Wood's HSE incidents and High Potential events. These are four are areas of primary concern and are hazards that Wood employees face collectively as a global business. These four hazardous areas are:

- Dropped objects
- Driving
- Working at Height
- Process Safety

Extra attention will be paid to these four key areas if applicable when working on the project site.

HEART:

HEART

HEART is the corporate observation reporting system that all Wood employees are to use to report safety or environmental observations.

To enter a HEART observation, use the following link: https://cfapps.Woodfw.com/HEART/

HEART is also accessible from mobile devices. Click here for instructions on how to access HEART from a mobile device.

A manual HEART observation form can be accessed from here.

HEART

☐ Unsafe Act ☐ Unsafe Condition
☐ Safe Behaviour ☐ Safe Condition

☐ Wood ☐ Sub-contractor ☐ Client ☐ Third Party

Observer name		Observer email	
Observation date		Observation time	
Business Unit		Business Group	
Project/Office		Site/Office name	
Exact location of observation			
If Safe Behaviour state name of individual or team			

Details of safety observation

Immediate action taken/recommended

☐ Do you require feedback?

Form No: HSE-FOR-100705
Rev/Date: 0 17 January 2019

Category *Select one*

Work environment		**Integrity management**	
	Fire & fire protection		Accountability
	Furniture & work equipment		Management of change
	Housekeeping		Competence
	Lighting & noise		Emergency response
	Office security		Hazard evaluation & risk management
	Traffic routes & parking areas		Incident investigation & management
	Temperature & ventilation		Protective systems
Job factors		**Procedures & instructions**	
	Safety critical communications		Adequate / Inadequate
	Fatigue / Workload		Implemented / Not implemented
	Management of change		Followed / Not followed
	Training & competence		Understood / Not understood
Contractor site safety		**Travel & safety away from workplace**	
	Barrier / Segregation		Electricity
	Safety awareness & behaviour		Tools & equipment
	Procedure implementation		Falls & slips
	Safety induction & briefings		Fire safety
	Housekeeping		Manual handling
	Safety planning		Personal security
	Personal Protective Equipment (PPE)		Sport & leisure
	Signage & instructions		Transportation
Environment		**Tools & equipment**	
	Energy usage		Safe / Unsafe condition
	Waste & recycling		Correct / Incorrect use
	Water usage		Correct / Incorrect tool for the job

HEART conversation 5 step process

- Prepare
- Observe
- Initiate - Introduce yourself; Praise good behaviour; Listen; Ask open questions
- Agree and commit
- Record and close out

Typical questions

- How can you and your workmates get hurt?
- What type of accident may happen?
- How can you and others avoid getting hurt?
- What if something unexpected happens?
- What have you done to prevent you and your colleagues getting hurt?
- How and when was the pre-job safety discussion (toolbox talk) conducted?
- What are the job specifics/team composition changes that occurred since you started?
- How has the work environment changed since you started?
- How can this job be done more safely?

Tailgate Safety Meeting Form

Check One:

☐ Initial Kickoff Safety Meeting ☐ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: _____ Site: _____

Site Manager: _____ Site Health and Safety Officer: _____
Print *Print*

Planned Activities: _____

Order of Business

Topics Discussed (Check all that apply)

