

MONITORING AND MAINTENANCE PLAN REPORT

MR. CLEANERS – SHRUB OAK SHOPPING CENTER
1360 EAST MAIN STREET
SHRUB OAK
WESTCHESTER COUNTRY, NEW YORK

TECHNICAL REPORT

MARCH 2017

PREPARED FOR:

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MONITORING AND MAINTENANCE PLAN REPORT
Mr. Cleaners – Shrub Oak Shopping Center Site
1336-1378 East Main Street
Tax Parcel: 16.09-2-14
Shrub Oak (Town of Yorktown), Westchester County, New York
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1.0 INTRODUCTION

Excel Environmental Resources, Inc. (Excel) has prepared this Monitoring and Maintenance Plan Report (MMPR) on behalf of Shrub Oak Partners, LLC (Shrub Oak) for the property located at 1336 – 1378 East Main Street, Shrub Oak (Town of Yorktown), New York (herein referred to as the subject property or Site). The subject property location is shown on the United States Geological Survey (USGS) 7.5 minute Topographical Map for the Mohegan Lake, New York Quadrangle enclosed as Figure 1.

The Shrub Oak Shopping Center is located at 1360 East Main Street in the Hamlet of Shrub Oak, in the Town of Yorktown, Westchester County, New York and is comprised of three (3) large connected single-story buildings totaling 46,586 improved square feet, devoted presently to retail sales. Asphalt paved parking areas surround the shopping center structure.

This Monitoring and Maintenance Plan Report (MMPR) has been prepared by Excel in accordance with applicable provisions of the New York Department of Environmental Conservation (NYDEC). The objective of this MMPR is to document the installation and continued proper operation of the sub slab depressurization system (SSDS) at the subject property.

The remainder of this report is organized as follows:

- Chapter 2.0: Environmental Setting
- Chapter 3.0: Engineered System Response Actions
- Chapter 4.0: Mitigation System Inspection
- Chapter 5.0: Monitoring and Maintenance Plan
- Chapter 6.0: References

2.0 ENVIRONMENTAL SETTING

As shown in Figure 1, the subject property is located at 1360 East Main Street, Shrub Oak (Town of Yorktown), New York and is designated as Tax Parcel 16.09-2-14. The location of the subject property is shown on the USGS 7.5 minute Topographical Map for the Mohegan Lake, New York Quadrangle provided as Figure 1. A generalized site plan for the subject property and surrounding area showing the location of existing monitoring wells is provided as Figure 2. The brownfield parcel is approximately 3.47 acres.

As shown on Figure 2, the subject property is located in a mixed commercial/residential section of Shrub Oak (in the Town of Yorktown) at 1360 East Main Street. Undeveloped land is located adjacent to the subject property to the north. The subject property is bordered by Wynwood Oaks Senior Living to the east, a parking lot to the west, and residential houses and Lakeland Senior High to the south. East Main Street, New Road, and Mountain Brook Road are located to the south as outlined in the SC Report prepared by HRP.

The Shrub Oak Shopping Center is located at 1360 East Main Street in the Hamlet of Shrub Oak, in the Town of Yorktown, Westchester County, New York and is comprised of three (3) large connected single-story buildings totaling 46,586 improved square feet, devoted presently to retail sales. Asphalt paved parking areas surround the shopping center structure.

According to the Surficial Geologic Map of New York, Lower Hudson Sheet, 1989, the surficial geologic material underlying the Site is classified as till. Till deposits consist of variable textured (i.e. clay, silt-clay, and boulder-clay). The till is usually poorly sorted, relatively impermeable, variable clast content, ranging from abundant, well rounded, diverse lithology in valley till to relatively angular, more limited lithology in uplands till and tends to be sandy in areas underlain by gneiss or sandstone. Thickness is variable from one to fifty meters bgs. As reported during previous investigations, overburden materials were observed to consist mainly of sand and silt with little gravel and a peat layer.

According to the Bedrock Geologic Map of New York, Lower Hudson Sheet, 1970, the bedrock geologic material underlying the Site is characterized as the Stockbridge Groups, Poughquag quartzite and metamorphic equivalents up to 4,000-feet bgs. The lithology of this geologic unit consists of Inwood marble, dolomite marble, and granite.

According to the United States Department of Agriculture Natural Resource Conservation Service Web Soil Survey, soils at the Site are classified as Urban Land, which are found in areas that are commonly rectangular and range in size from five to 500 acres. An unknown quantity of fill was brought in prior to the construction of the building. Land surface for this soil unit generally slopes up to 25 percent, although the slope is dominantly less than eight percent.

