

GCP Boom, LLC

# Site Characterization Work Plan Addendum – Soil Vapor Intrusion Sampling

**Grand Central Plaza – 1020 Center Street  
Horseheads, New York  
NYSDEC Site No. 808053**

November 2024

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Horseheads, New York  
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**Prepared By:**

Arcadis of New York, Inc.  
One Lincoln Center, 110 West Fayette Street, Suite 300  
Syracuse, NY 13202  
United States  
Phone: 315 446 9120  
Fax: 315 449 0017

**Prepared For:**

GCP Boom, LLC.  
C. Gershon Company, Inc.  
244 W. 39th Street, 5th Floor  
New York, NY 10018

**Our Ref:**

30147184

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## Certification

I, Christopher Engler, certify that I am currently a Qualified Environmental Professional as defined in 6 New York Codes, Rules, and Regulations (NYCRR) Part 375 and that this Remedial Investigation Work Plan (RIWP) was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation and DER-31 Green Remediation.

A handwritten signature in black ink, reading "Christopher D. Engler", is written over a horizontal line.

Christopher Engler, P.E.

NYS P.E. License No. 069748

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Arcadis of New York, Inc. (Arcadis) has prepared this Site Characterization Work Plan Addendum for supplemental Soil Vapor Intrusion Sampling (sub-slab, indoor air and ambient air/background) for the Grand Central Plaza, 1020 Center Street, Horseheads, New York, on behalf of GCP Boom, LLC for submission to the New York State Department of Environmental Conservation (NYSDEC). GCP Boom has decided to voluntarily conduct this sampling but seeks approval from NYSDEC in order that this data may be included in the overall site characterization and SSDS design.

## 1 Background

The Grand Central Plaza property is a strip mall comprised of two main buildings located at 1020 Center Street Horseheads, New York (the “Site”) (**Figure 1**). The Site has been operated as a multi-tenant strip-mall since the late 1960’s. Prior environmental due diligence identified a dry-cleaners as formerly occupying two lease spaces, one of which was the space currently occupied by GCP Liquors (**Figure 2**).

Environmental investigations conducted at the Site in 2022 and 2023 identified tetrachloroethene (PCE) in groundwater samples obtained from beneath the GCP Liquors lease space at concentrations of 12 micrograms per liter ( $\mu\text{g/L}$ ), which exceeded the New York State Department of Environmental Conservation Division of Water Technical and Operational Guidance Series 1.1.1 Ambient Water Quality Standards and Guidance Values criterion of 5  $\mu\text{g/L}$  for this compound. Additionally, sub-slab soil vapor samples collected from beneath the GCP Liquors floor slab contained maximum vapor-phase PCE concentrations of 16,500 micrograms per cubic meter ( $\mu\text{g/m}^3$ ), which exceeded the New York State Department of Health (NYSDOH) Soil Vapor Intrusion Guidance Soil Vapor/Indoor Air Matrix B (May 2017) criteria that concentrations of 1,000  $\mu\text{g/m}^3$  or above require mitigation.

The investigation findings were summarized and submitted to NYSDEC in December 2023. NYSDEC subsequently prepared an Order on Consent (Order) which was signed by our client, GCP Boom, LLC on June 27, 2024 and executed by NYSDEC on July 2, 2024. Under the terms of the Order, the Site was not listed in the Registry of Inactive Hazardous Waste Disposal Sites in New York State, but instead identified as a “P” or potential site with Site Number 808053. In accordance with the Order, Arcadis, on behalf of GCP Boom submitted a Site Characterization Work Plan (WP) for a subsurface investigation to include installation of eight soil borings, four of which were to be completed as groundwater monitoring wells, and a program of soil and groundwater sampling and analyses. The WP was conditionally approved by NYSDEC/NYSDOH on October 2, 2024 and accepted by GCP Boom on October 7, 2024. Fieldwork took place over the period of October 14 through October 24, 2024. Final laboratory analytical results are pending as of this writing.

In order to confirm sub-slab and indoor air concentrations of PCE at the Site and the design of the SSDS, Arcadis proposes to resample existing soil vapor points SV-13 and SV-14 in the GCP Liquors lease space and install two new permanent soil vapor sampling points (designated as SV-16 and SV-17) in the adjoining (north) GCP Beers lease space (**Figure 2**) and collect paired indoor air and sub-slab soil vapor samples. This Work Plan Addendum details sample locations and sampling protocols following New York State Department of Health (NYSDOH) Soil Vapor Intrusion Guidance.

## 2 Field Activities

An SVI supplemental evaluation will be conducted at the GCP Liquors and GCP Beers lease spaces. This evaluation will include indoor and outdoor air and sub-slab vapor sampling.

## 2.1 Sampling Program

The air and sub-slab vapor sampling will be conducted following the October 2006 Final NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (as updated).

Prior to sampling, an inspection of the lease spaces will be conducted to inventory products and materials that could interfere with sampling results. The inspection will also document general information on heating, ventilation, and air conditioning (HVAC) systems. The NYSDOH building questionnaire form (**Attachment 1** to this SCWP Addendum) will be filled out and sampling locations will be selected during the inspection. Laboratory batch-certified clean Summa canisters will be used to sample the air and sub-slab vapor. Four indoor air, one outdoor air, and four sub-slab vapor samples will be collected concurrently over an 8-hour period during the heating season. Air and sub-slab soil vapor samples will be analyzed for Volatile Organic Compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method TO-15 (analyte list in **Table 1**).

