Carmel Shop-Rite Center

PUTNAM COUNTY, NEW YORK

Site Management Plan

NYSDEC Site Number: V00104

Prepared for:
Urstadt Biddle Properties Inc.
321 Railroad Avenue
Greenwich, CT 06830

Prepared by:
VERTEX Environmental Services Inc.
400 Libbey Parkway
Weymouth, Massachusetts 02189
781-952-6000

Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

I, Jessica Fox, P.E., certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this SMP was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Jessica L. Fox, P.E.
Professional Engineer
Massachusetts Registration No. 46520
Date: 2/28/2012

FEBRUARY 2012

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1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 INTRODUCTION

This document is required as an element of the remedial program at Carmel Shop-Rite Center (hereinafter referred to as the "Site") under the New York State (NYS) Voluntary Cleanup Program (VCP) administered by New York State Department of Environmental Conservation (NYSDEC). The site was remediated in accordance with Voluntary Cleanup Agreement (VCA) # D3-0001-97-04, Site # V00104, which was executed on March 31, 1998.

1.1.1 General

MIF Realty, L.P. entered into a VCA with the NYSDEC to investigate a 19-acre acre property located in Carmel, Putman County, New York. This VCA required the Remedial Party, MIF Realty, L.P., to investigate contaminated media at the site. A figure showing the site location and boundaries of this 19-acre "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 deed restriction (Appendix E).

After completion of the remedial work described in the Remedial Action Work Plan, 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 deed restriction 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 VERTEX Environmental Services Inc., on behalf of Urstadt Biddle Properties Inc., in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation and the guidelines provided

by NYSDEC. This SMP addresses the means for implementing the Institutional Controls (ICs) and Engineering Controls (ECs) that are required by the deed restriction 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. A deed restriction granted to the NYSDEC, and recorded with the Putnam County Clerk, will require 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 deed restriction 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 deed restriction 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 treatment, collection, containment, or recovery systems; (4) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports; and (5) defining criteria for termination of treatment system operations.

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 remedial collection, containment, treatment, and recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual for complex 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 deed restriction. Failure to properly implement the SMP is a violation of the deed restriction;
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the VCA (Index #D3-0001-97-04; Site #V00104) for the site, and thereby subject to applicable penalties.

1.1.3 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. In accordance with the deed restriction for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.2 SITE BACKGROUND

1.2.1 Site Location and Description

The site is located in Carmel, County of Putnam, New York and is identified as Tax Map Number 44.9-1-9 on the Putnam County Tax Map. The site is an approximately 19-acre area bounded by undeveloped wooded land to the north, south, and east, and Route 52 (Gleneida Avenue) to the west (see Figure 1). The boundaries of the site are more fully described in Appendix E—Site Survey Plan and Metes and Bounds.

1.2.2 Site History

The site was owned by the Nichols family and utilized as agricultural land from approximately 1931 until 1982. Big V Properties, Inc. or Shop Rite Grocery Stores bought the property from the Nichols family in 1982 and initiated construction activities for the Shop-Rite Center which was completed in 1983. Urstadt Biddle Properties Inc. of Greenwich Connecticut, the current owner of the site, purchased the property from MIF Realty in October 1995.

Construction for the original one-story Carmel Shop-Rite Center building was completed in 1983. An additional one-story building formerly occupied by the Jamesway Department Store was constructed in 1985. A third one-story building, currently

occupied by Hudson City Savings Bank, was constructed in 1987. The remainder of the site consists of asphalt paved parking areas.

Lauren's Dry Cleaner and A&A Cleaners (both in the location of the current Sunscape Tan tenant space) are noted as historic tenants of concern in the shopping center and their historic operation resulted in tetrachloroethylene (PCE) contamination at the site.

1.2.3 Geologic Conditions

The site is located on the United States Geological Survey (USGS) 7.5-minute series of Lake Carmel, New York topographic quadrangle, 1989 (Figure 1). Site topography slopes to the south from approximately 580 to 550 feet above mean sea level. Several on-site catch basins collect surface water runoff that discharges to a low-lying earthen detention basin to the south of the site. An intermittent stream flows southeast from this drainage system to a small wetland area to the south of the site. According to the Town of Carmel, potable water is supplied to the site from Lake Gleneida, which is located approximately 3,500-feet south-southwest of the site at an elevation of 505-feet above mean sea level.

A record of selected wells in Putnam County was reviewed to determine subsurface geological conditions in the vicinity of the site. According to the drilling log of a well located approximately ¼-mile north of the site, subsurface geology consists of at least 18-feet of a well-cemented till overlying a two foot layer of coarse sand. Bedrock was encountered at a depth of 20-feet below ground surface. The first water bearing zone was encountered at a depth of approximately 87-feet below grade, yielding a flow of eight gallons per minute (gpm). A main water-bearing zone was encountered at a depth of 122-feet below grade, yielding a flow of 20-gpm. The static water level in the well was at a depth of 15-feet below grade.

In general, most of the Putnam County area is underlain by a northeast-trending mass of undifferentiated gneiss and granite bedrock formation. The highly folded gneiss and granite are more resistant to weathering and are therefore more prominent in the rugged topography at higher elevations. All of the bedrock formations in the area are fractured from differential faulting. The permeability of most of the bedrock formations is controlled directly or indirectly by joints and other secondary openings. The bedrock is overlain by till consisting of a heterogeneous mixture of clay and silt along with rock fragments up to the size of boulders (several feet in diameter). In a few areas where streams emptying in the lakes formed deltas, the layer of clay and silt are interbedded

with layers of sand and gravel. Because of the relatively low permeability of the till, the movement of groundwater is extremely slow. The water table in these deposits remains relatively close to the land surface because of slow drainage.

Based on visual classification of soil samples collected from soil borings advanced at the site, subsurface soils across the site consist of brown, fine to coarse sand and gravel with some larger cobbles. Hand auger refusal due to cobbles (greater than four inches in diameter) was encountered at approximately 0.6-feet to 0.8-feet beneath the concrete slab floor of the drycleaner tenant space. Bedrock was encountered at depths ranging from two to three and a half feet below grade beneath the concrete slab floor of the drycleaner. Bedrock was encountered at depths ranging from two to four and a half feet below grade to the east and east-northeast of the drycleaner tenant space. Bedrock appears to slope to the southeast along the eastern portion of the site where bedrock was encountered at depths ranging from five to 10 feet below grade. Based on information from soil borings SB-12, SB-13 and SB-14, bedrock also apparently slopes to the west-southwest along the western portion of the site. Geologic sections are shown as Figures 4a through 4b.

VERTEX contracted Badey & Watson Surveying and Engineering, P.C. (B&W) to locate the monitoring wells at the site. The results of B&W's survey data were compared to groundwater gauging data collected by VERTEX on May 8, 2001 and February 28, 2002 in order to determine groundwater flow direction across the site. Groundwater flow was determined to be in a southeasterly direction across the site**.** Depth to overburden groundwater ranges from 7 to 15 feet below grade at the site. Overburden and bedrock groundwater flow figures are shown as Figures 5a and 5b, respectively.

1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS

A Remedial Investigation (RI) was performed to characterize the nature and extent of contamination at the site. The results of the RI are described in detail in the following reports:

- *Site Investigation Summary & Remedial Action Plan* prepared by Vertex Environmental Services, Inc. on May 24, 2002.
- *Remedial Investigation/Feasibility Study & Remedial Action Report* prepared by Vertex Environmental Services, Inc. on February 23, 2004.

Generally, the RI determined that PCE impacted soil and sediment was present in the storm water drainage system, soils, and surface water in the vicinity of the catch basin to the east of a dry cleaning facility (formerly Lauren's Dry Cleaning) located at the site. Impacted soil and groundwater (perched/bedrock) was also identified beneath and downgradient (i.e., to the east and south) of the former Lauren's Dry Cleaning facility.

Below is a summary of site conditions when the RI was performed in 2004:

Soil

Results from subsurface investigations conducted between 1994 and 2002 indicated a "source area" of approximately eight feet by 12 feet, to a depth of approximately three to four feet below grade, beneath the concrete slab in the storage area of the drycleaner with PCE concentrations above the applicable TAGM Soil Cleanup Objective of 1,400-ug/kg. The concentration of PCE detected in the soil ranged up to 3,300-ug/kg (SB-16). PCE was detected in the soil at concentrations below the TAGM Soil Cleanup Objective in a random pattern over an area which includes soil boring SB-03, approximately 35 feet to the east of the drycleaner, soil boring SB-L-2, approximately eight feet to the south of the drycleaner tenant space, and soil boring SB-22, approximately 15 feet to the west of the drycleaner. The concentration of PCE detected in the soil outside the "source area" typically ranged from 3-ug/kg up to 580-ug/kg. Soil sample locations are shown on Figure 2. Historic soil analytical results are shown in Tables 1a and 1b. The laboratory reports were previously submitted to NYSDEC under separate cover.

Site-Related Groundwater

A total of 10 rounds of groundwater samples were collected from the monitoring wells between August 1999 and November 2002. PCE impacted groundwater, resulting from the historic use and disposal of dry cleaning materials, had been confirmed at the site. Historically, PCE had been detected at concentrations which exceeded the applicable NYSDEC Groundwater Quality Criteria of 5-ug/l in overburden monitoring wells GW-01, GW-02, GW-07, GW-08, and GW-09 and in bedrock monitoring wells GW-04B, GW-05B, GW-06B, and GW-11B. This includes a horizontal extent of approximately 200,000 square feet, delineated by monitoring wells GW-01, GW-04B, and GW-05B in a northerly direction, and monitoring wells GW-07, GW-09, and GW-11B in a southerly direction. The vertical extent of PCE impacted groundwater in the

bedrock appeared to extend to a depth of approximately 100 feet below grade (GW-11B). PCE was not detected in groundwater samples collected from the overburden (GW-12) and bedrock (GW-13B) monitoring wells located upgradient and to the north of the release area.

The highest concentrations of PCE were detected in the groundwater samples collected from bedrock groundwater monitoring wells GW-04B and GW-06B, which are located approximately 100 to 150 feet downgradient to the southeast and southwest of the drycleaner. PCE was detected at maximum concentrations of 1,000-ug/l in the groundwater sample collected from monitoring well GW-04B on July 11, 2001, and 600-ug/l in the groundwater sample collected from monitoring well GW-06B on October 18, 2001.

Groundwater monitoring well locations are shown on Figure2. Historic groundwater analytical results are shown in Tables 2a and 2b. The laboratory reports were previously submitted to NYSDEC under separate cover.

Site-Related Soil Vapor Intrusion

VERTEX performed indoor air sampling at the site several times. The most recent sampling was performed on March 5, 2003. The results of laboratory testing of the samples confirmed that concentrations of PCE were far below the applicable New York State Department of Health (NYSDOH) guideline of 100-µg/m3 (Table 3).

On October 19, 2004, VERTEX performed a sub-slab soil gas sampling event in accordance with the September 21, 2004 Work Plan previously submitted and approved by the NYSDEC and NYSDOH. The sampling involved the installation and collection of soil gas from six discrete locations beneath the slab of the shopping mall, as shown on Figure 6.

The sampling results are summarized below. The laboratory reports were previously submitted to NYSDEC under separate cover.

	Analyte	
	Trichloroethene (TCE)	**Tetrachloroethene (PCE)**
Sample Designation/Location	**ug/m^3**	**ug/m^3**
SG-1 (Tony's Fine Wines & Sprits - Rear Storage Area)	24.8	7,490
SG-2 (Tony's Fine Wines & Spirits - Entrance)	ND (2.7)	379
SG-3 (Express Communications – Center of Showroom)	ND (2.7)	15.8
SG-4 (Redendo' s Pizza - Rear Kitchen)	ND (2.7)	341
SG-5 (Redendo's Pizza - Front Kitchen)	ND (2.7)	18.2

Sample Designation/Location	Analyte	
	Trichloroethene (TCE)	Tetrachloroethene (PCE)
	ug/m^3	ug/m^3
SG-6 (Chinatown Restaurant - Behind Service Counter)	276	6,170

Notes:

1. ND indicates Not Detected. Detection limits are indicated in ( ).

In general, the sub-slab soil gas sampling results confirmed the conceptual model of the site. As indicated in previous reports, soil sampling results indicated that residual impacted soil might remain beneath the footings of the former dry cleaning space and the adjacent Tony's Fine Wines tenant space, though likely below TAGM standards. The soil gas results demonstrate that the highest PCE concentrations in the soil gas are present immediately beneath the former dry cleaning space and the nearby tenant spaces including tenant spaces to the south, Tony's Fine Wine & Spirits and Chinatown Restaurant, and to a lesser extent, the eastern portion of Redendo's Pizza to the north. It should be noted that the soil gas concentrations decrease markedly within several tenant spaces of the former dry cleaner (i.e., sample SG-5 obtained from the western portion of Redendo's Pizza and sample SG-3 obtained from the most southerly tenant space Express Communications).

1.4 SUMMARY OF REMEDIAL ACTIONS

Prior to the RI/FS submitted in May 2004, remedial actions were conducted in accordance with the NYSDEC-approved Remedial Action Work Plan dated May 24, 2002.

- Excavation of impacted PCE soil; and,
- Installation of an SVE system to remediate the remaining PCE impacted soil.

For additional information on the excavation activities and SVE system, please see the 2004 RI/FS report.

Since the RI/FS, the site was further remediated in accordance with the NYSDEC-approved Work Plan, dated December 2006.

1. Installation of a sub-slab depressurization system (SSDS);

2. Development and implementation of a Site Management Plan for long term management of remaining contamination as required by the deed restriction, which includes plans for: (1) Institutional and Engineering Controls, (2) Monitoring, (3) Operation and Maintenance and (4) Reporting; and,

3. Execution and recording of a Deed Restriction to restrict land use and prevent future exposure to any contamination remaining at the site.

Remedial activities were completed at the site in March 2010.

1.4.1 Removal of Contaminated Materials from the Site

McLaren/Hart performed an initial remedial action at the site from January through May 1995. These activities included the excavation and removal of 36 tons of PCE impacted soil from the catch basin to the east of the dry cleaner tenant space. Results of confirmatory soil sampling following excavation activities identified PCE at concentrations below applicable TAGM Soil Cleanup Objectives.

VERTEX performed additional remedial actions at the site in October 2001. These included the excavation of the "source area" identified during RI activities in February 2001. The excavation activities included the removal of impacted soil identified in soil borings SB-15, SB-16, SB-18, and SB-19. Between October 15 and October 22, 2001, an approximate eight-foot by five-foot section of concrete flooring in the storage area was saw cut, removed, and disposed of off-site. Approximately 13.66 tons of PCE impacted soil was subsequently excavated from beneath the concrete for off-site disposal.

A list of the soil cleanup objectives (SCOs) for the primary contaminants of concern (COCs) and applicable land use for this site is provided in Table 1c.

A figure showing areas where excavation was performed is shown in Figure 3.

1.4.2 Site-Related Treatment Systems

Between March 23 and 26, 2010, VERTEX oversaw the installation of a Sub-Slab Depressurization System (SSDS) at the site by licensed radon subcontractor Connecticut Basement Systems Radon. The purpose of the SSDS is to prevent potential residual concentrations of PCE beneath the concrete slab of the tenant spaces adjacent to the

former dry cleaner space from impacting indoor air. The SSD system locations are shown on Figure 7. See Section 2.2 for further information.

1.4.3 Remaining Contamination

Confirmatory soil sampling following the 2001 excavation activities revealed residual concentrations of PCE ranging from 7-ug/kg to 45-ug/kg beneath the concrete slab of the storage area. However, a confirmatory soil sample collected from the southern sidewall of the excavation (SW-4), beneath the concrete slab of the adjacent Tony's Fine Wines & Spirits tenant space, revealed PCE at a concentration of 7,500-ug/kg. A summary of the confirmatory soil sampling analytical results is provided in Table 1c. The locations of the confirmatory soil samples are shown on Figure 3.

As stated in the 2004 RI/FS, an SVE system was installed in the excavation area to remediate the PCE impacted soil remaining beneath the building in the vicinity of SW-4. The results of monitoring the SVE system indicate that remaining impacted soil has been remediated. However, as a conservative measure, this SMP includes provisions for soil management (Appendix A), health and safety (Appendix B), and other management procedures related to the potential presence of remaining PCE soil contamination beneath the subject tenant spaces.

2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

2.1 INTRODUCTION

2.1.1 General

Since remaining contaminated soil, 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. Some EC/ICs are applicable to the entire site; others are applicable only to that portion of the site impacted by, or adjacent to, historical releases (the "Soil Management Area") shown on the Site Survey Plan (Appendix E) and more particularly described in Appendix F. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

2.1.2 Purpose

This plan provides:

- A description of all EC/ICs on the site;
- The basic implementation and intended role of each EC/IC;
- A description of the key components of the ICs set forth in the deed restriction;
- A description of the features to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Excavation Work Plan for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site; and

- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the site remedy, as determined by the NYSDEC.

2.2 ENGINEERING CONTROLS

2.2.1 Engineering Control Systems

2.2.1.1 Sub-Slab Depressurization System

In total, four SSD systems were installed in three tenant spaces, as summarized in the following table. In addition, a more powerful fan was attached to the existing trench SVE system along the north wall of the former dry cleaner tenant space.

Tenant Space	Number of Suction Points	Radon-Away Fan Type
Redendo's Pizza	3	HP-5000
Jina's Nail Salon	3	HP-5000
Sunscape Tan	Trench (existing)	RP-265
Chinatown Restaurant (2 systems)	3	HP-5000
	3	HP-5000

An as-built sketch of the system is included as Figure 7.

For the systems with suction points, each suction point was drilled as a 3" diameter hole into the concrete slab. Once the suction point was drilled, an approximately 1 foot deep, 1 foot diameter cylindrical space was cleared beneath the concrete slab at each location. The suction points are connected to 3" PVC riser pipe that extended vertically to the ceiling at each location and joined to a single horizontal 3" PVC pipe above the ceiling that connected the points to the fan. The spaces surrounding the suction point piping at the concrete slab were filled with foam and caulked to maintain a pressure seal. Please note that each of the risers has been covered with sheetrock, metal plating, or paint to match the interior decorations of the tenant spaces.

For the trench SSDS at Sunscape Tan, a network of horizontal 6" diameter perforated pipes is installed beneath the floor.

The only active components of the systems are the five fans mounted on the exterior rear walls of the subject tenant spaces. Each fan, as indicated in the above table, is installed on the exterior rear wall of the building, with the exhaust pipe extending a minimum of 12 inches above the height of the roof and at least 20 feet from the nearest air intake. The HP-5000 fans are also equipped with mufflers to mitigate noise. Each riser pipe is fitted with a sticker warning that it is associated with an active SSDS. The manufacturer's specifications, including operation and maintenance manuals are provided in Appendix C.

Procedures for operating and maintaining the SSD system are documented in the Operation and Maintenance Plan (Section 3 of this SMP).

2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.6 of NYSDEC DER-10.

2.2.2.1 Sub-slab Depressurization System (SSDS)

The active SSD system will not be discontinued unless prior written approval is granted by the NYSDEC. In the event that monitoring data indicates that the SSD system is no longer required, a proposal to discontinue the SSD system will be submitted by the property owner to the NYSDEC and NYSDOH.

2.3 INSTITUTIONAL CONTROLS

A series of Institutional Controls is required by the Decision Document to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the site to commercial and/or industrial uses only. Adherence to these Institutional Controls on the site is required by

the Deed Restriction and will be implemented under this Site Management Plan. These Institutional Controls are:

Compliance with the Deed Restriction and this SMP by the Grantor and the Grantor's successors and assigns;

- All Engineering Controls must be operated and maintained as specified in this SMP;All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP;;

Data and information pertinent to the Site Management of the Controlled Property must be reported at the frequency and in a manned defined in this SMP.

Institutional Controls identified in the Deed Restriction may not be discontinued without an amendment to or extinguishment of the Deed Restriction.

The site has a series of Institutional Controls in the form of site restrictions. Adherence to these Institutional Controls is required by the Deed Restriction. Site restrictions that apply to the Controlled Property are:

- The property may only be used for commercial and industrial use provided that the long-term Engineering and Institutional Controls included in this SMP are employed;
- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- The use of the groundwater underlying the property is prohibited without treatment rendering it safe for intended use;
- The potential for vapor intrusion must be evaluated for any buildings constructed over areas that potentially contain remaining contamination, and any potential impacts that are identified must be monitored or mitigated;
- Vegetable gardens and farming on the property are prohibited;
- 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 expert that the NYSDEC finds acceptable.

2.3.1 Excavation Work Plan

The site has been remediated for restricted commercial and/or industrial use. Any future intrusive work that will penetrate beneath the building in the Soil Management Area will be performed in compliance with the Excavation Work Plan (EWP) that is attached as Appendix A to this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the site. A sample HASP is attached as Appendix B to this SMP that is in current compliance with DER-10, and 29 CFR 1910, 29 CFR 1926, and all other applicable federal, state and local regulations. Based on future changes to state and federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section A-1 of the EWP. Any intrusive construction work will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (See Section 4).

The site owner and associated parties preparing the remedial documents submitted to the state, and parties performing this work, are completely responsible for the safe performance of all intrusive work, the structural integrity of excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for structures that may be affected by excavations (such as building foundations and bridge footings). The site owner will ensure that site development activities will not interfere with, or otherwise impair or compromise, the engineering controls described in this SMP.

2.3.2 Soil Vapor Intrusion Evaluation

The SSD Systems for vapor mitigation has been installed in the site building in the vicinity of remaining contamination (see Section 2.2). If the site building is

demolished in the future, any future enclosed structures to be constructed over areas that potentially contain remaining contamination and the potential for soil vapor intrusion (SVI) has been identified, an SVI evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure prior to construction. Alternatively, an SVI mitigation system may be installed as an element of the building foundation without first conducting an investigation. This mitigation system will include a vapor barrier and passive sub-slab depressurization system that is capable of being converted to an active system.

Prior to conducting an SVI investigation or installing a mitigation system, a work plan will be developed and submitted to the NYSDEC and NYSDOH for approval. This work plan will be developed in accordance with the most recent NYSDOH "Guidance for Evaluating Vapor Intrusion in the State of New York". Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and maintained based on the SVI evaluation, the NYSDOH guidance, and construction details of the proposed structure.

Preliminary (unvalidated) SVI sampling data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such as mitigation. If any indoor air test results exceed NYSDOH guidelines, relevant NYSDOH fact sheets will be provided to all tenants and occupants of the property within 15 days of receipt of validated data.

SVI sampling results, evaluations, and follow-up actions will also be summarized in the next Periodic Review Report.

