Main Street Premium Properties LLC

SITE CHARACTERIZATION WORK PLAN
781-783 and 787 ULSTER AVE SITE
781-783 and 787 ULSTER AVE
KINGSTON, NEW YORK
(DEC Site No. 356065)

FINAL: 24 AUGUST 2023

Prepared for:

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Ambient Project No. 230626ENVA

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CERTIFICATION

I, James F. Blasting, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this SITE CHARACTERIZATION WORK PLAN was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

August 22, 2023

1.0 INTRODUCTION

This document is the Site Characterization Work Plan (SCWP) for the 781-783 and 787 Ulster Ave Site located at 781-783 (Tax ID 48.58-5-12) and 787 Ulster Avenue (Tax ID 48.58-5.11) in the City of Kingston, Ulster County, NY (the Site). The Site is located at the intersection of Ulster Avenue and Groff Street in a mixed commercial-residential area of Kingston (Figure 1-1). The Site consists of two rectangular-shaped parcels of land totaling 0.362 acres improved with one single-story mixed-use building containing a residential home and commercial space totaling 2,345 square feet (SF), and one two-story mixed-use building containing four second-floor residential apartments and ground-floor commercial space totaling 4,608 SF. The foundation for the 781 building consists of masonry brick perimeter footings with a reinforced concrete basement slab within the bearing walls. The 783 and 787 buildings are constructed on reinforced concrete slab-on-grade foundation systems and do not contain occupiable sub-grade areas. Portions of the property not covered by buildings are paved. A gas station is located immediately east of the Site across Ulster Avenue; a tire store is located to the south. Residential properties are located to the north and west.

This SCWP presents background information, provides project goals, and describes the sampling program and procedures to be followed during all sample collection and handling tasks and other investigative tasks associated with this project. It is anticipated that, upon NYSDEC approval of the SCWP, Ambient Environmental, Inc. (Ambient) will implement this SCWP.

1.1 Background

The Site is owned by Main Street Premium Properties LLC (Respondent). The Respondent conducted a Phase I Environmental Site Assessment (ESA) and several 'Phase II' limited site investigations at the Site as presented in the following reports (all of which were prepared by RESOM Environmental Corp. of Petoskey, Michigan) :

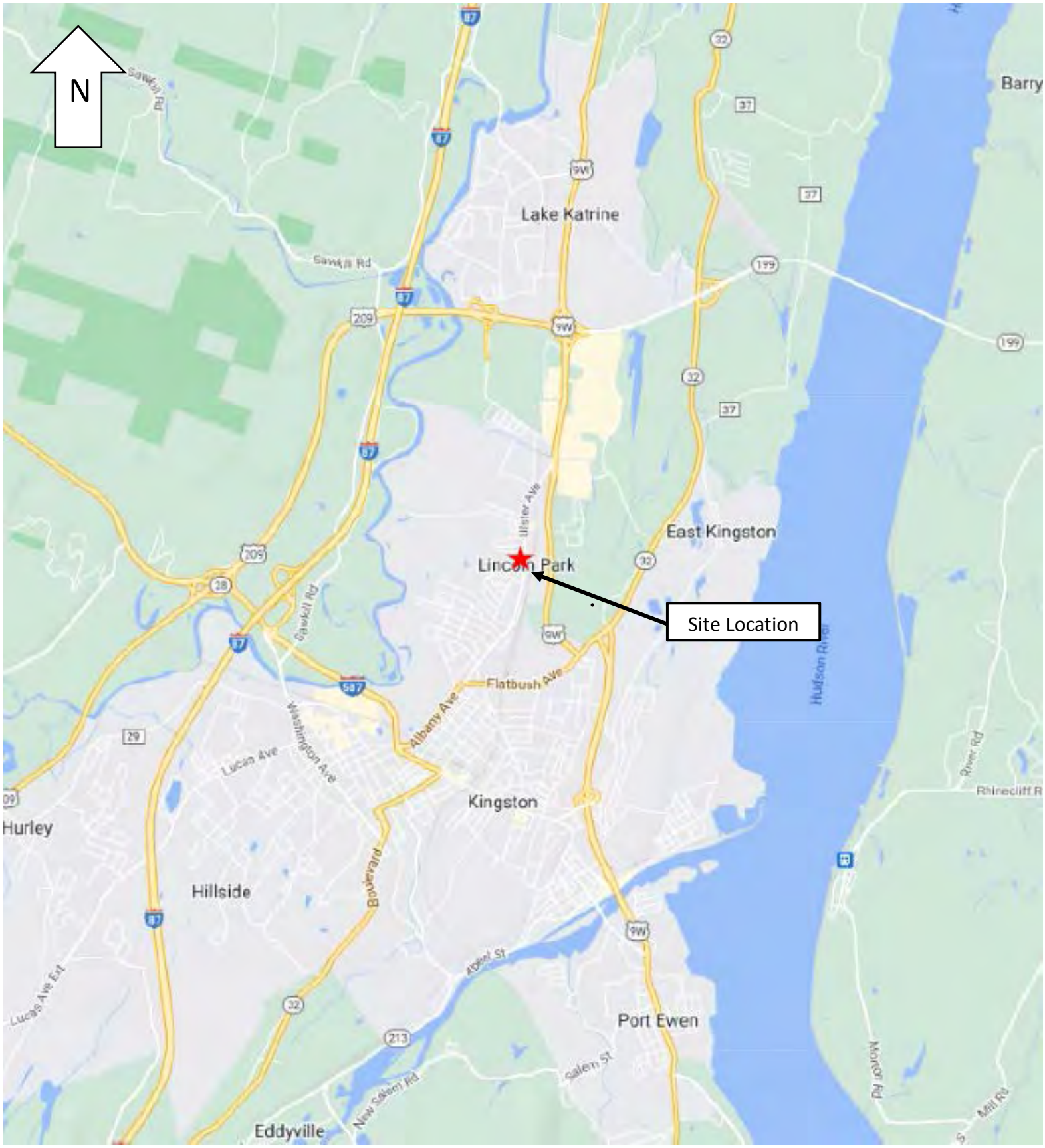
> Phase I Environmental Site Assessment
> Mixed-Use Commercial/Residential Properties
> 781-783 and 787 Ulster Ave., Kingston NY 12401
> January 5, 2023

Phase II Environmental Site Assessment
Mixed-Use Commercial/Residential Properties
781-783 & 787 Ulster Avenue, Kingston, New York
February 8, 2023

Phase II Environmental Site Assessment
781-783 & 787 Ulster Avenue, Kingston, New York
March 17, 2023

The Phase I ESA identified the past use of a portion of the Site as a dry cleaner as a Recognized Environmental Conditions (RECs). Subsequent Phase II site investigations documented the presence of Volatile Organic Compounds (VOCs) in soil and groundwater, with several VOCs related to dry cleaning solvents (i.e. tetrachloroethylene, a.k.a. PCE) and/or petroleum detected in groundwater samples at concentrations exceeding NYS Groundwater Standards (NYSGWS).

As a result, NYSDEC issued an Order on Consent to Main Street Premium Properties LLC that identifies the Site as a 'Class P' Inactive Hazardous Waste Disposal Sites in New York State with a Site Number of 356065. The primary goal of the Order on Consent (effective date 20 July 2023) is to assure that Main Street Premium Properties LLC appropriately evaluates the contamination at the Site.



DRAWN BY AEM	FIGURE TITLE **SITE LOCATION MAP**	
SCALE Not to scale	PROJECT LOCATION **781-783 and 787 ULSTER AVE, KINGSTON, NY**	
DATE 6/27/2023		
PROJECT # 230626ENVA	PREPARED FOR: MAIN STREET PREMIUM PROPERTIES LLC	FIGURE NUMBER **1**

2.0 SAMPLING ACTIVITIES AND PROCEDURES

Soil, groundwater, and air samples will be collected from the Site during implementation of the Site Characterization (SC). As stated in NYSDEC DER-10: Technical Guidance for Site Investigation and Remediation, the SC is designed to determine whether a site poses little or no threat to public health and the environment or if it poses a threat and whether the threat requires further investigation. The SC is not designed to determine the vertical and lateral extent of contamination; rather, it is designed to establish the presence/absence of contamination and (if present) to what extent the Site presents a risk to human health and the environment.

Surface water and wetlands are not present on the Site; therefore, surface water and sediment samples will not be collected and a Fish and Wildlife Impact Assessment (FWIA) will not be conducted.

Field sampling procedures, proposed sampling locations, and analyses are described in the following sections of this SCWP. Detailed sample collection/handling and record keeping procedures are presented in Appendix A of this document.

2.1 Analytical Procedures

Soil and water sample analyses to be completed as part of the SC are as follows: five soil and five groundwater samples will be analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs), TCL Semi-Volatile Organic Compounds (SVOCs). Two soil samples and two water samples will also be analyzed for Target Analyte List (TAL) metals, polychlorinated biphenyls (PCBs), pesticides, cyanide, 1,4-Dioxane, and Per- and Polyfluoroalkyl Substances (PFAS). Air samples will be analyzed for VOCs.

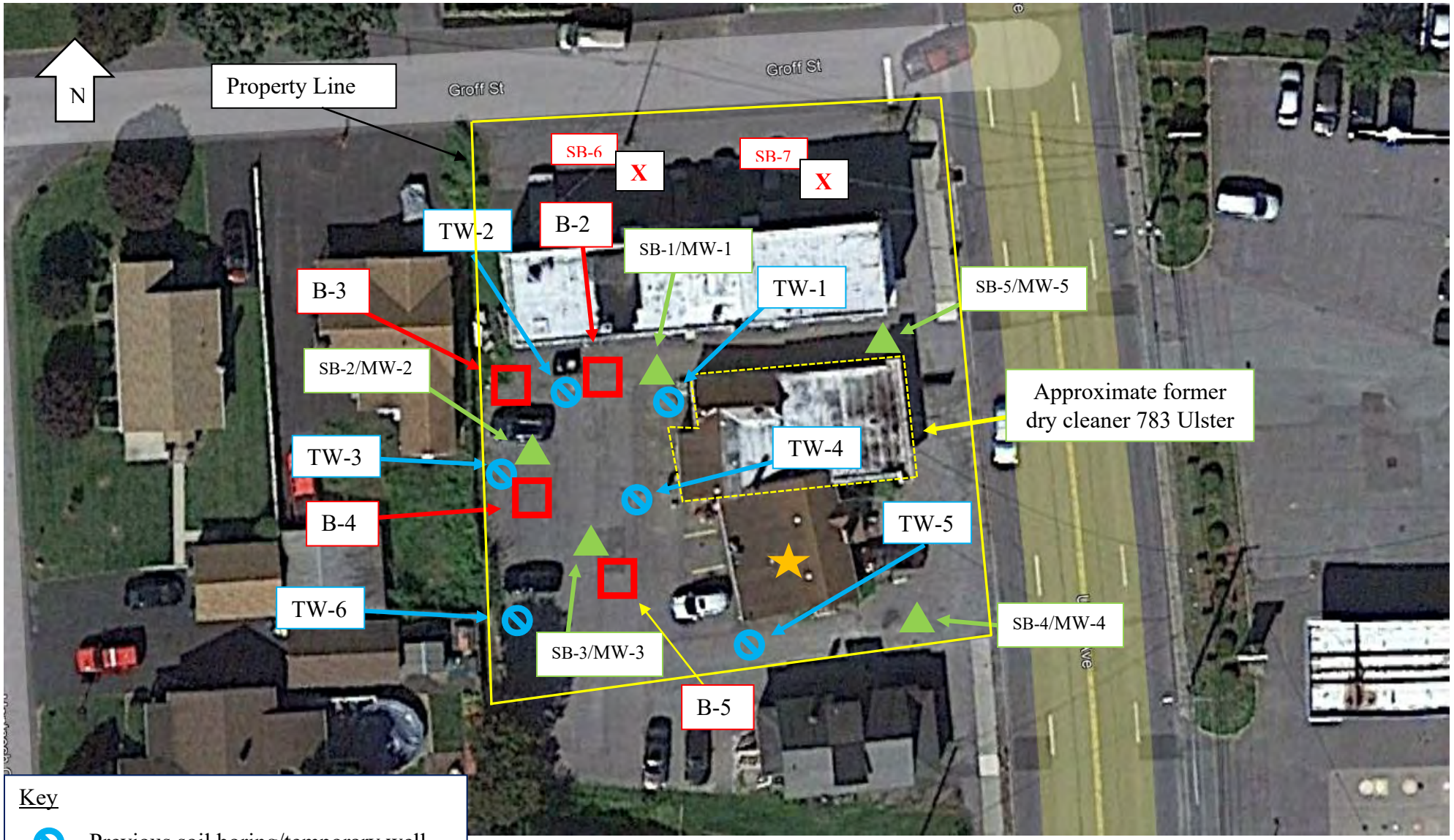
Samples will be analyzed by a New York State Department of Health (NYSDOH) ELAP-certified laboratory utilizing USEPA SW-846 third addition methodologies as appropriate (details below). Air samples will be analyzed using USEPA Method TO-15.

It is anticipated that Alpha Analytical, Inc. (Alpha), a NYSDOH-approved laboratory, will be utilized for all analytical work.

2.2 Site Characterization Sampling Tasks

Dig Safely New York will be contacted at least three business days prior to commencing any ground intrusive activities to complete a public utility mark-out. Private utilities not included in the Dig Safely mark-out were identified and marked out during preliminary site investigation activities.

Estimated locations of all SC soil borings (e.g., SB-1) and monitoring wells (e.g., MW-1) are shown on SC Work Plan Figure 2-1.



Key

- Previous soil boring/temporary well
- Previous boring location
- Previous radon sample location
- 2023 SC Soil Boring/Monitoring Well
- X — 2023 Soil Boring

DRAWN BY: AEM	FIGURE TITLE: **SOIL BORING AND MON. WELL LOCATION MAP**	
SCALE: NTS	PROJECT LOCATION: **781-783 and 787 ULSTER AVE KINGSTON, NY**	
DATE: 6/27/2023		
PROJECT #: 230626ENVA	PREPARED FOR: MAIN STREET PREMIUM PROPERTIES LLC	FIGURE NUMBER: **2**

2.2.1 Soil Borings

Five soil borings will be advanced to various depths below ground surface (bgs) based on field screening and Site conditions (based on previous work, soil boring depths are not expected to exceed 20 feet*). Soil borings/ monitoring well locations, designated MW-1 through MW-5, are shown on Figure 2. Soil borings will be advanced using 'direct push' technology to collect soil samples continuously from grade to total depth. Soil borings will be logged and continuously scanned with a PID by an on-site geologist/qualified environmental professional. A detailed log describing soil type, color, odor, moisture, etc. and all detected PID readings will be prepared for each boring. Additional soil borings may be advanced based on field observations. [*NOTE- to evaluate the potential presence of a confining layer, one soil boring will be advanced to a greater depth. That soil boring will likely be at location MW-1. The soil boring will be advanced until a low-permeability confining layer is encountered or until at least five feet of 'clean soil' with no PID readings above background concentrations and no evidence of contamination is encountered, whichever occurs first.]

Two additional soil borings will be advanced, monitored and logged as described above to an estimated depth of 20 feet bgs. Those soil borings (SB-1 and SB-2 as shown on Figure 2) will be advanced along the northern Site border to evaluate subsurface conditions in that area. If PID readings and/or field observations indicate the potential presence of contamination at either soil boring location, at least one soil sample will be collected from that boring for VOC and SVOC analyses. The decision to collect a sample for laboratory analyses will be made in the field with concurrence from NYSDEC.

2.2.2 Soil Sampling

Five soil samples will be collected during soil boring advancement based on Site observations and field screening. Soil sampling locations are shown on Figure 2, designated MW-1 through MW-5. Five soil samples will be analyzed for TCL VOCs and TCL SVOCs; two of those samples will also be analyzed for TAL metals, PCBs, pesticides, cyanide, 1,4-Dioxane, and PFAS. Please refer to Section 3.0. **Note-** as stated above, two additional samples may be collected for analyses SB-1 and/or SB-2.

2.2.3 Monitoring Well Installation

A total of five two-inch-diameter shallow groundwater monitoring wells will be installed at the Site at these locations (see Figure 2):

- Near previous monitoring well point TW-1 where the highest concentration of PCE was previously detected;
- Near previous monitoring well point TW-3, near the western property line, where the second highest concentration of PCE was previously detected;
- Just north of former boring B-5 to evaluate the potential southern extent of affected groundwater;
- East of former monitoring well point TW-5, near Ulster Avenue and across the street from the gas station to determine the potential for on-site migration from that potential source; and
- Near the northeast corner of the 781-783 building in the suspected area of the former dry-cleaning operation.

Note- if deemed necessary based on field observations, an additional monitoring well may be installed in the southwest corner of the site, south of MW-3.

As stated above, soil samples from borings associated with monitoring well installation will be logged and field screened with a PID to monitor for the potential presence of VOC vapors as described for soil borings. Each of the monitoring wells will be constructed of ten feet of two-inch-diameter, 0.01-inch slotted PVC well screen and five to ten feet of two-inch-diameter PVC riser, resulting in a permanent monitoring well flush with the ground surface. The well screen will be installed to 'straddle' the water table in the shallow, unconfined groundwater unit (estimated to be present at 7 to 8 feet bgs). The actual depth of the wells will be dependent on field conditions (note- at least one well, likely MW-1, may be screened at a deeper interval, depending on PID readings and site observations).

A sand pack will be installed around the well screens and will extend one to two feet above the top of the screens. A one-foot to two-foot-thick seal of hydrated bentonite pellets will be installed above the sand pack. Clean sand pack will be used to fill the remainder of the annular space to grade. A protective curb box will be placed in a

cement pad at each location. Following installation, reference points will be marked on the top of the PVC at each well location to allow for surveying.

2.2.4 Monitoring Well Development

Well development will be performed upon completion of well construction. Water level measurements will be collected prior to development. For development, the monitoring wells will be purged at the highest sustainable rate at which the wells can yield water without significantly depressing the water level. Wells will be developed using a peristaltic pump and non-teflon tubing. Alternatively, dedicated bailers may be used for development. Each well point will be developed until the turbidity of the water is below 50 NTU (if possible). Development water from wells will be passed through a carbon filter and discharged to exposed soil. Sampling details, including groundwater purge logs, will be included in the SC report.

2.2.5 Monitoring Well Sampling

Groundwater samples will be collected from the five wells no sooner than 48 hours after final development. Samples will be collected utilizing peristaltic pump and dedicated tubing or dedicated bailers. Water level measurements will be collected prior to purging. Each monitoring well will be purged a minimum of three well volumes prior to sampling. Wells will be purged using either a peristaltic pump or a disposable bailer. Purge water will be handled as described above in Section 2.2.4. Following purging, groundwater samples will be collected directly from tubing or the disposable bailer. Field parameters (pH, temperature, conductivity, dissolved oxygen, oxidation-reduction potential, and turbidity) will be collected from each monitoring well point during sampling.

Five groundwater samples will be analyzed for TCL VOCs and TCL SVOCs; two samples will also be analyzed for TAL metals, PCBs, pesticides, cyanide, 1,4-Dioxane, and PFAS. One trip blank will be analyzed for TCL VOCs and one equipment blank with be analyzed for PFAS. Please refer to Section 3.0.

2.2.6 Subslab Air Sampling

An indoor air evaluation will be conducted, consisting of advancing subslab air sampling probes at one selected location per building (781, 783, and 787 Ulster Avenue) and analyzing extracted air samples for VOCs. To obtain sub-slab soil gas samples, a small-diameter hole will be advanced through the concrete slab of the floor of each building (basement location at 781 Ulster Ave. and first floor location at 783 and 787 Ulster Ave.) and temporary implants will be installed and sealed in place. Once each seal is secure, a leak check will be performed utilizing a 6-inch-diameter pipe, sealed to the concrete floor, and "clean" water to verify the integrity of the implant seal and a "shut-in". Once satisfactory results for the water leak test and shut-in test are obtained to verify a competent sampling train without unacceptable atmospheric short-circuiting, soil gas sampling will be conducted. The tubing will be connected to a 6-liter SUMMA canister and the soil gas samples will be collected using an 8-hour flow controller. Sample collection will take eight hours. **Subslab air sampling will be conducted concurrently with, and co-located with, indoor air and ambient air sampling.** Upon completion of sample collection, the temporary implant and seal will be removed, and each drill hole will be filled with cement and finished to the surface. All air samples will be analyzed by USEPA method TO-15.

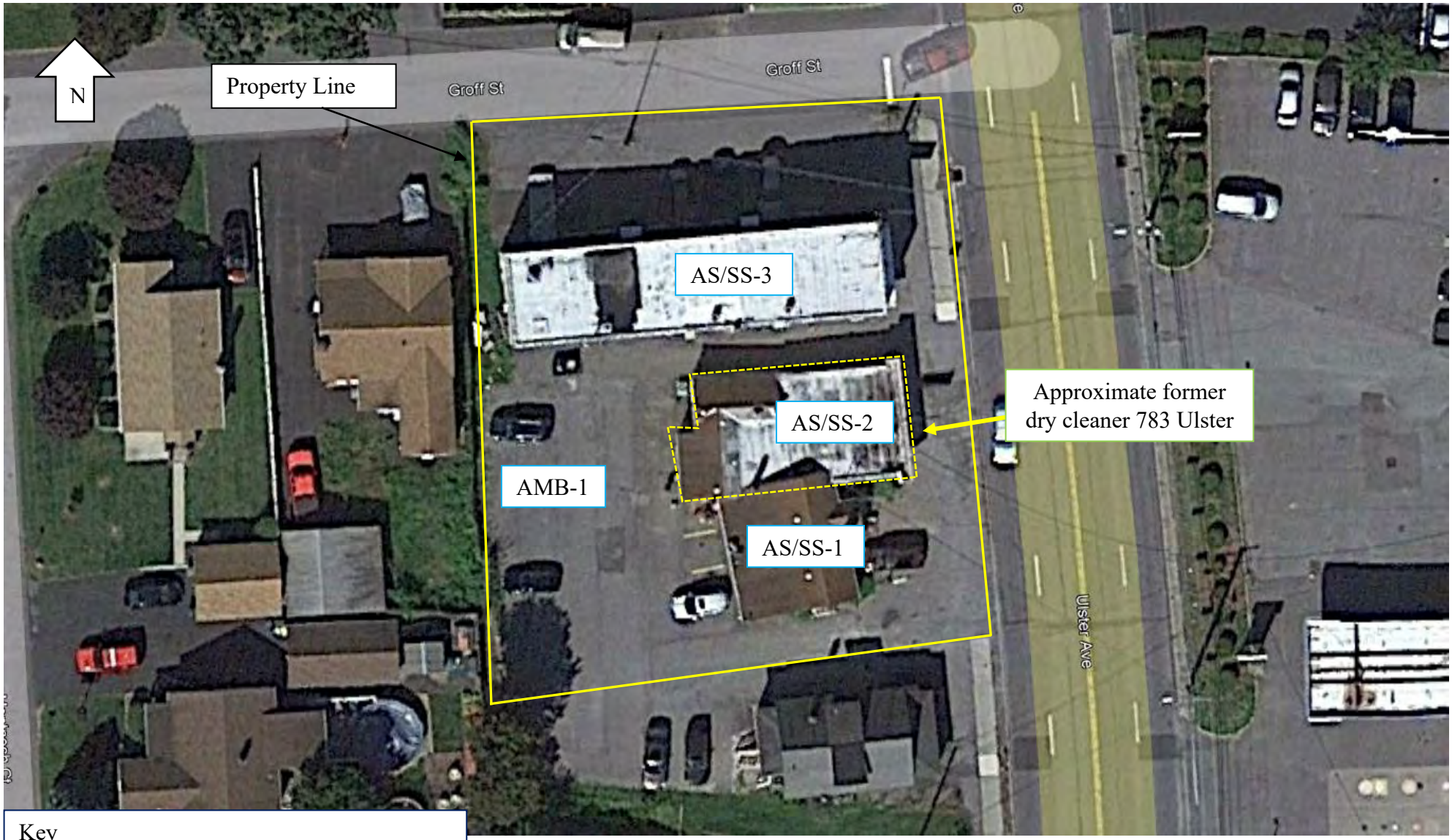
2.2.7 Indoor Air Sampling

Three indoor air samples and one outdoor 'background' (a.k.a. 'ambient') sample will also be collected for VOC analyses. Samples will be collected into a 6.0-liter SUMMA canister and the soil gas samples were collected using an 8-hour flow controller. Samples will be collected at one indoor basement location (781 Ulster Ave.), two first floor interior locations (one at 783 Ulster Ave. and one at 787 Ulster Ave.), and at one outdoor location representative of ambient air (likely the western portion of the parking area). Note that the structure at 781 Ulster Ave. is the only building with a basement; 783 and 787 Ulster Ave are 'slab on grade' buildings. Sample collection will be for an eight-hour period. **Indoor and ambient air sampling will be conducted concurrent with, and co-located with, subslab air sampling.** All air samples will be analyzed by USEPA method TO-15.

A NYSDOH Building Inventory Questionnaire will be completed as a part of the soil vapor investigation. Note that subslab and indoor air sampling locations will be 'co-located' and that sample collection will be concurrent. Also, please note that subslab and indoor air sampling will be conducted in the 'heating season' which, according to NYSDOH guidance, begins November 15th. Ambient will ensure that all doors and windows are closed prior to and for the duration of air sampling. Air sampling locations are shown on Figure 3.

2.2.8 Surveying

Upon completion of all field tasks, the horizontal and vertical locations of all monitoring wells will be surveyed by a New York State (NYS) licensed land surveyor and updated on the existing site survey map. Vertical elevations will be recorded to the nearest 0.01-foot. Top-of-PVC casing elevations for each monitoring well will also be recorded to the nearest 0.01-foot to establish water table elevations and groundwater flow direction.



Key

AS/SS-1

Location of indoor air and subslab sampling (interior of buildings). Note: AS/SS-1 in basement

AMB-1

Location of outdoor (ambient) air sample

DRAWN BY: AEM	FIGURE TITLE: **INDOOR AIR/SUBSLAB SAMPLE LOCATION**	
SCALE: NTS	PROJECT LOCATION: **781-783 and 787 ULSTER AVE KINGSTON, NY**	
DATE: 6/27/2023		
PROJECT #: 230626ENVA	PREPARED FOR: MAIN STREET PREMIUM PROPERTIES LLC	FIGURE NUMBER: **3**

3.0 ANALYTICAL METHODS, DATA VALIDATION, DATA EVALUATION

The following analytical methods will be used for sampling analyses (the most recent USEPA Methods will be utilized).

Task	**Matrix**	**VOCs** **EPA Method 8260**	**SVOCs** **EPA Method 8270**	**TAL Metals** **EPA Method 6010***	**Pest./ PCBs** **EPA Method 8081/ 8082**	**PFAS (PFOA and PFOS) EPA Method 1633**	**1,4-Dioxane** **EPA Method 8270****
Soil Samples							
Soil Borings	Soil	5	5	2	2	2	2
Duplicates (1 per 20)	Soil	1	1	1	1	1	1
MS/MSD (1 set/20)	Soil	2	2	2	2	2	2
Total Soil Samples	Soil	8	8	5	5	5	5
Water Sampling: Groundwater							
Monitoring wells	Water	5	5	2	2	2	2
Duplicates (1 per 20)	Water	1	1	1	1	1	1
MS/MSD (1 set/20)	Water	2	2	2	2	2	2
Trip Blank	Water	1	0	0	0	0	0
Equipment Blank		0	0	0	0	1	0
Total Water Samples	Water	9	8	5	5	6	5

Notes:

The method quantification limits will be the lowest as required by the method.
The actual detection limit will be dependent upon the sample matrix.
Holding times, sample preservatives and sample containers will be specified by the analytical method.
*The analytical method for mercury is 7470. The analytical method for cyanide is 9010.
** For aqueous samples, method will be EPA Method 8270 SIM.

NOTE: PFAS analyses will comply with NYSDEC Guidance "Sampling, Analyses and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs, April 2023"

Please note that the table above shows the minimum number of samples to be collected. This may change based on field observations. For example, if a boring indicated 'affected' soil at 5-7 feet bgs (based on observations and PID readings) but 'unaffected soil' at 7-9 feet bgs, samples may be collected for analyses for some or all of the above

parameters at 5-7 feet bgs *and* 7-9 feet bgs. At a minimum, one soil sample per boring will be analyzed, with the 'worst case' samples selected for analyses.

The laboratory will provide ASP Category B deliverables and a DUSR will be prepared in accordance with NYSDEC guidelines. The DUSR will comply with the requirements of *DER-10 Appendix 2B: Guidance for Data Deliverables and the Development of Data Usability Summary Reports.*

Project data will be provided in an electronic data delivery format (EDD) in accordance with section 1.15 of NYSDEC DER-10.