☐ Scope of Work
☐ Site History/Site Layout
☐ Personnel Responsibilities
☐ Training Requirements
☐ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazard effects)
☐ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
☐ Safe Work Practices
☐ Engineering Controls
☐ Chemical Hazards and Controls
☐ Signs and symptoms of over exposure to site chemicals
☐ Medical Surveillance Requirements
☐ Action Levels
☐ Monitoring Instruments and Personal Monitoring
☐ Perimeter Monitoring, Type and Frequency
☐ PPE Required/PPE Used
☐ Define PPE Levels, Donning, Doffing Procedures
☐ Decontamination Procedures for Personnel and Equipment
☐ Physical Hazards and Controls (e.g., overhead utility lines)
☐ Anticipated Weather (snow, high winds, rain)
☐ Temperature Extremes (heat or cold stress symptoms and controls)
☐ Biological Hazards and Controls (e.g., poison ivy, spiders)
☐ Site Control (visitor access, buddy system, work zones, security, communications)
☐ Sanitation and Illumination
☐ Logs, Reports, Recordkeeping
☐ Incident Reporting Procedures
☐ Near Misses/Hazard ID including worker suggestions to correct and work practices to avoid similar occurrences
☐ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
☐ General Emergency Response Procedures (e.g., earthquake response, typhoon response, etc.)
☐ Medical Emergency Procedures (e.g., exposure control precautions, location of first aid kits, etc.)
☐ Route to Hospital and Medical Care Provider Visit Guidelines
☐ Site/Regional Emergency Response Procedures (e.g., exposure control precautions, location of first aid kits, etc.)
☐ Hazardous Materials Spill Procedures

PPE required for the tasks to be conducted: _____

Required Permits: _____

Site Access or other issues: _____

Tailgate Safety Meeting Form

Safety Suggestions by Site Workers: _____

Action Taken on Previous Suggestions: _____

Injuries/Incidents/Personnel Changes since last meeting: _____

Observations of unsafe work practices/conditions that have developed since previous meeting: _____

Location of (or changes in the locations of) evacuation routes/safe refuge areas: _____

Additional Comments: _____

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting

Name (Print)	Company	Signature

Meeting Conducted by: _____ Title: _____
Print

Signature: _____ Time: _____
Print

PPE Selection Guidelines

When selecting the appropriate PPE for the job, consider the following:

- **Safety glasses** – general eye protection – source of hazard, typically coming from straight on, required at most sites
- **Tinted Safety Glasses** – same as above, but when working in direct sunlight. May need two both tinted and untinted if working in both sunlight and shade/overcast skies.
- **Safety goggles** – needed for splash hazard, more severe eye exposures coming from all directions. Non-vented or indirect venting for chemical splash, non-vented for hazardous gases or very fine dust, vented for larger particulates coming from all directions.
- **Face shield** – needed to protect face from cuts, burns, chemicals (corrosives or chemicals with skin notation), etc.
- **Safety boots** – needed if danger of items being dropped on foot that could injure foot
- **Hard hat** – danger from items falling on head or bumping head against objects – any overhead work, tools, equipment, etc. that is above the head and could fall on head of item fails, or falls off work platform. Any work around low hanging equipment or structures. Typically required at most sites as a general PPE
- **Thin, chemical protective inner gloves** (e.g., thin Nitrile, PVC – do not use latex – many people are allergic to latex) –needed to protect hands from incidental contact with low risk contamination at very low concentrations (ppb or low ppm concentrations in groundwater or soil) or used in combination with outer gloves as a last defense against contamination. Need to specify type
- **Outer gloves** – thicker gloves (e.g., Nitrile, Butyl, Viton, etc.) – used when potential for high concentrations of contaminants (e.g., floating product, percent ranges of contaminant, opening drums, handling pure undiluted chemicals, etc.). Need to specify type.
- **Leather gloves, leather palm, cotton** – good in protecting hands against cuts – no protection from chemicals. May be used in combination with chemical protective gloves.
- **Boot Covers –** when there is contamination in surface soils or waking surface in general. When safety boots need protection from contact with contaminants.
- **White (uncoated) Tyveks** – protect clothing from getting dirty, good for protection against solid, non-volatile chemicals (e.g., asbestos, metals) – no chemical protection.
- **Polycoated Tyveks** – least protective of chemical protective clothing. Used when some risk of contamination getting on skin or clothing. Usually, lower ppm ranges of contaminants.
- **Saranex** – Greater protection against contamination than Polycoated Tyveks. Used to protect against PCBs or higher concentrations of contaminants in the soil or groundwater.
- **Other Chemical protective clothing** – if significant risk of dermal exposure, contact H&S to determine best kind.
- **Long sleeved shirts, long pants** – if working in areas with poison ivy/oak/sumac, poisonous insects, etc. and no chemicals exposure. May want to use uncoated Tyveks for work in areas where poisonous plants are known to be to protect clothing.
- **Cartridge Respirator (Level C PPE)** – Need to calculate change schedule (contact Division EH&S Manager for this) to determine length of use. To be able to use cartridge respirators, need to know contaminants, estimate levels to be encountered in the breathing zone, need to ensure that cartridge will be effective against COCs, and need to be able to monitor for COCs using PID, FID, Dräger tubes, etc.. If can't do any of these, then Level B PPE is probably going to be needed.
- **High Visibility Vest** – needed for any road work (within 15 feet of a road) or when working on a site with vehicular traffic or working around heavy equipment. Needed if work tasks would take employee concentration away from movement of vehicles and workers would have to rely on the other driver's ability to see the employee in order not to hit them. This includes heavy equipment as well as cars and trucks, on public roads or the jobsite. Not needed if wearing Polycoated Tyveks – as they are already high visibility.
- **Reflective Vest** – see above, but for use at night.
- **Hearing Protection** – needed if working at noise levels above 85 dBA on a time weighted average. If noise measurements are not available, use around noisy equipment, or in general, if you have to raise your voice to be heard when talking to someone standing two feet away.
- **Protective Chaps –** required when using a machete or chain saw or any other cut hazard to legs.

