Former Munsey Cleaners

NASSAU COUNTY, NEW YORK

Construction Completion Report

NYSDEC Site Number: 130081

PREPARED FOR:

Musso 3636 LLC
111 Great Neck Road
Suite 310
Great Neck, NY 11021

SUBMITTED TO:

MS. MELISSA SWEET
NYSDEC
DIVISION OF ENVIRONMENTAL REMEDIATION
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PREPARED BY:

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JUNE 2016

CERTIFICATIONS

I, Richard D. Galli, am currently a registered professional engineer licensed by the State of New York, I had primary direct responsibility for implementation of the remedial program activities, and I certify that the Remedial Action Work Plan was implemented and that all construction activities were completed in substantial conformance with the Department-approved Remedial Action Work Plan.

I certify that all documents generated in support of this report have been submitted in accordance with the DER's electronic submission protocols and have been accepted by the Department.

I certify that all data generated in support of this report have been submitted in accordance with the Department's electronic data deliverable and have been accepted by the Department.

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, Richard D. Galli, of Galli Engineering, P.C., 35 Pinelawn Rd, Suite 209E, Melville, NY 11747, am certifying as Owner's Designated Site Representative for the site.

059461	June 28, 2016	
NYS Professional Engineer #	Date	Signature

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LIST OF ACRONYMS

Acronym	Definition
NYSDOH	New York State Department of Health
ROD	Record of Decision
OU	Operable Unit
SVE	Soil Vapor Extraction
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
HASP	Health and Safety Plan
QAPP	Quality Assurance Project Plan
$\mu g/m^3$	Micrograms per cubic meter

CONSTRUCTION COMPLETION REPORT

1.0 BACKGROUND AND SITE DESCRIPTION

The former Munsey Cleaners Site (hereinafter referred to as the "Site") is located at 1029 Port Washington Boulevard, Port Washington, New York in the County of Nassau, State of New York, and is identified as a portion of Section 6, Block 80, Lot 5. The Site has been designated as Site Number 130081 by the New York State Department of Environmental Conservation ("NYSDEC" or "the Department"), and is located in the northern end of a retail shopping plaza, at the southeast corner of Port Washington Boulevard and the Main Street extension. The first floor of the Site is currently occupied by a Real Estate company, while the basement is vacant.

In March 1996, the owner of the Site, the Monfort Trust, entered into a Consent Order with the NYSDEC requiring the Monfort Trust to perform a preliminary site assessment to determine what hazardous substances were present on the Site and whether those substances constituted a significant threat to public health or the environment necessitating remediation. The 1996 Order also required the Monfort Trust to develop and implement an "Interim Remedial Measure Program" for soil and sediment removal at the Site.

In 1996, the Monfort Trust implemented an interim remedial measure, which consisted of removing approximately 30 tons of contaminated soil from the basement of the Site and installing a soil-vapor extraction ("SVE") system to remove the remaining shallow soil contamination from the basement.

In 1997, the NYSDEC included the Site in the State Registry of Inactive Hazardous Waste Disposal Sites (IHWDS), as a "Class 2" site.

On October 7, 2000, the NYSDEC and the Monfort Trust entered into a second Consent Order to perform "Phase I" of a remedial investigation at the Site, including an assessment of groundwater flow and other potential sources of contamination.

On May 7, 2002, the October 7 Order was modified to require the Monfort Trust to perform "Phase II" of the remedial investigation to determine the source of contamination contributing to contamination in the basement of the Site and a feasibility study.

Subsequently, to facilitate the further investigation and remediation of the Site, the NYSDEC established two Operable Units (OU): OU1 consists of the Site itself, which is located where the former dry cleaning operations were conducted; and, OU-2, which addressed off-Site groundwater contamination and vapor intrusion.

In November, 2003, Musso 3636 LLC purchased the property, and in November 2005, NYSDEC issued its Record of Decision (ROD) for OU 1. The ROD stated that the Site was remediated by the SVE system and provided for the additional monitoring and continued operation of the SVE system and sub-slab depressurization system ("SSDS") that was installed in November 2004.

This report documents the remedial activities completed at the Site from 1997 to 2002, and which were conducted in accordance with the NYSDEC Proposed Remedial Action Work Plan (PRAP) and the selected remedy of the ROD.