According to the USGS 7.5 minute topographic map, two unnamed lakes to the north and Lake Mohegan to the southwest are within a one mile radius of the Site. A state regulated

freshwater wetlands (Wetland ID A-47) is located to the north and east of the Site. The Town of Yorktown has established an Open Space Preservation Conservation Area which encompasses the wetlands that abut the Site to the north and east.

Based on previous groundwater contour evaluations in the shallow subsurface aquifer, the groundwater generally flows from the southeast to the northwest in the area of the Site. Possible groundwater mounding may be present under the building due to the presence of building footers and the building construction incorporating compacted sub-base. Based on the results of the SC investigation, flow is estimated to be in the northeasterly direction. Groundwater flow and contour maps were developed from depth to water measurements.

3.0 ENGINEERED SYSTEM RESPONSE ACTIONS

Following discussion with the NYSDEC, a SSDS was installed during March and April of 2016 at the subject property by AWT Environmental Services Inc. of Sayreville, New Jersey. As is shown on Figure 3, the SSDS consists of depressurization points located in both the post office space and in the dry cleaners space. The depressurization points are constructed of 3-inch PVC piping which is installed through a bore hole in the slab of the building into clean stone below the slab and finished with concrete to insure no leakage around the piping. Each depressurization point is vented individually to an exhaust stack which terminates no less than 12 inches above the roof line and no less than 10 feet from any window or other building opening. The system is powered through the electrical circuit breaker box located in the dry cleaners utility room.

The system installed at the subject property is an active system and vacuum is provided to each depressurization point through the utilization of a Radonaway HS series fan mounted near the terminal end of the point on the roof of the building.

As shown on Figure 3, vacuum monitoring points were installed flush with the floor in the tenant spaces at fixed intervals extending from the depressurization points. At each depressurization point location, an audible vacuum monitoring alarm was installed. Each length of piping associated with the SSDS was labeled accordingly so as to avoid confusion with other PVC pipe runs.

Following installation, verification sampling was performed with samples of both indoor air and sub-slab soil gas being collected. As documented in prior correspondence with the NYSDEC and NYSDOH, review of the historic data and post mitigation indoor air analytical results indicates the following for each of the tenant spaces as outlined below:

- **Dry Cleaner Tenant Space:** Indoor air and sub-slab soil gas sampled at the dry cleaners space prior to the installation of the SSDS reported levels of PCE and TCE at levels in the “Mitigate” range as outlined in the appropriate NYSDOH matrix included as part of the October 2006 Guidance for Evaluating Vapor Intrusion in the State of New York. This space was sampled in December 2016 following the installation and operation of the SSDS and levels for all compounds were reported as in the “Take Practical Action” range of the NYSDOH matrices. At this time, the dry cleaner tenant space continues to operate as an active dry cleaning facility and indoor air samples associated with this space are likely biased high due to the current operations.
- **Pizzeria Tenant Space:** Indoor air and sub-slab soil gas sampled at the pizzeria space prior to the installation of the SSDS reported levels of PCE and TCE at levels in the “Mitigate” range as outlined in the appropriate NYSDOH matrix. This space was sampled in December 2016 following the installation and operation of the SSDS and levels for TCE and PCE were reported as remaining in the “Mitigate”

range as outlined in the NYSDOH matrices. Excel proposes the continued operation of the SSDS at the property as well as continued verification of vacuum levels to confirm SSDS influence.

- **United States Postal Service Tenant Space:** Indoor air and sub-slab soil gas sampled at the Post Office space prior to the installation of the SSDS reported levels of PCE and TCE at levels in the “Mitigate” range as outlined in the appropriate NYSDOH matrix. This space was sampled in December 2016 following the installation and operation of the SSDS and levels for TCE and PCE were reported as remaining in the “Mitigate” range as outlined in the NYSDOH matrices. Excel proposes the continued operation of the SSDS at the property as well as continued verification of vacuum levels to confirm SSDS influence.
- **Supermarket Tenant Space:** Indoor air and sub-slab soil gas sampled at the supermarket space prior to the installation of the SSDS reported levels of PCE in the “Take Practical Action” range and TCE at levels in the “Monitor” range as outlined in the appropriate NYSDOH matrix. Samples collected in April 2016 indicated that there were no contaminants of concern at levels requiring either monitoring or mitigation by the NYSDOH. This space was sampled in December 2016 at which time both PCE and TCE were found to be in the “Mitigate” range. Excel proposes the continued operation of the SSDS at the property as well as continued verification of vacuum levels to confirm SSDS influence.

4.0 MITIGATION SYSTEM INSPECTION

In compliance with the Monitoring and Maintenance Plan executed following the installation of the SSDS, an Excel Scientist performed an annual inspection of the system on September 27, 2016.