2.4 INSPECTIONS AND NOTIFICATIONS

2.4.1 Inspections

Inspections of all remedial components installed at the site will be conducted at the frequency specified in the SMP Monitoring Plan schedule. A comprehensive site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether Engineering Controls continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the deed restriction;
- If site records are complete and up to date; and
- Changes, or needed changes, to the remedial or monitoring system;

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements are outlined in the Periodic Review Reporting section of this plan (Section 4).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the EC/ICs implemented at the site by a qualified environmental professional as determined by NYSDEC.

2.4.2 Notifications

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

- 60-day advance notice of any proposed changes in site use that are required under the terms of the Voluntary Cleanup Agreement (VCA), 6NYCRR Part 375, and/or Environmental Conservation Law.
- 7-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundations structures that reduces or has the potential to reduce the effectiveness of other Engineering Controls and likewise any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45

days and shall describe and document actions taken to restore the effectiveness of the ECs.

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 Voluntary Cleanup Agreement (VCA), and 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

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

2.5.1 Emergency Telephone Numbers

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 VERTEX Environmental Services, Inc. These emergency contact lists must be maintained in an easily accessible location at the site.

Emergency Contact Numbers

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

Contact Numbers

Urstadt Biddle Properties Inc. (Site Owner)	(203) 863-8200 (Counsel and Director of Management)
VERTEX Environmental Services, Inc. (Qualified Environmental Professional)	(781) 952-6000

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

2.5.2 Map and Directions to Nearest Health Facility

Site Location: 180 Gleneida Avenue, Carmel, NY

Nearest Hospital Name: Putnam Hospital Center

Hospital Location: 670 Stoneleigh Avenue, Carmel, NY

Hospital Telephone: (845) 279-5711

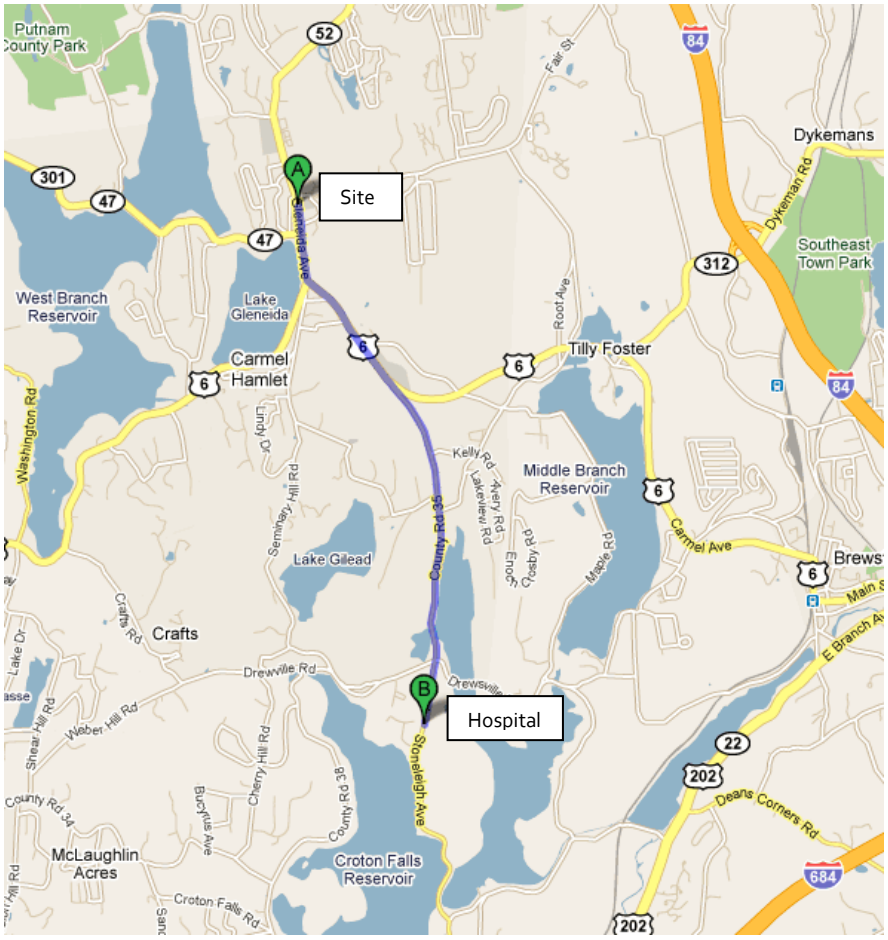
Directions to the Hospital:

1. Head south on Gleneida Ave toward County Rd 60/Fair Street for 0.5 miles
2. Slight left at Brewster Ave/County Rd 35
3. Continue to follow County Rd 35 for 0.8 miles
4. Slight right at County Rd 35/Stoneleigh Ave
5. Hospital will be on the left after 2.1 miles

Total Distance: 3.4 miles

Total Estimated Time: 6 minutes

Map Showing Route from the site to the Hospital:



2.5.3 Response Procedures

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan (Section 2.5.1). The list will also be posted prominently at the site and made readily available to all personnel at all times.

3.0 OPERATION AND MAINTENANCE PLAN

3.1 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. This Operation and Maintenance Plan:

- Includes the steps necessary to allow individuals unfamiliar with the site to operate and maintain the SSD system;
- Includes an operation and maintenance contingency plan; and,
- Will be updated periodically to reflect changes in site conditions or the manner in which the SSD system are operated and maintained.

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.

3.2 ENGINEERING CONTROL OPERATION AND MAINTENANCE

3.2.1 Sub-Slab Depressurization System (SSDS)

3.2.1.1 Scope

Five fans are mounted on the exterior rear walls of the subject tenant spaces. The SSDSs at the site use one of the following two fans:

- Model RP-265 – manufactured by Radon-Away of Ward Hill, MA
- Model HP-5000 – manufactured by Radon-Away of Ward Hill, MA

The SSDSs installed at the Site are designed to run continuously. No active interactions are necessary to maintain the system operation. However, periodic system inspections are recommended to ensure that the systems continue to operate as designed. In addition, non-routine maintenance may be necessary in case of system damage or other unexpected events. In accordance with the NYSDOH Soil Vapor Intrusion Guidance,

routine system maintenance should be performed within 18 months of system installation, or by September 2012, and then every 12-18 months thereafter. Routine maintenance activities will be performed by a qualified environmental professional and are described in the following sections. In addition to scheduled routine maintenance, the building owner and all current and future tenant space occupants will be trained on how to check the system to ensure proper operation, as described in the following sections as well.

3.2.1.2 System Start-Up and Testing

The SSD systems were installed in accordance with the approved October 16, 2006 Work Plan and are operating as designed. Following system installation, VERTEX field verified that a pressure differential existed below the slab of the site building using a Series 475 Mark III Digital Manometer. The results of this field test indicated that the SSD systems had established a negative pressure field beneath each of the subject tenant spaces.

Following system installation, VERTEX field verified that a pressure differential exists below the slab of the site building using a Series 475 Mark III Digital Manometer. The results are summarized in the table below. Sampling locations are shown on Figure 7.

The October 16, 2006 Work Plan stated that post-mitigation sampling would be performed using existing sampling points in Redendo's Pizza, Sunscape Tans, and the Chinatown Restaurant. However, due to sampling point age and access constraints, the use of these existing sampling points was not possible. Therefore, VERTEX installed several new temporary sampling locations, as shown on Figure 7.

Tenant Space	Sampling Location (Figure 2)	Sub-Slab Pressure (inH_2O)
Redendo's Pizza	P-1	-0.033
	P-2	-0.002
	P-3	-0.003
	P-4	-0.035
Jina's Nail Salon	P-5	-0.178
	P-6	-0.135
	P-7	-0.215
Sunscape Tans	P-8	-0.425
Chinatown Restaurant	P-9	-0.109
	P-10	-0.133
	P-11	-0.486

As shown in the above table, the SSDS has established a negative pressure field beneath each of the subject tenant spaces. Access to the Grapevine Wine and Spirits was not possible for post-mitigation sampling. However, as can be referenced in Figure 7, three SSDS points were installed along the wall at Chinatown Restaurant and a trench SSDS system was installed in Sunscape Tan with three points terminating at the adjoining wall with the Grapevine Wine and Spirits tenant space. Prior to installation, sub-slab communication testing indicated that the radius of influence below the slab was measured to be a minimum of 20 to 25 foot radius from each suction point. The width of the Grapevine Wine and Spirits tenant space is approximately 28 feet. Therefore, based on the radius of influence of 20 to 25 feet and that the strongest sub-slab negative pressure readings were found within adjoining tenant spaces Chinatown Restaurant and Sunscape tan, it is expected that the SSDSs located at the adjacent tenant space walls are creating a negative pressure beneath Grapevine Wine and Spirits as well.

Due to the verification of successful system operation, the need for indoor air or soil gas testing is not anticipated.

Manufacturer's specifications, including operation and maintenance manuals and start-up instructions for both fans are included in Appendix C.

The system testing described above will be conducted if, in the course of the SSD system lifetime, significant changes are made to the system, and the system must be restarted.

3.2.1.3 System Operation: Routine Operation Procedures

The seals at each suction point should not require maintenance or replacement. However, routine operation maintenance will include a survey of each suction point to check for leaks, as follows.

- Check each visible suction point for leaks and/or holes in the seals. Repair with caulk as necessary.
- Where seals are not visible due to drywall or metal enclosures, a subjective noise survey of the suction points will be conducted. Although a low suction sound can be heard during system operation, an unusually loud hissing sound could indicate a compromised seal.

System piping will also be checked to ensure that no damage has occurred as follows:

- Inspect all pipes and/or pipe enclosures for any signs of damage.
- Inspect all system pipes and/or pipe enclosures to ensure that no unauthorized piping connections have been made to the system.
- Where piping is visible, check that labeling and liquid manometers remain in place.

Any indications of a leak at an enclosed seal or system piping damage or compromise will be evaluated.

3.2.1.4 System Operation: Routine Equipment Maintenance

There are five fans located on the exterior rear walls of the tenant spaces, as described earlier in this report. During routine maintenance, each fan will be inspected as follows:

- Check that the fan is still running.
- Check that no air intakes have been installed within 20 feet of the exhaust pipe.
- Where liquid manometers are installed on system piping (two westernmost points at Redendo's pizza), check that suction is occurring in the system.
- Review the manufacturer's specifications, including operation and maintenance manuals for both fans (included in Appendix C) for any manufacturer's recommendations.

3.2.1.5 System Operation: Non-Routine Equipment Maintenance

Non-routine system maintenance may be necessary in the following cases:

- Fan Malfunction and/or System Damage – Damaged or malfunctioning system components will be repaired and/or replaced.
- Power Outages – In accordance with the fan manuals included as Appendix C, the fans will be inspected after power outages lasting more than 48 hours.
- Building Renovations – Any building renovations that could impact or require modifications to the SSD systems will be evaluated.

3.3 ENGINEERING CONTROL SYSTEM PERFORMANCE MONITORING

3.3.1 Monitoring Schedule

In accordance with the NYSDOH Soil Vapor Intrusion Guidance, routine system maintenance should be performed within 18 months of system installation, or by September 2012, and then every 12-18 months thereafter. Routine maintenance activities will be performed by a qualified environmental professional and are described in the following sections. In addition to scheduled routine maintenance, the building owner and all current and future tenant space occupants will be trained on how to check the system to ensure proper operation, as described in the following sections as well.

Inspection frequency is subject to change with the approval of the NYSDEC. Unscheduled inspections and/or sampling may take place when a suspected failure of the SSD systems has been reported or an emergency occurs that is deemed likely to affect the operation of the system. Monitoring deliverables for the SSD systems are specified later in this Plan.

3.3.2 General Equipment Monitoring

A visual inspection of the complete system will be conducted during the monitoring event. SSD system components to be monitored include, but are not limited to, the following:

- SSD systems:
  - Fans; and,
  - General system piping.

A complete list of components to be checked is provided in the Inspection Checklist, presented in Appendix D. If any equipment readings are not within their typical range, any equipment is observed to be malfunctioning, or the system is not performing within specifications, maintenance and repair as per the Operation and Maintenance Plan are required immediately, and the SSD systems restarted.

3.3.3 System Monitoring Devices and Alarms

The SSD systems do not have a warning device to indicate that the systems are not operating properly. Each SSD system will be affixed with a label at either the manometer location or, if a manometer is not present, near the fan that states the following: "If fan is not operating or in case of malfunction, please contact Urstadt Biddle at (203) 863-8200." All tenants in spaces containing SSDSs will be advised of the systems and contact information.

Applicable maintenance and repairs will be conducted, as specified in the Operation and Maintenance Plan, and the SSDSs restarted. Operational problems will be noted in the subsequent Periodic Review Report.

3.3.4 Sampling Event Protocol

Based on this verification of successful system operation, the need for indoor air or soil gas testing is not anticipated.

Unscheduled inspections and/or sampling may take place when a suspected failure of the SSD system has been reported or an emergency occurs that is deemed likely to affect the operation of the system. Monitoring deliverables for the SSD system are specified later in this Plan.

3.4 SITE-WIDE INSPECTION

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect Engineering Controls or monitoring devices. During these inspections, an inspection form will be completed (Appendix D). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;
- Compliance with permits and schedules included in the Operation and Maintenance Plan; and
- Confirm that site records are up to date.

Schedule of Monitoring/Inspection Reports

Task	**Reporting Frequency***
Site Inspection	Annually

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC

In addition, copies of any system maintenance inspection will be maintained by the building owner and provided to all existing tenants of the affected tenant spaces. All

routine and non-routine O&M activities will be documented and reported to NYDEC for site number V00104.

3.5 MAINTENANCE AND PERFORMANCE MONITORING REPORTING REQUIREMENTS

Maintenance reports and any other information generated during regular operations at the site will be kept on-file on-site. All reports, forms, and other relevant information generated will be available upon request to the NYSDEC and submitted as part of the Periodic Review Report, as specified in the Section 4 of this SMP.

3.5.1 Routine Maintenance Reports

Checklists or forms (see Appendix D) will be completed during each routine maintenance event. Checklists/forms will include, but not be limited to the following information:

- Date;
- Name, company, and position of person(s) conducting maintenance activities;
- Maintenance activities conducted;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and,
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

3.5.2 Non-Routine Maintenance Reports

During each non-routine maintenance event, a form will be completed which will include, but not be limited to, the following information:

- Date;

- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Presence of leaks;
- Date of leak repair;
- Other repairs or adjustments made to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and,
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

4. INSPECTIONS, REPORTING AND CERTIFICATIONS

4.1 SITE INSPECTIONS

4.1.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 Operation and Maintenance Plan of this SMP. At a minimum, a site-wide inspection will be conducted annually. Inspections of remedial components will also be conducted when a breakdown of any treatment system component has occurred or whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

4.1.2 Inspection Forms, Sampling Data, and Maintenance Reports

All inspections and monitoring events will be recorded on the appropriate form, which is contained in Appendix B. Additionally, a general site-wide inspection form will be completed during the site-wide inspection. This form is 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.

4.1.3 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, based on the above items,
- The site remedy continues to be protective of public health and the environment and is performing as designed in the RAWP and FER.

4.2 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS

After the last inspection of the reporting period, a qualified environmental professional will 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 inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;
- 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 Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the site is compliant with the deed restriction;
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices; and
- The information presented in this report is accurate and complete.
- 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's Designated Site Representative: I

have been authorized and designated by all site owners to sign this certification for the site.

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

4.3 PERIODIC REVIEW REPORT

A Periodic Review Report will be submitted to the Department every year, beginning eighteen months after the Satisfactory Completion Letter is issued. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site (site Metes and Bounds provided in Appendix E). The report will be prepared in accordance with NYSDEC DER-10 and submitted within 45 days of the end of each certification period. Media sampling results will also incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site;
- Results of the required annual site inspections and severe condition inspections, if applicable;
- All applicable inspection forms and other records generated for the site during the reporting period in electronic format;
- A site evaluation, which includes the following:
    - The compliance of the remedy with the requirements of the site-specific Decision Document;
    - The operation and the effectiveness of all treatment units, etc., 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.

- A performance summary for all treatment systems at the site during the calendar year, including information such as:
  - The number of days the system was run for the reporting period;
  - A description of breakdowns and/or repairs along with an explanation for any significant downtime;
  - A description of the resolution of performance problems;
  - A summary of the performance, effluent and/or effectiveness monitoring; and
  - Comments, conclusions, and recommendations based on data evaluation.

The Periodic Review Report will be submitted, in hard-copy format, to the NYSDEC Central Office and Regional Office in which the site is located, and in electronic format to NYSDEC Central Office, Regional Office and the NYSDOH Bureau of Environmental Exposure Investigation.

4.4 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 submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by the NYSDEC.

TABLES

Table 1a

Summary of Subsurface Investigation Soil Sampling (McLaren Hart)
Carmel Shop-Rite Center
180 Gleneida Avenue, Carmel, New York; VERTEX Project No. 4148

Analyte	Units	TAGM Recommended Soil Cleanup Objectives	Sample Designation															
			Subsurface Investigation (July 22, 1998)									Supplemental Phase II Investigation (7/29/99)						
			SB-01	SB-02	SB-03	SB-04	SB-05	SB-06	SB-08	SB-10	SB-12	SED-1	SED-2	SB-05a	SB-05a	SB-15	SB-15	SB-16
			2.5-3.5'	05-1.5'	0.5-2.5'	0.5-2.5'	0.4-0.6'	0.4-0.6'	3.5-4'	5.5-6'	9-11'	0-0.5'	0-0.5'	2-2.3'	3-3.3'	2-2.5'	3-3.5'	2-2.5'
VOCs																		
Acetone	ug/kg	200	ND (1)	ND (1)	ND (1)	ND (1)	ND (53)	ND (1)	ND (1)	ND (1)	ND (1)	ND (10)	ND (11)	25	ND (10)	ND (10)	ND (11)	ND (10)
Methylene Chloride	ug/kg	100	ND (1)	ND (1)	ND (1)	1	ND (53)	ND (1)	2	4	3	ND (5)	ND (6)	ND (6)	ND (5)	ND (5)	ND (6)	ND (5)
Tetrachloroethene	ug/kg	1,400	12	210	3	34	580	220	ND (1)	ND (1)	ND (1)	ND (5)	ND (6)	370	12	**1,800**	50	**3,300**

Notes:
1) NA denotes Not Applicable.
2) ND denotes Not Detected. Sample quantitation limits are indicated in ( ).
3) Results listed in **Bold** idicate concentrations which exceed NYSDEC Technical and Administrative Guidance Memorandum (TAGM), Recommended Soil Cleanup Objective.
4) Shaded soil borings indicate areas that were excavated during subsequent remediation activities and no longer represent site conditions.

Table 1b

Summary of Subsurface Investigation Soil Sampling
Carmel Shop-Rite Center
180 Gleneida Avenue, Carmel, New York; VERTEX Project No. 4148

Analyte	Units	TAGM Recommended Soil Cleanup Objectives	Sample Designation																						
			Subsurface Investigation (February 14, 2001)															Subsurface Investigation (July 2, 2001)					Subsurface Investigation (January 15, 2002)		
			SB-17	SB-17	SB-17	SB-18	SB-18	SB-18	SB-19	SB-20	SB-20	SB-20	SB-20	SB-21	SB-21	SB-22	SB-22	SB-22	SB-L-1	SB-L-2	SB-L-3	SB-L-4	SB-L-5	GW-07	GW-08	GW-09
			0-1'	1-2'	2-3'	0-1'	2-3'	3-3.5'	0-1'	0-1'	1-1.5'	1.5-2'	2-3'	0-1'	1-2'	0-1'	1-2'	2-3'	NA	NA	NA	NA	NA	NA	NA	NA
VOCs																									
Acetone	ug/kg	200	ND (11)	ND (11)	ND (11)	ND (10)	9 J	16	NA*	ND (11)	ND (11)	8 J	ND (11)	ND (12)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	15	ND (11)	ND (11)	15	ND (50)	ND (50)	ND (50)
Tetrachloroethene	ug/kg	1,400	23	110	3 J	220	9 J	16	NA*	70	30	27	2 J	44	5 J	18	9 J	10 J	ND (11)	45	18	3 J	15	ND (5)	ND (5)	ND (5)

Notes:
1) J denotes value is a laboratory estimate.
2) NA denotes Not Applicable.
3) ND denotes Not Detected. Sample quantitation limits are indicated in ( ).
4) " * " denotes soil samples were not collected in advance of soil boring SB-19 due to the detection of elevated PID readings (i.e., > 2,000-ppm) in the borehole airspace.
5) Shaded soil borings indicate areas that were excavated during subsequent remediation activities and no longer represent site conditions.

Table 1c

Summary of Confirmatory Soil Sampling (Pre-SVE System)
Carmel Shop-Rite Center
180 Gleneida Avenue, Carmel, New York; VERTEX Project No. 4148

Analyte	Units	TAGM Recommended Soil Cleanup Objectives	Sample Designation					
			SW-1 (west) 10/17/2001	EXCAV 2 (west) 10/19/2001	SW-2 (north) 10/17/2001	SW-3 (east) 10/17/2001	SW-4 (south) 10/17/2001	SW-5 (base) 10/17/2001
VOCs								
Acetone	ug/kg	200	41	ND (10)	9 J	7 J	58	6 J
Tetrachloroethene	ug/kg	1,400	21	45	11	7 J	**7,500**	ND (11)

Notes:
1. **Bold** denotes concentration which exceed regulatory limit.
2. J denotes value is a laboratory estimate.
3. ND denotes Not Detected. Sample quantitation limits are indicated in ( ).