An aerial image showing the approximate sampling locations is provided on **Figure 2**. As stated previously, SV-13 and SV-14 are pre-existing permanent soil vapor points. The new locations (SV-16 and SV-17) will be within or near areas with the greatest occupancy or areas open to those areas with consideration taken not to unnecessarily impede foot traffic. Sampling locations will be selected based on access, property owner/manager requests, presence of confounding sources of VOCs that cannot be isolated or removed, access to the concrete slab, and other site conditions. It is anticipated that one duplicate indoor air sample, and one duplicate sub-slab sample will be collected along with the project samples.

## 2.2 Initial Reconnaissance

Arcadis conducted an initial reconnaissance visit of the GCP Beers lease space on October 18, 2024 to identify acceptable sampling locations, review the interior for potential background volatile indoor air contaminant sources and document lease space usage.

As recognized in relevant guidance (e.g., June 2015 OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway From Subsurface Vapor Sources to Indoor Air [USEPA Office of Solid Waste and Emergency Response] and October 2006 Final NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York), interference from confounding sources can severely complicate the interpretation of indoor air sampling data and the evaluation of the soil vapor intrusion pathway. Arcadis will screen the areas surrounding any identified confounding sources for VOCs and determine the most effective method for managing potential confounding sources. Arcadis will coordinate with the property owner or their representative(s) to remove confounding sources prior to sampling, to the extent practicable.

The configuration and dimensions of potential confounding sources will be documented. The initial description will provide information on the resources needed to remove or seal off the source prior to sampling. A portable photo-ionization detector (PID), capable of measuring down to one part per billion, will be used to screen for total VOCs in air surrounding each potential confounding source. PID measurements will be recorded in a field log. Because the detection limits of the portable PID are significantly higher than those of the laboratory analyses, the PID measurements will only be used to assess gross interference from potential confounding sources.

The most effective method for reducing the potential interference from confounding sources of VOCs is to remove them from the sample collection area at least 24-hours prior to sampling. If the source cannot be removed, Arcadis will work with the property owner or their representative(s) to determine the most effective method for

segregating it from the surrounding air or moving the air sample location an appropriate distance from the potential confounding source, to the extent practicable.

## 2.3 Completion of NYSDOH Indoor Air Quality Questionnaire and Building Inventory

One day prior to sampling, Arcadis will conduct a pre-sampling building survey that will include completion of the NYSDOH Indoor Air Quality Questionnaire and Building Inventory included in the October 2006 Final NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (as revised). A copy of the questionnaire and inventory for is provided in **Attachment 1** to this SCWP Addendum. Arcadis will complete the questionnaire and inventory with input from the property owner, tenant or their representative(s). This document requires, among other things:

- Identifying and recording remaining confounding sources. PID screening results, identifying information, and the condition of containers present will be recorded as prescribed by the product inventory form. Photographs may be taken with building owner permission;
- Documentation of weather conditions;
- Evaluation of HVAC systems and other ventilation (windows, etc.); and
- Final selection of air sampling locations.

Additionally, Arcadis will record:

- Inside temperature; and
- The results of PID screening of ambient air (indoor and outdoor) and areas that had potential confounding sources removed or segregated. Although the results of PID screening cannot be used to ensure that the effects of the potential confounding source are eliminated, these screening measurements can be compared to prior positive screening results to confirm gross interferences from these potential confounding sources are limited.

## 2.4 Indoor and Ambient Air Sampling Procedures

Indoor and ambient air sample collection will be conducted in accordance with procedures specified in the Field Sampling Plan, which is part of the approved QAPP.

## 2.5 Vapor Pin Installation and Sub-Slab Sampling Procedures

Permanent sub-slab sampling point installation and sampling will be in accordance with procedures specified in the Field Sampling Plan, which is part of the approved QAPP.

Before installing sub-slab soil vapor points, each location will be cleared of utilities using at least three lines of evidence. It is assumed that the following lines may be used: building drawing (if available), review of incoming utility lines, geophysical scan (GPR/Magnetometer), and/or NY Dig-Safe call. Each location will also be visually inspected for items or conditions that would negatively affect the sample results.

The condition of the floor will be visually assessed and an appropriate area for sampling will be selected that is out of the line of foot traffic and away from major cracks and other floor penetrations (sumps, pipes, etc.). To the extent reasonable, sampling locations will be located so as to cause minimal damage to existing floor coverings. Representative photographs will be taken unless the owner or tenant objects. Photographs will not be taken if the property owner objects.

## **2.6 Field Documentation**

Documentation of an investigative team's field activities often provides the basis for technical site evaluations and other such related written reports. A bound field logbook will be maintained to record daily activities. Entries will be made in indelible ink and the pages will be consecutively numbered. Incorrect entries will be corrected by a single stroke through the error and will be verified with the recorder's initials and date of correction. Additions, clarifications, or corrections made after completion of field activities must be dated and signed. Field logbook entries must be legibly written and provide an unbiased, concise, detailed picture of all field activities. All entries must be accompanied by the appropriate 24-hour time (such as 1530 instead of 3:30). Use of preformatted data reporting forms must be identifiable and referenced to field notebook entries.

### **2.6.1 General Information**

General entries to the logbook will include:

- Date;
- Start and finish times;
- Weather conditions;
- Summary of work performed (included samples collected);
- Names of personnel present;
- Names of visitors; and
- Observations and remarks.

### **2.6.2 Sampling Activities**

The following will be documented during or prior to air or sub-slab soil vapor sample activities:

- Current storage and uses of volatile chemicals;
- Type and operation of heating or air conditioning systems during sampling;
- Floor plan sketches that document the floor layout with sampling locations, chemical storage areas, garages, doorways, stairways, location of basement sumps or subsurface drains and utility perforations through building foundations, HVAC system air supply and return registers, and footings that create separate foundation sections;
- Approximate building slab thickness (if applicable);
- Weather conditions (e.g., precipitation and indoor and outdoor temperature) and ventilation conditions (e.g., heating system active and windows closed); and
- Any additional pertinent observations, such as spills, floor stains, odors and readings from field instrumentation.