Upon arrival at the subject property, the system was observed to be running, with no leaks or other issues observed. A TSI Velocicalc Multi-Function Ventilation Meter 9565 was utilized to collect pressure and air flow measurements of the SSDS before and after the exhaust fans and at vacuum monitoring points located in the floor as shown on Figure 3. These measurements were consistent with the measurements recorded during the initial start-up of the SSDS and are included with this report Appendix A. These measurements indicate that the system is still operating effectively and there is no need for an additional round of indoor air (IA) sampling at this time.

5.0 MONITORING AND MAINTENANCE PLAN

As previously indicated, the SSDS was installed during March and April of 2016 followed by post-mitigation indoor air and sub-slab soil gas sampling on April 22, 2016. As documented in Chapter 4.0 of this report, Excel's September 27, 2016 inspection of the system confirms that the system is continuing to operate normally and therefore has continued to operate consistently since the commissioning of the system in April 2016. Therefore, the following Operations Maintenance and Monitoring (OMM) is recommended at the subject property:

- Yearly inspection and performance values measurement to verify that the system is still operating effectively. It will be presumed that the system has been operating consistently since the previous inspection and further monitoring and maintenance will continue with an annual inspection of the system and collection of system diagnostic measurements only.
- If upon inspection, any part of the system is not operating or performance values are not consistent with the commissioning values, additional indoor air sampling and re-commissioning of the system may be warranted.

Following each inspection, an annual Monitoring and Maintenance Plan Report will be completed and submitted to the NYSDEC.

Note that continued operation of the SSDS will also be evaluated as the remediation proceeds and additional groundwater data is obtained.

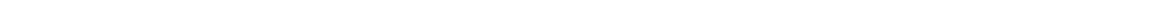
6.0 REFERENCES

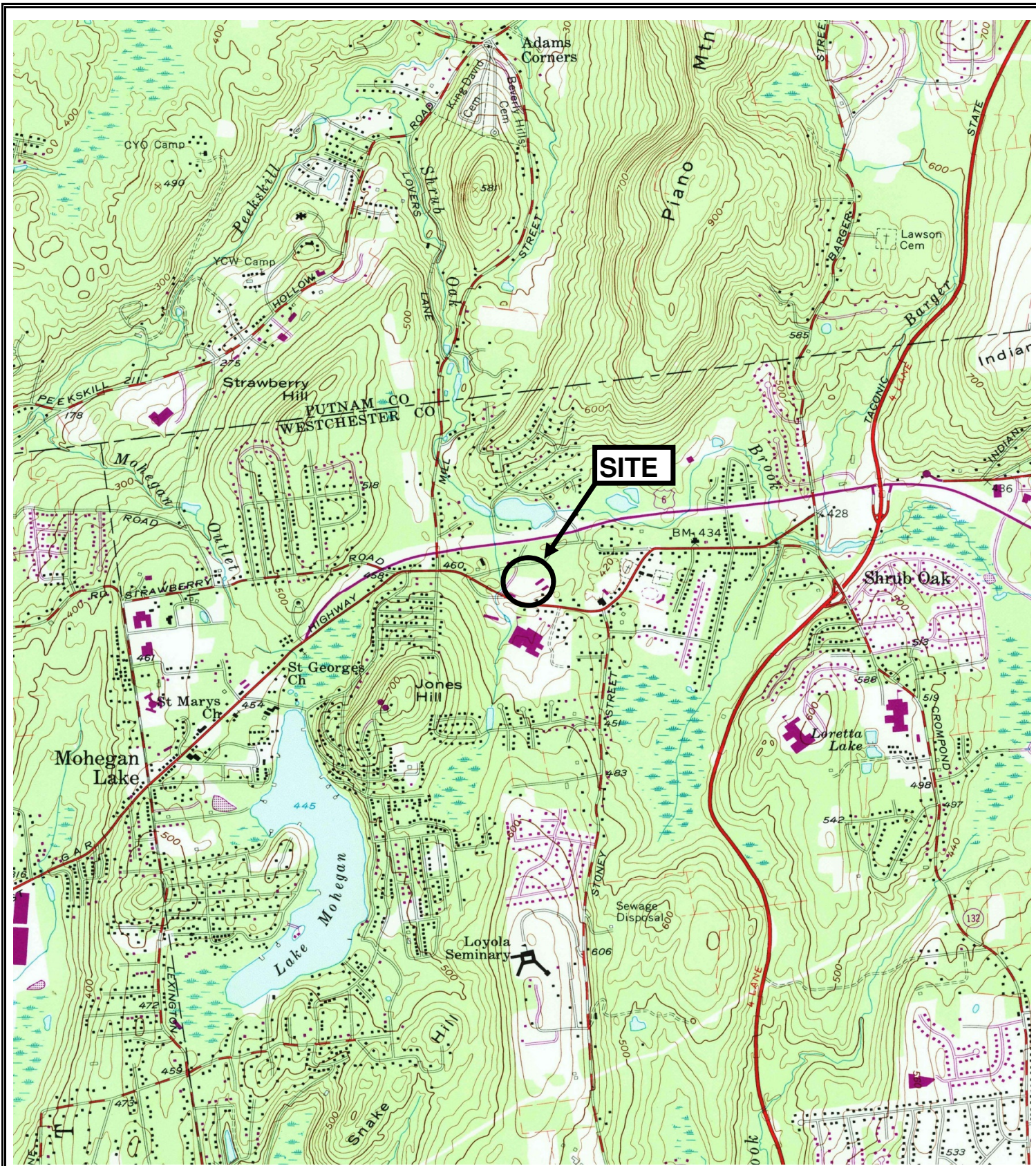
Excel Environmental Resources, Inc., July 2013. Remedial Investigation Workplan – Mr. Cleaner – Shrub Oak Shopping Center.