Table 2a

Summary of Groundwater Sampling Results
180 Gleneida Avenue, Carmel, New York; VERTEX Project No. 4148
(concentrations in ug/L)

Well I.D.	Sample Date	MTBE	Acetone	Tetrachloroethene	1,2-Dichloroethene	Trichloroethene	Chloroform	Toluene
	07/31/1998	NA	NA	**84**	NA	**84**	NA	NA
GW-01	08/16/1999	NA	NA	NA	NA	NA	NA	NA
	11/15/1999	ND	<10	**9J**	<10	<10	<10	<10
	02/18/2000	ND	<10	**6J**	<10	<10	1J	<10
	05/10/2000	ND	<10	**10**	<10	<10	1J	<10
	01/18/2001	<1	NA	**9.7**	<1	<1	0.6	<1
	07/11/2001	<10	<10	**70**	<5	2J	1J	<5
	10/19/2001	NA	NA	NA	NA	NA	NA	NA
	01/31/2002	<10	<10	**20**	<10	<10	2	<10
	07/05/2002	<10	<10	**9J**	<10	<10	1J	<10
	11/03/2002	NA	NA	NA	NA	NA	NA	NA
	02/13/2003	NA	NA	NA	NA	NA	NA	NA
	07/31/1998	NA	NA	**5**	NA	2	NA	NA
GW-02	08/16/1999	ND/ND*	<500/<500*	<250/<250*	<250/<250*	<250/<250*	<250/<250*	<250/<250*
	11/15/1999	ND	<10	2J	<10	<10	<10	<10
	02/18/2000	ND	<10	3J	<10	<10	1J	4J
	05/10/2000	ND	<10	**8J**	<10	<10	1J	<10
	01/18/2001	<1	NA	**8.8**	<1	<1	<1	<1
	07/11/2001	<10	<10	**24**	<5	2J	<5	<5
	10/18/2001	<5	19	<5	<5	2J	2J	<5
	01/31/2002	<10	21	**5J**	<10	<10	4J	<10
	07/05/2002	<10	<10	3J	<10	<10	**7J**	<10
	11/03/2002	< 10	34	< 10	< 10	< 10	240	< 10
	02/13/2003	< 5	11	< 5	< 5	< 5	4J	< 5
	07/31/1998	NA	NA	< 1	NA	< 1	NA	NA
GW-03	08/16/1999	ND	<500	<250	<250	<250	<250	<250
	11/15/1999	ND	3 J	<10	<10	<10	<10	<10
	02/18/2000	**170**	<10	<10	<10	<10	<10	<10
	05/10/2000	**170**	11	<10	<10	<10	<10	<10
	01/18/2001	**250/260***	NA*	<1/<1*	<1/<1*	<1/<1*	<1/<1*	<1/<1*
	07/11/2001	**460E**	<10	<10	<5	<10	<5	<5
	10/18/2001	**320E/300D**	<5	<5	<5	<5	<5	<5
	01/31/2002	**230E/200D**	<10	<10	<10	<10	<10	<10
	07/05/2002	**210E/210D**	<10	<10	<10	<10	<10	<10
	11/03/2002	**190**	< 10	< 10	< 10	< 10	< 10	< 10
	02/12/2003	**170**	< 5	< 5	< 5	< 5	< 5	< 5
GW-04B	08/16/1999	ND	5J	**110**	<5	<5	<5	<5
	11/15/1999	ND/ND*	<10/<10*	**580/600***	3 J/2 J*	3 J/2 J*	<10/<10*	<10/<10*
	02/18/2000	ND/ND*	<10/<10*	**170/150***	<10/<10*	<10/<10*	<10/<10*	<10/<10*
	05/10/2000	ND/ND*	<10/<10*	**460/620***	<10/<10*	1J/1J*	1J/1J*	<10/<10*
	01/18/2001	<1	NA	**29**	<1	<1	<1	<1
	07/11/2001	<10	<10	**1000E/970D**	<5	2J/<100U	<5	<5
	10/18/2001	<5	<5	**58**	<5	<5	<5	<5
	01/31/2002	<10	<10	**75**	<10	<10	<10	<10
	07/05/2002	3J/3J*	<10/<10*	**370E/310D & 370/320D***	<10/<10*	<10/<10*	<10/<10*	<10/<10*
	11/02/2002	< 10	< 10	**8J**	< 10	< 10	< 10	< 10
	02/12/2003	< 5	< 5	**7.8**	< 5	< 5	< 5	< 5
GW-05B	03/28/2001	<5	<5	<5	<5	<5	<5	<5
	07/11/2001	<10	<10	3J	<5	<5	<5	<5
	10/18/2001	<5	<5	**14**	<5	2J	<5	<5
	01/31/2002	<10	<10	**12**	<10	2J	<10	<10
	07/05/2002	<10	<10	<10	<10	<10	<10	<10
	11/03/2002	< 10	< 10	**8J**	< 10	< 10	< 10	< 10
	02/12/2003	< 5	< 5	< 5	< 5	< 5	< 5	< 5
GW-06B	03/28/2001	<5/<5*	<5/<5*	**15/16***	<5/<5*	1/1*	<5/<5*	<5/<5*
	07/11/2001	<10/<10*	<10/<10*	**37/37***	<5/<5*	1J/1J*	<5/<5*	<5/<5*
	10/18/2001	<5	<5	**540E/600D**	<5	3J	<5	<5
	01/31/2002	<10	<10	**430E/350D**	3J	4J	<10	<10
	07/05/2002	<10	<10	**100**	<10	<10	<10	<10
	11/03/2002	< 10	< 10	**170**	< 10	2J	< 10	< 10
	02/12/2003	< 5	< 5	**12**	< 5	< 5	< 5	< 5
GW-07	01/31/2002	<10/<10*	<10/<10*	**52/52***	<10/<10*	<10/<10*	1J/1J*	<10/<10*
	07/05/2002	4J	<10	**39**	<10	<10	<10	1J
	11/02/2002	< 10	< 10	**67**	< 10	< 10	< 10	< 10
	02/13/2003	3J	< 5	**14**	< 5	< 5	< 5	< 5
GW-08	01/31/2002	<10	<10	**110**	<10	<10	<10	<10
	07/05/2002	<10	<10	**140**	<10	<10	<10	<10
	11/02/2002	< 10	< 10	**97**	< 10	< 10	< 10	< 10
GW-09	01/31/2002	<10	<10	**57**	<10	<10	<10	<10
	07/05/2002	<10	<10	**68**	<10	<10	<10	<10
	11/02/2002	< 10	< 10	**51**	< 10	1J	< 10	< 10
	02/11/2003	<5	<5	**42**	<5	<5	<5	<5
GW-11B	07/05/2002	<10	<10	**13**	<10	<10	6J	<10
	11/02/2002	< 10	< 10	**14**	< 10	< 10	< 10	< 10
	02/12/2003	< 5	< 5	**11**	< 5	< 5	< 5	< 5
GW-12	07/05/2002	<10	<10	<10	<10	<10	<10	<10
	11/02/2002	< 10	< 10	< 10	< 10	< 10	< 10	< 10
	02/12/2003	<5	<5	<5	<5	<5	<5	<5
GW-13B	07/05/2002	<10	<10	<10	<10	<10	<10	**11**
	11/02/2002	NA	NA	NA	NA	NA	NA	NA
	02/13/2003	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Groundwater Std/Guidance		10	50	5	5	5	7	5

Notes:

1. Table includes parameters detected in one or more samples.
2. Groundwater Std/Guidance per NYSDEC, Division of Water Technical and Operational Series (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998.
3. The duplicate sample for GW-04B for the July 2002 event is designated GW-14B in the Analytical Data Package.
4. " * " denotes duplicate sample.
5. " < " denotes less than reporting limit.
6. NA denotes not analyzed.
7. **Bold** denotes concentration which exceeds standard.
8. " J " denotes estimated value.
9. " E " denotes value exceeded instrument calibration.
10. " D " denotes value result from secondary dilution factor.

Table 2b

Summary of Tetrachloroethylene (PCE) Concentrations
Carmel Shop-Rite Center
180 Gleneida Avenue, Carmel, New York

(concentrations in ug/L)

Monitoring Well	Sample Date														
	3/28/2001	7/11/2001		10/18 & 10/19/2001	1/31/2002	7/5/2002	11/2 & 11/3/2002	2/12 & 2/13/2003	4/15/2004	9/7/2004	1/18/2005	5/10/2005	8/4/2005	11/21 & 11/22/2005	1/20/2006	5/18 & 5/19/2006
GW-01	NS	**70**	Soil excavation in dry cleaner tenant space (Oct. 15-Oct. 22, 2001).	NS	**20**	**9 J**	NS	NS	**11**	**5.1**	NS	1 J	NS	NS	NS	ND (5)
GW-02	NS	**24**		ND (5)	**5 J**	3 J	ND (10)	ND (5)	NS	NS	NS	NS	NS	NS	NS	NS
GW-03	NS	ND (10)		ND (5)	ND (10)	ND (10)	ND (10)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	NS	NS	NS
GW-04B	NS	**970**		**58**	**75**	**370**	**8 J**	**7.8**	**16**	**11**	**94**	**20**	2 J	**6**	**11**	**8**
GW-05B	ND (5)	3 J		**14**	**12**	ND (10)	**8 J**	ND (5)	ND (5)	ND (5)	NS	ND (5)	NS	NS	NS	1 J
GW-06B	**16**	**37**		**600**	**350**	**100**	**170**	**12**	4 J	**350**	**8**	**14**	**170**	**18**	**8**	2 J
GW-07	-	-		-	**52**	**39**	**67**	**14**	**13**	**16**	NS	**8**	NS	3 J	**11**	**6**
GW-08	-	-		-	**110**	**140**	**97**	NS	NS	NS	NS	NS	NS	**77**	**80**	**57**
GW-09	-	-		-	**57**	**68**	**51**	**42**	**53**	**44**	**47**	**58**	**41**	**43**	**49**	**35**
GW-11B	-	-		-	-	**13**	**14**	**11**	**13**	**11**	**13**	**16**	ND (5)	ND (5)	3 J	**9**
GW-12	-	-		-	-	ND (10)	ND (10)	ND (5)	NS	NS	NS	NS	NS	NS	NS	NS
GW-13B	-	-		-	-	ND (10)	NS	ND (5)	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
1) " - " indicates well not installed
2) ND indicates compound not detected above laboratory detection limit. Detection limits are indicated in (
3) NS indicates not sampled.
4) Concentrations in **Bold** indicate exceedance of NYSDEC groundwater standard for PCE of 5-ug/
5) " J " indicates an estimated value below the detection limi

Table 3

Summary of Indoor Air Sampling Results
Carmel Shop-Rite Center
180 Gleneida Avenue, Carmel, New York; VERTEX Project No. 4148

Sampling Date and Location	Analyte	
	Trichloroethene (TCE)	Tetrachloroethene (PCE)
	ug/m^3	ug/m^3
Subsurface Investigation (McLaren/Hart) (July 23, 1998)		
Air-01 (Drycleaner)	NA	**330**
Subsurface Investigation (McLaren/Hart) (July 1999)		
L-1 (Tony's Fine Wines & Spirits)	ND	**520**
V-1 (Video Store)	ND	70
B-1 (Background)	ND	5
D-1 (Drycleaner - Front Counter)	ND	**670**
D-2 (Drycleaner - Front Counter)	ND	**690**
D-3 (Drycleaner - Clothing Storage)	ND	**650**
D-4 (Drycleaner - Lavatory)	ND	**690**
D-5 (Drycleaner - Storage Area)	ND	**7,900**
Air Sampling Investigation (VERTEX) (April 12, 2001)		
Liquor Store	ND	38.7
Chinatown	ND	66.5
Video Store	ND	**217**
Cleaner CRDC	ND	**874.8**
Cleaner CRC	ND	**671.3**
Cleaner BRDC	ND	**1,024**
Cleaner DCSA	ND	**1,478.30**
Cleaner Outside	ND	ND
Air Sampling Investigation (VERTEX) (March 13, 2002)		
AS-1 (Drycleaner Front)	ND	**739.02**
AS-2 (Drycleaner Storage Area)	ND	**1,030.56**
AS-3 (Outside Drycleaner)	ND	ND
SVE Confirmatory Sampling (VERTEX) (May 8, 2002)		
SVEIN (Soil Vapor Extraction Influent)	54.9	49.6
Air Sampling Investigation (VERTEX) (March 5, 2003)		
Nail Salon (formerly Video Store)	NA	30.5
Grapevine (Tony's Fine Wine & Spirits)	NA	10.8
Chinatown	NA	ND
NYSDOH Guideline/Immediate Action Level	100/1,000	100/1,000
OSHA Personal Exposure Limit (TWA)	537,000	678,000

Notes:

1. TWA denotes Time Weighted Average.
2. Bold denotes concentrations which exceed NYSDOH Guideline and/or Immediate Action Level.
3. NA denotes Not Analyzed.

FIGURES

USGS Topographic Map, 1991
Lake Carmel, New York Quadrangle
Contour Interval: 10 feet

N

SITE LOCUS MAP
Carmel Shop Rite Center
180 Gleneida Avenue
Carmel, New York

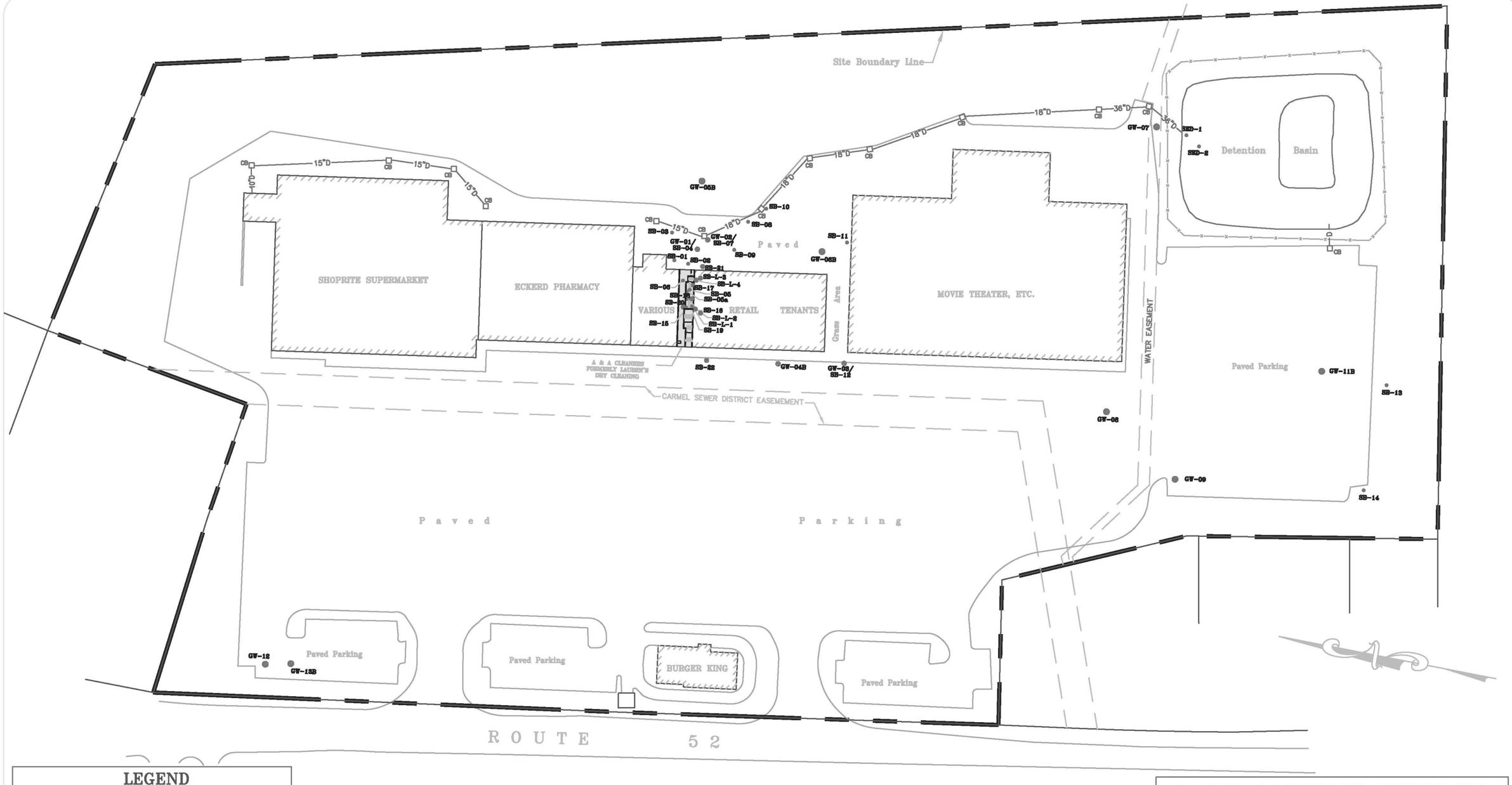
SCALE: AS SHOWN

July 5, 2006

VERTEX Proj. No. 4148

VERTEX

ENVIRONMENTAL SERVICES
FIGURE NO. 1



LEGEND

SB-01	McLAREN HART BORING LOCATION
SB-17	VERTEX BORING LOCATION
GW-01	McLAREN HART MONITORING WELL LOCATION
GW-05	VERTEX MONITORING WELL LOCATION
	DRAIN MANHOLE
CB	CATCH BASIN
15"D	DRAIN LINE

100 0 50 100

Scale in Feet

Note:

This figure was compiled using the following sources :

"Site Plan" Town of Carmel Putnam County, New York, Proposed Expansion at the Nichols Plaza Shopping Center, Route 52;; Sheet 2 of 3, dated 1/15/94, revised 2/1/94, by J. Robert Folchetti & Associates.

"Sampling Location Map" of Carmel Shop-Rite Center by McClaren Hart, Inc. dated 01/24/00.

SAMPLE LOCATIONS SCHEMATIC

Carmel Shop-Rite Center
Town of Carmel
Putnam County, New York

SCALE : 1" = 100'	VERTEX Engineering Services, Inc.
DATE: January 22, 2003	
VERTEX PROJ. 4148	FIGURE NO. 2

Figure4.4148SS.dwg

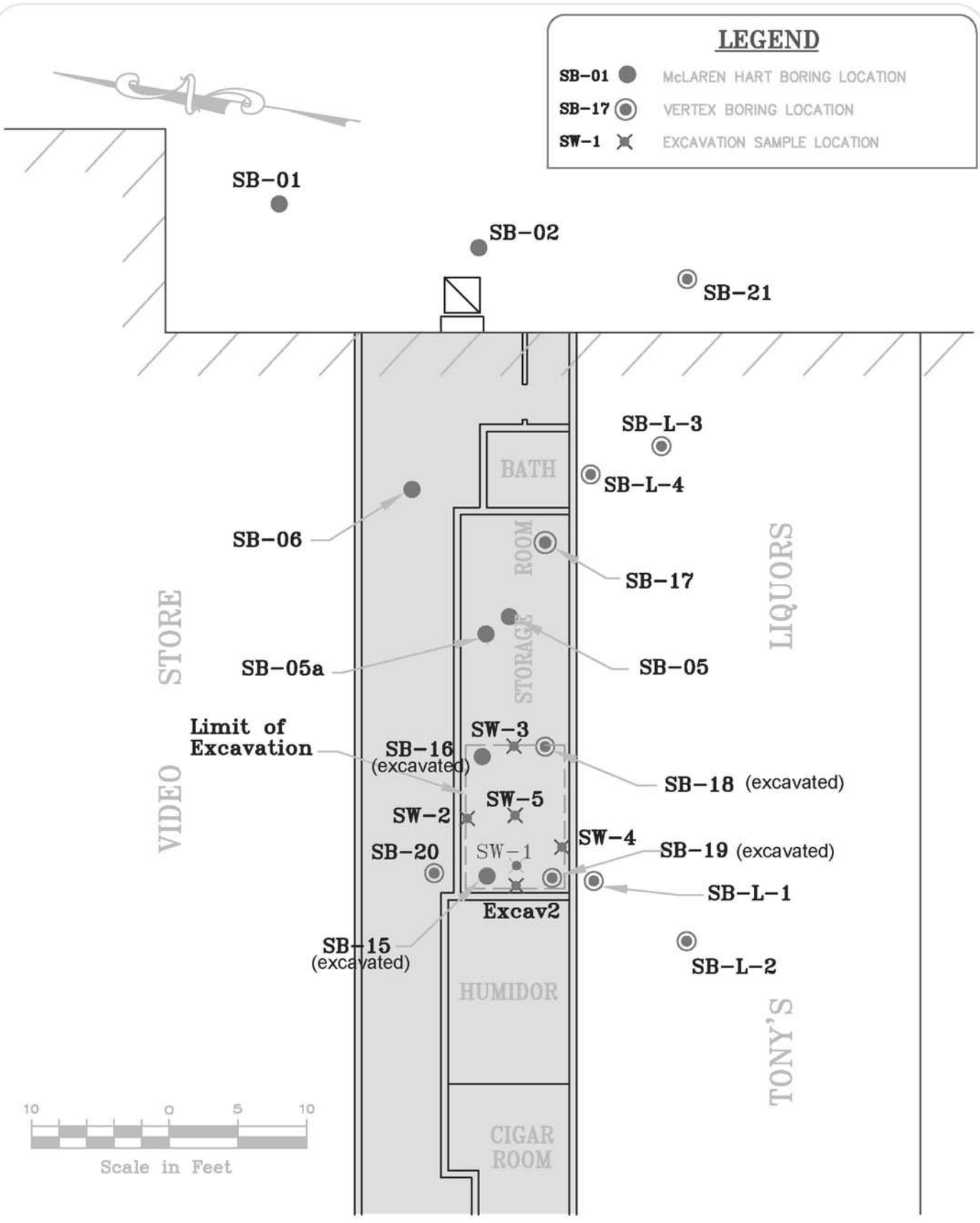
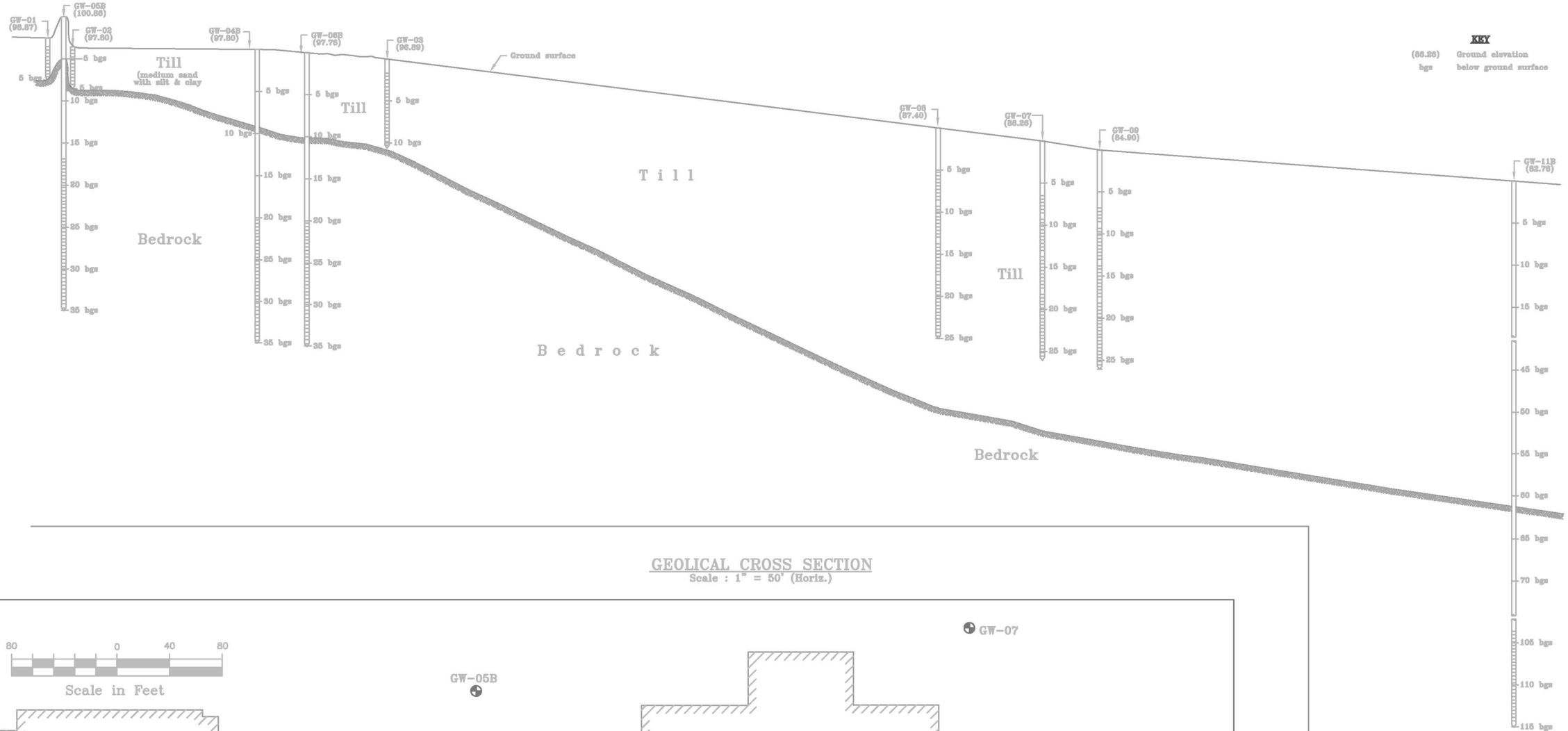
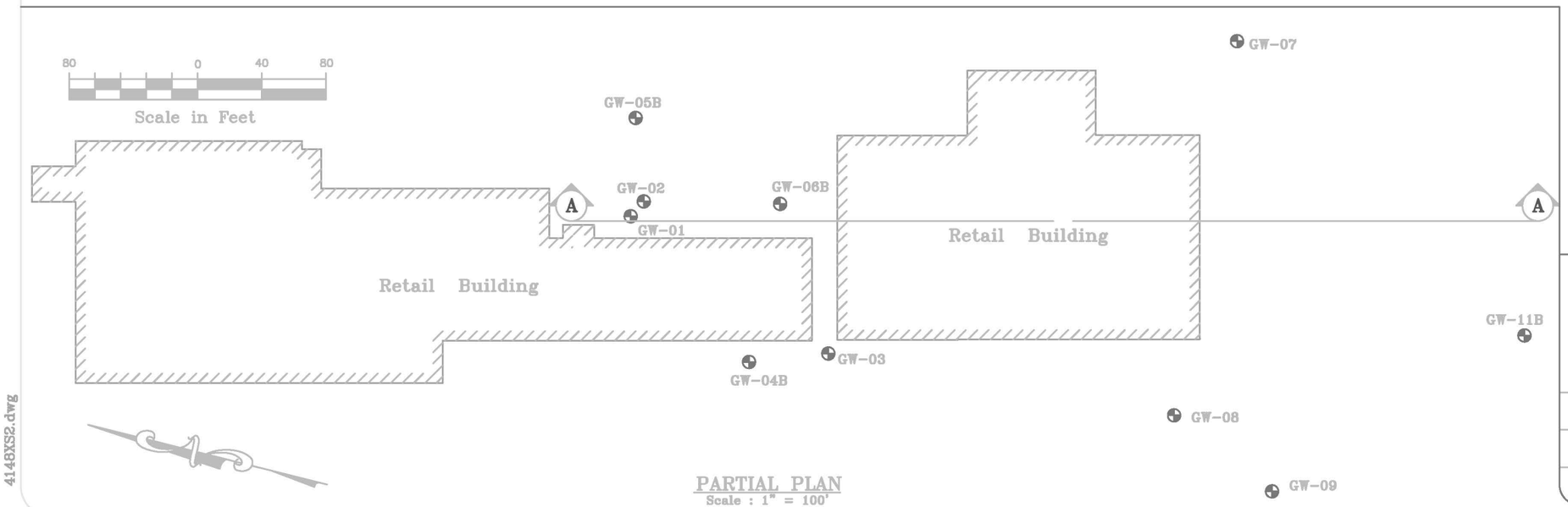


