Sharon Cleaners

SARATOGA SPRINGS, NEW YORK

Site Management Plan

NYSDEC Site Number: 546052

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SITE MANAGEMENT PLAN

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 INTRODUCTION

This document is required as an element of the remedial program at Sharon Cleaners (hereinafter referred to as the "Site") under the New York State (NYS) Inactive Hazardous Waste Disposal Site Remedial Program administered by New York State Department of Environmental Conservation (NYSDEC). The site was remediated in accordance with State Superfund Program, Site # 546052.

1.1.1 General

The NYSDEC conducted remedial activities detailed in the Record of Decision (ROD), dated March 2009, at the site located in the City of Saratoga Springs, New York. A figure showing the site location and boundaries of this "site" is provided in Figure 1. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement, which is included in Appendix A.

After completion of the remedial work described in the ROD, some contamination was left in the subsurface at this site, which is hereafter referred to as "remaining contamination." This Site Management Plan (SMP) was prepared to manage remaining contamination at the site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by NYSDEC, in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated November 2009. This SMP addresses the means for implementing the Institutional Controls (ICs) and Engineering Controls (ECs) that are required by the Environmental Easement for the site.

1.1.2 Purpose

The site contains contamination left after completion of the remedial action. Engineering Controls have been incorporated into the site remedy to control exposure to remaining contamination during the use of the site to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Saratoga County Clerk, requires compliance with this SMP and all ECs and ICs placed on the site. The ICs place restrictions on site use, and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. This SMP specifies the methods necessary to ensure compliance with all ECs and ICs required by the Environmental Easement for contamination that remains at the site. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required to manage remaining contamination at the site after completion of the Remedial Action, including: (1) implementation and management of all Engineering and Institutional Controls; (2) media monitoring; (3) operation and maintenance of all vapor mitigation systems; and (4) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports.

To address these needs, this SMP includes three plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; (3) an Operation and Maintenance Plan for implementation of vapor mitigation systems.

This plan also includes a description of Periodic Review Reports for the periodic submittal of data, information, recommendations, and certifications to NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the environmental easement;
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 for the site, and thereby subject to applicable penalties.

1.1.3 Revisions

Revisions to this plan will be approved by the NYSDEC's project manager.

1.2 SITE BACKGROUND

1.2.1 Site Location and Description

The Sharon Cleaners site is located 48 Lincoln Avenue in the City of Saratoga Springs, New York and is identified as Section 165.82 Block 2 and Lot 34.1, See Figure 1, Site Location Plan. The site covers 0.17 acres and is located at the southeast corner of the intersection of Lincoln Avenue and Whitney Place. A one-story structure that covers approximately 2,200 square feet is located at the site and presently occupied by AJ's Wash and Dry Cleaners. The surrounding area is mixed commercial and residential. The nearest residential structure is located approximately 25 feet to the east.

1.2.2 Site History

The site has been used as a dry cleaning business for over 50 years. During this time Sharon Cleaners was in operation for approximately 22 years. In conducting a site audit for use in selling the property, the site owner discovered chlorinated volatile organic compounds, primarily tetrachloroethene (PCE), in the soil and groundwater in February 2000. Dry cleaning and spot removal processes are believed to have utilized PCE, which is a typical chemical used in the dry cleaning industry. Improper housekeeping is likely the cause of the environmental impacts.

In 2001 the current owner operated dry cleaning operations at the site under AJs Wash and Dry Cleaning. Presently the property is being leased by the owner. Current dry cleaning equipment utilizes a petroleum based dry cleaning agent, DF2000, which is different from the chlorinated volatile organic compounds detected in the environment.

1.3 SUMMARY OF REMEDIAL INVESTIGATIONS

Site investigations were performed to characterize the nature and extent of contamination at the site by collecting soil, groundwater and soil vapor samples. As seen in Figures 3 and 4 or summarized in Table 1, the main category of site related contaminants that exceed their SCGs are volatile organic compounds (VOCs). The following are the media which were investigated and a summary of the findings of the investigation.

Surface Soil

Seven surface soil samples were collected at the site from 0 to 12 inches below ground surface and analyzed for VOCs. These samples were located in the grassy areas at the north and south portions of the site. Figure 2 presents the analytical results and locations of the soil samples. Based on the analytical results PCE was detected up to 0.055 parts per million (ppm), which is below the unrestricted use cleanup objective of 1.3 ppm. Elevated concentrations of metals were detected in the surface soils above unrestricted use at the site, as shown on Figure 3. Due to the sporadic detections of these metals, the contamination is considered to be representative of background conditions from fill material placed at the site and not a result of the dry cleaning activities conducted at the site since metals are not utilized as part of the dry cleaning process.

Subsurface Soil

Nineteen subsurface soil samples were collected at the site and analyzed for VOCs. Thirteen soil borings, identified as B-1 through B-13, were completed to assess site soil conditions south and north of the facility. One soil sample was collected from each boring at depths ranging from 10 to 16 feet below ground surface based on visual observations or depth to groundwater. One shallow soil sample, 1 to 2 feet below ground surface, was collected beneath the pavement, identified as SS-1. Five sub-slab soil samples, identified as SS-6 through SS-10, were collected from 0 to 12 inches beneath the concrete slab in the vicinity of the dry cleaning equipment and former trench. Figure 2 presents the analytical results and locations of the soil samples. Based on the analytical results PCE was detected up to 0.170 ppm beneath the structure and up to 0.029 ppm beyond the buildings footprint, which are below the unrestricted use cleanup objective of 1.3 ppm. The greatest concentration of PCE was detected at 1.6 ppm beneath the concrete slab during the site characterization in 2006. PCE detections are minimal due to discontinued use of PCE at the dry cleaning facility, operation of the soil vapor extraction system under the Voluntary Cleanup Program and natural attenuation of site contaminants over time.

Elevated concentrations of metals were detected in the shallow subsurface soils above unrestricted use at the site, as shown on Figure 2. Due to the sporadic detections of these metals, the contamination is considered to be representative of background conditions from fill material placed at the site and not a result of the dry cleaning activities conducted at the site since metals are not utilized as part of the dry cleaning process.

Groundwater

Twelve groundwater samples were collected and analyzed for VOCs. These samples were collected from ten monitoring wells and two temporary wells located within 30 feet of ground surface. Six samples were collected at the site and six samples were collected from off-site locations that are considered either up-gradient, down-gradient or side gradient. Figure 3 presents the analytical results and locations of the groundwater samples. Based on the analytical results PCE was detected up to 24 parts per billion (ppb) at MW-11, which is above the groundwater standard of 5 ppb. The low level contamination appears to be originating from the site and naturally attenuates within 400 feet of the site.

Soil Vapor/Sub-Slab Vapor/Air

Ten structures in the vicinity of the site were evaluated to assess the soil vapor intrusion pathway. An indoor air sample and a sub-slab vapor samples were collected from each structure and analyzed for VOCs. Analytical results were compared to ambient air levels, building questionnaires, and reported background values for residential structures. Based on the analytical results PCE was detected within the indoor air samples at concentrations up to 7.3 micrograms per cubic meter (ug/m^3). New York State Department of Health PCE factsheet, dated May 2003, indicates that typical background concentrations of PCE in residential homes are less than 10 ug/m^3. Elevated PCE concentrations were detected in sub-slab soil vapor on-site, identified as structure 9, up to 23,000 ug/m^3, and at four off-site structures, identified as structures 1, 7, 8, and 10, up to 5,000 ug/m^3. Soil vapors impacting sub-slab vapor concentrations appear to be a result of site contamination that emanated from the site or off-gased from groundwater.

The results of the investigations are described in detail in the following reports:

- Remediation Report, dated May 10, 2001, details initial investigations conducted in February and March 2000 and the Volunteer's unilaterally installation and operation of a soil vapor extraction system.
- Site Characterization Report, dated February 2007, details State-funded investigations conducted in September 2006.
- Remedial Investigation Report, dated February 2009, details State-funded investigations conducted in April 2008.
- Record of Decision, dated March 2009, summarizing findings and selected action.

1.4 SUMMARY OF REMEDIAL ACTIONS

The following is a summary of the remedial actions presented in the ROD, dated March 2009, to be performed or has been performed:

1. In November 2009, installed three Vapor Mitigation Systems (one on-site, identified as AS-9, and two-off site, identified as AS-7 and AS-8). Basement conditions were upgraded at the two off-site structures to address cracks.

2. An environmental easement will be filed with the County Clerk that (a) restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (b) the site property owner will complete and submit to the NYSDEC a periodic certification of institutional and engineering controls. The executed environmental easement shall be included in this plan as Appendix A.

3. This site management plan details the actions to be completed for the following institutional and engineering controls: (a) monitoring of sub-slab soil vapor and indoor concentrations at two additional structures, identified as AS-1 and AS-10, which had levels that did not warrant mitigation will be monitored for a minimum of three years; and (b) provisions for the continued proper operation and maintenance of the components of the remedy.

4. The site property owner will provide a periodic certification of institutional and engineering controls. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with NYSDEC-approved modifications; (b) allow the NYSDEC access to the site; and (c) state that nothing has occurred that would impair the ability of the control to protect public health or the environment unless otherwise approved by the NYSDEC.

2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

2.1 INTRODUCTION

Since remaining contaminated groundwater and soil vapor exists beneath the site, Engineering Controls and Institutional Controls (EC/ICs) are required to protect human health and the environment. This Engineering and Institutional Control Plan describes the procedures for the implementation and management of all EC/ICs at the site. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

2.2 ENGINEERING CONTROLS

2.2.1 Engineering Control Systems

Exposure to remaining contamination in soil vapor is prevented by continued operation of the vapor mitigation systems installed at the site and two off-site structures. Details of the systems are provided in Appendix B. Procedures for the inspection and maintenance of these systems are provided in the Operation and Maintenance Plan (Section 4 of this SMP).

2.2.2 Criteria for Completion of Remediation/Termination of Remedial/Mitigation Systems

The on-site Vapor Mitigation system will not be discontinued unless prior written approval is granted by the NYSDEC following consultation with NYSDOH.

2.3 INSTITUTIONAL CONTROLS

A series of Institutional Controls is required by the ROD to: (1) implement, maintain and monitor Engineering Control systems; and (2) prevent future exposure to contamination by restricting groundwater use. Adherence to these Institutional Controls on the site is required by the Environmental Easement and will be implemented under this Site Management Plan. Institutional Controls identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement.

The site has a series of Institutional Controls in the form of site restrictions. Adherence to these Institutional Controls is required by the Environmental Easement. Site restrictions that apply to this site are:

- The use of the groundwater underlying the property as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH, is prohibited; and
- The site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the controlled property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow, and will be made by an individual that the NYSDEC finds acceptable.

2.4 INSPECTIONS AND NOTIFICATIONS

2.4.1 Inspections

Inspections of all remedial components installed at the site will be conducted during Periodic Reviews of the site. Inspections and reporting will be conducted in accordance with the procedures set forth in this SMP (Section 4.2 and Section 5.1).

If an emergency, such as a natural disaster or an unforeseen failure of the vapor mitigation system occurs, the owner shall contact the NYSDEC so an inspection of the site can be conducted to evaluate the integrity of the system.

2.4.2 Notifications

Notifications will be submitted by the property owner to the NYSDEC contact, Table 1, as needed for the following reasons:

- Notice within 5 days of any damage or defect to the foundation’s structures that reduces or has the potential to reduce the effectiveness of the vapor mitigation system and likewise any action to be taken to mitigate the damage or defect.

- Notice within 5 days of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of the vapor mitigation system, including a summary of actions taken, or to be taken.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of the all approved work plans and reports, including this SMP.
- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing.

2.5 CONTINGENCY PLAN

In the event of any environmentally related situation or unplanned occurrence requiring assistance the Owner or Owner's representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to the New York State Department of Environmental Conservation project manager. The emergency contact list must be maintained in an easily accessible location at the site.

Table 1: Emergency Contact Information

Medical, Fire, and Police:	911
One Call Center:	(800) 272-4480 (3 day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362
NYSDEC Project Manager	Brian Jankauskas, P.E. (518) 402-9620 625 Broadway, 11th Floor Albany, NY 12233-7015
Property Owner	Marek Guirk (518) 526-8803 6 PD Harris Road Saratoga Springs, NY 12866

* Note: Contact numbers subject to change and should be updated as necessary

3.0 SITE MONITORING PLAN

3.1 INTRODUCTION

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the site and all affected site media. Monitoring of Engineering Controls is described in Section 4, Operation, Monitoring and Maintenance Plan. This Monitoring Plan may only be revised with the approval of NYSDEC.

3.2 AIR MONITORING PROGRAM

Indoor air and sub-slab soil vapor monitoring will be performed annually during the heating season by NYSDEC for three years to assess conditions at two off-site structures, identified as AS-1 and AS-10. The frequency thereafter will be determined by NYSDEC.

All monitoring activities will be recorded in the building inventory and sample form in Appendix C. An indoor air and sub-slab soil vapor sample shall be collected over a 24 hour period utilizing 6-liter individually certified clean summa canisters. Samples shall be analyzed by an ELAP certified laboratory for volatile organic compounds following EPA method TO-15, reporting limits of 1 microgram per cubic meter. A Data Usability Summary Report (DUSR) shall be prepared in accordance with DER-10 procedures. A duplicate sample and an ambient air sample shall be collected. Laboratory or food grade Teflon tubing shall be utilized to connect sub-slab soil vapor points with canisters and to facilitate purging 1-3 volumes prior to sampling. A chain of custody shall be completed by the sampler and submitted with the samples to the laboratory. Sampling procedures shall be conducted in accordance with NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York. Deliverables for the structure monitoring program are specified in Section 3.4.

3.3 MONITORING WELL DECOMMISSIONING

When determined appropriate, ten monitoring wells, identified as MW-4 through MW-11 and SVE-1 and SVE-2, will be properly decommissioned by NYSDEC in accordance with Groundwater Monitoring Well Decommissioning Policy CP-43. The monitoring well locations are illustrated on Figure 4 and construction details are provided in Appendix D. The

flushmounts shall be removed to facilitate reseeding. Grouting in place is the anticipated decommission method. A standard grout mixture shall be used (94 pounds of Type I Portland cement, 3.9 pounds powdered bentonite, and 7.8 gallons potable water). CP-43 well decommissioning records shall be prepared for each monitoring well, Appendix E.

3.4 MONITORING REPORTING REQUIREMENTS

After each sampling event a letter report shall be prepared that summarizes field work performed and provides laboratory data sheets and field forms. Data will be reported in hardcopy and digital format.

4.0 OPERATION AND MAINTENANCE PLAN

4.1 INTRODUCTION

This Operation and Maintenance Plan describes the measures necessary to operate, monitor and maintain the mechanical components of the remedy selected for the site. A copy of this Operation and Maintenance Plan, along with the complete SMP, will be kept at the site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of the SMP.

4.2 ENGINEERING CONTROL SYSTEM OPERATION, MAINTENANCE AND MONITORING

Vapor mitigation systems were installed in November 2009 to provide a preferential pathway for soil vapors to move from beneath the building to the outside. System installation reports are included as Appendix B, which details the construction and performance of the systems after installation and monitoring activities. These are low maintenance systems and as a result the property owners are responsible for supplying power and monitoring the systems, once every three months, and contacting the NYSDEC project manager when a problem arises (i.e. fan off/noisy or manometer levels are equal). When the NYSDEC is contacted by the owner, a NYSDEC contractor will be retained to maintain the system and a Maintenance Request Form (Appendix F) will be completed. During system maintenance, and periodic reviews, the Periodic Operations Visit Form will be completed (Appendix G). Maintenance reports and any other information generated during regular operations at the site will be submitted as part of the Periodic Review Report, as specified in the Section 5 of this SMP. Vapor mitigation system testing may be necessary if significant changes are made to the system (i.e. replace fan or move extraction point).

5.0 INSPECTIONS, REPORTING AND CERTIFICATIONS

5.1 SITE INSPECTIONS

5.1.1 Inspection Frequency

Inspections will be conducted during periodic reviews. Inspections of remedial components will also be conducted when a breakdown of any mitigation system component has occurred or whenever a severe condition has taken place.

5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports

All inspections and monitoring events will be recorded on the appropriate forms for their respective system which are contained in Appendix G. Additionally, a general site-wide inspection form will be completed during the site-wide inspection (see Appendix H). These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including all media sampling data and system maintenance reports generated for the site during the reporting period, will be provided in electronic format in the Periodic Review Report.

5.1.3 Evaluation of Records and Reporting

The results of the inspection and site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- Operation and maintenance activities are being conducted properly; and
- The site remedy continues to be protective of public health and the environment and is performing as desired in the ROD.

5.2 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS

The property owner will be required to prepare the following certification:

For each institutional or engineering control identified for the site, I certify that all of the following statements are true:

- The institutional control and engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the NYSDEC;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;
- Access to the site will continue to be provided to the NYSDEC to evaluate the remedy;
- Use of the site is compliant with the environmental easement;
- Verify site details (i.e. contact information, property sub-divided or sold, permits issued, etc.).
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner's Designated Site Representative] for the site.

  The signed certification will be included in the Periodic Review Report described below.

The NYSDEC will be responsible for preparing the Periodic Review Report, which evaluates the engineering controls and institutional controls:

- The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program are operational; and
- The engineering control systems are performing as designed and are effective;

5.3 PERIODIC REVIEW REPORT

A Periodic Review Report will be prepared by the NYSDEC with input from the property owner, beginning eighteen months after the environmental easement is recorded and then at intervals defined at that time, maximum 5 years. The report will be prepared in accordance with NYSDEC DER-10. The report will include:

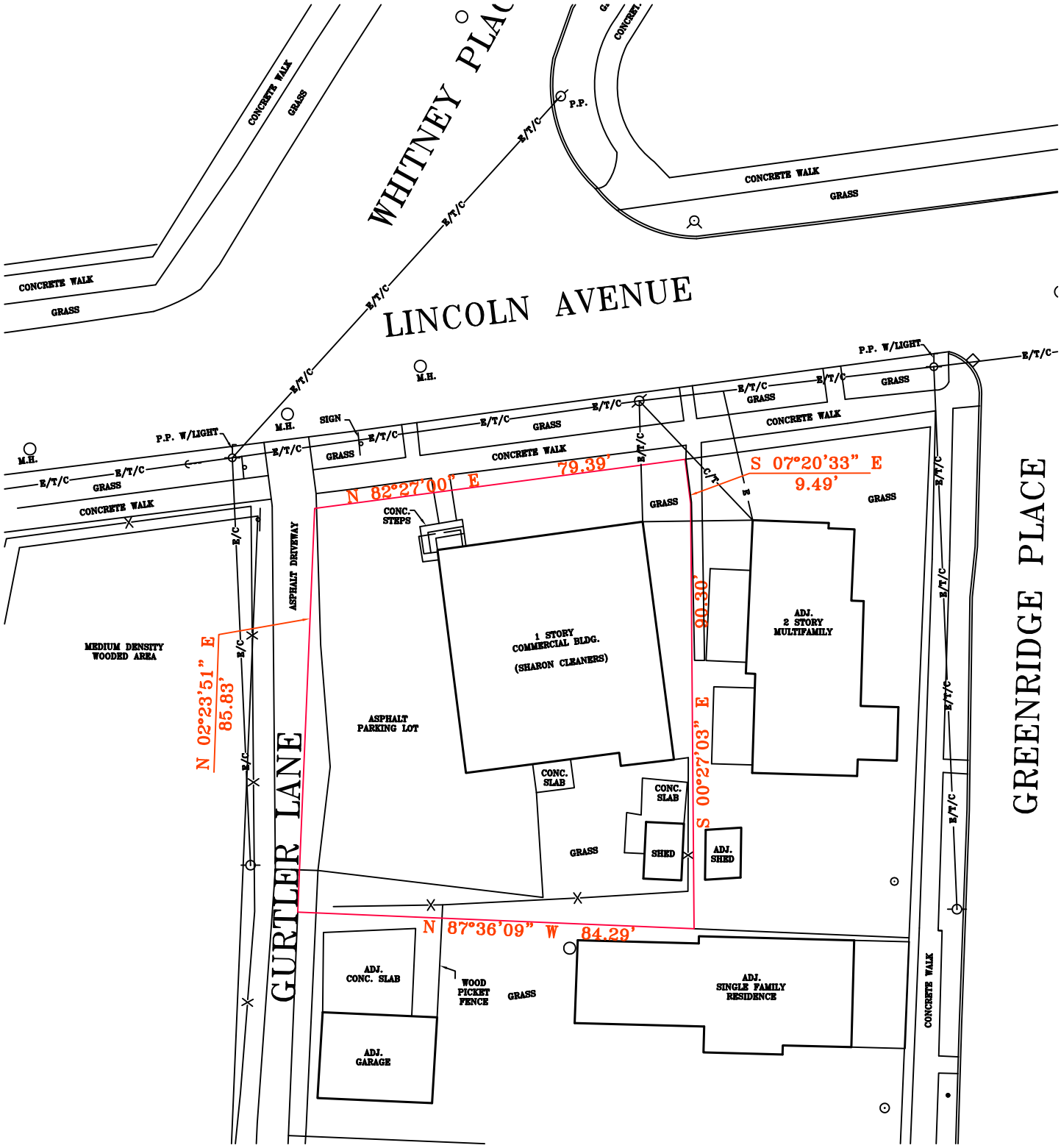
- Identification, assessment of all ECs/ICs required by the remedy for the site;
- Results of site inspections and severe condition inspections, if applicable;
- A summary of any monitoring data and/or information generated during the reporting period;
- A site evaluation, which includes the following:
    - The compliance of the remedy with the requirements of the site-specific ROD;
    - The operation and the effectiveness of the vapor mitigation systems, including identification of any needed repairs or modifications;
    - Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
    - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
    - The overall performance and effectiveness of the remedy.

  The Periodic Review Report will be available at the NYSDEC Central Office.

5.4 CORRECTIVE MEASURES PLAN

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan will be prepared. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure.

Figures



NOTE:
1. REFERENCE SURVEY MAP BY S.Y. KIM LAND SURVEYOR, P.C., HORIZONTAL POSITIONS TIED INTO NAD 1983 AND UTM ZONE 18N COORDINATE SYSTEM.

N

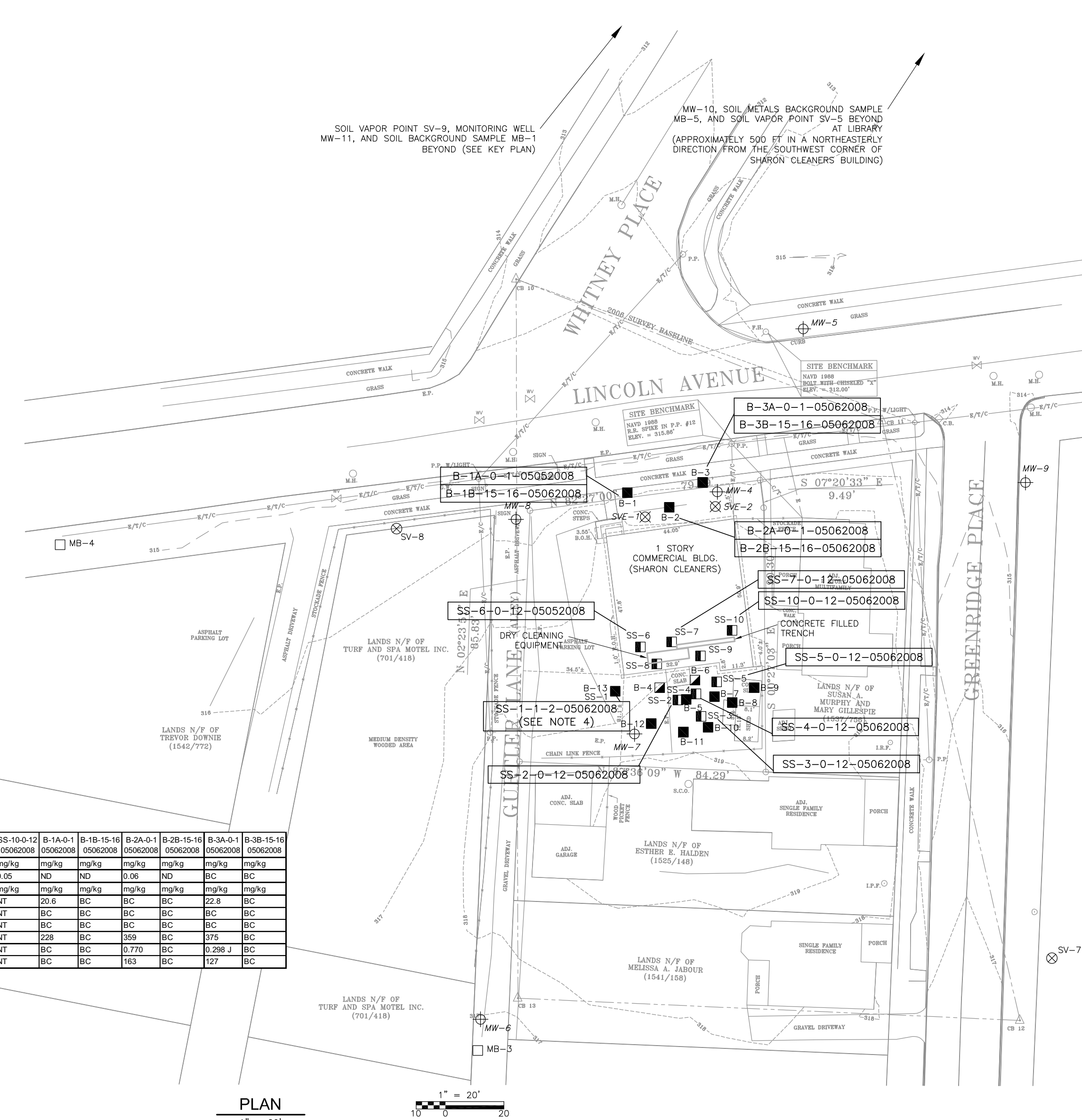
NYSDEC

SHARON CLEANERS
SARATOGA SPRINGS, NEW YORK
SITE NO. 5-46-052

FIGURE 1

SCALE 1":30'

SAMPLE LOCATION PLAN
SHARON CLEANERS SITE NO. 5-46-052
SARATOGA SPRINGS, SARATOGA COUNTY, NEW YORK



Sample ID		Part 375 Standard	SS-1-1-2 05062008	SS-2-0-12 05062008	SS-3-0-12 05062008	SS-4-0-12 05062008	SS-5-0-12 05062008	SS-6-0-12 05052008	SS-7-0-12 05062008	SS-10-0-12 05062008	B-1A-0-1 05062008	B-1B-15-16 05062008	B-2A-0-1 05062008	B-2B-15-16 05062008	B-3A-0-1 05062008	B-3B-15-16 05062008
Compound Name	CAS #															
VOC's		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Methylene Chloride	75-09-2	0.05	0.066	ND	ND	ND	ND	ND	0.051	0.05	ND	ND	0.06	ND	BC	BC
Metals		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Arsenic	7440-38-2	13	BC	BC	BC	BC	BC	BC	BC	NT	20.6	BC	BC	BC	22.8	BC
Chromium	7440-47-3	30	BC	BC	BC	193	BC	BC	BC	NT	BC	BC	BC	BC	BC	BC
Copper	7440-50-8	50	71.2	BC	BC	BC	BC	BC	BC	NT	BC	BC	BC	BC	BC	BC
Lead	7439-92-1	63	1100	189	168	963	119	BC	227	NT	228	BC	359	BC	375	BC
Mercury	7439-97-6	0.18	0.492	0.354	BC	0.188	BC	BC	0.291	NT	BC	BC	0.770	BC	0.298 J	BC
Zinc	7440-66-6	109	370	199	183	624	477	BC	256	NT	BC	BC	163	BC	127	BC

NOTE:

1. SITE BACKROUND FOR LEAD WAS 148mg/Kg AND MERCURY WAS 0.229mg/Kg

B – BORING
D – DILUTION
J – ESTIMATED VALUE
ND – NON DETECT
SS – SURFACE SOIL OR SUB SLAB
BC – BELOW CLEANUP OBJECTIVES
NT – NO TEST

LEGEND

- MW-5 MONITORING WELL
- SV-7 PERMANENT SOIL VAPOR POINT
- SVE-2 SOIL VAPOR EXTRACTION WELL
- B-1 SOIL BORING
- BP-5 SOIL BORING/PIEZOMETER
- MB-1 SOIL METALS BACKGROUND SAMPLE
- SS-1 SOIL SAMPLE

NOTES:

1. REFERENCE SURVEY MAP BY S.Y. KIM LAND SURVEYOR, P.C., 592 NEW LOUDON ROAD, LATHAM, N.Y. 12110. HORIZONTAL AND VERTICAL POSITIONS TIED INTO NAD 1983 AND UTM ZONE 18N COORDINATE SYSTEM. NEW POINTS BASED ON MEASUREMENTS MADE IN THE FIELD.
2. SOME POINTS ARE ONLY REFERENCED, AND NOT SHOWN ON THE MAP DUE TO THE LIMITS OF THE CURRENT SURVEY. SEE NYSDEC FIGURE INSERT FOR COMPLETE MAP.
3. SOIL CONCENTRATIONS ARE IN mg/kg.
4. SOIL SAMPLE SS-1 WAS COLLECTED BENEATH THE PAVEMENT.
5. SEVERAL ADDITIONAL SAMPLES WERE TAKEN, BUT WERE NOT DETECTED ABOVE THE UNRESTRICTED USE SOIL CLEANUP OBJECTIVES. THE FOLLOWING SUMMARIZES THE SAMPLES THAT WERE TAKEN, TESTED AND HAD RESULTS BELOW THE CLEANUP OBJECTIVES. THE SUB-SLAB SAMPLES SS-8, SS-9 AND SS-10 WERE TESTED FOR VOC'S AND THE RESULTS WERE UNDER THE CLEANUP OBJECTIVES (THESE SAMPLES WERE NOT TESTED FOR METALS). THE SURFACE SOIL SAMPLE B-2A WAS TESTED FOR VOC'S AND METALS AND THE RESULTS WERE BELOW THE CLEANUP OBJECTIVES. DEEP (15-16 FEET BELOW THE GROUND SURFACE) SOIL SAMPLES WERE TAKEN AT B-1B AND B-2B, WERE TESTED FOR VOC'S AND METALS, AND HAD RESULTS BELOW CLEANUP OBJECTIVES. DEEP SAMPLES B-4, B-5, B-6, B-7, B-8, B-9, B-10, B-11, B-12 AND B-13, RANGING FROM 10-16 FEET BELOW GROUND SURFACE, WERE TESTED FOR VOC'S AND FOUND TO BE BELOW CLEANUP OBJECTIVES (THESE SAMPLES WERE NOT TESTED FOR METALS).

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: L. LIVERMORE
DRAWN BY: M. KOSKI
SHEET CHK'D BY: L. LIVERMORE
CROSS CHK'D BY: M. MILLIAS
APPROVED BY:
DATE: FEBRUARY 2009

CDM
Camp Dresser & McKee
Salina Industrial Powerpark
One General Motors Drive
Syracuse, NY 13206
Tel: (315) 434-3200
consulting • engineering • construction • operations

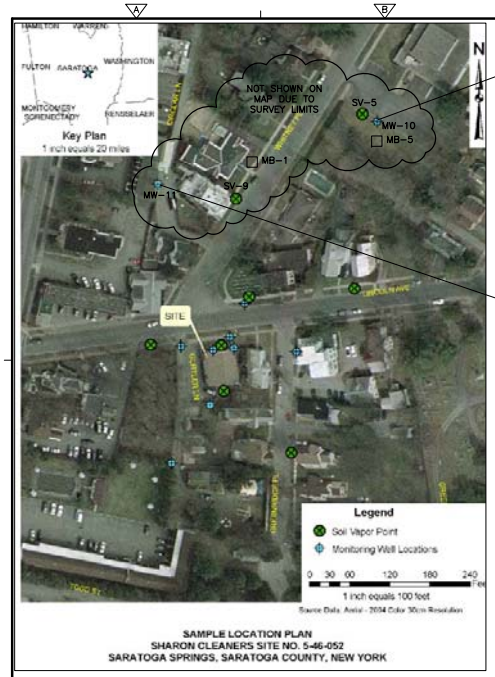
NYSDEC

SHARON CLEANERS SITE NO. 5-46-052

SOIL INVESTIGATION EXCEEDANCES OF UNRESTRICTED USE SOIL CLEANUP OBJECTIVES FOR VOC'S AND METALS - MAY 2008

PROJECT NO. 0897-62894
FILE NAME: FIG 6.DWG
SHEET NO. 2

C:\CAD\0897\62894\dwg\ fig 6 02/12/09 08:15 koskior XREFS: 48 Lincoln Ave2, CDM_2234



SAMPLE LOCATION PLAN
SHARON CLEANERS SITE NO. 5-46-052
SARATOGA SPRINGS, SARATOGA COUNTY, NEW YORK

MW-10-05062008
SODIUM = 47,100
THALLIUM = 12.3J

MW-11-05072008
PCE = 24
SODIUM = 51,300
THALLIUM = 7.45J

SOIL VAPOR POINT SV-9, MONITORING WELL MW-11, AND SOIL BACKGROUND SAMPLE MB-1 BEYOND (SEE KEY PLAN)

MW-10, SOIL METALS BACKGROUND SAMPLE MB-5, AND SOIL VAPOR POINT SV-5 BEYOND AT LIBRARY (APPROXIMATELY 500 FT IN A NORTHEASTERLY DIRECTION FROM THE SOUTHWEST CORNER OF SHARON CLEANERS BUILDING)

MW-5-05072008
PCE = 7.1
SODIUM = 28,700
THALLIUM = 14.5J

MW-8-05052008
SODIUM = 29,900
THALLIUM = 16.8J

SVE-1-05052008
PCE = 7.8
SODIUM = 36,200

SVE-2-05052008
THALLIUM = 8.23J

MW-9-05072008
SODIUM = 44,900
THALLIUM = 12.7J

B-4-05062008
PCE = 5.2

B-6-05062008
PCE = 20

MW-7-05052008
THALLIUM = 8.88J

1 STORY COMMERCIAL BLDG. (SHARON CLEANERS)

DRY CLEANING EQUIPMENT

CONCRETE FILLED TRENCH

WHITNEY PLACE

LINCOLN AVENUE

GREENRIDGE PLACE

LANE ALLEY

LANDS N/F OF TURF AND SPA MOTEL INC. (701/418)

LANDS N/F OF TREVOR BOWNIE (1542/772)

LANDS N/F OF BEATRICE R. STRAVITS (1455/389)

LANDS N/F OF ESTHER H. HALDEN (1525/148)

LANDS N/F OF MELISSA A. JABOUR (1541/158)

LANDS N/F OF SUSAN A. MURPHY AND MARY GILLESPIE (1537/756)

LEGEND

MW-5	MONITORING WELL
SV-7	PERMANENT SOIL VAPOR POINT
SVE-2	SOIL VAPOR EXTRACTION WELL
B-1	SOIL BORING
BP-5	SOIL BORING/PIEZOMETER
MB-1	SOIL METALS BACKGROUND SAMPLE
SS-1	SOIL SAMPLE

NOTES:

1. REFERENCE SURVEY MAP BY S.Y. KIM LAND SURVEYOR, P.C., 592 NEW LOUDON ROAD, LATHAM, N.Y. 12110. HORIZONTAL AND VERTICAL POSITIONS TIED INTO NAD 1983 AND UTM ZONE 18N COORDINATE SYSTEM. NEW POINTS BASED ON MEASUREMENTS MADE IN THE FIELD.
2. SOME POINTS ARE ONLY REFERENCED, AND NOT SHOWN ON THE MAP DUE TO THE LIMITS OF THE CURRENT SURVEY. SEE NYSDEC FIGURE INSERT FOR COMPLETE MAP.
3. GROUNDWATER CONCENTRATIONS ARE IN ug/L. "J" AFTER CONCENTRATIONS MEANS AN ESTIMATED VALUE.
4. CONCENTRATIONS CALLED OUT ON THIS DRAWING ARE ABOVE THE STANDARD LEVELS PUT FORTH IN THE AWQS.
5. GROUNDWATER STANDARDS ARE AS FOLLOWS:
   IRON = 600 ug/L
   SODIUM = 20,000 ug/L
   THALLIUM = 0.5 ug/L
   PCE = 5 ug/L

PLAN
1" = 20'

1" = 20'
10 0 20

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: L CROCKER
DRAWN BY: M KOSKI
SHEET CHK'D BY: L CROCKER
CROSS CHK'D BY: M MILLIAS
APPROVED BY:
DATE: FEBRUARY 2009

CDM
Camp Dresser & McKee
Salina Industrial Powerpark
One General Motors Drive
Syracuse, NY 13206
Tel: (315) 434-3200
consulting • engineering • construction • operations

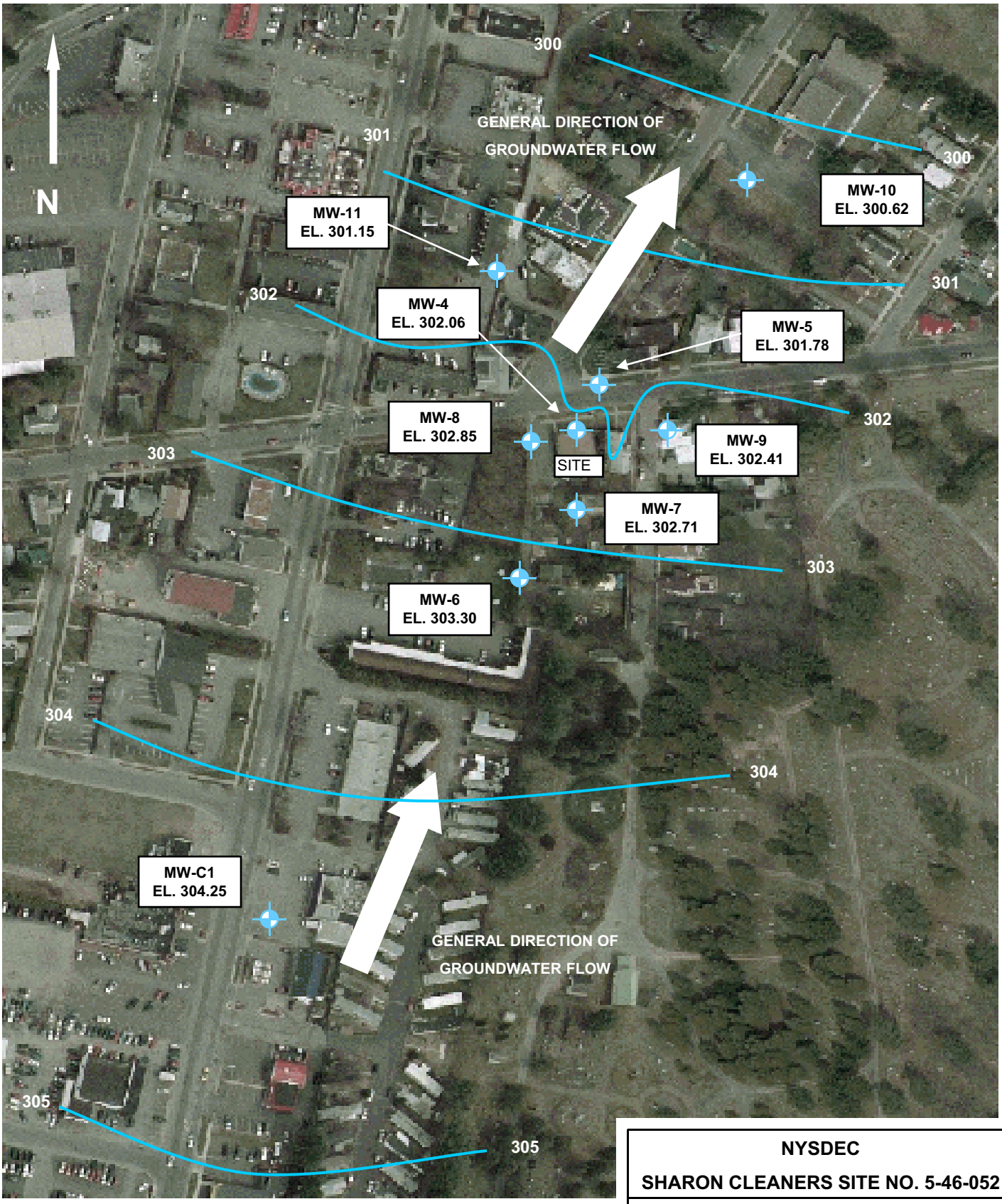
NYSDEC

SHARON CLEANERS SITE NO. 5-46-052

GROUNDWATER INVESTIGATION EXCEEDANCES FOR VOC'S AND METALS - MAY 2008

PROJECT NO. 0897-62894
FILE NAME: FIG 5.DWG
SHEET NO. 3

C:\CAD\0897\62894\dwg\ fig 5 02/12/09 08:08 koskiar XREFS: 48 Lincoln Ave2, CDM_2234



NOTES:

1. FIGURE NOT TO SCALE. WELL LOCATIONS ARE APPROXIMATE. SEE FIGURE 3 FOR SURVEYED INFORMATION.
2. ELEVATIONS (FT AMSL) ARE TIED INTO THE UTM ZONE 18N COORDINATE SYSTEM.
3. STATIC WATER LEVELS ARE FROM 5/5-7/08 EVENT.

NYSDEC

SHARON CLEANERS SITE NO. 5-46-052

GROUNDWATER FLOW MAP

CDM

Figure 4

Appendix A

Appendix B

March 3, 2010

Aztech
Technologies, Inc.

SUB-SLAB DEPRESSURIZATION SYSTEM

INFORMATION PACKAGE

SHARON CLEANERS

SITE NUMBER: 546052

48 LINCOLN AVE, SARATOGA SPRINGS, NY

Prepared For:

DEPARTMENT OF ENVIRONMENTAL CONSERVATION • NEW YORK STATE •

625 Broadway

Albany, NY

12233

NYS Certified
Woman-Owned Business
#49360

5 McCrea Hill Road
Ballston Spa, NY 12020

Sub-Slab Depressurization System Information Package

Contents

Section		Page
1	Introduction	1
2	Construction and System Overview	1
	2.1 Demolition and Reconstruction	1
	2.2 Sub-slab Depressurization System Construction	1
	2.3 Sub-slab Depressurization Well Installation	1
	2.4 System Piping	1
	2.5 RP-265 Fan Installation	1
	2.6 Post Construction Notes	1
3	Communication Test Results	1
4	Operating Instructions	2
5	Maintenance and Inspection of the System	2
Appendix		
I	Aztech Technologies System As-Built Drawing	
II	U-Tube Manometer	
III	Warranty and Manufacturer Information	

Aztech
Technologies, Inc.

5 McCrea Hill Road
Ballston Spa
New York 12020

Phone: 518-885-5383
Fax: 518-885-5385
www.aztechtech.com

1.0 Introduction

In November 2009, Aztech Technologies, Inc (Aztech) installed an active sub-slab depressurization system (SSDS) at Sharon Cleaners located at 48 Lincoln Ave in Saratoga Springs, NY. The SSDS was installed in order to mitigate sub-slab vapors entering the structure. The SSDS consists of an RP-265 fan manufactured by RadonAway, a sub-slab depressurization well, four-inch schedule - 40 polyvinylchloride (PVC) pipe and associated appurtenances. A communication test was performed once the system was installed and activated. The results of the test yielded a minimum observed vacuum of 0.004 inches of water column (0.004" H_2O) underneath the concrete slab at various points throughout the building.

2.0 Construction and System Overview

2.1 Preparation and Sub-Slab Depressurization System Construction

The existing slab was sealed using Sonolastic NP1 Caulk prior to installation of the system. All cracks in the slab and around the perimeter of the slab were sealed in order to prevent infiltration of sub-slab vapors and short circuiting of the system.

2.2 Sub-Slab Depressurization Well Installation

The concrete slab was cored using a core drill with a six-inch core barrel. The sub-base material and native material below the slab was excavated to a depth of approximately eighteen-inches and a thin layer of pea-gravel was installed at the bottom of the excavation. An eighteen-inch length of four-inch, schedule 40, PVC pipe was perforated and inserted into the hole. Pea gravel was inserted into the annular space as a packing material to the bottom of the four-inch thick slab. A four-inch schedule 40 PVC coupling was glued on top of the well, flush with the finished floor elevation and the remaining annular space was sealed using hydraulic cement.

2.3 System Piping

The system piping was run from the well to the ceiling and out of the back of the structure just below the ceiling tiles. Outside of the building the piping turns 90 degrees vertically and enters the fan. From the fan, the piping extends upward and terminates ten feet from any opening and approximately three-feet above the roof line. The exhaust stack is outfitted with a rain cap and varmint guards to prevent any animals or precipitation from entering the system.

2.4 RP-265 Fan Installation

The RP-265 fan was installed approximately ten-feet above grade and attached to the piping using two (2) white, four-inch by six-inch reducing fernco couplings with hose clamps in order to reduce vibrations. The electrical supply was run from the electrical box in the back of the cleaners to the fan through 3/4-inch EMT conduit. The supply terminates adjacent to the fan with a main disconnect switch.

3.0 Communication Test

After the fan was installed and activated, Aztech conducted a communication test to prove the effectiveness of the system. Three (3) 1/4 - inch diameter holes were drilled through the slab. One approximately eight-feet from the well to the southwest, a second approximately 30 feet from the well in the northeast corner of the building, and a third 15 feet to the southeast of the well in the boiler room (see **Appendix I**). The first communication test point (VMP1) gave an observed vacuum reading of 0.051" H_2O, the second (VMP 2) yielded 0.045" H_2O and the third (VMP 3) yielded an observed vacuum of 0.069" H_2O. The observed vacuum readings were taken using a Zephyr II + device with a built in micro-manometer. Upon completion of the test, the communication test points were sealed using NP1 caulk.

4.0 Operating Instructions

The sub-slab depressurization system is designed to run continuously. If for any reason the system requires maintenance there are two ways to disconnect the power to the system. These include a separate circuit breaker located in the panel box, and the exterior main disconnect switch.

When the system is operating properly the U-Tube Manometer should read 2.50" H_2O. (see **Appendix II**). If for any reason the system stops operating, contact the NYSDEC Project Manager, Mr. Brian Jankauskas at 518-402-9620 and reference Site Number 546052.

5.0 Maintenance and Inspection of the System

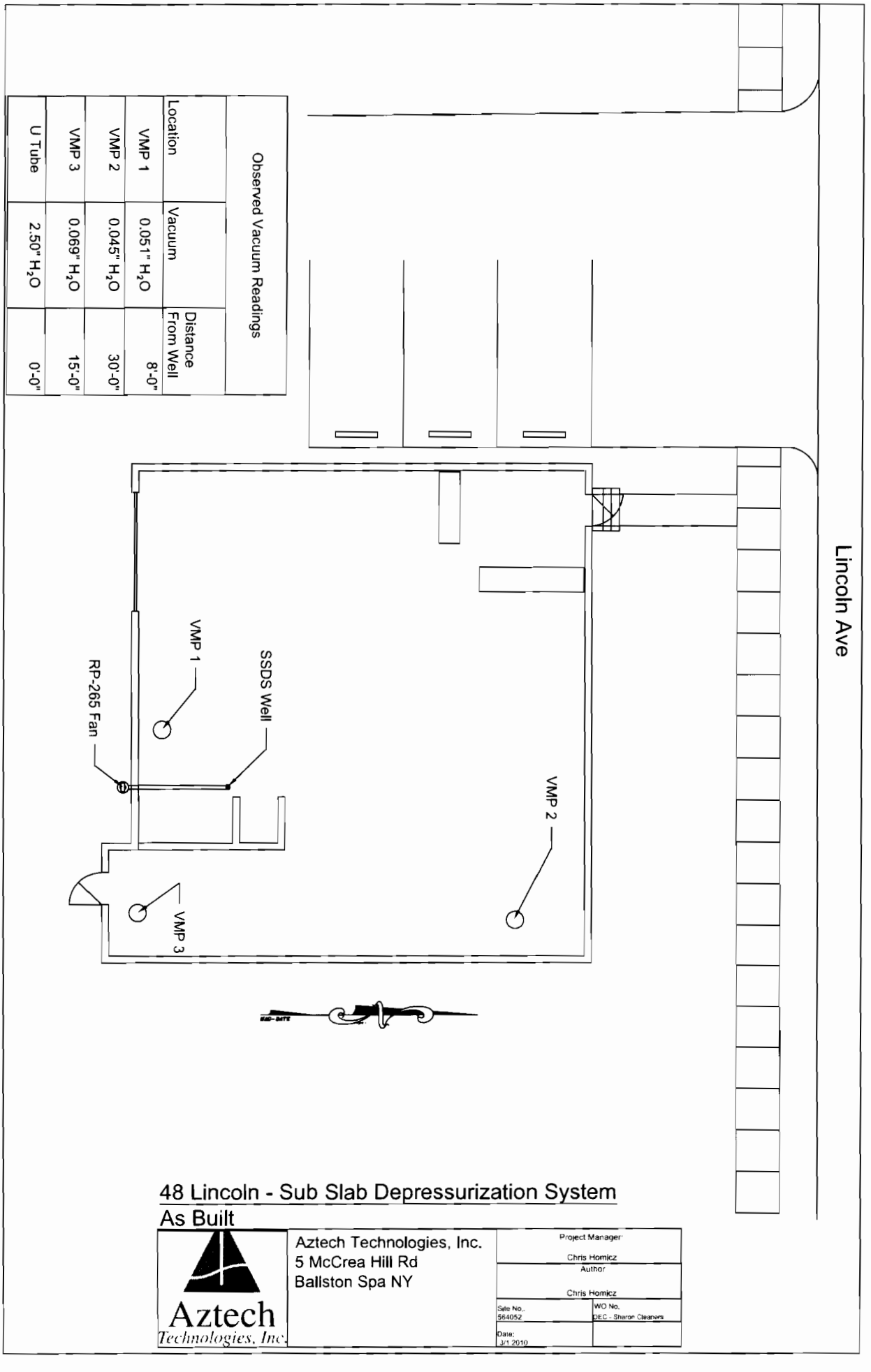
The system requires minimal maintenance; as such, the NYSDEC will respond to requests for service during system audits. The primary means for evaluating system operation is through inspection by the property owner. Periodic assessments are suggested (approximately every 3 months) to verify that the system is operating within normal parameters based on the information provided in Section 4.0 and **Appendix III**.

If a problem is identified, contact the NYSDEC Project Manager, Mr. Brian Jankauskas at 518-402-9620 and reference Site Number 546052.

Audits will be performed by the DEC to evaluate performance of the system. Audits may include:

- Inspection of the U-tube manometer;
- Inspection of the well to verify a proper seal;
- Inspection of piping and vent stacks for cracks and leaks;
- Inspection of the fan and fernco couplings;
- Inspection of the electrical service ; and
- Collection of air samples

Appendix I: Aztech Technologies, Inc. System As-Built Drawing



Observed Vacuum Readings		
Location	Vacuum	Distance From Well
VMP 1	0.051" H_2O	8'-0"
VMP 2	0.045" H_2O	30'-0"
VMP 3	0.069" H_2O	15'-0"
U Tube	2.50" H_2O	0'-0"

48 Lincoln - Sub Slab Depressurization System
As Built

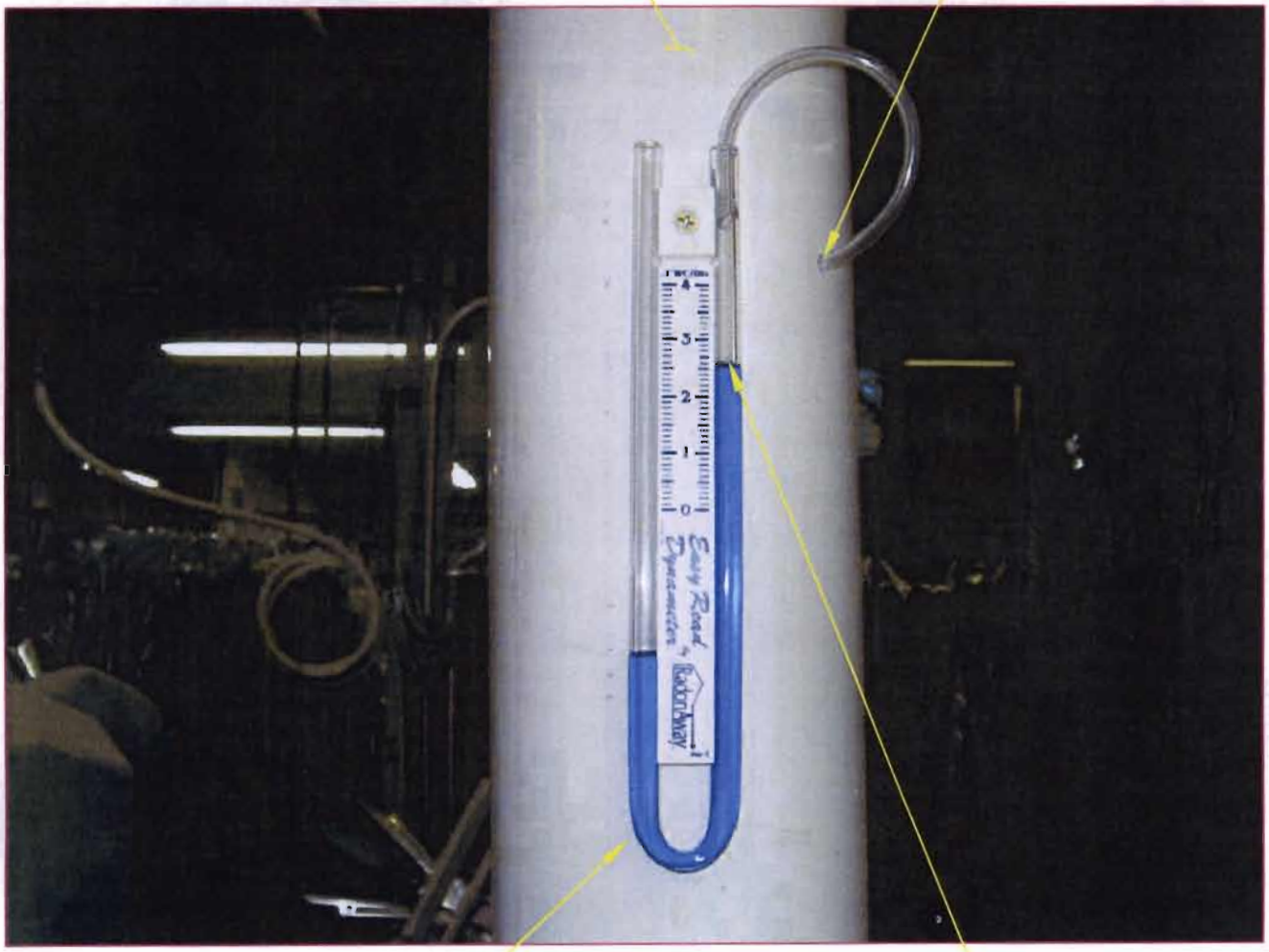
Aztech Technologies, Inc.
5 McCrea Hill Rd
Ballston Spa NY

Project Manager: Chris Homicz	
Author: Chris Homicz	
Site No.: 564052	WO No.: DEC - Sharon Cleaners
Date: 3/1 2010	

Appendix II: U-Tube Manometer

4" SCH 40 PVC Pipe

3/8" Hole and Manometer Tubing



U Tube Manometer

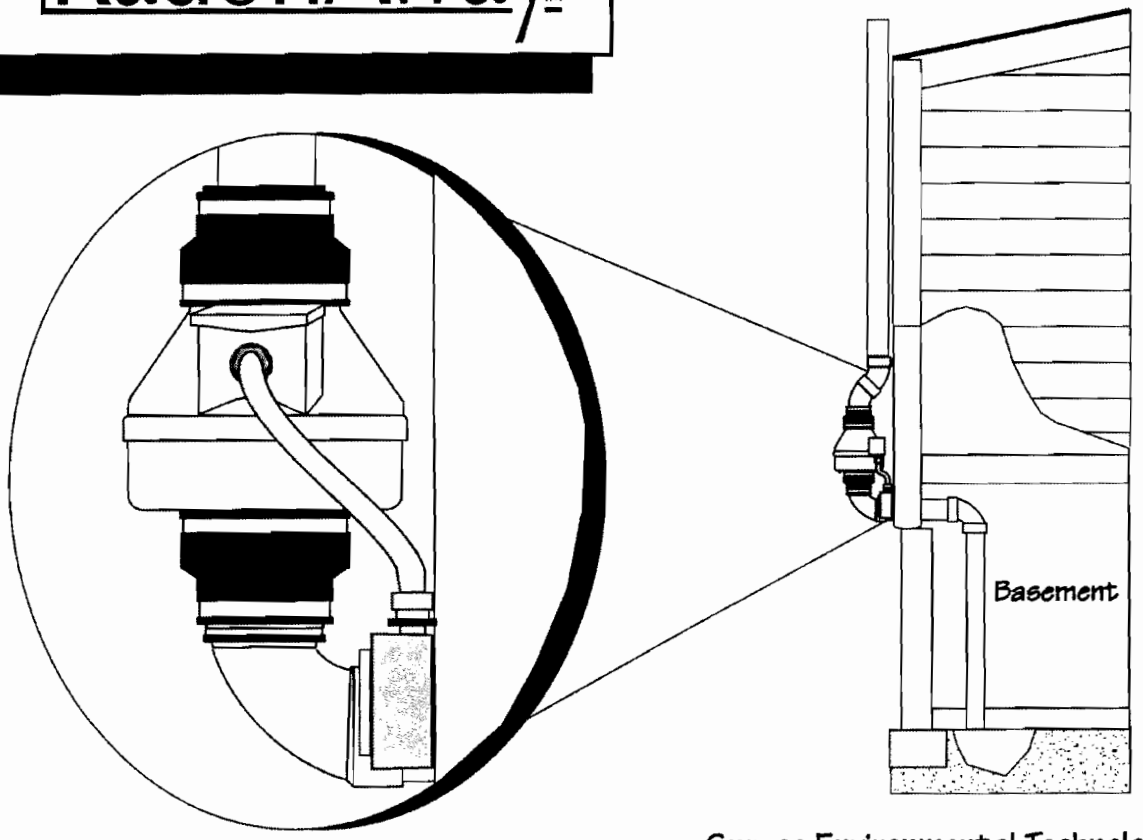
Vacuum Indicated by Liquid Level

Aztech Technologies, Inc.	Project Manager: Chris Hornicz	
	Author: Chris Hornicz	
5 McCrea Hill Road Ballston Spa NY 12020	Site No.: [illegible]	WO No.: DEC - Sharon Gladwin
	Date: 3/1/2010	Rev. Date:

Appendix III: Warranty and Manufacturer Information

RP Series Installation Instructions

By RadonAway™



Spruce Environmental Technologies, Inc.
Ward Hill, MA P/N IN020 Rev H

RadonAway™

Series Fan Installation Instructions

Please Read and Save These Instructions.

DO NOT CONNECT POWER SUPPLY UNTIL FAN IS COMPLETELY INSTALLED. MAKE SURE ELECTRICAL SERVICE TO FAN IS LOCKED IN "OFF" POSITION. DISCONNECT POWER BEFORE SERVICING FAN.

1. **WARNING!** Do not use fan in hazardous environments where fan electrical system could provide ignition to combustible or flammable materials.

2. **WARNING!** Do not use fan to pump explosive or corrosive gases.

3. **WARNING!** Check voltage at the fan to insure it corresponds with nameplate.

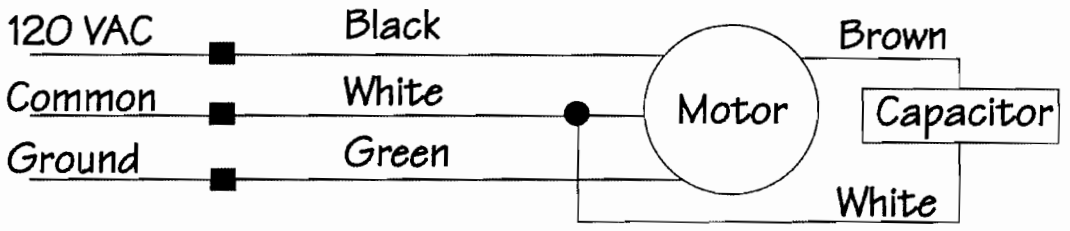
4. **WARNING!** Normal operation of this device may affect the combustion airflow needed for safe operation of fuel burning equipment. Check for possible backdraft conditions on all combustion devices after installation.

5. **NOTICE!** There are no user serviceable parts located inside the fan unit. **Do NOT attempt to open.** Return unit to the factory for service.

6. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA)"National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician

7. **WARNING!** Do not leave fan unit installed on system piping without electrical power for more than 48 hours. Fan failure could result from this non-operational storage.

DynaVac RP Series Fan Wiring Diagram



1.0 SYSTEM DESIGN CONSIDERATIONS

1.1 INTRODUCTION

The DynaVac RP Series Radon Fans are intended for use by trained, professional Radon mitigators. The purpose of this instruction is to provide additional guidance for the most effective use of a DynaVac Fan. This instruction should be considered as a supplement to EPA standard practices, state and local building codes and state regulations. In the event of a conflict, those codes, practices and regulations take precedence over this instruction.

1.2 ENVIRONMENTALS

The RP Series Fans are designed to perform year-round in all but the harshest climates without additional concern for temperature or weather. For installations in an area of severe cold weather, please contact RadonAway for assistance. When not in operation, the fan should be stored in an area where the temperature is never less than 32 degrees F. or more than 100 degrees F.

1.3 ACOUSTICS

The RP Series Fan, when installed properly, operates with little or no noticeable noise to the building occupants. The velocity of the outgoing air should be considered in the overall system design. In some cases the "rushing" sound of the outlet air may be disturbing. In these instances, the use of a RadonAway Exhaust Muffler is recommended.

1.4 GROUND WATER

In the event that a temporary high water table results in water at or above slab level, water may be drawn into the riser pipes thus blocking air flow to the RP Series Fan. The lack of cooling air may result in the fan cycling on and off as the internal temperature rises above the thermal cutoff and falls upon shutoff. Should this condition arise, it is recommended that the fan be turned off until the water recedes allowing for return to normal operation.

1.5 SLAB COVERAGE

The RP Series Fan can provide coverage up to 2000+ sq. ft. per slab penetration. This will primarily depend on the sub-slab material in any particular installation. In general, the tighter the material, the smaller the area covered per penetration. Appropriate selection of the RP Series Fan best suited for the sub-slab material can improve the slab coverage. The RP140/145/155 are best suited for general purpose use. The RP260 can be used where additional airflow is required and the RP265/380 is best suited for large slab, high airflow applications. Additional suction points can be added as required. It is recommended that a small pit (5 to 10 gallons in size) be created below the slab at each suction hole.

1.6 CONDENSATION & DRAINAGE

Condensation is formed in the piping of a mitigation system when the air in the piping is chilled below its dew point. This can occur at points where the system piping goes through unheated space such as an attic, garage or outside. The system design must provide a means for water to drain back to a slab hole to remove the condensation. The RP Series Fan **MUST** be mounted vertically plumb and level, with the outlet pointing up for proper drainage through the fan. Avoid mounting the fan in any orientation that will allow water to accumulate inside the fan housing. The RP Series Fans are **NOT** suitable for underground burial.

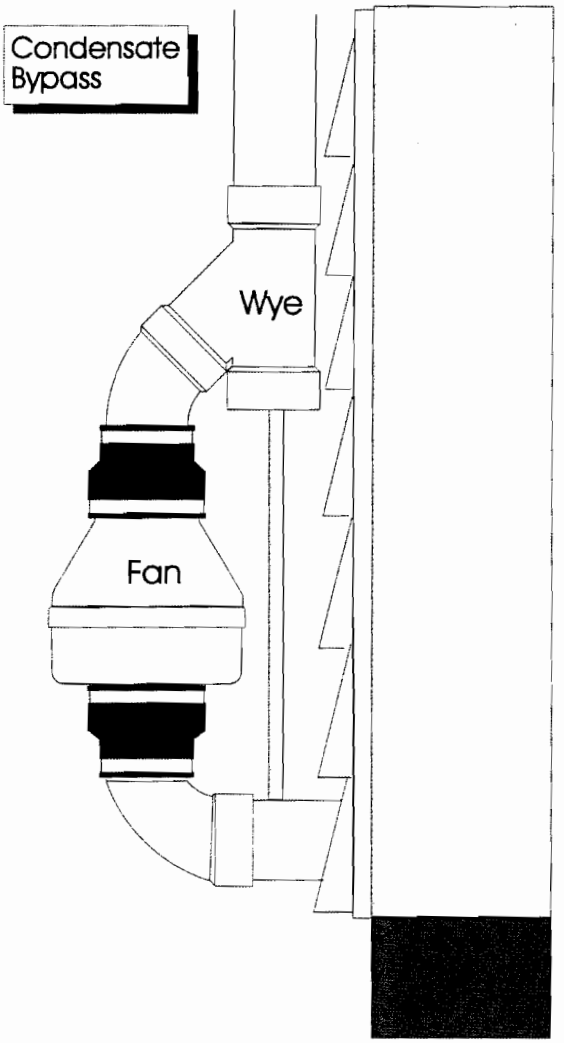
For RP Series Fan piping, the following table provides the minimum recommended pipe diameter and pitch under several system conditions.

Pipe Dia.	Minimum Rise per Ft of Run*				
	@25 CFM	@50 CFM	@100 CFM	@200 CFM	@300 CFM
6"	-	3/16	1/4	3/8	3/4
4"	1/8	1/4	3/8	2 3/8	-
3"	1/4	3/8	1 1/2	-	-

*Typical RP1xx/2xx Series Fan operational flow rate is 25 - 90 CFM 0n 3" and 4" pipe. (For more precision, determine flow rate by measuring Static Pressure, in WC, and correlate pressure to flow in the performance chart in the addendum.)

Under some circumstances in an outdoor installation a condensate bypass should be installed in the outlet ducting as shown. This may be particularly true in cold climate installations which require long lengths of outlet ducting or where the outlet ducting is likely to produce large amounts of condensation because of high soil moisture or outlet duct material. Schedule 20 piping and other thin-walled plastic ducting and Aluminum downspout will normally produce much more condensation than Schedule 40 piping.

The bypass is constructed with a 45 degree Wye fitting at the bottom of the outlet stack. The bottom of the Wye is capped and fitted with a tube that connects to the inlet piping or other drain. The condensation produced in the outlet stack is collected in the Wye fitting and drained through the bypass tube. The bypass tubing may be insulated to prevent freezing.



1.7 "SYSTEM ON" INDICATOR

A properly designed system should incorporate a "System On" Indicator for affirmation of system operation. A manometer, such as a U-Tube, or a vacuum alarm is recommended for this purpose.

1.8 ELECTRICAL WIRING

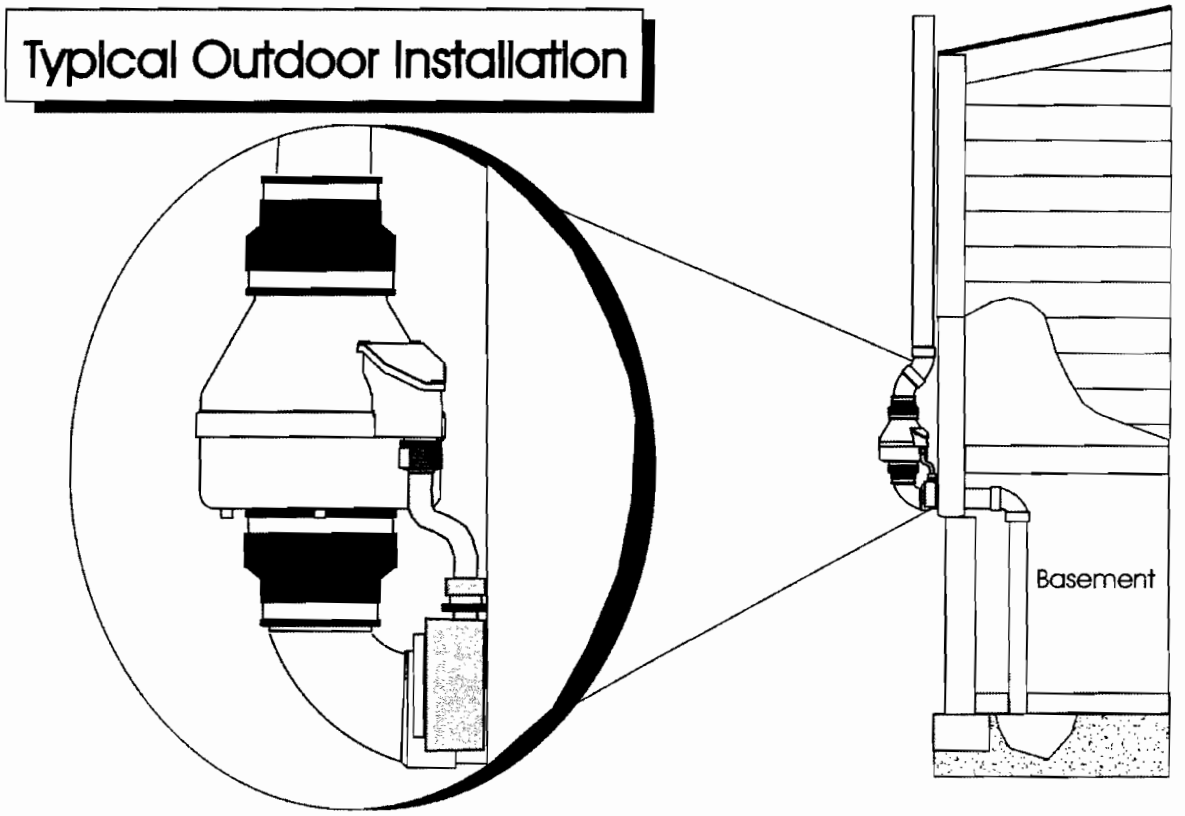
The RP Series Fans operate on standard 120V 60 Hz. AC. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA)"National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician. Outdoor installations require the use of a U.L. listed watertight conduit. Ensure that all exterior electrical boxes are outdoor rated and properly caulked to prevent water penetration into the box. A means, such as a weep hole, is recommended to drain the box.

1.9 SPEED CONTROLS

The RP Series Fans are rated for use with electronic speed controls ,however , they are generally not recommended.

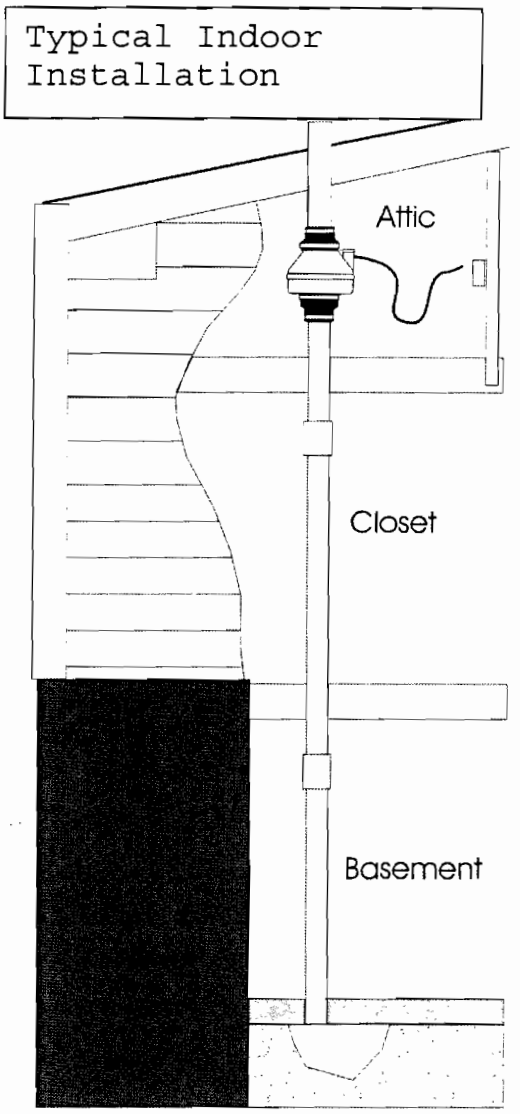
2.0 INSTALLATION

The RP Series Fan can be mounted indoors or outdoors. (It is suggested that EPA recommendations be followed in choosing the fan location.) The RP Series Fan may be mounted directly on the system piping or fastened to a supporting structure by means of optional mounting bracket.



2.1 MOUNTING

Mount the RP Series Fan vertically with outlet up. Insure the unit is plumb and level. When mounting directly on the system piping assure that the fan does not contact any building surface to avoid vibration noise.



2.2 MOUNTING BRACKET (optional)

The RP Series fan may be optionally secured with the RadonAway P/N 25007-2 (25033 for RP385) mounting bracket. Foam or rubber grommets may also be used between the bracket and mounting surface for vibration isolation.

2.3 SYSTEM PIPING

Complete piping run, using flexible couplings as means of disconnect for servicing the unit and vibration isolation.

2.4 ELECTRICAL CONNECTION

Connect wiring with wire nuts provided, observing proper connections:

Fan Wire	Connection
Green	Ground
Black	AC Hot
White	AC Common

2.5 VENT MUFFLER (optional)

Install the muffler assembly in the selected location in the outlet ducting. Solvent weld all connections. The muffler is normally installed at the end of the vent pipe.

2.6 OPERATION CHECKS

_____ **Verify** all connections are tight and **leak-free**.

_____ **Insure** the RP Series Fan and all ducting is secure and vibration-free.

_____ **Verify** system vacuum pressure with manometer. **Insure** vacuum pressure is **less than** maximum recommended operating pressure

(Based on sea-level operation, at higher altitudes reduce by about 4% per 1000 Feet.)

(Further reduce Maximum Operating Pressure by 10% for High Temperature environments)

See Product Specifications. If this is exceeded, increase the number of suction points.

_____ **Verify Radon levels by testing to EPA protocol.**

RP SERIES PRODUCT SPECIFICATIONS

The following chart shows fan performance for the RP Series Fan:

Typical CFM Vs Static Pressure "WC									
	0"	.25"	.5"	.75"	1.0"	1.25"	1.5"	1.75"	2.0"
RP140	134	101	68	10	-	-	-	-	-
RP145	173	152	132	115	94	73	55	37	-
RP155	185	161	137	115	94	73	55	37	-
RP260	275	225	180	140	105	70	20	-	-
RP265	327	302	260	230	207	176	139	101	57
RP380*	420	375	330	260	220	170	130	70	30

* Tested with 6" inlet and discharge pipe.

Power Consumption 120 VAC, 60Hz 1.5 Amp Maximum		Maximum Recommended Operating Pressure* (Sea Level Operation)**	
RP140	14 - 20 watts	RP140	0.8" W.C.
RP145	37 - 71 watts	RP145	1.7" W.C.
RP155	37 - 75 watts	RP155	1.7" W.C.
RP260	52 - 72 watts	RP260	1.5" W.C.
RP265	86 - 140 watts	RP265	2.2" W.C.
RP380	95 - 152 watts	RP380	2.0" W.C.

**Reduce by 10% for High Temperature Operation*
***Reduce by 4% per 1000 feet of altitude*

	Size	Weight	Inlet/Outlet
RP140	8.5H" x 9.7" Dia.	5.5 lbs.	4.5" OD (4.0" PVC Sched 40 size compatible)
RP145	8.5H" x 9.7" Dia.	5.5 lbs.	4.5" OD (4.0" PVC Sched 40 size compatible)
RP155	8.5H" x 9.7" Dia.	5.5 lbs.	5.0" OD
RP260	8.6H" x 11.75" Dia.	5.5 lbs.	6.0" OD
RP265	8.6H" x 11.75" Dia.	6.5 lbs.	6.0" OD
RP380	10.53H" x 13.41" Dia.	11.5 lbs.	8.0" OD

Recommended ducting: 3" or 4" RP1xx/2xx, 6" RP380, Schedule 20/40 PVC Pipe

Mounting: Mount on the duct pipe or with optional mounting bracket.

Storage temperature range: 32 - 100 degrees F.

Normal operating temperature range: -20 - 120 degrees F.

Maximum inlet air temperature: 80 degrees F.

Continuous Duty

Class B Insulation

Thermally protected

3000 RPM

Rated for Indoor or Outdoor Use

LISTED Electric Fan ETL® Tested to UL Std. 507

77728

IMPORTANT INSTRUCTIONS TO INSTALLER

Inspect the GP/XP/XR/RP Series Fan for shipping damage within 15 days of receipt. Notify **RadonAway of any damages immediately**. Radonaway is not responsible for damages incurred during shipping. However, for your benefit, Radonaway does insure shipments.

There are no user serviceable parts inside the fan. **Do not attempt to open.** Return unit to factory for service.

Install the GP/XP/XR/RP Series Fan in accordance with all EPA standard practices, and state and local building codes and state regulations.

WARRANTY

Subject to any applicable consumer protection legislation, RadonAway warrants that the GPX01/XP/XR/RP Series Fan (the "Fan") will be free from defects in materials and workmanship for a period of 90 days from the date of purchase (the "Warranty Term").

RadonAway will replace any Fan which fails due to defects in materials or workmanship. The Fan must be returned (at Owner's cost) to the RadonAway factory. Any Fan returned to the factory will be discarded unless the Owner provides specific instructions along with the Fan when it is returned regardless of whether or not the Fan is actually replaced under this warranty. Proof of purchase must be supplied upon request for service under this Warranty.

This Warranty is contingent on installation of the Fan in accordance with the instructions provided. This Warranty does not apply where any repairs or alterations have been made or attempted by others, or if the unit has been abused or misused. Warranty does not cover damage in shipment unless the damage is due to the negligence of RadonAway.

5 YEAR EXTENDED WARRANTY WITH PROFESSIONAL INSTALLATION.

RadonAway will extend the Warranty Term of the fan to 5 years from date of manufacture if the Fan is installed in a professionally designed and professionally installed radon system or installed as a replacement fan in a professionally designed and professionally installed radon system. Proof of purchase and/or proof of professional installation may be required for service under this warranty. Outside the Continental United States and Canada the extended Warranty Term is limited to one (1) year from the date of manufacture.

RadonAway is not responsible for installation, removal or delivery costs associated with this Warranty.

EXCEPT AS STATED ABOVE, THE GPx01/XP/XR/RP SERIES FANS ARE PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL RADONAWAY BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR RELATING TO, THE FAN OR THE PERFORMANCE THEREOF. RADONAWAY'S AGGREGATE LIABILITY HEREUNDER SHALL NOT IN ANY EVENT EXCEED THE AMOUNT OF THE PURCHASE PRICE OF SAID PRODUCT. THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY SHALL BE THE REPAIR OR REPLACEMENT OF THE PRODUCT, TO THE EXTENT THE SAME DOES NOT MEET WITH RADONAWAY'S WARRANTY AS PROVIDED ABOVE.

For service under this Warranty, contact RadonAway for a Return Material Authorization (RMA) number and shipping information. No returns can be accepted without an RMA. If factory return is required, the customer assumes all shipping cost to and from factory.

RadonAway
3 Saber Way
Ward Hill, MA 01835
TEL. (978) 521-3703
FAX (978) 521-3964

Record the following information for your records:

Serial No._____
Purchase Date_____

January 12, 2010

Aztech
Technologies, Inc.

SUB-SLAB DEPRESSURIZATION SYSTEM

INFORMATION PACKAGE

SHARON CLEANERS

SITE NUMBER: 546052

9 GREEN RIDGE AVENUE, SARATOGA SPRINGS, NY

Prepared For:

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
NEW YORK STATE

625 Broadway

Albany, NY

12233

NYS Certified
Woman-Owned Business
#49360

5 McCrea Hill Road
Ballston Spa, NY 12020

Sub-Slab Depressurization System Information Package

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Aztech
Technologies, Inc.

5 McCrea Hill Road
Ballston Spa
New York 12020

Phone: 518-885-5383
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www.aztechtech.com

1.0 Introduction

During October and November of 2009 Aztech Technologies installed an active sub-slab depressurization system, and reconstructed portions of the existing foundation and concrete slab at 9 Greenridge Place in Saratoga Springs, NY. The sub-slab depressurization system was installed in order to mitigate the intrusion of soil vapors into the structure. The foundation work included the demolition of the existing slab; installation of a new four-inch thick, reinforced concrete slab; parging of the fieldstone foundation walls with Type S mortar and Throroseal water proofing compound; and the installation of a six-mil poly membrane across the dirt crawl space. Once the installation was complete a communication test was conducted on November 10th, 2009 which yielded an acceptable minimum vacuum of 0.004 inches of water column (H2O) under the concrete slab.

2.0 Construction and System Overview

2.1 Demolition and Reconstruction

Kodiak Construction of Saratoga Springs was contracted by Aztech Technologies to complete the demolition and reconstruction work. A building permit was secured for the project prior to any work commencing. A pre-construction video survey and post-construction video survey was completed by Patricia Billings Consulting Services to ensure that the condition of the property was not adversely affected by the construction activities. All copies of the surveys are held by Patricia Billings Consulting Services.

A stamped set of drawings produced by Kodiak Construction provided the guidance for the workers to temporarily brace the existing structure while installing new footings and lolly columns prior to the concrete slab being poured. Approximately eight-tons of native material were removed from the basement by hand in order to provide a sufficient area for the sub-base material to be installed.

The sub-base consisted of two-inches of number-one stone and a layer of Delta MS underlayment. This provided a preferential pathway for the soil vapors to escape through the system as discussed in section 2.2. The underlayment was sealed at the joints using adhesive tape.

The walls were parged using a combination of mortar for the larger voids and Thoroseal which was applied in two coats using a spray system. Upon completion of the slab finish work, the voids between the slab and the walls were caulked using Sonolastic NP1 polyurethane joint sealant and the expansion joints were also sealed using NP1 (see Appendix I).

All debris in the crawlspace was removed and a concrete chamfer was poured around the perimeter of the space to provide for a clean surface on which to adhere the six-mil poly membrane. The membrane was installed using a combination of silicone and polyurethane caulks and duct tape to keep the overlapped plastic sheets in contact to allow the caulk to cure. Once the membrane was installed a layer of sand was applied over the top of the membrane as ballast and in order to cushion it from future disturbance.

2.2 Sub-Slab Depressurization System Construction

Upon completion of the demolition and reconstruction work, the sub-slab depressurization system was installed. The system consists of four-inch, schedule 40 polyvinylchloride (PVC) pipe; an RP-265 fan manufactured by RadonAway and associated accessories (see appendices II - IV).

2.3 Sub-Slab Depressurization Well Installation

The concrete slab was cored using a core drill with a six-inch core barrel. The sub-base material and native material below the slab was excavated to a depth of approximately eighteen-inches and a thin

layer of pea-gravel was installed at the bottom of the excavation. The sub-slab depressurization well was constructed of an eighteen-inch length of four-inch, schedule 40 PVC pipe that was perforated and inserted to the bottom of the hole. Pea gravel was inserted into the annular space as a packing material up to the bottom of the four-inch slab. A four-inch schedule 40 PVC coupling was glued on to the top of the well and the remaining annular space was sealed using hydraulic cement.

2.4 System Piping

The system piping was run from the well to the floor joists and out of the basement through an existing window. A sheet of ¾-inch pressure treated plywood and spray foam insulation was installed to seal the window opening. From the window the piping runs up the side of the house and terminates above the roof line ten feet from any opening and a minimum of three feet from the eaves.

2.5 RP-265 Fan Installation

The fan was installed approximately six-feet above the window where the system piping exits the basement window. The fan was attached to the piping using two white, four-inch by six-inch reducing fernco couplings with hose clamps in order to reduce vibrations. Once installed the electrical supply was run from the home-owners electrical box in the basement for the upstairs apartment. The electrical supply terminated above the window well with an exterior weatherproof box housing a receptacle and power switch.

2.6 Post Construction Notes

It was noted during construction that some of the floor joists in the eastern most portion of the crawl space were rotted (see Appendix II). No work was done in this area that affected the condition of the joists. Aztech Technologies recommends that the homeowner have the area inspected and repaired by a qualified contractor at their earliest convenience.

3.0 Communication Test

After the fan was installed and activated, Aztech Technologies and the New York State Department of Environmental Conservation (NYSDEC) Project Manager conducted a communication test to prove the effectiveness of the system. Two 1/4 - inch diameter holes were drilled through the slab. One by the exterior door and the second at the eastern most point in the new slab, closest to the dirt crawl space (see Appendix II). The first communication test point gave an observed vacuum reading of 0.53 inches H2O and the second yielded 0.33 inches H20. The observed vacuum readings were taken using a Zephyr II + device with a built in micro-manometer. Upon completion of the test the 1/4-inch holes were sealed using NP1 caulk.

4.0 Operating Instructions

The sub-slab depressurization system is designed to run continuously. If for any reason the system requires maintenance there are three ways to disconnect the power to the system. First, there is a separate circuit breaker located in the second floor panel box that de-energizes the out-door receptacle that the fan is plugged into. Second, the out-door receptacle is outfitted with an on/off switch. Third, the system is connected to the power cutlet with a standard, grounded, three-prong plug which may be disconnected to de-energize the fan.

The system is also outfitted with a rain cap and varmint screens that will prevent precipitation and animals from entering the system through the exhaust stack.

When the system is operating properly the U-Tube Manometer should read 2.0 inches H2O. (see Appendix IV). If for any reason the system stops operating, contact the NYSDEC Project Manager, Mr. Brian Jankauskas at: 518-402-9620 and reference Site Number: 546052.

5.0 Maintenance and Inspection of the System

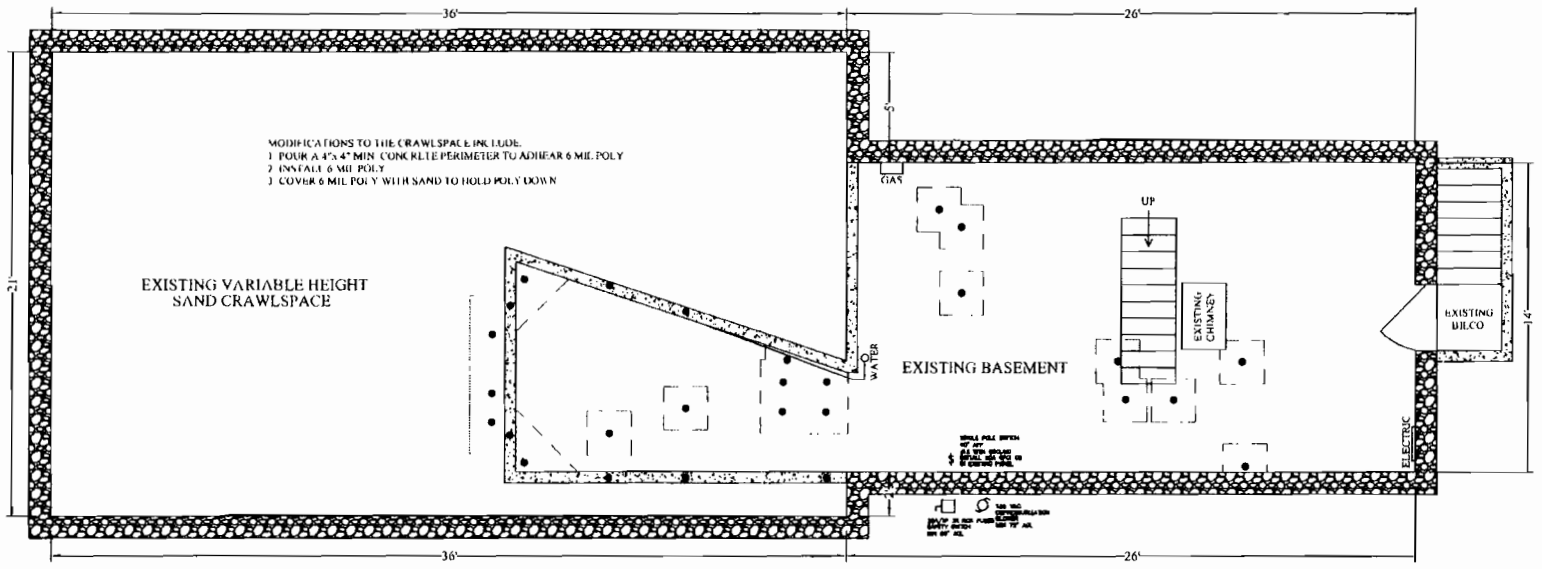
The system requires minimal maintenance; as such, the NYSDEC will respond to requests for service during system audits. The primary means for evaluating system operation is through inspection by the property owner. Periodic assessments are suggested (approximately every 3 months) to verify that the system is operating within normal parameters based on the information provided in Section 4.0 and Appendix III.

If a problem is identified, contact the NYSDEC Project Manager, Mr. Brian Jankauskas at 518-402-9620 and reference Site Number: 546052.

Audits will be performed by the NYSDEC to evaluate performance of the system. Audits may include:

- Inspection of the manometer
- Inspection of the well to verify a proper seal
- Inspection of piping and vent stacks for cracks and leaks
- Inspection of the fan and fernco couplings
- Inspection of the electrical service
- Collection of air samples

Appendix I: Kodiak Construction As-Repaired Drawing and Construction Documents



GENERAL DESIGN & CONSTRUCTION NOTES:

1 Should anything be omitted from these plans that is necessary for a complete understanding of the work, or should an error appear, promptly notify the engineer. Unauthorized alteration and/ or addition to these documents is a violation of article 145, section 209 of the New York State education law.

Written dimensions on the plans have precedence over the scaled dimensions. The dimensions shown are framing dimensions unless noted otherwise.

The contractor shall verify and be responsible for all dimensions and conditions on the job and must notify the engineer of any variations from the dimensions and conditions shown on the plans.

2 These plans have been prepared and comply with the provisions for single and duplex family residential construction as specified or required by the 2007 Residential Code of New York - Appendix J, effective January 1, 2008, and applicable local codes. Requirements apply to single and duplex family residential construction and the administrative provisions within chapter 1 of the Residential Code of New York.

The general contractor and all subcontractors shall comply with the same provisions and any other applicable codes, rules and regulations, whether shown on these plans or not.

3 **Definitions** relating to terms employed on these documents are intended to have the meanings as stated within Chapter 2 and Section AJ2 of the Residential Code of New York. Where a conflict in terminology exists, the term(s) and their definitions within Chapter 2 and Section AJ2 shall apply.

4. **Compliance.** The legal occupancy of any building existing on January 1, 2008 shall be permitted to continue without change, except as required by the Fire Code of New York and Property Maintenance Code of New York. Existing installations are not required to be removed, altered, or abandoned by Section AJ102. Additions or alterations shall not be made which will cause the existing building to be in violation of any provisions of the Residential Code of New York.

5. **Level 1 Alteration.** The scope of work related to this project is considered a Level 1 Alteration which includes the removal and replacement of existing materials and elements using new materials and elements, without reconfiguring this space. This project scope complies with the provisions of Section AJ5 of the Residential Building Code of New York.

6 **Conformance.** The proposed work shall not reduce the safety of the building from its existing condition.

7 **Fire and Life Safety Protection.** The house shall be provided with smoke alarms located as required for new dwellings. The smoke alarms are not required to be interconnected or hardwired in the existing living areas where the interior finishes are not removed. Battery operated alarms are permitted in the existing living areas.

Carbon monoxide detectors are to be located as required for new dwellings. The detectors are permitted to be battery operated units in existing living areas where the interior finishes are not removed. The units are not required to be hardwired in the existing living areas where the interior finishes are not removed.

Smoke Alarms shall be installed in the following locations:
- In each sleeping room
- Outside each sleeping area in the immediate vicinity of the bedrooms
- On each additional story of the dwelling, including the basement but not including uninhabitable attics

Carbon Monoxide Alarms shall be installed in the following locations:
- On each story where a sleeping area exists
- On each story where a fuel fired appliance, fireplace, or attached garage is located

GENERAL DESIGN & CONSTRUCTION NOTES CONTINUED:

8 No structural modifications above the top post plate are allowed. Structural elements above the top post plate are beyond this scope of work.

9 Design engineer shall be consulted for any field changes or discrepancies encountered before commencing work.

10 No vertical or horizontal movement of floor framing is allowed during project duration.

11 Telescoping columns will not be allowed as a permanent installation. permanent columns shall be 4" OD steel adjustable columns ICC approved, (Tiger brand or equal) After final adjustments are made the screw threads shall be lock welded in place or equal to prevent further adjustment.

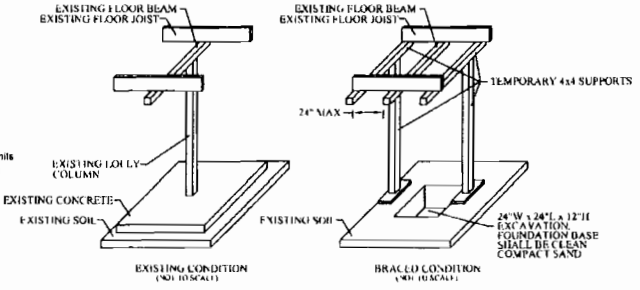
12 It is understood that the 24" x 24" x 12" Lolly Column pads are a minimum dimension. Due to the close proximity of some lolly columns, it may be necessary to build 1 large pad as opposed to multiple small pads. This is acceptable as long as the rebar requirement per 24" x 24" area is met.

PURPOSE:
THE ABOVE DRAWING IS BEING PROVIDED TO GIVE AN UNDERSTANDING OF THE EXISTING CONDITIONS AT 9 GREENRIDGE PLACE IN SARATOGA SPRINGS, NY. THE SCOPE OF WORK TO BE COMPLETED IS RELATED ONLY TO THE VAPOR MITIGATION OF LEECH ELEMENTS FROM NEIGHBORING SHARON CLEANERS.

SCOPE OF WORK:
THE SCOPE OF WORK IS LIMITED TO THE REMOVAL OF THE EXISTING BASEMENT SLAB CONCRETE, TEMPORARY BRACING OF THE EXISTING LOLLY COLUMNS IN THE BASEMENT. REMOVAL OF THE EXISTING LOLLY COLUMNS. INSTALLATION OF CONCRETE FOOTING PADS BENEATH EACH EXISTING LOLLY COLUMN, INSTALLATION OF VAPOR MITIGATION DUCTS (TO BE COMPLETED BY SEPARATE DRAWINGS AND WORK BY AZTECH TECHNOLOGIES), 2" LAYER OF 1" STONE, DELTA-MS ONDERLAYMENT, NEW 4" STEEL LOLLY COLUMNS TO REPLACE THE EXISTING WOOD LOLLY COLUMNS, AND A 4" THICK 4000psi CONCRETE BASEMENT SLAB.

THE CRAWLSPACE IS TO FOLLOW THE PROCEDURE AS DICTATED ON THE DRAWING.

NO ADDITIONAL ALTERATIONS OR STRUCTURAL CHANGES ARE TO BE PERMITTED. EXISTING LOLLY COLUMNS IN THE AREA OF CONSTRUCTION ARE TO BE REPLACED. NO LOLLY'S ARE TO BE PERMANENTLY REMOVED. THE FLOOR DECK IS TO BE PROPERLY SUPPORTED BEFORE THE TEMPORARY REMOVAL OF EACH LOLLY. NO FLOOR BEAMS OR FLOOR JOISTS ARE TO BE ALTERED.



RK ENGINEERING, PLLC
225 RUGGLES RD. SARATOGA SPRINGS, NY
518 587 4847

KODIAK CONSTRUCTION, INC
JESSE BOUCHER, CGB
PO BOX 657
SARATOGA SPRINGS, NY 12866
(518) 587-4847 (518) 587-5549 FAX
info@KodiakofSaratoga.com

STATE OF NEW YORK · STEVEN K. RIPER · 075950 · LICENSED PROFESSIONAL ENGINEER

AS REPAIRED - BASEMENT PLAN

9 GREENRIDGE PLACE SARATOGA SPRINGS, NY VAPOR MITIGATION

NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION

625 BROADWAY, 11TH FLOOR ALBANY, NY 12233

DATE: 01/19/10

DRAWN BY: JRB SCALE: 3/16"

JOB: NYSDEC-GREENRIDGE

1/1

CERTIFICATE OF OCCUPANCY
CITY OF SARATOGA SPRINGS, NEW YORK

Certificate of Occupancy No. 20090222 Date Issued: 11/18/09
Application No. 200900409
Owner ALISON GRANT
Address 9 GREENRIDGE PLACE

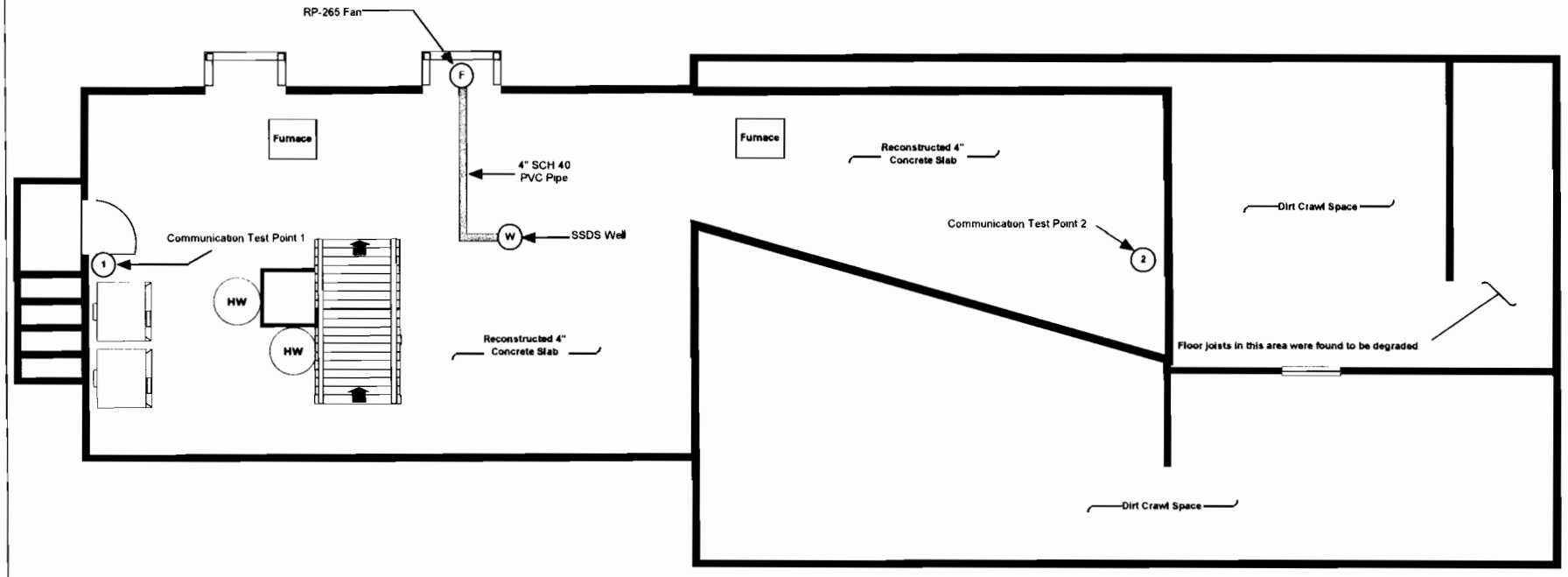
Tax Map I.D. Number 165.83-2-33

This is to certify that the ADD/ALT NO INCREASE IN UNITS named above is in compliance with applicable codes, ordinances and approvals and is ready for occupancy as a SLAB ON GRADE/PIER PADS

The following items are conditions on issuance of the certificate:

Assistant Building Inspector _____

Appendix II: Aztech Technologies As-Built Drawing



9 GREEN RIDGE AVE - SSDS AS BUILT - BASEMENT PLAN VIEW

NOT TO SCALE

LEGEND:	
1	Communication Test Point
W	SSDS Well
F	RP-265 SSDS Fan

Aztech Technologies

5 McCrea Hill Rd
Ballston Spa
NY 12020

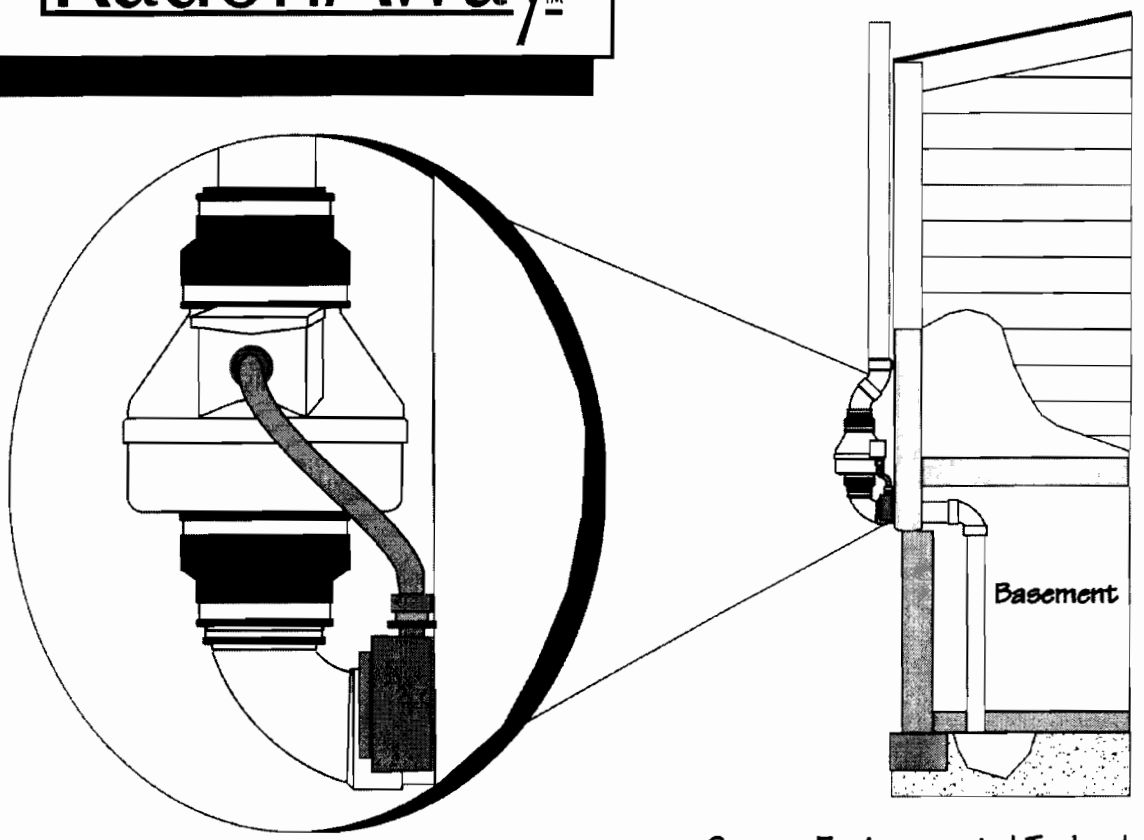
Aztech
technologies, inc.

PROJECT MANAGER: Chris Homicz	
AUTHOR: Chris Homicz	
SITE NO. 546052	WO NO. DEC Sharon Cleaners
DATE 12/02/09	REV. DATE

Appendix III: Warranty and Manufacturers Information

RP Series Installation Instructions

By RadonAway™



Spruce Environmental Technologies, Inc.
Ward Hill, MA P/N IN020 Rev H

RadonAway™

Series Fan Installation Instructions

Please Read and Save These Instructions.

DO NOT CONNECT POWER SUPPLY UNTIL FAN IS COMPLETELY INSTALLED. MAKE SURE ELECTRICAL SERVICE TO FAN IS LOCKED IN "OFF" POSITION. DISCONNECT POWER BEFORE SERVICING FAN.

1. **WARNING!** Do not use fan in hazardous environments where fan electrical system could provide ignition to combustible or flammable materials.

2. **WARNING!** Do not use fan to pump explosive or corrosive gases.

3. **WARNING!** Check voltage at the fan to insure it corresponds with nameplate.

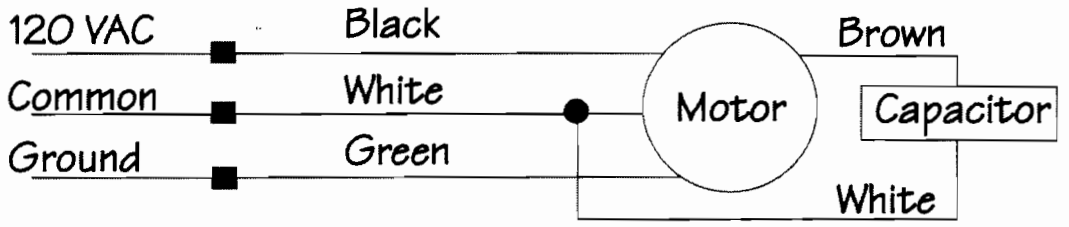
4. **WARNING!** Normal operation of this device may affect the combustion airflow needed for safe operation of fuel burning equipment. Check for possible backdraft conditions on all combustion devices after installation.

5. **NOTICE!** There are no user serviceable parts located inside the fan unit. **Do NOT attempt to open.** Return unit to the factory for service.

6. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA)"National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician

7. **WARNING!** Do not leave fan unit installed on system piping without electrical power for more than 48 hours. Fan failure could result from this non-operational storage.

DynaVac RP Series Fan Wiring Diagram



1.0 SYSTEM DESIGN CONSIDERATIONS

1.1 INTRODUCTION

The DynaVac RP Series Radon Fans are intended for use by trained, professional Radon mitigators. The purpose of this instruction is to provide additional guidance for the most effective use of a DynaVac Fan. This instruction should be considered as a supplement to EPA standard practices, state and local building codes and state regulations. In the event of a conflict, those codes, practices and regulations take precedence over this instruction.

1.2 ENVIRONMENTALS

The RP Series Fans are designed to perform year-round in all but the harshest climates without additional concern for temperature or weather. For installations in an area of severe cold weather, please contact RadonAway for assistance. When not in operation, the fan should be stored in an area where the temperature is never less than 32 degrees F. or more than 100 degrees F.

1.3 ACOUSTICS

The RP Series Fan, when installed properly, operates with little or no noticeable noise to the building occupants. The velocity of the outgoing air should be considered in the overall system design. In some cases the "rushing" sound of the outlet air may be disturbing. In these instances, the use of a RadonAway Exhaust Muffler is recommended.

1.4 GROUND WATER

In the event that a temporary high water table results in water at or above slab level, water may be drawn into the riser pipes thus blocking air flow to the RP Series Fan. The lack of cooling air may result in the fan cycling on and off as the internal temperature rises above the thermal cutoff and falls upon shutoff. Should this condition arise, it is recommended that the fan be turned off until the water recedes allowing for return to normal operation.

1.5 SLAB COVERAGE

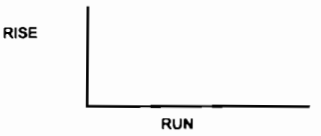
The RP Series Fan can provide coverage up to 2000+ sq. ft. per slab penetration. This will primarily depend on the sub-slab material in any particular installation. In general, the tighter the material, the smaller the area covered per penetration. Appropriate selection of the RP Series Fan best suited for the sub-slab material can improve the slab coverage. The RP140/145/155 are best suited for general purpose use. The RP260 can be used where additional airflow is required and the RP265/380 is best suited for large slab, high airflow applications. Additional suction points can be added as required. It is recommended that a small pit (5 to 10 gallons in size) be created below the slab at each suction hole.

1.6 CONDENSATION & DRAINAGE

Condensation is formed in the piping of a mitigation system when the air in the piping is chilled below its dew point. This can occur at points where the system piping goes through unheated space such as an attic, garage or outside. The system design must provide a means for water to drain back to a slab hole to remove the condensation. The RP Series Fan **MUST** be mounted vertically plumb and level, with the outlet pointing up for proper drainage through the fan. Avoid mounting the fan in any orientation that will allow water to accumulate inside the fan housing. The RP Series Fans are **NOT** suitable for underground burial.

For RP Series Fan piping, the following table provides the minimum recommended pipe diameter and pitch under several system conditions.

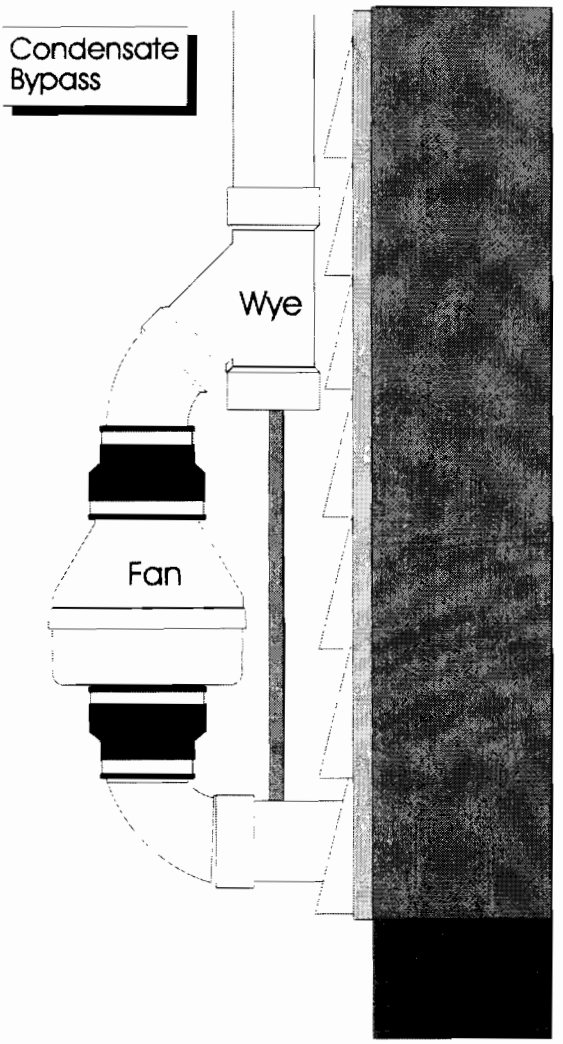
Pipe Dia.	Minimum Rise per Ft of Run*				
	@25 CFM	@50 CFM	@100 CFM	@200 CFM	@300 CFM
6"	-	3/16	1/4	3/8	3/4
4"	1/8	1/4	3/8	2 3/8	-
3"	1/4	3/8	1 1/2	-	-



*Typical RP1xx/2xx Series Fan operational flow rate is 25 - 90 CFM 0n 3" and 4" pipe. (For more precision, determine flow rate by measuring Static Pressure, in WC, and correlate pressure to flow in the performance chart in the addendum.)

Under some circumstances in an outdoor installation a condensate bypass should be installed in the outlet ducting as shown. This may be particularly true in cold climate installations which require long lengths of outlet ducting or where the outlet ducting is likely to produce large amounts of condensation because of high soil moisture or outlet duct material. Schedule 20 piping and other thin-walled plastic ducting and Aluminum downspout will normally produce much more condensation than Schedule 40 piping.

The bypass is constructed with a 45 degree Wye fitting at the bottom of the outlet stack. The bottom of the Wye is capped and fitted with a tube that connects to the inlet piping or other drain. The condensation produced in the outlet stack is collected in the Wye fitting and drained through the bypass tube. The bypass tubing may be insulated to prevent freezing.



1.7 "SYSTEM ON" INDICATOR

A properly designed system should incorporate a "System On" Indicator for affirmation of system operation. A manometer, such as a U-Tube, or a vacuum alarm is recommended for this purpose.

1.8 ELECTRICAL WIRING

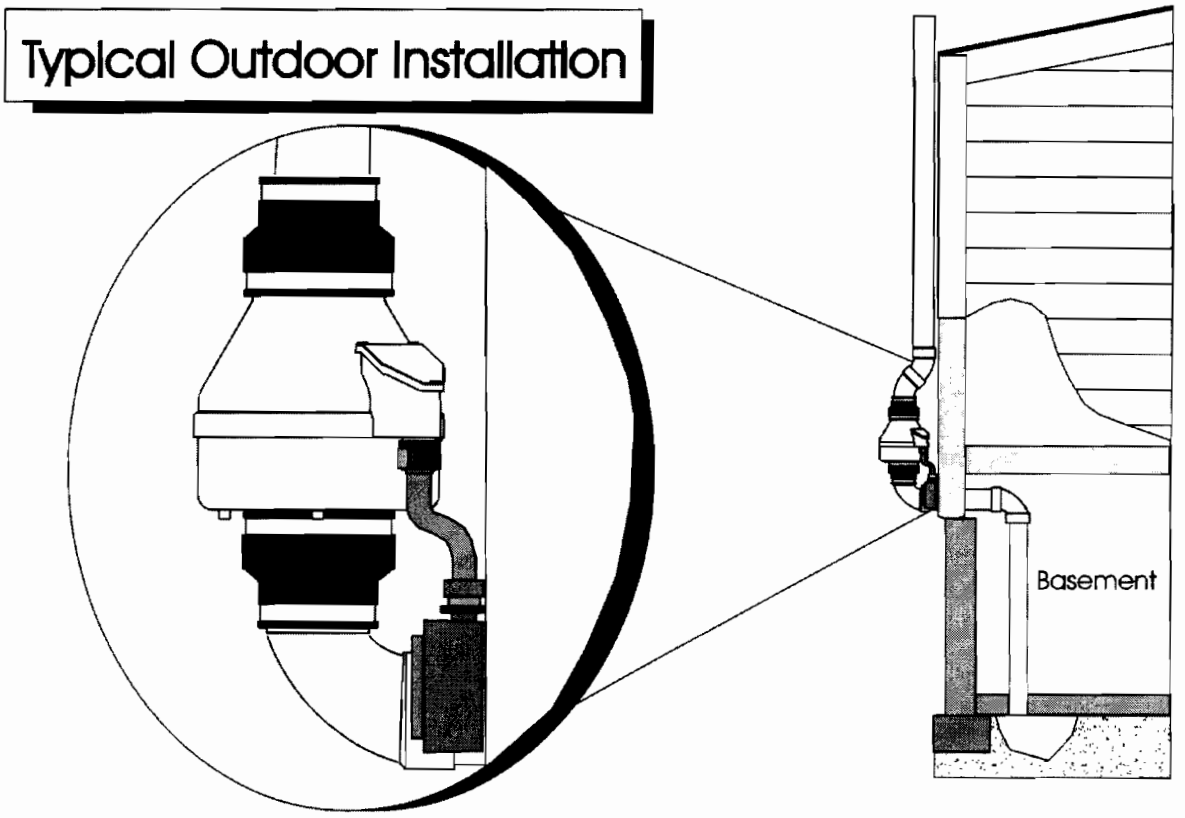
The RP Series Fans operate on standard 120V 60 Hz. AC. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA)"National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician. Outdoor installations require the use of a U.L. listed watertight conduit. Ensure that all exterior electrical boxes are outdoor rated and properly caulked to prevent water penetration into the box. A means, such as a weep hole, is recommended to drain the box.

1.9 SPEED CONTROLS

The RP Series Fans are rated for use with electronic speed controls ,however , they are generally not recommended.

2.0 INSTALLATION

The RP Series Fan can be mounted indoors or outdoors. (It is suggested that EPA recommendations be followed in choosing the fan location.) The RP Series Fan may be mounted directly on the system piping or fastened to a supporting structure by means of optional mounting bracket.



2.1 MOUNTING

Mount the RP Series Fan vertically with outlet up. Insure the unit is plumb and level. When mounting directly on the system piping assure that the fan does not contact any building surface to avoid vibration noise.

2.2 MOUNTING BRACKET (optional)

The RP Series fan may be optionally secured with the RadonAway P/N 25007-2 (25033 for RP385) mounting bracket. Foam or rubber grommets may also be used between the bracket and mounting surface for vibration isolation.

2.3 SYSTEM PIPING

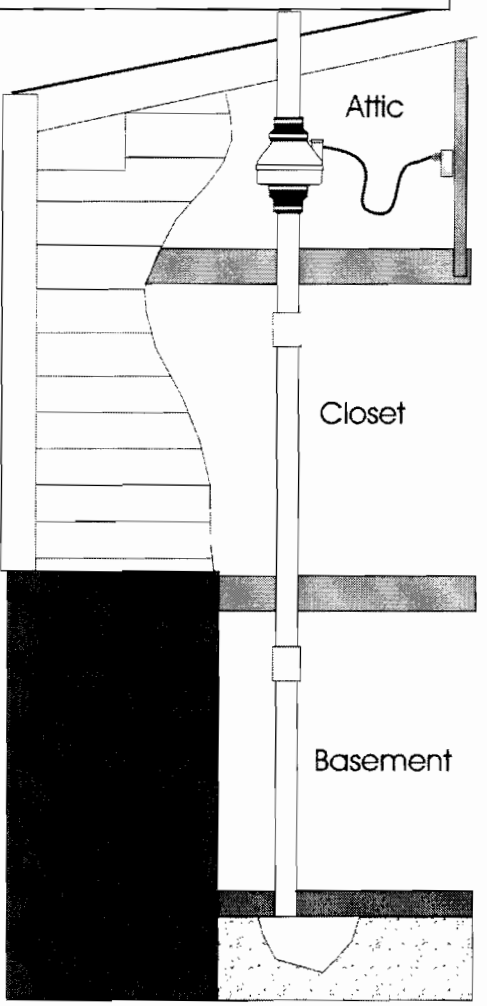
Complete piping run, using flexible couplings as means of disconnect for servicing the unit and vibration isolation.

2.4 ELECTRICAL CONNECTION

Connect wiring with wire nuts provided, observing proper connections:

Fan Wire	Connection
Green	Ground
Black	AC Hot
White	AC Common

Typical Indoor Installation



2.5 VENT MUFFLER (optional)

Install the muffler assembly in the selected location in the outlet ducting. Solvent weld all connections. The muffler is normally installed at the end of the vent pipe.

2.6 OPERATION CHECKS

_____ **Verify** all connections are tight and **leak-free**.

_____ **Insure** the RP Series Fan and all ducting is secure and vibration-free.

_____ **Verify** system vacuum pressure with manometer. **Insure** vacuum pressure is **less than** maximum recommended operating pressure

(Based on sea-level operation, at higher altitudes reduce by about 4% per 1000 Feet.)

(Further reduce Maximum Operating Pressure by 10% for High Temperature environments)

See Product Specifications. If this is exceeded, increase the number of suction points.

_____ **Verify Radon levels by testing to EPA protocol.**

RP SERIES PRODUCT SPECIFICATIONS

The following chart shows fan performance for the RP Series Fan:

Typical CFM Vs Static Pressure "WC									
	0"	.25"	.5"	.75"	1.0"	1.25"	1.5"	1.75"	2.0"
RP140	134	101	68	10	-	-	-	-	-
RP145	173	152	132	115	94	73	55	37	-
RP155	185	161	137	115	94	73	55	37	-
RP260	275	225	180	140	105	70	20	-	-
RP265	327	302	260	230	207	176	139	101	57
RP380*	420	375	330	260	220	170	130	70	30

* Tested with 6" inlet and discharge pipe.

Power Consumption 120 VAC, 60Hz 1.5 Amp Maximum		Maximum Recommended Operating Pressure* (Sea Level Operation)**	
RP140	14 - 20 watts	RP140	0.8" W.C.
RP145	37 - 71 watts	RP145	1.7" W.C.
RP155	37 - 75 watts	RP155	1.7" W.C.
RP260	52 - 72 watts	RP260	1.5" W.C.
RP265	86 - 140 watts	RP265	2.2" W.C.
RP380	95 - 152 watts	RP380	2.0" W.C.

**Reduce by 10% for High Temperature Operation*
***Reduce by 4% per 1000 feet of altitude*

	Size	Weight	Inlet/Outlet
RP140	8.5H" x 9.7" Dia.	5.5 lbs.	4.5" OD (4.0" PVC Sched 40 size compatible)
RP145	8.5H" x 9.7" Dia.	5.5 lbs.	4.5" OD (4.0" PVC Sched 40 size compatible)
RP155	8.5H" x 9.7" Dia.	5.5 lbs.	5.0" OD
RP260	8.6H" x 11.75" Dia.	5.5 lbs.	6.0" OD
RP265	8.6H" x 11.75" Dia.	6.5 lbs.	6.0" OD
RP380	10.53H" x 13.41" Dia.	11.5 lbs.	8.0" OD

Recommended ducting: 3" or 4" RP1xx/2xx, 6" RP380, Schedule 20/40 PVC Pipe

Mounting: Mount on the duct pipe or with optional mounting bracket.

Storage temperature range: 32 - 100 degrees F.

Normal operating temperature range: -20 - 120 degrees F.

Maximum inlet air temperature: 80 degrees F.

Continuous Duty

Class B Insulation

Thermally protected

3000 RPM

Rated for Indoor or Outdoor Use

LISTED Electric Fan ETL Tested to UL Std. 507

77728

IMPORTANT INSTRUCTIONS TO INSTALLER

Inspect the GP/XP/XR/RP Series Fan for shipping damage within 15 days of receipt. Notify **RadonAway of any damages immediately**. Radonaway is not responsible for damages incurred during shipping. However, for your benefit, Radonaway does insure shipments.

There are no user serviceable parts inside the fan. **Do not attempt to open.** Return unit to factory for service.

Install the GP/XP/XR/RP Series Fan in accordance with all EPA standard practices, and state and local building codes and state regulations.

WARRANTY

Subject to any applicable consumer protection legislation, RadonAway warrants that the GPX01/XP/XR/RP Series Fan (the "Fan") will be free from defects in materials and workmanship for a period of 90 days from the date of purchase (the "Warranty Term").

RadonAway will replace any Fan which fails due to defects in materials or workmanship. The Fan must be returned (at Owner's cost) to the RadonAway factory. Any Fan returned to the factory will be discarded unless the Owner provides specific instructions along with the Fan when it is returned regardless of whether or not the Fan is actually replaced under this warranty. Proof of purchase must be supplied upon request for service under this Warranty.

This Warranty is contingent on installation of the Fan in accordance with the instructions provided. This Warranty does not apply where any repairs or alterations have been made or attempted by others, or if the unit has been abused or misused. Warranty does not cover damage in shipment unless the damage is due to the negligence of RadonAway.

5 YEAR EXTENDED WARRANTY WITH PROFESSIONAL INSTALLATION.

RadonAway will extend the Warranty Term of the fan to 5 years from date of manufacture if the Fan is installed in a professionally designed and professionally installed radon system or installed as a replacement fan in a professionally designed and professionally installed radon system. Proof of purchase and/or proof of professional installation may be required for service under this warranty. Outside the Continental United States and Canada the extended Warranty Term is limited to one (1) year from the date of manufacture.

RadonAway is not responsible for installation, removal or delivery costs associated with this Warranty.

EXCEPT AS STATED ABOVE, THE GPx01/XP/XR/RP SERIES FANS ARE PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL RADONAWAY BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR RELATING TO, THE FAN OR THE PERFORMANCE THEREOF. RADONAWAY'S AGGREGATE LIABILITY HEREUNDER SHALL NOT IN ANY EVENT EXCEED THE AMOUNT OF THE PURCHASE PRICE OF SAID PRODUCT. THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY SHALL BE THE REPAIR OR REPLACEMENT OF THE PRODUCT, TO THE EXTENT THE SAME DOES NOT MEET WITH RADONAWAY'S WARRANTY AS PROVIDED ABOVE.

For service under this Warranty, contact RadonAway for a Return Material Authorization (RMA) number and shipping information. No returns can be accepted without an RMA. If factory return is required, the customer assumes all shipping cost to and from factory.

