December 01, 2025

Ben Lockwood
Coventry Commons, LLC.
1201 East Fayette Street., Ste 26
Syracuse, NY 13210

Re: 'Sub-Slab Depressurization System Design Report and Work Plan'
Coventry Commons, 859036
Village of Newark, Wayne County, New York

Ben Lockwood,

The New York State Department of Environmental Conservation – Division of Environmental Remediation (NYSDEC-DER) and New York State Department of Health – Bureau of Environmental Exposure Investigation (NYSDOH-BEEI), collectively referred to as "the Departments", have completed their review of the revised 'Sub-Slab Depressurization System Design Report and Work Plan' (work plan) (electronically signed and received on November 24, 2025) as prepared by C&S Engineers, Inc.

In accordance with Title 6 of the New York Codes, Rules, and Regulations (NYCRR) part 375-1.6, the Departments have determined that the work plan substantially addresses the requirements of the Inactive Hazardous Waste Disposal Site Program, and the work plan is hereby **approved**.

Within 10 days from the date of this letter, please compile the final document with this approval as cover and place a copy in the document repository for the site.

Please contact me at Joshuah.Klier@dec.ny.gov or at (585) 226-5357 to discuss any questions or concerns regarding this letter. Thank you for your continued efforts on this project.

Sincerely,

Joshuah J. Klier

Joshuah J. Klier, P.G. *(NY-PG #001350)*
Assistant Geologist | Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation
Region 8 – Hazardous Waste Remediation

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499 Colonel Eileen Collins Blvd.
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Sub-Slab Depressurization System Design Report and Work Plan

Coventry Commons
130-132 Harrison Street, Newark, Wayne County, New York
NYSDEC Site No. 859036

Prepared for:

HOUSINGVISIONS
Real Plans. Real People. Real Progress.

Coventry Commons LLC
1201 East Fayette Street
Syracuse, New York

October 27, 2025

Sub-Slab Depressurization System Design Report and Work Plan

Coventry Commons
130-132 Harrison Street
Newark, Wayne County, New York
NYSDEC Site No. 859036

Prepared by:

C&S Engineers, Inc.
499 Colonel Eileen Collins Blvd
Syracuse, New York 13212

Prepared for:

Coventry Commons LLC
1201 East Fayette Street
Syracuse, New York

I, H. Nevin Bradford, certify that I am currently a NYS registered professional engineer or Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this 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) and DER Green Remediation (DER-31).

H. Nevin Bradford
State of New York Professional Engineer No. 086008
November 24, 2025

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APPENDICES

ACRONYM LIST

AGV – Air Guidelines Value
ASP – Analytical Services Protocol
AST - Aboveground Storage Tank
ASTM - American Society for Testing Materials
AUL - Activity and Use Limitation
BCP - Brownfield Cleanup Program
BGS - Below Ground Surface
CCR – Construction Completion Report
CP-51 – Commissioner Policy 51
DER – Department of Environmental Remediation
DUSR – Data Usability Summary Report
BTEX - Benzene, Toluene, Ethylbenzene, Xylene
EDD – Electronic Data Deliverable
ELAP – Environmental Laboratory Accreditation Program
EP - Environmental Professional
FEMA – Federal Emergency Management Agency
GIS - Geographic Information System
GPR - Ground Penetrating Radar
GPS – Global Positioning Satellite
HASP – Health and Safety Plan
HFM – Historic Fill Material
HREC - Historical Recognized Environmental Condition
IRM – Interim Remedial Measure
MS / MSD – Matrix Spike / Matrix Spike Duplicate
MSL - Mean Sea Level
MW – Monitoring Well
NAPL - Non-Aqueous Phase Liquid
NFA - No Further Action
NYSDEC - New York State Department of Environmental Conservation
NYSDOH – New York State Department of Health
PAH - Polycyclic Aromatic Hydrocarbon
PBS - Petroleum Bulk Storage
PCB - Polychlorinated biphenyl
PCE - Tetrachloroethene
Phase I ESA - Phase I Environmental Site Assessment
Phase II ESA - Phase II Environmental Site Assessment
PID – Photoionization Detector
PPB - Parts Per Billion
PPM - Parts Per Million
PVC – Polyvinyl Chloride
QA/QC - Quality Assurance / Quality Control
REC - Recognized Environmental Condition
SC – Site Characterization
SCO – Soil Cleanup Objective
SCWP – Site Characterization Work Plan
Site – 130-132 Harrison Street, Newark, NY
SSDS - Sub-Slab Depressurization System
SVOC – Semi-volatile Organic Compound
TAL – Target Analyte List
TCE - Trichloroethene
TCL – Target Compound List
TCLP – Toxicity Characteristic Leaching Procedure
TOGS – Technical and Operational Series Guidance
TPH - Total Petroleum Hydrocarbon
ug/l – Micrograms per liter
µg/M^3 – Micrograms per Cubic Meter
USDA - United States Department of Agriculture
USEPA - United States Environmental Protection Agency
USGS - United States Geological Service
UST - Underground Storage Tank
VI - Vapor Intrusion
VIA – Vapor Intrusion Assessment
VOC - Volatile Organic Compound

1 INTRODUCTION

This Design Report and Work Plan (Plan) provides a description of the sub-slab depressurization system (SSDS) that will be constructed to mitigate chlorinated volatile organic compounds (CVOC) vapors at the Coventry Commons Site (the "Site"). This Work Plan has been prepared consistent with the Division of Environmental Remediation *"Technical Guidance for Site Investigation and Remediation" (DER-10)* and *Green Remediation (DER-31)*.

The purpose of this Work Plan is to:

- Summarize the results of previous site characterization activities and sub-slab vapor communication testing [e.g. pressure field extension (PFE) testing]
- Provide the basis for design and rationale for the proposed SSDS
- Present engineering plans and details
- Provide a schedule for construction
- Identify post-installation testing activities that will be used to confirm the effectiveness of the SSDS

The intent of the proposed action is to reduce the potential exposure of building occupants to CVOC vapors migrating into the Site building from contaminated soil and groundwater and provide compliance with applicable New York State Department of Health (NYSDOH) criteria.

The Site is developed with a 112,676 square-foot three-story building in the center of the property (e.g. the Main Building). There is also a separate 5,280 square-foot two-story Annex building on the south side of the property. There are asphalt parking lots to the north, south, and east of the Main Building and minimal greenspace on the north and south sides of the Site. The Site is currently undergoing a historic rehabilitation of the Main Building and the Annex. The warehouse and some non-historic additions on the north end of the Main Building were recently demolished as part of the ongoing redevelopment of the Site. As such, the full-scale SSDS will address soil vapor beneath the portion of the Main Building to remain and the Annex building.

Figure 1 and **Figure 2** show the location and layout of the Site.

1.1 Soil Vapor Sampling Data

Soil vapor data has been generated from the following two sampling events:

Ravi Engineering and Land Surveying Vapor Intrusion Assessment (VIA) – August 2022

This assessment was performed due to the findings of a Phase I Environmental Site Assessment (ESA). The assessment included the collection of one indoor air, one sub-slab vapor, and one outdoor air sample. The samples were collected and analyzed for volatile organic compounds (VOCs) via USEPA Method TO-15. The results of the testing indicated elevated trichloroethene (TCE) in the indoor air within the former Warehouse on the east-central portion of the Site. TCE was present at 3.5 micrograms per cubic meter (µg/M^3) in the indoor air and 47 µg/M^3 in the sub-slab vapor.

The TCE concentration of 3.5 µg/M^3 was greater than NYSDOH air guidance value of 2 µg/M^3. In addition, per NYSDOH Decision Matrix A, based on the concentrations identified at the former Warehouse, mitigation is required.

The analytical results of this investigation are provided on **Figure 3** and **Table 1a, 1b, 1c**.

C&S Engineers Phase II Environmental Site Assessment (Phase II ESA) – November 2022

This Phase II was performed due to the results of the VIA. The Phase II included the collection and analysis of three co-located indoor air / sub-slab soil vapor samples, and one ambient air sample. The samples were collected and analyzed for VOCs via USEPA Method TO-15. These samples were collected from multiple locations across the Site with two indoor air / sub-slab co-located samples located in the Main Building (one in the central portion and one in the former boiler room in the northwest portion), and one co-located sample in the Annex on the southern portion of the Site. An ambient upwind outdoor air sample was also collected from the west side of the Site.

TCE was detected in two of the three indoor air samples. TCE was detected at a concentration of 2.5 µg/M^3 in sample IA-2 in the former boiler room. The concentration of sample IA-3 (central portion of the Main Building) approached the AGV and was at a concentration of 1.6 µg/M^3. The NYSDOH guidance value is 2 µg/M^3. TCE was also detected in the corresponding co-located sub-slab air samples. TCE was detected at a concentration of 600 µg/M^3 in sample SS-2 (co-located with IA-2) and a concentration of 28 µg/M^3 in sample SS-3 (co-located with IA-3).

Per NYSDOH Decision Matrix A, based on the concentrations identified in the Main Building, mitigation is required.

The analytical results of this investigation are provided on **Figure 3** and **Table 2a, 2b, 2c**.

2 BASIS FOR DESIGN

2.1 Design Objective

The objective of the full-scale SSDS design is to mitigate soil vapor intrusion into the indoor air of the buildings being redeveloped at the Site by providing adequate depressurization of the entirety of all slabs/foundations for all occupied structures. This includes the portion of the Main Building to remain, as well as the Annex building. Provisions for vapor intrusion mitigation should also be incorporated into any future buildings to be constructed on the property. Such system(s) should be designed based on the specific building characteristics, including type and size of foundation, nature and air flow characteristics of sub-slab soil or engineered fill, location of building air intakes, operable windows, openings and other sensitive receptors, and interior air effects of building ventilation and conditioning systems.

A minimum differential pressure of -0.004 inches of water column (in. w.c.) or 1 Pascal is widely recognized and considered to be effective at mitigating soil vapor intrusion based on industry guidance. As such, the design criteria for the Coventry Commons SSDS is to attain and maintain a minimum pressure differential of -0.004 in. w.c. across each building foundation regardless of the effect of weather, barometric pressure, or heating, ventilation, and air conditioning (HVAC) equipment operation.

The design also incorporates monitoring devices to inform building occupants and maintenance staff of system operational issues. These include U-tube manometers that provide a visual indicator of pressure differential in the system riser pipes; audible and visual alarms that alert in the event of vacuum loss in the system piping; and Vapor Pin® monitoring ports installed at points throughout the building slab to allow measurement of sub-slab pressure differential and confirmation of pressure field extension.

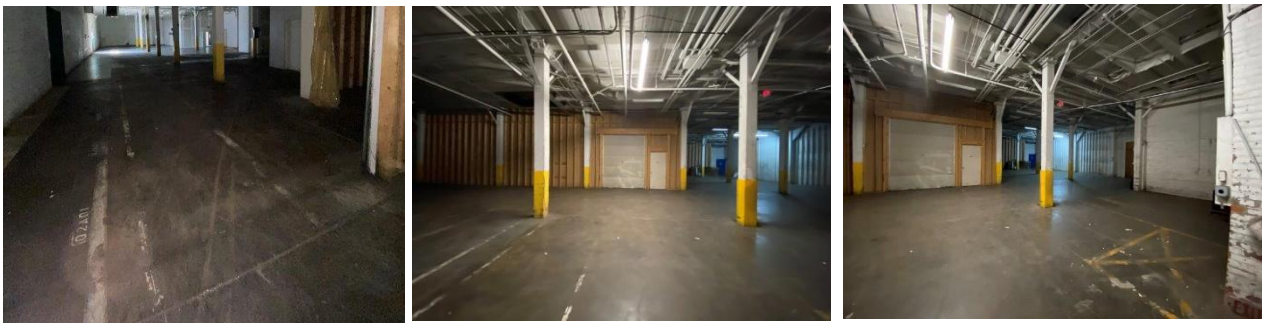
2.2 Pre-Design Investigation

On March 14 and 15, 2025, C&S conducted a site visit to review existing conditions and collect site-specific information to inform the system design.

The inspection included:

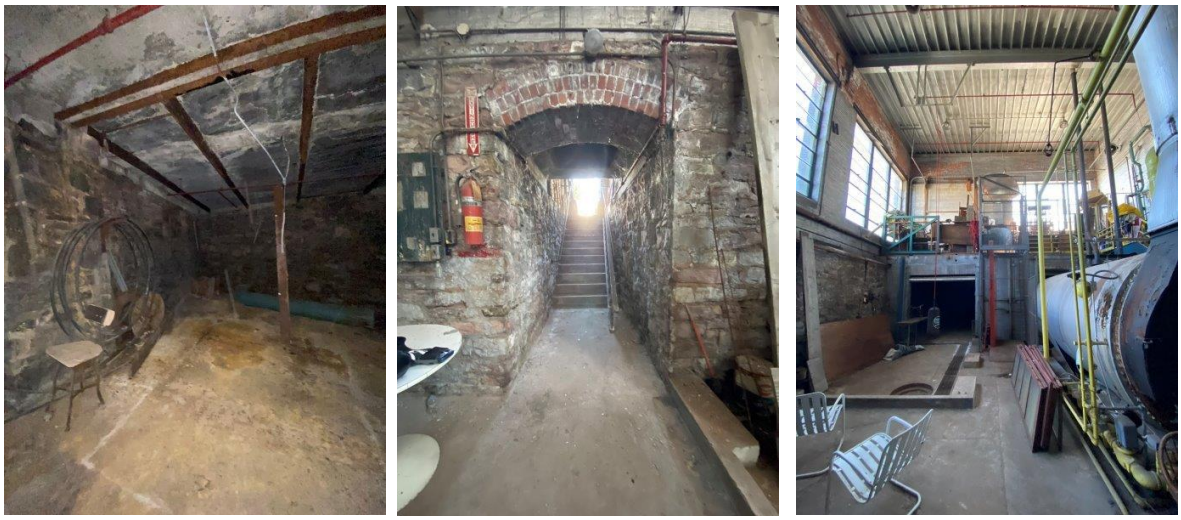
- Integrity / condition of floor in contact with soil and basement walls
- Presence and condition of sumps, drains, trenches and perimeter channel drains
- Location and condition of utility penetrations through the slab and /or walls
- Location and nature of combustion appliances such as boilers and water heaters

The Main Building contains two separate foundations. These include the at-grade foundation slab across the majority of the structure, and a recessed basement area beneath the northwest section where the former boiler room existed. At the time of the pre-design investigation, the concrete slab of the at-grade portion of the foundation was in sound condition with minimal cracks throughout.



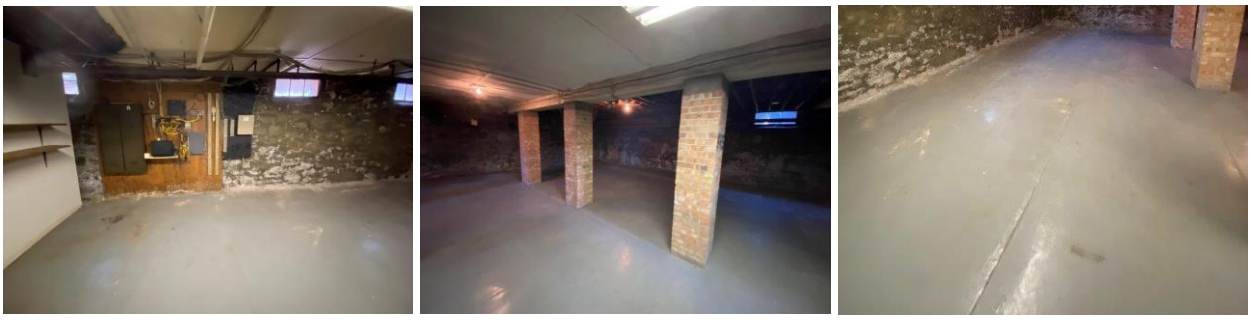
Typical floor condition of at-grade foundation within Main Building.

The recessed basement foundation of the northwest section of the Main Building that contains the former boiler room is constructed with a poured concrete floor and stone and mortar foundation walls. At the time of the pre-design investigation, the concrete floor slab was in good condition with minimal small cracks present. The floor slab contains several trenches, sumps, and pipe/utility penetrations.



Typical floor condition of recessed basement foundation of former boiler room in northwest section of Main Building.

The Annex Building is situated over a recessed basement foundation. Like the recessed section of the Main Building, this foundation is constructed with a poured concrete floor and stone and mortar foundation walls. At the time of the pre-design investigation, the concrete floor slab was in good condition and coated with an epoxy floor coating. Some minor floor cracks are visible.



Typical floor condition of recessed basement foundation of Annex Building.

2.3 Sub-Slab Communication Testing

Immediately following the inspection, pre-design diagnostic testing was performed to evaluate the degree to which sub-slab air flow is facilitated by or restricted by the nature of existing sub-slab soil and to identify effective radii of influence that may be achieved under varying air flows and static pressures. This information is required to inform the system layout and selection of appropriate fans. The communication testing consisted of:

- Pilot-scale communication testing was performed at several locations on each foundation type using the following process:
    - The concrete floor slab was cored with a six-inch diameter diamond core barrel.
    - A small amount of soil was removed from beneath the core location to create a temporary suction pit. The soil and airspace within the hole was screened with a portable photo-ionization detector (PID) equipped with a 10.6 eV lamp to monitor for detectable concentrations of VOC as the soil was removed. No detectable volatile organic vapors (VOVs) were measured by the PID.
    - A pilot test fan (in-line radon mitigation fan, Fantech Model RN4EC equipped with speed control) was installed within the suction pit and sealed to the surrounding concrete floor with sealant.
    - A flexible exhaust duct was connected to the exhaust side of the fan and routed to the exterior of the building to remove extracted sub-slab air from the building.
    - The mitigation fan was activated and operated at varying revolutions-per-minute (RPMs) and at varying static pressures.
    - Several communication test holes were drilled at varying distances and at differing directions from the suction pit. The pressure differential between the ambient indoor air and the sub-slab environment was then measured at each communication test hole using a digital micromanometer, at varying air flows and vacuums.

The following table summarizes the results of the PFE testing:

Table 2-1
PFE Testing Results

Building	Area	Static Pressure at Fan (Inches Water Column)	Distance (Feet)	Pressure Differential (inches of water column)	Effective Radius of Influence
Annex	Basement	2.55	5	-0.014	10 feet
		2.55	9	-0.006	
		1.01	10	-0.004	
		2.55	10	-0.004	
		2.56	20	-0.003 to -0.001	
		4.7	30	-0.001	
Main Building	Basement – Former Boiler Room	2.37	10	-0.019 to -0.016	10 feet
		2.65	15	-0.013 to -0.008	
		2.67	20	-0.001	
		2.66	30	-0.003 to -0.002	
	First Floor – Southeast Section	0.12	10	-0.004	10 feet
		2.6	10	-0.016 to -0.001	
		0.15	20	-0.004	
		2.6	20	-0.014 to -0.001	
		2.6	30	-0.003 to -0.001	
	First Floor – East Section	0.76	10	-0.004	20 feet
		1.2	20	-0.004	
		2.5	20	-0.004	
		0.78	30	-0.004	
		2.5	30	-0.001	
	First Floor – West Section	0.41	10	-0.004	15 feet
		1.3	10	-0.004	
		2.4	10	-0.058 to -0.012	
		0.28	15	-0.004	
		2.4	15	-0.006	
		0.2	20	-0.002	
		2.4	20	-0.002 to -0.031	
		0.02	30	-0.004	
		2.4	30	-0.022 to -0.001	

[1] – Average ROI that provides at least -0.004 inches of water column (WC) pressure differential

Pre-design diagnostic testing results are provided in **Appendix A**.

3 MITIGATION DESIGN DETAILS

Based on the results of the PFE diagnostic testing, the SSDS design was developed to provide at least a continuous pressure field of - 0.004 inches WC, the benchmark criteria to demonstrate sub-slab depressurization per NYSDOH and industry guidance. The system design incorporates the design principles set forth in the American Association of Radon Scientists and Technologists' (AARST's) *Soil Gas Mitigation Standards for Existing Multifamily, School, Commercial, and Mixed-Use Buildings* (AARST Document No. SGM-MFLB 2023, dated 2023). The key design features of the SSDS includes the following:

- Cracks, utility penetrations, and other inconsistencies in the foundation slab will be sealed with elastomeric caulk, hydraulic cement, epoxy coating, or other sealant that is suitable for the size and configuration of the opening.

- The system is designed to maintain an adequate negative pressure beneath all areas of the slab. Given that the findings of the pre-design communication testing indicate a relatively limited radius of influence due to sub-slab conditions, and considering the size of the slab of the Main Building, the design incorporates the use of lateral extraction trenches in lieu of single point extraction pits. The systems within the Main Building will utilize sub-slab piping installed horizontally beneath the concrete floor slabs. The horizontal piping will be bedded in trenches and surrounded with clean, coarse gravel. The horizontal piping will connect to vertical risers that will extend upward through the building to exhaust above the roof level. Each riser will be equipped with an in-line fan that will extract air from the sub-slab environment, thereby creating a negative pressure beneath the slab relative to the indoor air pressure. Trenches and horizontal extraction pipe laterals are positioned for a conservative radius of influence of 10 feet.

- Due to the smaller size of the Annex Building and Main Building basement, the system within the basement of the Annex and the basement within the northern section of the Main Building will utilize suction pits. Suction pits will be installed beneath the concrete floor in the basement of the Annex and the basement in the northwest portion of the Main Building, as well as one location in the north-central portion of the first floor of the Main Building. To provide coverage of the areas around the suction pits, perforated pipe will be laid within stone-filled trenches, connected to the pits. The pits connect to the exhaust risers. Each slab penetration will be urethane sealed. Details for the suction pits, sub-slab piping, and pipe penetrations are provided as Details A1, A3, and B3 on Sheet V-200 of the project drawings.

- For the remaining portions of the Main Building, an extensive network of trenches will be excavated and backfilled with clean coarse stone. The primary network includes trenches that accommodate subsurface utilities (e.g. sewer) and will be extended as necessary to provide coverage for the SSDS. The stone trenches create a pathway for vapors and will

be connected to a series of trenches with perforated piping within the stone. The perforated piping connects to the exhaust risers. Each slab penetration will be urethane sealed. A detail for the sub-slab piping is provided as Detail B3 on Sheet V-200 of the project drawings.

- Fan selection was based on published fan performance curves. The RadonAway RP265 Pro Series, or Engineer-approved equal, was selected. This fan has a 6-inch inlet and outlet, with a preferred maximum working pressure of 2.2 in. w.c., and is capable of delivering approximately 327 cubic feet per minute (cfm) at 0 in. w.c. and 57 cfm at 2 in. w.c.

  While pressure field extension testing recorded some localized static pressures marginaely greater than 2.2 in. w.c., these values are expected to be reduced through the proposed sub-slab communication improvements. Specifically:

  - Conservative radius of influence (10 feet) was applied for trench laterals, ensuring close spacing of collection points.
  - Stone-filled trenches provide extended sub-slab void space**,** effectively lowering the resistance at each suction point.
  - Multiple collection pits and vertical risers increase the effective open area**,** distributing suction demand and reducing localized static pressure.

  With these design elements, the operating static pressures at the fans are expected to be within the manufacturers' recommended performance curve, while maintaining the required sub-slab pressure differential (≥0.004 in. w.c.) across the building footprints.

- The "clean coarse stone" will be ASTM size 5, 56, 57, or 6 or NYSDOT Table 703-4 size 2. The engineering criteria for acceptable stone backfill is provided on Sheet G-101 of the project drawings.

- The basement and first floors of both buildings will provide continuous concrete coverage. Pre-existing floor penetrations such as those for trenches and sumps will be filled with concrete and cracks will be urethane sealed.

- Suction points will be connected to risers that will discharge air vertically through the roof by way of a continuously operating forced air blower mounted at the top of each riser. Each riser will be constructed of six-inch schedule 40 PVC with glued joints. Accessible piping will be affixed with a label that reads "Vapor / Radon Reduction System".

- Vent stacks will extend vertically a minimum of 48 inches above the surface of the roof. Discharge / exhaust points will be a minimum of 10 feet from any window, door, air intakes, or other opening into conditioned / occupied building space, and 10 feet or more from similar openings of adjacent structures. The top of each riser / exhaust will be equipped with a rodent screen. A detail for the vent stack roof penetration is provided as Detail A4

on Sheet V-200 of the project drawings. The locations of the exhaust stacks are shown on Drawings V-100 and V-104 (Note that the GV-1 and GV-2 features on the roof of the Annex are exhausts). The radii on Sheet V-200 show that the proposed locations of the SSDS exhausts on the Main Building roof are located at least 10 feet from the HVAC units.

- U-tube manometers will be installed on riser pipes to monitor the pressure differential within the system exhaust stacks relative to indoor air pressure.

- Permanent soil vapor implants (Vapor Pins®) will be installed in the concrete floor slab at 13 locations throughout the building to allow future monitoring of the negative pressure below the slab. Since these pins will be positioned within individual living units to provide adequate coverage across the slab, the pins will be connected to polyethylene tubing that will extend to an access panel located in common areas. Pressure differential readings can then be collected from common areas without relying on access being provided by the building tenants.

- Pressure readings will be recorded with a TSI VelociCalc Model 9630-966 DP micromanometer, or equivalent. The manometers and soil vapor implant tubing will be accessible in common areas behind keyed access panels. Details for the manometers, vapor pins, and access panels are provided as Details C1, C3, and C4 on Sheet V-200 of the project drawings.

- The system will be monitored by an alarm system to notify the owner if a portion of the system is off or there is a fault. The detail for the alarm panel is provided as Detail D4 on Sheet V-200 of the project drawings.

- Structural modifications to accommodate the system were not included in the design and are not anticipated.

A Construction Completion Report (CCR) and an Interim Site Management Plan (ISMP) will be prepared following construction. The ISMP will include an Operation & Maintenance (O&M) Manual for the SSDS.

The design documents for the SSDS are attached as **Appendix B**.

4 CONSTRUCTION AND POST-MITIGATION REQUIREMENTS

4.1 Construction-Generated Waste

Construction of the SSDS will generate:

- Construction and demolition debris (C&D) in the form of concrete removed to excavate vapor trenches and vapor pits
- Soil / fill material removed to place piping and stone in vapor trenches and pits

The project Excavation Work Plan (EWP – approved by the Department April 4, 2025) contains requirements applicable to the management of the C&D and soil / fill. The applicable sections of the EWP that will be followed for the construction of the SSDS include Section 3: Soil Screening, Section 4: Soil Staging, Section 5: Material Excavation and Load Out, Section 6: Material Transport Off-Site, Section 7: Material Recycling and Disposal Off-Site, and Section 8: Material Re-use On-site.