The following information will be recorded in the field logbook and/or a sample log sheet at the time of air and sub-slab vapor sampling:

- Sample identification;
- Identity of samplers;
- Method of collection;
- Time and date of sample collection;
- Type of sample;
- Sampling depth (if applicable);
- Vapor purge volumes;
- Vacuum of canisters before and after samples collected;
- Apparent moisture content (dry, moist, saturated, etc.) of the sampling zone for sub-slab samples;
- Analyses to be performed;
- Field measurements and canister integrity (if applicable);
- Canister number;
- Flow controller number;
- Observed conditions which may impact the chemistry of the sample; and
- Decontamination procedures, if used.

## 2.7 Sample Custody and Shipping

The COC provides an accurate written record that can be used to trace the possession and handling of the sample from the time of collection to analysis. A COC record is a printed form that accompanies a sample or group of samples as custody is transferred from person to person. The COC form will be completed for each sample and will be maintained while shipping the sample to the laboratory. The laboratory shall supply COC records to the field sampling crew. The COC will be completed in accordance with Section 8.2.3 of the revised QAPP.

Common carriers will usually not accept responsibility for handling COC forms; this necessitates packing the record in the sample package.

## 3 Laboratory Analysis

Air and sub-slab vapor samples collected for analysis will be shipped to a NYSDOH Environmental Laboratory Accreditation Program certified laboratory. Air and sub-slab samples will be analyzed by USEPA Method TO-15 for the list of VOCs shown in **Table 1**. The analytical results will be accompanied by NYSDEC Analytical Service Protocols (ASP) Category B deliverables, or equivalent.

The indoor air and sub-slab vapor sample analyses will generally achieve minimum reporting limits of 1 µg/m<sup>3</sup> for each compound except for trichloroethene, 1,1-dichloroethene, cis-1,2-dichloroethene, carbon tetrachloride, and vinyl chloride, which will have a minimum reporting limit of 0.2 µg/m<sup>3</sup>. These reporting limits are adequate to support the data quality objectives (DQOs) for this project and for comparison to NYSDOH decision matrices.

## 4 Data Validation

The reporting of reliable data is a primary focus of the analytical activities. Laboratory data will be reviewed to ensure that the procedures are effective and that the data generated provide sufficient information to achieve the project objectives. Data validation identifies invalid data and qualifies the usability of the remaining data. Limitations of the data will also be noted. A qualified independent third party will evaluate the air and sub-slab vapor analytical data according to NYSDEC-Division of Environmental Remediation Data Usability Summary Report (DUSR) guidelines as provided in Appendix 2B of 2010 Final NYSDEC Program Policy DER-10 Technical Guidance for Site Investigation and Remediation.

### 4.1 Data Review

Although validation of the data generated by the laboratory will be performed by a third-party data validation subcontractor, the laboratory will be responsible for reviewing data to determine if analytical problems exist. Specifically, the laboratory will develop a case narrative describing how closely the data meet the DQOs. The laboratory will provide a data reporting package, which will include a case narrative, sampling analyses, and summary forms. One copy of the ASP Category B data packages, or equivalent, will be provided to a third-party data validation subcontractor for data assessment. The DUSR review will be performed in accordance with United States Environmental Protection Agency (USEPA) Region II data validation guidelines and New York State Department of Environmental Conservation (NYSDEC) (ASP) requirements, where applicable.

Arcadis will coordinate the validation of the data set based on information from the field team and information supplied from the laboratory on the analysis. The data validator shall review the submitted data package to determine compliance with applicable procedures and site documents that pertain to the production of laboratory data. Compliance is defined by the following criteria:

- The data package is complete;
- The data has been produced and reported in a manner consistent with the data requirements and the laboratory subcontract;
- All protocol required quality assurance/quality control (QA/QC) criteria have been met;
- All instrument tune and calibration requirements have been met for the time frame during which the analyses were completed;
- All protocol required initial and continuing calibration data is present and documented;
- All data reporting forms are complete for all samples submitted. This will include all sample dilution/concentration factors and all pre-measurement sample cleanup procedures; and
- All problems encountered during the analytical process have been reported in the case narrative along with any actions taken by the laboratory to correct these problems.

The data validator shall conduct a detailed comparison of the reported data with the raw data submitted as part of the supporting documentation package.

### 4.2 Data Usability Summary Report (DUSR)

The Data Validator shall submit a DUSR covering the results of the data review process. This report shall include the following:

- A general assessment of the data package;
- Detailed descriptions of deviations from the required protocols. (These descriptions must include references to the portions of the protocols involved in the alleged deviations);
- Any failure in the data validator's attempt to reconcile the reported data with the raw data from which it was derived. (Again, specific references must be included). Telephone logs should be included in the validation report;
- A detailed assessment by the data validator of the degree to which the data has been comprised by any deviations from protocol, QA/QC breakdowns, lack of analytical control, etc., that occurred during the analytical process;
- The report shall include, as an attachment, a copy of the laboratory's case narrative including the sample and analysis summary sheets; and
- The report shall include an overall appraisal of the data package.

## 5 Reporting

A summary report detailing the soil vapor intrusion investigation activities will be submitted to NYSDEC. This report will consist of a summary of the field activities and observations, a table with analytical results, figures showing the sampling locations, a discussion of the results compared to NYSDOH decision matrices, building questionnaires with product inventories, and the laboratory data package(s). The report will also present conclusions that can be drawn from the analytical results and impact on the design of the SSDS, if any.