An electronic copy of this CCR with all supporting documentation is included as Appendix A.

2.0 SUMMARY OF SITE REMEDY

2.1 Remedial Action Objectives

Based on the results of the Remedial Investigation, and as listed in the November 2005 ROD, the following Remedial Action Objectives (RAOs) were identified for Operable Unit 0U-1 at this Site.

2.1.1 Groundwater RAOs

RAOs for Public Health Protection

- Prevent ingestion of groundwater containing contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles emanating from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer, to the extent practicable, to pre-disposal/prerelease conditions.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

2.1.2 Soil RAOs

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of, or exposure to, contaminants volatilizing from contaminated soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater contamination.

2.1.3 Soil Vapor RAOs

RAOs for Public Health Protection

- Mitigate impacts to public health from existing, or the potential for, soil vapor intrusion into buildings at the site.

2.2 DESCRIPTION OF SELECTED REMEDY

The Site was remediated in accordance with the remedy selected by the NYSDEC in the November 2005 ROD.

The following are the components of the selected remedy:

1. Continued operation, maintenance, and monitoring of the existing SSDS installed at the Site in November 2004.

2. Continued operation, maintenance, and monitoring of the existing SVE system installed at the Site in 1997;

3. Sampling and analysis of groundwater and indoor air;

4. Execution and recording of an Environmental Easement to restrict land use and prevent future exposure to any contamination remaining at the site;

5. Development and implementation of a Site Management Plan for long term management of remaining contamination as required by the Environmental Easement, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting;

6. Periodic certification of the institutional and engineering controls listed above.

3.0 INTERIM REMEDIAL MEASURES AND OPERABLE UNITS

The information and certifications made in the December 1997 Interim Remedial Measures Report, September 2003 SVE System Startup Report, November 2005 ROD for OU1 were relied upon to prepare this report and certify that the remediation requirements for the Site have been met.

3.1 Interim Remedial Measures

Interim remedial measures that were implemented at the Site included removal of contaminated soil from the Site basement, and installation and operation of a SVE system. The soil removal program was implemented in late February and early March 1997. A vacuum truck was used to remove approximately 31 tons of contaminated soil from four rooms and two floor drains within the Site basement, for off-site disposal. Analytical results from post-excavation samples showed that residual soil contamination (volatile organic compounds and pesticides) was present to a depth of at least eight feet below the basement.

Based on the post-excavation sample results, a SVE system was installed within the basement area of the site, to address the residual impacted soil. The SVE system included four horizontal extraction pipes and one vertical extraction well. The horizontal extraction pipes were placed into the trenches from which soil was excavated, and were constructed using 2-inch diameter, slotted PVC pipe surrounded with pea gravel with a layer of filter

fabric above the pea gravel. The vertical extraction well was constructed using a 5-foot section of 1.25-inch diameter PVC well screen that was set from 8 to 13 feet below the basement floor. The space between the well screen and the surrounding formation was filled with pea gravel and sand. The extraction well and points were manifolded to a 2.5-horsepower EG&G Rotron blower. System effluent was discharged to the atmosphere through vapor-phase carbon treatment units, via a 4-inch diameter PVC stack. Following completion of the SVE system, the excavated area was backfilled with clean fill, and capped with a polyethylene liner and concrete. As described below, the SVE system operated between 1997 and 2013 when the NYSDEC approved its removal.

4.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED

Remedial activities completed at the Site were conducted in accordance with the NYSDEC PRAP.

4.1 Governing Documents

4.1.1 Site Specific Health & Safety Plan (HASP)

All remedial work performed under this Remedial Action was in full compliance with governmental requirements, including Site and worker safety requirements mandated by Federal OSHA.

The Health and Safety Plan (HASP) was complied with for all remedial work performed at the Site, including system monitoring and maintenance.

4.2 Remedial Program elements

4.2.1 Soil Removal

As described above, the soil removal program was implemented as an Interim Remedial Measure in late February and early March 1997. A total of approximately 31 tons of contaminated soil was removed from the Site basement, for off-site disposal. Analytical results from post-excavation samples showed that residual soil contamination (volatile organic compounds and pesticides) was present to a depth of at least eight feet below the basement, which led to the installation of a SVE system.