4.2 Health and Safety

The Health and Safety Plan (HASP) was provided within the approved EWP and is provided in **Appendix C**.

4.3 Community Air Monitoring

A Community Air Monitoring Plan (CAMP) was also provided within the project EWP. Due to the interior nature of the work, implementation of the CAMP is not expected.

4.4 Post-Installation Testing

The system will be activated and allowed to run for 30 days prior to testing.

Prior to analytical testing, pressure field extension testing will be performed utilizing the permanent vapor pins. A negative pressure differential of at least 0.004 inches of water column relative to the ambient indoor pressure will be confirmed. In addition, if any floor / wall interfaces, floor penetrations, or cracks are suspected to have the potential to cause short circuiting between the sub-slab and indoor spaces, smoke testing will be performed.

Indoor air testing will be performed once building renovations are complete and prior to occupancy, consistent with New York State Department of Health (NYSDOH), "Guidance for Evaluating Soil Vapor Intrusion in New York State, 2006", as follows:

- Air samples will be collected as follows:
    - 12 indoor air samples in the Main Building, which includes one in the basement and 11 on the first floor.
    - Three indoor air samples in the Annex, which includes two in the basement and one on the first floor.
    - An ambient upwind outdoor air sample.

  The proposed indoor air sampling locations are shown on the project SSDS drawings V-100 and V-101 in **Appendix B**. The drawings indicate what floor of the buildings the samples will be collected on.

- Samples will be collected with a six-liter summa canister calibrated by the laboratory to collect samples across a 24-hour period. The sampling devices will be placed approximately three to five feet off the ground.

- Samples will be sent to a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified laboratory and analyzed for VOCs by USEPA Method TO-15. Laboratory detection limits will be 1 µg/m^3, except for TCE, cis 1,2-dichloroethene; 1,1-dichloroethene; carbon tetrachloride and vinyl chloride, which will be 0.20 µg/m^3 or less via TO-15 select ion monitoring (SIM). The sampling results will be reported in NYSDEC Analytical Services Protocol (ASP) Category B format data deliverables and the data will be uploaded to EQuIS.

- A NYSDOH Indoor Air Quality Questionnaire and Building Inventory Form will be completed at the time of sampling (copy provided in **Appendix D**). Testing will be conducted under the following conditions:
    - Air samples will be collected during the heating season. In New York State, heating season generally extends from November 15 to March 31. However, in Upstate New York, it is common to heat buildings between October and April.
    - Closed building conditions will begin at least 12 hours prior to the initiation of testing and shall be maintained throughout the test period, lasting less than four days.
    - All exterior windows and doors shall be kept closed (except for momentary entry and exit by personnel). This includes areas not being tested.
    - Heating and cooling systems shall be set to normal, occupied, operating temperatures; fan/blower controls shall be set to intermittent activity unless the system is designed to only run the fan continuously.
    - Occupants should avoid excessive operation of clothes dryers, range hoods, bathroom fans, and other mechanical systems that draw air into and out of the building.

- Solid, liquid, or gas burning fireplaces shall not be operated unless they are the primary/normal sources of heat for the building. Wood burning stoves are not present onsite.
- Window air-conditioning units shall only be operated in a re-circulating mode.
- Equipment that supplies fresh air to the building shall be deactivated unless it is an integral part of the HVAC system or supplies make-up air to a combustion appliance.
- Window fans shall be removed or sealed shut.
- Fans installed in attics to control only attic air and not whole-building temperature, or humidity may continue to operate.
- Normal operation of permanently installed ventilation systems such as energy recovery ventilators (also known as heat recovery ventilators or air-to-air heat exchangers) may continue during closed-building conditions so long as the system is regularly maintained and continuously operational.

From 24 hours before the test starts and throughout the duration of the test, the following will also be avoided:

- Excavations inside the building or otherwise doing activities which may emit particulate matter inside.
- Smoking inside.
- Painting.
- Cleaning, waxing, polishing furniture or floors with petroleum or oil-based products.
- Application of hairspray, nail polish, nail polish remover, perfume/cologne inside.
- Using air fresheners or odor eliminators.
- Using any other products or conducting any activities that contain
- VOCs and/or odors or otherwise may have the potential to sway indoor air testing results or otherwise are not in accordance with the Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006, and revisions.

Operational Parameters

Monitoring of the differential pressure within the SSDS risers and pressure testing at the permanent vapor pins will be conducted for documentation of SSDS operating parameters. However, indoor air testing is the primary means to document the effectiveness of the remedy. It is anticipated that exhaust pressures and sub-slab pressure testing will be the basis for long-term monitoring in lieu of continued indoor air quality testing, once the effectiveness of the remedy has been established.

The SSDS exhaust pressures will be the primary operating parameter used following completion of the analytical / confirmatory testing described in **Section 4.3**. A manometer gauge reading for

each SSDS exhaust will be recorded after system start-up, and at time of the indoor air testing. Significant deviation from the baseline readings will be used as an indication that the system is not operating properly. The frequency at which exhaust pressures will be monitored and logged will be detailed in the O&M Plan.

4.5 Green Remediation Implementation

This work plan was prepared consistent with the guidance document: NYSDEC *DER-31, Green Remediation,* issued August 11, 2010.

4.5.1 Best Management Practices

The section describes the Best Management Practices (BMPs) which will be implemented during the construction of the SSDS to best achieve the green remediation concepts described within the NYSDEC DER-31. The following BMPs have been identified:

- Minimize Mobilizations – C&S will coordinate site activities in conjunction with other site activities (as possible) to minimize the number of trips to site for contractors and field staff.

- No Idling of Equipment – The contractor will be instructed to shut down equipment if left idling longer than 15 minutes.

- Sampling Equipment: Rechargeable Battery-Powered Sampling Equipment – PIDs and any other battery-operated equipment will be charged at the C&S facility. C&S estimated in 2022 that 26% of the electricity used at their facility is generated on-site through the use of solar panels. This practice will reduce the load on the electrical grid and allow for the use of renewable sources of energy.

- The contractor will be requested to obtain aggregate backfill from a local quarry.

The concrete and soil / fill anticipated to be generated during the construction of the SSDS will be handled as follows:

- Soil / fill will be sampled in accordance with Section 3.3(e) of DER-10 for re-use and will be considered for site backfill. If the soil requires offsite disposal, the nearest practical waste disposal facility will be considered.

- Concrete that is free of evidence of a release will be sent offsite for recycling. The nearest practical waste disposal facility will be considered.

Personnel protective equipment (PPE) and disposable materials will need to be disposed of and cannot be recycled. Care will be taken to ensure reusable decontaminated sampling equipment and materials will be used, when possible.

The results of the implementation of the BMPs and management of construction derived waste will be detailed in the CCR.

5 SCHEDULE

Below is an anticipated schedule of milestones for the design, construction, and testing of the SSDS.

Estimated Project Schedule:

March 2025	Pre-Design Investigation
April – June 2025	SSDS Design Package Preparation
July – August 2025	Saw Cutting and Soil Excavation
Fall 2025	SSDS Construction
Winter 2025 / 2026	Post-Installation Testing
Spring 2026	CCR, ISMP, and O&M Manual Preparation

6 REFERENCES

6 NYCRR Part 371, Identification and Listing of Hazardous Wastes, NYSDEC

American Association of Radon Scientists and Technologists' *Soil Gas Mitigation Standards for Existing Multifamily, School, Commercial, and Mixed-Use Buildings.* AARST Document No. SGM-MFLB 2023, dated 2023

Contract Drawings for the Construction of Sub-Slab Depressurization System for Coventry Commons, 130-132 Harrison Street, Newark, New York, prepared by C&S Engineers, July 8, 2025

DER-10 – Technical Guidance for Site Investigation and Remediation. May 2010, NYSDEC

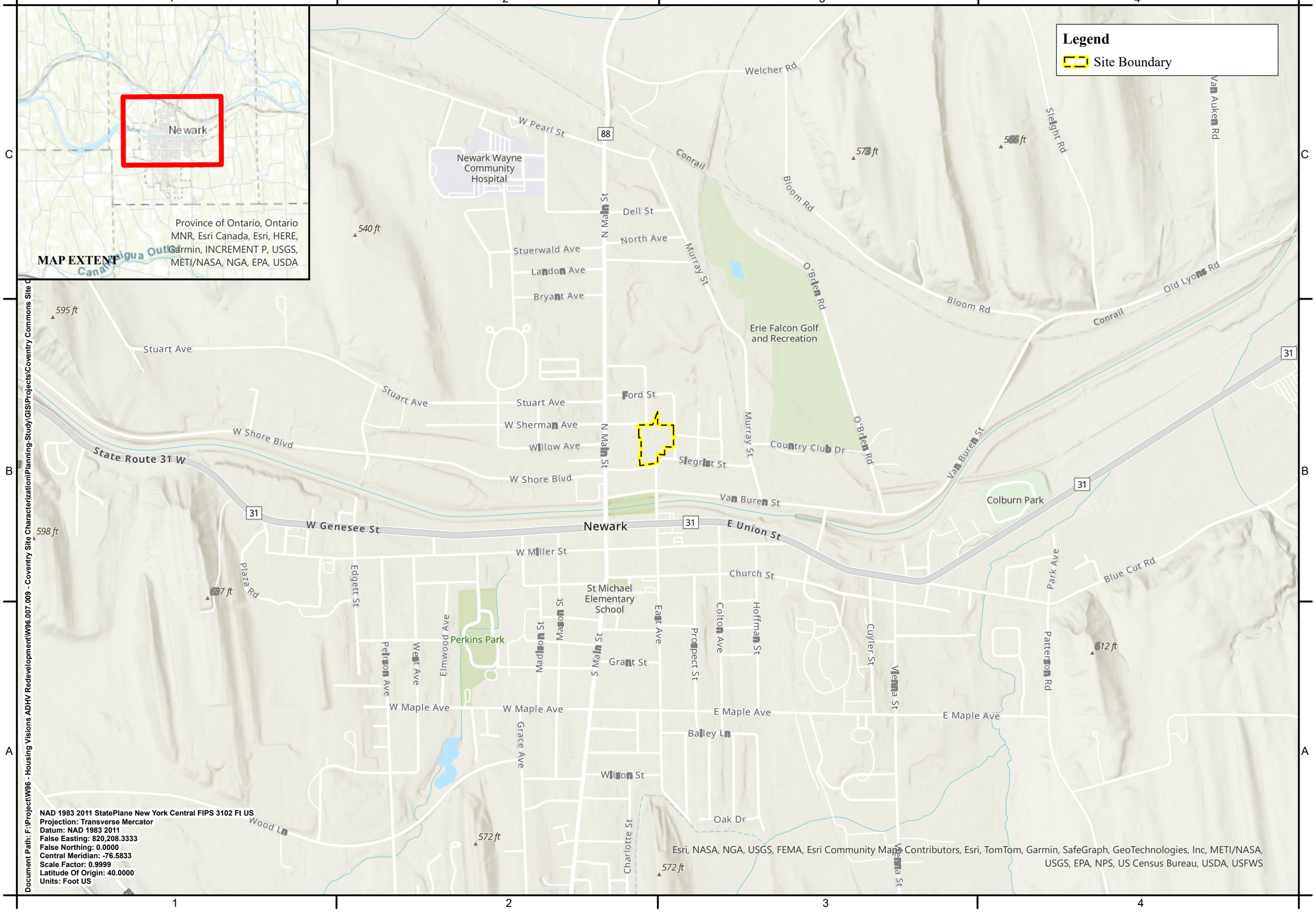
DER-31 – Green Remediation. January 2011

Phase II Environmental Site Assessment, Coventry Commons, 130-132 Harrison Street, Newark, New York, prepared by C&S Engineers, November 2024

Phase II Environmental Site Assessment, Proposed Coventry Commons, 130-132 Harrison Street, Newark, New York, prepared by C&S Engineers, January 2023

Vapor Intrusion Assessment (VIA), 130-132 Harrison Street, Newark, New York, prepared by Ravi Engineering and Land Surveying, P.C., August 29, 2022.

Figures



Document Path: F:\Project\W96 - Housing Visions ADHV Redevelopment\W96.007.009 - Coventry Site Characterization\Planning-Study\GIS\Projects\Coventry Commons Site C

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C&S Engineers, Inc.
499 Col. Eileen Collins Blvd.
Syracuse, New York 13212
Phone: 315-455-2000
Fax: 315-455-9667
www.cscos.com

N

0 1,250 Feet

1 inch equals 1,250 feet

Site Characterization
Coventry Commons
130-132 Harrison Street, Newark, New York

PROJECT NO:	W96.007.009
DATE:	July 2025
SCALE:	AS SHOWN
DRAWN BY:	CND
DESIGNED BY:	CND
CHECKED BY:	MLW

Modified: 7/22/2025 @ 5:32 PM

SITE LOCATION

Figure 1

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0 80 Feet

1 inch equals 80 feet

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Coventry Commons
130-132 Harrison Street, Newark, New York

PROJECT NO:	W96.007.009
DATE:	July 2025
SCALE:	AS SHOWN
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SITE BOUNDARY

Figure 2

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PROJECT NO:	W96.007.009
DATE:	July 2025
SCALE:	AS SHOWN
DRAWN BY:	CND
DESIGNED BY:	CND
CHECKED BY:	MLW

Modified: 7/25/2025 @ 11:10 AM

AIR SAMPLING RESULTS

Figure 3

Tables

Table 1A
August 2022 Soil Vapor Intrusion Testing
Indoor Air

	SAMPLE ID:	AI-01		
	COLLECTION DATE:	8/11/2022		
	SAMPLE MATRIX:	AIR		
	NY-IAC-A (ug/m3)	Result	Flg	RL
VOLATILE ORGANICS				
1,1-Dichloroethene	0.2	< 0.16		0.16
cis-1,2-Dichloroethene	0.2	< 0.16		0.16
Carbon tetrachloride	0.2	< 0.19		0.19
Trichloroethene	0.2	**3.5**		0.16

* Comparison is not performed on parameters with non-numeric criteria.
NY-IAC-A: New York DOH Matrix A Indoor Air Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

	NY-IAC-B (ug/m3)	Result	Flg	RL
VOLATILE ORGANICS				
Methylene chloride	3	3.3		0.52
1,1,1-Trichloroethane	3	< 0.82		0.82
Tetrachloroethene	3	1.6		1.0

* Comparison is not performed on parameters with non-numeric criteria.
NY-IAC-B: New York DOH Matrix B Indoor Air Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

	NY-IAC-C (ug/m3)	Result	Flg	RL
VOLATILE ORGANICS				
Vinyl chloride	0.2	< 0.10		0.10

* Comparison is not performed on parameters with non-numeric criteria.
NY-IAC-C: New York DOH Matrix C Indoor Air Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

Qualifier Key
NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results.
Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) I - The lower value for the two columns has been reported due to obvious interference.
G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
RE - Analytical results are from sample re-extraction.
R - Analytical results are from sample re-analysis.
D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
P - The RPD between the results for the two columns exceeds the method-specified criteria. U - Not detected at the reported detection limit for the sample.
M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
S - Analytical results are from modified screening analysis.
B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

Table 1B
August 2022 Soil Vapor Intrusion Testing
Sub-Slab Vapor

	SAMPLE ID:	AS-01		
	COLLECTION DATE:	8/11/2022		
	SAMPLE MATRIX:	AIR		
	NY-SSC-A (ug/m3)	Result	Flg	RL
VOLATILE ORGANICS				
1,1-Dichloroethene	6	< 0.16		0.16
cis-1,2-Dichloroethene	6	< 0.16		0.16
Carbon tetrachloride	6	< 0.19		0.19
Trichloroethene	6	**47**		1.5

* Comparison is not performed on parameters with non-numeric criteria.
NY-SSC-A: New York DOH Matrix A Sub-Slab Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

	NY-SSC-B (ug/m3)	Result	Flg	RL
VOLATILE ORGANICS				
Methylene chloride	100	2.0		5.2
1,1,1-Trichloroethane	100	1.5		0.82
Tetrachloroethene	100	36		9.5

* Comparison is not performed on parameters with non-numeric criteria.
NY-SSC-B: New York DOH Matrix B Sub-Slab Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

	NY-SSC-C (ug/m3)	Result	Flg	RL
VOLATILE ORGANICS				
Vinyl chloride	6	< 0.10		0.38

* Comparison is not performed on parameters with non-numeric criteria.
NY-SSC-C: New York DOH Matrix C Sub-Slab Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

Qualifier Key
NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results.
Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) I - The lower value for the two columns has been reported due to obvious interference.
G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
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Table 1C

August 2022 Soil Vapor Intrusion Testing

Outdoor Air

	SAMPLE ID:	AO-1	
	COLLECTION DATE:	8/11/2022	
	SAMPLE MATRIX:	AIR	
	NY-OA-2003		
	(ug/m3)	Result Flg	RL
VOLATILE ORGANICS			
Tetrachloroethene	30	< 1.0	1.0
Trichloroethene	2	< 0.16	0.16

NY-OA-2003: Fact Sheet, Tetrachloroethene (PERC) in Indoor and Outdoor Air, May 2003 & Trichloroethene (TCE) in Indoor and Outdoor Air, February 2005

Qualifier Key

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL.

(Metals only.) I - The lower value for the two columns has been reported due to obvious interference.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

RE - Analytical results are from sample re-extraction.

R - Analytical results are from sample re-analysis.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

P - The RPD between the results for the two columns exceeds the method-specified criteria. U - Not detected at the reported detection limit for the sample.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

S - Analytical results are from modified screening analysis.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

Table 2A
November 2022 Soil Vapor Intrusion Testing
Indoor Air

SAMPLE ID:		IA-1			IA-2			IA-3		
COLLECTION DATE:		11/2/2022			11/2/2022			11/2/2022		
SAMPLE MATRIX:		AIR			AIR			AIR		
	NY-IAC-A (ug/m3)	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS										
1,1-Dichloroethene	0.2	ND		0.16	ND		0.16	ND		0.16
cis-1,2-Dichloroethene	0.2	ND		0.16	ND		0.16	ND		0.16
Carbon tetrachloride	0.2	ND		0.19	ND		0.19	ND		0.19
Trichloroethene	0.2	ND		0.16	**2.5**		0.16	**1.6**		0.16

* Comparison is not performed on parameters with non-numeric criteria.

NY-IAC-A: New York DOH Matrix A Indoor Air Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

	NY-IAC-B (ug/m3)	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS										
Methylene chloride	3	0.8		0.52	0.69		0.52	0.87		0.52
1,1,1-Trichloroethane	3	ND		0.82	ND		0.82	ND		0.82
Tetrachloroethene	3	ND		1	1.6		1	0.75	J	1

* Comparison is not performed on parameters with non-numeric criteria.

NY-IAC-B: New York DOH Matrix B Indoor Air Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

	NY-IAC-C (ug/m3)	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS										
Vinyl chloride	0.2	ND		0.1	ND		0.1	ND		0.1

* Comparison is not performed on parameters with non-numeric criteria.

NY-IAC-C: New York DOH Matrix C Indoor Air Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

Qualifier Key

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C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) I - The lower value for the two columns has been reported due to obvious interference.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

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R - Analytical results are from sample re-analysis.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

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M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

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B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the

Table 2B
November 2022 Soil Vapor Intrusion Testing
Sub-Slab Vapor

SAMPLE ID:		SS-1			SS-2			SS-3		
COLLECTION DATE:		11/2/2022			11/2/2022			11/2/2022		
SAMPLE MATRIX:		AIR			AIR			AIR		
	NY-SSC-A (ug/m3)	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS										
1,1-Dichloroethene	6	ND		0.59	ND		0.59	ND		0.59
cis-1,2-Dichloroethene	6	0.87		0.59	1		0.59	1.3		0.59
Carbon tetrachloride	6	ND		0.94	ND		0.94	ND		0.94
Trichloroethene	6	3.9		0.81	**600**		75	**28**		8.1

* Comparison is not performed on parameters with non-numeric criteria.

NY-SSC-A: New York DOH Matrix A Sub-Slab Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

	NY-SSC-B (ug/m3)	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS										
Methylene chloride	100	10		5.2	9.7		4.9	16		5.2
1,1,1-Trichloroethane	100	ND		0.82	ND		0.82	ND		0.82
Tetrachloroethene	100	0.95	J	1	32		9.5	1.4		1

* Comparison is not performed on parameters with non-numeric criteria.

NY-SSC-B: New York DOH Matrix B Sub-Slab Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

	NY-SSC-C (ug/m3)	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS										
Vinyl chloride	6	ND		0.38	ND		0.38	ND		0.38

* Comparison is not performed on parameters with non-numeric criteria.

NY-SSC-C: New York DOH Matrix C Sub-Slab Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

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Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) I - The lower value for the two columns has been reported due to obvious interference.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

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R - Analytical results are from sample re-analysis.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

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B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated

Table 2C
November 2022 Soil Vapor Intrusion Testing
Outdoor Air

	SAMPLE ID:	OA-1	
	COLLECTION DATE:	11/2/2022	
	SAMPLE MATRIX:	AIR	
	NY-OA-2003		
	(ug/m3)	Result Flg	RL
VOLATILE ORGANICS			
Tetrachloroethene	30	ND	1
Trichloroethene	2	ND	0.16

NY-OA-2003: Fact Sheet, Tetrachloroethene (PERC) in Indoor and Outdoor Air, May 2003 & Trichloroethene (TCE) in Indoor and Outdoor Air, February 2005

Qualifier Key

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) I - The lower value for the two columns has been reported due to obvious interference.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

RE - Analytical results are from sample re-extraction.

R - Analytical results are from sample re-analysis.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

P - The RPD between the results for the two columns exceeds the method-specified criteria. U - Not detected at the reported detection limit for the sample.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

S - Analytical results are from modified screening analysis.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the

Appendix A

Pressure Field Extension Testing Results

SSDS Pre-Design Field Sheet

Site Name: Coventry Commons
Site Address: 130-132 Harrison Street, Newark
C&S Staff: Nick Coulombe and Hayden Haas
C&S Project #: W96.007.002

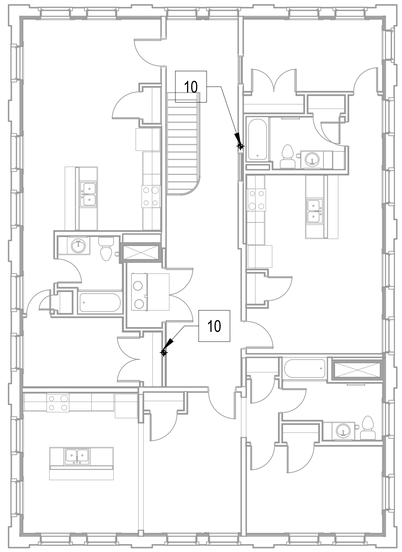
Test Number / Location	Test Date / Time	VOV Concentration (ppm)	Uncorrect Fan Pressure (iwc)	Flex Duct Corrected Pressure (iwc)	Fan RPM	Flow Rate (cfm)	Vacuum at Test Point	Distance from Fan	Average ROI Resulting in -0.004 Pressure Differential
(1) Annex Basement	3/14/2024 (1005)	0	3.11	1.01	8	141	-0.004	10' S	10'
(2) Annex Basement	3/14/2024 (1010)	0	4.66	2.56	10		-0.001	20' N	
(3) Annex Basement	3/14/2024 (1019)	0	4.66	2.56	10		-0.003	20' NW	
(4) Annex Basement	3/14/2024 (1024)	0	4.66	2.56	10		-0.002	20' WSW	
(5) Annex Basement	3/14/2024 (1036)	0	4.64	2.54	10		-0.002	20' S	
(6) Annex Basement	3/14/2024 (1039)	0	4.64	2.54	10		-0.002	20'NE	
(7) Annex Basement	3/14/2024 (1045)	0	4.65	2.55	10		-0.001	18' E	
(8) Annex Basement	3/14/2024 (1047)	0	4.65	2.55	10		-0.014	5' S	
(9) Annex Basement	3/14/2024 (1049)	0	4.65	2.55	10		-0.006	9' E	
(10) Annex Basement	3/14/2024 (1050)	0	4.65	2.55	10		-0.004	10' N	
(11) Annex Basement	3/14/2024 (1054)	0	4.65	2.55	10		-0.002	20' SW	
(12) Annex Basement	3/14/2024 (1056)	0	4.65	2.55	10		-0.001	30' SW	
(13) Annex Basement	3/14/2024 (1100)	0	4.65	2.55	10		0	30' SE	
(14) Main Boiler Room	3/14/2024 (1329)	0	4.47	2.37	9.9	249	-0.019	10' W	10'
(15) Main Boiler Room	3/14/2024 (1331)	0	0.96		4.4		-0.004	10' W	
(16) Main Boiler Room	3/14/2024 (1338)	0	4.77	2.67	9.9	215	-0.001	20' W	
(17) Main Boiler Room	3/14/2024 (1343)	0	4.78	2.68	9.9	214	-0.001	28' W	
(18) Main Boiler Room	3/14/2024 (1349)	0	4.75	2.65	9.9	217	-0.013	15' N	
(19) Main Boiler Room	3/14/2024 (1352)	0	4.76	2.66	9.9	216	-0.008	15' S	
(20) Main Boiler Room	3/14/2024 (1356)	0	4.78	2.68	9.9	214	-0.016	10' E	
(21) Main Boiler Room	3/14/2024 (1359)	0	1.21		5.1		-0.004	10' E	
(22) Main Boiler Room	3/14/2024 (1400)	0	1.22		5.1		-0.005	20' NE	
(23) Main Boiler Room	3/14/2024 (1403)	0	4.76	2.66	9.9	216	-0.002	30' NE	
(24) Main Boiler Room	3/14/2024 (1407)	0	4.76	2.66	9.9	216	-0.003	27' N	
(25) Main Boiler Room	3/14/2024 (1409)	0	4.76	2.66	9.9	216	-0.003	33' SE	
(26) Main Boiler Room	3/14/2024 (1411)	0	4.75	2.65	9.9	217	-0.002	33' SW	

Flex Duct Calibration: 2.1

Test Number / Location	Test Date / Time	VOV Concentration (ppm)	Uncorrect Fan Pressure (iwc)	Flex Duct Corrected Pressure (iwc)	Fan RPM	Flow Rate (cfm)	Vacuum at Test Point	Distance from Fan	Average ROI Resulting in -0.004 Pressure Differential
(27) Main BLDG, 1st Floor - Southeast Section	3/15/2024 (0943)	0	0.12		1.9		-0.004	10' S	10'
(28) Main BLDG, 1st Floor - Southeast Section	3/15/2024 (0946)	0	0.15		3.4		-0.004	20' E	
(29) Main BLDG, 1st Floor - Southeast Section	3/15/2024 (0950)	0	4.71	2.61	9.9	221	-0.003	27' E	
(30) Main BLDG, 1st Floor - Southeast Section	3/15/2024 (1000)	0	4.7	2.6	9.9	222	-0.002	10' S	
(31) Main BLDG, 1st Floor - Southeast Section	3/15/2024 (1005)	0	4.7	2.6	9.9	222	-0.001	20' S	
(32) Main BLDG, 1st Floor - Southeast Section	3/15/2024 (1007)	0	4.69	2.59	9.9	224	-0.001	30' S	
(33) Main BLDG, 1st Floor - Southeast Section	3/15/2024 (1010)	0	4.7	2.6	9.9	222	-0.001	10' SE	
(34) Main BLDG, 1st Floor - Southeast Section	3/15/2024 (1012)	0	4.71	2.61	9.9	221	-0.001	20' SE	
(35) Main BLDG, 1st Floor - Southeast Section	3/15/2024 (1016)	0	4.7	2.6	9.9	222	-0.015	10' N	
(36) Main BLDG, 1st Floor - Southeast Section	3/15/2024 (1018)	0	4.69	2.59	9.9	224	-0.004	20' N	
(37) Main BLDG, 1st Floor - Southeast Section	3/15/2024 (1020)	0	4.71	2.61	9.9	221	-0.001	30' N	
(38) Main BLDG, 1st Floor - Southeast Section	3/15/2024 (1022)	0	4.7	2.6	9.9	222	-0.016	10' NW	
(39) Main BLDG, 1st Floor - Southeast Section	3/15/2024 (1024)	0	4.7	2.6	9.9	222	-0.014	20' NW	
(40) Main BLDG, 1st Floor - Southeast Section	3/15/2024 (1025)	0	4.7	2.6	9.9	22	-0.002	30' NW	
(41) Main BLDG, 1st Floor - East Section	3/15/2024 (1234)	0	0.07		1.3		-0.004	10' W	20'
(42) Main BLDG, 1st Floor - East Section	3/15/2024 (1236)	0	1.18		4.5		-0.004	20' W	
(43) Main BLDG, 1st Floor - East Section	3/15/2024 (1238)	0	2.69	0.59	7.5	398	-0.004	30' W	
(44) Main BLDG, 1st Floor - East Section	3/15/2024 (1242)	0	0.76		4.1		-0.004	10' N	
(45) Main BLDG, 1st Floor - East Section	3/15/2024 (1244)	0	4.71	2.61	9.9	221	0.001 (+)	20' N	
(46) Main BLDG, 1st Floor - East Section	3/15/2024 (1245)	0	0.008		1.4		-0.004	10' E	
(47) Main BLDG, 1st Floor - East Section	3/15/2024 (1246)	0	0.008		1.4		-0.004	20' E	
(48) Main BLDG, 1st Floor - East Section	3/15/2024 (1248)	0	0.78		4.2		-0.004	30' E	
(49) Main BLDG, 1st Floor - East Section	3/15/2024 (1250)	0	0.61		3.7		-0.004	10' S	
(50) Main BLDG, 1st Floor - East Section	3/15/2024 (1255)	0	4.62	2.52	9.9	232	-0.004	20' S	
(51) Main BLDG, 1st Floor - East Section	3/15/2024 (1259)	0	4.6	2.5	9.9	234	-0.001	30' S	
		Flex Duct Calibration:	2.1						

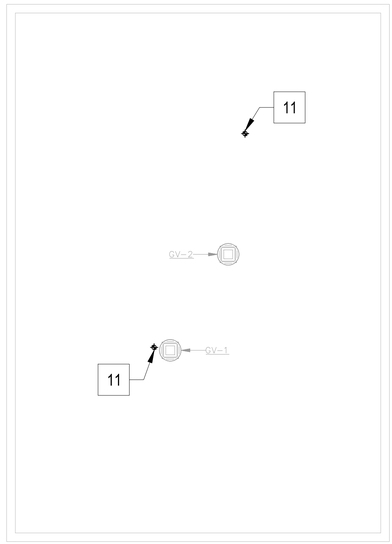
Test Number / Location	Test Date / Time	VOV Concentration (ppm)	Uncorrect Fan Pressure (iwc)	Flex Duct Corrected Pressure (iwc)	Fan RPM	Flow Rate (cfm)	Vacuum at Test Point	Distance from Fan	Average ROI Resulting in -0.004 Pressure Differential
(52) Main BLDG, 1st Floor - West Section	3/15/2024 (1410)	0	4.76	2.45	9.9	241	-0.012	10' S	15'
(53) Main BLDG, 1st Floor - West Section	3/15/2024 (1412)	0	1.26		5.3		-0.004	10' S	
(54) Main BLDG, 1st Floor - West Section	3/15/2024 (1414)	0	4.76	2.45	9.9	241	-0.002	20' S	
(55) Main BLDG, 1st Floor - West Section	3/15/2024 (1416)	0	4.76	2.45	9.9	241	-0.002	30' S	
(56) Main BLDG, 1st Floor - West Section	3/15/2024 (1419)	0	4.74	2.43	9.9	242	-0.037	10' E	
(57) Main BLDG, 1st Floor - West Section	3/15/2024 (1421)	0	0.41		3		-0.004	10' E	
(58) Main BLDG, 1st Floor - West Section	3/15/2024 (1423)	0	4.69	2.38	9.9	248	-0.003	20' E	
(59) Main BLDG, 1st Floor - West Section	3/15/2024 (1425)	0	4.7	2.39	9.9		-0.001	30' E	
(60) Main BLDG, 1st Floor - West Section	3/15/2024 (1428)	0	4.69	2.38	9.9	248	-0.006	15' N	
(61) Main BLDG, 1st Floor - West Section	3/15/2024 (1429)	0	2.59	0.28	7.3	414	-0.004	15' N	
(62) Main BLDG, 1st Floor - West Section	3/15/2024 (1431)	0	4.72	2.41	9.9	2.44	-0.058	10' W	
(63) Main BLDG, 1st Floor - West Section	3/15/2024 (1433)	0	0.09		1.5		-0.004	10' W	
(64) Main BLDG, 1st Floor - West Section	3/15/2024 (1434)	0	0.2		2.2		-0.004	20' W	
(65) Main BLDG, 1st Floor - West Section	3/15/2024 (1436)	0	4.72	2.41	10	247	-0.031	20' W	
(66) Main BLDG, 1st Floor - West Section	3/15/2024 (1437)	0	4.72	2.41	10	247	-0.022	30' W	
(67) Main BLDG, 1st Floor - West Section	3/15/2024 (1438)	0	0.02		2.2		-0.004	30' W	

Flex Duct Calibration: 2.31



PLAN NORTH

A1 SECOND FLOOR - SOIL / RADON VAPOR MITIGATION
SCALE: 1/8" = 1'-0"
0 4' 8' 16'



PLAN NORTH

C3 ROOF - SOIL / RADON VAPOR MITIGATION
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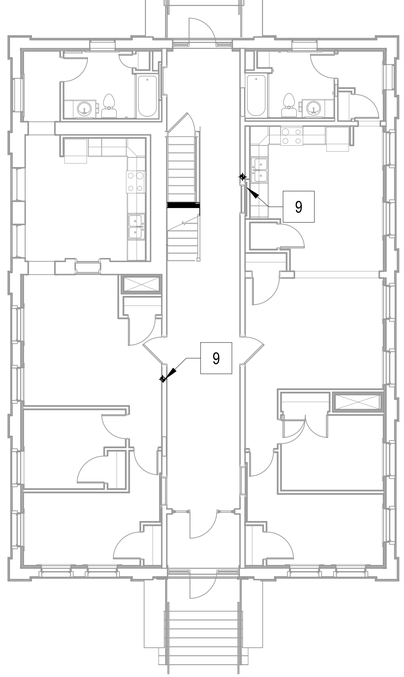
0 4' 8' 16'



PLAN NORTH

A1 FIRST FLOOR - SOIL / RADON VAPOR MITIGATION
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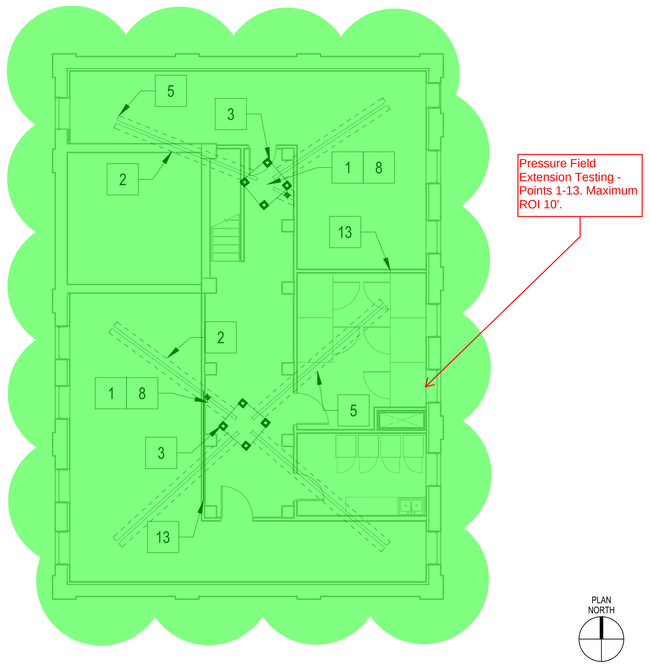

PLAN NORTH

A3 BASEMENT - SOIL / RADON VAPOR MITIGATION
SCALE: 1/8" = 1'-0"
0 4' 8' 16'

KEYED NOTES:

1. 6" SCHED. 40 PVC VERTICAL VAPOR & RADON MITIGATION PIPE (NO TURNS) UP THROUGH FLOORS ABOVE TO ROOF. RISER TO BE ENCASED WITH SHEETROCK FOR PROTECTION. SEE DETAIL (A3) ON DETAIL SHEET (V-200)
2. 4" SCHED. 40 PVC PERFORATED PIPING-TYPE DB - UNDER SLAB. SEE DETAIL (B3) ON DETAIL SHEET (V-200)
3. VAPOR & RADON MITIGATION PIT. SEE DETAIL (A1) ON DETAIL SHEET (V-200),
4. PROPOSED UTILITY TRENCH TO BE UTILIZED TO SUPPORT 4" SCHED. 40 PVC PERFORATED PIPING. TRENCH TO BE BACKFILLED WITH CLEANED, WASHED, COARSE STONE. SEE NOTE SHEET (G-101) FOR FURTHER INFORMATION.
5. PROPOSED TRENCH EXTENSION TO SUPPORT MITIGATION COVERAGE. TRENCH EXTENSION SHOULD TERMINATE 5' FROM EXTERIOR WALL.
6. PROPOSED TRENCH CONNECTION TO SUPPORT MITIGATION COVERAGE.
7. VAPOR / RADON ALARM SYSTEM SHALL BE LOCATED IN THE OFFICE (COORDINATE LOCATION WITH OWNER).
8. A MINIMUM OF A 12"x12" INSULATED FIRE-RATED ACCESS DOOR SHALL BE INSTALLED IN A COMMON SPACE WALL (DETAIL C1) TO ALLOW INSPECTIONS / READINGS OF MANOMETER (DETAIL C3) AND SUB-SLAB PRESSURE READINGS FROM TUBING CONNECTED TO VAPOR POINT (DETAIL D3). ALL DETAILS CAN BE FOUND ON SHEET (V-200) AND ADDITIONAL INFORMATION CAN BE FOUND ON NOTE SHEET (G-101).
9. 6" SCHED. 40 PVC VAPOR & RADON MITIGATION PIPE FROM BELOW & UP TO ABOVE (NO TURNS) - UP THROUGH ROOF. RISER TO BE ENCASED WITH SHEETROCK FOR PROTECTION.
10. 6" SCHED. 40 PVC VAPOR & RADON MITIGATION PIPE FROM BELOW & UP TO ABOVE. PIPE TO PENETRATE EPDM ROOF. RISER TO BE ENCASED WITH SHEETROCK FOR PROTECTION. SEE DETAIL (A4) ON DETAIL SHEET (V-200),
11. 6" SCHED. 40 PVC VAPOR & RADON MITIGATION PIPE FROM BELOW. PIPING AT EPDM ROOF. SEE DETAIL (A4) ON DETAIL SHEET (V-200),
12. MAINTAIN MINIMUM SEPERATION OF 10'-0" BETWEEN ERV INTAKE AND VENTS/EF'S AND MITIGATION EXHAUSTS. (TYP, ALL ERV'S)
13. INSTALL VAPOR PIN® ACCORDING TO INSTALLATION INSTRUCTIONS PROVIDED ON NOTE SHEET (G-101) AND SEE DETAIL (C4) ON DETAIL SHEET (V-200) FOR FURTHER INFORMATION.

LEGEND:

- VAPOR/RADON MITIGATION RISER
- PROPOSED UTILITY TRENCH
- PROPOSED TRENCH EXTENSION / CONNECTION
- 4" SCHED. 40 PVC PERORATED PIPING
- PRESSURE FIELD TESTING LINE

C&S COMPANIES®
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499 Col. Eileen Collins Blvd.
Syracuse, New York 13212
Phone: 315-455-2000
Fax: 315-455-9667
www.cscos.com

CERTIFICATE OF AUTHORIZATION #: 0018122

Registration Expires: 04.31.2026

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130-132 HARRISON STREET
NEWARK, NEW YORK 14513
SUB-SLAB DEPRESSURIZATION DESIGN SYSTEM

MARK	DATE	DESCRIPTION
3	7/8/25	SCALE / LAYOUT CHANGE
2	6/9/25	LAYOUT CHANGE
1	10/23/24	LAYOUT CHANGE

REVISIONS

PROJECT NO:	W96.007.002
DATE:	OCTOBER 23, 2024
DRAWN BY:	N. COULOMBE
DESIGNED BY:	N. COULOMBE
CHECKED BY:	M. WALKER

SOIL VAPOR / RADON MITIGATION SYSTEM

ANNEX BUILDING

V-100

Jul 09, 2025 - 7:57:00am
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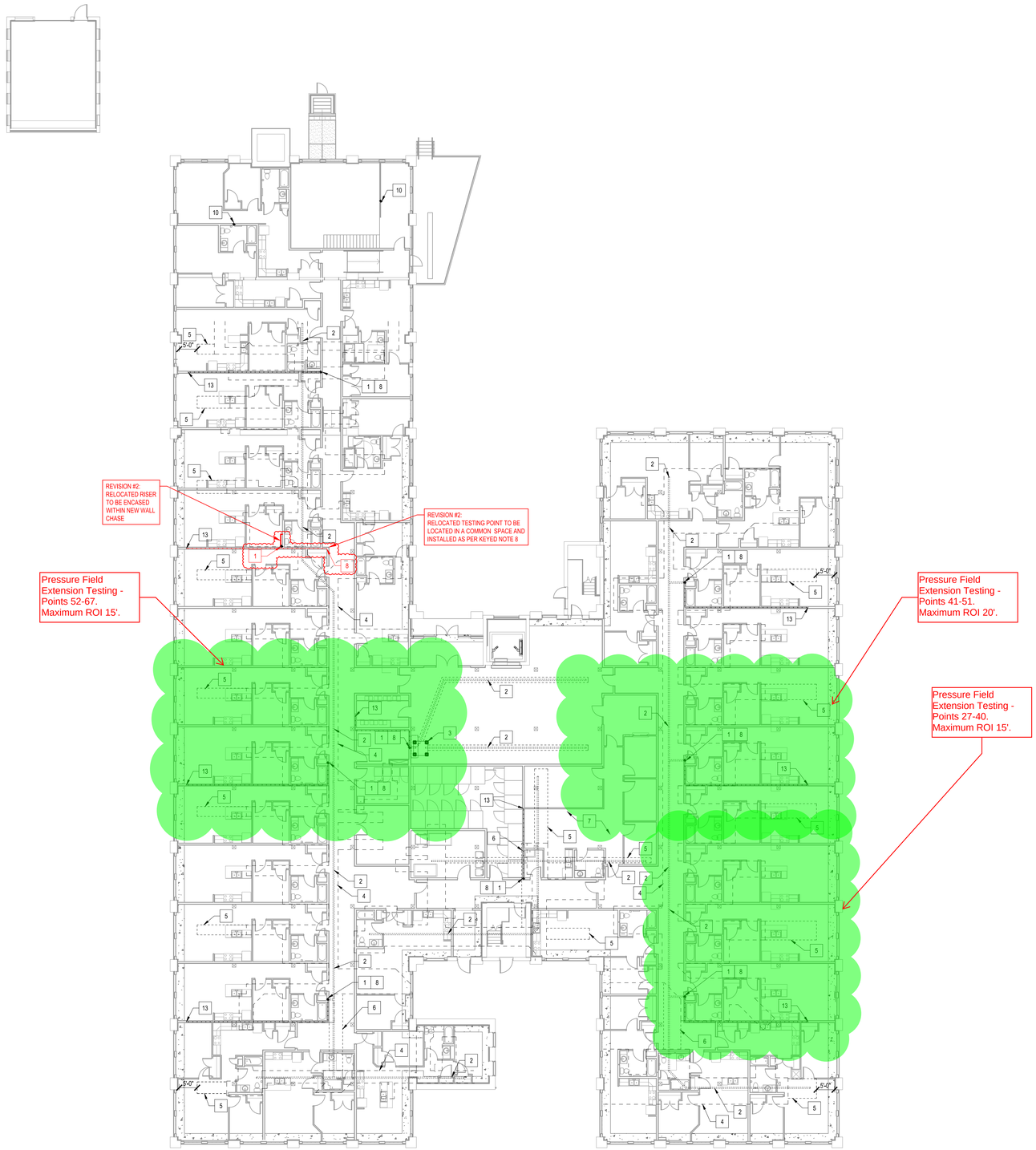


REVISION #3: SCALE CHANGE FROM 1/8" TO 1/16"

A1 FIRST FLOOR - SOIL / RADON VAPOR MITIGATION

SCALE: 1/16" = 1'-0"

0 8' 16' 32'

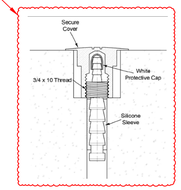
KEYED NOTES:

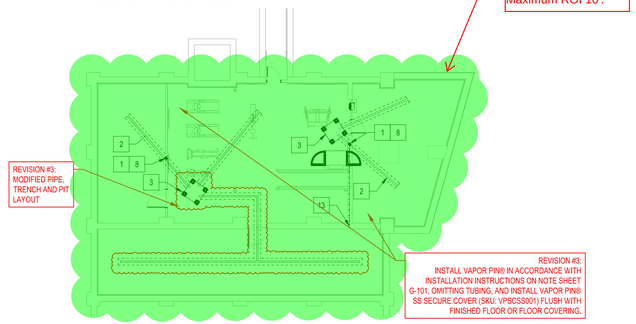
1. 6" SCHED. 40 PVC VERTICAL VAPOR & RADON MITIGATION PIPE (NO TURNS) UP THROUGH FLOORS ABOVE TO ROOF. RISER TO BE ENCASED WITH SHEETROCK FOR PROTECTION. SEE DETAIL (A3) ON DETAIL SHEET (V-200)
2. 4" SCHED. 40 PVC PERFORATED PIPING-TYPE DB - UNDER SLAB. SEE DETAIL (B3) ON DETAIL SHEET (V-200)
3. VAPOR & RADON MITIGATION PIT, SEE DETAIL (A1) ON DETAIL SHEET (V-200).
4. PROPOSED UTILITY TRENCH TO BE UTILIZED TO SUPPORT 4" SCHED. 40 PVC PERFORATED PIPING. TRENCH TO BE BACKFILLED WITH CLEANED, WASHED, COARSE STONE. SEE NOTE SHEET (G-101) FOR FURTHER INFORMATION.
5. PROPOSED TRENCH EXTENSION TO SUPPORT MITIGATION COVERAGE. TRENCH EXTENSION SHOULD TERMINATE 5' FROM EXTERIOR WALL.
6. PROPOSED TRENCH CONNECTION TO SUPPORT MITIGATION COVERAGE.
7. VAPOR / RADON ALARM SYSTEM SHALL BE LOCATED IN THE OFFICE (COORDINATE LOCATION WITH OWNER), SEE DETAIL (D4) ON DETAIL SHEET (V-200)
8. A MINIMUM OF A 12"x12" INSULATED FIRE-RATED ACCESS DOOR SHALL BE INSTALLED IN A COMMON SPACE WALL (DETAIL C1) TO ALLOW INSPECTIONS / READINGS OF MANOMETER (DETAIL C3) AND SUB-SLAB PRESSURE READINGS FROM TUBING CONNECTED TO VAPOR POINT (DETAIL D3). ALL DETAILS CAN BE FOUND ON SHEET (V-200) AND ADDITIONAL INFORMATION CAN BE FOUND ON NOTE SHEET (G-101).
9. 6" SCHED. 40 PVC VAPOR & RADON MITIGATION PIPE FROM BELOW & UP TO ABOVE (NO TURNS) - UP THROUGH ROOF. RISER TO BE ENCASED WITH SHEETROCK FOR PROTECTION.
10. 6" SCHED. 40 PVC VAPOR & RADON MITIGATION PIPE FROM BELOW & UP TO ABOVE. PIPE TO PENETRATE EPDM ROOF. RISER TO BE ENCASED WITH SHEETROCK FOR PROTECTION. SEE DETAIL (A4) ON DETAIL SHEET (V-200).
11. 6" SCHED. 40 PVC VAPOR & RADON MITIGATION PIPE FROM BELOW. PIPING AT EPDM ROOF. SEE DETAIL (A4) ON DETAIL SHEET (V-200).
12. MAINTAIN MINIMUM SEPERATION OF 10'-0" BETWEEN ERV INTAKE AND VENTS/EF'S AND MITIGATION EXHAUSTS, (TYP. ALL ERV'S)
13. INSTALL VAPOR PIN® ACCORDING TO INSTALLATION INSTRUCTIONS PROVIDED ON NOTE SHEET (G-101) AND SEE DETAIL (C4) ON DETAIL SHEET (V-200) FOR FURTHER INFORMATION.