## 6 Schedule

GCP Boom, LLC is prepared to implement the above-described investigation at the Grand Central Plaza within 30 days of NYSDEC/NYSDOH approval of this Work Plan Addendum. A letter report will be provided within 6 weeks of completion of data validation and receipt of the DUSR.

# Tables

**Table 1**  
**TO-15 Analyte List, Method Detection Limits and Reporting Limits**

**Grand Central Plaza – 1020 Center Street**  
**Horseheads, New York**  
**NYSDEC Site No. 808053**

Method	Matrix	Analyte Description	CAS Number	MDL	RL	Units
<b>Air</b>						
TO15	Air	Dichlorodifluoromethane	75-71-8	0.544	2.47	ug/m3
TO15	Air	Chlorodifluoromethane	75-45-6	0.424	1.77	ug/m3
TO15	Air	1,2-Dichlorotetrafluoroethane	76-14-2	0.336	1.40	ug/m3
TO15	Air	Chloromethane	74-87-3	0.310	1.03	ug/m3
TO15	Air	n-Butane	106-97-8	0.475	1.19	ug/m3
TO15	Air	Vinyl chloride	75-01-4	0.0537	0.200	ug/m3
TO15	Air	1,3-Butadiene	106-99-0	0.0863	0.442	ug/m3
TO15	Air	Bromomethane	74-83-9	0.276	0.777	ug/m3
TO15	Air	Chloroethane	75-00-3	0.475	1.32	ug/m3
TO15	Air	Bromoethene(Vinyl Bromide)	593-60-2	0.219	0.875	ug/m3
TO15	Air	Trichlorofluoromethane	75-69-4	0.281	1.12	ug/m3
TO15	Air	1,1,2-Trichlorotrifluoroethane	76-13-1	0.406	1.53	ug/m3
TO15	Air	1,1-Dichloroethene	75-35-4	0.103	0.200	ug/m3
TO15	Air	Acetone	67-64-1	3.80	11.9	ug/m3
TO15	Air	Isopropyl alcohol	67-63-0	3.93	12.3	ug/m3
TO15	Air	Carbon disulfide	75-15-0	0.405	1.56	ug/m3
TO15	Air	3-Chloropropene	107-05-1	0.376	1.57	ug/m3
TO15	Air	Methylene Chloride	75-09-2	0.625	1.74	ug/m3
TO15	Air	tert-Butyl alcohol	75-65-0	3.64	15.2	ug/m3
TO15	Air	Methyl tert-butyl ether	1634-04-4	0.130	0.721	ug/m3
TO15	Air	trans-1,2-Dichloroethene	156-60-5	0.0912	0.793	ug/m3
TO15	Air	n-Hexane	110-54-3	0.388	1.76	ug/m3
TO15	Air	1,1-Dichloroethane	75-34-3	0.101	0.809	ug/m3
TO15	Air	Methyl Ethyl Ketone (2-Butanone)	78-93-3	1.45	1.47	ug/m3
TO15	Air	cis-1,2-Dichloroethene	156-59-2	0.0833	0.200	ug/m3
TO15	Air	Bromochloromethane	74-97-5			ug/m3
TO15	Air	Chloroform	67-66-3	0.200	0.977	ug/m3
TO15	Air	Tetrahydrofuran	109-99-9	3.83	14.7	ug/m3
TO15	Air	1,1,1-Trichloroethane	71-55-6	0.240	1.09	ug/m3
TO15	Air	Cyclohexane	110-82-7	0.200	0.688	ug/m3
TO15	Air	Carbon tetrachloride	56-23-5	0.138	0.220	ug/m3
TO15	Air	2,2,4-Trimethylpentane	540-84-1	0.178	0.934	ug/m3
TO15	Air	Benzene	71-43-2	0.141	0.639	ug/m3
TO15	Air	1,2-Dichloroethane	107-06-2	0.376	0.809	ug/m3

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**Grand Central Plaza – 1020 Center Street**  
**Horseheads, New York**  
**NYSDEC Site No. 808053**

Method	Matrix	Analyte Description	CAS Number	MDL	RL	Units
<b>Air (continued)</b>						
TO15	Air	n-Heptane	142-82-5	0.225	0.820	ug/m3
TO15	Air	1,4-Difluorobenzene	540-36-3			ug/m3
TO15	Air	Trichloroethene	79-01-6	0.134	0.200	ug/m3
TO15	Air	Methyl methacrylate	80-62-6	0.573	2.05	ug/m3
TO15	Air	1,2-Dichloropropane	78-87-5	0.434	0.924	ug/m3
TO15	Air	1,4-Dioxane	123-91-1	0.296	18.0	ug/m3
TO15	Air	Bromodichloromethane	75-27-4	0.335	1.34	ug/m3
TO15	Air	cis-1,3-Dichloropropene	10061-01-5	0.204	0.908	ug/m3
TO15	Air	4-Methyl-2-pentanone (Methyl isobutyl ketone)	108-10-1	0.533	2.05	ug/m3
TO15	Air	Toluene	108-88-3	0.234	0.754	ug/m3
TO15	Air	trans-1,3-Dichloropropene	10061-02-6	0.245	0.908	ug/m3
TO15	Air	1,1,2-Trichloroethane	79-00-5	0.404	1.09	ug/m3
TO15	Air	Tetrachloroethene	127-18-4	0.142	1.36	ug/m3
TO15	Air	Methyl Butyl Ketone (2-Hexanone)	591-78-6	0.615	2.05	ug/m3
TO15	Air	Dibromochloromethane	124-48-1	0.537	1.70	ug/m3
TO15	Air	1,2-Dibromoethane	106-93-4	0.323	1.54	ug/m3
TO15	Air	Chlorobenzene-d5	3114-55-4			ug/m3
TO15	Air	Chlorobenzene	108-90-7	0.203	0.921	ug/m3
TO15	Air	Ethylbenzene	100-41-4	0.300	0.868	ug/m3
TO15	Air	m,p-Xylene	179601-23-1	0.413	2.17	ug/m3
TO15	Air	o-Xylene	95-47-6	0.274	0.868	ug/m3
TO15	Air	Styrene	100-42-5	0.251	0.852	ug/m3
TO15	Air	Bromoform	75-25-2	1.24	2.07	ug/m3
TO15	Air	Cumene	98-82-8	0.202	0.983	ug/m3
TO15	Air	1,1,2,2-Tetrachloroethane	79-34-5	0.295	1.37	ug/m3
TO15	Air	n-Propylbenzene	103-65-1	0.231	0.983	ug/m3
TO15	Air	4-Ethyltoluene	622-96-8	0.241	0.983	ug/m3
TO15	Air	1,3,5-Trimethylbenzene	108-67-8	0.231	0.983	ug/m3
TO15	Air	2-Chlorotoluene	95-49-8	0.238	1.04	ug/m3
TO15	Air	tert-Butylbenzene	98-06-6	0.258	1.10	ug/m3
TO15	Air	1,2,4-Trimethylbenzene	95-63-6	0.393	0.983	ug/m3
TO15	Air	sec-Butylbenzene	135-98-8	0.247	1.10	ug/m3
TO15	Air	4-Isopropyltoluene	99-87-6	0.335	1.10	ug/m3
TO15	Air	1,3-Dichlorobenzene	541-73-1	0.445	1.20	ug/m3