4.2.2 SVE System

The SVE system was installed in 1997 and operated from 1997 until 2013 described below. The original design for the SVE system included four horizontal extraction

structures and one vertical extraction well. A schematic diagram of the SVE system as initially installed is shown on Figure 1. Following installation of the system and placement of the overlying polyethylene sheeting and concrete, a pilot test program was implemented for the system, to optimize its operations and effectiveness. The pilot test program showed that measureable vacuum was achieved throughout the area of interest, and that the system was effective at removing volatile organic compounds (an air sample collected in April 1997 during the initial step of the pilot test program (prior to treatment) contained tetrachloroethene at a concentration of 5,300,000 micrograms per cubic meter ($\mu g/m^3$), as well as breakdown products trichloroethene and cis-1,2-dichloroethene at concentrations of 81,000 $\mu g/m^3$ and 7,400 $\mu g/m^3$, respectively).

The system was operated continuously until August 20, 1997, when pulsed operation (two weeks on, two weeks off) was initiated. Analysis of monthly air samples (collected prior to the carbon vessels) showed a consistent decrease in tetrachloroethene concentrations, as summarized in Table 1.

Table 1. SVE System Effluent Concentrations, April through October 1997

Sample Date	**Tetrachloroethene Concentration**
April 1997	5,300,000 $\mu g/m^3$
May 1997	44,000 $\mu g/m^3$
June 1997	18,000 $\mu g/m^3$
July 1997	14,000 $\mu g/m^3$
August 1997	3,000 $\mu g/m^3$
September 1997 *	5,900 $\mu g/m^3$
October 1997	0.68 $\mu g/m^3$

* Sample collected after start-up of system following shut-down period during pulsed operation.

According to the ROD for OU1, the SVE system operated until approximately the end of 1998, at which time its operation was halted. In October 2002, an additional site investigation determined that four additional SVE extraction wells were needed to address vapors found during that investigation. SVE extraction wells SB-1, SB-2A, SB-3, and SB4 (see Figure 2) were installed and incorporated into the SVE system. These new extraction wells were installed to depths of 10 to 13 feet below the basement floor, and each was constructed using 1-inch diameter PVC screens and casing. The augmented SVE system was restarted on July 15, 2003 to further minimize the potential for vapor intrusion.

In May 2005, the Department requested that operation of the augmented SVE system be continued, in conjunction with the newly-installed sub-slab depressurization system.

As designed and installed, the additional SVE system extraction points were in close proximity to groundwater, to facilitate removal of volatile organic compounds from the vadose zone, to remediate the unsaturated soil and reduce the level of contaminants available to migrate to groundwater, as well as removal of contaminants from the shallow groundwater. As presented in the October 18, 2013 System Closure Report, system monitoring and groundwater sampling conducted through January 2013 showed the system had been effective at removing contaminants. Based on these results, the Department requested that the SVE system be shut down for six months, followed by collection of additional effluent and groundwater samples, to assess whether rebound of contaminant concentrations would occur. When the results from these follow-up samples showed no concentration rebound in soil vapor or groundwater (i.e., concentrations in the samples collected in January 2013 and July 2013 were similar), the Department determined that continued operation of the SVE system would not provide a significant benefit. As documented in a letter dated December 20, 2013, the Department concluded that the Site conditions met the Department's closure requirements, and approved the request to permanently remove the SVE system from service.