LEGEND:

- VAPOR/RADON MITIGATION RISER
- EXISTING UTILITY TRENCH
- NEW TRENCH AND/OR TRENCH EXTENSION
- 4" SCHED. 40 PVC PERORATED PIPING
- PRESSURE FIELD TESTING LINE

REVISION #3: EXAMPLE OF THE VAPOR PIN® SS SECURE COVER (SKU: VPSCSS001) INSTALLED FLUSH WITH FLOOR





REVISION #3: SCALE CHANGE FROM 1/8" TO 1/16"

A3 BASEMENT - SOIL / RADON VAPOR MITIGATION

SCALE: 1/16" = 1'-0"

0 8' 16' 32'

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DESIGN SYSTEM

MARK	DATE	DESCRIPTION
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2	6/9/25	LAYOUT CHANGE
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REVISIONS

PROJECT NO:	W96.007.002
DATE:	OCTOBER 23, 2024
DRAWN BY:	N. COULOMBE
DESIGNED BY:	N. COULOMBE
CHECKED BY:	M. WALKER

SOIL VAPOR / RADON MITIGATION SYSTEM

MAIN BUILDING BASEMENT & FIRST FLOOR

V-101

Appendix B

SSDS Contract Drawings

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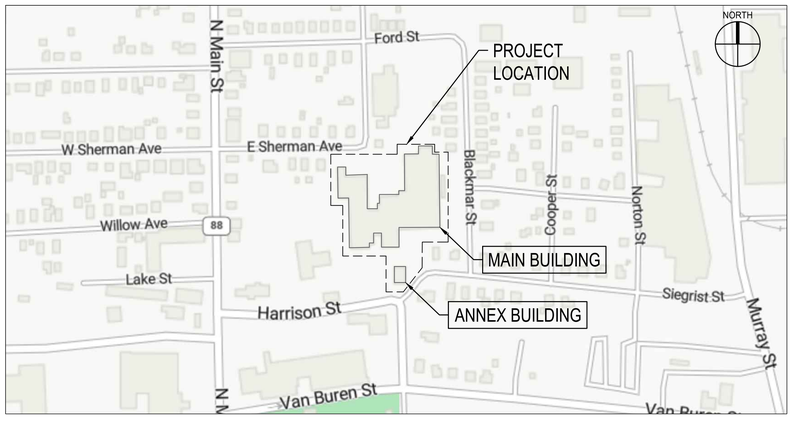
CONTRACT DRAWINGS
FOR THE CONSTRUCTION OF

SUB-SLAB DEPRESSURIZATION SYSTEM

COVENTRY COMMONS

130-132 HARRISON STREET
NEWARK, NEW YORK 14513



LOCATION MAP

DRAWING LIST	
SHEET NO.	**SHEET NAME**
G-001	TITLE SHEET
G-101	GENERAL NOTES
V-100	ANNEX BUILDING - BASEMENT, 1ST FLOOR, 2ND FLOOR, ROOF
V-101	MAIN BUILDING - BASEMENT & FIRST FLOOR
V-102	MAIN BUILDING - SECOND FLOOR
V-103	MAIN BUILDING - THIRD FLOOR
V-104	MAIN BUILDING - ROOF
V-200	DETAILS

C&S PROJECT: W96007002

OCTOBER 23, 2024

CONSTRUCTION SET

TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF THE PLANS AND SPECIFICATIONS FOR THIS PROJECT ARE IN COMPLIANCE WITH THE NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE AND THE BUILDING CODE OF NEW YORK STATE

NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW

G-001

GENERAL NOTES:

1. THE CONTRACTOR SHALL SUPPLY ALL LABOR, EQUIPMENT AND MATERIALS TO COMPLETE THE SUB-SLAB EXTRACTION PITS / TRENCHES, PIPING, MANIFOLDS, EQUIPMENT STAGING, REMEDIAL EQUIPMENT CONNECTIONS AND CONCRETE SLAB REPAIR AND RESTORATION ACCORDING TO THE PLANS AND SPECIFICATIONS HEREIN. SEE DIVISION OF WORK FOR CONTRACTOR RESPONSIBILITIES.
2. ALL WORK WILL BE IN COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL STANDARDS AND REGULATIONS. IF THERE SHOULD ARISE ANY CONFLICT BETWEEN ANY NOTES AND/OR DETAILS ON THE APPROVED DRAWINGS OR SPECIFICATIONS FOR THE PROJECT, THIS NOTE WILL SUPERSEDE AND GOVERN UNLESS THERE IS A WRITTEN SIGNED DOCUMENT FROM THE ENGINEER STATING OTHERWISE.
3. EACH CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS INCLUDING THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970. EACH CONTRACTOR SHALL EXERCISE PRECAUTION ALWAYS FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT SHALL ALSO BE THE SOLE RESPONSIBILITY OF EACH CONTRACTOR TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, INCLUDING THE REQUIREMENTS FOR CONFINED SPACES PER 29 CFR 1910.146.
4. THESE DRAWINGS WERE PRODUCED FROM MAPS, DRAWINGS AND RECORDS COLLECTED FROM THE OWNER.
5. EACH CONTRACTOR WILL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, PROCEDURES OR TECHNIQUES.
6. EACH CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL NECESSARY PERMITS AND GOVERNMENT FEES, LICENSES AND INSPECTIONS ASSOCIATED WITH THE IMPROVEMENTS UNDER THEIR RESPONSIBILITY AS OUTLINED IN THE DIVISION OF WORK.
7. ANY MODIFICATION TO THE SPECIFICATIONS OR CHANGES TO THE WORK AS SHOWN ON THE DRAWINGS MUST HAVE PRIOR WRITTEN APPROVAL BY THE OWNER AND ENGINEER.
8. SHOULD WATER BE ENCOUNTERED, THE CONTRACTOR SHALL FURNISH AND OPERATE SUITABLE PUMPING EQUIPMENT OF SUCH CAPACITY ADEQUATE TO DEWATER ACCUMULATED WATER WITHIN EXCAVATION AREAS. AREAS SHALL BE SUFFICIENTLY DEWATERED SO THAT THE PLACEMENT OF BACKFILL IS MADE IN AN AREA FREE OF STANDING WATER. THE CONTRACTOR SHALL PROPERLY CONTAINERIZE, CHARACTERIZE AND DISPOSE OF WATER IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL RULES AND REGULATIONS. THE CONTRACTOR SHALL CONSULT THE OWNER AND ENGINEER TO DETERMINE SUITABLE WATER AND SOIL CHARACTERIZATION AND DISPOSAL METHODS.
9. THESE PLANS HAVE BEEN PREPARED USING THE MOST ACCURATE INFORMATION AND DATA AVAILABLE AT THE TIME OF PREPARATION. FIELD CONDITIONS MAY BE ENCOUNTERED WHICH VARY FROM THOSE DEPICTED HEREIN. AS SUCH, THESE PLANS SHOULD BE USED AS A CONSTRUCTION CONTROL REFERENCE, NOT A PRECISE CONSTRUCTION DOCUMENT. MODIFICATIONS TO THE DESIGN AS SHOWN MAY BE REQUIRED BASED ON FIELD CONDITIONS AT THE TIME OF CONSTRUCTION. IN ANY EVENT, THE ENGINEERING OBJECTIVES OF THE DESIGN SHALL BE MET.
10. EACH CONTRACTOR SHALL CONFINE HIS ACTIVITIES TO THE PROJECT SITE AND SHALL NOT TRESPASS UPON OTHER PROPERTIES OR DISRUPT THE OPERATIONS OF ADJACENT PROPERTY OWNERS WITHOUT THE WRITTEN PERMISSION OF THOSE OWNERS.
11. HORIZONTAL AND VERTICAL CONTROL WILL BE ESTABLISHED BY EACH CONTRACTOR FOR THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED SURVEYS TO COMPLETE THE PROJECT INCLUDING REESTABLISHMENT OF CONTROL POINTS AND PROJECT LAYOUT.
12. FLOW IN EXISTING STORM AND SANITARY SEWERS SHALL BE MAINTAINED AT ALL TIMES DURING EXECUTION OF THE WORK FOR THIS PROJECT. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING SEWERS RESULTING FROM THEIR OPERATIONS OR NEGLIGENCE.
13. SUITABLE BACKFILL MATERIALS MAY BE STOCKPILED ON-SITE, BUT MUST BE POSITIONED SO AS NOT TO COMINGLE WITH EXCAVATED SOILS.
14. THE TRACKING OR SPILLAGE OF MUD, DIRT, CONCRETE, OR DEBRIS UPON STATE, COUNTY, TOWNSHIP, PRIVATE, OR CITY STREETS IS PROHIBITED AND ANY SUCH OCCURRENCE SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR.
15. DUST CONTROL SHALL BE MAINTAINED THROUGHOUT THE ENTIRE SITE. SAW-CUTTING SHALL BE PERFORMED USING A WET SAW TO MINIMIZE DUST.
16. EACH CONTRACTOR SHALL MAINTAIN WORK AREA FREE OF WASTE MATERIALS, DEBRIS, AND RUBBISH. MAINTAIN SITE IN A CLEAN AND ORDERLY CONDITION. CONTRACTOR IS RESPONSIBLE FOR COLLECTING AND REMOVING WASTE MATERIALS, DEBRIS AND RUBBISH FROM THE SITE AND DISPOSING OF OFF SITE.
17. FACILITY INTERIOR WORK AREAS MUST BE LEFT FREE OF DEBRIS AND MATERIALS AT THE COMPLETION OF EACH WORK PERIOD. ANY FLOOR SPACE AND/OR EQUIPMENT WITHIN THE WORK AREA AND IMMEDIATE VICINITY MUST BE MOPPED AND WIPED CLEAN OF DIRT, MUD, DEBRIS AND DUST PRIOR TO COMPLETION OF WORK.
18. MAINTAIN DRIVEWAYS AND PEDESTRIAN ACCESS IN A SAFE AND CLEAN CONDITION. COOPERATE WITH THE OWNER IN EVERY WAY PRACTICAL IN ORDER TO MINIMIZE DISRUPTION TO THEIR OPERATIONS.
19. EACH CONTRACTOR SHALL REPAIR AND REPLACE ANY AND ALL EXISTING EQUIPMENT, SITE FEATURES OR WORK DAMAGED DURING OR DUE TO THE EXECUTION OF THIS PROJECT AT HIS OWN EXPENSE. ALL SAID WORK SHALL BE TO THE SATISFACTION OF THE OWNER.

DIVISION OF WORK:

1. OWNERS'S GENERAL CONTRACTOR TO INSTALL ALL EXTRACTION PITS, VAPOR PINS, TRENCHING AND PIPING INSTALLATION TO ADJACENT COLUMN, AND PIPING STUB-UPS TO 2 FT. ABOVE THE FLOOR SLAB IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS PROVIDED HEREIN.
2. OWNER'S PLUMBING CONTRACTOR TO COMPLETE ALL PIPING INSTALLATION WORK FROM 2 FT. STUB-UPS PROVIDED AT SLAB TO SSDS EQUIPMENT AT ROOF IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS HEREIN.

TRENCH AGGREGATE FILL:

1. TRENCH FILL MATERIAL SHALL BE STONE AS DEFINED HEREIN OR AS OTHERWISE APPROVED BY THE ENGINEER.BEDDING MATERIAL AND EXTRACTION PIT BACKFILL MATERIAL SHALL BE WASHED, CLEAN COARSE STONE (LISTED IN THE TABLE BELOW).
2. COMPACTION OF SOIL SHALL BE PERFORMED IN 6 INCH LIFTS USING EQUIPMENT ACCEPTABLE TO THE OWNER AND ENGINEER.

ASTM Aggregate Size	Sieve Size	Percent Passing
5	1 ½″ (37.5 mm)	100
	1″ (25 mm)	90-100
	¾″ (19 mm)	20-55
	½″ (12.5 mm)	1-10
	3/8″ (9.5 mm)	0-5
56	1 ½″ (37.5 mm)	100
	1″ (25 mm)	90-100
	¾″ (19 mm)	40-85
	½″ (12.5 mm)	10-40
	3/8″ (9.5 mm)	0-15
	#4 (4.75 mm)	0-5
57	1 ½″ (37.5 mm)	100
	1″ (25 mm)	95-100
	½″ (12.5 mm)	25-60
	#4 (4.75 mm)	0-10
	#8 (2,36 mm)	0-5
6	1″ (25 mm)	100
	¾″ (19 mm)	90-100
	½″ (12.5 mm)	20-55
	3/8″ (9.5 mm)	0-15
	#4 (4.75 mm)	0-5
DOT Table 703-4 Size	**Sieve Size**	**Percent Passing**
2	1 ½″ (37.5 mm)	100
	1″ (25 mm)	90-100
	½″ (12.5 mm)	0-15

TRENCHING & PIPING:

1. THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR DESIGNING AND CONSTRUCTING STABLE TRENCHES AND SHOULD SHORE, SLOPE OR BENCH THE SIDES OF TRENCHES AS REQUIRED TO MAINTAIN STABILITY OF BOTH EXCAVATION SIDES AND BOTTOM. ALL EXCAVATIONS SHOULD COMPLY WITH APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS INCLUDING THE CURRENT OSHA EXCAVATION AND TRENCH SAFETY STANDARDS (29 CFR PART 1926).
   a. SUB-SLAB DEPRESSURIZATION SYSTEM (SSDS) PIPING AND FITTINGS SHALL CONFORM TO THE FOLLOWING, EXCEPT WHERE OTHERWISE NOTED:
   b. PIPING SHALL BE THE SIZE INIDCATED ON THE PLANS AND BE SCHEDULE 40 POLYVINYL CHLORIDE (PVC) PRESSURE PIPE MADE FROM CLASS 12454 MATERIALS IN ACCORDANCE WITH ASTM D1784, UNLESS NOTED OTHERWISE. PIPE DIMENSIONS SHALL CONFORM TO ASTM D1785.
   c. ALL FITTINGS SHALL BE SOLVENT CEMENTED SCHEDULE 40 PVC FITTINGS. FITTINGS SHALL BE PERMANENTLY SEALED USING PRIMER MEETING THE REQUIREMENTS OF ASTM F 565 AND SOLVENT CEMENT MEETING THE REQUIREMENTS OF ASTM D 2564. JOINTS SHALL BE MADE WHILE SOLVENT CEMENT IS WET IN ACCORDANCE WITH ASTM D 2855 AND ASTM F 402.
   d. SLOTTED PIPE SHALL BE SCHEDULE 40 PVC, 0.020 INCH SLOT, WITH ASTM D2466 FLUSH THREAD FITTINGS.
   e. PVC FITTINGS SHALL BE SCHEDULE 40 PVC SOCKET STYLE IN ACCORDANCE WITH ASTM D1784.
   f. FANS SHALL BE INSTALLED WITH FLEXIBLE CONNECTORS. ALL PVC PIPE SHALL BE SOLVENT WELDED USING LOW VOC PRIMER AND LOW VOC PVC CEMENT IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
3. SOLID-WALLED SSDS PIPING FROM THE SLAB TO ROOF SHALL BE SUCCESSFULLY PRESSURE TESTED PRIOR TO EQUIPMENT CONNECTIONS. LINES SHALL BE PRESSURE TESTED BY APPLYING THIRTY (30) INCHES WATER COLUMN VACUUM TO THE SSDS LINES. THE LINES WILL PASS THE TEST IF THE PRESSURE IS MAINTAINED FOR 30 MINUTES WITHOUT DEVIATING. THE BALL VALVE LOCATED ON EACH RISER PIPE AT FIRST FLOOR LEVEL MAY BE PLACED IN THE CLOSED POSITION TO ACHIEVE TEST VACUUM IF NECESSARY.
4. EXACT LOCATION OF EXTRACTION PITS SHALL BE COORDINATED IN FIELD. INTENDED LOCATIONS ARE SHOWN ON THE MITIGATION SYSTEM FLOOR PLANS.
5. WHERE RISER PIPES PENETRATE BUILDING SLAB, VAPOR BARRIER SHALL BE SEALED TO OUTSIDE PERIMETER OF PIPE AND INTERFACE BETWEEN FLOOR SLAB AND PIPE SHALL BE SEALED WITH URETHANE CAULK AT FLOOR LEVEL.
6. COORDINATE ALL MITIGATION SYSTEM PIPING ROUTES WITH ALL GENERAL, MECHANICAL, ELECTRICAL & PLUMBING WORK. NO ELBOWS SHALL BE ADDED WITHOUT THE APPROVAL OF THE OWNER AND ENGINEER.
7. VERTICAL PIPES SHALL BE SUPPORTED AND SECURED AT LEAST EVERY 8 FEET AND AT POINTS ABOVE AND BELOW POINTS OF PENETRATIONS THROUGH FLOORS, CEILINGS, AND ROOFS.
8. HORIZONTAL PIPES SHALL BE SLOPED TO PROMOTE DRAINAGE OF CONDENSATION / WATER DOWNWARD TO EXTRACTION PIT.
9. HORIZONTAL PIPES SHALL BE ADEQUATELY SUPPORTED AT 6-FT INTERVALS.
10. ALL EXPOSED / VISIBLE / ACCESSIBLE INTERIOR PIPING HAVING TO DO WITH THE MITIGATION SYSTEM SHALL BE LABELED WITH A LABEL THAT READS: VAPOR / RADON REDUCTION SYSTEM.
11. MITIGATION SYSTEM PIPING ABOVE CEILING IN PLENUM RETURN SPACES SHALL BE WRAPPED WITH APPROVED PIPING FIRE WRAP. THE WRAPPED PVC SHALL STILL BEAR THE REQUIRED LABELING.
12. ALL TRENCHES AND EXTRACTION PITS SHALL BE BACKFILLED OR SECURELY PLATED DURING NON-WORKING HOURS. EACH VERTICAL RISER SHALL BE EQUIPPED WITH A U-TUBE MANOMOETER IN A LOCATION THAT ALLOWS VISUAL VERIFICATION OF PRESSURE DIFFERENTIAL BETWEEN THE SYSTEM PIPING AND THE AMBIENT INDOOR AIR OF THE FACILITY. MANOMETER SHALL BE CAPABLE OF MEASURING DIFFERENTIAL PRESSURE IN THE RANGE OF 0 TO 4.5 INCHES OF WATER. MANOMETER SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
13. MANOMETERS SHALL BE INSTALLED AT APPROX. 6' ABOVE FLOOR HEIGHT ON EACH VERTICAL RISER. WHERE RISERS ARE ENCASED IN SHEETROCK, ACCESS TO THE MANOMETERS SHALL BE PROVIDED BY A 12"X12" LOCKABLE INSULATED FIRE-RATED ACCESS DOOR (BABCOCK-DAVIS BIT OR BIW, OR EQUIVALENT) AT LOCATIONS INDICATED ON THE V-SERIES DRAWINGS. ALL ACCESS DOORS SHALL BE KEYED THE SAME. MANOMETER AND DOOR INSTALL TO BE COORDINATED WITH SHEETROCK TRADE. THE MANOMETER AND PANEL SHALL BE ACCESSIBLE FROM A COMMON SPACE (EG HALLWAY) WHERE POSSIBLE.
14. EACH VERTICAL RISER SHALL BE EQUIPPED WITH A MANOMETER IN A CONSPICUOUS LOCATION TO ALLOW VISUAL CONFIRMATION OF SYSTEM OPERATION AND ADEQUATE NEGATIVE PRESSURE. THE TUBING CONNECTION INTO THE RISER SHALL BE AIR-TIGHT.
15. VENT STACK PIPES SHALL EXTEND VERTICALLY A MINIMUM OF 48 INCHES ABOVE SURFACE OF ROOF. DISCHARGE / EXHAUST POINTS SHALL BE A MINIMUM OF 10 FEET AWAY FROM ANY WINDOW, DOOR, AIR INTAKES, OR OTHER OPENING INTO CONDITIONED / OCCUPIED BUILDING SPACE, AND 10 FEET OR MORE AWAY FROM SIMILAR OPENINGS OF ADJACENT BUILDINGS.
16. THE TOP OF EACH RISER / EXHAUST PIPE SHALL BE EQUIPPED WITH A RODENT SCREEN TO PREVENT DEBRIS AND RODENTS FROM ENTERING. SCREEN MESH SHALL BE AT LEAST ½ INCH IN SPACING.

INLINE FANS:

1. MITIGATION FANS SHALL BE RADONAWAY MODEL RP265 OR ENGINEER-APPROVED EQUIVALENT.
2. MITIGATION FANS AND ALL ELECTRICAL CONNECTIONS SHALL BE RATED FOR OUTDOOR / EXTERIOR APPLICATION AND COMPLY WILL ALL APPLICABLE ELECTRICAL CODES.
3. MITIGATION FANS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURE.
4. MITIGATION FANS SHALL BE CONNECTED TO RISER AND EXHAUST PIPING USING FLEXIBLE ANTI-VIBRATION CONNECTIONS CONFORMING TO ASTM D5926.

SPECIAL INSPECTIONS AND TESTS

1. THE PLACEMENT OF SUB-SLAB AGGREGATE, SUB-SLAB EXTRACTION PITS, AND SUB-SLAB PIPING SHALL BE INSPECTED BY ENGINEER PRIOR TO INSTALLATION OF THE MEMBRANE. THE CONTRACTOR SHALL PROVIDE ENGINEER AT LEAST ONE WEEK NOTICE BEFORE REQUESTED INSPECTIONS AND PRIOR TO THE PLACEMENT OF THE MEMBRANE.
2. THE PLACEMENT OF THE MEMBRANE, RISER PIPE STUBS, AND UTILITY PENETRATION BOOTS SHALL BE INSPECTED BY ENGINEER PRIOR TO POURING OF FLOOR SLAB CONCRETE. THE CONTRACTOR SHALL PROVIDE ENGINEER AT LEAST ONE WEEK NOTICE BEFORE REQUESTED INSPECTIONS.
3. THE CONTRACTOR SHALL ARRANGE FOR ENGINEER TO CHECK THE OPERATION OF SYSTEMS AFTER THE FANS HAVE BEEN MADE OPERATIONAL AND BEFORE THE BUILDING IS OCCUPIED.

SUBMITTALS

1. SHOP DRAWINGS, MATERIAL SPECIFICATIONS, INSTALLATION INSTRUCTIONS, OPERATION AND MAINTENANCE INFORMATION, AND WARRANTIES SHALL BE SUBMITTED TO ENGINEER PRIOR TO FABRICATION, CONSTRUCTION, AND/OR INSTALLATION, AS APPLICABLE, FOR THE FOLLOWING:
   a. AGGREGATE
   b. SUB-SLAB PIPING MATERIAL AND RELATED PRODUCTS
   c. MEMBRANE AND RELATED PRODUCTS (SEAM-TAPE, DOUBLE-SIDED TAPE, TACK BAR)
   d. RISER PIPE MATERIAL AND LOCATIONS (INCLUDING FAN LOCATIONS)
   e. URETHANE CAULK AND OTHER SEALANTS
   f. MANOMETER MATERIALS AND LOCATIONS
   g. IN-LINE FAN UNITS
2. SHOP DRAWINGS AND OTHER SUBMITTALS ARE REVIEWED BY ENGINEER ONLY FOR GENERAL COMPLIANCE WITH THESE SUB-SLAB DEPRESSURIZATION SYSTEM DRAWINGS. RESPONSIBILITY FOR CORRECTNESS SHALL REST WITH THE CONTRACTOR. NOTE THAT THE DRAWINGS AND SPECIFICATIONS HEREIN TAKE PRECEDENCE OVER SHOP DRAWINGS OR OTHER SUBMITTALS PROVIDED BY THE CONTRACTOR. REQUESTS TO PERFORM MODIFICATIONS SHALL BE SUBMITTED SEPARATELY FOR ENGINEER'S REVIEW.

UTILITIES:

1. THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THESE PLANS OR NOT. THE CONTRACTOR SHALL EXPOSE ALL UTILITIES OR STRUCTURES PRIOR TO CONSTRUCTION TO VERIFY THE VERTICAL AND HORIZONTAL EFFECTS ON THE PROPOSED CONSTRUCTION.
2. THE CONTRACTOR SHALL NOTIFY THE U DIG NY AT LEAST 7 DAYS PRIOR TO THE START OF CONSTRUCTION.
3. WHERE POTENTIAL GRADE CONFLICTS MIGHT OCCUR WITH EXISTING UTILITIES, THE CONTRACTOR SHALL UNCOVER THE EXISTING UTILITY IN ADVANCE OF LAYING PIPE IN ORDER THAT THE ENGINEER MAY DETERMINE THE EXACT ELEVATION AND MAKE ANY NECESSARY ADJUSTMENTS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXERCISING REASONABLE CARE IN OPERATING EQUIPMENT IN THE VICINITY OF UTILITIES, WHETHER OVERHEAD, AT GROUND LEVEL, OR BURIED, AND SHALL SAVE AND HOLD HARMLESS C&S EINGINERES, INC., THE OWNER AND ANY OF THEIR DESIGNATED AGENTS FROM AND AGAINST ANY AND ALL CLAIMS AND DAMAGES OF ANY KIND OF INJURY TO, OR DEATH TO, ANY PERSON OR PERSONS AND FROM DAMAGE TO OR LOSS OF PROPERTY, ARISING OUT OF, OR ATTRIBUTED TO THE NEGLIGENCE OF CONTRACTOR'S OPERATIONS.

ELECTRICAL:

1. ALL ELECTRICAL WORK TO BE COMPLETED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL ELECTRICAL CODES, REGULATIONS AND REQUIREMENTS.
2. INSTALL AN OPERATIONAL MITIGATION FAN ALARM SYSTEM. EACH MITIGATION FAN SHALL BE EQUIPPED WITH AN ALARM TO PROVIDE AUDIBLE AND VISUAL INDICATION TO ALERT THE BUILDING MANAGER ON DUTY WHEN SYSTEM IS OFF. THE ALARM PANEL SHALL BE CENTRALLY LOCATED IN THE OFFICE SECTION ON THE FIRST FLOOR.THE ASSOCIATED PANEL AND BREAKER NUMBER SHALL BE INDICATED ON THE AS-BUILTS.
3. COMPLETE ALL ELECTRICAL WORK NECESSARY TO SUPPLY POWER TO THE SSDS PRE-PACKAGED AND PRE-WIRED SYSTEMS STAGED AT ROOF, INCLUDING ALL ELECTRICAL CONNECTIONS TO THE PANEL-MOUNT DISCONNECT SWITCHES PROVIDED WITH EACH SYSTEM.
4. INSTALL AND SECURE ALL SSDS PRE-PACKAGED EQUIPMENT AT THE ROOF LOCATIONS SHOWN HEREIN. EQUIPMENT SHALL BE ANCHORED/SECURED TO ROOF AS DIRECTED BY OWNER.

EQUIPMENT:

1. MITIGATION FANS SHALL BE RADONAWAY MODEL RP265 PRO SERIES OR ENGINEER-APPROVED EQUIVALENT.
2. MITIGATION SYSTEM FAN ALARM
3. MANOMETERS SHALL BE RADONAWAY® U-TUBE EASY-READ MANOMETERS OR EQUIVALENT.
4. INSULATED FIRE-RATED ACCESS DOORS SHALL BE BABCOCK-DAVIS BIT OR BIW, OR EQUIVALENT.
5. PRESSURE TUBING SHALL BE 1/4" O.D. TYPE LM BLACK NYLAFLOW TUBING, OR EQUIVALENT.
6. PRESSURE TUBING CAP SHALL BE SWAGELOK CARBON STEEL CAP FOR 1/4" O.D. TUBING, OR EQUIVALENT.
7. VAPOR SAMPLING DEVICE SHALL BE VAPOR PIN ® (FLX-VPSS), OR EQUIVALENT.

WARRANTY:

1. ALL WORK PERFORMED BY THE CONTRACTOR (OR CONTRACTOR'S SUBCONTRACTORS) TO BE WARRANTED FOR ONE YEAR FROM THE DATE OF COMPLETION.
2. DURING THE WARRANTY PERIOD, THE CONTRACTOR SHALL COMPLETE ANY ITEM OF WORK NEEDING TO BE REPLACED AND/OR REPAIRED AT NO COST TO THE OWNER, WITHIN TWO WEEKS AFTER NOTIFICATION BY THE OWNER.

CONCRETE:

1. CONCRETE SHALL BE 4,000 PSI (28-DAY) MINIMUM COMPRESSIVE STRENGTH.
2. ALL INTERIOR CONCRETE WORK SHALL BE COMPLETED IN ACCORDANCE WITH ACI 301, ACI 315, AND ACI 318.
3. ALL CRACKS, PERFORATION, HOLES, AND OTHER PENETRATIONS THROUGH CONCRETE FOUNDATION SHALL BE THOROUGHLY SEALED WITH ELASTOMERIC / URETHANE SEALANT.
4. ALL DISCONTINUITIES WITHIN THE FLOOR SLAB, INCLUDING BUT NOT LIMITED TO EXPANSION JOINTS, PIPE AND UTILITY PENETRATIONS, CONTROL JOINTS, CONSTRUCTION JOINTS, CRACKS IN THE FLOOR SLAB SHALL BE SEALED AT THE FINISHED FLOOR SURFACE USING URETHANE SEALANT.
5. ALL OPENINGS IN THE FLOOR SLAB GREATER THAN 0.5 INCHES IN WIDTH SHALL BE FILLED WITH SUITABLE EXPANDING FOAM SEALANT AND SEALED AT THE FINISHED FLOOR SURFACE WITH URETHANE SEALANT.

SITE RESTORATION:

1. REPAIR AND/OR REPLACE ANY FLOORING, STAIRWAYS, DRIVEWAYS, CONCRETE SIDEWALKS, CONCRETE APRONS, LANDSCAPING, ETC. DAMAGED OR REMOVED DURING CONSTRUCTION ACTIVITIES.

HEALTH AND SAFETY:

1. CONTRACTOR SHALL COMPLY WITH 40 CFR 1910.120 (OSHA HAZWOPER).
2. COMPLY WITH BASIC PROVISIONS OF OSHA HEALTH AND SAFETY STANDARDS 29 CFR 1910 AND GENERAL CONSTRUCTION STANDARDS 29 CFR 1926, AS APPROPRIATE TO THIS CONSTRUCTION AND SITE ACTIVITY.
3. ADHERE TO OSHA EXCAVATION REGULATIONS 29 CFR SECTIONS 1926.650, 1926.651, AND 1926.652.
4. ENSURE THAT ALL PERSONNEL ON SITE AND ALL ACTIVITIES CONTAINED THEREIN COMPLY WITH APPLICABLE LAWS AND REGULATIONS OF THE PUBLIC BODY HAVING JURISDICTION FOR SAFETY OF PERSONS OR PROPERTY.
5. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION AND ENFORCEMENT OF THEIR HEALTH AND SAFETY PLAN, AND TAKE THE NECESSARY PRECAUTIONS AND PROVIDE PROTECTION FOR:
   a. PERSONNEL WORKING ON OR VISITING THE PROJECT SITE (IRRESPECTIVE OF EMPLOYED BY THE CONTRACTOR);
   b. WORK MATERIAL(S) TO BE INCORPORATED INTO THE WORK AREA ON OR OFF SITE;
   c. OTHER PROPERTY AT OR ADJACENT TO THE PROJECT SITE; AND
   d. MEMBERS OF THE PUBLIC POTENTIALLY EXPOSED TO JOB RELATED ACTIVITY.

CONTAMINATED SOIL AND GROUNDWATER ENCOUNTERED DURING CONSTRUCTION:

1. THE SITE MAY CONTAIN SOILS AND GROUNDWATER IMPACTED WITH VOLATILE ORGANIC COMPOUNDS (VOC)s. IF ENCOUNTERED, CONTAMINATED SOILS AND GROUNDWATER MUST BE MANAGED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL RULES AND REGULATIONS.
2. ALL ACTIVITIES RELATED TO THE DISTURBANCE OF SOILS, TRENCH AND EXCAVATION WATER AND/OR GROUNDWATER AT THE SITE SHOULD BE CONDUCTED IN ACCORDANCE WITH AN ADEQUATE HEALTH AND SAFETY PLAN IN ACCORDANCE WITH OSHA REQUIREMENTS. THE CONTRACTOR MUST HAVE ITS OWN HEALTH AND SAFETY PLAN.
3. SOILS SHALL NOT BE TRANSPORTED OFF SITE UNTIL THEY ARE SCREENED AND DETERMINED TO BE “CLEAN” OR SOILS ARE CHARACTERIZED TO DETERMINE PROPER DISPOSAL REQUIREMENTS AND APPLICABLE PERMITS OR REGULATORY APPROVAL IS OBTAINED.
4. SHOULD WATER BE ENCOUNTERED, THE CONTRACTOR SHALL FURNISH AND OPERATE SUITABLE PUMPING EQUIPMENT OF SUCH CAPACITY ADEQUATE TO DEWATER THE TRENCH OR EXCAVATION. TRENCHES SHALL BE SUFFICIENTLY DEWATERED SO THAT THE PLACEMENT OF BEDDING AND LAYING AND JOINING OF THE PIPE IS MADE IN A TRENCH FREE OF STANDING WATER. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO PROPERLY PLAN AND MANAGE SURFACE WATER AND GROUNDWATER IN TRENCHES AND EXCAVATIONS.
5. SURFACE WATER OR GROUNDWATER COLLECTED IN A TRENCH OR EXCAVATION SHALL NOT BE DISCHARGED TO A STORM OR SANITARY SEWER.
6. INFORMATION REGARDING THE CONTAMINANTS IDENTIFIED AT THIS SITE CAN BE OBTAINED FROM THE ENGINEER, IF NECESSARY.

VAPOR PIN INSTALLATION:

INSTALL VAPOR PINS FOR FUTURE TESTING POINTS. VAPOR PINS SHALL BE INSTALLED ACCORDING TO FOLLOWING MANUFACTURER INSTRUCTIONS.

VaporPin®

Standard Operating Procedure
Installation and Extraction
of the Vapor Pin®
Updated March 16, 2018

Scope:

This standard operating procedure describes the installation and extraction of the VAPOR PIN® for use in sub-slab soil-gas sampling.

Purpose:

The purpose of this procedure is to assure good quality control in field operations and uniformity between field personnel in the use of the VAPOR PIN® for the collection of sub-slab soil-gas samples or pressure readings.

Equipment Needed:

- Assembled VAPOR PIN® [VAPOR PIN® and silicone sleeve(Figure 1)]; Because of sharp edges, gloves are recommended for sleeve installation;
- Hammer drill;
- 5/8-inch (16mm) diameter hammer bit (hole must be 5/8-inch (16mm) diameter to ensure seal. It is recommended that you use the drill guide). (Hilti™ TE-YX 5/8" x 22" (400 mm) #00206514 or equivalent);
- 1½-inch (38mm) diameter hammer bit (Hilti™ TE-YX 1½" x 23" #00293032 or equivalent) for flush mount applications;
- ¾-inch (19mm) diameter bottle brush;
- Wet/Dry vacuum with HEPA filter (optional);
- VAPOR PIN® installation/extraction tool;
- Dead blow hammer;
- VAPOR PIN® flush mount cover, if desired;
- VAPOR PIN® drilling guide, if desired;
- VAPOR PIN® protective cap; and
- VOC-free hole patching material (hydraulic cement) and putty knife or trowel for repairing the hole following the extraction of the VAPOR PIN®.

Figure 1. Assembled VAPOR PIN®

Installation Procedure:

1) Check for buried obstacles (pipes, electrical lines, etc.) prior to proceeding.
2) Set up wet/dry vacuum to collect drill cuttings.
3) If a flush mount installation is required, drill a 1½-inch (38mm) diameter hole at least 1¾-inches (45mm) into the slab. Use of a VAPOR PIN® drilling guide is recommended.
4) Drill a 5/8-inch (16mm) diameter hole through the slab and approximately 1-inch (25mm) into the underlying soil to form a void. Hole must be 5/8-inch (16mm) in diameter to ensure seal. It is recommended that you use the drill guide.

Standard Operating Procedure
Installation and Removal of the Vapor Pin®
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5) Remove the drill bit, brush the hole with the bottle brush, and remove the loose cuttings with the vacuum.
6) Place the lower end of VAPOR PIN® assembly into the drilled hole. Place the small hole located in the handle of the installation/extraction tool over the vapor pin to protect the barb fitting, and tap the vapor pin into place using a dead blow hammer (Figure 2). Make sure the installation/extraction tool is aligned parallel to the vapor pin to avoid damaging the barb fitting.

Figure 2. Installing the VAPOR PIN®

During installation, the silicone sleeve will form a slight bulge between the slab and the VAPOR PIN® shoulder. Place the protective cap on VAPOR PIN® to prevent vapor loss prior to sampling (Figure 3).

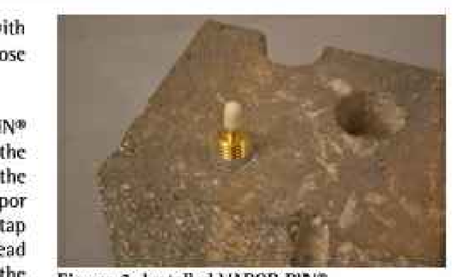

Figure 3. Installed VAPOR PIN®

7) For flush mount installations, cover the vapor pin with a flush mount cover, using either the plastic cover or the optional stainless-steel Secure Cover (Figure 4).

Figure 4. Secure Cover Installed

8) Allow 20 minutes or more (consult applicable guidance for your situation) for the sub-slab soil-gas conditions to re-equilibrate prior to sampling.
9) Remove protective cap and connect sample tubing to the barb fitting of the VAPOR PIN®. This connection can be made using a short piece of Tygon™ tubing to join the VAPOR PIN® with the

Standard Operating Procedure
Installation and Removal of the Vapor Pin®
Updated March 16, 2018
Page 3

Nylaflow tubing (Figure 5). Put the Nylaflow tubing as close to the VAPOR PIN® as possible to minimize contact between soil gas and Tygon™ tubing.

Figure 5. VAPOR PIN® sample connection

10) Conduct leak tests in accordance with applicable guidance. If the method of leak testing is not specified, an alternative can be the use of a water dam and vacuum pump, as described in SOP Leak Testing the VAPOR PIN® via Mechanical Means (Figure 6). For flush-mount installations, distilled water can be poured directly into the 1 1/2 inch (38mm) hole.

Figure 6. Water dam used for leak detection

11) Collect sub-slab soil gas sample or pressure reading. When finished, replace the protective cap and flush mount cover until the next event. If the sampling is complete, extract the VAPOR PIN®.

Extraction Procedure:

1) Remove the protective cap, and thread the installation/extraction tool onto the barrel of the VAPOR PIN® (Figure 7). Turn the tool clockwise continuously, don't stop turning, the VAPOR PIN® will feed into the bottom of the installation/extraction tool and will extract from the hole like a wine cork, DO NOT PULL.
2) Fill the void with hydraulic cement and smooth with a trowel or putty knife.

Figure 7. Removing the VAPOR PIN®

- Prior to reuse, remove the silicone sleeve and protective cap and discard. Decontaminate the VAPOR PIN® in a hot water and Alconox® wash, then heat in an oven to a temperature of 265° F (130° C) for 15 to 30 minutes. For both steps, STAINLESS – ½ hour, BRASS 8 minutes

A1 **NOTES**
NOT TO SCALE

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NEWARK, NEW YORK 14513
SUB-SLAB DEPRESSURIZATION DESIGN SYSTEM

MARK	DATE	DESCRIPTION
5	9/08/25	LAYOUT CHANGE
4	7/25/25	LAYOUT CHANGE
3	7/8/25	SCALE / LAYOUT CHANGE
2	6/9/25	LAYOUT CHANGE
1	10/23/24	LAYOUT CHANGE

REVISIONS

PROJECT NO: W96.007.002
DATE: OCTOBER 23, 2024
DRAWN BY: N. COULOMBE
DESIGNED BY: N. COULOMBE
CHECKED BY: M. WALKER

NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK EDUCATION LAW

SOIL VAPOR / RADON MITIGATION SYSTEM

NOTE SHEET

G-101

Sep 06, 2025 - 9:08am
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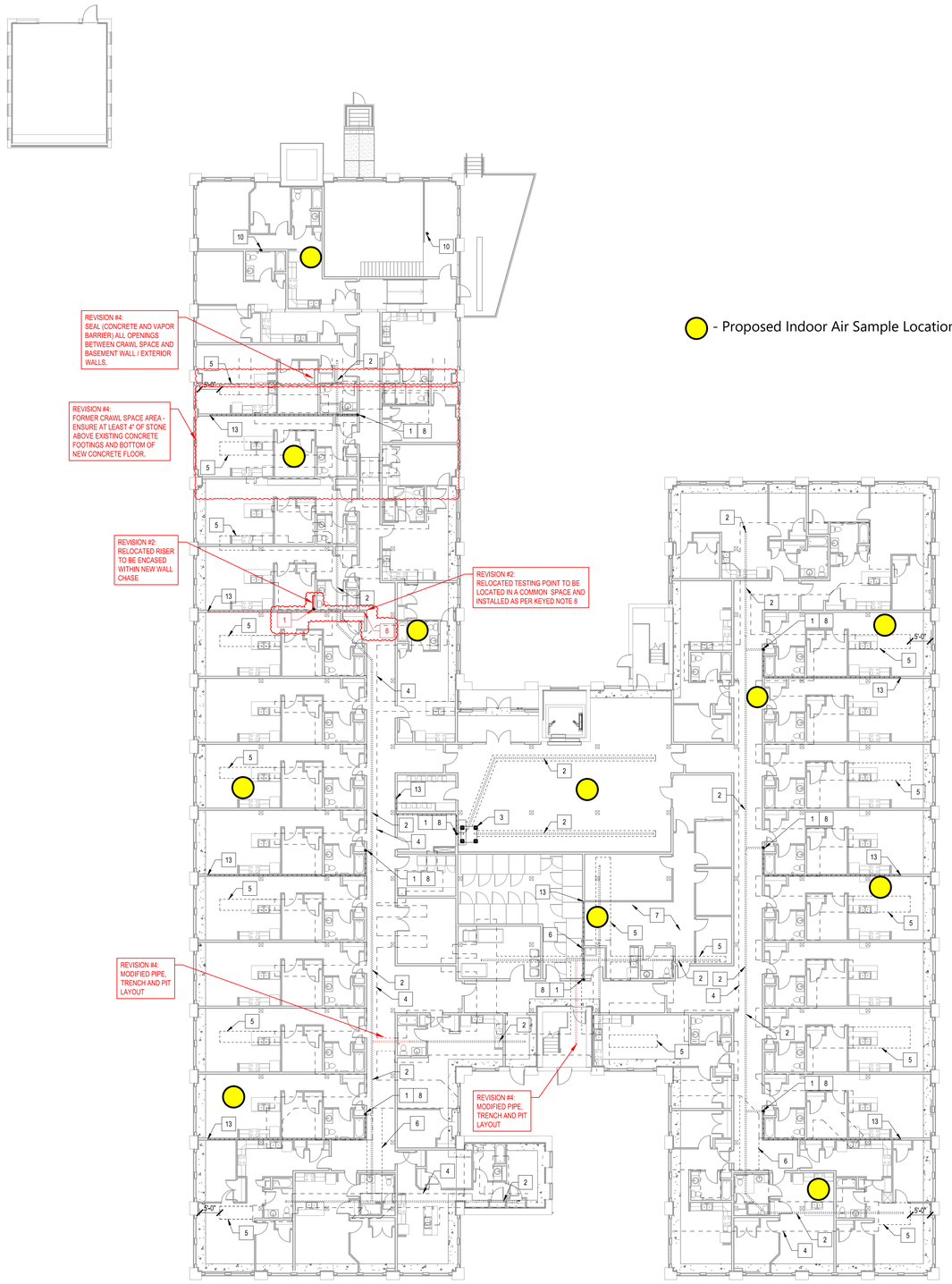

PLAN NORTH

REVISION #3: SCALE CHANGE FROM $\frac{1}{4}$" TO $\frac{1}{8}$"

A1 FIRST FLOOR - SOIL / RADON VAPOR MITIGATION

SCALE: 1/16" = 1'-0"

0 8' 16' 32'

KEYED NOTES:

1. 6" SCHED. 40 PVC VERTICAL VAPOR & RADON MITIGATION PIPE (NO TURNS) UP THROUGH FLOORS ABOVE TO ROOF. RISER TO BE ENCASED WITH SHEETROCK FOR PROTECTION. SEE DETAIL (A3) ON DETAIL SHEET (V-200)
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6. PROPOSED TRENCH CONNECTION TO SUPPORT MITIGATION COVERAGE.
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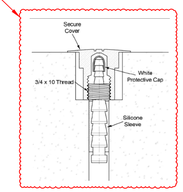
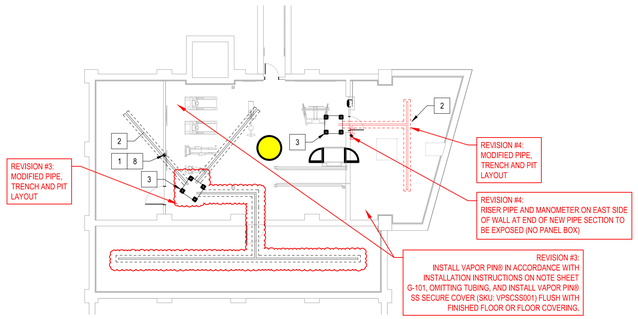
LEGEND:

- VAPOR/RADON MITIGATION RISER
- EXISTING UTILITY TRENCH
- NEW TRENCH AND/OR TRENCH EXTENSION
- 4" SCHED. 40 PVC PERORATED PIPING
- PRESSURE FIELD TESTING LINE

REVISION #3: EXAMPLE OF THE VAPOR PIN® SS SECURE COVER (SKU: VPSCSS001) INSTALLED FLUSH WITH FLOOR





PLAN NORTH

REVISION #3: SCALE CHANGE FROM $\frac{1}{4}$" TO $\frac{1}{8}$"

A3 BASEMENT - SOIL / RADON VAPOR MITIGATION

SCALE: 1/16" = 1'-0"

0 8' 16' 32'

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REVISIONS

PROJECT NO:	W96.007.002
DATE:	OCTOBER 23, 2024
DRAWN BY:	N. COULOMBE
DESIGNED BY:	N. COULOMBE
CHECKED BY:	M. WALKER

NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK EDUCATION LAW

SOIL VAPOR / RADON MITIGATION SYSTEM

MAIN BUILDING BASEMENT & FIRST FLOOR

V-101

Sep 08, 2025 - 9:08am
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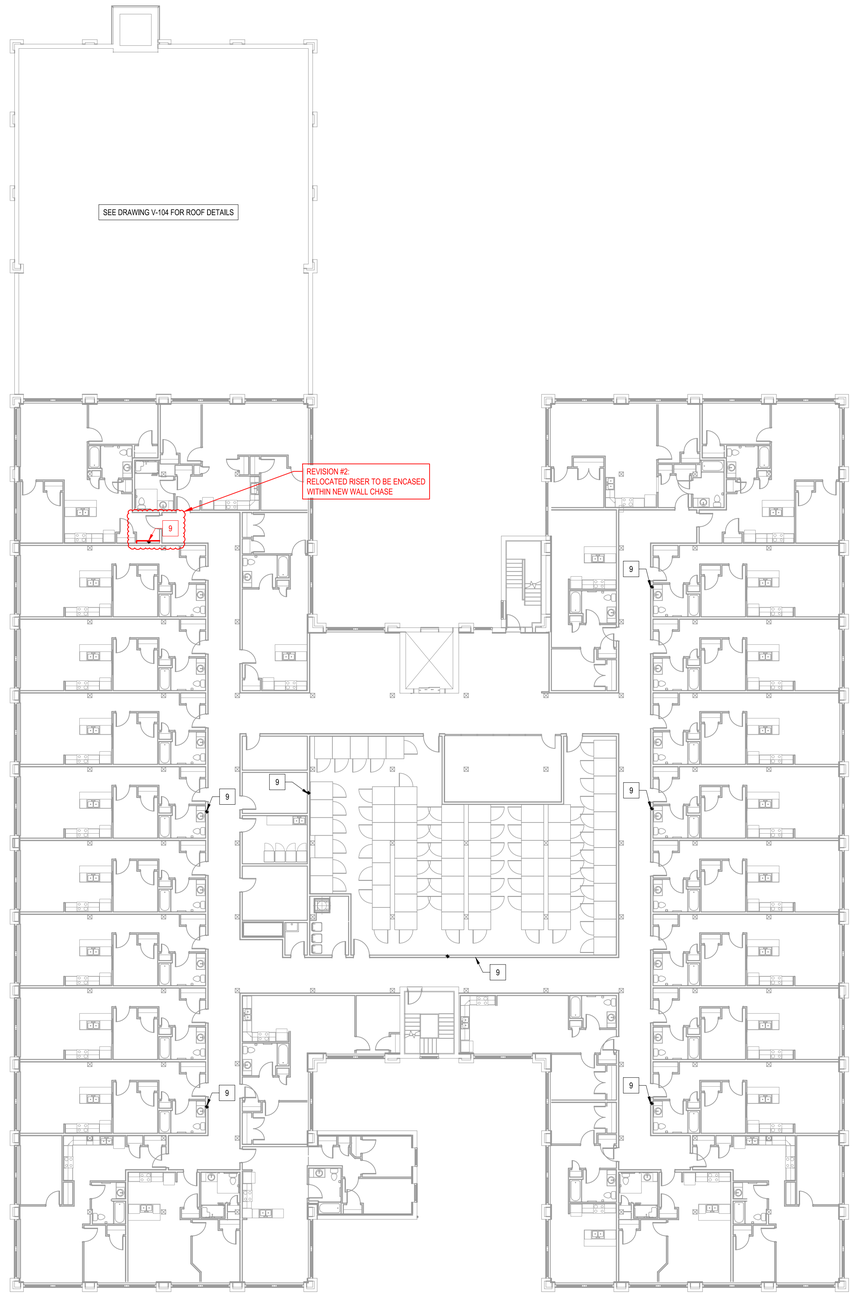

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- EXISTING UTILITY TRENCH
- NEW TRENCH AND/OR TRENCH EXTENSION
- 4" SCHED. 40 PVC PERORATED PIPING
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PLAN NORTH

REVISION #3:
SCALE CHANGE
FROM 1/8" TO 1/16"

A1 SECOND FLOOR - SOIL / RADON VAPOR MITIGATION

SCALE: 1/16" = 1'-0"

0 8' 16' 32'

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REVISIONS

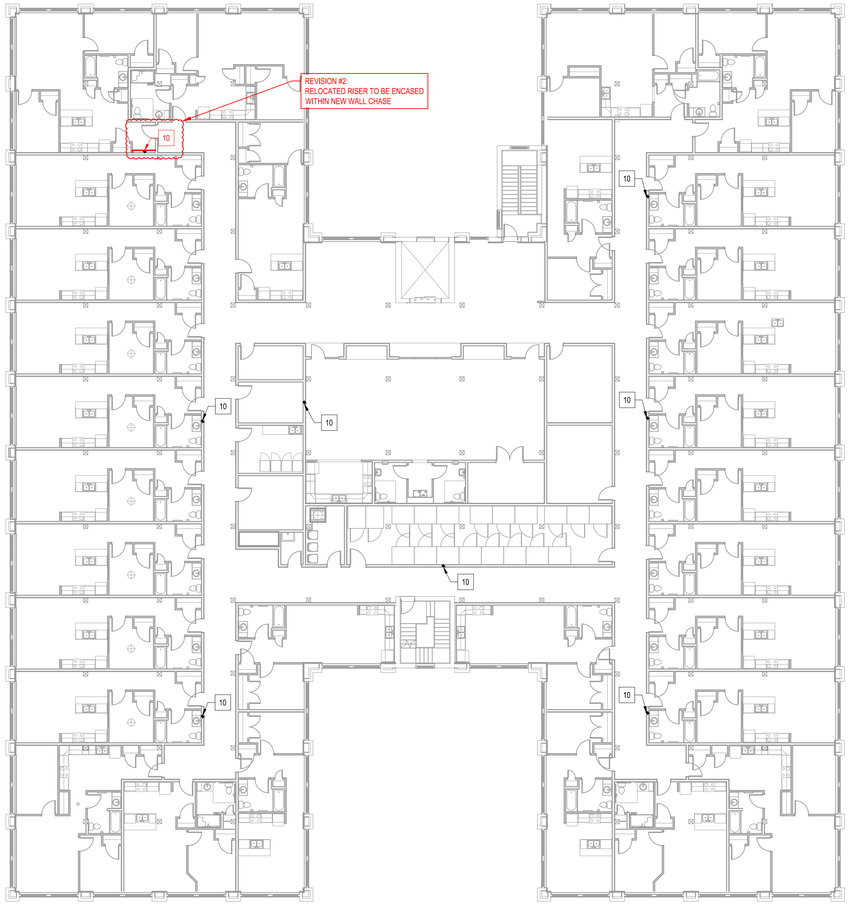
PROJECT NO:	W96.007.002
DATE:	OCTOBER 23, 2024
DRAWN BY:	N. COULOMBE
DESIGNED BY:	N. COULOMBE
CHECKED BY:	M. WALKER

SOIL VAPOR / RADON MITIGATION SYSTEM

MAIN BUILDING

SECOND FLOOR

V-102



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PLAN NORTH

REVISION #3:
SCALE CHANGE
FROM 1/8" TO 3/32"

A1 THIRD FLOOR - SOIL / RADON VAPOR MITIGATION

SCALE: 1/16" = 1'-0"

0 8' 16' 32'

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REVISIONS

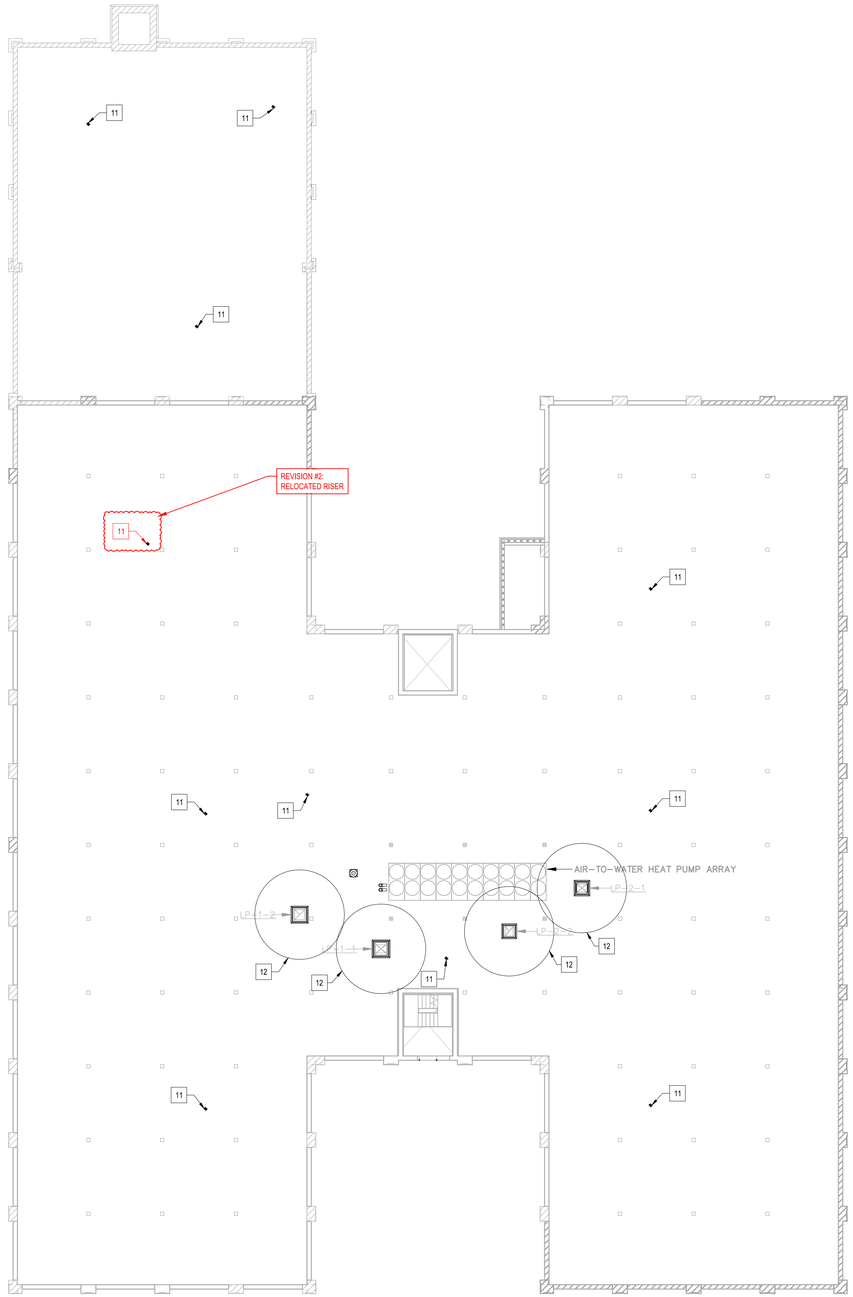
PROJECT NO:	W96.007.002
DATE:	OCTOBER 23, 2024
DRAWN BY:	N. COULOMBE
DESIGNED BY:	N. COULOMBE
CHECKED BY:	M. WALKER

SOIL VAPOR / RADON MITIGATION SYSTEM

MAIN BUILDING

THIRD FLOOR

V-103



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- 4" SCHED. 40 PVC PERORATED PIPING
- PRESSURE FIELD TESTING LINE

REVISION #2:
RELOCATED RISER

REVISION #3:
SCALE CHANGE
FROM 3/32" TO 1/16"

PLAN NORTH

A1 ROOF - SOIL / RADON VAPOR MITIGATION

SCALE: 1/16" = 1'-0"

0 8' 16' 32'

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1	10/23/24	LAYOUT CHANGE

REVISIONS

PROJECT NO:	W96.007.002
DATE:	OCTOBER 23, 2024
DRAWN BY:	N. COULOMBE
DESIGNED BY:	N. COULOMBE
CHECKED BY:	M. WALKER

SOIL VAPOR / RADON MITIGATION SYSTEM

MAIN BUILDING

ROOF

V-104

Sep 06, 2025 - 9:08am
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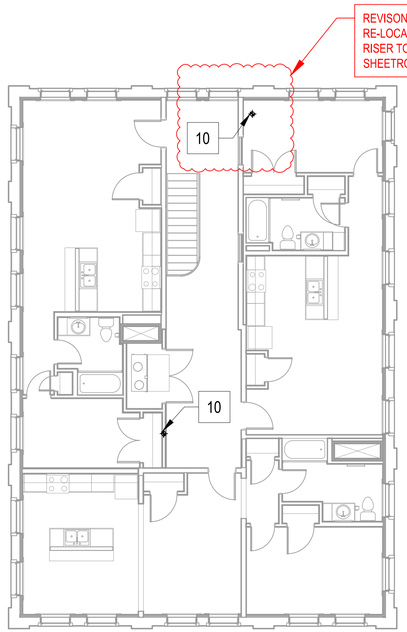
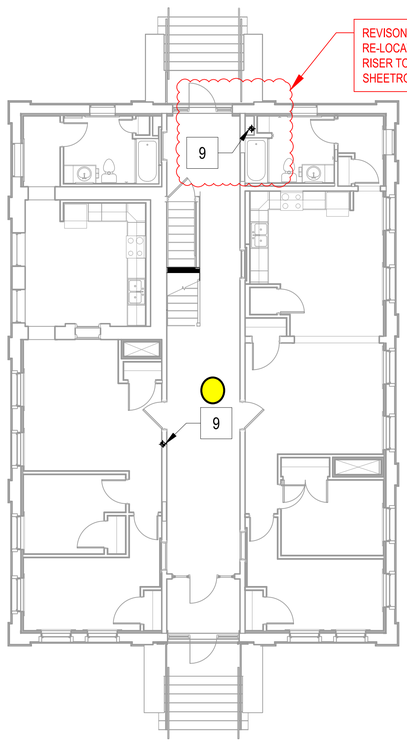


A1 SECOND FLOOR - SOIL / RADON VAPOR MITIGATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'



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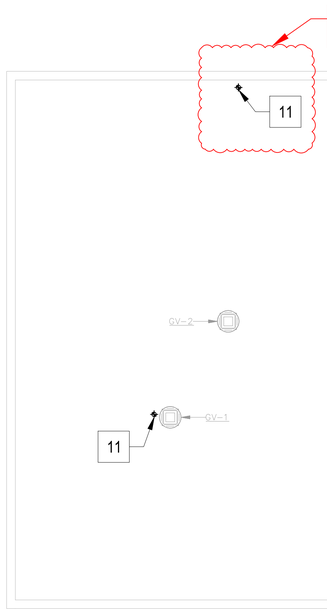
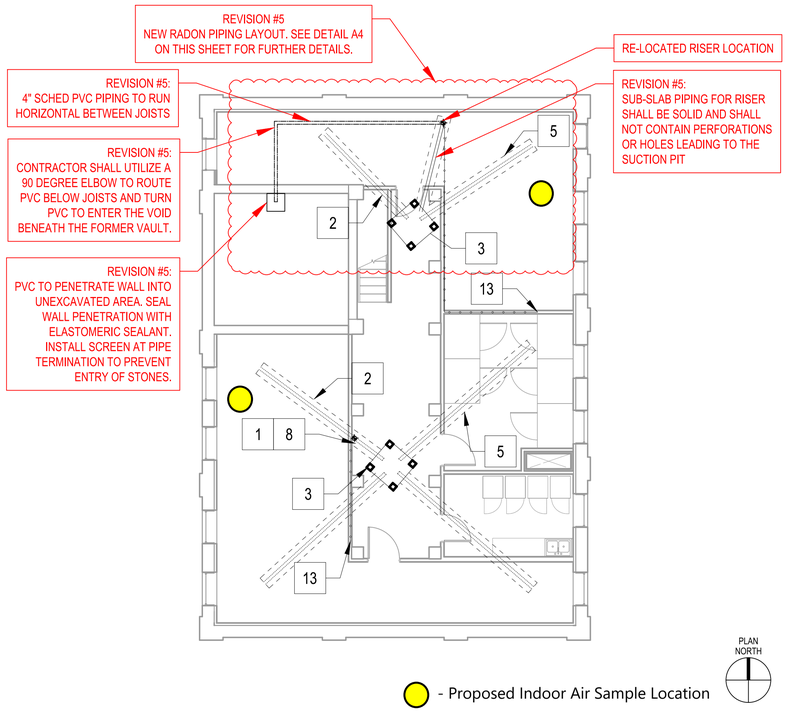


C3 ROOF - SOIL / RADON VAPOR MITIGATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'



A3 BASEMENT - SOIL / RADON VAPOR MITIGATION

SCALE: 1/8" = 1'-0"

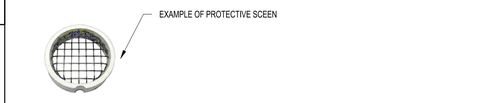
0 4' 8' 16'

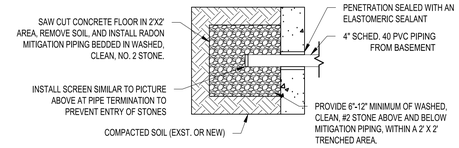
KEYED NOTES:

1. 6" SCHED. 40 PVC VERTICAL VAPOR & RADON MITIGATION PIPE (NO TURNS) UP THROUGH FLOORS ABOVE TO ROOF. RISER TO BE ENCASED WITH SHEETROCK FOR PROTECTION. SEE DETAIL (A3) ON DETAIL SHEET (V-200)
2. 4" SCHED. 40 PVC PERFORATED PIPING-TYPE DB - UNDER SLAB. SEE DETAIL (B3) ON DETAIL SHEET (V-200)
3. VAPOR & RADON MITIGATION PIT. SEE DETAIL (A1) ON DETAIL SHEET (V-200),
4. PROPOSED UTILITY TRENCH TO BE UTILIZED TO SUPPORT 4" SCHED. 40 PVC PERFORATED PIPING. TRENCH TO BE BACKFILLED WITH CLEANED, WASHED, COARSE STONE. SEE NOTE SHEET (G-101) FOR FURTHER INFORMATION.
5. PROPOSED TRENCH EXTENSION TO SUPPORT MITIGATION COVERAGE. TRENCH EXTENSION SHOULD TERMINATE 5' FROM EXTERIOR WALL.
6. PROPOSED TRENCH CONNECTION TO SUPPORT MITIGATION COVERAGE.
7. VAPOR / RADON ALARM SYSTEM SHALL BE LOCATED IN THE OFFICE (COORDINATE LOCATION WITH OWNER).
8. A MINIMUM OF A 12"x12" INSULATED FIRE-RATED ACCESS DOOR SHALL BE INSTALLED IN A COMMON SPACE WALL (DETAIL C1) TO ALLOW INSPECTIONS / READINGS OF MANOMETER (DETAIL C3) AND SUB-SLAB PRESSURE READINGS FROM TUBING CONNECTED TO VAPOR POINT (DETAIL D3). ALL DETAILS CAN BE FOUND ON SHEET (V-200) AND ADDITIONAL INFORMATION CAN BE FOUND ON NOTE SHEET (G-101).
9. 6" SCHED. 40 PVC VAPOR & RADON MITIGATION PIPE FROM BELOW & UP TO ABOVE (NO TURNS) - UP THROUGH ROOF. RISER TO BE ENCASED WITH SHEETROCK FOR PROTECTION.
10. 6" SCHED. 40 PVC VAPOR & RADON MITIGATION PIPE FROM BELOW & UP TO ABOVE. PIPE TO PENETRATE EPDM ROOF. RISER TO BE ENCASED WITH SHEETROCK FOR PROTECTION. SEE DETAIL (A4) ON DETAIL SHEET (V-200).
11. 6" SCHED. 40 PVC VAPOR & RADON MITIGATION PIPE FROM BELOW. PIPING AT EPDM ROOF. SEE DETAIL (A4) ON DETAIL SHEET (V-200).
12. MAINTAIN MINIMUM SEPERATION OF 10'-0" BETWEEN ERV INTAKE AND VENTS/EF'S AND MITIGATION EXHAUSTS. (TYP, ALL ERV'S)
13. INSTALL VAPOR PIN® ACCORDING TO INSTALLATION INSTRUCTIONS PROVIDED ON NOTE SHEET (G-101) AND SEE DETAIL (C4) ON DETAIL SHEET (V-200) FOR FURTHER INFORMATION.

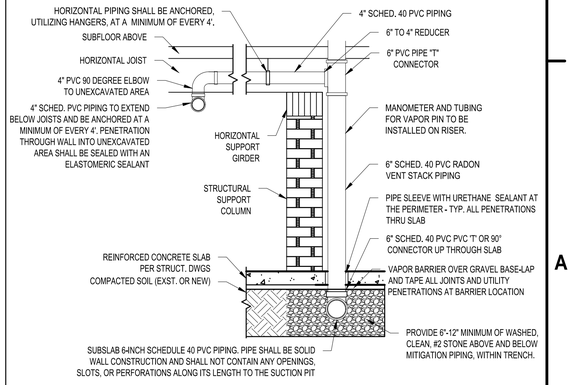
LEGEND:

- VAPOR/RADON MITIGATION RISER
- PROPOSED UTILITY TRENCH
- PROPOSED TRENCH EXTENSION / CONNECTION
- 4" SCHED. 40 PVC PERORATED PIPING
- PRESSURE FIELD TESTING LINE
- 4" SCHED. 40 PVC SOLID WALL CONSTRUCTION





FLOOR PENETRATION DETAIL



NEW RISER & PIPING DETAIL

A4 REVISION 5: ANNEX PIPING DETAILS

SCALE: NOT TO SCALE

C&S COMPANIES®
C&S Engineers, Inc.
499 Col. Eileen Collins Blvd.
Syracuse, New York 13212
Phone: 315-455-2000
Fax: 315-455-9667
www.cscos.com

CERTIFICATE OF AUTHORIZATION #: 0018122

Registration Expires: 04.31.2026

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COVENTRY COMMONS
130-132 HARRISON STREET
NEWARK, NEW YORK 14513
SUB-SLAB DEPRESSURIZATION SYSTEM
DESIGN SYSTEM

MARK	DATE	DESCRIPTION
5	9/08/25	LAYOUT CHANGE
4	7/25/25	LAYOUT CHANGE
3	7/8/25	SCALE / LAYOUT CHANGE
2	6/9/25	LAYOUT CHANGE
1	10/23/24	LAYOUT CHANGE

REVISIONS

PROJECT NO:	W96.007.002
DATE:	OCTOBER 23, 2024
DRAWN BY:	N. COULOMBE
DESIGNED BY:	N. COULOMBE
CHECKED BY:	M. WALKER

SOIL VAPOR / RADON MITIGATION SYSTEM

ANNEX BUILDING

V-100

Sep 06, 2025 - 9:05am
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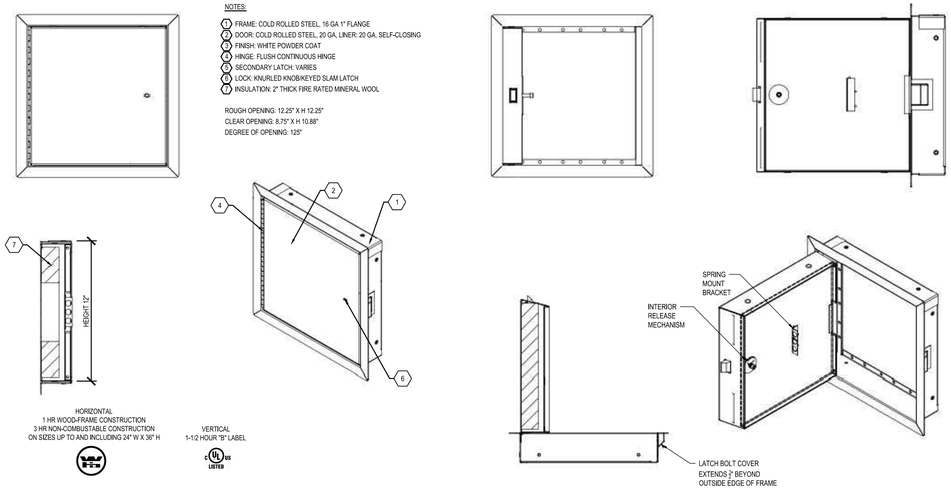

C1 INSULATED FIRE-RATED ACCESS DOOR

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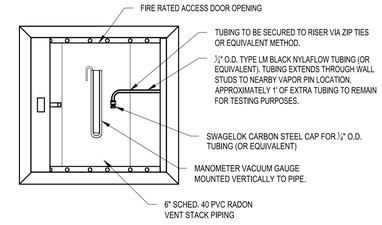

D3 PRESSURE TUBE @ MANOMETER INSTALLATION DETAIL

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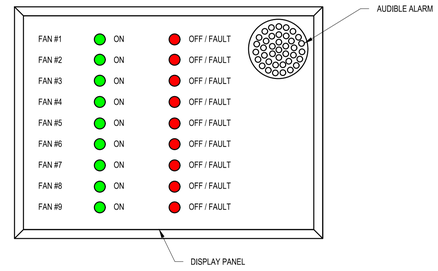

D4 FAN ALARM PANEL DETAIL

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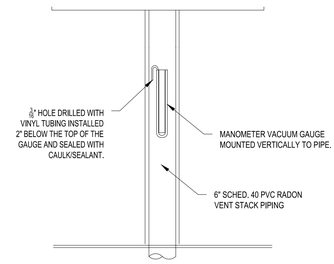

C3 MANOMETER GAUGE INSTALLATION DETAIL

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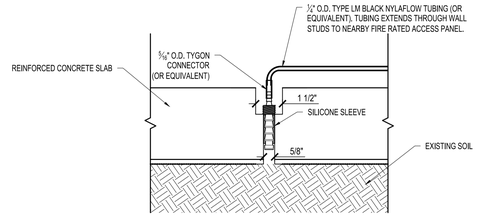
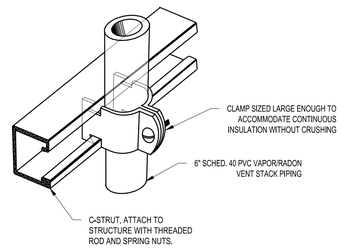


NOTE: REFER TO NOTES SHEET (G-101) FOR MANUFACTURER INSTALLATION INSTRUCTIONS.

C4 VAPOR PIN DETAIL

NOT TO SCALE



B1 PIPE SUPPORT DETAIL

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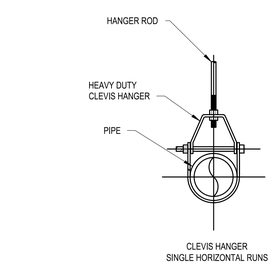

B2 HORIZONTAL PIPE SUPPORT DETAIL

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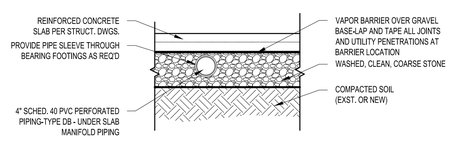

B3 SUB-SLAB PIPING DETAIL

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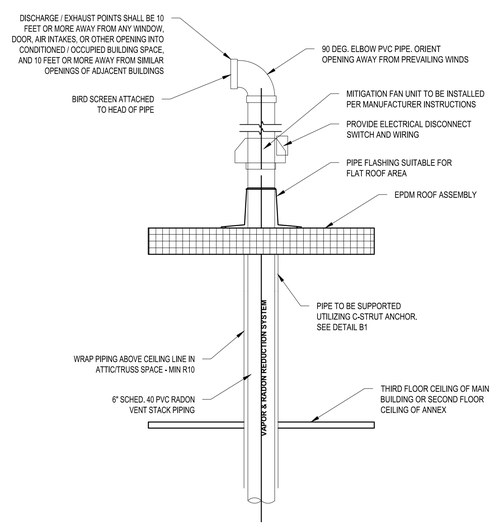

A4 VENT STACK ROOF PENETRATION DETAIL

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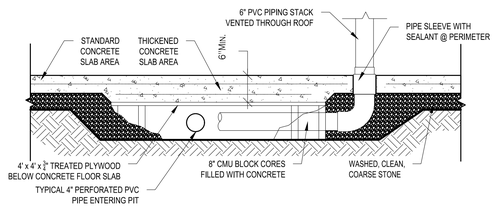

A1 SUB-FLOOR EXTRACTION PIT DETAIL

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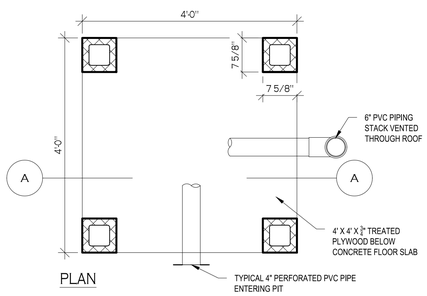

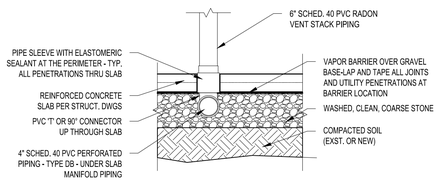

A3 TYP. PIPE PENETRATION DETAIL

NOT TO SCALE

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REVISIONS

PROJECT NO:	W96.007.002
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DRAWN BY:	N. COULOMBE
DESIGNED BY:	N. COULOMBE
CHECKED BY:	M. WALKER

NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK EDUCATION LAW

SOIL VAPOR / RADON MITIGATION SYSTEM

DETAIL SHEET

V-200

Appendix C

Health and Safety Plan

C&S Engineers, Inc.
499 Colonel Eileen Collins Blvd.
Syracuse, New York 13212

Health and Safety Plan

Coventry Commons
130-132 Harrison Street, Newark, New York
NYSDEC Site No. 859036

Prepared for:

HOUSINGVISIONS
Real Plans. Real People. Real Progress.

Coventry Commons LLC
1201 East Fayette Street
Syracuse, New York

February 2025

Health and Safety Plan

Coventry Commons
130-132 Harrison Street
Newark, Wayne County, New York
NYSDEC Site No. 859036

Prepared by:

C&S Engineers, Inc.
499 Colonel Eileen Collins Blvd
Syracuse, New York 13212

Prepared for:

Coventry Commons LLC
1201 East Fayette Street
Syracuse, New York

EMERGENCY PHONE NUMBERS

Emergency Service.....911

Police: Newark Police Department.....(315) 331-3701

Fire: Newark Fire Department.....(315) 331-1451

Hospital: RRH Newark-Wayne Community Hospital.....(315) 332-2022

Department of Public Works.....(315) 331-6199

National Response Center.....(800) 424-8802

Poison Control Center .....(800) 222-1222

Center for Disease Control.....(800) 311-3435

NYSDEC Region 8 (Avon, New York).....(585) 226-8139

C&S Engineers .....(315) 455-2000

TABLE OF CONTENTS

APPENDICES

SECTION 1 – GENERAL INFORMATION

This Health and Safety Plan (HASP) addresses health and safety considerations for soil disturbance activities that contractors and staff may engage in during the redevelopment or future operation of the Site at 130-132 Harrison Street, Newark, New York; hereby, referred to as (Site). Personnel engaged in the handling of contaminated soil are required to maintain current HAZWOPER training, including initial 40-hour training, on-the-job training, and consistent annual 8-hour refresher training, as per the requirements of 29 CFR 1910.120.

The content of the HASP may change or undergo revision based upon receipt of additional information.

1.1 Responsibilities

Project Manager.....	Name: Matt Walker Phone: (315) 703-4323 Cell: (315) 200-5872
Director of Health and Safety.....	Name: Michael Sherlock Phone: (315) 703-4210 Cell: (315) 420-3455
Site Health and Safety Officer.....	Name: Hayden Haas Phone: (315) 703-4158 Cell: (315) 317-2446
Emergency Coordinator.....	Name: Hayden Haas Phone: (315) 703-4158 Cell: (315) 317-2446

1.2 Applicable Standards and Regulations References

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only. Where a conflict or overlap among regulations and/or these specifications exist, the most stringent requirements shall apply. The Project Manager will determine which requirements are most stringent.

1. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

a. ANSI Z89.1, Personnel Protective Equipment-Protective Headwear for Industrial Workers-Requirements (Latest Revision)
b. ANSI Z87.1, Occupational and Educational Personal Eye and Face Protection Devices
c. *ANSI Z9.2,* Fundamentals Governing the Design and Operation of Local Exhaust Systems
d. *ANSI Z88.2-80,* Practices for Respiratory Protection

2. CODE OF FEDERAL REGULATIONS (CFR)

a. 29 CFR Subpart D Walking-Working Surfaces
b. 29 CFR 1910 Occupational Safety and Health Standards-All Sections
c. 29 CFR 1926 Safety and Health Regulations for Construction-All Sections
d. 40 CFR 50.6 National Primary and Secondary Ambient Air Quality Standards for Particulate Matter
e. 40 CFR 61 National Emissions Standards for Hazardous Air Pollutants (NESHAPS)-Subpart A-General Provisions
f. 49 CFR 172 Hazardous Material Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

3. NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

a. Publication Number 87-108 Respiratory Decision Logic
b. NIOSH/OSHA Booklet 3142 Lead in Construction
c. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (NIOSH Publication 85-115)

4. U.S. DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

a. PUB 3126 Working with Lead in the Construction Industry
b. 29 CFR 1910, Subpart I, Appendix B-Non-Mandatory Compliance Guidelines for Hazard Assessment and Personal Protective Equipment Selection

SECTION 2 – HEALTH AND SAFETY PERSONNEL

The following information briefly describes the health and safety designations and general responsibilities for this Site.

2.1 Project Manager (PM)

The PM is responsible for the overall project including the implementation of the HASP. Specifically, this includes allocating adequate manpower, equipment, and time resources to conduct Site activities safely.

2.2 Health and Safety Manager

- Has the overall responsibility for coordinating and reporting health and safety activities and the health and safety of Site Workers.
- Must have completed, at a minimum, the OSHA 30-Hour Construction Safety Training, and either the 24-Hour training course for the Occasional Hazardous Waste Site Worker or the 40-Hour training course for the Hazardous Waste Operations Worker that meets OHSA 29 CFR 1910.
- Must have completed the 8-Hour Site supervisor/manager's course for supervisors and managers having responsibilities for hazardous waste Site operations and management.
- Directs and coordinates health and safety monitoring activities.
- Ensures that field teams utilize proper personal protective equipment (PPE).
- Conducts initial on-site specific training prior to Site Workers commencing work.
- Conducts and documents daily and periodic safety briefings.
- Ensures that field team members comply with this HASP.
- Immediately notifies the Project Manager of all accident / incidents.
- Determines upgrading or downgrading of PPE based on Site conditions and/or real time monitoring results.
- Ensures that monitoring instruments are calibrated daily or as the manufacturer's instructions determine.
- Provides daily summaries of field operations and progress to the Project Manager.
- Submits and maintains all documentation required in this HASP and any other pertinent health and safety documentation.

2.3 Health and Safety Officer (HSO)

- Must be designated by the Health and Safety Manager and at a minimum, have the OSHA 10-Hour Construction Safety Training.
- Must schedule and attend a Pre-Construction Safety Meeting with the Health and Safety Manager to discuss the Subcontractor Safety Requirements and must attend the Weekly Subcontractor Coordination Meeting.
- Responsible for ensuring subcontractors and their lower tier contractors comply with project safety requirements.

- Must make frequent and regular inspections of their work areas and activities and ensure hazards that are under their control are corrected immediately and all other hazards are reported to the Project Manager and Health and Safety Manager.
- Must report all work-related injuries, regardless of severity, to the Project Manager and the Health and Safety Manager within 24 hours after they occur.

2.4 Emergency Coordinator

- The Emergency Coordinator or his on-site designee will, in coordination with the Authority / Agency having Jurisdiction, implement the emergency response procedures outlined in Section 12 whenever conditions at the Site warrant such action.
- The Emergency Coordinator or his on-site designee will be responsible for assuring the evacuation, emergency treatment, emergency transport of personnel as necessary, and notification of emergency response units (refer to phone listing in the beginning of this HASP) and the appropriate management staff.

2.5 Site Workers

- Report any unsafe or potentially hazardous conditions to the HSO and the Health and Safety Manager.
- Maintain knowledge of the information, instructions, and emergency response actions contained in the HASP.
- Comply with rules, regulations, and procedures as set forth in this HASP, including any revisions that are instituted.
- Prevent unauthorized personnel from entering work Site.

SECTION 3 – SITE HAZARDS EVALUATION

3.1 Chemical Hazards

Site History and Nature of Chemical Hazards

The Site was historically utilized for industrial purposes including machining, tinware manufacturing, cosmetics manufacturing, jewelry manufacturing, which involved electroplating, plating, anodizing, coloring, and the generation of hazardous waste. These types of businesses utilize petroleum products and chemicals such as chlorinated solvents and potentially per- and polyfluoroalkyl substances (PFAS).

Site investigations were performed in 2020, 2022, 2023, and 2024, which included the advancement of 24 soil borings and collection and analysis of 24 soil samples, the installation and sampling of six temporary groundwater monitoring wells, and the collection and analysis of air samples. The samples did not indicate an exceedance of a soil or groundwater standard for VOCs, although low levels of chlorinated solvents are present in groundwater which may be a contributing factor to soil vapor intrusion. Air sampling data indicated exceedances of NYSDOH criteria at concentrations that requires mitigation.

Six soil and three groundwater samples were analyzed for PFAS. The majority of the PFAS compound concentrations in the soil were below laboratory detection limits. The concentration of PFOS in the sample from one boring was 0.00293 parts per million (ppm), which exceeded the Unrestricted Use Soil Cleanup Objective (SCO) of 0.00088 ppm, but is below the Restricted Residential Use SCO of 0.044 ppm. The soil results show compliance with the guidance values intended for a site with a multi-family apartment. Perfluorooctanesulfonic Acid (PFOS) in MW-202 and MW-203 ranged from 0.0275 to 0.035 micrograms per cubic liter (ug/L), as compared to a guidance value of 0.0027 ug/L. Perfluorooctanoic Acid (PFOA) in the same two wells ranged from 0.0239 to 0.0448 ug/L, compared to a guidance value of 0.0067 ug/L. MW-202 is located to the north of the building on the anticipated downgradient side of the Site, while MW-203 is located to the south of the building on the anticipated upgradient side of the Site. Although concentrations at these two locations exceed the current guidance values, the concentrations are not indicative of a groundwater source in the immediate area.

Two 12,000-gallon no. 2 fuel oil underground storage tanks (USTs) were installed some time before 1986 and removed and closed in October 2013. At the time of closure, contamination was encountered around the tanks and spill no. 1307418 was assigned. Closeout soil samples indicated only two slight exceedances of semi-volatile organic compounds (SVOCs). Benzo(b)fluoranthene was detected at 1.2 ppm compared to the Restricted Residential Use SCO of 1 ppm. Indeno(1,2,3-cd)pyrene was detected at 0.556 ppm compared to the Restricted Residential Use SCO of 0.5 ppm. Approximately 200 tons of petroleum contaminated soil was excavated and transported to the Ontario County Landfill. According to existing records, no further remedial work was required and the New York State Department of Environmental Conservation (NYSDEC) closed the spill as not meeting standards. It is expected that subsurface soil in this area may exhibit nuisance

characteristics of petroleum impacts such as odors, staining, and detectable photoionization detector (PID) readings.

Another area of potential impacts are former rail spurs that provided service to the rear and east side of the building. It is unknown if there are impacts along the former spurs. However, there is potential that herbicides were applied and hazardous substances could have spilled from the rail cars.

Common Routes of Exposure

The contaminants at the Site may enter the human body in a variety of ways. Based on the nature of site contaminants, the chemical routes of exposure anticipated from the remedial activities at this site include:

Route	Mechanism	Control
Absorption	Dermal (skin) contact with impacted soil on-site resulting in absorption of chemicals of concern through the skin and into the blood stream.	Proper use of PPE will minimize risks of exposure at the site.
Ingestion	Chemicals / materials of concern can come in direct contact with the mouth from soil or other contaminated areas (PPE, skin, tools, etc.) and enter the bloodstream through the stomach lining.	Proper care in handling PPE and tools, refraining from eating and drinking at the Site, and frequent hand washing with soap and water will minimize risks of exposure.
Inhalation	Volatile vapors and/or contaminants attached to dust and particulates can be entrained by wind and become airborne across the site and be subsequently inhaled through the nose and / or mouth. This exposure route is the most likely way for worker exposure to occur.	Conduct monitoring of air quality for VOCs in worker breathing zones. Employ methods that minimize the creation of dust and utilize dust suppression techniques to minimize dust and particulates. Respirators with appropriate filtration and organic adsorption cartridges should be available to on-site workers in case volatile compounds become a nuisance or health hazard.

3.2 Physical Hazards

Based upon the anticipated field activities, the following potential physical hazardous conditions may exist:

Category	Mechanism	Control
Mechanical Equipment	The use of typical mechanical equipment can create a potential for crushing and pinching hazards due to movement and positioning of the equipment, movement of lever arms and hydraulics, and entanglement of clothing and appendages in exposed drives and tracks. Mechanical equipment can also create a potential for impact of steel tools, masts, and cables should equipment rigging fail, or other structural failures occur during hydraulic equipment operation.	Heavy equipment work must be conducted only by trained, experienced personnel. If possible, personnel must remain outside the turning radius of large, moving equipment. At a minimum, personnel must maintain visual contact with the equipment operator. When not operational, equipment must be set and locked so that it cannot be activated, released, dropped, etc. The mechanical equipment stated above represents typical equipment that is ordinarily used during this scope of work, but is not meant to be an all-inclusive list. Similar precautions should be used around other mechanical equipment deployed to the Site that is not listed above.
Excavations and Trenches	The use of excavation/trenching such as removal of soils, installation of utilities, and site grading operations can cause potential for suffocation, crushing, or other injury from falling material. Advancement of excavation and trenches can also create possible damage/failure of any installed underground utility services and create hazards. Other hazards created can included tripping, slipping, or falling. Entering an excavation or trench could have the possibility of an explosive, flammable, toxic, or oxygen-deficient atmosphere within the excavation or trench.	Ensure compliance with OSHA's construction standard for excavations (29 CFR 1926 Subpart P). Designate a Competent Person responsible for selecting and implementing the appropriate protective system(s), assuring appropriate means of access and egress for excavations greater than four (4) feet in depth, and for ensuring that potential atmospheric and physical hazards associated with any excavation / trenching activities are completed in accordance with Subpart P and other applicable OSHA Standards.
Noise	Work around large equipment often creates excessive noise. Noise can cause workers to be startled, annoyed, and/or distracted; as well as causing pain, physical damage to the ear, and temporary and/or permanent hearing loss; and can interfere with communication.	If workers are subjected to noise exceeding an 8-hour time-weighted average sound level of 85 dBA, hearing protection will be required with an appropriate noise reduction rating to comply with 29 CFR 1910.95 and to reduce noise levels below levels of concern.
Slips/Trips/Falls	Personnel may encounter slip, trip, and fall hazards associated with	In the event slip, trip, and fall hazards cannot be removed or minimized, site

Category	Mechanism	Control
	excavations, manways, and construction debris and materials. Precautionary measures should be taken by identifying and removing slip, trip, and fall hazards prior to commencing work.	workers will be shown the location of the physical hazard and be asked to avoid it during work activities.
Fire/Explosion	The potential for fire and/or explosion emergencies is always present on the Site.	Field vehicles will be equipped with a fire extinguisher. Employees, contractors and workers must be trained in the proper use of fire suppression equipment. However, large fires that cannot be controlled with a fire extinguisher shall be handled by professionals. The proper authorities shall be notified in these instances, as well as the HSO and Health and Safety Manager.
Cold Exposure	Persons working in the outdoors in temperatures at or below freezing may be subject to frostbite. Extreme cold for a short time may cause injury to exposed body surfaces or result in a profound generalized cooling which can cause death. Areas of the body such as fingers, toes, and ears, are the most susceptible to cold stress. Ambient air temperature and wind velocity are two factors which influence the development of a cold weather injury. Local injury resulting from exposure to cold temperatures is known as "frostbite." There are several degrees of damage in which frostbite of the extremities can be categorized, as follows: o Frost nip or incipient frostbite is characterized by sudden bleaching or whitening of the skin. o Superficial frostbite occurs when the skin has a waxy or white appearance and is firm to the touch, but tissue beneath is resilient. o Deep frostbite is characterized by tissues that are cold, pale,	Wear several layers of dry clothes so that you can vary the amount of clothing to match the conditions. If there is wind, wear a windbreaker, since wind increases the effects of cold air and in turn lowers your body's core temperature even faster. Don't get overheated. Sweat can dampen clothing and in turn lead to over-cooling. Keep hands, feet, ears, and face warm. These are the areas of the body where frostbite tends to strike first. Heart disease and the use of sedatives or excessive alcohol will make you more susceptible to cold stress. If you feel chilly or sleepy, or have pain in your extremities, go to a warm shelter to recover.

Category	Mechanism	Control
	and solid; this is an extremely serious injury.	
Heat Exposure/Stress	Heat stress can result from a number of contributing factors, including environmental conditions, clothing, and workload as well as the physical condition of the individual. Since heat stress is one of the most common injuries / symptoms associated with outdoor work conducted with direct solar load, and, in particular, because wearing PPE can increase the risk of developing heat stress, workers must be capable of recognizing the signs and symptoms of heat-related illnesses. Signs and symptoms of heat-related illnesses which all on-site personnel should be aware, include the following: ○ Heat rash may result from continuous exposure to heat or humid air. ○ Heat cramps are caused by heavy sweating and may include muscle spasms and pain in the hands, feet, and abdomen. ○ Heat exhaustion is indicated by pale, cool, and moist skin; heavy sweating; dizziness; nausea; and fainting. ○ Heat stroke is indicated by red, hot, and unusually dry skin; lack of or reduced perspiration; nausea; dizziness and confusion; rapid pulse; and coma. Immediate action must be taken to cool the body before serious injury or death occurs.	The following will steps will be taken to limit heat exposure: adjust schedules, take breaks, limit heavy work in protective clothing or in a hot environment may require more time resting than working. Schedule heavy work in the coolest part of the day. Have shaded rest shelters with chairs or benches. Drink Fluids. Sweating cools the body, but it also robs the body of fluid. Drink enough fluids to replace what you lose. You may not feel thirsty until you've become dehydrated. Drink regularly throughout the day. Don't wait until you're thirsty. Monitor for signs of potential heat exposure and stress through use of the "buddy system', with frequent communication between site personnel. Take scheduled breaks and hydrate frequently throughout the day. Maintain an adequate supply of cold water and electrolyte containing drinks in support zone of site. In the event that personnel are observed to exhibit dizziness, disorientation, heat rash, slurred speech, dry mouth, heat cramps, or other symptoms of heat stress, discontinue work immediately and move affected person(s) to a location that is free from direct sunlight and provide fluids (preferably "Gatorade" or similar product that will replenish electrolytes). Monitor condition during to evaluate whether there is notable improvement in their condition.
Utilities	Overhead and underground utilities may exist within the Work Area, which may expose workers to electrocution hazards, explosive hazards, and volatile vapors.	Dig Safely New York shall be contacted a minimum of three business days prior to initiating the field activities, to arrange for the identification and markout of buried utilities at the site. The contact number for Dig Safely New York is 1-800-962-7962.

Category	Mechanism	Control
		In the event of inadvertent damage to buried utilities, all work shall cease, and the situation shall be evaluated by the HSO.

3.3 Environmental Hazards

Based upon the anticipated field activities, the following potential environmental hazardous conditions may exist:

Category	Hazard	Control
Biological	Ticks, bees / wasps, mosquitos, spiders, snakes, rabid animals	There are no known species of poisonous spiders or snakes common to the area. Minimize potential exposure to by wearing wear long pants and safety shoes. Change clothing and carefully examine for evidence of insects and ticks upon undressing, immediately following return from the site. Avoid contact with any animals, either wild or domestic, that may be encountered while conducting the field activities and notify the local office of the New York State Department of Health (NYSDOH) in the event that animals are observed to elicit strange behavior. In the event of contact with an animal that is behaving in a strange manner, the NYSDOH should be contacted immediately.
Biological	Poison Ivy, Poison Oak, Giant Hogweed	Familiarize yourself with the characteristics and appearance of poison ivy, poison oak, and Giant Hogweed. Be cognizant of vegetation while conducting work activities. Minimize potential exposure to by wearing wear long pants and safety shoes. Change clothing immediately following return from the site.
Weather	Wet surfaces, lighting, high winds (falling objects, contaminated dust), hail, excessive heat, extreme cold, snow and ice.	Remain cognizant of weather conditions, forecasts, and changing weather conditions. Exercise extra caution during wet and inclement site conditions to minimize risk of slips and falls. Avoid work during periods of high winds to reduce risk of injury from falling objects and airborne contaminant migration. Cease work and monitor conditions in the event that lightning is observed or suspected in the area, or in the event that other weather conditions pose a health or safety hazard.

SECTION 4 – TRAINING

4.1 Site-Specific Training

Training will be provided that specifically addresses the activities, procedures, monitoring, and equipment for the Site operations prior to going on Site. Training will include familiarization with Site and facility layout, known and potential hazards, and emergency services at the Site, and details all provisions contained within this HASP. This training will also allow Site Workers to clarify anything they do not understand and to reinforce their responsibilities regarding safety and operations for their particular activity.

4.2 Safety Briefings

Project personnel will be given briefings by the HSO on a daily or as needed basis to further assist Site workers in conducting their activities safely. Pertinent information will be provided when new operations are to be conducted. Changes in work practices must be implemented due to new information made available, or if Site or environmental conditions change. Briefings will also be given to facilitate conformance with prescribed safety practices. When conformance with these practices is not occurring or if deficiencies are identified during safety audits, the project manager will be notified.

4.3 Daily Tailgate Safety Meeting

The HSO or the HSO designee will be responsible for conducting a daily tailgate safety meeting prior to start of any work activities. The contractor and workers will be responsible for attending daily tailgate safety meetings, as well as providing any additional insight into any possible hazards which might be anticipated or encountered throughout the day on the Site. The meeting will discuss any measures which will be implemented throughout the day to mitigate any hazards. The meetings are designed to create awareness of any hazards and their associated mitigation measures at the Site. If conditions at the Site change and new hazards are determined to be present, work will be stopped and an additional safety meeting will be conducted. The daily tailgate meetings discussions will be logged, as well as all who attended.

SECTION 5 – COMMUNICATIONS

5.1 Communications

A phone will be located on Site to be utilized by personnel. Cell phones will be the primary means of communicating with emergency support services/facilities.

SECTION 6 – PERSONAL PROTECTIVE EQUIPMENT

6.1 Personal Protective Equipment – General

The level of protection to be worn by field personnel will be defined and controlled by the HSO. Depending upon the type and levels of material present or anticipated at the site, varying degrees of protective equipment will be needed. If the possible hazards are unknown, a reasonable level of protection will be taken until sampling and monitoring results can ascertain potential risks. The levels of protection listed below are based on USEPA Guidelines. A list of the appropriate clothing for each level is also provided.

Level A protection must be worn when a reasonable determination has been made that the highest available level of respiratory, skin, eye, and mucous membrane protection is needed. It should be noted that while Level A provides maximum available protection, it does not protect against all possible hazards. Consideration of the heat stress that can arise from wearing Level A protection should also enter into the decision-making process. Level A protection includes:

- Open circuit, pressure-demand self-contained breathing apparatus (SCBA)
- Totally encapsulated chemical resistant suit
- Gloves, inner (surgical type)
- Gloves, outer, chemical protective
- Boots, chemical protective

Level B protection must be used when the highest level of respiratory protection is needed, but hazardous material exposure to the few unprotected areas of the body (e.g., the back of the neck) is unlikely. Level B protection includes:

- Open circuit, pressure-demand SCBA or pressure airline with escape air bottle
- Chemical protective clothing: Overalls and long-sleeved jacket; disposal chemical resistant coveralls; coveralls; one or two piece chemical splash suit with hood
- Gloves, inner (surgical type)
- Gloves, outer, chemical protective
- Boots, chemical protective

Level C must be used when the required level of respiratory protection is known, or reasonably assumed to be, not greater than the level of protection afforded by air purifying respirators; and hazardous materials exposure to the few unprotected areas of the body (e.g. the back of the neck) is unlikely. Level C protection includes:

- Full or half face air-purifying respirator
- Chemical protective clothing: Overalls and long-sleeve jacket; disposable chemical resistant coveralls; coveralls; one- or two-piece chemical splash suit
- Gloves, inner (surgical type)
- Gloves, outer, chemical protective
- Boots, chemical protective

Level D is the basic work uniform. It cannot be worn on any site where respiratory or skin hazards exist. Level D protection includes:

- Safety boots/shoes
- Safety glasses
- Hard hat with optional face shield

Note that the use of SCBA and airline equipment is contingent upon the user receiving special training in the proper use and maintenance of such equipment.

6.2 Personal Protective Equipment – Site Specific

Level D with some modification will be required when working on this Site. In addition to the basic work uniform specified by Level D protection, Nitrile gloves will be required when contacting contaminated soil. Hearing protection will be worn when power equipment is used to perform subsurface work. An upgrade to a higher level (Level C) of protection may occur if determined necessary by the HSO.

SECTION 7 – MONITORING PROCEDURES

7.1 Monitoring During Site Operations

All Site environmental monitoring should be accompanied by periodic meteorological monitoring of appropriate climatic conditions.

7.1.2 Excavation and Trenching

If soil appears to be impacted by petroleum or chemicals, monitoring will be performed during the conduct of work. A PID equipped with a 10.6 eV lamp will be utilized to monitor for the presence of volatile organic vapors within the breathing zone. Excavation spoils will also be monitored by use of the PID. The PID will be field checked for calibration accuracy three times per day (morning, lunch, and end of day). If subsurface conditions warrant, a combustible gas indicator (CGI) with oxygen alarm may also be used to monitor for the presence of combustible gases.

7.2 Action Levels

If readings on the PID exceed 15 ppm for more than fifteen minutes consecutively, then personal protective equipment should be upgraded to Level C. The air purifying respirator used with Level C protective equipment must be equipped with organic vapor cartridges. If readings on the explosive gas meter are within a range of 10%-25% of the lower exposure limit (LEL) then continuous monitoring will be implemented. Readings above 25% of the LEL indicate the potential for an explosive condition. Sources of ignition should be removed and the Site should be evacuated.

7.3 Personal Monitoring Procedures

Personal monitoring shall be performed as a contingency measure in the event that VOC concentrations are consistently above the 15-ppm action level as detected by the PID. If the concentration of VOCs is above this action level, then amendments to the HASP must be made before work can continue at the Site.

SECTION 8 – SAFETY CONSIDERATIONS FOR SITE OPERATIONS

8.1 General

Standard safe work practices that will be followed include:

- Do not climb over/under drums, or other obstacles.
- Do not work on the Site alone.
- Practice contamination avoidance, on and off-site.
- Plan activities ahead of time, and use caution when conducting concurrently running activities.
- No eating, drinking, chewing or smoking is permitted when handling contaminated material.
- Apply immediate first aid to any and all cuts, scratches, abrasions, etc.
- Be alert to your own physical condition. Watch your buddy for signs of fatigue, exposure, etc.
- A work/rest regimen will be initiated when ambient temperatures and protective clothing create a potential heat or cold stress situation.
- No work will be conducted without adequate natural light or without appropriate supervision.
- Task safety briefings will be held prior to onset of task work.
- Ignition of flammable liquids within or through improvised heating devices (barrels, etc.) or space heaters is forbidden.
- Entry into areas of spaces where toxic or explosive concentrations of gases or dust may exist without proper equipment is prohibited.
- Any injury or unusual health effect must be reported to the Site HSO.
- Prevent splashing or spilling of potentially contaminated materials.
- Use of contact lenses is prohibited while on site.
- Beards and other facial hair that would impair the effectiveness of respiratory protection are prohibited if respiratory protection is necessary.
- Field crew members should be familiar with the physical characteristics of the work, including but not limited to:
    - Wind direction in relation to potential sources
    - Accessibility to co-workers, equipment, and vehicles
    - Communication
    - Hot zones (areas of known or suspected contamination)
    - Site access
    - Nearest water sources
- The number of personnel and equipment in potentially contaminated areas should be minimized consistent with site operations.

8.2 Field Operations

The HSO or designee will be present on-site during all intrusive work (e.g. excavations, trenching) and will provide monitoring to oversee that appropriate levels of protection and safety procedures are utilized by personnel. The use of salamanders or other equipment with an open flame is prohibited and the use of protective clothing, especially hard hats and boots, will be required during drilling or other heavy equipment operations.

SECTION 9 – DECONTAMINATION PROCEDURES

9.1 General Decontamination

Decontamination involves physically removing contaminants and/or converting them chemically into innocuous substances. Only general guidance can be given on methods and techniques for decontamination. Decontamination procedures are designed to:

- Remove contaminant(s).
- Avoid spreading the contamination off Site.
- Avoid exposing unprotected personnel off Site to contaminants.

9.2 Contamination Avoidance

Contamination avoidance is the first and best method for preventing spread of contamination from a hazardous site. Each person involved in site operations must practice the basic methods of contamination avoidance listed below. Additional precautions may be required in the HASP.

- Know the limitations of all protective equipment being used.
- Use the proper tools necessary to safely conduct the work.

9.3 Reducing Contamination

Specific methods that may reduce the chance of contamination are:

- Use of remote sampling techniques.
- Opening containers by non-manual means.
- Bagging monitoring instruments.
- Use of drum grapplers.
- Watering down dusty areas.

9.4 Equipment Decontamination

Equipment which will need to be decontaminated includes tools, equipment, monitoring equipment, and personal protective equipment. Items to be decontaminated will be brushed off, rinsed, and dropped into a plastic container supplied for that purpose. They will then be washed with a detergent solution and rinsed with clean water. Instrumentation that is contaminated during field operations will be carefully wiped down. Heavy equipment, if utilized for operations where it may be contaminated, will have prescribed decontamination procedures to prevent contaminant materials from potentially leaving the Site. On-site contractors, such as backhoe operators, will be responsible for decontaminating all construction equipment prior to demobilization.

SECTION 10 – DISPOSAL PROCEDURES

All discarded materials, waste materials, or other objects shall be handled in such a way as to reduce or eliminate the potential for spreading contamination, creating a sanitary hazard, or causing litter to be left on-site. All potentially contaminated materials, e.g., clothing, gloves, etc., will be bagged or drummed as necessary and segregated for proper disposal. All contaminated waste materials shall be disposed of as required by the provisions included in the contract and consistent with regulatory provisions. All non-contaminated materials shall be collected and bagged for appropriate disposal.

Spoils that are free from physical indications of contamination such as odors, staining, and sheens can be reused onsite. In cases where physical indications of contamination are evident, the affected media will be managed per applicable local, state, and federal regulations. Samples may be analyzed for toxicity characteristic leaching procedure (TCLP) VOCs, SVOCs, pesticides, herbicides, and metals; PCBs; pH (corrosivity), flash point (ignitability); reactivity; and paint filter (free liquids).

SECTION 11 – EMERGENCY RESPONSE PROCEDURES

As a result of the hazards at the Site, and the conditions under which operations are conducted, there is the possibility of emergency situations. This section establishes procedures for the implementation of an emergency plan.

11.1 Emergency Coordinator

The Emergency Coordinator or his on-site designee will, in coordination with the Authority / Agency having Jurisdiction, implement the emergency response procedures whenever conditions at the site warrant such action. The Emergency Coordinator or his on-site designee will be responsible for assuring the evacuation, emergency treatment, emergency transport of personnel or workers as necessary, and notification of emergency response units (**refer to phone listing** in the beginning of this HASP) and the appropriate management staff.

11.2 Evacuation

In the event of an emergency situation, such as fire, explosion, significant release of toxic gases, etc., all personnel will evacuate and assemble in a designated assembly area. The Emergency Coordinator or his on-site designee will have authority to contact outside services as required. Under no circumstances will incoming personnel or visitors be allowed to proceed into the area once the emergency signal has been given. The Emergency Coordinator or his on-site designee must see that access for emergency equipment is provided and that all ignition sources have been shut down once the emergency situation is established. Once the safety of all personnel is established, the Fire Department and other emergency response groups will be notified by telephone of the emergency.

11.3 Potential / Actual Fire or Explosion

Immediately evacuate the Site and notify local fire and police departments, and other appropriate emergency response groups, if LEL values are above 25% in the work zone or if an actual fire or explosion has taken place.

11.4 Environmental Incident (Spread or Release of Contamination)

Control or stop the spread of contamination if possible. Notify the Emergency Coordinator and the Project Manager. Other appropriate response groups will be notified as appropriate.

11.5 Personnel Injury

Emergency first aid shall be applied on-site as necessary. Then, decontaminate (en route if necessary) and transport the individual to nearest medical facility if needed. The ambulance / rescue squad shall be contacted for transport as necessary in an emergency. A map of directions to the nearest hospital is shown in **Attachment A**.

11.6 Personnel Exposure

- *Skin Contact*: Use copious amounts of soap and water. Wash/rinse affected area thoroughly, and then provide appropriate medical attention. Eyes should be thoroughly rinsed with water for at least 15 minutes.
- *Inhalation*: Move to fresh air and/or, if necessary, decontaminate and transport to emergency medical facility.
- *Ingestion*: Decontaminate and transport to emergency medical facility.
- *Puncture Wound/Laceration*: Decontaminate, if possible, and transport to emergency medical facility.

11.7 Adverse Weather Conditions

In the event of adverse weather conditions, the HSO will determine if work can continue without sacrificing the health and safety of field workers.

11.8 Incident Investigation and Reporting

In the event of an incident, procedures discussed in the Medical Emergency / Incident Response Protocol, presented in **Appendix B** of this HASP, shall be followed.