Incident Report Forms

1. Incident Analysis Report (IAR)
2. Vehicle Incident Report (VIR)
3. Ground Disturbance Incident Report (GDR)

ATTACHMENT 2

FIELD DATA RECORDS

FIELD INSTRUMENTATION CALIBRATION RECORD

PROJECT NAME: Elite Vogue Dry Cleaners
PROJECT NUMBER: 3611191236
PROJECT LOCATION: Rochester, New York
WEATHER CONDITIONS (AM):
WEATHER CONDITIONS (PM):

TASK NO: DATE:
MACTEC CREW:
SAMPLER NAME:
SAMPLER SIGNATURE:
CHECKED BY: DATE:

MULTI-PARAMETER WATER QUALITY METER

METER TYPE
MODEL NO.
UNIT ID NO.

AM CALIBRATION Start Time /End Time

POST CALIBRATION CHECK Start Time /End Time

	Units	Standard Value	Meter Value	*Acceptance Criteria (AM)	Standard Value	Meter Value	*Acceptance Criteria (PM)
pH (4)	SU	4.0		+/- 0.1 pH Units			
pH (7)	SU	7.0		+/- 0.1 pH Units	7.0		+/- 0.3 pH Units
pH (10)	SU	10.0		+/- 0.1 pH Units			
Redox	+/- mV	240		+/- 10 mV	240		+/- 10 mV
Conductivity	mS/cm	1.413		+/- 0.5 % of standard	1.413		+/- 5% of standard
DO (saturated)	%	100		+/- 2% of standard			
DO (saturated)	mg/L[1] (see Chart 1)			+/- 0.2 mg/L			+/- 0.5 mg/L of standard
DO (<0.1)	mg/L	<0.1		< 0.5 mg/L			
Temperature	°C						
Baro. Press.	mmHg						

TURBIDITY METER

METER TYPE
MODEL NO.
UNIT ID NO.

	Units	Standard Value	Meter Value	Standard Value	Meter Value	*Acceptance Criteria (PM)
<0.1 Standard	NTU	<0.1		<0.1		+/- 0.3 NTU of stan.
20 Standard	NTU	20		20		+/- 5% of standard
100 Standard	NTU	100		100		+/- 5% of standard
800 Standard	NTU	800		800		+/- 5% of standard

PHOTOIONIZATION DETECTOR

METER TYPE
MODEL NO.
UNIT ID NO.

Background	ppmv	<0.1		<0.1		within 5 ppmv of BG
Span Gas	ppmv	100		100		+/- 10% of standard

O_2-LEL 4 GAS METER

METER TYPE
MODEL NO.
UNIT ID NO.