**Table 1**  
**TO-15 Analyte List, Method Detection Limits and Reporting Limits**

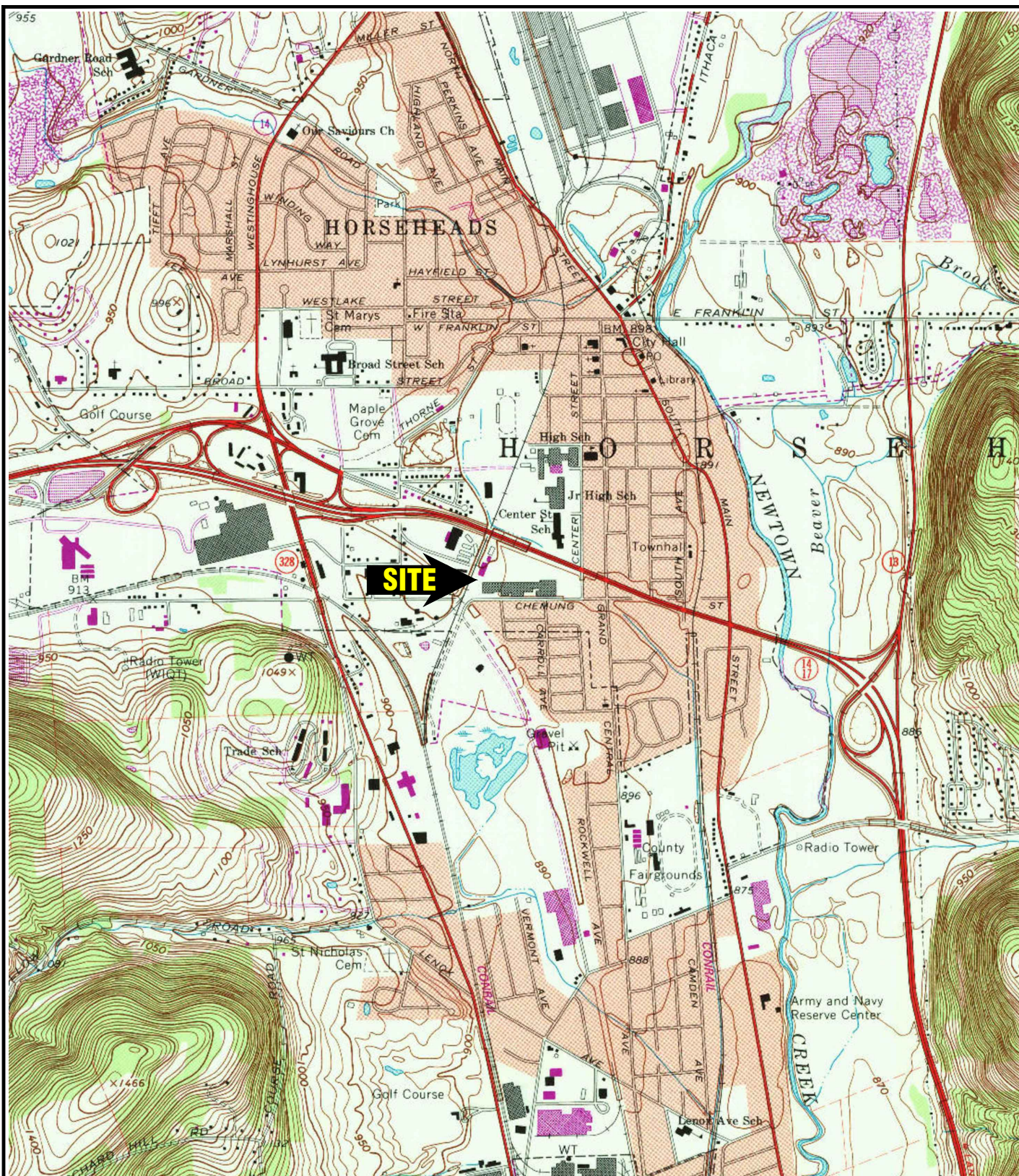


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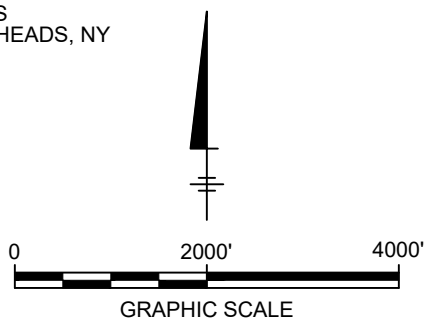
Method	Matrix	Analyte Description	CAS Number	MDL	RL	Units
<b>Air (continued)</b>						
TO15	Air	1,4-Dichlorobenzene	106-46-7	0.535	1.20	ug/m3
TO15	Air	Benzyl chloride	100-44-7	0.456	1.04	ug/m3
TO15	Air	n-Butylbenzene	104-51-8	0.604	1.10	ug/m3