New York State Department of Health, October 2006. Guidance for Evaluating Vapor Intrusion in the State of New York.

United States Geological Survey (USGS), 1997, 7.5 Minute Map of the Mohegan Lake, New York Quadrangle.

FIGURES





SOURCE:

UNITED STATES GEOLOGICAL SURVEY
7.5 MINUTE SERIES (TOPOGRAPHIC)
MOHEGAN LAKE QUADRANGLE 1981



EXCEL ENVIRONMENTAL RESOURCES, INC.

MR. CLEANERS, 1360 EAST MAIN STREET
SHRUB OAK, YORKTOWN, NEW YORK

FIGURE 1 - SITE LOCATION MAP

DRAWN BY: N/A

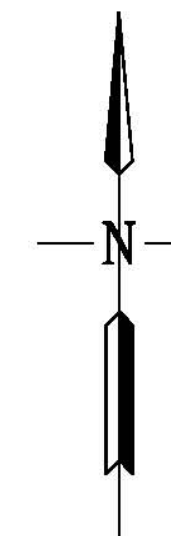
SCALE: 1:24,000

7/24/2013





CHECKED BY: RH

REVISION: 0

PROJECT #: 12229



LEGEND:

-  PROPERTY BOUNDARY (10.73 ACRES)
-  BROWNFIELD PARCEL (5.75 ACRES)
-  MONITORING WELL LOCATION
-  FORMER UST LOCATION AND SUSPECTED SOURCE AREA

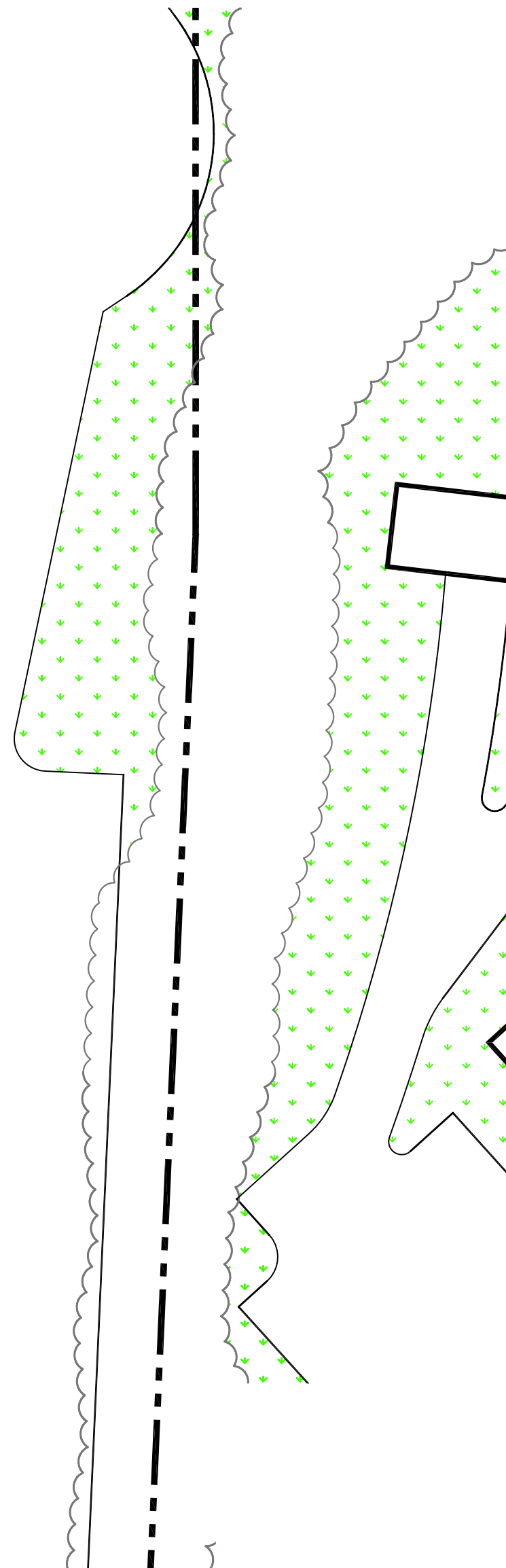
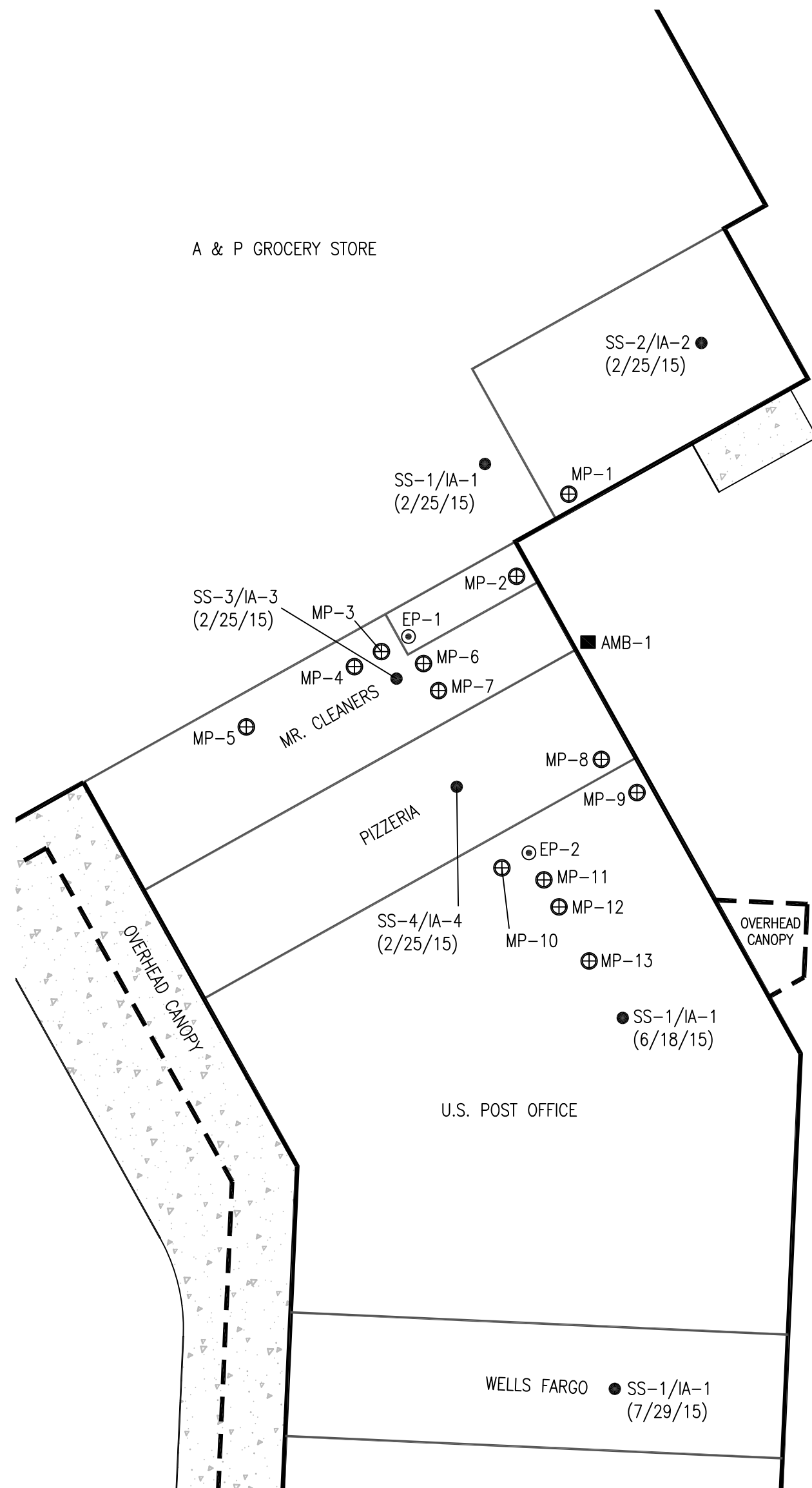


PROJECT : MR. CLEANERS
1360 EAST MAIN STREET
SHRUB OAK, YORKTOWN, NEW YORK

DESCRIPTION : FIGURE 2
GENERALIZED SITE PLAN

DRAWN BY : RC	SCALE : 1"=100'	DATE : 7/23/13
CHECKED BY : MM	REVISION :	PROJECT # 12229

K:\Projects\12229 Mr. Cleaners-Shrub Oak SC\Figures\Indoor Air 3.dwg Layout: CSJZET Date: 3/10/2017 11:24 AM Login: Ryan Carmon



LEGEND:

- PROPERTY BOUNDARY
- EXISTING BUILDING
- OVERHEAD CANOPY
- SUB-SLAB SOIL GAS/INDOOR AIR SAMPLE LOCATION
- AMBIENT AIR SAMPLE LOCATION
- EXTRACTION POINT
- MONITORING POINT
- CONCRETE
- GRASS
- TREELINE



PROJECT : MR. CLEANERS
1360 EAST MAIN STREET
SHRUB OAK, YORKTOWN, NEW YORK

DESCRIPTION : FIGURE 3
GENERALIZED SITE PLAN SHOWING VAPOR
INTRUSION MITIGATION SYSTEM

DRAWN BY : RC	SCALE : 1"=20'	DATE : 2/17/17
CHECKED BY : MM	REVISION :	PROJECT # 12229

APPENDIX A

VAPOR INTRUSION MITIGATION SYSTEM INSTALLATION/INSPECTION CHECKLIST

**VAPOR INTRUSION MITIGATION SYSTEM
& INSTALLATION CHECKLIST**
(Optional Tool for Investigator)

Address inspected: 1336-1378 Main St.
Shrub Oak, NY

Person(s) interviewed: NA

Date of inspection: 4-22-16 Time of inspection: 0800 to 1000

Company: Excel Env. Resources Phone Number: 732-545-9525

Mitigation System Designer: AWT - Rob Gaupp Phone Number: 800-732-7701

Company: AWT, Sayreville NJ

Type of License: ☐ PE ☐ Certified Radon Mitigation Specialist ☒ None

License #: _____

Date System Installation Completed: 4-5-16

1.0 System Installation

Yes No

1.1 Is the system installed as designed?

X _____

List non-conformance items and corrective actions taken in Section 7.0.

1.2 Were permits obtained prior to the installation?

X _____

If yes, list type and permit number:

1. Electric 4067
2. _____

1.3 Has the system passed the permit inspections?

X _____

If not, detail circumstances in Section 7.0.

1.4 Installation Contractor:

Company Name: AWT

Contact Person: Rob Gaupp Phone #: 800-732-7701

License Number: _____ (Professional or Business)

1.5 Electrical Contractor:

Company Name: Spirelli Electric

Contact Person: Joe Spirelli Phone #: 914-455-2158

License Number: _____

2.0 General Sealing Recommendations

Yes No

2.1 Are accessible openings around utility penetrations in the foundation walls and slab, test holes, suction point piping penetrations of the slab, slab/wall juncture, and other openings and/or penetrations in the slab or foundation walls properly sealed using methods and materials that are applicable to the application and pass the smoke stick check?

X _____

2.2 Did all accessible cracks or openings in the slab or wall pass the smoke test?
If not, identify the location of failed cracks or openings and corrective actions taken in Section 7.0.

X _____

3.0 Monitors and Labeling Recommendations

3.1 Does each suction point have a permanently installed mechanism (manometer, vacuum gauge or port) to measure vacuum?

X _____

3.2 Are sample ports present to measure air flow, vacuum and acquire samples at each suction point?

X _____

3.3 Are sample ports present to measure air flow, vacuum and acquire samples at the blower/fan influent and discharge?

X _____

3.4 Is the pressure reading from the latest commissioning clearly marked on the suction point riser?

X _____

3.5 Does the mitigation system avoid inducing backdrafting of combustion products into the building?

X _____

3.6 Were the vacuum readings in the system stable during the backdraft test?

X _____

3.7 Does the mitigation system include an operational audible alarm to inform occupants of a system malfunction?

X _____

3.8 Were SSP installed permanently according to the design to test the area of influence?

X _____

3.9 Is the circuit breaker controlling the vent fan labeled "Vapor Mitigation System?"

X _____

4.0 Diagnostic Measurements

4.1 Have commissioning values been established and documented for the system vacuum and air flow at the blower/fan and suction points?

X _____

Yes No

Make and model of instrument used for air flow measurements: _____

TSI Velocicalc 9565

- 4.2 Was the total area of influence by the mitigation system confirmed at all SSPs to a measured vacuum equal to or greater than 0.004" WC?

X _____

Make and model of instrument used for vacuum measurement: _____

TSI Velocicalc 9565

- 4.3 Does the instrument used for sub-slab vacuum measurements have a resolution of 0.0001" WC?