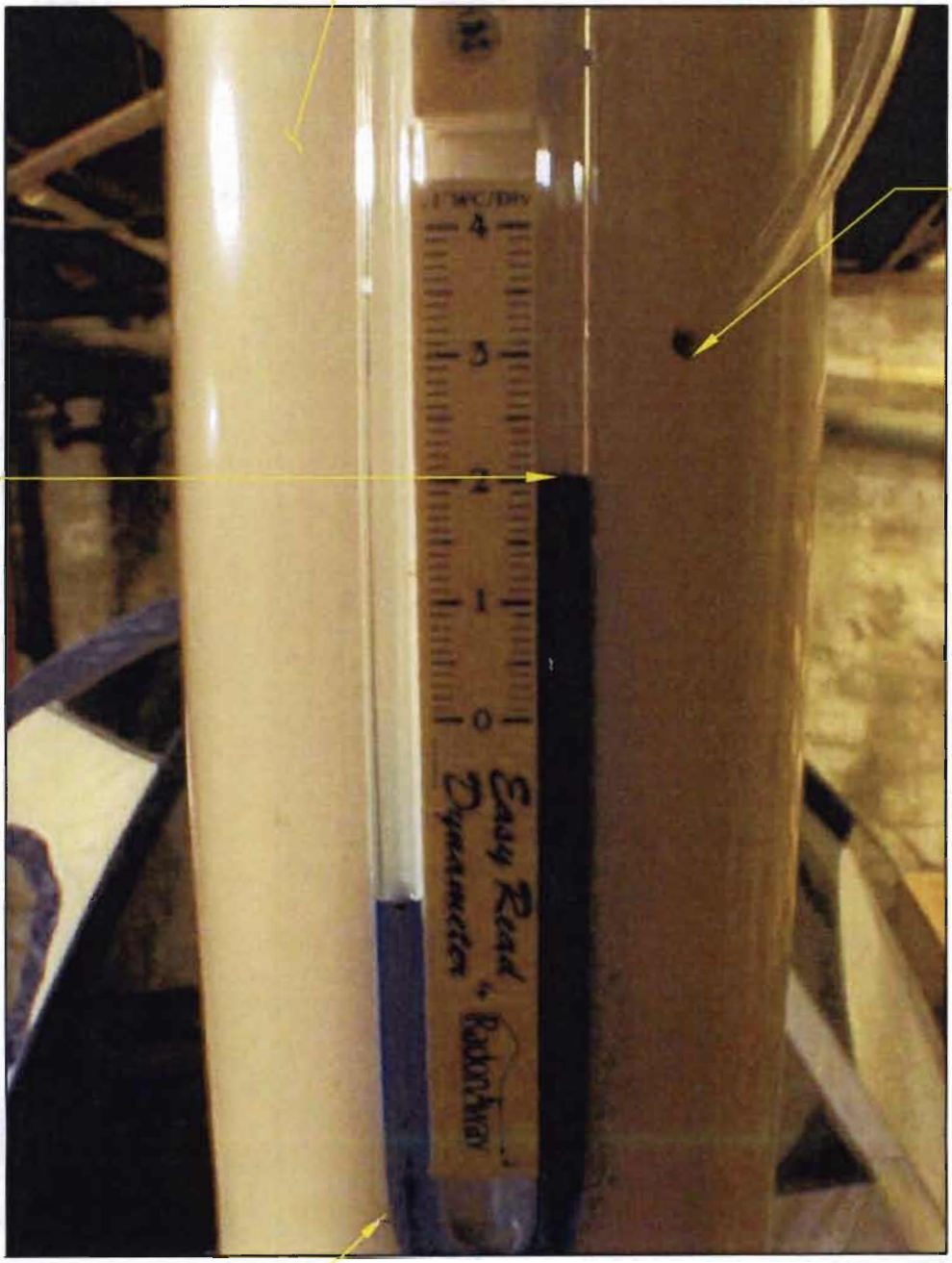
RadonAway
3 Saber Way
Ward Hill, MA 01835
TEL. (978) 521-3703
FAX (978) 521-3964

Record the following information for your records:

Serial No._____
Purchase Date_____

Appendix IV: U-Tube Manometer

4" SCH 40 PVC Pipe



3/8" Hole and Manometer Tubing

Vacuum Indicated by Liquid Level

U Tube Manometer

Aztech Technologies, Inc.	Aztech Technologies 5 McCrea Hill Road Ballston Spa NY 12020	Project Manager: Chris Homicz	
		Author: Chris Homicz	
		Site No.: 546052	WO No.: DEC - Sharon Cleaners
		Date: 1/12/2010	Rev. Date: 1/28/2010

July 29, 2010

Aztech Technologies, Inc.

SUB-SLAB DEPRESSURIZATION SYSTEM

INFORMATION PACKAGE

SHARON CLEANERS

SITE NUMBER: 546052

50 LINCOLN AVENUE, SARATOGA SPRINGS, NY

Prepared For:

625 Broadway

Albany, NY

12233

NYS Certified
Woman-Owned Business
#49360

5 McCrea Hill Road
Ballston Spa, NY 12020 (518) 885-5383

www.aztechtech.com

Sub-Slab Depressurization System Information Package

Contents

Section		Page
1	Introduction……...1	
2	Construction and System Overview…….. 1	
	2.1 Demolition and Reconstruction……... 1	
	2.2 Sub-slab Depressurization Well Installation……1	
	2.3 System Piping……1	
3	Maintenance and Inspection of the System ……..…….2	

Appendix

I	Kodiak Construction As-Repaired Drawing and Construction Documents
II	Aztech Technologies As-Built Drawing
III	Certificate of Occupancy

Aztech Technologies, Inc.
5 McCrea Hill Road
Ballston Spa
New York 12020
Phone: 518-885-5383
Fax: 518-885-5385
www.aztechtech.com

1.0 Introduction

During October and November of 2009 Aztech Technologies (Aztech) installed a passive sub-slab depressurization system, and reconstructed portions of the existing concrete slab at 50 Lincoln Avenue in Saratoga Springs, NY. The sub-slab depressurization system was installed in order to mitigate the intrusion of soil vapors into the structure. The work included the demolition of the existing slab; installation of a new four-inch thick, reinforced concrete slab; and the installation of the sub-slab depressurization well and effluent piping.

2.0 Construction and System Overview

2.1 Demolition and Reconstruction

Kodiak Construction of Saratoga Springs was contracted by Aztech Technologies to complete the demolition and reconstruction work. A building permit was secured for the project prior to any work commencing. A pre-construction video survey and post-construction video survey was completed by Patricia Billings Consulting Services to ensure that the condition of the property was not adversely affected by the construction activities. All copies of the surveys are held by Patricia Billings Consulting Services.

A stamped set of drawings produced by Kodiak Construction provided the guidance for the workers to temporarily brace the existing structure while installing new footings and lolly columns prior to the concrete slab being poured. Approximately 2000 pounds of native material and concrete debris were removed from the basement by hand in order to provide a sufficient area for the sub-base material to be installed.

The sub-base consisted of two-inches of number-one stone and a layer of Delta MS underlayment. This provided a preferential pathway for the soil vapors to escape through the system as discussed in section 2.2. The underlayment was sealed at the joints using adhesive tape. Upon completion of the slab finish work, the voids between the slab and the walls were caulked using Sonolastic NP1 polyurethane joint sealant and the expansion joints were also sealed using NP1 (see Appendix I).

2.2 Sub-Slab Depressurization Well Installation

The concrete slab was cored using a core drill with a six-inch core barrel. The sub-base material and native material below the slab was excavated to a depth of approximately eighteen-inches and a thin layer of pea-gravel was installed at the bottom of the excavation. The sub-slab depressurization well was constructed of an eighteen-inch length of four-inch, schedule 40 polyvinylchloride (PVC) pipe that was perforated and inserted to the bottom of the hole. Pea gravel was inserted into the annular space as a packing material up to the bottom of the four-inch slab. A four-inch schedule 40 PVC coupling was glued on to the top of the well and the remaining annular space was sealed using hydraulic cement.

2.3 System Piping

The system piping was run from the well to the western foundation wall and then to the floor joists and out of the basement through a 4.5” diameter hole cut by Aztech Technologies. The penetration was sealed using clear silicone caulk. From the wall penetration the piping runs up the side of the house and terminates above the roof line ten feet from any opening and a minimum of three feet from the eaves. Aztech color matched two exterior paints to the existing trim colors and painted the effluent pipe for aesthetic purposes.

3.0 Maintenance and Inspection of the System

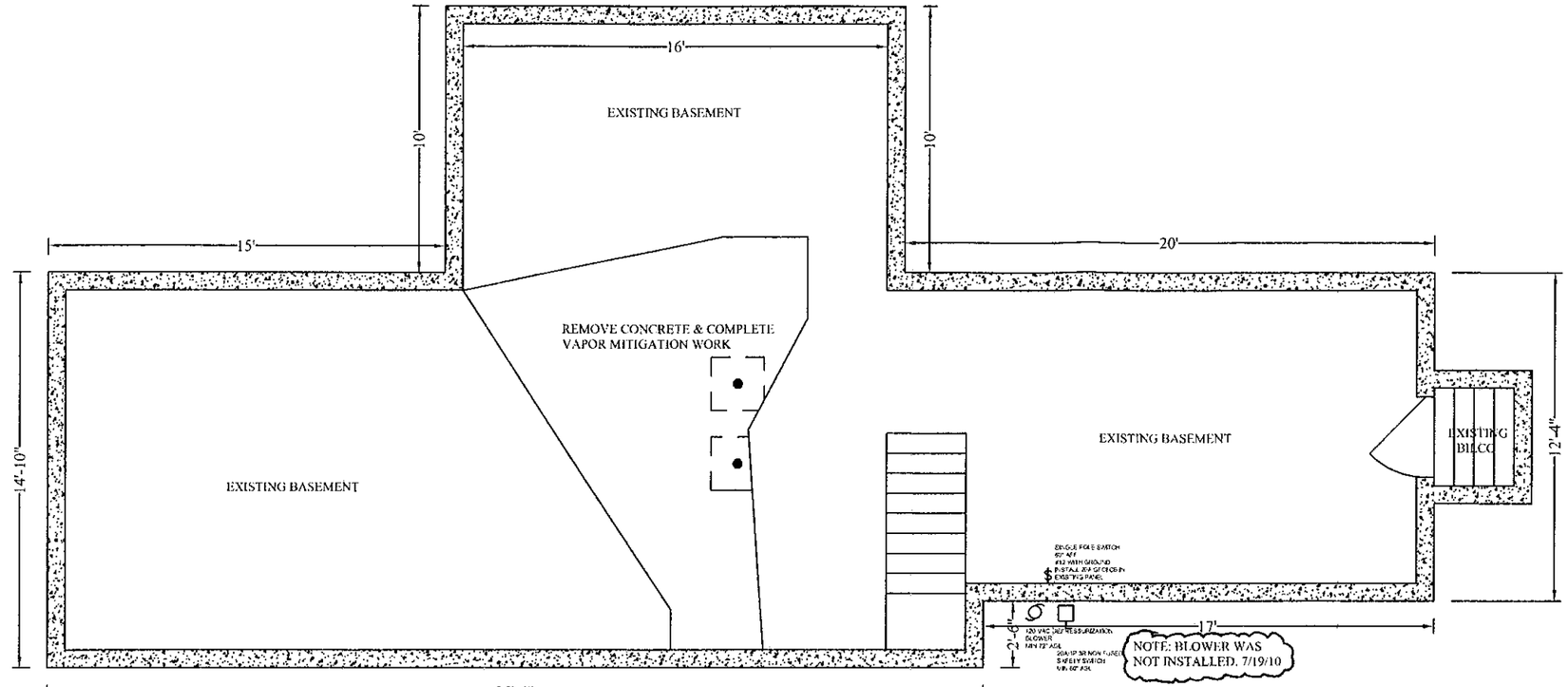
The sub-slab depressurization system is passive and requires no power source. It operates by providing a preferential pathway for soil vapors to escape from beneath the basement slab.

The system requires minimal maintenance; as such, the NYSDEC will respond to requests for service. The primary means for evaluating system operation is through inspection by the property owner. Periodic assessments are suggested (approximately every 3 months) to verify that the system piping and seals are tight.

If a problem is identified, contact the NYSDEC Project Manager, Mr. Brian Jankauskas at 518-402-9620 and reference Site Number: 546052.

Audits will be performed by the NYSDEC to evaluate performance of the system. Audits may include:

- Inspection of the well to verify a proper seal
- Inspection of piping and vent stacks for cracks and leaks
- Collection of air samples



GENERAL DESIGN & CONSTRUCTION NOTES:

1. Should anything be omitted from these plans that is necessary for a complete understanding of the work, or should an error appear, promptly notify the engineer. Unauthorized alteration and/ or addition to these documents is a violation of article 145, section 209 of the New York State education law.

Written dimensions on the plans have precedence over the scaled dimensions. The dimensions shown are framing dimensions unless noted otherwise.

The contractor shall verify and be responsible for all dimensions and conditions on the job and must notify the engineer of any variations from the dimensions and conditions shown on the plans.

2. These plans have been prepared and comply with the provisions for single and duplex family residential construction as specified or required by the 2007 Residential Code of New York - Appendix J, effective January 1, 2008, and applicable local codes. Requirements apply to single and duplex family residential construction and the administrative provisions within chapter 1 of the Residential Code of New York.

The general contractor and all subcontractors shall comply with the same provisions and any other applicable codes, rules and regulations, whether shown on these plans or not.

3. **Definitions** relating to terms employed on these documents are intended to have the meanings as stated within Chapter 2 and Section AJ2 of the Residential Code of New York. Where a conflict in terminology exists, the term(s) and their definitions within Chapter 2 and Section AJ2 shall apply.

4. **Compliance.** The legal occupancy of any building existing on January 1, 2008 shall be permitted to continue without change, except as required by the Fire Code of New York and Property Maintenance Code of New York. Existing installations are not required to be removed, altered, or abandoned by Section AJ102. Additions or alterations shall not be made which will cause the existing building to be in violation of any provisions of the Residential Code of New York.

5. **Level 1 Alteration.** The scope of work related to this project is considered a Level 1 Alteration which includes the removal and replacement of existing materials and elements using new materials and elements, without reconfiguring this space. This project scope complies with the provisions of Section AJ5 of the Residential Building Code of New York.

6. **Conformance.** The proposed work shall not reduce the safety of the building from its existing condition.

7. **Fire and Life Safety Protection.** The house shall be provided with smoke alarms located as required for new dwellings. The smoke alarms are not required to be interconnected or hardwired in the existing living areas where the interior finishes are not removed. Battery operated alarms are permitted in the existing living areas.

Carbon monoxide detectors are to be located as required for new dwellings. The detectors are permitted to be battery operated units in existing living areas where the interior finishes are not removed. The units are not required to be hardwired in the existing living areas where the interior finishes are not removed.

Smoke Alarms shall be installed in the following locations:
- In each sleeping room
- Outside each sleeping area in the immediate vicinity of the bedrooms
- On each additional story of the dwelling, including the basement but not including uninhabitable attics

Carbon Monoxide Alarms shall be installed in the following locations:
- On each story where a sleeping area exists
- On each story where a fuel-fired appliance, fireplace, or attached garage is located

GENERAL DESIGN & CONSTRUCTION NOTES CONTINUED:

8. No structural modifications above the top post plate are allowed. structural elements above the top post plate are beyond this scope of work.

9. Design engineer shall be consulted for any field changes or discrepancies encountered before commencing work.

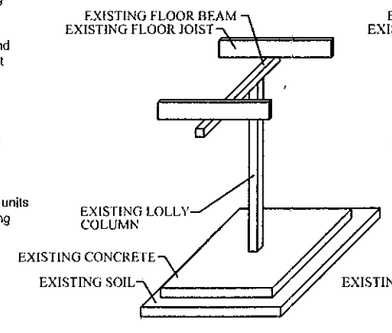
10. No vertical or horizontal movement of floor framing is allowed during project duration.

11. Telescoping columns will not be allowed as a permanent installation. permanent columns shall be 4" o.d. steel adjustable columns ICC approved, (tiger brand or equal). after final adjustments are made the screw threads shall be tack welded in place or equal to prevent further adjustment.

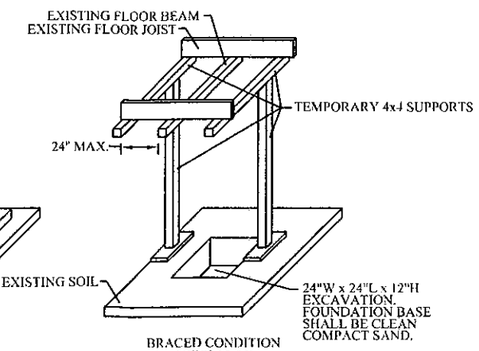
PURPOSE:
THE ABOVE DRAWING IS BEING PROVIDED TO GIVE AN UNDERSTANDING OF THE EXISTING CONDITIONS AT 50 LINCOLN AVENUE IN SARATOGA SPRINGS, NY. THE SCOPE OF WORK TO BE COMPLETED IS RELATED ONLY TO STRUCTURAL ELEMENT OF THE VAPOR MITIGATION OF LEECH ELEMENTS FROM NEIGHBORING SHARON CLEANERS.

SCOPE OF WORK:
THE SCOPE OF WORK IS LIMITED TO THE REMOVAL OF THE EXISTING BASEMENT SLAB CONCRETE, TEMPORARY BRACING OF THE EXISTING LOLLY COLUMNS IN THE BASEMENT, REMOVAL OF THE EXISTING LOLLY COLUMNS, INSTALLATION OF CONCRETE FOOTING PADS BENEATH EACH EXISTING LOLLY COLUMN, INSTALLATION OF VAPOR MITIGATION DUCTS (TO BE COMPLETED BY SEPARATE DRAWINGS AND WORK BY AZTECH TECHNOLOGIES), 2" LAYER OF 1" STONE, DELTA-MS UNDERLAYMENT, NEW 4" STEEL LOLLY COLUMNS TO REPLACE THE EXISTING WOOD LOLLY COLUMNS, AND A 4" THICK 4000psi CONCRETE BASEMENT SLAB.

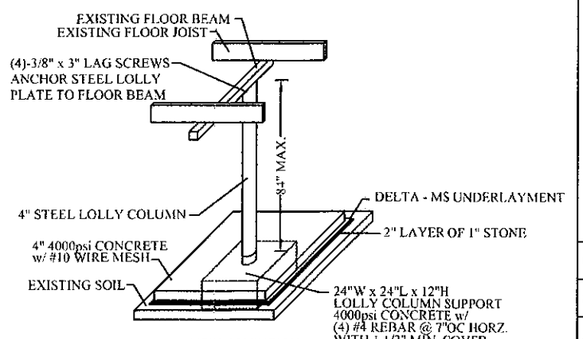
NO ADDITIONAL ALTERATIONS OR STRUCTURAL CHANGES ARE TO BE PERMITTED. EXISTING LOLLY COLUMNS IN THE AREA OF CONSTRUCTION ARE TO BE REPLACED. NO LOLLY'S ARE TO BE PERMANENTLY REMOVED, THE FLOOR DECK IS TO BE PROPERLY SUPPORTED BEFORE THE TEMPORARY REMOVAL OF EACH LOLLY. NO FLOOR BEAMS OR FLOOR JOISTS ARE TO BE ALTERED.