TO15	Air	1,2-Dichlorobenzene	95-50-1	0.397	1.20	ug/m3
TO15	Air	1,2,4-Trichlorobenzene	120-82-1	2.45	3.71	ug/m3
TO15	Air	Hexachlorobutadiene	87-68-3	1.17	2.13	ug/m3
TO15	Air	Naphthalene	91-20-3	1.57	2.62	ug/m3
TO15	Air	BFB	460-00-4	1.43	1.43	ug/m3

# Figures





SOURCE: USGS  
QUAD: HORSEHEADS, NY  
DATE: 1978



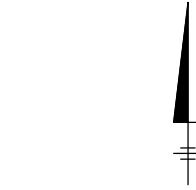
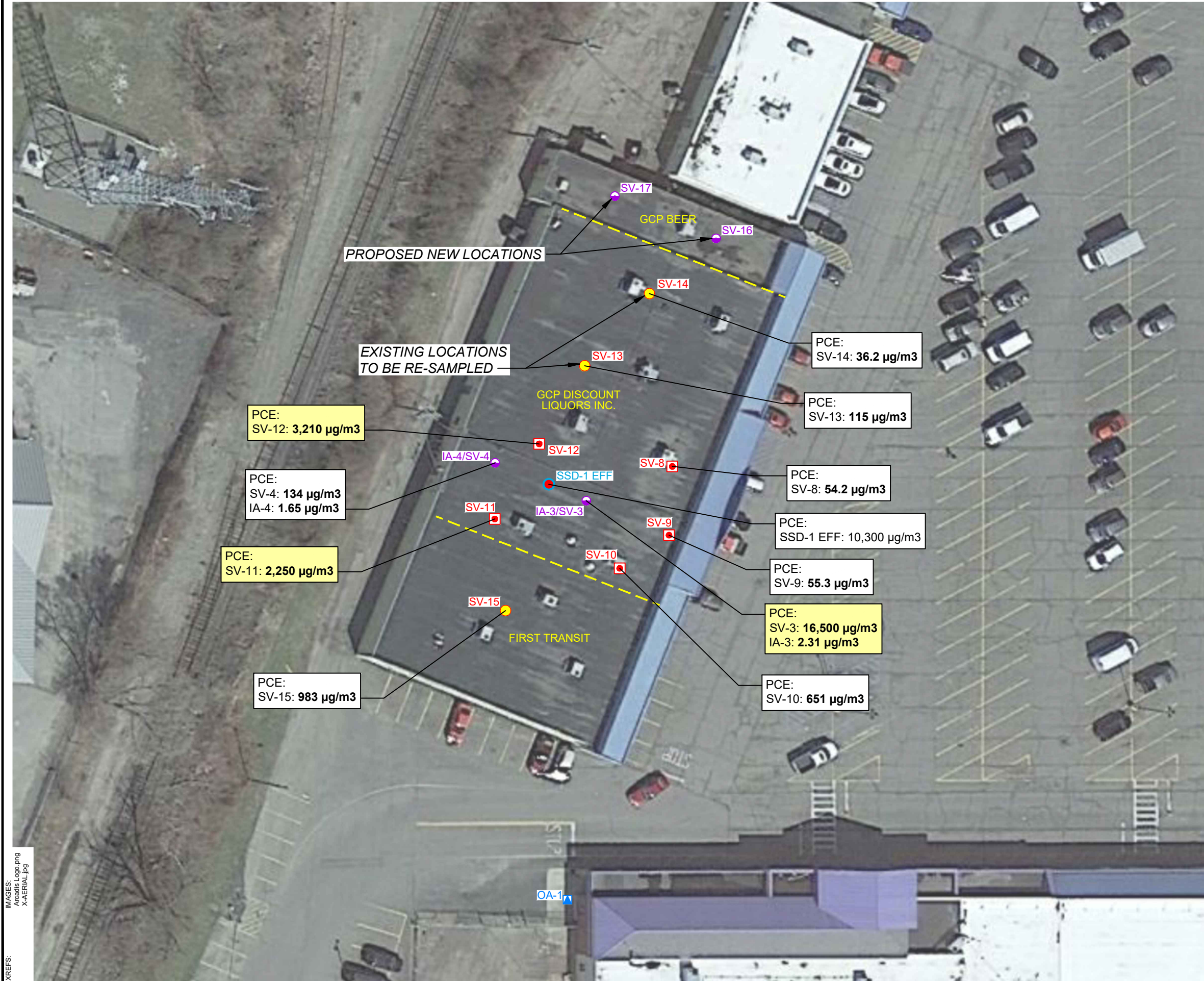
GRAND CENTRAL PLAZA  
1020 CENTER STREET  
HORSEHEADS, NEW YORK  
SITE CHARACTERIZATION WORK PLAN ADDENDUM