Figure3.4148XVN.dwg

EXCAVATION SCHEMATIC Carmel Shop-Rite Center Town of Carmel Putnam County, New York	SCALE : 1" = 10' DATE: January 27, 2003 VERTEX PROJ. 4148	VERTEX Engineering Services, Inc. FIGURE NO. 3



GEOLICAL CROSS SECTION
Scale : 1" = 50' (Horiz.)



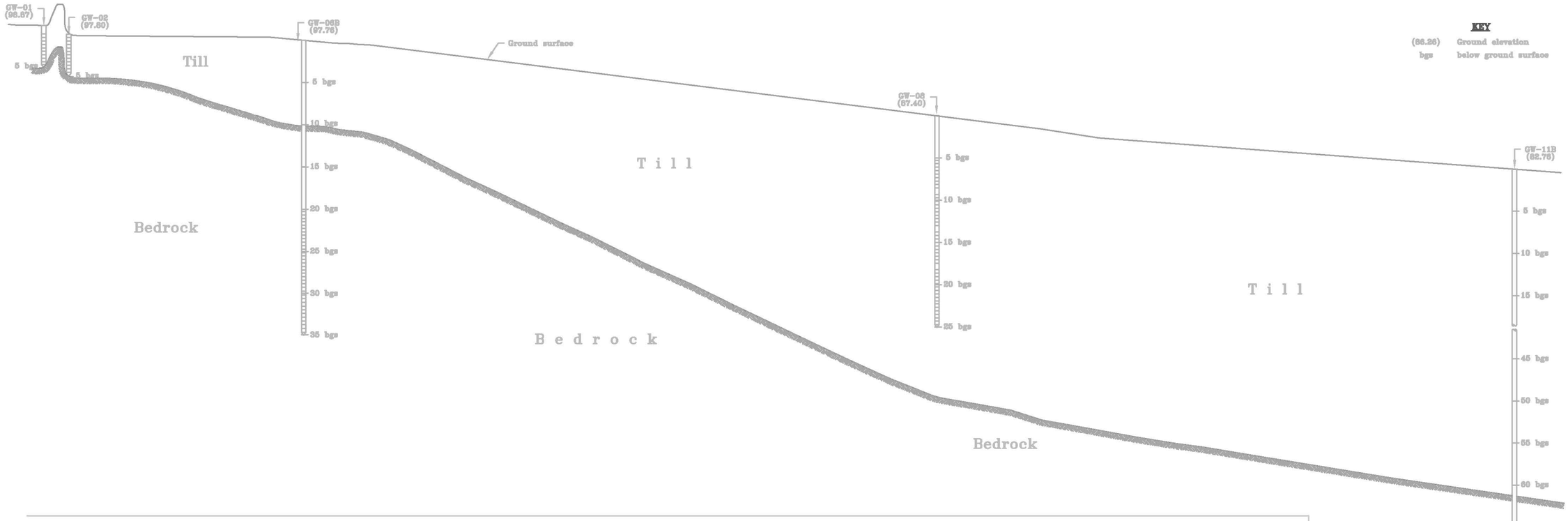
PARTIAL PLAN
Scale : 1" = 100'

4148XS2.dwg

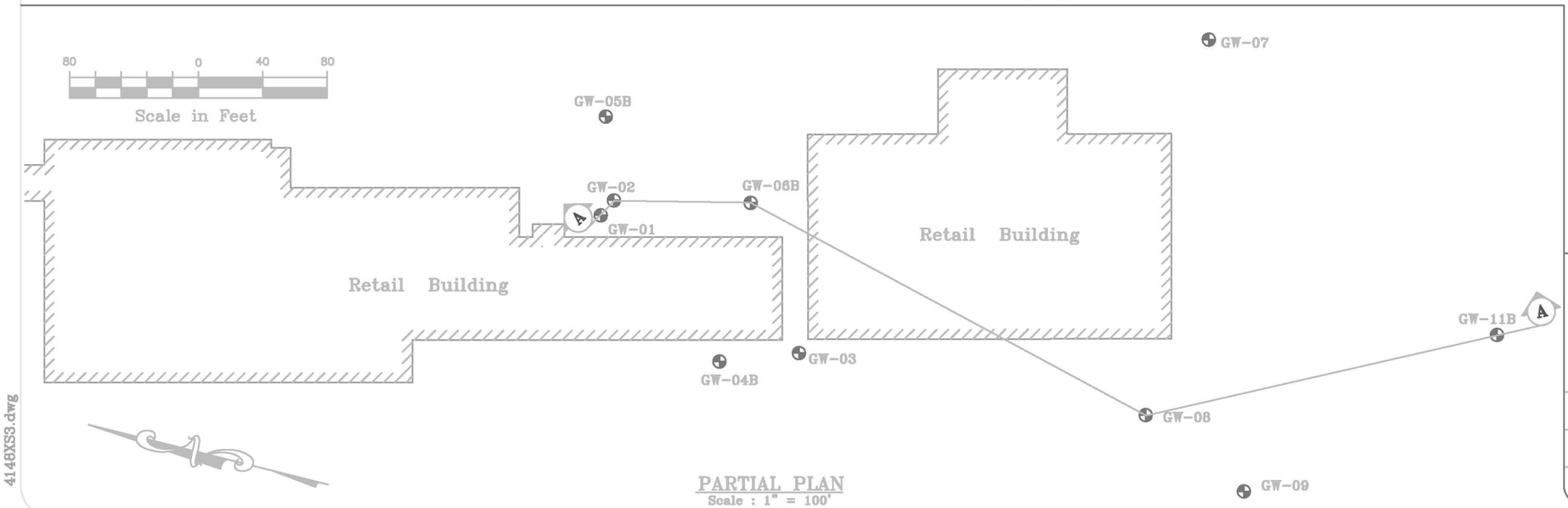
PARTIAL PLAN WITH GEOLOGIC CROSS SECTION

The Shops at Carmel
N.Y.S. Route 52
Carmel (Putnam County), New York

SCALE : As noted	VERTEX Engineering Services, Inc.
DATE: January 20, 2003	
VERTEX PROJ. 4148	FIGURE NO. 4a



GEOLICAL CROSS SECTION
Scale : 1" = 50' (Horiz.)
1" = 10' (Vert.)



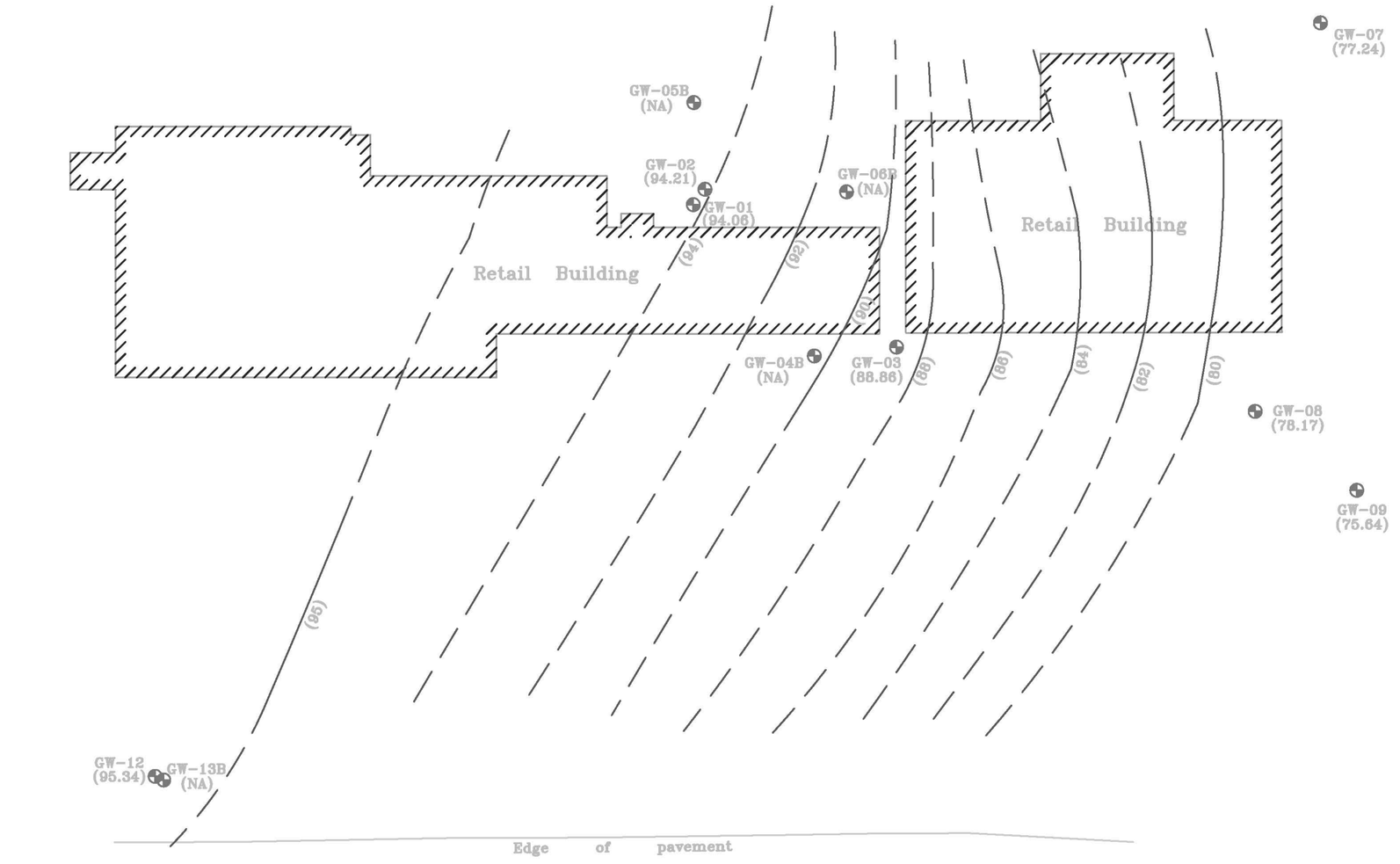
PARTIAL PLAN
Scale : 1" = 100'

PARTIAL PLAN WITH GEOLOGIC CROSS SECTION

Carmel Shop-Rite Center
N.Y.S. Route 52
Carmel (Putnam County), New York

SCALE : As noted	VERTEX Engineering Services, Inc.
DATE: January 22, 2003	FIGURE NO. 4b
VERTEX PROJ. 4148	

4148XS3.dwg



LEGEND

GW-1 (93.17)	MONITORING WELLS LOCATION (GROUNDWATER ELEVATION)
———	GROUNDWATER CONTOUR
— — —	CONTOUR EXTRAPOLATED
NG	NOT GAUGED
NA	NOT APPLICABLE

100 0 50 100

Scale in Feet

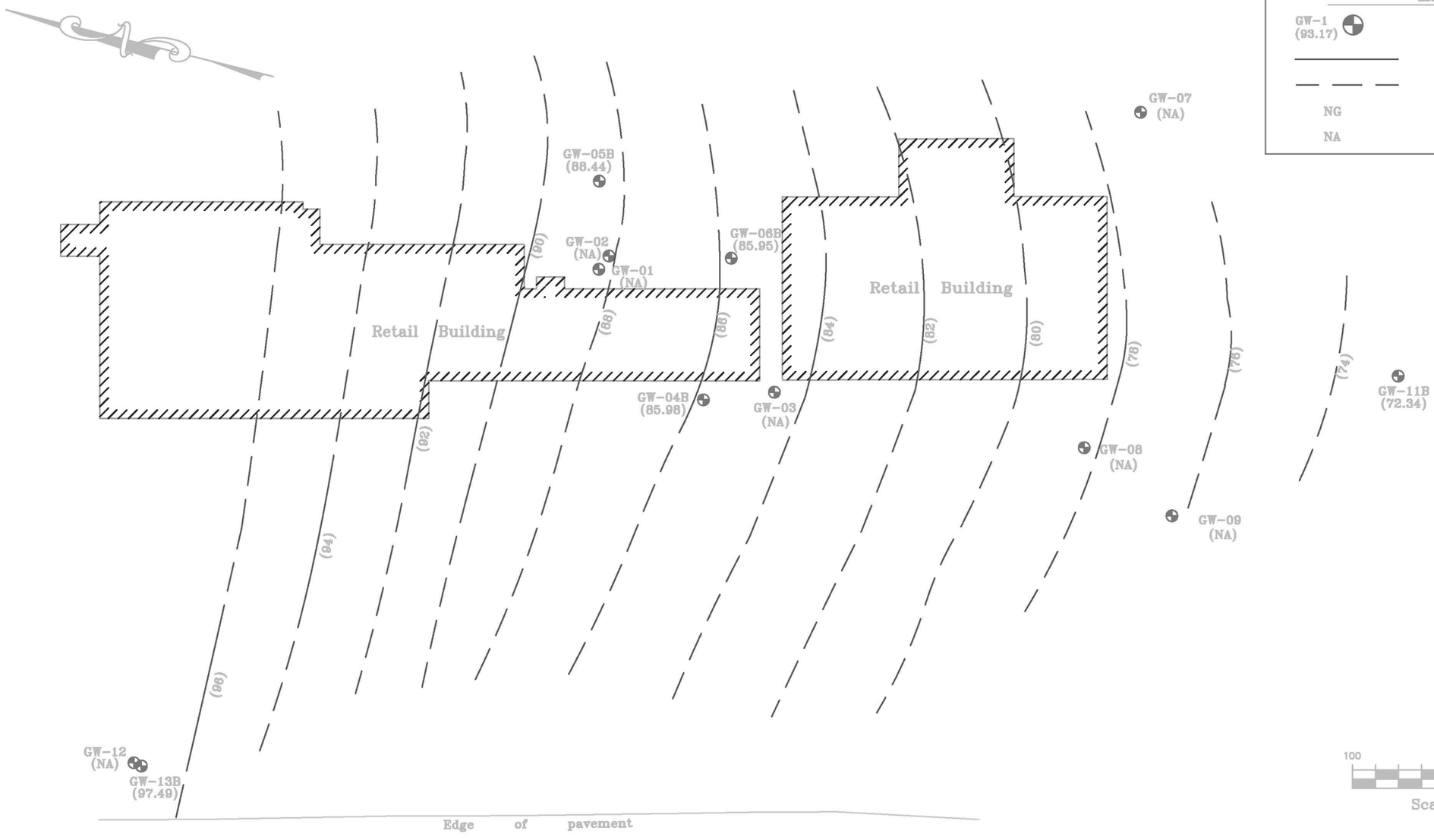
NOTE :
This plan is based on a survey completed on November 4, 2002 by Badey & Watson, Surveying & Engineering. P.C., Cold Spring, New York.

JULY 2002 OVERBURDEN GROUNDWATER CONTOUR PLAN

Carmel Shop-Rite Center
N.Y.S. Route 52
Carmel (Putnam County), New York

SCALE : 1" = 100'	VERTEX Engineering Services, Inc.
DATE: January 22, 2003	
VERTEX PROJ. 4148	FIGURE NO. 5a

Figure8g.4148GW3.dwg



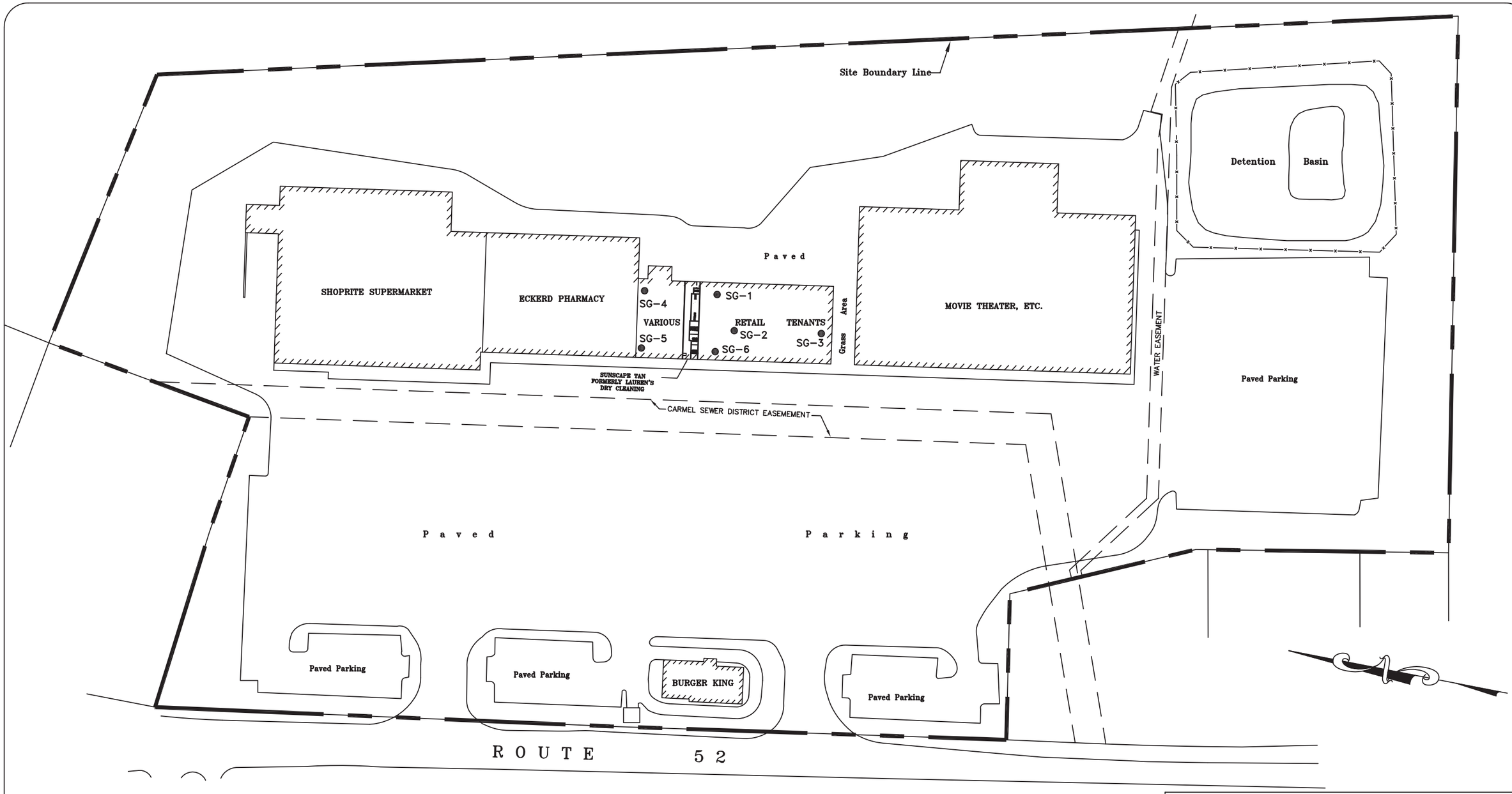
NOTE :
This plan is based on a survey completed on November 4, 2002 by Badey & Watson, Surveying & Engineering. P.C., Cold Spring, New York.

JULY 2002 BEDROCK GROUNDWATER CONTOUR PLAN

Carmel Shop-Rite Center
N.Y.S. Route 52
Carmel (Putnam County), New York

SCALE : 1" = 100'	VERTEX Engineering Services, Inc.
DATE: January 22, 2003	
VERTEX PROJ. 4148	FIGURE NO. 5b

Figure5b.4148GW4.dwg



Note:

This figure was compiled using the following sources :

"Site Plan" Town of Carmel Putnam County, New York, Proposed Expansion at the Nichols Plaza Shopping Center, Route 52;; Sheet 2 of 3, dated 1/15/94, revised 2/1/94, by J. Robert Folchetti & Associates.

"Sampling Location Map" of Carmel Shop-Rite Center by McClaren Hart, Inc. dated 01/24/00.

100 0 50 100

Scale in Feet

KEY:

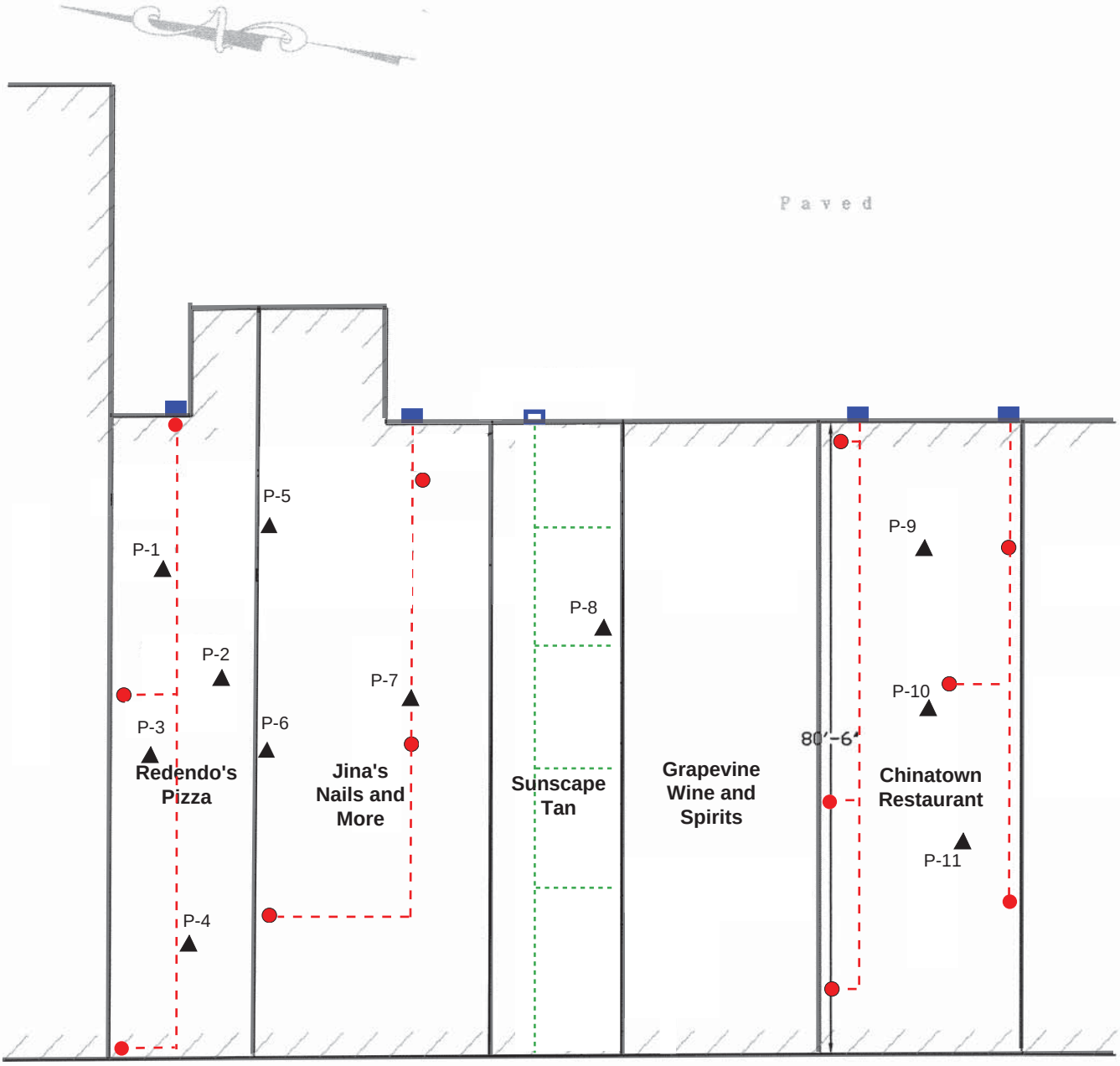
SG-4 SOIL GAS SAMPLING LOCATION

SOIL GAS SAMPLING LOCATIONS

Carmel Shop-Rite Center
Town of Carmel
Putnam County, New York

SCALE : 1" = 100'	VERTEX Environmental Services, Inc.
DATE: January 22, 2003	
VERTEX PROJ. 4148	FIGURE NO. 6

Figure2.4148SS-A1.dwg



- SSDS Suction Point
- Overhead 3" PVC Piping
- Underground 6" Perforated PVC Trench (existing)
- HP-5000 Fan
- RP-265 Fan
- Post-Mitigation Sampling Point

Figure 7: As Built Sketch

Carmel Shop-Rite Center
180 Gleneida Avenue
Carmel, NY

SCALE : Not to Scale

DATE: March 9, 2010

VERTEX PROJ. 15836

VERTEX
Engineering Services, Inc.

APPENDICES

A: Excavation Work Plan

B: Sample HASP

C: SSDS Fan Manuals

D: Site-Wide Inspection Checklist

E: Site Survey Plan and Metes and Bounds

F: Soil Management Area Metes and Bounds

APPENDIX A – EXCAVATION WORK PLAN

The results of monitoring the SVE system indicate that remaining impacted soil has been remediated (See Section 1.4.3 of the SMP). However, as a conservative measure, the following Excavation Work Plan includes provisions for soil management, health and safety, and other management procedures related to the potential presence of remaining PCE soil contamination in the Soil Management Area.

A-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination in the Soil Management Area, the site owner or their representative will notify the Department's Project Manager and Site Control Section. Currently, these notifications will be made to:

Ms. Jamie Verrigni
Project Manager
Division of Environmental Remediation
Remedial Bureau C, 11th Floor
625 Broadway
Albany, NY 12233-7014

-and-

NYSDEC
Division of Environmental Remediation
Bureau of Technical Support
625 Broadway
Albany, NY 12233-7020

These notifications will include:

- A detailed description of the work to be performed in the Soil Management Area, including the location and areal extent, plans for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of

contaminated soil to be excavated and any work that may impact an engineering control,

- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work,
- A summary of the applicable components of this EWP,
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120,
- A copy of the contractor's health and safety plan, in electronic format, if it differs from the HASP provided in Appendix B of this document,
- Identification of disposal facilities for potential waste streams,
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

A-2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based soil screening will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the Satisfactory Completion Letter.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal, material that requires testing, material that can be returned to the subsurface, and material that can be used as cover soil.

A-3 STOCKPILE METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC.

A-4 MATERIALS EXCAVATION AND LOAD OUT

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material from the Soil Management Area.

The owner of the property and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements in the Soil Management Area will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements in the Soil Management Area.

Vehicles loaded with materials from the Soil Management Area that are leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A truck wash will be operated on-site. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for trucks and equipment transporting contaminated soil from the Soil Management Area are clean of dirt and other materials derived from the Soil Management Area during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to materials derived from the Soil Management Area.

A-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials from the Soil Management Area will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks with contaminated materials from the Soil Management Area will be washed prior to leaving the site. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

If materials requiring off-site transport are identified, truck transport routes will be developed and submitted to NYSDEC as part of the notification submittal described in Section A-1. All trucks loaded with contaminated materials from the Soil Management Area will exit the vicinity of the site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials from the Soil Management Area during remediation and development of the Soil Management Area.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

A-6 MATERIALS DISPOSAL OFF-SITE

All soil/fill/solid waste excavated and removed from the Soil Management Area will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil/fill from the Soil Management Area is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of contaminated materials from the Soil Management Area will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

A-7 MATERIALS REUSE ON-SITE

If on-site reuse of soil from the Soil Management Area is proposed, samples shall be collected in accordance with section 5.4(e)10 and handled in accordance with section 5.4(f) of the DER-10, Technical Guidance for Site Investigation and Remediation (DER-

10). Specifically, grab samples of samples shall be collected for VOC laboratory analysis via EPA Method 8260B at the following frequency:

On-Site Reuse Sampling Procedure	
Soil Quantity (Cubic Yards)	**Number of Discrete VOC Samples**
0-50	1
50-100	2
100-200	3
200-300	4
300-400	4
400-500	5
500-800	6
800-1000	7
1000+	2 per additional 1000 cy

The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for re-use on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines. Soil that demonstrates compliance with Commercial Use SCOs can be reused in the soil cover/cap or as backfill within the area of the site subject to the Institutional Control. The Commercial Use SCO for PCE, the contaminant of concern at the site, is 1.3 ppm.

Any demolition material, whether derived from the Soil Management Area or elsewhere on the site, proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

A-8 FLUIDS MANAGEMENT

All liquids to be removed from, or down gradient of, the Soil Management Area, including excavation dewatering and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Such dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, but will be managed off-site.

Discharge of water generated during large-scale construction activities in or down gradient of the Soil Management Area to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

A-9 COVER SYSTEM RESTORATION

The Soil Management Area representing a potential area of remaining contamination at the site (See Section 1.4.3 of the SMP) is currently located under the concrete floor of the site building. If, after the completion of soil removal or any other invasive activities within the Soil Management Area, the concrete floor is removed and the potential area of remaining contamination is still present, a cover system installation plan will be developed in compliance with the decision document and submitted to NYSDEC as part of the notification submittal described in Section A-1. If the type of cover system changes from that which exists prior to the excavation (i.e., concrete is replaced by asphalt soil cover), this will constitute a modification of the cover element of the remedy and the upper surface of the 'Remaining Contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in any updates to the Site Management Plan.

A-10 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the site.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Samples shall be collected in accordance with section 5.4(e)10 and Table 5.4(e)10 of the DER-10, Technical Guidance for Site Investigation and Remediation (DER-10). Specifically, discrete/grab samples of samples shall be collected for VOCs via EPA Method 8260B, semi-volatile organic compounds (SVOCs) via EPA Method 8270C, total cyanide, Priority Pollutant 13 Metals, and PCBs/Pesticides via EPA Method 8081/8082, as indicated in the following table:

Off-Site Soil Sampling Requirements			
Contaminant	**VOCs**	**SVOCs, Cyanide, PP13 Metals & PCBs/Pesticides**	
Soil Quantity (cubic yards)	**Discrete Samples**	**Composite**	**Discrete Samples/Composite**
0-50	1	1	3-5 discrete samples from different locations in the fill being provided will comprise a composite sample for analysis
50-100	2	1	
100-200	3	1	
200-300	4	1	
300-400	4	2	
400-500	5	2	
500-800	6	2	
800-1000	7	2	
1000	Add an additional 2 VOC and 1 composite for each additional 1000 cubic yards.		

The fill material shall not exceed the allowable constituent levels for imported fill or soil for the use of the site as provided in Appendix 5 of DER-10 and summarized in the table below.

Constituent	**Allowable Constituent Levels for Imported Fill or Soil (Commercial Use)**
Metals	
Arsenic	16
Barium	400
Beryllium	47
Cadmium	7.5
Chromium, Hexavalent [1]	19

Constituent	Allowable Constituent Levels for Imported Fill or Soil (Commercial Use)
Chromium, Trivalent [1]	1500
Copper	270
Cyanide	27
Lead	450
Manganese	2000
Mercury (total)	0.73
Nickel	130
Selenium	4
Silver	8.3
Zinc	2480
PCBs/Pesticides	
2,4,5-TP Acid (Silvex)	3.8
4,4'-DDE	17
4,4'-DDT	47
4,4'-DDD	14
Aldrin	0.19
Alpha-BHC	0.02
Beta-BHC	0.09
Chlordane (alpha)	2.9
Delta-BHC	0.25
Dibenzofuran	210
Dieldrin	0.1
Endosulfan I	102
Endosulfan II	102
Endosulfan sulfate	200
Endrin	0.06
Heptachlor	0.38
Lindane	0.1
Polychlorinated biphenyls	1
Semi-volatile Organic Compounds	
Acenaphthene	98
Acenaphthylene	107
Anthracene	500
Benzo(a)anthracene	1
Benzo(a)pyrene	1
Benzo(b)fluoranthene	1.7
Benzo(g,h,i)perylene	500
Benzo(k)fluoranthene	1.7
Chrysene	1
Dibenz(a,h)anthracene	0.56
Fluoranthene	500
Fluorene	386
Indeno(1,2,3-cd)pyrene	5.6
m-Cresol(s)	0.33[2]
Naphthalene	12
o-Cresol(s)	0.33[2]
p-Cresol(s)	0.33
Pentachlorophenol	0.8 [2]

Constituent	Allowable Constituent Levels for Imported Fill or Soil (Commercial Use)
Phenanthrene	500
Phenol	0.33 [2]
Pyrene	500
Volatile Organic Compounds	
1,1,1-Trichloroethane	0.68
1,1-Dichloroethane	0.27
1,1-Dichloroethene	0.33
1,2-Dichlorobenzene	1.1
1,2-Dichloroethane	0.02
1,2-Dichloroethene(cis)	0.25
1,2-Dichloroethene(trans)	0.19
1,3-Dichlorobenzene	2.4
1,4-Dichlorobenzene	1.8
1,4-Dioxane	0.1 [2]
Acetone	0.05
Benzene	0.06
Butylbenzene	12
Carbon tetrachloride	0.76
Chlorobenzene	1.1
Chloroform	0.37
Ethylbenzene	1
Hexachlorobenzene	3.2
Methyl ethyl ketone	0.12
Methyl tert-butyl ether	0.93
Methylene chloride	0.05
Propylbenzene-n	3.9
Sec-Butylbenzene	11
Tert-Butylbenzene	5.9
Tetrachloroethene	1.3
Toluene	0.7
Trichloroethene	0.47
Trimethylbenzene-1,2,4	3.6
Trimethylbenzene-1,3,5	8.4
Vinyl chloride	0.02
Xylene (mixed)	1.6

All concentrations are in parts per million (ppm)

Footnotes:

[1] The SCO for Hexavalent or Trivalent Chromium is considered to be met if the analysis for the total species of this contaminant is below the specific SCO for Hexavalent Chromium.

[2] For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.

Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

A-11 STORMWATER POLLUTION PREVENTION

If excavation is proposed within the Soil Management Area, procedures for stormwater pollution prevention will be developed in accordance with requirements of NYSDEC Division of Water guidelines and NYS regulations and submitted to NYSDEC as part of the notification submittal described in Section A-1.

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

A-12 CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. from the Soil Management Area as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for full a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work in the Soil Management Area will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the periodic reports prepared pursuant to Section 4 of the SMP.

A-13 COMMUNITY AIR MONITORING PLAN

If excavation is proposed for the Soil Management Area, a Community Air Monitoring Plan will be prepared in accordance with Appendix 1A of DER-10, Generic Community Air Monitoring Plan and submitted to NYSDEC as part of the notification submittal described in Section A-1. The notification will include a figure showing the location of air sampling stations based on generally prevailing wind conditions.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

A-14 ODOR CONTROL PLAN

Based on known site conditions, odor control methods are not anticipated to be required as part of soil excavation. However, as a precaution, this odor control plan is

capable of controlling emissions of nuisance odors off-site and on-site, if there are tenants on the property. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All reasonable and necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

A-15 DUST CONTROL PLAN

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.

- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

APPENDIX B:

SAMPLE HASP

VERTEX

ENVIRONMENTAL SERVICES, INC.
HEALTH AND SAFETY PLAN

Important: Please forward one copy of completed document to the Health and Safety Officer prior to project start up. Items marked with "1910.120..." are required by 29 CFR 1910.120.

Project Name: Carmel Shop-Rite Center
Client: Urstadt Biddle Properties, Inc.
Project Number: 15836
Location: 180 Gleneida Avenue, Carmel NY

Fieldwork Start Date:
VERTEX DigSafely NY Identification #
DigSafely NY Project Identification #
OK to drill/dig date:

Health and Safety Plan Approvals:

Plan Prepared By: _____ _____

Name Signature Date

Project Manager: _____ _____

Name Signature Date

In House Review: _____ _____

Name Signature Date

Plan expiration date:

- Plan expiration date will be thirty (30) days after the in house review/approval date.
- If this plan is required to be used after the expiration date, then a Health and Safety review is necessary.

1.0 GENERAL INFORMATION

1.1 Introduction

This Health and Safety Plan (HASP) addresses those activities and site procedures to be followed by VERTEX personnel during work performed at sites, which contain, or are suspected to contain, hazardous substances. Compliance with this HASP is required by all persons and third parties who enter the site. The content of this HASP may change or undergo revision based upon additional information made available to health and safety (H&S) personnel, monitoring results or changes in the scope of work. Any changes proposed must be reviewed by H&S staff and are subject to approval by the HSM and Project Manager.

This site-specific Health and Safety plan has been prepared for the use of VERTEX and its contractors, and supplements the health and safety training that each employee receives. The health and safety guidelines in this plan were prepared specifically for this site. Due to the potentially hazardous nature of the site covered by this plan and the activities occurring on the site, it is not possible to discover, evaluate, and provide protection for all possible hazards, which may be encountered. This plan is written for the specific site conditions, purposes, dates, and personnel specified and must be amended if these conditions change.

VERTEX expressly disclaims any and all guarantees or warranties, expressed or implied, that this plan will meet the specific needs or requirements of any contractor or its employees. VERTEX, therefore, cannot and does not assume any liability by the use or reuse of this plan by any client, contractor or their employees or agents. Any reliance on this plan will be at the sole risk and liability of such party.

1.2 Executive Summary

[SUMMARY OF WORK TO BE PERFORMED]

1.3 Acknowledgment

The following personnel have read, understand, and agree to abide by the provisions of this Health and Safety Plan, which has been prepared specifically for this Project. All personnel have received training in compliance with applicable regulations.

NAME (printed)	**REPRESENTING**	**SIGNATURE**	**DATE**

2.0 PROJECT INFORMATION (1910.120(c)(4))

2.1 Site Description

Lauren's Dry Cleaner and A&A Cleaners (both in the location of the current Sunscape Tan tenant space) are noted as historic tenants of concern in the shopping center and their historic operation resulted in tetrachloroethylene (PCE) contamination at the site.

2.2 Purpose of Site Work

[SUMMARY OF WORK TO BE PERFORMED]

2.3 Scope of Work

It is the site worker's responsibility to comply with the requirements of this plan, the project specifications, and federal (OSHA/EPA) or local (MADEP/MADOL) regulations that pertain to worker exposure to COCs

3.0 Health and Safety Hazard Analysis

At sites which, contain or are suspected to contain, hazardous substances, certain procedures will be implemented to identify, evaluate and control the substances as follows:

1. Recognition - identification of substances and the parameters which cause it to be hazardous.
2. Evaluation - the risk of impact of the substance to personnel, the public, and the environment.
3. Control - methods to prevent or minimize the impact of the substance.

RECOGNITION

Preliminary information about the hazardous substances which may be present at a site and the parameters which cause them to be hazardous can be obtained from an understanding of the site history. Site use, substances used at the site, disposal of substances (on or off-site), and existing status of operations provide background information on the type of materials which can be expected to be encountered. This initial step is essential to best establish how VERTEX personnel can safely obtain additional information to further recognize the hazardous substances at a site.

EVALUATION

The potential risks or impacts of hazardous substances suspected or known to exist at a site must be evaluated prior to entering a site. Site history is the initial source of information, which must be used to determine the level of personal protection to be worn by contractors while collecting further field information for evaluation. Levels of personal protection are summarized in the attached Site Safety Procedure outline. The minimum level of protection for contractors during the site investigation activities is Level D. This level should be utilized at all times when on-site. This protection will limit exposure due to splashes, immersions, or the potential for unexpected contact or inhalation of air or contact with hazardous levels of chemicals.

The next level of personal protection is Level C. Level C is not expected to be required during site activities.

In addition to appropriate levels of personnel protection required on-site, equipment identified on the safety procedure outline should be present and readily available at the site. The site safety plan should be filled out prior to entry of the site and updated as necessary.

CONTROL

The site safety procedures as outlined in Section 4.0, Site Safety Procedure, will be followed by VERTEX employees and subcontractors while performing work at sites which contain or are suspected to contain hazardous substances.

3.1 HAZARD ANALYSIS

Non-chemical hazards are associated with:

1. Heavy equipment operations.
2. Underground utilities: Exterior underground utilities will be located and marked by the proper authorities and care will be taken to avoid impact to interior utilities (i.e. hand digging).
3. Buried objects.
4. Slip, trip and fall.
5. Noise from construction machinery.