Methane	%	50		50		+/- 10% of standard
O_2	%	20.9		20.9		+/- 10% of standard
H_2S	ppmv	25		25		+/- 10% of standard
CO	ppmv	50		50		+/- 10% of standard

OTHER METER

METER TYPE
MODEL NO.
UNIT ID NO.

See Notes Below for Additional Information

☐ Equipment calibrated within the Acceptance Criteria specified for each of the parameters listed above.
☐ Equipment (not) calibrated within the Acceptance Criteria specified for each of the parameters listed above**.

MATERIALS RECORD

Deionized Water Source: Portland FOS
Lot#/Date Produced:
Trip Blank Source:
Sample Preservatives Source:
Disposable Filter Type: 0.45µm cellulose
Calibration Fluids / Standard Source:
- DO Calibration Fluid (<0.1 mg/L) Portland FOS
- Other
- Other
- Other

	Cal. Standard Lot Number	Exp. Date
pH (4)		
pH (7)		
pH (10)		
ORP		
Conductivity		
<0.1 Turb. Stan.		
20 Turb. Stan.		
100 Turb. Stan.		
800 Turb. Stan.		
PID Span Gas		
O_2-LEL Span Gas		
Other		

NOTES:

* = Unless otherwise noted, calibration procedures and acceptance criteria are in general accordance with USEPA Region 1 SOPs for Field Instrument Calibration (EQASOP-FieldCalibrat) and Low Stress Purging and Sampling (EQASOP-GW001), each dated 1/19/2010. Additonal acceptance criteria obtained from instrument specific manufacturer recommendations.
** = If meter reading is not within acceptance criteria, clean/replace probe and re-calibrate, or use calibrated back-up meter if available. If project requirements necessitate use of the instrument, clearly document any deviations from acceptance criteria on all data sheets and log book entries.
1 = DO Saturated standard value is calculated based on Oxygen Solubility at Indicated Pressure Chart from the USEPA Region 1 SOP for Field Instrument Calibration (EQASOP-FieldCalibrat), dated 1/19/2010.

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Elite Vogue Dry Cleaners	LOCATION ID	DATE
PROJECT NUMBER	3611191236	START TIME	END TIME
SAMPLE ID	SAMPLE TIME	SITE NAME/NUMBER	PAGE OF

WELL DIAMETER (INCHES) ☐ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☐ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☐ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY

	YES	NO	N/A
CAP			
CASING			
LOCKED			
COLLAR			

INITIAL DTW (BMP)	FT	FINAL DTW (BMP)	FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	SEC
WATER COLUMN	FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
	BEGIN PURGING									

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- ☐ PERISTALTIC
- ☐ SUBMERSIBLE
- ☐ BLADDER _____
- ☐ WATTERA
- ☐ OTHER _____
- ☐ OTHER _____

DECON FLUIDS USED
- ☐ LIQUINOX
- ☐ DEIONIZED WATER
- ☐ POTABLE WATER
- ☐ NITRIC ACID
- ☐ HEXANE
- ☐ METHANOL
- ☐ OTHER _____

TUBING/PUMP/BLADDER MATERIALS
- ☐ SILICON TUBING
- ☐ TEFLON TUBING
- ☐ TEFLON LINED TUBING
- ☐ HDPE TUBING
- ☐ LDPE TUBING
- ☐ OTHER _____
- ☐ OTHER _____

- ☐ S. STEEL PUMP MATERIAL
- ☐ PVC PUMP MATERIAL
- ☐ GEOPROBE SCREEN
- ☐ TEFLON BLADDER
- ☐ OTHER _____
- ☐ OTHER _____
- ☐ OTHER _____

EQUIPMENT USED
- ☐ WL METER _____
- ☐ PID _____
- ☐ WQ METER _____
- ☐ TURB. METER _____
- ☐ PUMP _____
- ☐ OTHER _____
- ☐ FILTERS NO. ___ TYPE _____

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☐								
☐								

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED YES ☐ NO ☐

NO-PURGE METHOD UTILIZED YES ☐ NO ☐

NUMBER OF GALLONS GENERATED _____

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Print Name:

Checked By: Date: