

INDOOR AIR INVESTIGATION

WORK PLAN

August 28, 2025

**13-12 Beach Channel Drive
Far Rockaway, New York
New York City Tax Map Designation: Block 15528; Lot 5
NYSDEC BCP Site Number: C241254**

Prepared for:

New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7011

and

BCD Owner LLC
116 East 27th Street, 11th Floor
New York, New York

Prepared by:

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Bohemia, New York 11716

IEC Project Number:

15209



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Indoor Air Investigation Work Plan
13-12 Beach Channel Drive, Far Rockaway, New York

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1 INTRODUCTION

Impact Environmental Engineering and Geology, PLLC (IEEG) has been retained by BCD Owner LLC to conduct an Indoor Air (IA) investigation of the recently constructed building located at 13-12 Beach Channel Drive, Far Rockaway, NY, NYSDEC Site Number: C241254 (i.e., the “Site”). The developed building consists of an 8-story mixed-use community facility and residential building, including 157 apartment units and a 200-bed homeless shelter, a rear paved and landscaped courtyard, and an asphalt paved parking lot. The Site location is indicated in **Figure 1**.

At the request of the New York State Department of Environmental Conservation (NYSDEC), an Indoor Air Investigation should be conducted as part of the Brownfields Cleanup Program (BCP) Site Management Plan (SMP), to confirm and ensure that the remedial actions and engineering controls (composite cover, vapor barrier, and sub-slab depressurization system) are adequately mitigating the migration of soil vapors into the newly constructed building. The indoor air investigation will be conducted in accordance, where applicable, with the New York State Department of Health (NYSDOH) guidance document entitled “*Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York*,” dated October 2006, and as amended in February 2024.

Additional information regarding the historic sources of contamination and the procedures to be implemented to investigate the site for possible indoor air concerns is presented in the following sections of this Indoor Air Investigation Work Plan.

2 SITE ENVIRONMENTAL HISTORY SUMMARY

The Site is located in Far Rockaway, Queens, New York and is identified as Block 15528 and Lot 5 (formerly Lots 5, 6, and 9 that were merged) on the New York City Tax Map. The Site is situated on an approximately 0.76-acre area bounded by Beach Channel Drive to the west, Redfern Avenue to the east, a retail strip mall and multi-family residential buildings to the north, and by a retail strip mall to the south. The Site consists of an 8-story mixed-use community facility and residential building including 147 apartment units and a 200-bed homeless shelter, a rear paved and landscaped courtyard, and an asphalt paved parking lot. Prior to redevelopment, the property was developed with the following: The building located on the south side of the site, Lot 5, was an approximately 1,400 square foot slab-on-grade structure, with one-story plus a mezzanine that was most recently occupied by a Kentucky Fried Chicken. The remainder of the 10,500 square foot Lot 5 was comprised of an asphalt paved parking lot. The building located in the center of the Site, Lot 6, was an approximately 1,800 square-foot 3-story commercial and residential structure with a partial basement at a depth of approximately 4-feet below grade, that was most recently occupied by various retail establishments and residential apartment units. The remainder of the 11,095 square foot Lot 6 was comprised of concrete paved parking areas. Finally, the building located on the north of the Site, Lot 9, was an approximately 3,600 square foot slab on grade structure, with a single story, that was most recently occupied by a car wash and auto detailing establishment. The remainder of the 11,500 square foot Lot 9 was comprised of asphalt and

concrete paved parking areas. The previous buildings were demolished/removed in 2022. The location of the Site is referenced in **Figure 1: Site Location Map**.

Summary of Remedial Action

The Remedial Action for the Site was performed in accordance with the Remedial Action Work Plan (RAWP) between 2022 and 2023, as described in the December 2023 Final Engineering Report (FER), prepared by IEEG.

Following the BCP Remedial Investigation (RI), and NYSDEC approval of the Remedial Investigation Report (RIR) and RAWP, Volunteer implemented the Remedial Action between 2022 and 2023. The Volunteer fully implemented and completed the approved remedial program. All remedial work was done with oversight, understanding, and direction from NYSDEC.

1. Remedial Design

A remedial design program was implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques were implemented to the extent feasible in the design, implementation, and Site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Groundwater Treatment

As part of the NYSDEC-approved Remedial Action, IEEG oversaw the completion of an activated carbon (PlumeStop™) and Sulfidated-Micro Zero Valent Iron (S-MZVI®) in-situ injection program conducted by Regenesys. Between June 14 and June 17, 2022, twenty-two (22) injection point locations were utilized to deliver the product to the groundwater

table. The top of the application zone was approximately 16 fbg, and the bottom of the application zone was approximately 26 fbg, for a ten-foot treatment zone. The horizontal extent of the injection row was approximately 130 linear feet. Approximately 444 gallons of PlumeStop and 60 gallons of S-MZVI were mixed with approximately 9,143 gallons of water, and, of that mixture, approximately 439 gallons were delivered to each of the 22 injection points.

3. Vapor Mitigation

An active SSDS consisting of 14 suction pit venting zones beneath the approximately 19,500 sf building slab was constructed to mitigate potential soil vapor intrusion into the occupied building from any remaining sources migrating onto the site from off-site sources. The SSDS was designed in accordance with New York City Mechanical Code MC 512 Sub-Slab Exhaust Systems, New York City Local Law 2009/071, USEPA document EPA/625/R-92/016 for the Sub-Slab Depressurization of Large Buildings and Schools, and the NYSDOH October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

The SSDS is equipped with 14 sub-slab vapor collection/suction pits. Each pit is 4' x 4' x 16" within which a 4-inch diameter open bottom cast iron pipe with screened inlet was placed then surrounded with clean, virgin mined ½ inch to ¾ inch gravel (e.g., bluestone). Additionally, a continuous 6-inch layer of ¾-inch bluestone extends across the slab-on-grade portions of the building foundation. Each suction pit pipe is equipped with dedicated ball valves on the ground floor used to balance the system. Suction pit pipes are manifolded on the first floor to four 3-inch diameter cast iron riser pipes that extend to above the roofline. The 3-inch cast iron risers connect to dedicated Radon Away GX3 Pro Series inline fans. The system is designed to exhaust sub-slab vapor at a total rate of no more than 72 cubic feet per minute (cfm) per fan. Each fan is sized to operate at approximately 2 inches of water column (+/- 0.5 inches of water column), a level of vacuum designed to generate a pressure extension field capable of depressurizing the sub-slab void spaces beneath the building floor. Nine (9) permanent Vapor Pin sub-slab pressure monitoring points (PMPs) are installed throughout the building to allow for periodic manual monitoring of the sub-slab vacuum. The locations of the PMPs are shown on Figure 9. The exhaust from the blower is located a minimum of 10 feet from an opening or ventilation intakes or supply registers. A telemetry system (Sensaphone® Sentinel), connected to four independent air pressure sensing switches (Cleveland Controls Model

AFS-405) was installed to allow remote monitoring of the operation of the four fans associated with the SSDS. The telemetry system is wireless, which allows personnel to monitor the operations of the SSDS and to receive notification if any of the four fans are not operating.

4. Institutional Control

The environmental easement for the site was executed by the Department on December 7, 2023, and recorded with the Office of the City Register of the City of New York on December 11, 2023. The City Register File Number for this filing is 2023000323044. The easement contains the following components:

- requires the remedial party or Site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allows the use and development of the controlled property for Restricted Residential use (or less restrictive uses such as commercial) as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the New York City Department of Health (NYCDOH); and
- requires compliance with the Department approved Site Management Plan.

5. Site Management Plan

A SMP, which includes the following:

- Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the Site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective.
 - Institutional Controls: The Environmental Easement discussed in bullet 4 above.
 - Engineering Controls: The sub-slab depressurization system discussed in bullet 3 above.

This IC and EC plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;

- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- provisions for the management and inspection of the identified engineering controls;
- maintaining Site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

Monitoring plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- monitoring of groundwater and soil vapor to assess the performance and effectiveness of the remedy; and
- a schedule of monitoring and frequency of submittals to the Department.

An Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system(s).

The plan includes:

- procedures for operating and maintaining the system(s); and
- compliance inspection of the system(s) to ensure proper O&M as well as providing the data for any necessary reporting.

Remedial activities outlined above were completed in the following order:

- Groundwater treatment barrier wall installation;
- Contaminated soil/fill material removal ;
- PCE hotspot material removal;
- SSDS installation, vapor barrier, and site cover installation.

2.1 Proposed Sample Locations

Indoor air sampling will be conducted in the upcoming NYSDOH heating season (which starts on November 15, 2025, and runs through March 31, 2026). Based upon the size and configuration of the new onsite buildings, a total of eight (8) indoor air quality sample locations are proposed with one (1) duplicate. A single outside ambient air sample will also be collected. The proposed locations are indicated in **Figure 2** and described below:

- IA-1 will be collected in the admin room located in the central portion of the building.
- IA-2 will be collected in the dining hall located in the north central portion of the building.

- IA-3 will be collected in the office manager and admin assistance room located in the western portion of the building.
- IA-4 will be collected in the manager's office located in the northwest portion of the building.
- IA-5 will be collected in the water/fire pump room located in the southeastern portion of the building.
- IA-6 will be collected in the community facility room in the northeast corner of the building.
- IA-7 will be collected proximally to the western building elevators.
- IA-8 will be collected proximally to the eastern building elevators.
- OA-1 will be collected from the rear courtyard to the north of the building.

In addition, to the locations identified above, a duplicate sample will be collected from one (1) of the sampling locations.

3 INDOOR AIR SAMPLING WORK PLAN

3.1 Building Survey

A building survey and reconnaissance will be completed at the site prior to sampling activities. The purpose of the survey and reconnaissance will be to document information that will be used to evaluate the indoor air results. Field personnel will complete the NYSDEC Structure Sampling Questionnaire and Building Inventory (presented in **Appendix A**) prior to conducting the indoor air sampling. This will be done in conjunction with evaluating slab perforations, obtaining information on building space use, evaluating the operating conditions of the heating/ventilation/air conditioning system, and identifying the type and location of chemical products that could influence indoor air results. A photo-ionization detector (PID), equipped with a 10.6 electron volt lamp, will be used to complete a real time vapor survey to screen for the presence of detectable vapor-phase chemicals within the breathing zone and for any floor penetrations. Any products identified during the survey that could impact the results of the indoor air sampling will be removed from the area at least 24 hours prior to sampling, if possible.

3.2 Indoor/Outdoor Air Sample Location and Setup

Indoor/Outdoor air samples will be collected over a 24-hour period, during the NYSDOH designated heating season, if possible, and sample locations are shown in **Figure 2**. One (1) duplicate indoor air sample will also be collected from one of the designated sampling locations. The duplicate sample will be collected over the same period (24 hours) as the indoor air samples. Indoor/outdoor air samples will be collected from an intake height of approximately 4 to 5 feet above the ground/slab. The duplicate air sample will be positioned adjacent to an indoor air sampling location.

3.3 Indoor/Outdoor Air Sampling

Samples will be collected using passive 6-liter, laboratory-supplied stainless-steel Summa® canisters. The canisters will be individually certified clean by the laboratory and supplied with vacuum gauges and pre-set flow controllers capable of collecting a sample at a rate not to exceed 0.2 liters per minute as established in the NYSDOH Guidance Document. Once a canister is full (i.e., -2 to -5 in. Hg remaining, as measured by an analog pressure gauge), it will be sealed and labeled with the sample identification number corresponding to the indoor air sampling location. Each canister shipment will be sealed with chain-of-custody tape, and chain-of-custody forms will be completed in triplicate. Samples will be either shipped via overnight carrier or driven directly to the analytical laboratory on the day that collections are completed.

3.4 Analysis of Indoor Air Samples

The Summa canisters will be submitted to an NYSDOH Environmental Laboratory Accreditation Program (ELAP) - certified laboratory (with appropriate chain-of-custody) and analyzed for volatile organic compounds (VOCs) by using United States Environmental Protection Agency Method TO-15.

For quality assurance and quality control purposes, one duplicate sample is proposed to be collected and analyzed for VOCs by EPA Method TO-15.

3.5 Pressure Field Extension Testing (PFET)

In addition to the indoor/outdoor air sampling, PFET will be conducted to ensure the SSDS is operating effectively. Pressure readings will be collected from each of the existing Vacuum Monitoring Points (VMPs) installed prior to completion of the redevelopment (see **Figure 3**). Readings will be collected by attaching a digital manometer to the VMPs with silicone tubing. Pressure readings of -0.004 inches of water column (WC") are the minimum requirement for sub-slab depressurization, as per USEPA Guidance. These readings will be noted and included in the Indoor Air Investigation Report.

4 DATA EVALUATION AND REPORTING

Upon completion of sampling and analyses, data will be evaluated in conjunction with the NYSDOH evaluation criteria / decision matrices as outlined in *"Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York,"* dated October 2006 and updated in February 2024 and results will be presented in an Indoor Air Investigation Report.

For parameters that do not have specific guidance values or evaluation criteria / decision matrices, IEEG will evaluate results on a case-by-case basis utilizing appropriate guidance documents, regulatory criteria, models, comparison to background levels, or other methods acceptable to NYSDEC and NYSDOH.

FIGURES

13-12 Beach Channel Drive
Far Rockaway, NY

Indoor Air Investigation Work Plan
NYSDEC BCP #C360211



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Legend

 :Site boundary

SITE LOCATION MAP

13-12 Beach Channel
Drive, Far Rockaway,
NY



Not To Scale

FIGURE 1

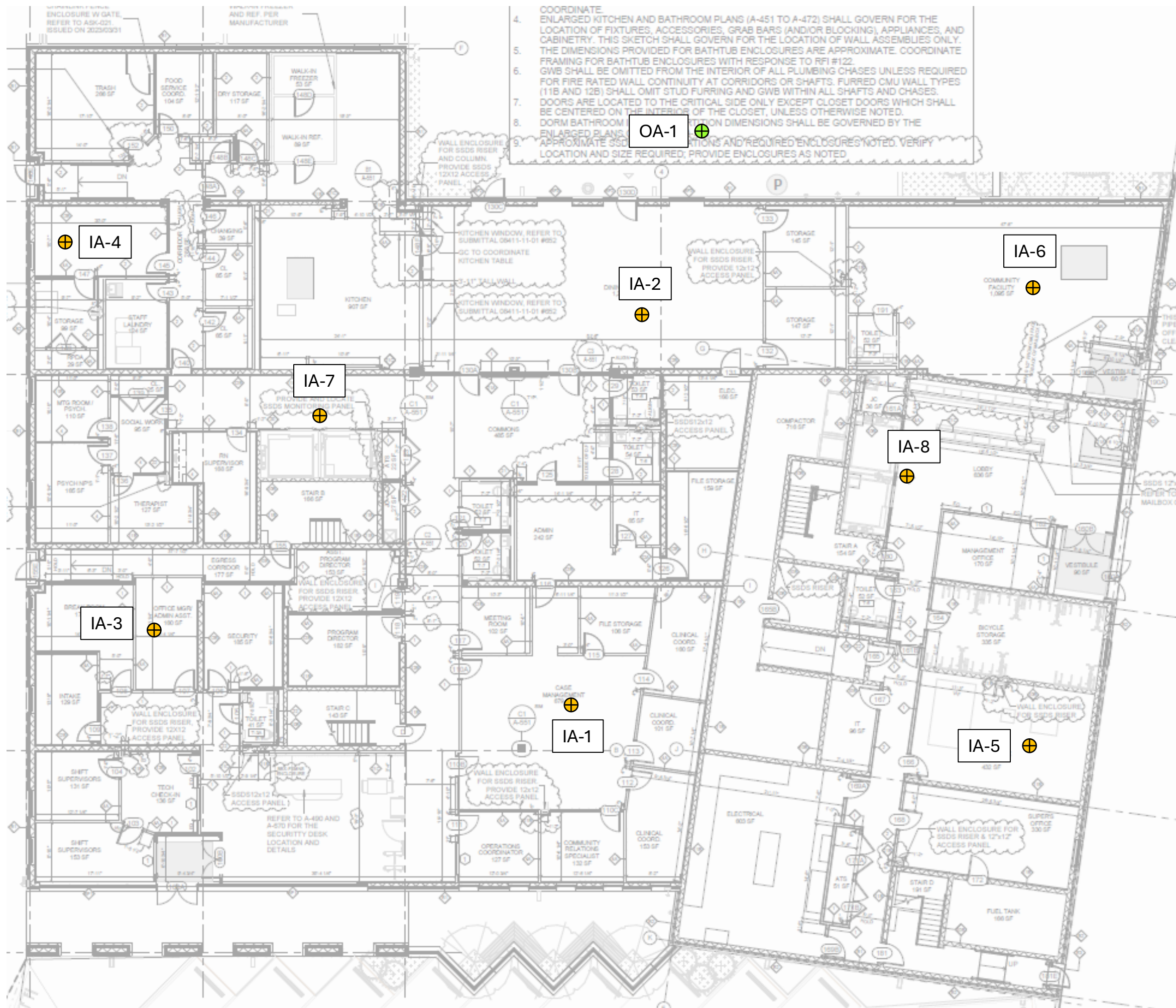
Project #:	15209
Drawn By:	TJ
Checked By:	GMC
Date:	4-7-2025

Revisions

IMPACT ENVIRONMENTAL
CLOSURES, INC.

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Legend

- Indoor Air Sample Location
- Outdoor Air Sampling Location

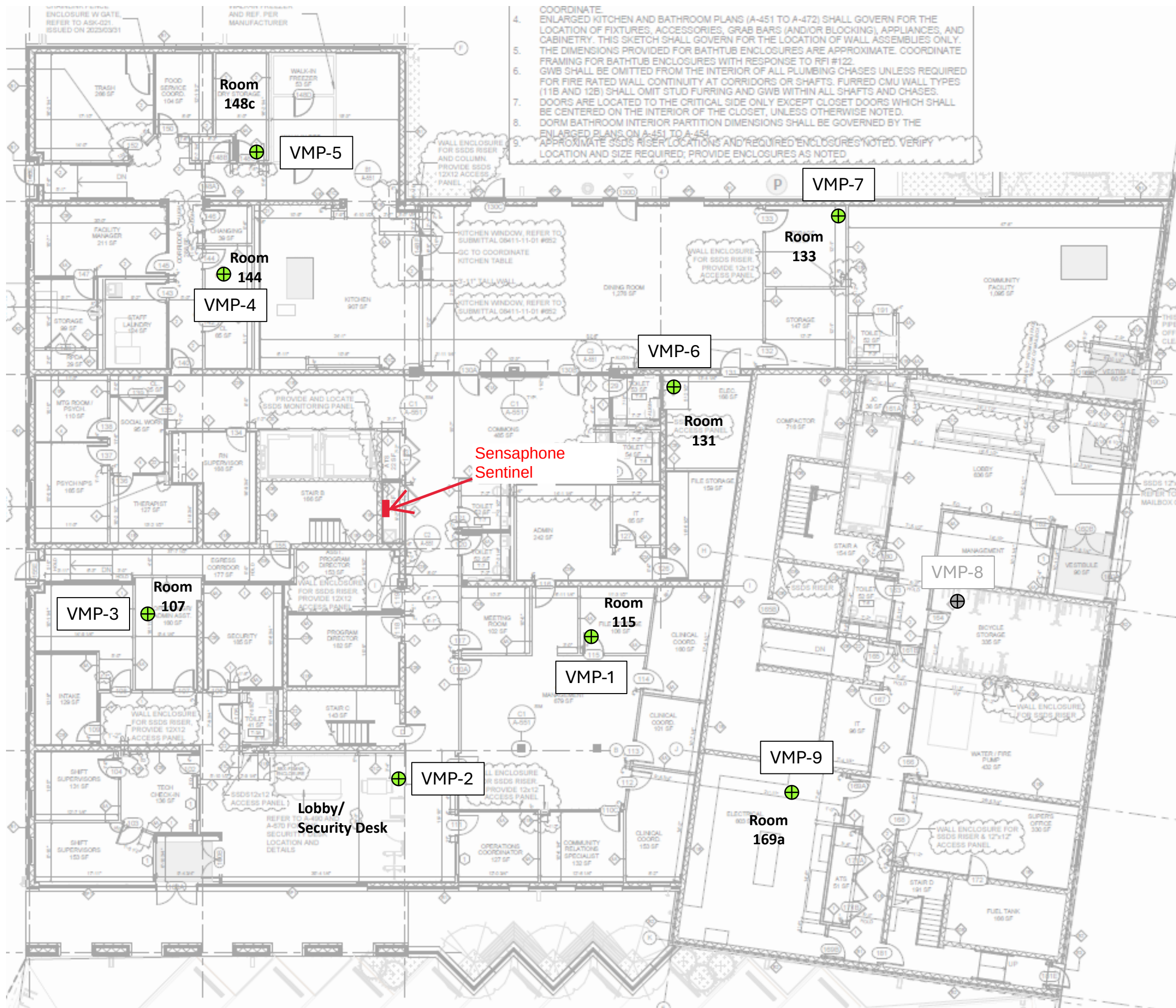
SMP INDOOR AIR LOCATION
MAP 2025

13-12 Beach Channel Drive, Far Rockaway, NY	FIGURE 2	
	Project #:	15209
	Drawn By:	CJC
	Checked By:	GMC
	Date:	4-7-2025
 Not To Scale	Revisions	

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4. COORDINATE ENLARGED KITCHEN AND BATHROOM PLANS (A-451 TO A-472) SHALL GOVERN FOR THE LOCATION OF FIXTURES, ACCESSORIES, GRAB BARS (AND/OR BLOCKING), APPLIANCES, AND CABINETRY. THIS SKETCH SHALL GOVERN FOR THE LOCATION OF WALL ASSEMBLIES ONLY.
5. THE DIMENSIONS PROVIDED FOR BATHTUB ENCLOSURES ARE APPROXIMATE. COORDINATE FRAMING FOR BATHTUB ENCLOSURES WITH RESPONSE TO RFI #122.
6. GWB SHALL BE OMITTED FROM THE INTERIOR OF ALL PLUMBING CHASES UNLESS REQUIRED FOR FIRE RATED WALL CONTINUITY AT CORRIDORS OR SHAFTS. FURRED CMU WALL TYPES (11B AND 12B) SHALL OMIT STUD FURRING AND GWB WITHIN ALL SHAFTS AND CHASES.
7. DOORS ARE LOCATED TO THE CRITICAL SIDE ONLY EXCEPT CLOSET DOORS WHICH SHALL BE CENTERED ON THE INTERIOR OF THE CLOSET, UNLESS OTHERWISE NOTED.
8. DORM BATHROOM INTERIOR PARTITION DIMENSIONS SHALL BE GOVERNED BY THE ENLARGED PLANS ON A-451 TO A-454.
9. APPROXIMATE SSDS RISER LOCATIONS AND REQUIRED ENCLOSURES NOTED. VERIFY LOCATION AND SIZE REQUIRED; PROVIDE ENCLOSURES AS NOTED.

Legend

-  VMP – Installed/Usable
-  VMP – Mat Slab, not usable

VMP LOCATION MAP
JUNE 2024

13-12, 13, 16, and 13-
24 Beach Channel
Drive, Far Rockaway,
NY

FIGURE 3

Project #:	15209
Drawn By:	CIC
Checked By:	GMC
Date:	9-11-23

Revisions



Not To Scale

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Appendix A

NYSDOH Building Questionnaire

13-12 Beach Channel Drive
Far Rockaway, NY

Indoor Air Investigation Work Plan
NYSDEC BCP #C360211



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

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

Preparer's Name _____ Date/Time Prepared _____

Preparer's Affiliation _____ Phone No. _____

Purpose of Investigation _____

1. OCCUPANT:

Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location _____ Age of Occupants _____

2. OWNER OR LANDLORD: (Check if same as occupant ____)

Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential
Industrial

School
Church

Commercial/Multi-use
Other: _____

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

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

If multiple units, how many? _____

If the property is commercial, type?

Business Type(s) _____

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

Other characteristics:

Number of floors _____ Building age _____

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

4. AIRFLOW

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

Airflow between floors

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	
1 st Floor	
2 nd Floor	
3 rd Floor	
4 th 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 <hr/> |
| d. Has the building ever had a fire? | Y / N When? <hr/> |
| e. Is a kerosene or unvented gas space heater present? | Y / N Where? <hr/> |
| f. Is there a workshop or hobby/craft area? | Y / N Where & Type? <hr/> |
| g. Is there smoking in the building? | Y / N How frequently? <hr/> |
| h. Have cleaning products been used recently? | Y / N When & Type? <hr/> |
| i. Have cosmetic products been used recently? | Y / N When & Type? <hr/> |

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

Are there odors in the building?

Y / N

If yes, please describe: _____

Do any of the building occupants use solvents at work?

Y / N

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

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work?

Y / N

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

Yes, use dry-cleaning regularly (weekly)

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

Yes, work at a dry-cleaning service

No

Unknown

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

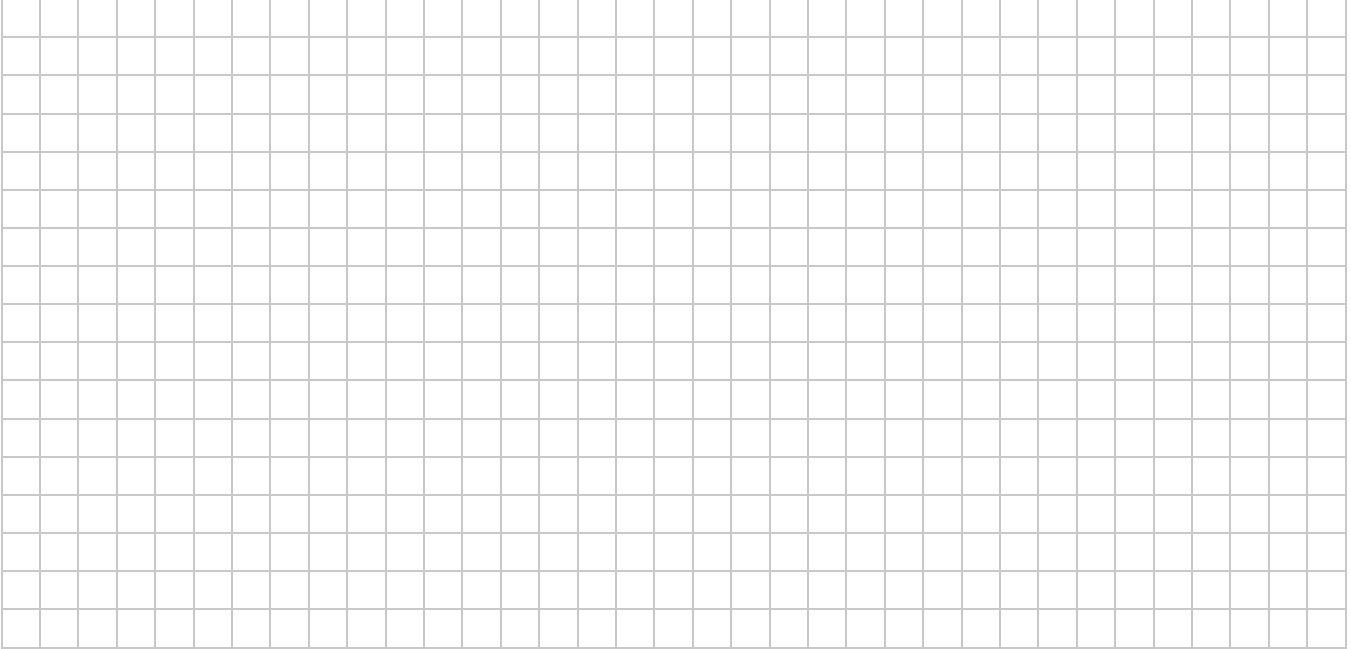
c. Responsibility for costs associated with reimbursement explained? Y / N

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

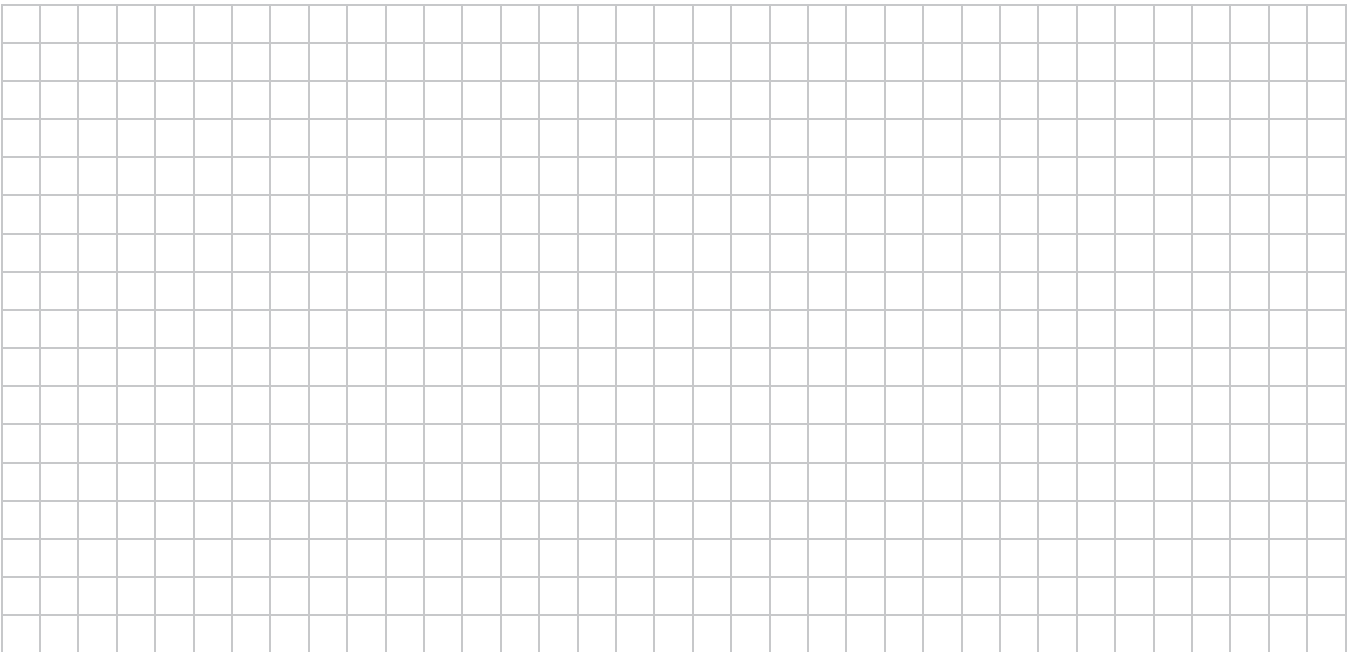
11. FLOOR PLANS

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.

[illegible]

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

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

Example

1

Correct

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 Mary Jones Date/Time Prepared 10/22/04 10:00am

Preparer's Affiliation XYZ Consulting Phone No. 518-555-1212

Purpose of Investigation Thomasville Soil Vapor Intrusion Investigation (Site #32141)

1. OCCUPANT:

Interviewed: (Y)/N

Last Name: Smith First Name: Carol

Address: 25 Main Street Thomasville, New York 25230

County: Albany

Home Phone: 518-556-2222 Office Phone: 518-556-2400

Number of Occupants/persons at this location 2 Age of Occupants 36, 10

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

Interviewed: Y (N)

Last Name: White First Name: Frank

Address: 64 Mountain Road Bainbridge, New York 26390

County: Dutchess

Home Phone: 845-876-1301 Office Phone: 845-227-2430

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential
Industrial

School
Church

Commercial/Multi-Use
Other:

Example Correct 2

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

<u>Ranch</u>	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? NA

If the property is commercial, type?

Business Type(s) NA

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

Other characteristics:

Number of floors 1

Building age 20 years

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

Basement air flows up to 1st floor through plumbing waste line and domestic water line floor penetrations

Airflow near source

Yes, furnace/oil tank area open to rest of basement

Outdoor air infiltration

Outdoor air enters at loose bilco doorway openings, and at sill plate near furnace.

Infiltration into air ducts

Basement air flows into bottom of hot air unit and in loose cold air return joints.

Example Correct 3

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: 6 (feet)

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

Floor drain in laundry area

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)

<u>Hot air circulation</u>	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	<u>Fuel Oil</u>	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: gas

Boiler/furnace located in: Basement Outdoors Main Floor Other _____

Air Conditioning: Central Air Window units Open Windows None

Example Correct

4

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.

Cold air return ductwork on ceiling in basement. Cold air return joints appear loose.

7. OCCUPANCY

Basement / Is lowest level occupied?
Never

Full time

Occasionally

☒ Seldom

Almost

Level

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

Basement

Storage and laundry

1st Floor

living area and bedrooms

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 etc.)

☒ Y ☐ N ☐ NA

Please specify lawnmower, car

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? w/in week - windex, tilex

i. Have cosmetic products been used recently?

☒ Y ☐ N When & Type? yesterday - hairspray

Example Correct

5

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? carpet in dining room

l. Have air fresheners been used recently? Y / ☒ N When & Type? _____

m. Is there a kitchen exhaust fan? ☒ Y / ☐ N If yes, where vented? outside

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, automechanic or autobody shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist etc.)

If yes, what types of solvents are used? hair salon dyes, alcohols, peroxides, acetone

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)

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

☐ Yes, work at a dry-cleaning service

☐ No

☐ Unknown

Is there a radon mitigation system for the building/structure? ☒ Y / ☐ N Date of Installation: June 2000

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: not applicable

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

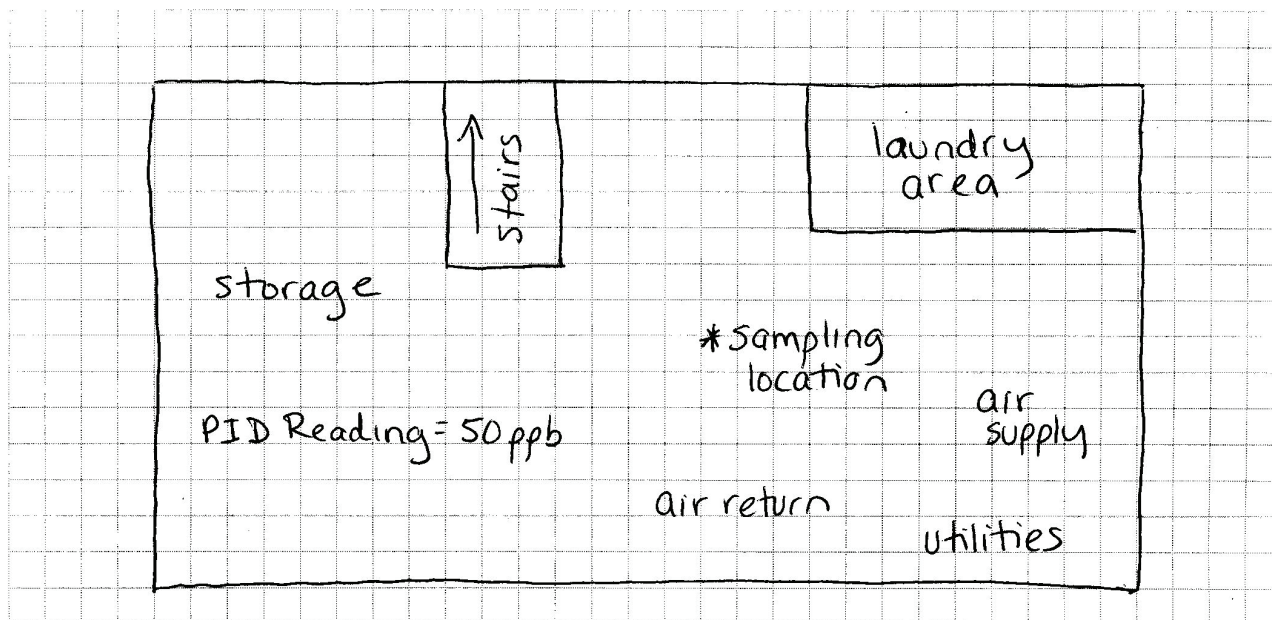
Example Correct

6

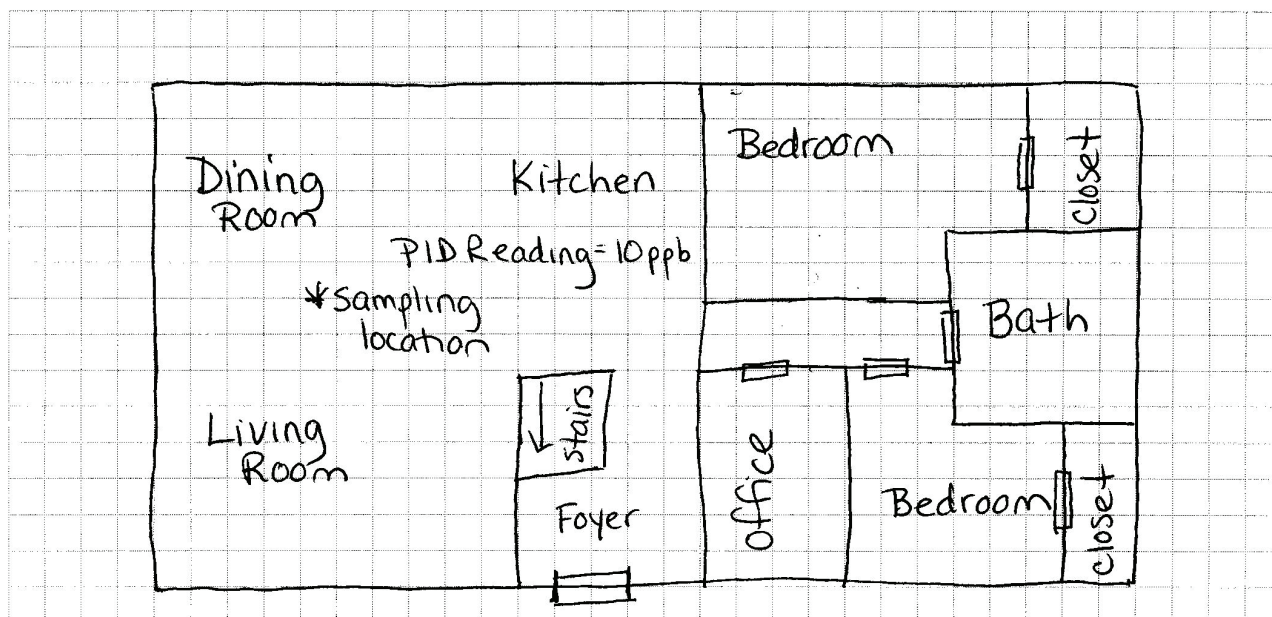
11. FLOOR PLANS

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:

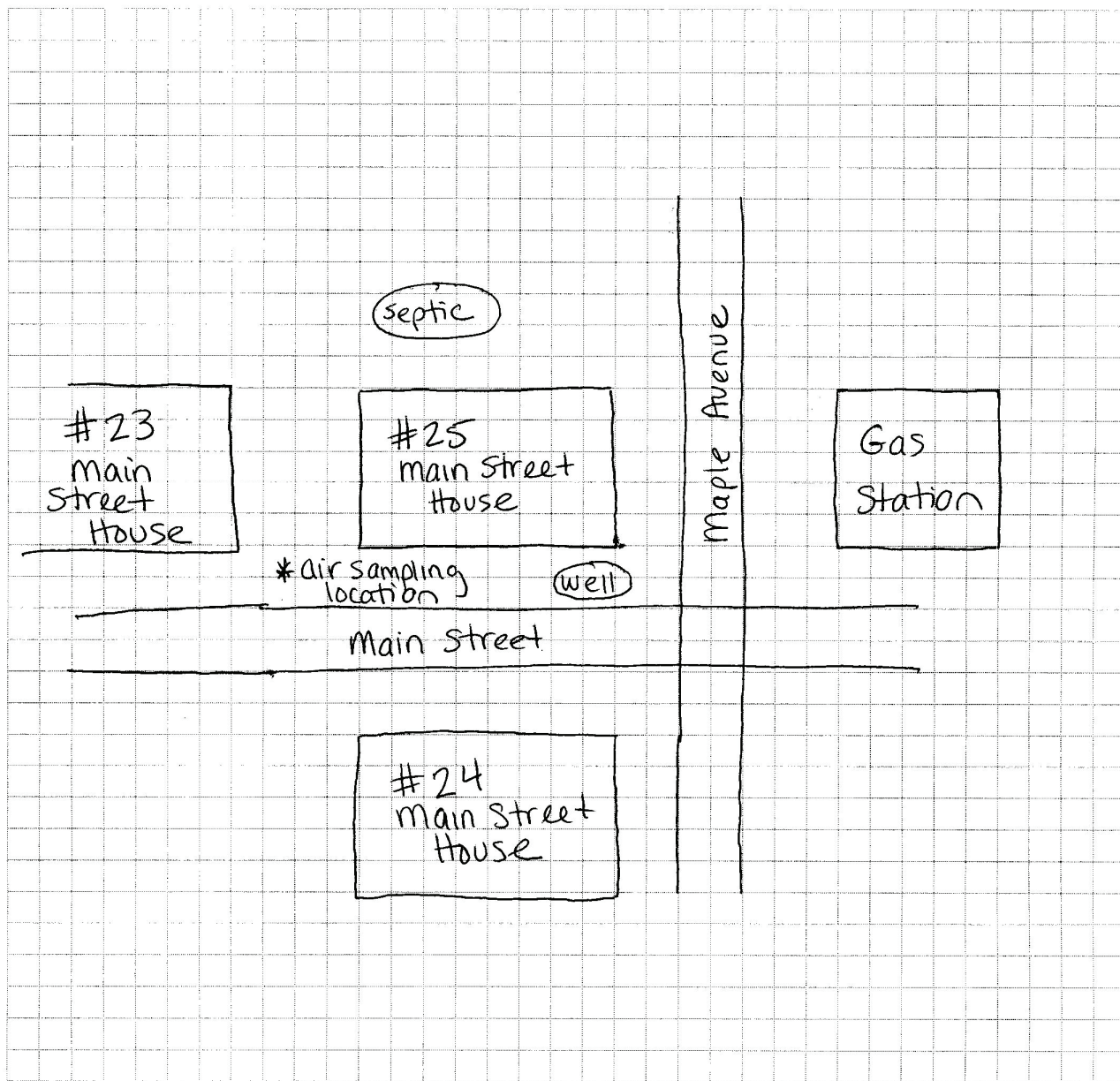


Example Correct 7

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.



Wind direction = NE

Example Correct

8

13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: RAE photoionization detector

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

Location	Product Description	Size (oz.)	Condition*	Chemical Ingredients	Field Instrument Reading	Photo** Y/N
Kitchen	WD-40	12oz	UO	See photo	10 ppb	Y
garage	mineral spirits	24oz	U	benzene, toluene	15 ppb	N
garage	American Semi-Gloss latex paint	64oz	U	titanium dioxide, ethylene glycol, aluminum hydroxide, 2,2,4-trimethyl 1,3-pentanedial, isobutyrate, Vinyl acetate	2 ppb	N
garage	Krylon Semi-gloss oil paint	64oz	D	butane, propane, titanium dioxide, xylene, ethylbenzene, acetone, MEK, butanol, MJK	10 ppb	N
garage	Rustoleum	12oz	U	talc, calcium carbonate, titanium dioxide, xylene, ethylbenzene, acetone, liquified petroleum gases, pentaerythritol	4 ppb	N
garage	Deep 6 Double Strength Insect Repellent	8oz	D	propane, isobutane, N,N-Diethyl-meta-tolamide Di-n-propyl isocinchomeronate	0.5 ppb	N
base-ment	12 cans latex paint	128oz	U	talc, titanium dioxide, Kaolin clay, 2,2,4-trimethyl-1,3-pentanedial, isobutyrate, vinyl acetate	0	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.