Chemical hazards are associated with:

1. Tetrachoroethylene (PCE)

The overall hazard is:

___x___ Low _____ Moderate _____ High

Assessment of Chemical Hazards				
Contaminant	**OSHA TWA PEL** (mg/m^3 unless otherwise noted.	**NIOSH TWA REL** (mg/m^3 unless otherwise noted.	**IDLH** (mg/m^3 unless otherwise noted.	**Routes of Exposure**
Tetrachloroethene (PCE)	100	-	1000	Inhalation of dust, Ingestion, Contact

4.0 Site Safety and Operating Procedures

I. Equipment

The following is to be present and readily available at all sites where hazardous substances may be encountered:

A. Personal Protection

1. Level D - all equipment as described in Section II.

B. Copy of Completed Site Safety Plan Containing:

1. Emergency center telephone numbers
2. Hospital location

C. First Aid Kit

D. Copy of OSHA/NIOSH Pocket guide to Chemical Hazards for COCs

II. Review Prior to Site Access

A. Chemical Hazards Known or Expected to be Encountered

Concentrations of VOCs and metals have been identified in soil and/or groundwater at the site. Therefore the following procedures should be adhered to for activities on the site:

- During activities where VOCs may be encountered during intrusive work (e.g., excavations, drilling, etc. in suspected soil contamination areas) ambient air monitoring should be conducted using a photo ionization detector equipped with an 11.7 eV lamp. To limit potential exposure, where possible workers should stand upwind of potential VOC sources
    - If total organic vapors are measured at a sustained concentrations greater than or equal to 5 parts per million in the breathing zone workers should evaluate the air for the presence of vinyl chloride (VC) using a colormetric tube;
    - If VC is detected stop work, exit the area and contact the site supervisor for instructions;
    - If VC is not detected continue air monitoring. If total organic vapors are measured at a sustained concentrations greater than or equal to 20 parts per million in the breathing zone workers should stop work, exit the area and contact the site supervisor for instructions;
- It should be noted that some COCs at this site have “poor warning properties” therefore, Upgrading PPE to include respiratory protection is not authorized without prior approval and the preparation of a Job Hazard Analysis that includes and cartridge/canister change-

out schedule, identifies the personnel qualified to don Level C PPE (including fit test records and medical clearance records).

- Dust controls should be utilized in for activities which produce sustained visible levels of dust. Level D PPE should be worn. If dust controls are ineffective, stop work and contact the site supervisor.

Work zones for this site include a support zone, a decontamination zone, and an exclusion zone. Because the site activities may vary from day to day, the site supervisor will designate the work zones for the day's activities during the daily health and safety meeting. In general, the support zone is the area where deliveries can be made, meeting with personnel unauthorized to enter other zones may be conducted. The support zone must be located a safe distance from the work activities. Typically this includes areas near the site entrance(s) and access roadways, restrooms, and office-trailers if present. The decontamination zone is adjacent to and separated from the support and exclusion zones and provides an area for workers in the exclusion zone to remove potentially impacted equipment, and conducted decontamination procedures. The exclusion zone will be include the area where work is to be conducted and will be sized appropriately based upon the work and equipment in the zone. The exclusion zone may extend from the area where work is being conducted to include worker walkways and vehicle routes, sample and soil staging areas, etc.

B. Physical Hazards Known or Expected to be Encountered

Specific Hazard	Location
Heavy equipment related to Site activities	On-site

C. Information Concerning Effects, Hazards, and Response/First Aid for Expected Chemical Hazards On-Site, Consult:

1. MSDS Forms (attached)
2. NIOSH Pocket Guide to Chemical Hazards

D. Nearest Emergency Centers and Telephone Numbers:

1. Hospital: **911**
2. Ambulance: **911**
3. Poison Control Center: **911**
4. Police: **911**
5. Fire Department: **911**
6. Gas Company: **911**
7. Electric Company: **911**
8. Water Department: **911**
9. DPW/Sewer Department: **911**
10. Dig Safely: **1-800-962-7962**

E. Hospital Directions:

See Attached

F. The following Level of Personal Protective Equipment Will be Worn Upon Entering the Site:

1. Minimum: Level D

a.) Gloves, inner, chemical resistant. *
b.) Boots, steel toe and shank, chemical resistant.
c.) Safety glasses
d.) Hard hat *
e) Safety vest *

*** optional as applicable**

III. Initial Site Entry Procedures:

A. Have and be Familiar with Field Map

- Plan work route and work locations.
- Locate nearest telephone.
- Review and confirm subsurface utility markings.
- Review utility clearance.
- Check with site personnel for locations of underground hazards.
- Post Emergency Information - Confirm and post emergency phone numbers and hospital route.
- Designate one vehicle for emergency use.

IV. Daily Operating Procedures:

- Hold daily tailgate safety meetings with all contractors prior to work start
- Use monitoring instruments and follow designated protocol.
- Use personal protective equipment (PPE) as specified.
- Remain upwind of operations and airborne contaminants if possible.
- Establish a work/rest regime when ambient temperatures and protective clothing create a potential heat stress hazard.
- Do not carry gum, food, cigarettes, etc. into contaminated areas.
- Refer to the site Safety Supervisor for specific concerns for each individual site task.
- ALWAYS employ the Buddy System.
- Be alert to your own physical condition. Watch buddy for signs of fatigue, exposure, etc.

Upon Accident, Physical Reaction or Excessive Exposure:

1. leave area immediately and seek appropriate medical assistance.

2. this may include, but not be limited to, any of the following physiological reactions:

    - dizziness
    - nausea
    - rash
    - asthmatic reactions
    - abdominal pain
    - distorted vision or hearing

- excessive coughing
- edema or localized swelling
- headaches

3. Exposure due to:

- spills
- splashes
- immersions
- inhalation

- **<u>All accidents</u> no matter how minor, must be reported <u>immediately</u> to the Safety Supervisor!!**

5.0 EMERGENCY RESPONSE PROCEDURES

5.1 Emergency Incident Procedures

The nature of work at contaminated or potentially contaminated work sites make emergencies a continual possibility. Although emergencies are unlikely and occur infrequently, a contingency plan is required to assure timely and appropriate response actions. The contingency plan is reviewed at tailgate safety meetings.

Discuss client Emergency Response Plans, subcontractor's responsibilities, including site-specific requirements, in complying with the clients ER plan.

5.1.1 Emergency Incident Procedures

If emergency incident occurs, take the following action.

Step 1: Size-up the situation based in the available information.

Step 2: Notify the Site Safety Officer and/or Field Supervisor

Step 3: Only respond to an emergency if personnel are sufficiently trained and properly equipped.

Step 4: As appropriate, evacuate site personnel and notify emergency response agencies, e.g. police, fire, etc.

Step 5: As necessary, request assistance from outside sources and/or allocate personnel and equipment

Step 6: Consult the posted emergency phone list and contact key personnel.

Step 7: Prepare an incident report. Forward incident report to Project Manager /Corporate Health and Safety Manager within 24 hours

5.1.2 Medical Emergencies

If a medical emergency occurs, take the following action.

Step 1: Assess the severity of the injury and perform life-saving first aid/CPR as necessary to stabilize the injured person. Follow universal precautions to protect against exposure to blood borne pathogens.

Step 2: Get medical attention for the injured person immediately. (Call 911 or consult the Emergency Contacts list which must be posted at the site).

Step 3: Notify the Site Safety Officer and the Field Supervisor immediately. The Site Safety Officer will assume charge during a medical emergency.

Step 4: Depending on the type and severity of the injury, transport the injured employee to the nearest hospital emergency room. If the injury is not serious, then transport the injured employee to a nearby medical clinic. Consult your Health and Safety Manager for guidance, if necessary.

Step 5: Notify the injured person's personnel office, including the Regional Manager, Project Manager and Health and Safety Manager.

Step 6: Prepare an accident report. The Site Safety officer is responsible for its preparation and submittal to the Health and Safety Manager within **24 hours**.

5.2 Emergency Routes

Call 911/See Attached Hospital Directions.

5.3 Site Specific Requirements in the Event of an Emergency

5.3.1 Facility Notifications (if any)

Environmental: VERTEX Environmental - 781-952-6000

Safety:

Security:

Facilities:

5.3.2 Locate Shut-Offs

Gas:

Power:

Fuel:

5.3.3 Evacuation Route

If evacuation is required, the Field Supervisor shall:

Step 1: Activate the communications system to alert site workers of evacuation. Personnel shall be advised to remain upwind of contaminants, if possible, and proceed to the designated assembly area.

Step 2: Account for all personnel at the assembly area.

Step 3: Notify the client of the need to initiate evacuation procedures for other site personnel.

Step 4: Notify the Fire and Police Department and request their assistance for evacuating the surrounding area and residence.

5.3.4 Spill Containment Plan *(Specify)*

If a spill of hazardous material, occurs the following steps shall be taken to mitigate the incident:

Step 1: Notify the Field Supervisor, and he/she shall assess the extent of the spill to determine if it can be safely mitigated with the personnel and protective equipment available at the site.

Step 2: If the release is beyond the field team's capabilities, the Field Supervisor shall evacuate the site personnel to a safe location upwind of the releases, and notify the Project Manager and the Fire Department.

Step 3: The Filed Supervisor shall notify the client, Corporate Health and Safety Director, and regulatory agencies if necessary.

Step 4: If the spill can be safely mitigated using defensive actions, first don the appropriate PPE.

Step 5: Take steps to secure the area and to prevent unauthorized persons from entering the area.

Step 6: Take steps to contain the spill and to prevent it from reaching sewers, storm ditches, etc.

Step 7: Clean up the spill with absorbent, neutralizers, and soil removal as appropriate. Place waste in sealed, labeled containers for disposal.

EMERGENCY PHONE NUMBERS
-POST IN FULL VIEW-

VERTEX Corporate Office.....(781) 952-6000

1. **Hospital: 911**

2. **Ambulance: 911**

2. **Poison Control Center: 911**

4. **Police: 911**

5. **Fire Department: 911**

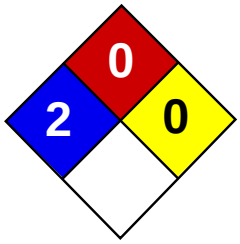
6. **Gas Company: 911**

7. **Electric Company: 911**

8. **Water Department: 911**

9. **DPW/Sewer Department: 911**

10. **DigSafely: 1-800-962-7962**



Health	2
Fire	0
Reactivity	0
Personal Protection	G

Material Safety Data Sheet
Tetrachloroethylene MSDS

Section 1: Chemical Product and Company Identification

Product Name: Tetrachloroethylene

Catalog Codes: SLT3220

CAS#: 127-18-4

RTECS: KX3850000

TSCA: TSCA 8(b) inventory: Tetrachloroethylene

CI#: Not available.

Synonym: Perchloroethylene; 1,1,2,2-Tetrachloroethylene; Carbon bichloride; Carbon dichloride; Ankilostin; Didakene; Dilatin PT; Ethene, tetrachloro-; Ethylene tetrachloride; Perawin; Perchlor; Perclene; Perclene D; Percosolvel; Tetrachloroethene; Tetraleno; Tetralex; Tetravec; Tetroguer; Tetropil

Chemical Name: Ethylene, tetrachloro-

Chemical Formula: C2-Cl4

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Tetrachloroethylene	127-18-4	100

Toxicological Data on Ingredients: Tetrachloroethylene: ORAL (LD50): Acute: 2629 mg/kg [Rat]. DERMAL (LD): Acute: >3228 mg/kg [Rabbit]. MIST(LC50): Acute: 34200 mg/m 8 hours [Rat]. VAPOR (LC50): Acute: 5200 ppm 4 hours [Mouse].

Section 3: Hazards Identification

Potential Acute Health Effects:
Hazardous in case of skin contact (irritant), of inhalation. Slightly hazardous in case of skin contact (permeator), of eye contact (irritant), of ingestion.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Classified A3 (Proven for animal.) by ACGIH. Classified 2A (Probable for human.) by IARC, 2 (anticipated carcinogen) by NTP. MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, liver, peripheral nervous system, respiratory tract, skin, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin Contact:
In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:
Absorb with an inert material and put the spilled material in an appropriate waste disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Do not ingest. Do not breathe gas/fumes/ vapor/spray. Avoid contact with skin. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, metals, acids, alkalis.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Personal Protection:
Safety glasses. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
TWA: 25 (ppm) from OSHA (PEL) [United States] TWA: 25 STEL: 100 (ppm) from ACGIH (TLV) [United States] TWA: 170 (mg/m3) from OSHA (PEL) [United States] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Ethereal.

Taste: Not available.

Molecular Weight: 165.83 g/mole

Color: Clear Colorless.

pH (1% soln/water): Not available.

Boiling Point: 121.3°C (250.3°F)

Melting Point: -22.3°C (-8.1°F)

Critical Temperature: 347.1°C (656.8°F)

Specific Gravity: 1.6227 (Water = 1)

Vapor Pressure: 1.7 kPa (@ 20°C)

Vapor Density: 5.7 (Air = 1)

Volatility: Not available.

Odor Threshold: 5 - 50 ppm

Water/Oil Dist. Coeff.: The product is more soluble in oil; log(oil/water) = 3.4

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility:
Miscible with alcohol, ether, chloroform, benzene, hexane. It dissolves in most of the fixed and volatile oils. Solubility in water: 0.015 g/100 ml @ 25 deg. C It slowly decomposes in water to yield Trichloroacetic and Hydrochloric acids.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials

Incompatibility with various substances: Reactive with oxidizing agents, metals, acids, alkalis.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:
Oxidized by strong oxidizing agents. Incompatible with sodium hydroxide, finely divided or powdered metals such as zinc, aluminum, magnesium, potassium, chemically active metals such as lithium, beryllium , barium. Protect from light.

Special Remarks on Corrosivity: Slowly corrodes aluminum, iron, and zinc.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 2629 mg/kg [Rat]. Acute dermal toxicity (LD50): >3228 mg/kg [Rabbit]. Acute toxicity of the vapor (LC50): 5200 4 hours [Mouse].

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: Classified A3 (Proven for animal.) by ACGIH. Classified 2A (Probable for human.) by IARC, 2 (Some evidence.) by NTP. MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. May cause damage to the following organs: kidneys, liver, peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS).

Other Toxic Effects on Humans:
Hazardous in case of skin contact (irritant), of inhalation. Slightly hazardous in case of skin contact (permeator), of ingestion.

Special Remarks on Toxicity to Animals:
Lowest Publishe Lethal Dose/Conc: LDL [Rabbit] - Route: Oral; Dose: 5000 mg/kg LDL [Dog] - Route: Oral; Dose: 4000 mg/kg LDL [Cat] - Route: Oral; Dose: 4000 mg/kg

Special Remarks on Chronic Effects on Humans:
May cause adverse reproductive effects and birth defects(teratogenic). May affect genetic material (mutagenic). May cause cancer.

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects: Skin: Causes skin irritation with possible dermal blistering or burns. Symtoms may include redness, itching, pain, and possible dermal blistering or burns. It may be absorbed through the skin with possible systemic effects. A single prolonged skin exposure is not likely to result in the material being absorbed in harmful amounts. Eyes: Contact causes transient eye irritation, lacrimation. Vapors cause eye/conjunctival irritation. Symptoms may include redness and pain. Inhalation: The main route to occupational exposure is by inhalation since it is readily absorbed through the lungs. It causes respiratory tract irritation, . It can affect behavior/central nervous system (CNS depressant and anesthesia ranging from slight inebriation to death, vertigo, somnolence, anxiety, headache, excitement, hallucinations, muscle incoordination, dizziness, lightheadness, disorentiation, seizures, enotional instability, stupor, coma). It may cause pulmonary edema Ingestion: It can cause nausea, vomiting, anorexia, diarrhea, bloody stool. It may affect the liver, urinary system (proteinuria, hematuria, renal failure, renal tubular disorder), heart (arrhythmias). It may affect behavior/central nervous system with symptoms similar to that of inhalation. Chronic Potential Health Effects: Skin: Prolonged or repeated skin contact may result in excessive drying of the skin, and irritation. Ingestion/Inhalation: Chronic exposure can affect the liver(hepatitis,fatty liver degeneration), kidneys, spleen, and heart (irregular heartbeat/arrhythmias, cardiomyopathy, abnormal EEG), brain, behavior/ central nervous system/peripheral nervous system (impaired memory, numbness of extremeties, peripheral neuropathy and other

Section 12: Ecological Information

Ecotoxicity:
Ecotoxicity in water (LC50): 18.4 mg/l 96 hours [Fish (Fatthead Minnow)]. 18 mg/l 48 hours [Daphnia (daphnia)]. 5 mg/l 96 hours [Fish (Rainbow Trout)]. 13 mg/l 96 hours [Fish (Bluegill sunfish)].

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: CLASS 6.1: Poisonous material.

Identification: : Tetrachloroethylene UNNA: 1897 PG: III

Special Provisions for Transport: Marine Pollutant

Section 15: Other Regulatory Information

Federal and State Regulations:
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Tetrachloroethylene California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Tetrachloroethylene Connecticut hazardous material survey.: Tetrachloroethylene Illinois toxic substances disclosure to employee act: Tetrachloroethylene Illinois chemical safety act: Tetrachloroethylene New York release reporting list: Tetrachloroethylene Rhode Island RTK hazardous substances: Tetrachloroethylene Pennsylvania RTK: Tetrachloroethylene Minnesota: Tetrachloroethylene Michigan critical material: Tetrachloroethylene Massachusetts RTK: Tetrachloroethylene Massachusetts spill list: Tetrachloroethylene New Jersey: Tetrachloroethylene New Jersey spill list: Tetrachloroethylene Louisiana spill reporting: Tetrachloroethylene California Director's List of Hazardous Substances: Tetrachloroethylene TSCA 8(b) inventory: Tetrachloroethylene TSCA 8(d) H and S data reporting: Tetrachloroethylene: Effective date: 6/1/87; Sunset date: 6/1/97 SARA 313 toxic chemical notification and release reporting: Tetrachloroethylene CERCLA: Hazardous substances.: Tetrachloroethylene: 100 lbs. (45.36 kg)

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):
CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):
R40- Possible risks of irreversible effects. R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. S23- Do not breathe gas/fumes/vapour/spray S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S37- Wear suitable gloves. S61- Avoid release to the environment. Refer to special instructions/Safety data sheets.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: g

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

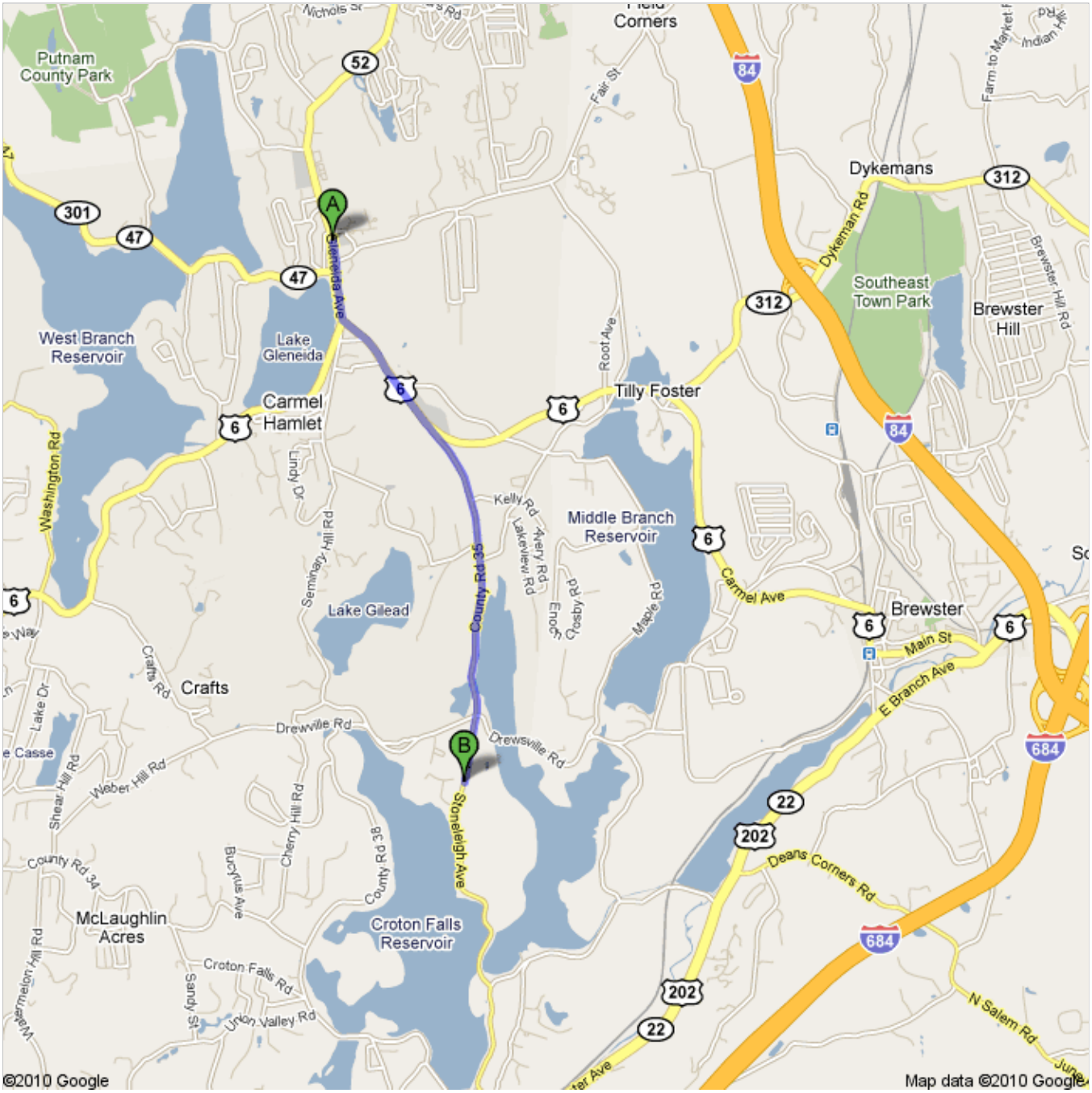
Created: 10/10/2005 08:29 PM

Last Updated: 11/01/2010 12:00 PM

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ScienceLab.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if ScienceLab.com has been advised of the possibility of such damages.

Google maps

Directions to Putnam Hospital Center
670 Stoneleigh Avenue, Carmel, NY 10512 - (845) 279-5711
3.4 mi – about **6 mins**



180 Gleneida Ave, Carmel, NY 10512

	1. Head **south** on **Gleneida Ave** toward **County Rd 60/Fair St**	go 0.5 mi total 0.5 mi
	2. Slight **left** at **Brewster Ave/County Rd 35** Continue to follow County Rd 35 About 2 mins	go 0.8 mi total 1.3 mi
	3. Slight **right** at **County Rd 35/Stoneleigh Ave** Destination will be on the left About 4 mins	go 2.1 mi total 3.4 mi

Putnam Hospital Center
670 Stoneleigh Avenue, Carmel, NY 10512 - (845) 279-5711

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

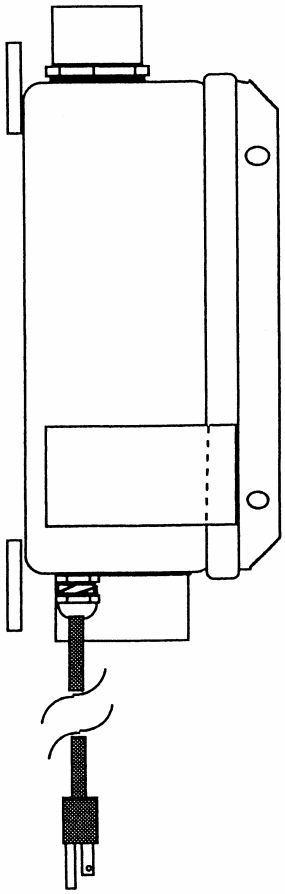
Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

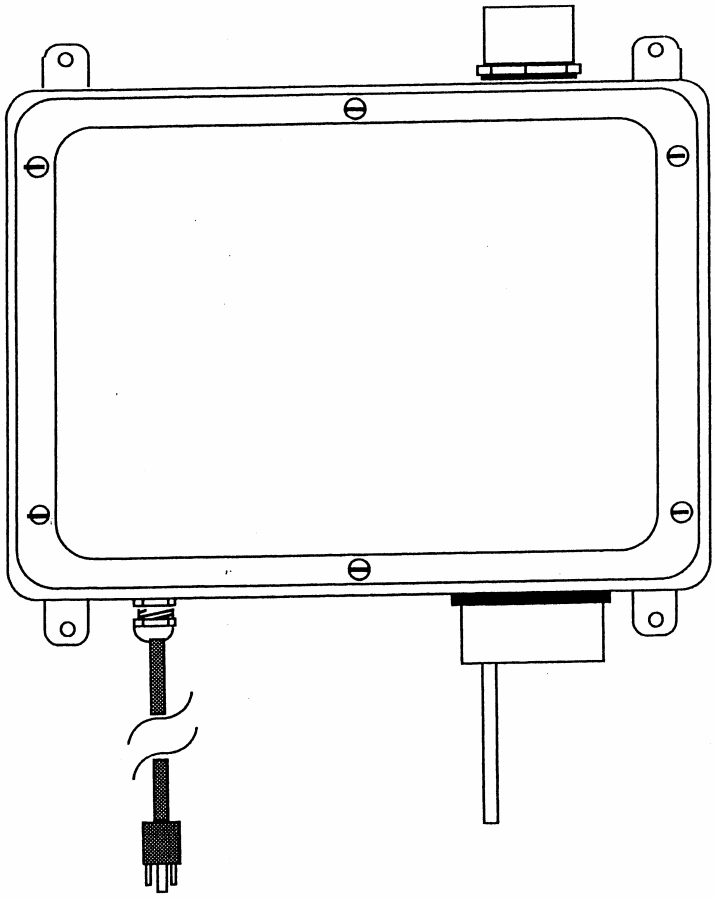
APPENDIX C:

SSDS FAN MANUALS

HS SERIES INSTALLATION INSTRUCTIONS

BY RadonAway™





RadonAway, Inc. Ward Hill, MA. P/N IN007 Rev F

RadonAway Ward Hill, MA.

HS 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!** In the event that the fan is immersed in water, return unit to factory for service before operating.

8. **WARNING!** Do not twist or torque fan inlet or outlet piping as Leakage may result.

9. **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.

INSTALLATION INSTRUCTIONS (Rev F)
for DynaVac High Suction Series
HS2000 p/n 23004-1
HS3000 p/n 23004-2
HS5000 p/n 23004-3

1.0 SYSTEM DESIGN CONSIDERATIONS

1.1 INTRODUCTION

The DynaVac is intended for use by trained, professional Radon mitigators. The purpose of this instruction is to provide additional guidance for the most effective use of the DynaVac. 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 DynaVac is 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 DynaVac should be stored in an area where the temperature is never less than 32 degrees F. or more than 100 degrees F. The DynaVac is thermally protected such that it will shut off when the internal temperature is above 104 degrees F. Thus if the DynaVac is idle in an area where the ambient temperature exceeds this shut off, it will not restart until the internal temperature falls below 104 degrees F.

1.3 ACOUSTICS

The DynaVac, when installed properly, operates with little or no noticable noise to the building occupants. There are, however, some considerations to be taken into account in the system design and installation. When installing the DynaVac above sleeping areas, select a location for mounting which is as far away as possible from those areas. Avoid mounting near doors, fold-down stairs or other uninsulated structures which may transmit sound. Insure a solid mounting for the DynaVac to avoid structure-borne vibration or noise.

The velocity of the outgoing air must also be considered in the overall system design. With small diameter piping, the "rushing" sound of the outlet air can be disturbing. The system design should incorporate a means to slow and quiet the outlet air. The use of the RadonAway Exhaust Muffler, p/n 24001, is strongly recommended.

1.4 GROUND WATER

Under no circumstances should water be allowed to be drawn into the inlet of the DynaVac as this may result in damage to the unit. The DynaVac should be mounted at least 5 feet above the slab penetration to minimize the risk of filling the DynaVac with water in installations with occasional high water tables.

In the event that a temporary high water table results in water at or above slab level, water will be drawn into the riser pipes thus blocking air flow to the DynaVac. The lack of cooling air will result in the DynaVac 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 DynaVac be disconnected until the water recedes allowing for return to normal operation.

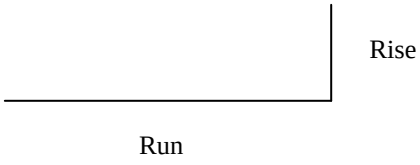
1.5 CONDENSATION & DRAINAGE

(WARNING!: Failure to provide adequate drainage for condensation can result in system failure and damage the DynaVac).

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 use of small diameter piping in a system increases the speed at which the air moves. The speed of the air can pull water uphill and at sufficient velocity it can actually move water vertically up the side walls of the pipe. This has the potential of creating a problem in the negative pressure (inlet) side piping. For DynaVac inlet piping, the following table provides the minimum recommended pipe diameters as well as minimum pitch under several system condition. Use this chart to size piping for a system.

Pipe Diam.	Minimum Rise per Foot of Run*		
	@ 25 CFM	@ 50 CFM	@ 100 CFM
4"	1/32 "	3/32 "	3/8 "
3"	1/8 "	3/8 "	1 1/2 "



*Typical operational flow rates:

HS3000, or HS5000	20 - 40 CFM
HS2000	50 - 90 CFM

All exhaust piping should be 2" PVC.

1.6 "SYSTEM ON" INDICATOR

A properly designed system should incorporate a "System On" Indicator for affirmation of system operation. A Magnehelic pressure gauge is recommended for this purpose. The indicator should be mounted at least 5 feet above the slab penetration to minimize the risk of filling the gauge with water in installations with occasional high water tables.

1.7 SLAB COVERAGE

The DynaVac can provide coverage of well over 1000 sq. ft. per slab penetration. This will, of course, depend on the sub-slab aggregate in any particular installation and the diagnostic results. In general, sand and gravel are much looser aggregates than dirt and clay. Additional suction points can be added as required. It is recommended that a small pit (2 to 10 gallons in size) be created below the slab at each suction hole.

1.8 ELECTRICAL WIRING

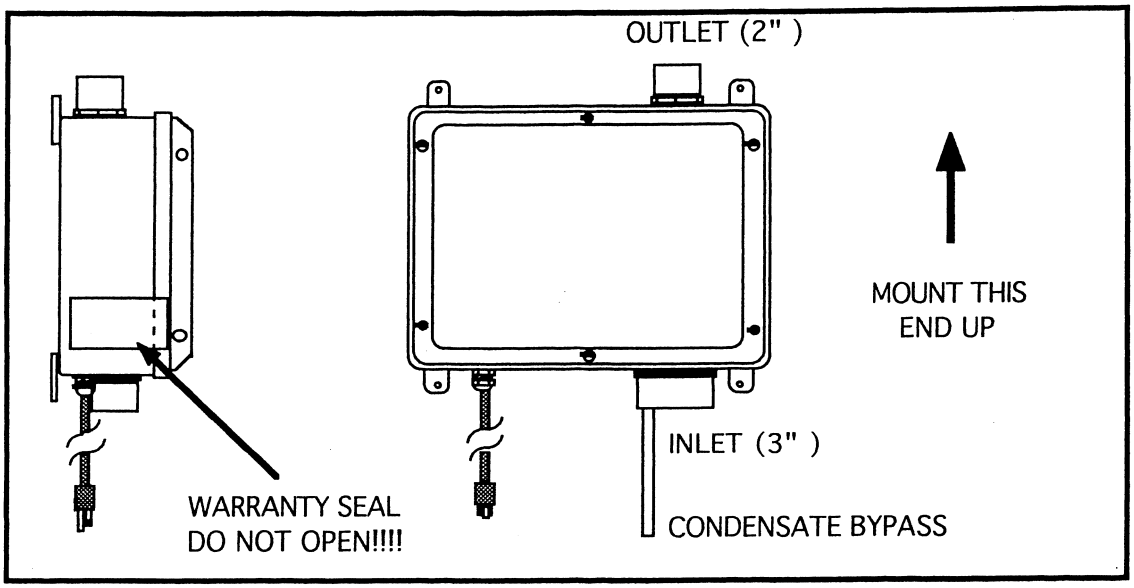
The DynaVac plugs into a standard 120V outlet. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA)"National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician.

1.8a ELECTRICAL BOX (optional)

The optional Electrical Box (p/n 20003) provides a weathertight box with switch for outdoor hardwire connection. 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.

1.9 SPEED CONTROLS

Electronic speed controls can **NOT** be used on HS series units.



2.0 INSTALLATION

2.1 MOUNTING

Mount the DynaVac to the wall studs, or similar structure, in the selected location with (4) 1/4" x 1 1/2" lag screws (not provided). Insure the DynaVac is both plumb and level.

2.2 DUCTING CONNECTIONS

Make final ducting connection to DynaVac with flexible couplings. Insure all connections are tight. Do not twist or torque inlet and outlet piping on DynaVac or leaks may result.

2.3 VENT MUFFLER INSTALLATION

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

2.5 OPERATION CHECKS

____ Make final operation checks by verifying all connections are tight and leak-free.

____ Insure the DynaVac and all ducting is secure and vibration-free.

____ Verify system vacuum pressure with Magnehelic. Insure vacuum pressure is less than the maximum recommended as shown below:

DynaVac	HS2000	14" WC
DynaVac	HS3000	21" WC
DynaVac	HS5000	40" WC

(Above are based on sea-level operation, at higher altitudes reduce above by about 4% per 1000 Feet.)
If these are exceeded, increase number of suction points.

____ Verify Radon levels by testing to EPA protocol.

Addendum

PRODUCT SPECIFICATIONS

Model	Maximum Static Suction	Typical CFM vs Static Suction WC (Recommended Operating Range)						Power* Watts @ 115 VAC
		0"	10"	15"	20"	25"	35"	
HS2000	18"	110	72	40	-	-	-	150-270
HS3000	27"	40	33	30	23	18	-	105-195
HS5000	50"	53	47	42	38	34	24	180-320

*Power consumption varies with actual load conditions

Inlet: 3.0" PVC
Outlet: 2.0" PVC
Mounting: Brackets for vertical mount
Weight: Approximately 18 lbs.
Size: Approximately 15"W x 13"H x 8"D
Minimum recommended inlet ducting (greater diameter may always be used):
HS3000, HS5000 --- 2.0" PVC Pipe
HS2000 --- Main feeder line of 3.0" or greater PVC Pipe
Branch lines (if 3 or more) may be 2.0" PVC Pipe
Outlet ducting: 2.0" PVC
Storage temperature range: 32 - 100 degrees F.
Thermally protected
Locked rotor protection
Internal Condensate Bypass

IMPORTANT INSTRUCTIONS TO INSTALLER

Inspect the HS 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 HS 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 HS Series Fan (the "Fan") will be free from defects in materials and workmanship for a period of one (1) year from the date of manufacture (the "Warranty Term"). Outside the Continental United States and Canada the Warranty Term is one (1) year from the date of manufacture.

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. 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 include damage in shipment unless the damage is due to the negligence of RadonAway.

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

EXCEPT AS STATED ABOVE, THE HS 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.

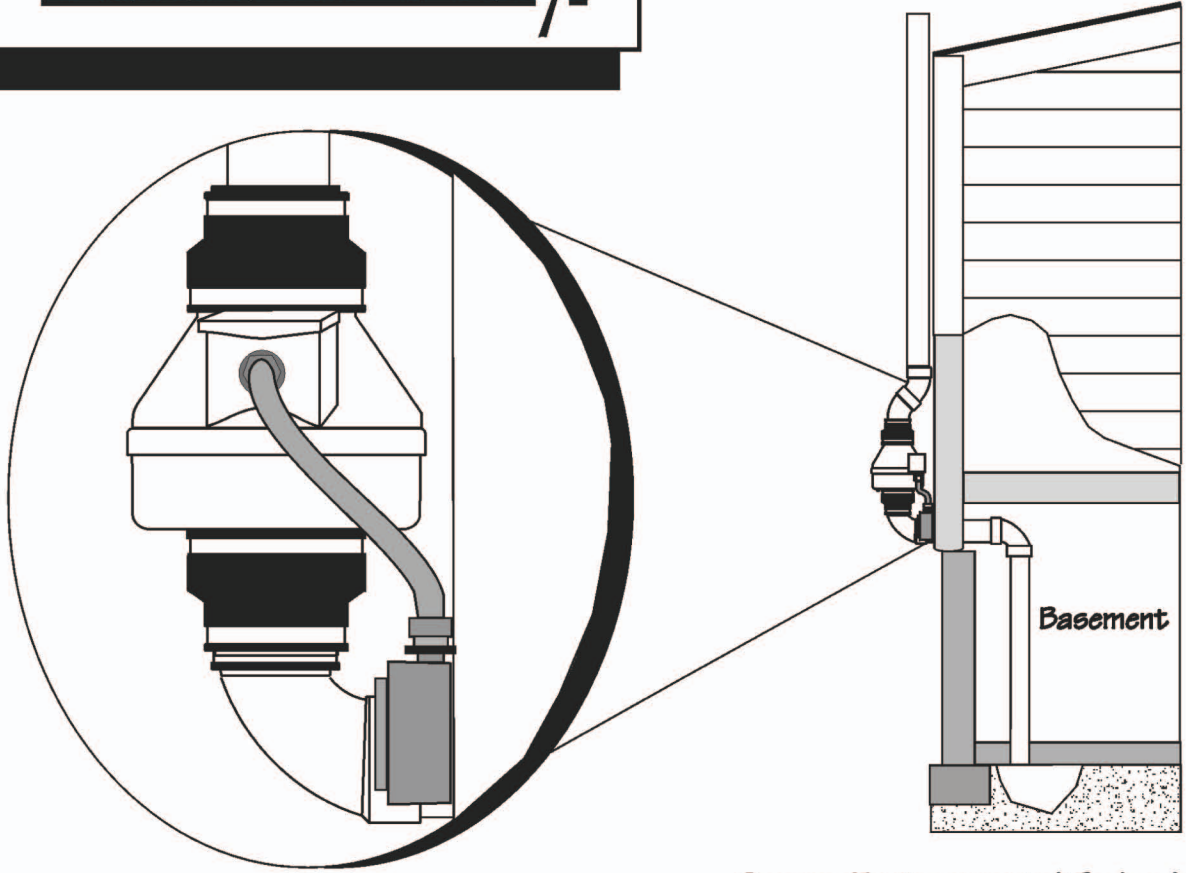
RadonAway
3 Saber Way
Ward Hill, MA 01835
TEL. (978) 521-3703
FAX (978) 521-3964

Record the following information for your records:

Serial No._____
Purchase Date_____

RP Series Installation Instructions

By RadonAway™



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

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.

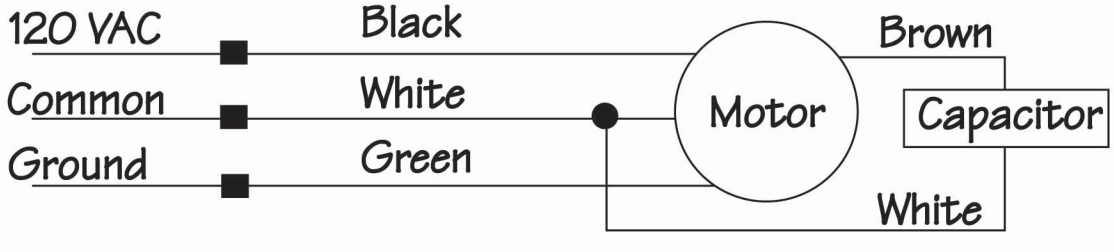
4. **WARNING!** Normal operation of this device may affect the combustion airflow needed for safe operation of fuel burning equipment. Check for possible backdraft conditions on all combustion devices after installation.

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



INSTALLATION INSTRUCTIONS IN020 Rev I

DynaVac - RP Series
RP140 p/n 23029-1
RP145 p/n 23030-1
RP260 p/n 23032-1
RP265 p/n 23033-1
RP380 p/n 28208

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.

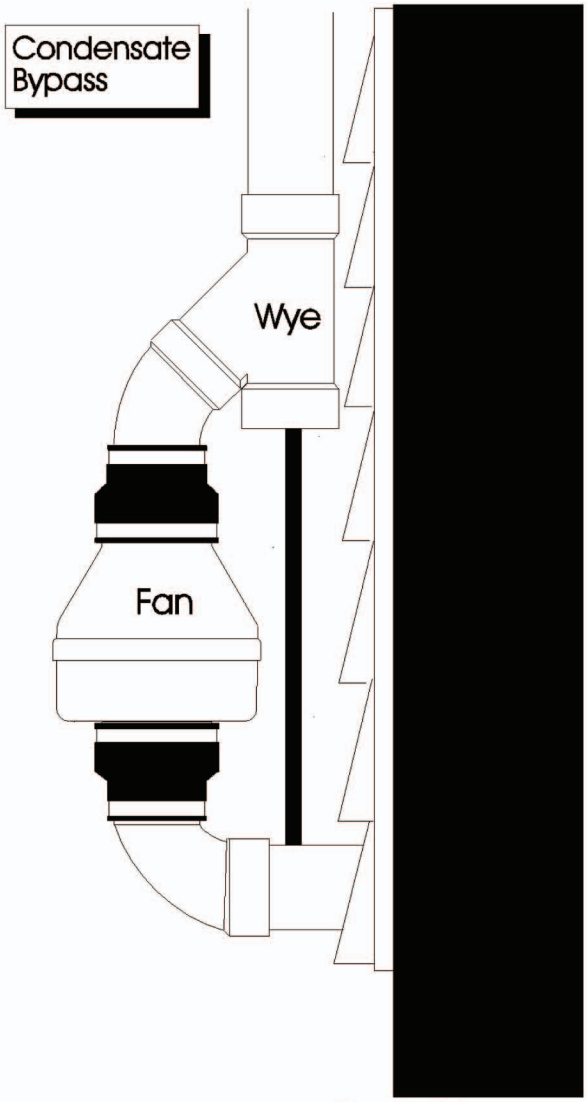
For RP Series Fan piping, the following table provides the minimum recommended pipe diameter and pitch under several system conditions.

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

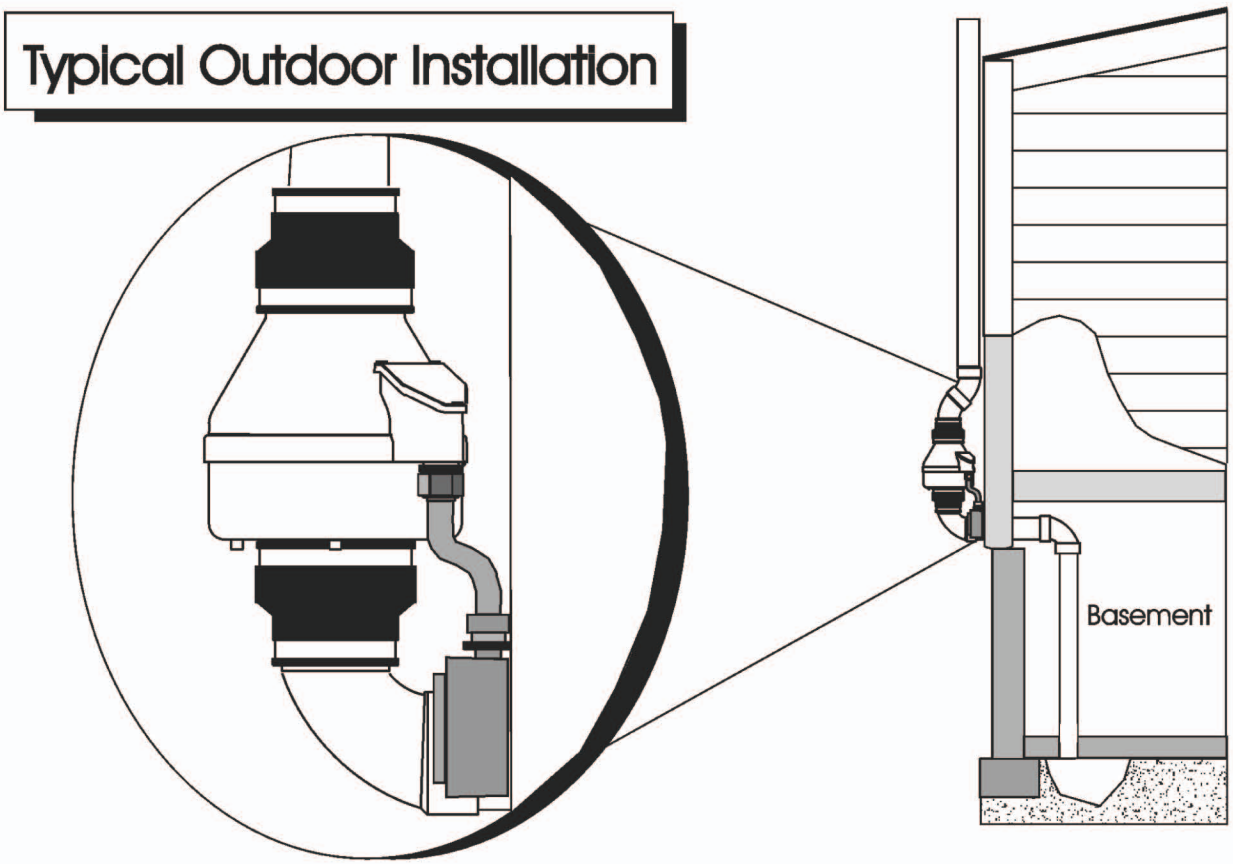
The RP Series Fans operate on standard 120V 60 Hz. AC. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA)"National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must 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 sealed 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

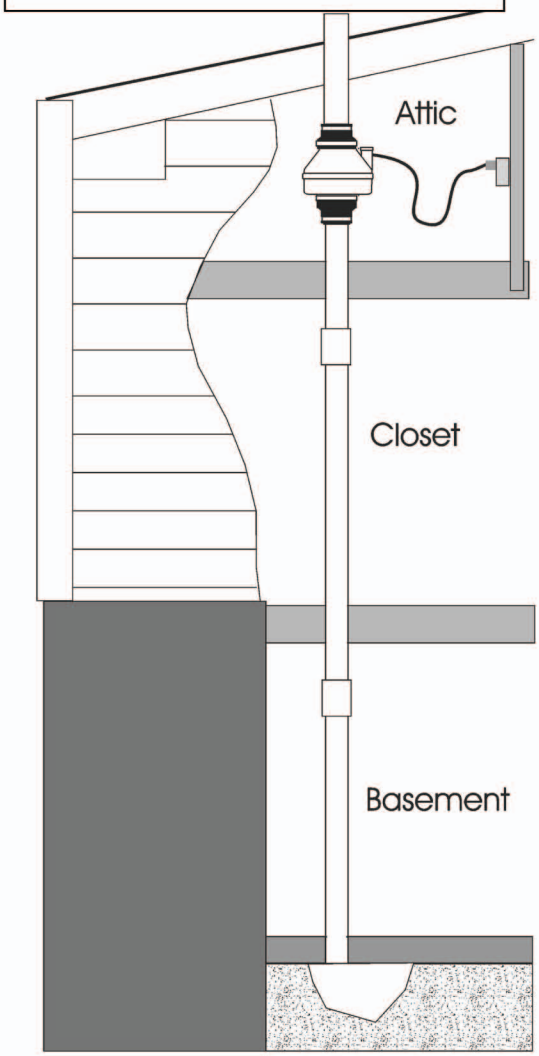
The RP Series Fan can be mounted indoors or outdoors. (It is suggested that EPA recommendations be followed in choosing the fan location.) The RP Series Fan may be mounted directly on the system piping or fastened to a supporting structure by means of optional mounting bracket.