Soil analytical results will be compared to soil cleanup objectives identified in 6 NYCRR 375 as Restricted Residential Soil Cleanup Objectives (RRSCOs). Groundwater results will be compared to NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1: Ambient Water Quality Standards and Guidance Values. Air results will be compared to the appropriate New York State Department of Health (NYSDOH) Soil Vapor/Indoor Air Sampling Matrix.

4.0 DOCUMENTATION PROCEDURE AND SCHEDULE

Ambient will maintain complete documentation of all SC activities so that decision processes, actions and results can be recreated as needed. As such, a history of the project will be maintained. Documentation of the activities for various aspects of the project will be accomplished as presented below.

4.1 Field Activities

Field Notebook – Ambient will maintain a bound field notebook that will document dates, times and duration of all field activities. The field notebook will be maintained by the Site Manager. All notebook entries will be made in ink on consecutive pages.

Photographs - Photographs will be taken of all significant Site activities.

Calibration Records - Calibration activities for all field instrumentation will be maintained in the field notebook.

Geologic Logs - Observations pertaining to Site geology made during all sub-surface drilling or excavations activities will be recorded in the field notebook.

Safety Forms - Sign-in forms, levels of personal protection, air-monitoring results, incidents reporting forms and other safety-related forms will be maintained in the field notebook, as necessary.

4.2 Environmental Sampling

Chain-of-Custody Forms - All sample handling will be recorded on chain-of custody forms and associated labels.

4.3 Management Reports

Monthly Reports - Monthly progress reports will be issued starting with the date the Consent Order (CO) is executed and ending with the acceptance of the Site

Characterization Report. Monthly progress reports will adhere to the requirements of DER-10 Section 5.7.

4.4 Final Report

A SC Report will be submitted to NYSDEC upon completion of the SC. The SC report will include drawings (including 'spider maps' for depicting soil and groundwater exceedances), a groundwater contour maps showing water level elevations and estimated groundwater flow direction, soil boring logs, well construction diagrams, monitoring well purge logs, sampling logs, data summary tables, laboratory reports, photographs and other support documents as required by DER-10.

4.5 Schedule

Ambient's anticipated schedule is summarized below (this schedule assumes NYSDEC approval of the SCWP no later than 11 September 2023).

9/13/23	Call for utility clearance
9/18-9/19/23	Project preparation and mobilization
9/20-9/22/23	Drilling, well installation
9/25/23	Groundwater sampling
9/26/23	Surveying
10/20/23	Receive soil and groundwater analytical reports
11/13/23	Complete soil and groundwater data validation, issue DUSR
11/15/23	Air sampling
11/30/23	Receive air analytical reports
12/15/23	Complete air data validation, issue DUSR
12/23/23	Issue SC Report

Monthly reports will be issued on the 10th of each month. NYSDEC will be notified at least five days in advance of any fieldwork.

APPENDIX A

GENERAL SAMPLING PROCEDURES FOR FIELD INVESTIGATION

GENERAL SAMPLING PROCEDURES

1.0 INTRODUCTION

During the course of the SC, the applicable procedures listed below will be followed for sample collection:

- Accurate and detailed field notes will be maintained including detailed descriptions of sample collection and handling procedure and sample characteristics.
- Sampling procedures will be performed with the overall intent of collecting representative samples and minimizing sample disturbance.
- Laboratory-supplied sample bottles (pre-preserved as applicable) will be labeled with the sample location, identification number, and date and time of sampling prior to being filled with sample material.
- All sample collection, handling and shipping information will be recorded in the field notebook and chain of custody documents as appropriate.

2.0 GENERAL SAMPLE COLLECTION PROCEDURES

All non-dedicated sampling equipment will be suitably cleaned before entry to the Site, between sampling locations and intervals, and prior to departure from the Site.

1. All samples containers will be labeled with: 1) Site name; 2) project number; 3) sample number; 4) location description 5) sample interval; 6) date; 7) time of collection; and 8) initials of sampler.
2. The sample collector will record descriptions of soil samples as to 1) soil type; 2) color; 3) odor; 4) moisture content; 5) texture; 6) grain size, shape and angularity; 7) consistency; and 8) any other observations, particularly relating to waste materials or unnatural materials. For water samples, the sample collector will describe 1) color; 2) odor; 3) visual turbidity; and 4) any observed phase separation.

3. Sample containers will be capped immediately after filling and placed into a chilled cooler containing sufficient ice or cold packs to cool the samples to 4°C for transport to the laboratory.
4. All equipment used to collect samples for analysis will be either decontaminated before each use at a particular sample location or will be dedicated/disposable such that decontamination will not be required.

3.0 SOIL/BACKFILL SAMPLE COLLECTION PROCEDURES

The applicable procedures noted below will be followed during collection of soil samples:

1. Soil samples will be collected using dedicated sampling equipment, a trowel or stainless-steel spoon or a clean nitrile-gloved hand. Other equipment used during sampling such as bowls and mixing spoons will be made of stainless steel.
2. All samples will be screened immediately upon sample retrieval with a PID. Samples will be collected directly from the sampling tool into the appropriate laboratory-supplied sample containers. Sample container, preservation and holding time information for the anticipated soil sample analyses is provided in the table below. Samples for VOCs will be collected so that there is "zero headspace" in the sample container. Composite samples (if any) for all parameters aside from VOCs will be mixed/homogenized in a decontaminated stainless-steel pan or bowl (VOCs cannot be mixed and will be transferred directly from the sampling tool). Soil samples will not require preservation except for maintaining the media to approximately 4°C.

Sample Container, Preservation and Holding Times for Anticipated Soil Sample Analyses

	TCL VOCs	TCL SVOCs	Pesticides/PCBs	TAL Metals	PFOAs, Dioxane
Container	4 oz Amber Glass Jar	4 oz Amber Glass Jar	4 oz Amber Glass Jar	8 oz Amber Glass Jar	4 oz Plastic (no Teflon Lid)
Preservation	Zero Headspace; cool to 4°C	Cooled to 4°C	Cooled to 4°C	Cooled to 4°C	Cooled to 4°C; double bag ice
Hold Time	14 days	14 days/40 days	14 days/40 days	365 days 28 days-Hg	14 days/40 days

Note: 7 days/40 days means time to extraction/analyses

3.1 Materials

The following materials will be available during sampling activities:

- Health and safety equipment (PPE, PID, etc.);
- Sample retrieval device (trowel, bailers, spoons, etc.) ;
- Stainless-steel spatulas, bowls and scoops;
- Polyethylene sheeting;
- Sample containers and chain-of-custody forms;
- Transport container with cold source (i.e., cooler with ice or cold packs);
- Field notebook;
- Decontamination supplies; and
- Aluminum foil and Zip-lock type bags.

4.0 GROUNDWATER SAMPLE COLLECTION PROCEDURES

Purging and sampling methods will either a peristaltic pump or a disposable bailer. Prior to sampling, all wells will be purged until field parameters including pH, temperature, conductivity, DO, ORP, and turbidity have stabilized or at least the equivalent of three well volumes have been removed. Although not anticipated, wells with low recovery rates will be evacuated to near dryness once and allowed to recover sufficiently for samples to be collected. Wells with low recovery rates will be characterized as those wells where purging at a rate of 1,000 ml/min or less dewaters the well. All measuring equipment will be properly calibrated and decontaminated between wells.

4.1 Materials

The following materials will be available for groundwater sampling activities.

- Water level indicator (accurate to 0.01 foot);
- New dedicated bailers;
- Polypropylene/nylon rope;
- Multi-parameter water quality meter with capabilities to measure pH, DO, temperature, ORP, conductivity and turbidity;

- A flow-thru cell (optional);
- PID;
- Sample bottles/labels;
- Chain-of-custody forms;
- Thermally insulated container with cold source;
- Sample preservation (may be added to bottle by analytical laboratory);
- A 0.45-micron polypropylene filter for any dissolved metals analyses;
- Field book;
- PPE as needed (gloves, etc.); and
- Decontamination supplies (detergent, water, hexane, methanol and/or nitric acid rinses (if necessary), buckets, brushes, etc.).

4.2 Groundwater Sampling Protocol

Groundwater sampling protocol is described below.

- Open well casing and monitor headspace for VOCs. If greater than 5 ppm detected, allow well to vent for 5 to 10 minutes. Re-measure headspace for VOCs. Record PID readings in field book.
- A water level indicator will be used to accurately measure the depth to groundwater from a surveyed datum on the top of the PVC well casing. This measurement will be used in conjunction with the total depth of the well to calculate the standing volume of water in the well as well as to establish the water table elevation for groundwater flow direction purposes.
- Prior to sampling, the wells will be purged until field parameters (pH, temperature, conductivity, DO, ORP, and turbidity) have stabilized or at least the equivalent of three well volumes have been purged. The indicator parameters will be considered stabilized when three consecutive readings collected five minutes apart meet the following criteria:
    - pH is within +/- 0.1 pH unit;
    - temperature range is within +/- 3%;
    - specific conductance range is within +/- 3%;

- dissolved oxygen concentration is within +/-10%;
- ORP is within +/- 10 mV; and
- turbidity is within +/- 10% (ideally less than 10 NTU)

Field parameter measurements will be made and recorded in the field book along with the actual volume removed. Wells with low recovery rates will be evacuated to near dryness once, then allowed to recover sufficiently for samples to be collected. Wells with low recovery rates will be characterized as those wells where pumping at a rate of 1000 ml/minute or less dewaters the well.