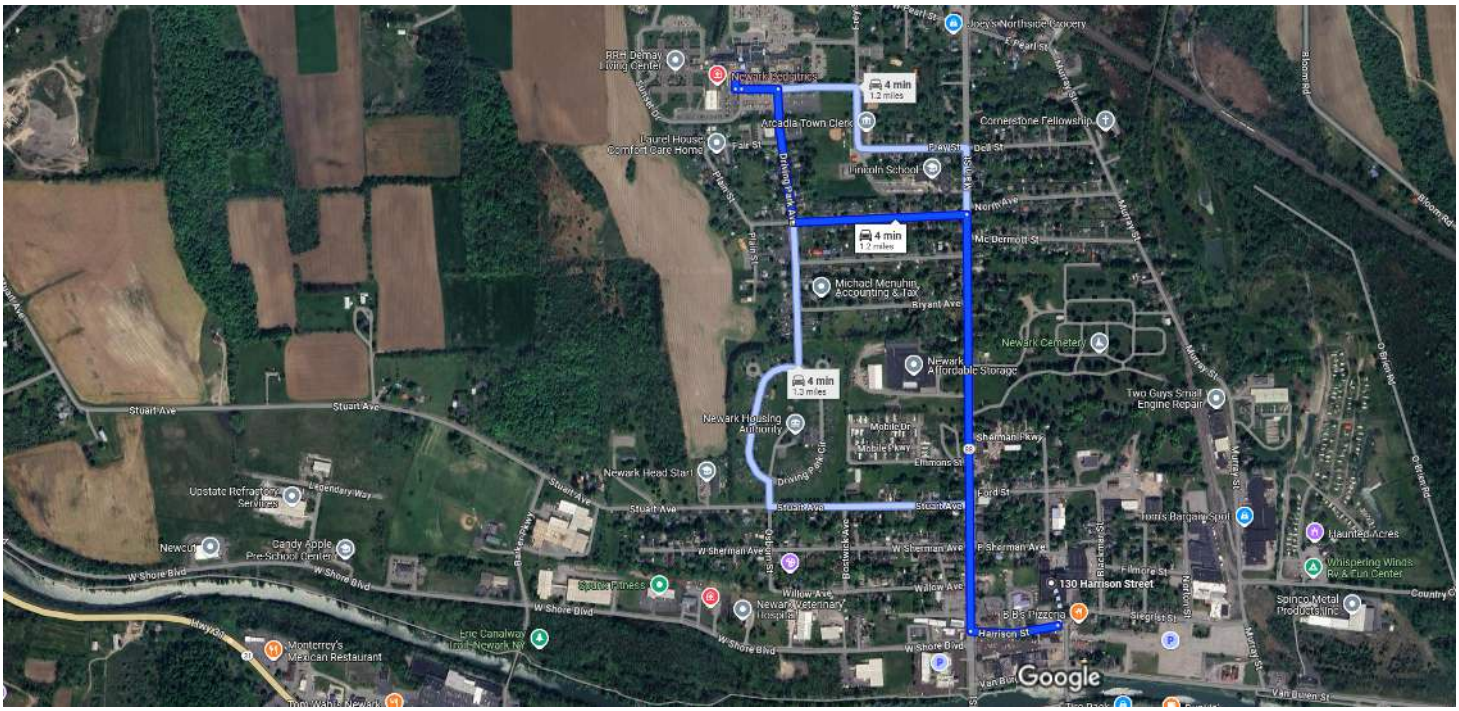
Attachment A

MAP AND DIRECTIONS TO HOSPITAL

Google Maps

130 Harrison St, Newark, NY 14513 to RRH Newark-Wayne Community Hospital, 1200 Driving Park Ave, Newark, NY 14513

Drive 1.2 miles, 4 min



Imagery ©2024 Airbus, CNES / Airbus, Maxar Technologies, Map data ©2024 500 ft

via Main St Fastest route	4 min 1.2 miles
via Main St and Frey St	4 min 1.2 miles
via Driving Park Ave	4 min 1.3 miles

Explore nearby RRH Newark-Wayne Community Hospital

Restaurants Hotels Gas stations Parking Lots More

Appendix B

GUIDANCE ON INCIDENT INVESTIGATION AND REPORTING

Medical Emergency / Incident Response Protocol

Prepared by:

C&S Engineers, Inc.
499 Col Eileen Collins Blvd.
Syracuse, New York 13212

SECTION 1 – PURPOSE

From time to time employees of C&S Engineers, Inc. will sustain an injury while working on the job. While every effort is being made to prevent this, in the event of an injury or illness on the job, the following procedures will be implemented. This format may also be utilized in the event of a property damage incident.

SECTION 2 – SCOPE

This guideline applies to all C&S Engineers, Inc. job sites and employees.

SECTION 3 – GUIDELINES

3.1 First Response Procedures

Upon notification or awareness of an incident/accident with injuries or illness the Emergency Coordinator or his On-Site Designee will:

1. Ensure that the injured employee is receiving immediate first aid and medical care.
2. Notify Emergency Services (911) if injuries are severe.
3. Stabilize the work area; ensure that no one else can be injured.
4. Notify the Project Manager at the earliest possible convenience**.**
5. Notify the Owner/Client at the earliest possible convenience.

To assist the Health and Safety Manager in the root cause analysis, the Emergency Coordinator or his On-Site Designee will also make an attempt to:

1. Obtain the names and phone numbers of witnesses.
2. Preserve the accident scene if possible for analysis.

3.2 Injury Management

1. If the patient is stable with non-life threatening injuries, the foreman will ensure the employee is transported to the emergency medical facility listed in Section 1 of the HASP. Directions to the nearest emergency medical facility are located in **Attachment A** of the HASP.

At no time will an injured employee drive themselves to medical care.

2. If the patient has serious or life threatening injuries, the emergency coordinator or his on- site designee will notify the emergency services for the area for treatment and transport to a hospital or emergency room. Serious injuries can be considered but not limited to head injuries, loss of consciousness, severe laceration or amputation, fractured bones, burns and eye injuries.

3. Following the treatment and care of the injured employee, the emergency coordinator or his on-site designee and the project manager will initiate the completion of the first injury report. The Health & Safety Manager will assist.

3.3 Project Manager

1. Upon notification of a personal injury or illness on the job site, will notify C&S Engineers, Inc, President, Corporate Legal, and C&S Companies Health and Safety Manager.
2. Will report to the worksite to initiate the first injury report.
3. Will report to the treatment facility to check on the well-being of the injured employee.
4. The project manager will ensure that the treatment facility is aware that this is a workers compensation case.
5. Will assist the Health and Safety Manager in the analysis of the incident.

3.4 Health & Safety Manager

1. Upon notification of the personal injury will determined if it is necessary to report to the treatment facility or the accident site, depending on the nature of the injuries and the circumstances of the accident.
2. Will report to the worksite to begin a root cause analysis investigation of the accident.
3. The investigation may include interview of witnesses, field crew, and project manager, the photographing of the scene, reconstruction of the accident scene, using test instruments and taking measurements. The Health and Safety Manager may draw diagrams from the information learned.
4. The Health and Safety Manager will work with the owner/client as necessary to investigate the accident.
5. The Health & Safety manager will ensure that the site is safe to resume work.
6. The Health & Safety Manager shall initiate the New York State Compensation form requirements (C-2) and forward a copy of the C-2 to the C & S Engineers, Inc. controller for transmittal to the Compensation Carrier within 8 hours of notification of the incident or by the end of the next business day.
7. The Health and Safety manager, upon completion of the investigation, will provide the
8. Project Manager with a written investigative report (copy to the President)
9. The accident will be reviewed at the next Project Managers meeting with the intent to prevent further or similar events on other projects.
10. The Health & Safety Manager will assess the incident to determine OSHA record ability and make record if necessary on the OSHA 300 form, within five working days.

SECTION 4 - INCIDENT RESPONSE

4.1 Purpose

To prevent the occurrence of accidents on C&S Engineers, Inc., work sites and to establish a procedure for investigation and reporting of incidents occurring in, or related to C&S work activities.

4.2 Scope

Applies to all incidents related to C&S Engineers, Inc. work activities.

4.3 Definitions

Accident - An undesired event resulting in personal injury and/or property damage, and/or equipment failure.

Fatality - An injury or illness resulting in death of the individual.

Incident - Any occurrence which results in, or could potentially result in, the need for medical care or property damage. Such incidents shall include lost time accidents or illness, medical treatment cases, unplanned exposure to toxic materials or any other significant occurrence resulting in property damage or in "near misses."

Incidence Rate - the number of injuries, illnesses, or lost workdays related to a common exposure base of 100 full-time workers. The rate is calculated as:

N/EH x 200,000

N = number of injuries and illnesses or lost workday cases; EH = total hours worked by all associates during calendar year. 200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

Injury - An injury such as a cut, fracture, sprain, amputation, etc. which results from a work accident or from a single instantaneous event in the work environment.

Lost Workday Case - A lost workday case occurs when an injured or ill employee experiences days away from work beginning with the next scheduled work day. Lost workday cases do not occur unless the employee is effected beyond the day of injury or onset of illness.

Recordable Illness - An illness that results from the course of employment and must be entered on the OSHA 300 Log and Summary of Occupational Injuries and Illnesses. These illnesses require medical treatment and evaluation of work related injury. For example, dermatitis, bronchitis, irritation of eyes, nose, and throat can result from work and non-work related incidents.

Recordable Injury - An injury that results from the course of employment and must be entered on the OSHA 300 Log and Summary of Occupational Injuries and Illnesses. These injuries require medical treatment; may involve loss of consciousness; may result in restriction of work or motion or transfer to another job; or result in a fatality.

Near Miss - An incident which, if occurring at a different time or in a different personnel or equipment configuration, would have resulted in an incident.

4.4 Responsibilities

Employees - It shall be the responsibility of all C&S Engineers, Inc. employees to report all incidents as soon as possible to the HSC, regardless of the severity.

Human Resources - has overall responsibility for maintaining accident/ incident reporting and investigations according to current regulations and recording injuries/ illness on the OSHA 300 log, and posting the OSHA 300 log.

Emergency Coordinator - It is the responsibility of the Emergency Coordinator to investigate and prepare an appropriate report of all accidents, illnesses, and incidents occurring on or related to C&S Engineers, Inc. work. The Emergency Coordinator shall complete Attachment A within 24 hours of the incident occurrence.

Health and Safety Manager (HSM) - It is the responsibility of the HSM to investigate and prepare an appropriate report of all lost time injuries and illnesses and significant incidents occurring on or related to C&S Companies. The HSM shall maintain the OSHA 300 form.

Project Managers (PM) - It shall be the PM's responsibility to promptly correct any deficiencies in personnel, training, actions, or any site or equipment deficiencies that were determined to cause or contribute to the incident investigated.

SECTION 5 – GUIDELINES

5.1 Incident Investigation

The Project Manager will immediately investigate the circumstances surrounding the incident and will make recommendations to prevent recurrence. The HSM shall be immediately notified by telephone if a serious accident/ incident occurs. The incident shall be evaluated to determine whether it is OSHA recordable. If the incident is determined to be OSHA 300 recordable, it shall be entered on the OSHA 300 form.

The Project Manager with assistance from the HSM must submit to the office an incident report form pertaining to any incident resulting in injury or property damage.

5.2 Incident Report

The completed incident report must be completed by the Project Manager within 12 hours of the incident and distributed to the HSM, and Human Resources. This form shall be maintained by Human Resources for at least five years for all OSHA recordable cases. This form serves as an equivalent to the OSHA 101 form.

5.3 Incident Follow-up Report

The Incident Follow-Up Report (Attachment B) shall be distributed with the Incident Report within one week of the incident. Delay in filing this report shall be explained in a brief memorandum.

5.4 Reporting of Fatalities or Multiple Hospitalization Accidents

Fatalities or accidents resulting in the hospitalization of three or more employees must be reported to OSHA verbally or in writing within 8 hours. The report must contain 1) circumstances surrounding the accident(s), 2) the number of fatalities, and 3) the extent of any injuries.

5.5 OSHA 300A Summary Form

Recordable cases must be entered on the log within six workdays of receipt of the information that a recordable case has occurred. The OSHA log must be kept updated to within 45 calendar days.

OSHA 300 forms must be updated during the 5 year retention period, if there is a change in the extent or outcome of an injury or illness which affects an entry on a log. If a change is necessary, the original entry should be lined out and a corrected entry made on that log. New entries should be made for previously unrecorded cases that are discovered or for cases that initially weren't recorded but were found to be recordable after the end of the year. Log totals should also be modified to reflect these changes.

5.6 Posting

The log must be summarized at the end of the calendar year and the summary must be posted from February 1 through May 31.

5.7 OSHA 300A

Facilities selected by the Bureau of Labor Statistics (BLS) to participate in surveys of occupational injuries and illnesses will receive the OSHA 300A. The data from the annual summary on the OSHA 300 log should be transferred to the OSHA 300A, other requested information provided and the form returned as instructed by the BLS.

5.8 Access to OSHA Records

All OSHA records (accident reporting forms and OSHA 300 logs) should be available for inspection and copying by authorized Federal and State government officials.

Employees, former employees, and their representatives must be given access for inspection and copying to only the log, OSHA No. 300, for the establishment in which the employee currently works or formerly worked.

SECTION 6 – REFERENCES

29 CFR Part 1904

SECTION 7 ATTACHMENTS

Attachment A - Incident Investigation Form
Attachment B - Incident Follow-Up Report
Attachment C - Establishing Recordability

ATTACHMENT A

INCIDENT INVESTIGATION FORM

Accident investigation should include:

Location: _____

Time of Day: _____

Accident Type: _____

Victim: _____

Nature of Injury: _____

Released Injury: _____

Hazardous Material: _____

Unsafe Acts: _____

Unsafe Conditions: _____

Policies, Decisions: _____

_____

Personal Factors: _____

_____

Environmental Factors: _____

_____

_____

ATTACHMENT B

INCIDENT FOLLOW-UP REPORT

Date _____

Foreman: _____

Date of Incident: _____

Site: _____

Brief description of incident: _____

_____

_____

_____

_____

Outcome of incident: _____

_____

_____

_____

Physician's recommendations: _____

_____

_____

_____

Date the injured returned to work: _____

Project Manager Signature: _____

Date: _____

ATTACH ANY ADDITIONAL INFORMATION TO THIS FORM

ATTACHMENT C

ATTACHMENT ESTABLISHING RECORDABILITY

1. Deciding whether to record a case and how to classify the case.

   Determine whether a fatality, injury or illness is recordable.

   A fatality is recordable if:

   - Results from employment

   An injury is recordable if:

   - Results from employment and
   - It requires medical treatment beyond first aid or
   - Results in restricted work activity or job transfer, or
   - Results in lost work day or
   - Results in loss of consciousness

   An illness is recordable if:

   - It results from employment

2. Definition of "Resulting from Employment"

   Resulting from employment is when the injury or illness results from an event or exposure in the work environment. The work environment is primarily composed of: 1) The employer's premises, and 2) other locations where associates are engaged in work- related activities or are present as a condition of their employment.

   The employer's premises include company rest rooms, hallways, cafeterias, sidewalks and parking lots. Injuries occurring in these places are generally considered work related.

   The employer's premises EXCLUDES employer controlled ball fields, tennis courts, golf courses, parks, swimming pools, gyms, and other similar recreational facilities, used by associates on a voluntary basis for their own benefit, primarily during off work hours.

   Ordinary and customary commute, is not generally considered work related.

   Employees injured or taken ill while engaged in consuming food, as part of a normal break or activity is not considered work related. Employees injured or taken ill as the result of smoking, consuming illegal drugs, alcohol or applying make up are generally not considered work related. Employee injured by un authorized horseplay is generally not considered work related, however, an employee injured as a result of a fight or other

workplace violence act, may be considered work related. Associates who travel on company business are considered to be engaged in work related activities all the time they spend in the interest of the company. This includes travel to and from customer contacts, and entertaining or being entertained for purpose of promoting or discussing business. Incidents occurring during normal living activities (eating, sleeping, recreation) or if the associate deviates from a reasonably direct route of travel are not considered OSHA recordable.

3. Distinction between Medical Treatment and First Aid.

First aid:

Any one-time treatment, and any follow up visit for the purpose of observation, of minor scratches, cuts, burns, splinters, etc., which do not ordinarily require medical care. Such one time treatment, and follow up visit for the purpose of observation, is considered first aid even though provided by a physician or registered professional personnel.

Medical Treatment (recordable):

a) Must be treated only by a physician or licensed medical personnel.
b) Impairs bodily function (i.e. normal use of senses, limbs, etc.).
c) Results in damage to physical structure of a non-superficial nature (fractures).
d) Involves complications requiring follow up medical treatment.

Appendix D

Indoor Air Quality Questionnaire and Building Inventory

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	School	Commercial/Multi-use
Industrial	Church	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

_____

_____

_____

Airflow near source

_____

_____

_____

Outdoor air infiltration

_____

_____

_____

Infiltration into air ducts

_____

_____

_____

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)

_____

_____

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.

_____

_____

_____

_____

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	_____
1st Floor	_____
2nd Floor	_____
3rd Floor	_____
4th Floor	_____

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 Please specify_____

d. Has the building ever had a fire? Y / N When?_____

e. Is a kerosene or unvented gas space heater present? Y / N Where? _____

f. Is there a workshop or hobby/craft area? Y / N Where & Type? _____

g. Is there smoking in the building? Y / N How frequently? _____

h. Have cleaning products been used recently? Y / N When & Type? _____

i. Have cosmetic products been used recently? Y / N When & Type? _____

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

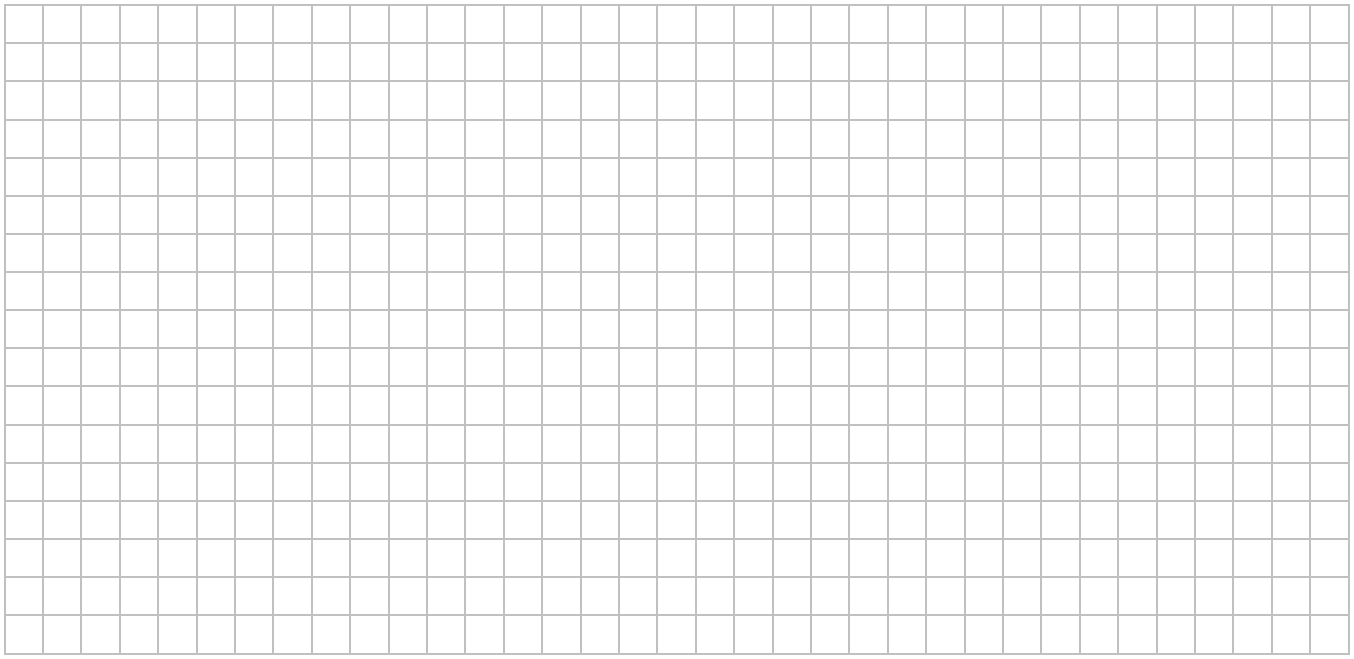
c. Responsibility for costs associated with reimbursement explained? Y / N

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

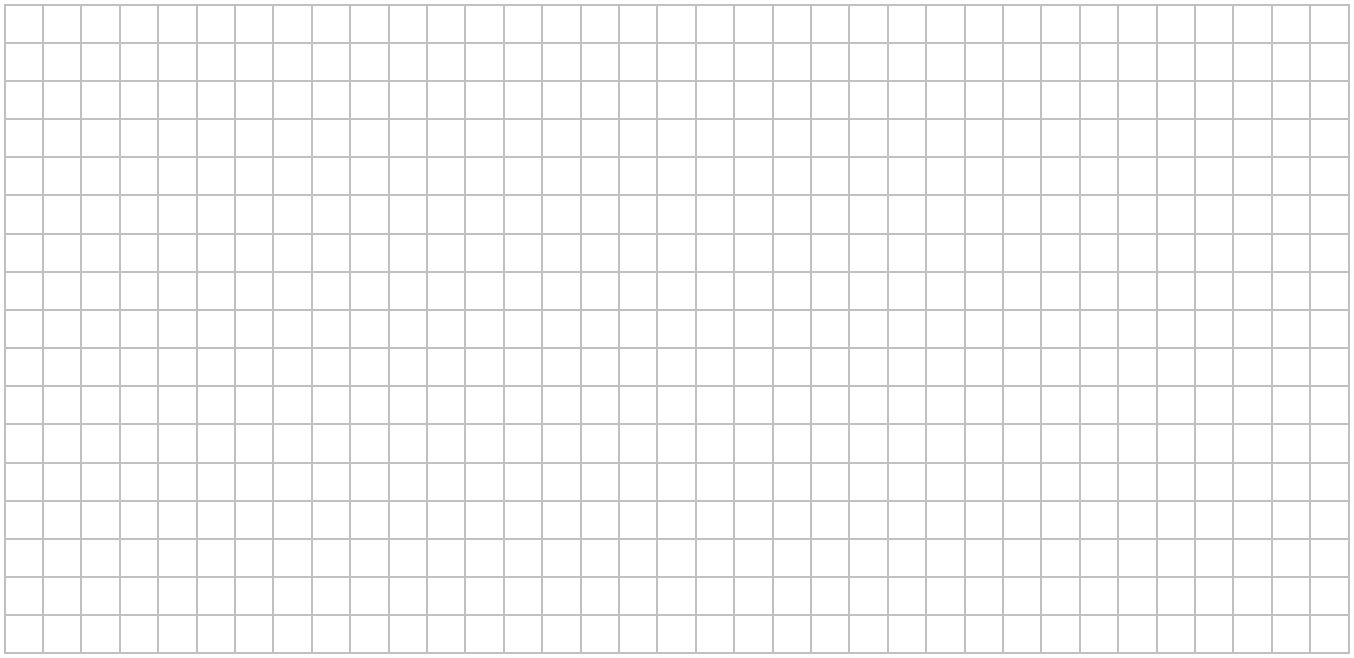
11. FLOOR PLANS

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:



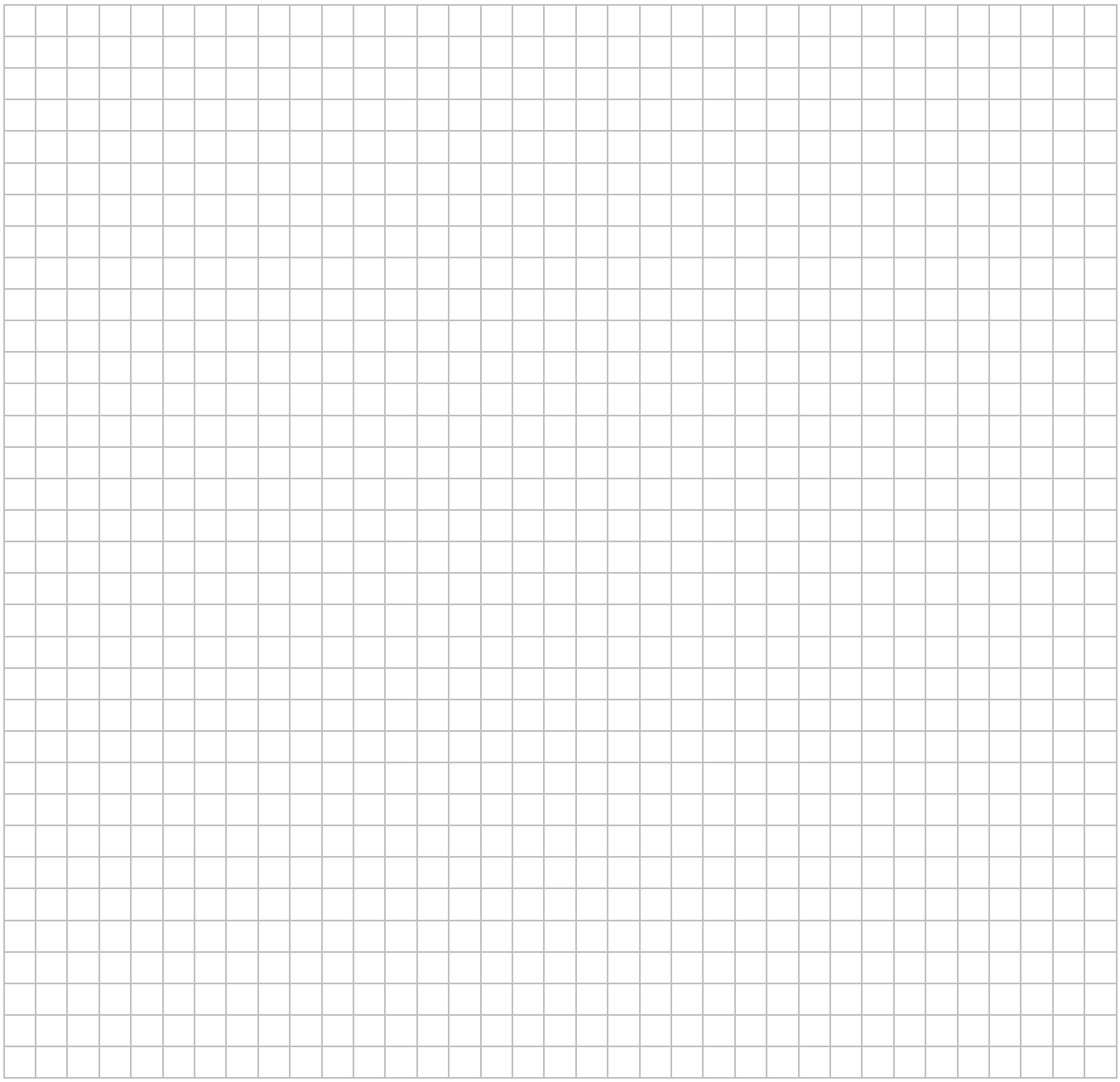
First Floor:



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.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo ** Y / N

* 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.