X _____

- 4.4 Was indoor air sampling performed to confirm mitigation system performance?

X _____

- 4.5 Has an estimate for electrical costs been provided based on electrical measurements?

_____ X

- 4.6 Is a spreadsheet provided summarizing the diagnostic measurements?

_____ X

5.0 Blower/Fan Installation Recommendations

- 5.1 Is the blower/fan installed in a configuration that avoids condensation buildup in the housing or is a condensate bypass system present?

X _____

- 5.2 Is the blower/fan mounted and secured in a manner that minimizes transfer of vibration to the structural framing of the building?

X _____

- 5.3 Does the system operate without excessive noise or vibration?

X _____

6.0 Mitigation System Assessment

- 6.1 Is the mitigation system protective based on conditions at the time of the inspection?

X _____

7.0 Non-Conformance Items and Corrective Actions

APPENDIX B
PHOTO SUMMARY

EXCEL ENVIRONMENTAL RESOURCES, INC.
PHOTOGRAPHIC SUMMARY

Project Name/Number: Shrub Oak Shopping Center

Photographer: MB



Photo No.: 1

Description: View of the sub-slab depressurization system point operating in the Post Office tenant space.



Photo No.: 2

Description: View of the audible alarm attached to the point located in the tenant space.

EXCEL ENVIRONMENTAL RESOURCES, INC.
PHOTOGRAPHIC SUMMARY

Project Name/Number: Shrub Oak Shopping Center

Photographer: MB

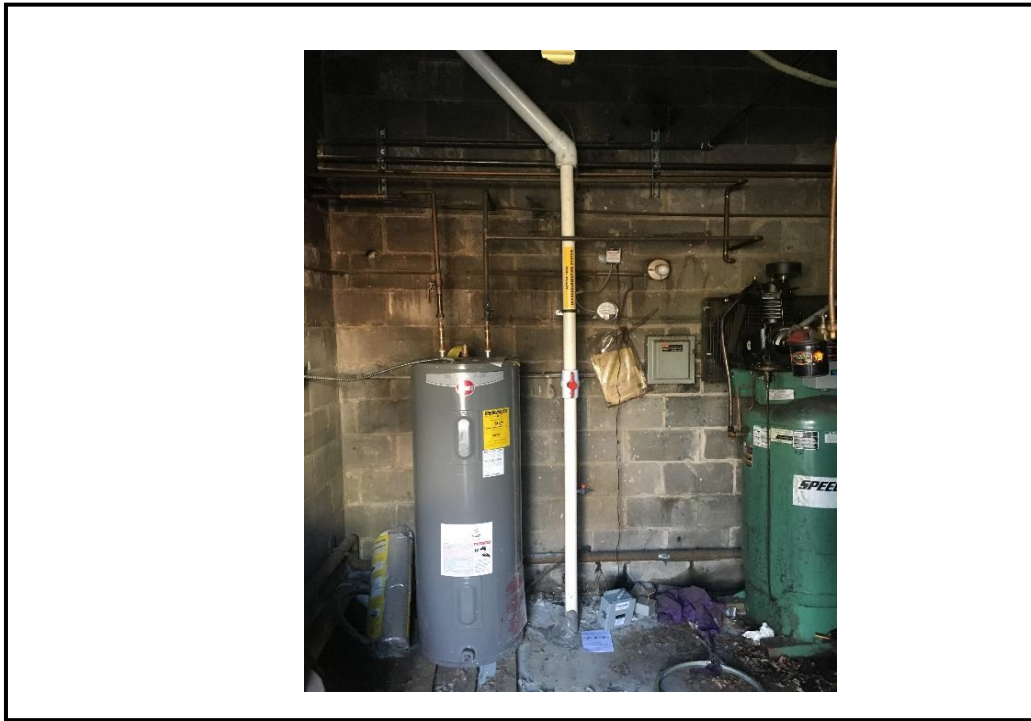


Photo No.: 3

Description: View of the sub-slab depressurization system point operating in the dry cleaner tenant space.