- Within eight hours of purging or as soon as the well has sufficiently recovered, groundwater samples will be collected using disposable bailers. The laboratory-supplied vials for VOC analysis will be filled first. Care will be taken not to agitate the sample when transferring it into the laboratory-supplied vials. Samples for any additional parameters will be collected subsequent to the VOC samples. Assuming adequate recharge, all samples will be collected within eight hours of purging.
- Pumping rates during purging and sample collection will be managed appropriately to maintain minimal turbidity for the collection of total metals samples (if needed).
- VOC samples will be collected in 40 ml glass vials with zero headspace and will be preserved with hydrochloric acid to a pH of less than two (in accordance with the instructions provided in the Region II CERCLA QA Manual, Revision 1, October 1989, p. 31). The sample bottles for all other analytical parameters will be properly preserved (e.g. metals samples will be preserved with nitric acid). Sample container, preservation and holding time information for the anticipated groundwater sample analyses is provided in the table below. Care will be taken to not overfill the bottles during sample collection thereby ensuring proper sample preservation.

Sample Container, Preservation and Holding Times for Anticipated Groundwater Sample Analyses

	TCL VOCs	TCL SVOCs	TAL Metals	Sulfate	PFOAs, dioxane
Container	(3) 40 mL VOA Vials	(2) 250 mL Amber Glass Jars	500 mL Plastic Container	250 mL Plastic Container	(2) 250 ML plastic w/ plastic lid (no Teflon)
Preservation	Zero Headspace, HCl & Cooled to 4°C	Cooled to 4°C	HNO_3 & cooled to 4°C	Cooled to 4°C	Cooled to 4°C (double bagged ice); stored away from other sample containers
Hold Time	14 Days	7 Days/40 days	365 days 28 Days for Hg	28 Days	14 days/40 days

Note: 7 days/40 days means time to extraction/analyses

- Sample containers will be capped immediately after filling and placed into a chilled cooler for transport to the laboratory.
- Sampling will progress from the least contaminated well to the most contaminated well, based on the results of previous sampling and analysis. Samples will be properly preserved, stored on ice and transported to the laboratory under proper chain-of-custody protocol.

APPENDIX B

SITE-SPECIFIC HEALTH & SAFETY PLAN

Main Street Premium Properties LLC

HEALTH & SAFETY PLAN
781-783 and 787 ULSTER AVE SITE
781-783 and 787 ULSTER AVE
KINGSTON, NEW YORK
(DEC Site No. 356065)

22 August 2023; Revised 24 August 2023

Prepared for:

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HEALTH AND SAFETY PLAN

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APPROVED BY:

_____ Date: 22 August 2023

Mark Dugas, Health and Safety Officer

_____ Date: 22 August 2023

James F. Blasting, Project Manager

_____ Date: 22 August 2023

Luke McKenney, Site Manager

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1.0 INTRODUCTION

This document represents the Health and Safety Plan (HASP), which is Attachment 2 of the Site Characterization Work Plan (SCWP) for the 781-783 and 787 Ulster Ave Site located at 781-783 and 787 Ulster Avenue in the City of Kingston, Ulster County, NY (the Site). New York State Department of Environmental Conservation (NYSDEC) identifies the Site as a 'Class P' Inactive Hazardous Waste Disposal Sites in New York State with a Site Number of 356065.

This HASP summarizes the intended field activities at the Site and chemicals of concern expected to be present. The HASP then describes the procedures to be followed in conducting the field operations, given the existing data concerning the Site.

2.0 FIELD ACTIVITIES AND CHEMICALS OF CONCERN

The field activities to be conducted are described in the associated SCWP. Planned Site activities include advancing soil borings, constructing groundwater monitoring wells, and multi-media sampling. Site activities are planned for the fall of 2023.

Preliminary Site Investigation activities performed at the Site identified VOCs related to dry cleaning solvents (i.e., tetrachloroethylene, a.k.a. PCE) and/or petroleum-related compounds (1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Ethyl Benzene, Isopropylbenzene, n-Butylbenzene, n- Propylbenzene, sec-Butylbenzene, and Total Xylenes) in soil and/or groundwater samples collected at the Site.

3.0 POTENTIAL CHEMICAL AND PHYSICAL HAZARDS

VOCs are the main contaminants of concern related to the Site. Since the field activities involve subsurface disturbance, inhalation (volatiles and dust particles), dermal contact and ingestion are considered the potential pathways of concern.

A **VOCs Action Limit of 20 ppm** is established for the inhalation pathway. The 20-ppm limit is based on measurement by a PID or similar direct reading instrument near the breathing zone of workers. The VOC Action Limit is based on the VOCs identified and their respective concentrations in the soil and water matrices identified during site characterization investigation.

A **dust/particulate Action Limit of 100 mg/m3** has been established for site activities. Measurement for dust/particulate shall be conducted near a worker's breathing zone with particulate direct reading instrumentation.

These Action Limits are based on the compounds and their respective concentrations in the soil and water matrices identified during the preliminary site investigation. The SSO, project manager or project health professional may change these limits when warranted. Any changes in Action Limits must be clearly documented in field notes.

To address potential dermal contact & ingestion, a **"No Skin Contact Policy"** will also be followed for all site activities. This policy requires that there shall be no direct skin contact with any soil or water including items or equipment that may have contacted soil or water unless they have been properly decontaminated. Gloves and other protective equipment (pants, long sleeve shirts, etc.), based on specific activities, shall be worn whenever there is a potential for contact or contamination. Additionally, potentially contaminated or soiled items, PPE, or footwear shall not be taken off site unless properly decontaminated. This policy may be modified at the discretion of the SSO, project manager or project health professional. Any changes in the policy must be clearly documented in field notes.

Physical hazards may also be encountered at the Site, especially during drilling activities. Table 3-1 lists potential physical hazards that may be encountered during the field activities. This list has been compiled based on planned activities and potential site conditions.

Table 3-1
Physical Safety Concerns
781-783 and 787 Ulster Avenue, Kingston, NY

Hazard	Description	Location	Procedures Used to Monitor/Reduce Hazard
Underground Utilities	Electric, Gas, Sanitary and Storm Sewer	Throughout	Verify number and location of all utilities prior to site operations.
Heat Stress	Hot Weather Activities	Throughout	Protections and monitoring as designated in this HASP
Cold Weather	Frost-bite, Hypothermia	Throughout	Wear appropriate clothing. Provide warm shelter area and liquids. Monitor worker physical conditions.
Heavy Equipment	Drill Rig and Excavator	Select Areas	All personnel should be cautious around heavy equipment. Make eye contact with operator prior to entering the work area.
Weather	Lightning, Heavy Rain or Snow	Throughout	During lightning, cease all heavy equipment activities. During cold weather, beware of wet and slippery conditions.
Noise	Heavy Equipment	Select Areas	Use appropriate earplugs or earmuffs, during equipment operation.
Overhead Electrical Equipment	Overhead Lines	Select Areas with Heavy Equipment	Maintain at least ten feet of clearance from any overhead lines.
Struck by Vehicle	Work in Traffic Areas	Parking Lots	Block all work areas off with reflective cones.

4.0 HAZARDS EVALUATION

Details pertaining to site activities are outlined in the SCWP.

4.1 SITE MONITORING FOR CHEMICAL HAZARDS

The primary compounds of concern in the work areas are VOCs. Air monitoring (where applicable) and good work practices will be used during the field activities to ensure that appropriate personal protection is used and to minimize potential exposure. Appropriate monitoring equipment to be used during site activities is described herein. All field monitoring will be conducted by or under the supervision of the Site Safety Officer (SSO). The SSO will properly maintain and calibrate all monitoring instruments throughout the field activities to ensure their accuracy and reliability. The SSO will keep a written record of all calibration activities.

4.1.1 VOC Monitoring

Direct reading instrumentation for VOCs shall be used to monitor exposure potentials during activities involving potentially contaminated soil and water, as determined necessary by the SSO. Direct reading instrumentation, such as a photoionization detector (PID) detector will be utilized. Based on the exposure levels in the breathing zone of personnel, the SSO will determine if an upgrade in respiratory protection is warranted. These upgrade levels are presented in the following table.

Table 4-1
Personal Protection Action Levels – VOCs
781-783 and 787 Ulster Avenue, Kingston, NY

Total Concentration	Required Action and/or Personal Protection
Monitor during all operations with the potential to release VOCs*	
VOC: Detection Limit to 20 ppm	Level D personal protection
20 ppm to 50 ppm	Upgrade to Level C personal protection with full-face air purifying respirators with combination P100/Organic Vapor cartridges. Change cartridges after each daily use.
Over 50 ppm	Notify the Site Safety Officer for work stoppage, Level B provisions or implement means to control exposure levels.
	*All concentrations are sustained- in the breathing zone

4.1.2 Dust Monitoring

Dust or particulate may be generated during activities at the Site. It will be at the discretion of the SSO to determine the need for formal dust monitoring during Site activities. Generally speaking, if continuous visible dust is being generated and is present in the employee work area, formal monitoring may be conducted and/or Dust control measures, such as wetting the immediate area, may be employed. Monitoring will be conducted with a direct-reading dust monitor. ***The action level for dust/particulate will be 100 mg/m^3*** (Note: based on P10 detection limits). If this level is exceeded, a filter device provided by or in accordance with the manufacturer recommendations will be utilized for field screening equipment, controls will be implemented to minimize dust exposure and/or employees will utilize Level C respiratory protection.

4.2 PHYSICAL HAZARDS

To minimize hazards, standard safety procedures will be followed at all times. The primary physical safety hazards for this project include, but are not limited to:

- common slip, trip, and fall hazards;
- overhead and buried hazards;
- drill rig and heavy equipment operation;
- excavation safety;
- electrical and power equipment;
- vehicular traffic;
- lifting excessive weights;
- sampling hazards;
- excessive noise levels;
- heat and cold stress; and
- other hazards.