EXISTING CONDITION
(NOT TO SCALE)



BRACED CONDITION
(NOT TO SCALE)



NEW CONDITION
(NOT TO SCALE)

RK ENGINEERING, PLLC.
RYAN K. RIPER, P.E.
225 RUGGLES ROAD
SARATOGA SPRINGS, NY 12866
(518) 581-3893
RyanRiper@RKengineering.US
NYS LICENSE # 79504

KODIAK CONSTRUCTION, INC
JESSE BOUCHER, CGB, CGP
372 BROADWAY / PO BOX 657
SARATOGA SPRINGS, NY 12866
(518) 587-4847 (518) 587-3549 FAX
JesseW@KodiakofSaratoga.com

STATE OF NEW YORK ★ RYAN K. RIPER ★ LICENSED PROFESSIONAL ENGINEER 079504

AS REPAIRED - BASEMENT PLAN

50 LINCOLN AVE SARATOGA SPRINGS, NY VAPOR MITIGATION

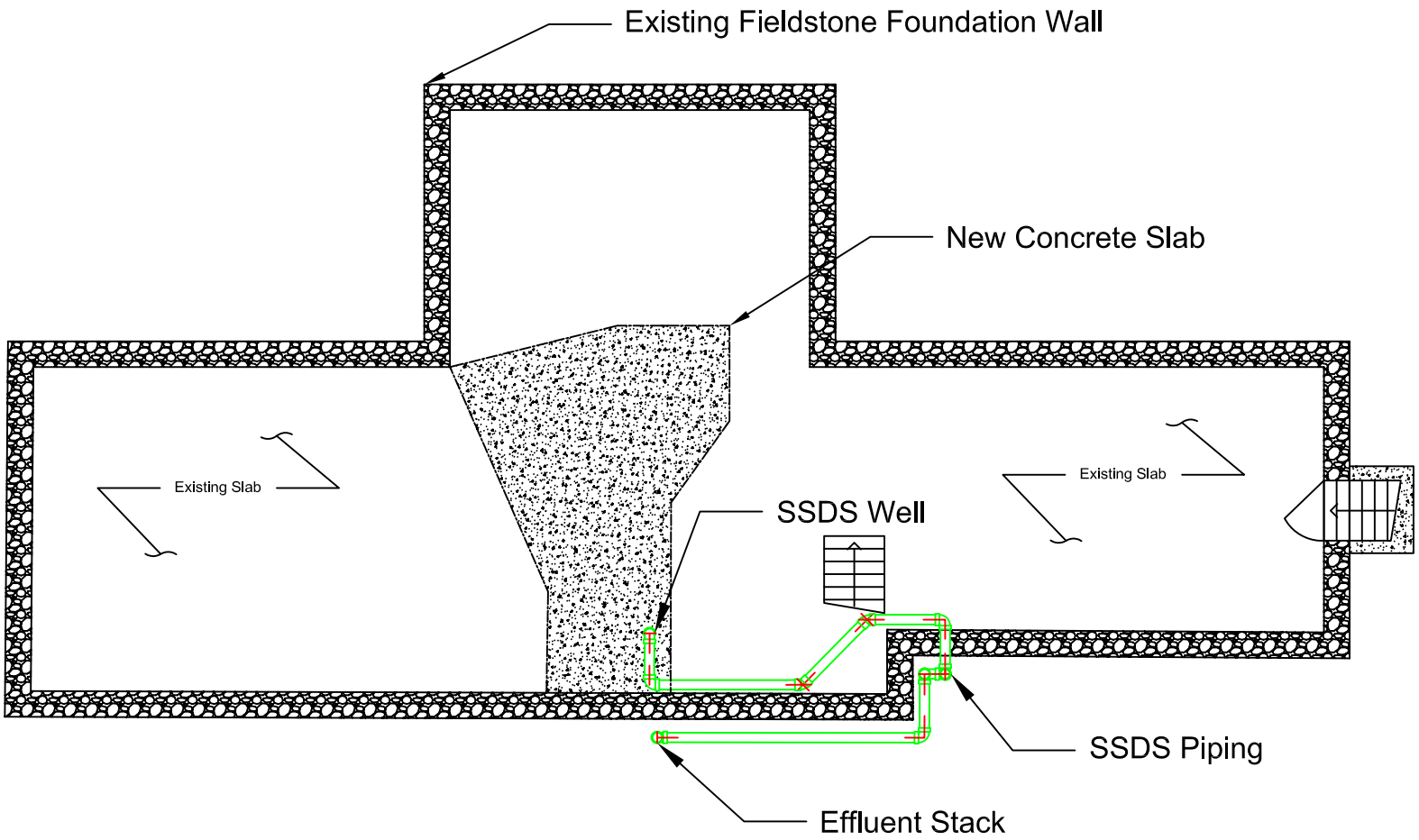
NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION

625 BROADWAY, 11TH FLOOR ALBANY, NY 12233

DATE: 2010-01-19 BY: JRB

REVISED: 2010-07-19 BY: JRB

JOB: NYSDEC-LINCOLN SCALE: 3/16"



50 Lincoln - Sub Slab Depressurization System (SSDS)

As Built Not To Scale

Aztech Technologies, Inc.

Project Manager: Chris Homicz	
Author: Chris Homicz	
Site No.: 564052	WO No.: DEC - Sharon Cleaners
Date: 5/20/2010	

CERTIFICATE OF OCCUPANCY
CITY OF SARATOGA SPRINGS, NEW YORK

Certificate of Occupancy No. 20090221 Date Issued: 11/19/09
Application No. 200900410
Owner MICHAEL J. CELOTTI
Address 50 LINCOLN AVENUE

Tax Map I.D. Number 165.83-2-34.2

This is to certify that the ADD/ALT NO INCREASE IN UNITS named above is in compliance with applicable codes, ordinances and approvals and is ready for occupancy as a SLAB ON GRADE/PIER PADS

The following items are conditions on issuance of the certificate:

Assistant Building Inspector _____

Appendix C

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.

Air Sampling Form
Sharon Cleaners Site
546052
48 Lincoln Avenue, Saratoga Springs, NY

Structure ID	Sample ID	Summa ID	Summa Size (L)	Regulator ID	Date	Start Time	Initial Vacuum ("Hg)	End Time	Final Vacuum ("Hg)	Purge Volume (ml)	PID (ppb)
AS-1	IA-1										
AS-1	SS-1										
AS-10	IA-10										
AS-10	SS-10										
	DUP										
	OA										

Notes:

1. Sample Analysis TO-15.
2. Detection limits 1 microgram per cubic meter (ug/m^3) for all except TCE and VC, which is 0.25 ug/m^3.
3. Duplicate collected from sub-slab soil vapor.
4. Purge rate <200 milliliters per minute.
5. Indoor air (IA) and outdoor air (OA) samples are set approximately 4 feet above ground surface.
6. Sub-slab soil vapor (SS) points are existing sample points from the remedial investigation.
7. Duplicates (DUP) are collected with a "T" connection.

Units:

1. L – liter
2. "Hg – inches of mercury
3. ppb – parts per billion

Appendix D

Well ID.	Well Size	DTW	DTP	DTB	Comments
MW-4	1"	14.39		30.74	
MW-5	2"	12.93		18.89	
MW-6	2"	13.59		22.57	
MW-7	2"	15.54		22.95	
MW-8	2"	12.70		22.60	
MW-9	2"	12.74		22.61	
MW-10	2"	9.31		20.41	repaired concrete around well manhole
MW-11	1"	11.94		19.88	
SVE-1	4"	15.22		19.55	
SVE-2	4"	15.15		19.51	
B-4	1"	16.07		19.92	Temporary well. Removed after sampling.
B-6	1"	16.05		19.55	Temporary well. Removed after sampling.
MW-C1	2"	11.57		19.80	Cudney's Cleaners (guage only)
MW-C2	2"	11.75		19.75	Cudney's Cleaners (guage only)
Cudney-A	1.5"	11.96		18.00	Cudney's Cleaners (guage only)

Camp Dresser & McKee

CDM

Sheet: 1 of 1

Monitoring Well: MW-6

Client: NYSDEC
Project Name: Site Characterization at Sharon Cleaners
Project Location: Saratoga Springs, New York
Site Number: 5-46-052

Drilling Contractor/Driller: Aztech Technologies
Drilling Method/Casing/Core Barrel Size: Hollow Stem Auger 4.25 inch ID
Hammer Weight/Drop Height/ Spoon Size: Macro-Core Sampler
Well Location: Gurtler Lane Alleyway Southwest of Cleaners
Logged by: Matthew Millias
Drilling Date: 09/05/06

TOC Elevation (ft): 316.89
Total Depth of Well (ft): 23
Depth to Initial Water Level (ft): ~15
Well Type: 2 inch PVC; flushmount cover

Elev. Depth (ft.)	P&ID Reading (ppm)	Sample Recovery (in)	Graphic Boring Log	Material Description	Well/Vapor Point Log	Well Description
0	0.5	12		Graded sand to cobbles with sand.		Bentonite to top.
5	0.6	18		Graded sand to black sand with cobbles.		
10	0.6	18		Well graded sand.		Sand layer.
15	0.2	18		Wet saturated sand.		Well screen.
20	0.1	18		Super saturated wet sand.		

Sand
Bentonite
Well Screen
Sand/Cobbles
Mix - See description

Camp Dresser & McKee

CDM

Sheet: 1 of 1

Monitoring Well: MW-7

Client: NYSDEC
Project Name: Site Characterization at Sharon Cleaners
Project Location: Saratoga Springs, New York
Site Number: 5-46-052

Drilling Contractor/Driller: Aztech Technologies
Drilling Method/Casing/Core Barrel Size: Hollow Stem Auger 4.25 inch ID
Hammer Weight/Drop Height/ Spoon Size: Macro-Core Sampler
Well Location: South of Dry Cleaners Building
Logged by: Tim Beaumont
Drilling Date: 09/07/06

TOC Elevation (ft): 318.25
Total Depth (ft): 24
Depth to Initial Water Level (ft): ~ 15
Well Type: 2 inch PVC; flushmount cover

Elev. Depth (ft.)	Sample Type	Sample Number	Sample Length (in)	P&ID Reading (ppm)	Sample Recovery (in)	Graphic Boring Log	Material Description	Well/Vapor Point Log	Well Description
0				0	12		Light brown medium sand, some blacktop and some gravel.		Bentonite to top.
5				0	12		Light brown medium sand.		
10				0	18		Light brown medium course sand.		Sand layer.
15				0.3	18		Light brown medium course sand.		Well screen.
20				0.1	6		Light brown course sand.		
25									

Sample Types
AS - Auger/Grab Sample
SS - Split Spoon

Sand
Bentonite
Well Screen
Sand/Cobbles
Mix - See description

Camp Dresser & McKee

CDM

Sheet: 1 of 1

Monitoring Well: MW-8

Client: NYSDEC
Project Name: Site Characterization at Sharon Cleaners
Project Location: Saratoga Springs, New York
Site Number: 5-46-052

Drilling Contractor/Driller: Aztech Technologies
Drilling Method/Casing/Core Barrel Size: Hollow Stem Auger 4.25 inch ID
Hammer Weight/Drop Height/ Spoon Size: Macro-Core Sampler
Well Location: Gurtler Lane Alleyway near Lincoln Avenue (AJ's driveway)
Logged by: Matthew Millias
Drilling Date: 09/05/06

TOC Elevation (ft): 315.55
Total Depth (ft): 23
Depth to Initial Water Level (ft): ~ 14
Well Type: 2 inch PVC; flushmount cover

Elev. Depth (ft.)	P&ID Reading (ppm)	Sample Recovery (in)	Graphic Boring Log	Material Description	Well/Vapor Point Log	Well Description
0	0.1	NA		Sand.		Bentonite to top.
5	0.1	NA		Medium sand.		
10	0.2	12		Medium sand.		Sand layer.
15	0.2	12		Sand.		Well screen.
20	0.3	30		Course Sand.		
25	0.2	36		Medium sand.		

Sand		Sand/Cobbles	
Bentonite		Mix - See description	
Well Screen	NA	Not Available	

Camp Dresser & McKee

CDM

Sheet: 1 of 1

Monitoring Well: MW-9

Client: NYSDEC
Project Name: Site Characterization at Sharon Cleaners
Project Location: Saratoga Springs, New York
Site Number: 5-46-052

Drilling Contractor/Driller: Aztech Technologies
Drilling Method/Casing/Core Barrel Size: Hollow Stem Auger 4.25 inch ID
Hammer Weight/Drop Height/ Spoon Size: Macro-Core Sampler
Well Location: On Greenridge Place east of the building.
Logged by: Tim Beaumont
Drilling Date: 09/06/06

TOC Elevation (ft): 315.15
Total Depth (ft): 23
Depth to Initial Water Level (ft): 15
Well Type: 2 inch PVC; flushmount cover

Elev. Depth (ft.)	P&ID Reading (ppm)	Sample Recovery (in)	Material Description	Well/Vapor Point Log	Well Description
0	0	24	Light brown medium sand.		Bentonite to top.
5	0.2	18	Light brown medium sand.		
10	3.1	18	Light brown medium-course sand.		18" sand.
15	1.1	36	Wet light brown course sand.		Well Screen.
20	0	36	Wet light brown course sand.		
25					

Sand
Bentonite
Well Screen
Sand/Cobbles
Mix - See description

Camp Dresser & McKee

CDM

Sheet: 1 of 1

Monitoring Well: MW-10

Client: NYSDEC
Project Name: Site Characterization at Sharon Cleaners
Project Location: Saratoga Springs, New York
Site Number: 5-46-052

Drilling Contractor/Driller: Aztech Technologies
Drilling Method/Casing/Core Barrel Size: Hollow Stem Auger 4.25 inch ID
Hammer Weight/Drop Height/ Spoon Size: Macro-Core Sampler
Well Location: Library parking lot off of Whitney Place.
Logged by: Tim Beaumont
Drilling Date: 09/07/06

TOC Elevation (ft): 309.93
Total Depth (ft):
Depth to Initial Water Level (ft):
Well Type: 2 inch PVC; flushmount cover

Elev. Depth (ft.)	P&ID Reading (ppm)	Sample Recovery (in)	Graphic Boring Log	Material Description	Well/Vapor Point Log	Well Description
0	0.1	12		Light brown sand.		Bentonite to top.
5	0.1	24		Light brown medium sand.		
10	0.1	18		Light brown medium sand.		Sand layer.
15	0.1	36		Wet light brown medium sand.		Well Screen.
20						
25						

Sand
Bentonite
Well Screen
Sand/Cobbles
Mix - See description

Camp Dresser & McKee

Sheet: 1 of 1

CDM

Monitoring Well: MW-11

Project Name: Remedial Investigation at Sharon Cleaners
Project Location: Saratoga Springs, New York

Client: NYSDEC
Site Number: 5-46-052

Drilling Contractor: Aztech Technologies
Drilling Method: Geoprobe
Well Location Description: Circular Lane
Logged by: Monica Blount
Drilling Date: 5/5/2008

Top TOC Elev: 313.09
Total Depth: 19.88 ft
Air Knife Depth: Approximately 5 feet
Depth to Initial Water Level: 11.94
Well Type: Flushmount

Elev. Depth (ft.)	Well Description	Well Construction	Graphic Boring Log	Material Description
0	Granular Bentonite			Dark Brown Topsoil
				Light Brown Sand & Topsoil
5				Light Brown Sand
	2' Sand			
10	10' SS. Screen			Light Brown Fine Sand
				Fine Brown Sand
15				Coarse Sand
				Coarse Granular Sand
20				
25				

Legend

- Sand
- Bentonite
- Well Screen
- Topsoil
- Mix - See description
- Rocks/Gravel

Monitoring Well: MW-11

Appendix E

FIGURE 3

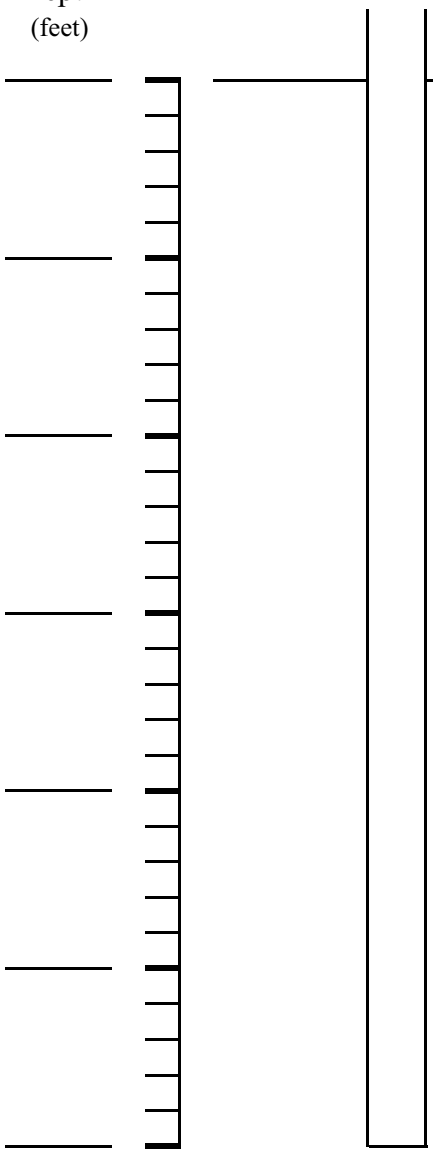
WELL DECOMMISSIONING RECORD

Site Name:	Well I.D.:
Site Location:	Driller:
Drilling Co.:	Inspector:
	Date:

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	
CASING PULLING	
Method employed	
Casing retrieved (feet)	
Casing type/dia. (in)	
CASING PERFORATING	
Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	
GROUTING	
Interval grouted (FBLS)	
# of batches prepared	
For each batch record:	
Quantity of water used (gal.)	
Quantity of cement used (lbs.)	
Cement type	
Quantity of bentonite used (lbs.)	
Quantity of calcium chloride used (lbs.)	
Volume of grout prepared (gal.)	
Volume of grout used (gal.)	

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

Appendix F

Import Sys Data

Maintenance Request Form

☐ Check box if new sys info

System Information

System ID: _____ Tracking ID: _____

Owner Name: _____ Site No: _____

System Address: _____ Site Name: _____

City: _____ Zip: _____

Telephone: _____ Date Installed: _____

Alt. Telephone: _____ Last Inspection: _____

Maintenance Request

Requester: _____ ○ Owner ○ Tenant ◉ Other

Telephone: _____ Date of Request: _____

Problem type (check all that apply): ☐ Fan noise ☐ Vibration ☐ Condensate ☐ Manometer ☐ Other

Stated Problem:

Investigation

Performed By: _____ Company: _____

Date: _____

Findings:

Proposed Actions:

Are proposed actions estimated to cost more than $500 (est.)? ○ Yes ◉ No

Repairs

Performed By: _____ Company: _____

Date: _____

Actions Taken:

Materials:

Was all work performed in accordance with current protocols? ○ Yes ○ No

Deviations/Comments:

Was redline drawing made or as-built updated?	○ Yes ○ No
Was the action reviewed with the owner or tenant?	○ Yes ○ No
Was the area left in the manner it was found?	○ Yes ○ No
Was the system performance altered?	○ Yes ○ No
Re-commissioning activities completed?	○ Yes ○ No

Supervisor Review

Supervisor: _____ Date: _____

Forms completed fully?	○ Yes ○ No ○ N/A
Drawings updated as needed?	○ Yes ○ No ○ N/A
Documentation printed and filed?	○ Yes ○ No ○ N/A
Completed letter sent?	○ Yes ○ No ○ N/A
All required activities completed and request closed?	○ Yes ○ No ○ N/A

Actual costs ($): _____ Actual hours: _____

Appendix G

Export Data

Periodic Operations Visit Form

Import Sys Data

☐ Check box if new sys info

System ID: _____ Date of Visit: _____

Owner Name: _____ Date Installed: _____

System Address: _____ Telephone: _____

City: _____ Zip: _____ Alt. Telephone: _____

Performed By: _____ Site No: _____

Company: _____ Site Name: _____

EXTERIOR

Fan Operation Confirmation

	Fan #1	Fan #2	Fan #3
Fan Model No(s).	_____	_____	_____
Is Fan Operating (arrival)?	○ Yes ○ No	○ Yes ○ No	○ Yes ○ No
Confirmation Method	☐	☐	☐
Is Fan Operating (departure)?	○ Yes ○ No	○ Yes ○ No	○ Yes ○ No

Requested to inspect interior system components? ○ Yes ○ No

If yes, when and by whom? _____ Date: _____

INTERIOR

Structural Review

			Notes
Change in building footprint since last inspection?	○ Yes	○ No	_____
Basement occupied (>4 hrs per day)?	○ Yes	○ No	_____
Heating/ventilation system modifications?	○ Yes	○ No	_____
Crawlspace inspected?	○ Yes	○ No	_____
Large cracks in floor or near sumps?	○ Yes	○ No	_____
Wall penetrations or cracks noted?	○ Yes	○ No	_____

Piping, Slab & Wall

Are system suction points sealed?	○ Yes	○ No	_____
Is piping system in need of repair?	○ Yes	○ No	_____

Miscellaneous

Are manometer levels equal?	○ Yes	○ No	_____
Are system labels accurate and applied correctly?	○ Yes	○ No	_____

Maintenance completed (check all that apply): ☐ Replace fan ☐ Seal pipe ☐ Electrical ☐ Other

Describe repairs made and any proposed actions requiring a subsequent visit (if necessary):

Print Form

Submit by Email

Appendix H

Site-Wide Inspection List
Sharon Cleaners Site
48 Lincoln Avenue, Saratoga Springs, NY

Date of Inspection: _____

Inspection by: _____

Site-wide inspections will be performed to assess the following:

1. Reason for inspection? _____

2. Is the Site Management Plan present at the site? _____

3. Verify owner contact information for the site? _____

_____

4. Is the site occupied and if so used for? _____

_____

5. Has the building footprint changed? _____

6. Is the on-site vapor mitigation system working as designed? _____

_____

_____

7. Are the two off-site vapor mitigation systems working as designed? _____

_____

_____

_____

8. Is a potable well present on site? _____

9. Condition of monitoring wells? _____

10. Any sampling or testing performed? _____

_____

_____

_____

11. Provide any details regarding site conditions and attach photographs as needed. _____

_____

_____

_____

_____

_____

_____

_____