## SITE LOCATION MAP



FIGURE  
1



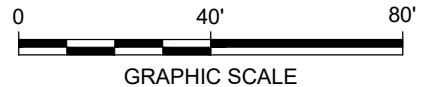


**LEGEND:**

- AMBIENT AIR SAMPLE LOCATION
- PAIRED INDOOR AIR/SUB-SLAB SOIL GAS LOCATION
- SUB-SLAB SOIL GAS SAMPLE LOCATION
- PILOT TEST ADDITIONAL SUB-SLAB SOIL GAS SAMPLE LOCATION
- SSD PILOT TEST LOCATION AND EFFLUENT SAMPLE

**NOTES:**

- SUBSLAB SAMPLES SV-5 THROUGH SV-12 COLLECTED ON MAY 5, 2022.
- PAIRED INDOOR AIR/SUBSLAB SAMPLES IA-1/SV-1 THROUGH IA-4/SV-4 AND THE AMBIENT AIR SAMPLE OA-1 COLLECTED ON MARCH 18, 2022.
- SAMPLE LOCATIONS ARE APPROXIMATE.
- BOLD VALUE: COMPOUND DETECTED ABOVE METHODS DETECTION LIMIT.
- BOLD AND UNDERLINED (YELLOW SHADED): COMPOUND DETECTED ABOVE NEW YORK STATE DEPARTMENT OF HEALTH SOIL VAPOR MATRIX MITIGATION CRITERIA.
- SV: SUBSLAB SOIL VAPOR SAMPLE.
- µg/m3: MICROGRAMS PER CUBIC METER.
- YELLOW DASHED LINE DENOTES THE INTERNAL WALL SEPARATING TENANT SPACES.
- AERIAL PHOTOGRAPH FROM GOOGLE EARTH PRO - APRIL 5, 2021.



GRAND CENTRAL PLAZA  
1020 CENTER STREET  
HORSEHEADS, NEW YORK

**SITE CHARACTERIZATION WORK PLAN ADDENDUM**

**INDOOR AIR, SUB-SLAB SOIL VAPOR  
AND AMBIENT AIR SAMPLE LOCATIONS**

**ARCADIS**

FIGURE  
**2**

# Attachment 1

**NYSDOH Building Questionnaire and Product Inventory Forms**

**NEW YORK STATE DEPARTMENT OF HEALTH  
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY  
CENTER FOR ENVIRONMENTAL HEALTH**

This form must be completed for each residence involved in indoor air testing.

Preparer's Name \_\_\_\_\_ Date/Time Prepared \_\_\_\_\_

Preparer's Affiliation \_\_\_\_\_ Phone No. \_\_\_\_\_

Purpose of Investigation \_\_\_\_\_

**1. OCCUPANT:**

**Interviewed: Y / N**

Last Name: \_\_\_\_\_ First Name: \_\_\_\_\_

Address: \_\_\_\_\_

County: \_\_\_\_\_

Home Phone: \_\_\_\_\_ Office Phone: \_\_\_\_\_

Number of Occupants/persons at this location \_\_\_\_\_ Age of Occupants \_\_\_\_\_

**2. OWNER OR LANDLORD: (Check if same as occupant \_\_\_\_ )**

**Interviewed: Y / N**

Last Name: \_\_\_\_\_ First Name: \_\_\_\_\_

Address: \_\_\_\_\_

County: \_\_\_\_\_

Home Phone: \_\_\_\_\_ Office Phone: \_\_\_\_\_

**3. BUILDING CHARACTERISTICS**

**Type of Building:** (Circle appropriate response)

Residential  
Industrial

School  
Church

Commercial/Multi-use  
Other: \_\_\_\_\_

**If the property is residential, type?** (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other: _____

**If multiple units, how many?** \_\_\_\_\_

**If the property is commercial, type?**

Business Type(s) \_\_\_\_\_

Does it include residences (i.e., multi-use)? Y / N      If yes, how many? \_\_\_\_\_

**Other characteristics:**

Number of floors \_\_\_\_\_ Building age \_\_\_\_\_

Is the building insulated? Y / N      How air tight? Tight / Average / Not Tight

#### 4. AIRFLOW

**Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:**

Airflow between floors

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Airflow near source

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Outdoor air infiltration

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Infiltration into air ducts

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**5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply)**

- a. Above grade construction: wood frame concrete stone brick
- b. Basement type: full crawlspace slab other \_\_\_\_\_
- c. Basement floor: concrete dirt stone other \_\_\_\_\_
- d. Basement floor: uncovered covered covered with \_\_\_\_\_
- e. Concrete floor: unsealed sealed sealed with \_\_\_\_\_
- f. Foundation walls: poured block stone other \_\_\_\_\_
- g. Foundation walls: unsealed sealed sealed with \_\_\_\_\_
- h. The basement is: wet damp dry moldy
- i. The basement is: finished unfinished partially finished
- j. Sump present? Y / N
- k. Water in sump? Y / N / not applicable

Basement/Lowest level depth below grade: \_\_\_\_\_ (feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

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**6. HEATING, VENTING and AIR CONDITIONING (Circle all that apply)**

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: \_\_\_\_\_

Boiler/furnace located in: Basement Outdoors Main Floor Other \_\_\_\_\_

Air conditioning: Central Air Window units Open Windows None

Are there air distribution ducts present? Y / N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

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## 7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally Seldom Almost Never

**Level** **General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**

Basement	<hr/>
1 <sup>st</sup> Floor	<hr/>
2 <sup>nd</sup> Floor	<hr/>
3 <sup>rd</sup> Floor	<hr/>
4 <sup>th</sup> Floor	<hr/>