4.2.1 Common Slip, Trip, Fall Hazards

Personnel should be aware of common slip, trip or fall hazards that are encountered frequently in industrial and project environments. Heightened awareness and emphasis on good housekeeping are the most effective ways to prevent accidents.

4.2.2 Overhead and Buried Hazards

Utility lines, both above and below ground, may pose a safety hazard for site personnel during soil boring or other heavy equipment operations. If overhead utilities have been identified on site as a hazard, the equipment operator must maintain a safe clearance between the lines and the equipment at all times during work operations. High voltage lines require greater clearance distances. As a safe work practice, equipment operators will maintain a 10-foot clearance between equipment and power lines or other energized sources unless the source is greater than 350 KV, in which case 29CFR 1910.180(j) must be applied. The location of buried utilities lines must be determined prior to the start of work activities. Overhead and buried utility and electrical lines may be a concern during all activities. These concerns will be addressed as part of the daily safety meeting.

4.2.3 Drill Rig and Heavy Equipment Operation

Truck-mounted drill rigs and heavy equipment presents multiple hazards while in operation. Excessive noise, boom raising, lowering and swing, cable and hook damage and operator error may result in injuries. To minimize potential accidents, the following safety measures will be required for all operations:

- All operators of equipment used on site will be familiar with the requirement for inspection and operation of such equipment. The operator will be required to demonstrate proficiency in safe operation of the equipment.
- All drilling and excavation shall be performed from a stable ground position, if unable to locate on level ground, the drill rig shall be appropriately checked, blocked and braced prior to the derrick being raised.
- Daily inspections of the drilling or excavation area shall be made by a person competent in heavy equipment safety. The inspector shall note the safety of the area and confirm the location of utilities.
- Before drilling or excavation, the existence and location of utility lines (electric and gas) will be determined by the Site owner. If the knowledge is not available, an appropriate device, such as a cable avoiding tool, will be used to locate the services line(s).
- If drilling equipment is located in the vicinity of overhead power lines, a distance of ten-feet must be maintained between the lines and any point on the equipment.
- Daily inspection of the drill rig and heavy machinery must be conducted and documented by the operator prior to each day's operation.
- In the event repairs to the drilling rig derrick are required, personnel climbing the derrick to affect such repairs must wear restraint system, including full body harness and lifeline, to prevent an accidental fall.

4.2.4 Excavation Safety

This task involves removing earthen materials from a designated area, thereby creating a man-made cut, trench, or depression in the earth's surface.

Physical Hazards: The physical hazards involved in the excavation of soils are related to the excavation itself and the operation of heavy equipment. The presence of overhead utilities such as power lines requires careful positioning of the excavating equipment in order to maintain a safe distance between the lines and the closest part of the equipment. The presence of underground utilities such as gas lines, power lines, water lines and sewer pipes must be determined prior to beginning the excavation.

Excavations pose significant hazards to employees if they are not carefully controlled. There exists a chance for the excavation to collapse if it is not dug properly, sloped, benched or shored as required by 29 CFR 1926 Subpart P. Protective systems, as required by 29 CFR 1926 Subpart P, must be utilized if the potential for hazardous cave-ins exist. The excavation also is a fall hazard, and employees must pay careful attention to what they are doing or they risk a fall into the excavation. Fall protection, as required by 29 CFR 1926 Subpart M, may be required.

No activities will require personnel to enter an excavation. No employees are permitted to enter any excavation. Equipment placement and other activities shall be done remotely, without entering the excavation.

Control

Before any digging can be done, all underground utilities must be located and identified. The underground utilities will be located and identified by contacting Dig Safely New York, reviewing available drawings showing locations of on-site underground utilities, and by contacting the appropriate client representative to mark the location of underground utilities. The Site Manager will meet with utility locators on site prior to marking out the underground utilities. During the on-site meeting, the Site Manager will provide the utility locator with a site figure, which shows the locations where excavation

activities will be completed during site activities. The Site Manager will conduct a site walkover with utility locators, as necessary, to visually identify each location where excavation activities are to be completed during activities (as shown on the site figure to be provided to the locators).

General Requirements

No person shall be permitted underneath loads handled by lifting or digging equipment. Site personnel must be required to stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials. Operators may remain in the cabs of vehicles being loaded or unloaded when the vehicles are equipped, in accordance with 1926.601(b)(6), to provide adequate protection for the operator during loading and unloading operations.

If excavation work interrupts the natural drainage of surface water (such as streams), diversion ditches, dikes, or other suitable means must be used to prevent surface water from entering the excavation and to provide adequate drainage of the area adjacent to the excavation. Excavations subject to runoff from heavy rains will require an inspection by a competent person.

Where the stability of adjoining buildings, walls, or other structures is endangered by excavation operations, support systems such as shoring, bracing, or underpinning must be provided to ensure the stability of such structures for the protection of employees. Excavation below the level of the base or footing of any foundation or retaining wall that could be reasonably expected to pose a hazard to employees is not permitted except when:

- A support system designed by a competent person, such as underpinning, is provided to ensure the safety of employees and the stability of the structure; or
- The excavation is in stable rock; or

- A registered professional engineer has approved the determination that the structure is sufficiently removed from the excavation so as to be unaffected by the excavation activity; or
- A registered professional engineer has approved the determination that such excavation work will not pose a hazard to employees.

Sidewalks, pavement and appurtenant structures must not be undermined unless a support system or another method of protection is provided to protect from the possible collapse of such structures. Adequate protection must be provided to protect from loose rock or soil that could pose a hazard by falling or rolling from an excavation face. Such protection must consist of scaling to remove loose material; installation of protective barricades at intervals as necessary on the face to stop and contain falling material; or other means that provide equivalent protection.

Employees must be protected from excavated or other materials or equipment that could pose a hazard by falling or rolling into excavations. Protection must be provided by placing and keeping such materials or equipment at least 2 feet (.61 m) from the edge of excavations, or by the use of retaining devices that are sufficient to prevent materials or equipment from falling or rolling into excavations, or by a combination of both if necessary.

Inspections by Competent Person

Daily inspections of excavations, the adjacent areas, and protective systems must be made by a competent person for evidence of a situation that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions. An inspection must be conducted by the competent person prior to the start of work and as needed throughout the shift.

Inspections also must be made after every rainstorm or other hazard-increasing occurrence. These inspections are only required when employee exposure can be

reasonably anticipated. Where the competent person finds evidence of a situation that could result in a possible cave-in, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions, exposed employees must be removed from the hazardous area until the necessary precautions have been taken to ensure their safety.

Walkways must be provided where employees or equipment are required or permitted to cross over excavations. Guardrails which comply with 1926.502(b) must be provided where walkways are 4 feet (1.2 m) or more above lower levels. Adequate barrier protection must be provided at all remotely located excavations. All wells, pits, shafts, etc., must be barricaded or covered. Upon completion of exploration and other similar operations, temporary wells, pits, shafts, etc., must be backfilled.

4.2.5 Tools - Hand and Electrical Power Equipment

Hand and power tools may be utilized as part of this investigation. All tools used during field activities will conform to the standards set both in OSHA 29CFR-1926.300 - 1926.305. To minimize the potential for any safety related accidents, the following measures will be required:

- All hand and power tools shall be maintained in a safe condition;
- Power operated tools shall be equipped with protective guard when in use;
- All hand-held power tools shall be equipped with a constant pressure switch that will shut off the power when the pressure is released;
- Hand tools shall be kept free of splinters or cracks;
- Electrical power tools shall have double-insulated type grounding;
- Electrical tools used in wet environments should have ground fault circuit interrupters (GFCI) in place;
- Electrical cords are not permitted for hoisting or lowering tools;
- All fuel powered tools shall be stopped while being refueled or maintained; and,
- When fuel powered tools are used in enclosed spaces the ambient air will be measured for oxygen and toxic gases.

4.2.6 Vehicular Traffic

Vehicular traffic in and around the facility may pose a hazard to project personnel. Precautions, including reflector vests and cones, should be taken when fieldwork is occurring near traveled areas.

4.2.7 Lifting Excessive Weights

Personnel should exercise caution when lifting any object that weighs greater than 50 pounds. For objects which weigh less than 50 pounds, proper lifting technique is essential to minimize the potential for injury. No excessively bulky objects should be lifted without assistance.

4.2.8 Sampling Hazards

Field activities will consist of collecting soil and water samples for analysis and evaluation. The hazards of this operation are primarily associated with the sample collection methods and procedures utilized.

The SAP outlines the standard methods and procedures that will be utilized for sampling activities. None of these specific procedures present hazards that are unique to sampling. Potential hazards that may be encountered are described in other sections of the HASP.

4.2.9 Excessive Noise Levels

Noise generated by heavy equipment may present a hazard during site operations. Excessive noise can physically damage the ear, hinder communications and startle or annoy the workers. All on-site personnel will wear hearing protection (earplugs or earmuffs) when working near heavy equipment and when noise levels may exceed 85dBA.

4.2.10 Heat Stress

Heat stress is the aggregate of environmental and physical work factors that make up the total heat load imposed on the body. The environmental factors of heat stress include air temperatures, humidity, radiant heat exchange, wind and water vapor pressure (related to humidity). Physical work adds to the total heat stress by producing metabolic heat in the body, proportional to the intensity of work.

Heavy physical labor can greatly increase the likelihood of heat fatigue, heat exhaustion and heatstroke, the latter being a life-threatening condition. Heat stress monitoring of personnel shall commence when the ambient temperature is 80°F (70°F if chemical protective clothing is worn) or above. Frequency of monitoring shall increase as the ambient temperature rises. Various control measures shall be employed if heat stress becomes a problem. These include:

- Provision for liquids to replace lost body fluids;
- Establishment of a work/rest schedule that allows for rest periods to cool down; and
- Training workers in the recognition and prevention of heat stress.