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.

Typical Indoor Installation



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(See Section 1.8):

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	135	103	70	14	-	-	-	-	-
RP145	166	146	126	104	82	61	41	21	3
RP260	272	220	176	138	103	57	13	-	-
RP265	334	291	247	210	176	142	116	87	52
RP380*	497	401	353	281	220	176	130	80	38

* Tested with 6″ inlet and discharge pipe.

Power Consumption 120 VAC, 60Hz 1.5 Amp Maximum			Maximum Recommended Operating Pressure* (Sea Level Operation)**	
RP140	17 - 21	watts	RP140	0.8" W.C.
RP145	41 - 72	watts	RP145	1.7" W.C.
RP260	52 - 72	watts	RP260	1.5" W.C.
RP265	91 - 129	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® 77728 Tested to UL Std. 507 ® 2100 HVI CERTIFIED

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 D:

SITE-WIDE INSPECTION CHECKLIST

SITE-WIDE INSPECTION CHECKLIST
Carmel Shop-Rite Plaza
Site No. V00104-3

Date of Inspection:_____
Time of Inspection: _____
Inspector Name: _____
Inspector Company: _____
Weather Conditions:_____

Do current site operations include usage other than commercial and/or industrial purposes (i.e. residential)?
☐ YES[1] ☐ NO

Are vegetables gardens and/or other agricultural uses present at the site?
☐ YES[1] ☐ NO

Is groundwater at the site being used for potable or process purposes?
☐ YES[1] ☐ NO

Do you observe any activities that are not in compliance with the Site Management Plan for the site?
☐ YES[1] ☐ NO

[1] **If the Answer To Any Of The Above Is "Yes" Please Report To Vertex As Soon As Possible At (781) 952-6000**

Please describe general site conditions at the time of the inspection:

_____
_____
_____
_____
_____

Complete Sub-Slab Depressurization O&M Checklist For Each Tenant Space:

☐ **Redendo's Pizza SSDS O&M Checklist**
☐ **Jina's Nails and More SSDS O&M Checklist**
☐ **Sunscape Tan SSDS O&M Checklist**
☐ **Chinatown SSDS O&M Checklist**

Please describe any SSDS maintenance or system modifications conducted since the last site-wide inspection:

_____
_____
_____
_____
_____
(include color photographs, sketches, maintenance receipts, etc. where appropriate)

Redendo's Pizza:
SUB-SLAB DEPRESSURIZATION O&M CHECKLIST

Name:_____ Date:_____

ROUTINE SYSTEM MAINTENANCE:

Note: the following checklist should be performed for each slab entry point.

FANS:

☐ **Check that the fans are still running**

☐ **Check that no new air intakes have been installed within 20 feet of exhaust pipe**

SEALS:

☐ **If possible, observe section point where PVC pipe enters the floor slab**

☐ **Observe the seal around PVC pipes for visual cracks or a loud audible hissing. Indications of leaks should be reported to VERTEX as soon as possible**

PIPING:

☐ **Check liquid manometers (look like U-shaped thermometers) for a difference in water level on each side of the U-shape.**

☐ **Inspect all system pipes and/or pipe enclosures to ensure that no damage has occurred**

☐ **Inspect all system pipes and/or pipe enclosures to ensure that no unauthorized piping connections have been made**

☐ **Where piping is visible check that labeling and liquid manometers remain in place**

IF THE INTEGRITY OF THE SYSTEM HAS BEEN COMPROMISED PLEASE REPORT TO VERTEX AS SOON AS POSSIBLE AT (781) 952-6000

Jina's Nails and More:
SUB-SLAB DEPRESSURIZATION O&M CHECKLIST

Name:_____ Date:_____

ROUTINE SYSTEM MAINTENANCE:

Note: the following checklist should be performed for each slab entry point.

FANS:

☐ **Check that the fan is still running**

☐ **Check that no new air intakes have been installed within 20 feet of exhaust pipe**

SEALS:

☐ **If possible, observe section point where PVC pipe enters the floor slab**

☐ **Observe the seal around PVC pipes for visual cracks or a loud audible hissing. Indications of leaks should be reported to VERTEX as soon as possible**

PIPING:

☐ **Inspect all system pipes and/or pipe enclosures to ensure that no damage has occurred**

☐ **Inspect all system pipes and/or pipe enclosures to ensure that no unauthorized piping connections have been made**

☐ **Where piping is visible check that labeling remains in place**

IF THE INTEGRITY OF THE SYSTEM HAS BEEN COMPROMISED PLEASE REPORT TO VERTEX AS SOON AS POSSIBLE AT (781) 952-6000

Sunscape Tan:
SUB-SLAB DEPRESSURIZATION O&M CHECKLIST

Name:_____ Date:_____

ROUTINE SYSTEM MAINTENANCE:

FANS:

- ☐ **Check that the fan is still running**
- ☐ **Check that no new air intakes have been installed within 20 feet of exhaust pipe**

SEALS:

- ☐ **If possible, observe section point where PVC pipe enters the floor slab**
- ☐ **Observe the seal around PVC pipes for visual cracks or a loud audible hissing. Indications of leaks should be reported to VERTEX as soon as possible**

PIPING:

- ☐ **Inspect all system pipes and/or pipe enclosures to ensure that no damage has occurred**
- ☐ **Inspect all system pipes and/or pipe enclosures to ensure that no unauthorized piping connections have been made**
- ☐ **Where piping is visible check that labeling remains in place**

IF THE INTEGRITY OF THE SYSTEM HAS BEEN COMPROMISED PLEASE REPORT TO VERTEX AS SOON AS POSSIBLE AT (781) 952-6000

Chinatown Restaurant:
SUB-SLAB DEPRESSURIZATION O&M CHECKLIST

Name:_____ Date:_____

ROUTINE SYSTEM MAINTENANCE:

Note: the following checklist should be performed for each slab entry point.

FANS:

- ☐ **Check that the fan is still running**
- ☐ **Check that no new air intakes have been installed within 20 feet of exhaust pipe**

SEALS:

- ☐ **If possible, observe section point where PVC pipe enters the floor slab**
- ☐ **Observe the seal around PVC pipes for visual cracks or a loud audible hissing. Indications of leaks should be reported to VERTEX as soon as possible**

PIPING:

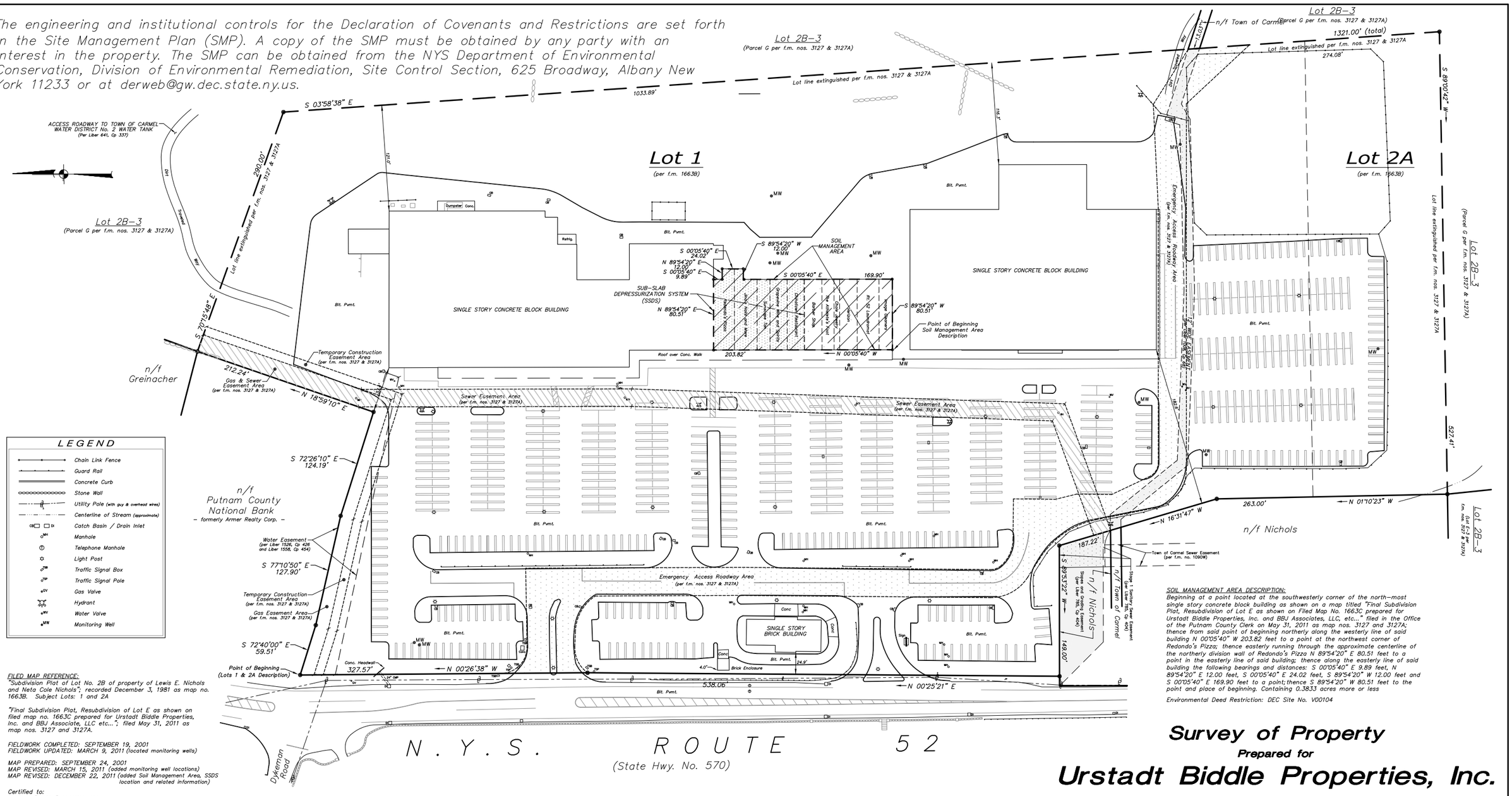
- ☐ **Inspect all system pipes and/or pipe enclosures to ensure that no damage has occurred**
- ☐ **Inspect all system pipes and/or pipe enclosures to ensure that no unauthorized piping connections have been made**
- ☐ **Where piping is visible check that labeling remains in place**

IF THE INTEGRITY OF THE SYSTEM HAS BEEN COMPROMISED PLEASE REPORT TO VERTEX AS SOON AS POSSIBLE AT (781) 952-6000

APPENDIX E:

SITE SURVEY PLAN AND METES AND BOUNDS

The engineering and institutional controls for the Declaration of Covenants and Restrictions are set forth in the Site Management Plan (SMP). A copy of the SMP must be obtained by any party with an interest in the property. The SMP can be obtained from the NYS Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany New York 11233 or at derweb@gw.dec.state.ny.us.



LEGEND

- Chain Link Fence
- Guard Rail
- Concrete Curb
- Stone Wall
- Utility Pole (with guy & overhead wires)
- Centerline of Stream (approximate)
- Catch Basin / Drain Inlet
- Manhole
- Telephone Manhole
- Light Post
- Traffic Signal Box
- Traffic Signal Pole
- Gas Valve
- Hydrant
- Water Valve
- Monitoring Well

FILED MAP REFERENCE:
"Subdivision Plat of Lot No. 2B of property of Lewis E. Nichols and Neta Cole Nichols"; recorded December 3, 1981 as map no. 1663B. Subject Lots: 1 and 2A

"Final Subdivision Plat, Resubdivision of Lot E as shown on filed map no. 1663C prepared for Urstadt Biddle Properties, Inc. and BBJ Associate, LLC etc..."; filed May 31, 2011 as map nos. 3127 and 3127A.

FIELDWORK COMPLETED: SEPTEMBER 19, 2001
FIELDWORK UPDATED: MARCH 9, 2011 (located monitoring wells)

MAP PREPARED: SEPTEMBER 24, 2001
MAP REVISED: MARCH 15, 2011 (added monitoring well locations)
MAP REVISED: DECEMBER 22, 2011 (added Soil Management Area, SSDS location and related information)

Certified to:
Urstadt Biddle Properties, Inc.
Emigrant Savings Bank, its successors and assigns
Lawyers Title Insurance Corporation (Title No. LW011162)
New York State Department of Environmental Conservation

This map may not be used in connection with a "Survey Affidavit" or similar document, statement or mechanism to obtain title insurance for any subsequent or future grantees.

Unauthorized alteration or addition to this survey is a violation of Section 7209, subdivision 2 of the New York State Education Law.

The alteration of survey maps by anyone other than the original preparer is misleading, confusing and not in the general welfare and benefit of the public. Licensed Land Surveyors shall not alter survey maps, survey plans, or survey plats prepared by others.

Certifications indicated hereon signify that this survey was prepared in accordance with the existing Code of Practice for Land Surveys adopted by the New York State Association of Professional Land Surveyors, Inc.

Said certifications shall run only to the person for whom this survey was prepared and on his behalf to the title company, governmental agency and/or lending institution listed hereon, and to the assignees of the lending institution. Certifications are not transferable to additional lending institutions or subsequent owners.

Only copies from the original of this survey marked with an original of the land surveyor's embossed seal shall be considered valid true copies.

Prepared by:

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place • Carmel, New York 10512
Phone (845) 225-9690 • Fax (845) 225-9717
www.insite-eng.com

NICHOLAS G. CHAPIS, L.S.
New York State License No. 049330

SURVEY NOTES:

The purpose of this revised map is to depict the location of Soil Management Area and the Sub-Slab Depressurization System Area based upon information provided by others within the subject property.

This survey depicts Lot 1 and Lot 2A as shown on filed map no. 1663B.

Lot E-1 as shown on filed map nos. 3127 and 3127A is comprised of Lot 1 and Lot 2A as shown on filed map no. 1663B and Parcel G as shown on filed map nos. 3127 and 3127A.

This map shows the former limits of Lot 1 and Lot 2A as shown on filed map no. 1663B and does not reflect the entirety of Lot E-1 as shown on filed map nos. 3127 and 3127A.

The Emergency Access Roadway Area, Sewer Easement Area, Gas Easement Area and Temporary Construction Easement Areas shown hereon per f.m. nos. 3127 and 3127A are further described in Liber 1876, Page 76 "Second Amended and Restated Reciprocal Easement Agreement" between Urstadt Biddle Properties, Inc. and BBJ Associates, LLC. Recorded May 26, 2011. The Temporary Construction Vehicle Access Easement – Schedule I to Deed of Liber 1876, Page 76 is not plottable.

Underground structures, if any exist, are not shown hereon, except as noted.

PERIMETER DESCRIPTION OF LOT 1 AND LOT 2A

ALL that certain plot, piece or parcel of land, situate, lying and being in the Town of Carmel, County of Putnam and State of New York, bounded and described as follows:

Lot Number 1 and Lot Number 2A as shown on a map entitled "Subdivision Plat of Lot No. 2B of property of Lewis E. Nichols and Neta Cole Nichols", Towns of Carmel and Kent, Putnam County, New York, which was filed in the Office of the Clerk of Putnam County on December 3, 1981, as Map No. 1663B plus a portion of the 12 foot strip of land as shown on said map running through Lot 1 between the Easterly and Westerly Lot Lines of Lot 1 on said map, which last and said portion of the 12 foot strip of land when taken together are more particularly bounded and described as follows:

BEGINNING at the intersection of the southerly lot line of land now or formerly of Armer Realty Corp. and the easterly line of Route 52 (S.H. 570) as widened; thence S 72° 40' 00" E 59.51 feet, S 77° 10' 50" E 127.90 feet, S 72° 26' 10" E 124.19 feet, N 18° 59' 10" E 212.24 feet, S 70° 15' 48" E 290.00 feet, S 3° 58' 38" E 1,321.00 feet, S 89° 00' 42" W 527.41 feet, N 1° 10' 23" W 263.00 feet, N 16° 31' 47" W 187.22 feet, and S 89° 53' 22" W 149.00 feet to a point on the easterly side of Route 52 as widened; thence along the easterly side of Route 52 as widened the following two courses and distances: N 0° 25' 21" E 538.06 feet and N 0° 26' 38" W 327.57 feet to the point or place of beginning. Containing 18.8339 Acres more or less.

SOIL MANAGEMENT AREA DESCRIPTION:

Beginning at a point located at the southwesterly corner of the north-most single story concrete block building as shown on a map titled "Final Subdivision Plat, Resubdivision of Lot E as shown on Filed Map No. 1663C prepared for Urstadt Biddle Properties, Inc. and BBJ Associates, LLC, etc..." filed in the Office of the Putnam County Clerk on May 31, 2011 as map nos. 3127 and 3127A; thence from said point of beginning northerly along the westerly line of said building N 00°05'40" W 203.82 feet to a point at the northwest corner of Redondo's Pizza; thence easterly running through the approximate centerline of the northerly division wall of Redondo's Pizza N 89°54'20" E 80.51 feet to a point in the easterly line of said building; thence along the easterly line of said building the following bearings and distances: S 00°05'40" E 9.89 feet, N 89°54'20" E 12.00 feet, S 00°05'40" E 24.02 feet, S 89°54'20" W 12.00 feet and S 00°05'40" E 169.90 feet to a point; thence S 89°54'20" W 80.51 feet to the point and place of beginning. Containing 0.3833 acres more or less

Environmental Deed Restriction: DEC Site No. V00104

Survey of Property

Prepared for

Urstadt Biddle Properties, Inc.

Situate IN

Town of Carmel County of Putnam

State of New York

180 Gleneida Avenue (Route 52)

(Putnam County Tax Map No. 49.9-1-9)

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

96214.201
ubp.plaza.2011-12-22.dwg

Z:\51989 - 2000 Active Jobs\96214.201 UBP Site\PLETE\96214.201_SURVEY 2012-12-22.dwg, 1/13/2012 2:02:57 PM, bdennedy, 1:1

SITE METES AND BOUNDS

ALL that certain plot, piece or parcel of land, situate, lying and being in the Town of Carmel, County of Putnam and State of New York, bounded and described as follows:

Lot Number 1 and Lot Number 2A as shown on a map entitled "Subdivision Plat of Lot No. 2B of property of Lewis E. Nichols and Neta Cole Nichols", Towns of Carmel and Kent, Putnam County, New York, which was filed in the Office of the Clerk of Putnam County on December 3, 1981, as Map No. 1663B plus a portion of the 12 foot strip of land as shown on said map running through Lot 1 between the Easterly and Westerly Lot Lines of Lot 1 on said map, which last and said portion of the 12 foot strip of land when taken together are more particularly bounded and
described as follows:

BEGINNING at the intersection of the southerly lot line of land now or formerly of Armer Realty Corp. and the easterly line of Route 52 (S.H. 570) as widened; thence S 72° 40' 00" E 59.51 feet, S 77° 10' 50" E 127.90 feet, S 72° 26' 10" E 124.19 feet, N 18° 59' 10" E 212.24 feet, S 70° 15' 48" E 290.00 feet, S 3° 58' 38" E 1,321.00 feet, S 89° 00' 42" W 527.41 feet, N 1° 10' 23" W 263.00 feet, N 16° 31' 47" W 187.22 feet, and S 89° 53' 22" W 149.00 feet to a point on the easterly side of Route 52 as widened; thence along the easterly side of Route 52 as
widened the following two courses and distances: N 0° 25' 21" E 538. 06 feet and N 0° 26' 38" W 327.57 feet to the point or place of beginning. Containing 18.8339 Acres more or less.

APPENDIX F:

SOIL MANAGEMENT AREA METES AND BOUNDS

SOIL MANAGEMENT AREA METES AND BOUNDS

Beginning at a point located at the southwesterly corner of the north-most single story concrete block building as shown on a map titled "Final Subdivision Plat, Resubdivision of Lot E as shown on Filed Map No. 1663C prepared for Urstadt Biddle Properties, Inc. and BBJ Associates, LLC, etc…" filed in the Office of the Putnam County Clerk on May 31, 2011 as map nos. 3127 and 3127A; thence from said point of beginning northerly along the westerly line of said building N 00°05'40" W 203.82 feet to a point at the northwest corner of Redondo's Pizza; thence easterly running through the approximate centerline of the northerly division wall of Redondo's Pizza N 89°54'20" E 80.51 feet to a point in the easterly line of said building; thence along the easterly line of said building the following bearings and distances: S 00°05'40" E 9.89 feet, N 89°54'20" E 12.00 feet, S 00°05'40" E 24.02 feet, S 89°54'20" W 12.00 feet and S 00°05'40" E 169.90 feet to a point; thence S 89°54'20" W 80.51 feet to the point and place of beginning. Containing 0.3833 acres more or less.