## 8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

- |  |                                    |
|--|------------------------------------|
| a. Is there an attached garage?  | Y / N                              |
| b. Does the garage have a separate heating unit?   | Y / N / NA                         |
| c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) | Y / N / NA<br>Please specify <hr/> |
| d. Has the building ever had a fire?   | Y / N When? <hr/>                  |
| e. Is a kerosene or unvented gas space heater present?   | Y / N Where? <hr/>                 |
| f. Is there a workshop or hobby/craft area?  | Y / N Where & Type? <hr/>          |
| g. Is there smoking in the building?   | Y / N How frequently? <hr/>        |
| h. Have cleaning products been used recently?  | Y / N When & Type? <hr/>           |
| i. Have cosmetic products been used recently?  | Y / N When & Type? <hr/>           |

- j. Has painting/staining been done in the last 6 months? Y / N Where & When? \_\_\_\_\_
- k. Is there new carpet, drapes or other textiles? Y / N Where & When? \_\_\_\_\_
- l. Have air fresheners been used recently? Y / N When & Type? \_\_\_\_\_
- m. Is there a kitchen exhaust fan? Y / N If yes, where vented? \_\_\_\_\_
- n. Is there a bathroom exhaust fan? Y / N If yes, where vented? \_\_\_\_\_
- o. Is there a clothes dryer? Y / N If yes, is it vented outside? Y / N
- p. Has there been a pesticide application? Y / N When & Type? \_\_\_\_\_

Are there odors in the building?

Y / N

If yes, please describe: \_\_\_\_\_

Do any of the building occupants use solvents at work?

Y / N

(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist)

If yes, what types of solvents are used? \_\_\_\_\_

If yes, are their clothes washed at work?

Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly)

No

Yes, use dry-cleaning infrequently (monthly or less)

Unknown

Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: \_\_\_\_\_

Is the system active or passive? Active/Passive

## 9. WATER AND SEWAGE

Water Supply: Public Water Drilled Well Driven Well Dug Well Other: \_\_\_\_\_

Sewage Disposal: Public Sewer Septic Tank Leach Field Dry Well Other: \_\_\_\_\_

## 10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: \_\_\_\_\_

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

c. Responsibility for costs associated with reimbursement explained? Y / N

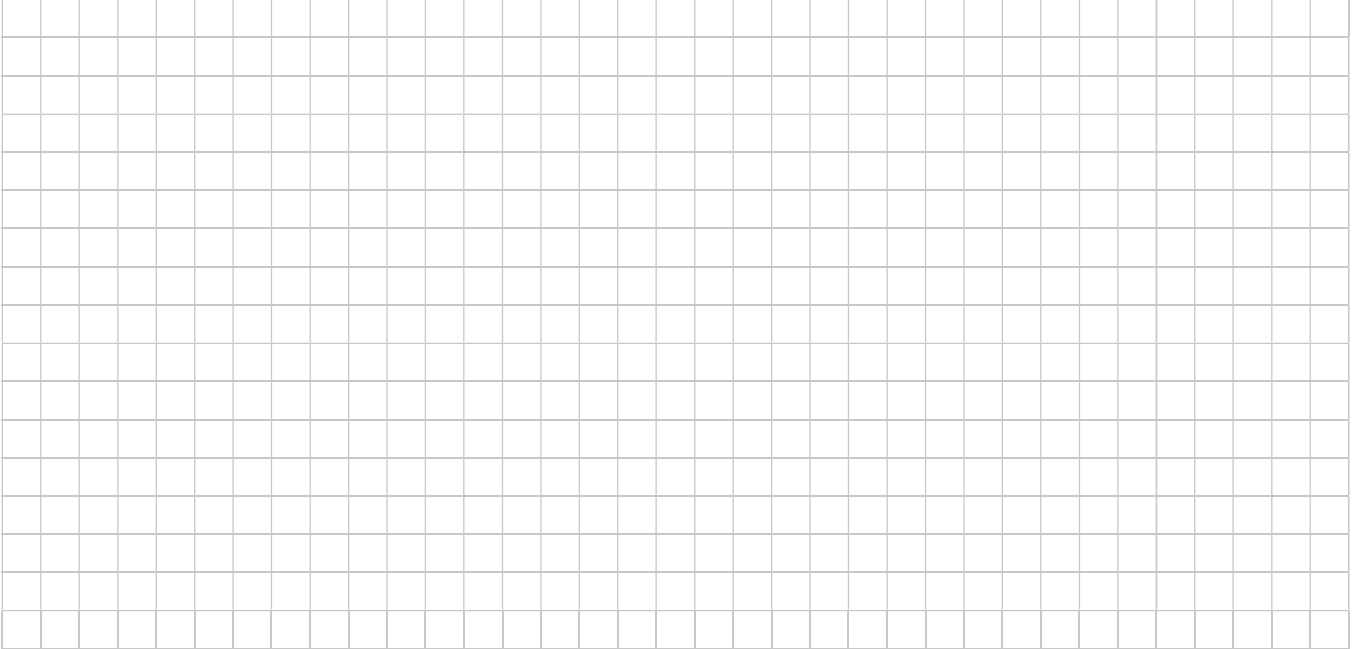
d. Relocation package provided and explained to residents? Y / N



**11. FLOOR PLANS**

**Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.**

**Basement:**

A large grid of 20 columns and 20 rows, intended for drawing a plan view sketch of the basement floor.

**First Floor:**

A large grid of 20 columns and 20 rows, intended for drawing a plan view sketch of the first floor.

## 12. OUTDOOR PLOT

**Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.**

**Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.**



### 13. PRODUCT INVENTORY FORM

**Make & Model of field instrument used:** \_\_\_\_\_

**List specific products found in the residence that have the potential to affect indoor air quality.**

[illegible]

\* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

\*\* Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Arcadis of New York, Inc.  
One Lincoln Center, 110 West Fayette Street, Suite 300  
Syracuse, NY 13202  
United States  
Phone: 315 446 9120  
Fax: 315 449 0017  
[www.arcadis.com](http://www.arcadis.com)