Specific steps to implement should ambient temperatures pose a hazard include:

- Site workers will be encouraged to drink plenty of water (or nutrient replacement drinks, such as Gatorade) throughout the day.
- On-site drinking water will be kept cool (50°-60°F) to encourage personnel to drink frequently;
- A work/rest schedule that will provide adequate rest periods for cooling down will be established as required;
- All personnel will be advised of the dangers and symptoms of heat stroke, heat exhaustion and heat cramps;

- Employees should be instructed to monitor themselves and co-workers for signs of heat stress and to take breaks as necessary;
- A shaded rest area must be provided. All breaks should take place in the shaded area;
- Employees shall not be assigned to other tasks during breaks;
- All employees shall be informed of the importance of adequate rest, acclimation and proper diet in the prevention of heat stress disorders; and
- The buddy system shall be practiced at all times on site.

The signs of heat stress disorders are described below.

Heat Cramps

Heat cramps are caused by heavy sweating and inadequate electrolyte replacement. Signs and symptoms include muscle spasms and pain in the hands, feet, and abdomen.

Heat Exhaustion

Heat exhaustion occurs from increased stress on various body organs, signs and symptoms include:

- Pale, cool, moist skin;
- Heavy sweating; and
- Dizziness, nausea, fainting.

Heat Stroke

Heat stroke is the most serious form of heat stress and should always be treated as a medical emergency. The body's temperature regulation system fails and the body temperature rapidly rises to critical levels. Immediate action must be taken to cool the body before serious injury or death occurs. Signs and symptoms of heat stroke include:

- Red, hot, unusually dry skin;
- Lack of, or reduced, perspiration;
- Nausea;
- Dizziness and confusion;
- Strong, rapid pulse and confusion; and,
- Coma.

4.2.11 Cold Stress

Cold and/or wet environmental conditions can place workers at risk of cold related illness. Hypothermia can occur whenever temperatures are below 45°F. It is most common during wet windy conditions, with temperatures between 40° to 30°F. The principal cause of hypothermia in these conditions is loss of insulating properties of clothing due to moisture, coupled with heat loss due to wind and evaporation of moisture on the skin.

Frostbite, the other hazard associated with exposure to the cold, is the freezing of body tissue, which ranges from superficial freezing of surface skin layers to deep freezing of underlying tissue. Frostbite will only occur when ambient temperatures are below 32°F. The risk of frostbite increases as the temperature drops and the wind speed increases. Most cold-related worker fatalities have resulted from failure to escape low environmental temperatures or from immersion in low temperature water. The single most important aspect of life-threatening hypothermia is a fall in the deep core temperature of the body.

Site workers should be protected from exposure to cold so that the deep core temperature does not fall below 97°F. Lower body temperatures will very likely result in reduced mental alertness, reduction in rational decision making or loss of consciousness with the threat of fatal consequences. To prevent such occurrence the following measures are recommended:

- Site workers shall wear warm clothing, such as mittens, heavy socks, etc. when the air temperature is below 45°F. Protective clothing or coveralls may be used to shield employees from the wind;
- When the air temperature is below 35°F, clothing for warmth, in addition to chemical protective clothing will be worn by employees. This will include:
- Insulated suits, such as whole-body thermal underwear;
- Wool socks or polypropylene socks to keep moisture off the feet;
- Insulated gloves and boots;
- Insulated head cover such as hard hat winter liner or knit cap; and
- Insulated jacket with wind and water-resistant outer layer.

At air temperatures below 35°F the following work practices are recommended:

- If the clothing of a site worker might become wet on the job site, the outer layer of clothing should be water impermeable;
- If a site worker's underclothing becomes wet in any way, they should change into dry clothing immediately. If the clothing becomes wet from sweating (and the employee is not comfortable) the employee may finish the task at hand prior to changing into dry clothing;
- Site workers should be provided with a warm (65°F or above) break area;
- Hot liquids such as soups or warm drinks should be provided in the break area. The intake of coffee and tea should be limited, due to their circulatory and diuretic effects;
- The buddy system shall be practiced at all times on site. Any site worker observed with severe shivering shall leave the work area immediately; and
- Site workers should be dressed in layers, with thinner lighter clothing next to the body.

5.0 PERSONNEL RESPONSIBILITIES

A Health and Safety Management Team has been developed for the site investigation field activities. The following responsibilities will be assigned to designated project personnel for all activities.

The Site Manager will act in a supervisory capacity over all employees who participate in the field activities specified in this work plan. The Site Manager is responsible for ensuring that health and safety responsibilities are carried out in conjunction with the work plan. As part of these responsibilities, the Site Manager will distribute the HASP to all field team personnel and discuss the HASP prior to the start of field activities. All field personnel will sign the Health and Safety Plan Review Record shown in Figure 5-1, verifying that they have read and are familiar with the contents of this HASP.

The Site Safety Officer (SSO) will be responsible for oversight, implementation and compliance of applicable health and safety regulations on-site. The SSO has the following authority and responsibilities:

- responsibility for the field implementation, evaluation, and any necessary field modifications of this HASP;
- responsibility for maintaining adequate supplies of all personal protective equipment, as well as calibration and maintenance of all HASP monitoring instruments;
- authority to suspend field activities due to imminent danger situations;
- responsibility to initiate emergency response activities;
- presentation and documentation of field safety briefings;
- maintain daily log of all on-site safety activities; and
- oversight of health and safety practices for subcontractors;
- The SSO shall conduct daily tailgate safety meetings with site personnel and contractors prior to commencement of each day's activities.

Figure 5-1
HASP Plan Review Record
781-783 and 787 Ulster Avenue, Kingston, NY

HEALTH AND SAFETY PLAN REVIEW RECORD

I have read the Health and Safety Plan for the Site and have been briefed on the nature, level and degree of exposure likely as a result of participation in this project. I agree to follow all the requirements in the Health and Safety Plan.

Employee Signature	Date
Name	
Site Manager Signature	Date
Name	

Subcontractors will be provided with a copy of this HASP and will be informed of health and safety concerns, as well as environmental monitoring data collected during field activities. This information will be shared with the subcontractors to assist them in implementing the appropriate health and safety measures. Contractors will be required to prepare and implement their own HASP that is at least as stringent as this project HASP. The consultant/contractor is not responsible for the health and safety of subcontractors or other site or facility personnel.

6.0 HEALTH AND SAFETY TRAINING

All personnel working at the Site will participate in daily safety briefings. The SSO will also conduct daily briefings with all site employees covering the activities and safety procedures. The daily briefings shall review the days planned activities and discuss potential hazards and proper controls to minimize hazards. The content of briefings and personnel present shall be documented in field notes.

7.0 PERSONAL PROTECTIVE EQUIPMENT

7.1 PURPOSE/APPROACH

A critical aspect of field crew safety is appropriate personal protective equipment (PPE). PPE refers to the types of footwear, headwear, eyewear, ear wear, coveralls, gloves, and respiratory protection each individual will wear while performing a specific task(s) and exposed to a particular chemical(s) at a given concentration(s). The levels of PPE are referred to as Level D, Level C and Level B; with Level D requiring the least amount of PPE and Level B the most.

The SSO will decide when it is necessary to upgrade, downgrade or modify the existing level of protection based on field monitoring and action levels described in Section 4.0. The SSO will make entries in the health and safety field book detailing each days PPE, task and if the level of PPE is modified, the reason for each change. Each level's PPE requirements may be modified by the SSO as needed. The different levels of PPE and equipment required at each level are described in the following sections and is based on 29 CFR 1910.120.

7.2 LEVEL D PROTECTION

Minimum level of protection for any field activities.

Level D PPE will consist of the following:

- Coveralls or a work uniform affording protection for nuisance contamination;
- Steel-toe, steel-shank work boots;
- Safety glasses;
- Hard hat (if working around equipment or machinery).

Note: Hand washing is imperative following any contact with soil, water and waste.

Optional Equipment or as Required by the SSO

- Disposable Tyvek® or rubber outer boots.
  Chemical resistant gloves (recommend nitrile or neoprene).
  Disposable outer chemical coveralls, such as Tyvek®, poly coated Tyvek® or Saranex®.
- Hearing protection.

No site activities where there is potential for contacting soils, waste or water may be conducted without proper gloves and/or other PPE as necessary.

7.3 LEVEL C PROTECTION

Minimum level of protection when respirators are required.

Level C PPE will consist of:

- Full-face air purifying respirator (APR) equipped with appropriate P100 (HEPA equivalent) and/or organic vapor cartridges. Note: All personnel requiring respiratory protection must be medically approved and "fit-tested" with the respirator to be used. Appropriate powered air-purifying respirators (PAPR) may be utilized if specified by the SSO. Only with the approval of the SSO can half-mask air purifying respirators be donned. Chemical cartridges will be changed on a daily basis.
- Chemical-resistant clothing such as Tyvek®, poly-coated Tyvek® or Saranex®.
- Outer chemical-resistant (recommend nitrile or neoprene) gloves and inner latex surgical gloves. Outer gloves should be tapped to the clothing sleeve.
- Steel-toe, steel-shank work boots with Tyvek® or rubber boot coverings. Over boots should be taped to clothing leg.

- Hard hat (if working around equipment or machinery).

Optional Equipment as Required by the SSO

- Escape SCBA
- Hearing protection

7.4 LEVEL B PROTECTION

Level B PPE will consist of:

- Self-contained breathing apparatus (SCBA) in a pressure demand mode or supplied air with escape SCBA in the pressure demand mode.
- Chemical-resistant clothing such as Tyvek®, poly-coated Tyvek® or Saranex®.
- Outer chemical-resistant (recommend nitrile or neoprene) gloves and inner latex surgical gloves. Outer gloves should be tapped to the clothing sleeve.
- Steel-toe, steel-shank work boots with rubber over boots. Over boots should be taped to clothing leg.
- Hard hat (if working around equipment or machinery).