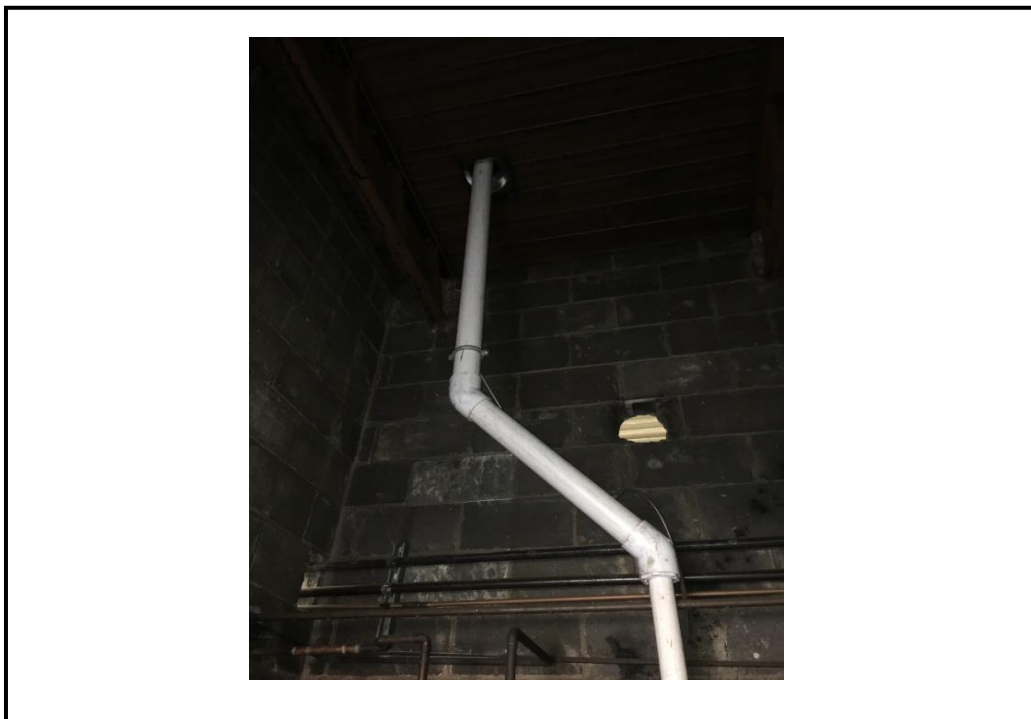


Photo No.: 4

Description: View of the extraction pipe exiting the building in the dry cleaner tenant space.

EXCEL ENVIRONMENTAL RESOURCES, INC.
PHOTOGRAPHIC SUMMARY

Project Name/Number: Shrub Oak Shopping Center

Photographer: MB



Photo No.: 5

Description: View of the blower and exhaust pipe on the roof of the building.

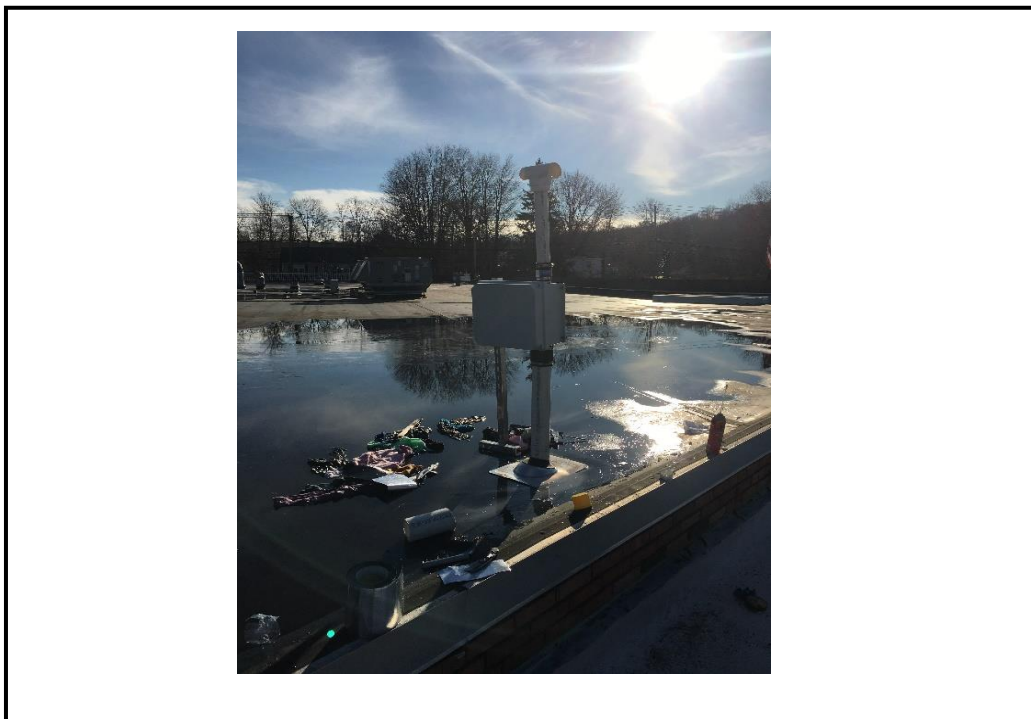


Photo No.: 6

Description: View of the blower and exhaust pipe on the roof of the building.