8.0 SITE OPERATION AREAS AND DECONTAMINATION

Site operation areas will be formally set up for all field activities. Personal decontamination procedures will be closely adhered to upon entering or leaving all work areas. Section 8.1 describes the three zones used to control site operation areas and Section 9.0 describes decontamination procedures.

8.1 SITE OPERATION AREAS

A three-zone control system will be used during activities as determined necessary by the SSO. The purpose of the zones is to control the flow of personnel to or from potentially contaminated work areas. Guidelines for establishing these zone/areas are as follows:

Exclusion Zone (EZ): Primary exclusion zones will be established around each field activity and, at a minimum, this zone will radiate to a distance of 25 feet from the point of operations. Appropriate personal protective equipment must be worn in this zone. This zone will be separated from the contaminant reduction zone by cones or barrier tape to prevent personnel from entering the exclusion zone boundary without appropriate protective equipment or leaving without proper decontamination.

Contaminant Reduction Zone (CRZ): The CRZ is the transition area between the EZ and the Support Zone (clean area). All personnel and equipment must be decontaminated in the CRZ upon exiting the EZ and before entering the Support Zone. The CRZ will be set up along the perimeter of the EZ at a point upwind of field activities.

Support Zone (SZ): The support zone is considered to be uncontaminated; as such, protective clothing and equipment are not required but should be available for use in emergencies. All equipment and materials are stored and maintained within this zone. Protective clothing is donned in the support zone before entering the contaminant reduction zone.

9.0 DECONTAMINATION GUIDELINES

In the situation where work areas are controlled using the three-zone concept, all personnel must exit the EZ through an established CRZ. At a minimum, CRZ provisions will include a potable water supply, wash buckets or sprayers, cleaning tools, hand soap and clean towels. The applicable CRZ sequence of events should include:

- Wash outer boots, coveralls and outer gloves;
- Remove any outer boot or glove tape;
- Remove outer boots. Either store or properly dispose of outer boots;
- Re-clean and remove outer gloves. If gloves will be reused, inspect and stage the gloves; otherwise properly dispose of the gloves;
- Remove chemical resistant coveralls with care so that hands or inner clothing do not come in contact with any contaminated surfaces. Properly dispose of coveralls;
- Remove respirator and stage in CRZ area. Respirators shall be cleaned and disinfected with a sanitizing agent between uses;
- Remove and dispose of inner gloves; and
- Thoroughly wash hands and face.

All contaminated equipment (such as the drill rig, excavator/back-hoe, tools and sampling equipment, etc.) will be thoroughly decontaminated prior to leaving the EZ. The extent of the decontamination (such as a separate decontamination pad) will be determined by the SSO. The SSO will be responsible for inspecting the decontamination of all equipment prior to leaving the EZ and the Site.

For fieldwork not using the three-zone concept (e.g., soil and sediment sampling with hand-operated equipment), portable wash stations will be utilized for easy and efficient access. The wash station shall consist of a potable water supply, hand soap and clean

towels. Portable sprayer units filled with Alconox® solution and potable water will also be available to wash and rinse off grossly contaminated boots, gloves and equipment. The SSO will monitor decontamination procedures to ensure their effectiveness. Modifications of the decontamination procedure may be necessary as determined by the SSO.

9.1 MANAGEMENT OF GENERATED WASTES

All discarded health and safety equipment and discarded sampling equipment will be segregated and placed in appropriate containers, as required. These containers will be properly labeled and stored in a secure area on site while arrangements are made for disposal.

10.0 SITE ACCESS AND SITE CONTROL

Access to site activities will be limited to authorized personnel and should be coordinated with the site Owner. Such authorized personnel include contractor's employees, subcontractors and representatives of the site Owner. However, access into the established contaminant reduction and exclusion zones will be limited to those authorized personnel with required certifications and wearing appropriate personal protective equipment. The exclusion zones will be monitored by the SSO to ensure personnel do not enter without proper personal protection equipment.

All work zones will be clearly marked with barrier tap and/or cones to ensure that non-authorized personnel are kept at a safe distance. Excavations or trenches/ditches will be secured during off-hours and any stockpiled soil will be covered with plastic.

11.0 EMERGENCY RESPONSE

In the event of an emergency, the SSO will coordinate response activities. Appropriate authorities will be notified immediately of the nature and extent of the emergency. Table 11-1 provides emergency telephone numbers that will be posted within the support zone or any other visible location. Directions to the nearest hospital are also included on Table 11-1.

11.1 RESPONSIBILITIES

The SSO will be responsible for initiating response to all emergencies, and will:

1. Notify appropriate individuals, authorities and health care facilities of the activities and hazards of the field activities.

2. Ensure that the following safety equipment is available: eyewash provisions, first aid supplies and fire extinguisher.

3. Have working knowledge of all safety equipment.

4. Ensure that directions of the most direct route to the nearest hospital is present with the emergency telephone numbers.

5. For a release incident or major vapor emission, determine safe distances and places of refuge.

6. For a release incident or major vapor emission, contact the local emergency response coordinator (Fire Department) and NYSDEC Spill Response (if appropriate).

Table 11-1
Emergency Contacts
781-783 and 787 Ulster Avenue, Kingston, NY

Project Health and Safety Coordinator: Rachel Oltmer	(607) 341-5404 M
Project Director: James F. Blasting, P.G.	(315) 263-3388 M
Project Manager: Luke McKenney	(315) 439-0772 M
Ambulance (Mobil Life Support Services)	911 or (845) 561-5698
Hospital (Health Alliance Emergency Room)	(845) 338-2500
Fire Dept. (Kingston Fire Department – **EMERGENCY**)	911 or (845) 331-1216
NYSDEC Spill Hotline	1-800-457-7362
Police (Kingston Police Department)	911 or (845) 331-1671

Directions to Health Alliance Hospital, 105 Mary's Avenue, Kingston, NY

Take Ulster Ave to Foxhall Ave in Kingston (0.9 miles)
Head south on Ulster Ave toward Stahlman Pl (0.5 miles)
Continue onto Albany Ave (0.4 miles)
Continue on Foxhall Ave to your destination: 1.8 miles
Arrive at Health Alliance Hospital

11.2 ACCIDENTS AND INJURIES

In case of a safety or health emergency at the Site, appropriate emergency measures will immediately be taken to assist those who have been injured or exposed and to protect others from hazards. The SSO will be immediately notified and will respond according to the seriousness of the injury.

11.3 SITE COMMUNICATIONS

Mobile telephones will be located prior to the start-up of field activities and will be used as the primary off-site communication network.

11.4 RESPONSE EVALUATION

The effectiveness of response actions and procedures will be evaluated by the SSO. Improvements will be identified and incorporated into this and future plans.

12.0 ADDITIONAL SAFETY PRACTICES

The following safety precautions will be enforced during the field activities:

1. Eating, drinking, chewing gum or tobacco, smoking or any practice that increases potential hand-to-mouth transfer and possible ingestion of material is prohibited in areas designated as contaminated by the SSO.

2. Hands and face must be thoroughly washed upon leaving the work area and before eating, drinking or any other activity.

3. Whenever decontamination procedures for outer garments are in effect, the entire body should be thoroughly washed as soon as possible after the protective garment is removed.

4. No facial hair that may interfere with the effectiveness of a respirator will be permitted on personnel required to wear tight fitting respiratory protection. The respirator must seal against the face so that the wearer receives air only through the air purifying cartridges. Fit-testing shall be performed prior to respirator use to ensure a proper seal is obtained.

5. Even when wearing protective clothing, contact with potentially contaminated surfaces should be avoided when possible. One should not walk through puddles; mud or other discolored surfaces; kneel on ground; lean, sit or place equipment on drums, containers, vehicles or the ground.

6. Medicine and alcohol can enhance the effect from exposure to certain compounds. Alcoholic beverages will not be consumed during work hours by personnel involved in the project. Personnel using prescription drugs during the project may be precluded from performing specific tasks (e.g., operating heavy equipment) without authorization from a physician.

7. Personnel and equipment in the work areas will be minimized.

8. Work areas and decontamination procedures will be established based on prevailing site conditions.

9. Respirators will be issued for the exclusive use of one worker and will be cleaned and disinfected after each use.

10. Cartridges for air-purifying respirators in use will be changed on a frequency determined by the SSO, with detectable odor/breathing resistance or after each day's use, whichever is shorter.

ATTACHMENT A

COMMUNITY AIR MONITORING PROGRAM

Community Air Monitoring Plan

(Intrusive Activities)

The community air monitoring plan (CAMP) will be implemented during all exterior ground intrusive work during site characterization activities. Continuous monitoring will be performed for all exterior ground intrusive activities including, but are not limited to, demolition of contaminated or potentially contaminated structures, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells. Continuous air monitoring will be conducted when work is taking place near potentially exposed individuals, such as near a busy street or residence, and the CAMP equipment will be capable of calculating 15-minute running average concentrations.

Real-time air monitoring for VOCs and particulate levels at the perimeter of the exclusion zone or work area will be necessary.

Continuous monitoring will be conducted for all exterior ground intrusive activities and during the demolition of contaminated or potentially contaminated structures using one upwind and one downwind monitoring station. 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 conducted during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. Periodic monitoring during sample collection will 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.

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

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

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 will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

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

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shut down and corrective measures will be implemented before work resumes.

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

Particulate Monitoring, Response Levels, and Actions

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

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m3 above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m3 of the upwind level and in preventing visible dust migration.

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