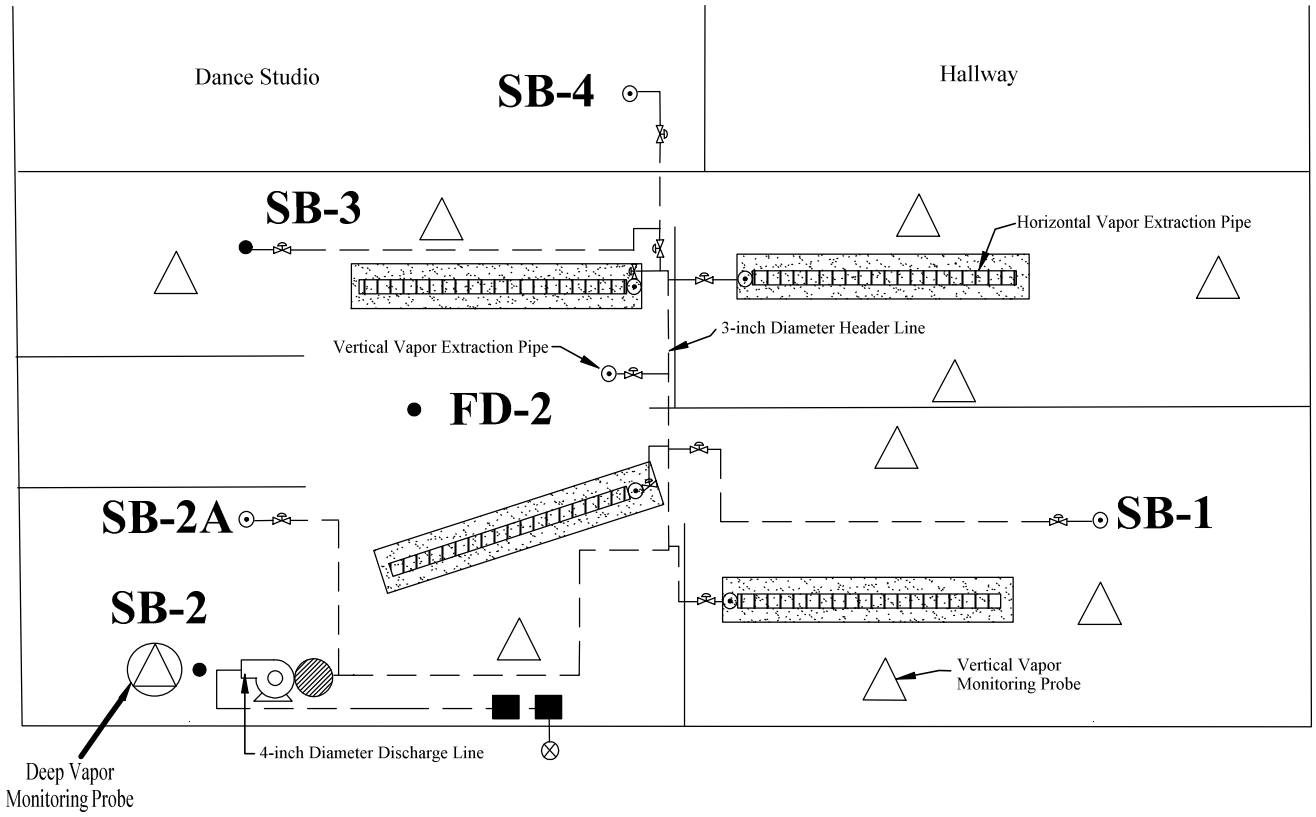
4.2.3 Sub-slab Depressurization System

A SSDS was installed in November 2004 and has been in continuous operation since its installation (except for short-duration periods of maintenance and/or repairs). The sub-slab depressurization system is comprised four horizontal extraction pipes (SS-1 through SS-4) and three sub-slab extraction cavities (SS-5, SS-6, and SS-7). The horizontal lines were originally installed in 1997 as part of the SVE system, but were disconnected from the SVE system and incorporated into the sub-slab depressurization system when it was installed. Two of the extraction cavities (SS-5 and SS-6) were constructed within the basement of the space adjacent to the Site and the other cavity (SS-7) was constructed within a separate basement storage room. The extraction cavities are each approximately two feet by two feet in size, are completed at a depth of approximately two feet below the basement floor, and contain PVC screen surrounded by gravel. The seven extraction structures (four trenches and three cavities) are interconnected via 2-inch PVC piping and 3-inch PVC trunk lines to a Festa Technologies model Eagle 3.92 centrifugal in-line fan.

After the fan, the system effluent is discharged to the atmosphere via a 4-inch PVC vertical stack that extends above the Site building's roofline. A schematic diagram of the sub-slab depressurization system is shown on Figure 2.

Based on sample data collected during operation of the sub-slab depressurization system, treatment of the effluent prior to atmospheric discharge has never been required. However, as a precaution, two vapor-phase carbon canisters were incorporated into the system for use if analytical data showed that treatment of the effluent was necessary before discharge.

The SSDS continues to operate, with monitoring and maintenance activities conducted in accordance with approved plans and as required.



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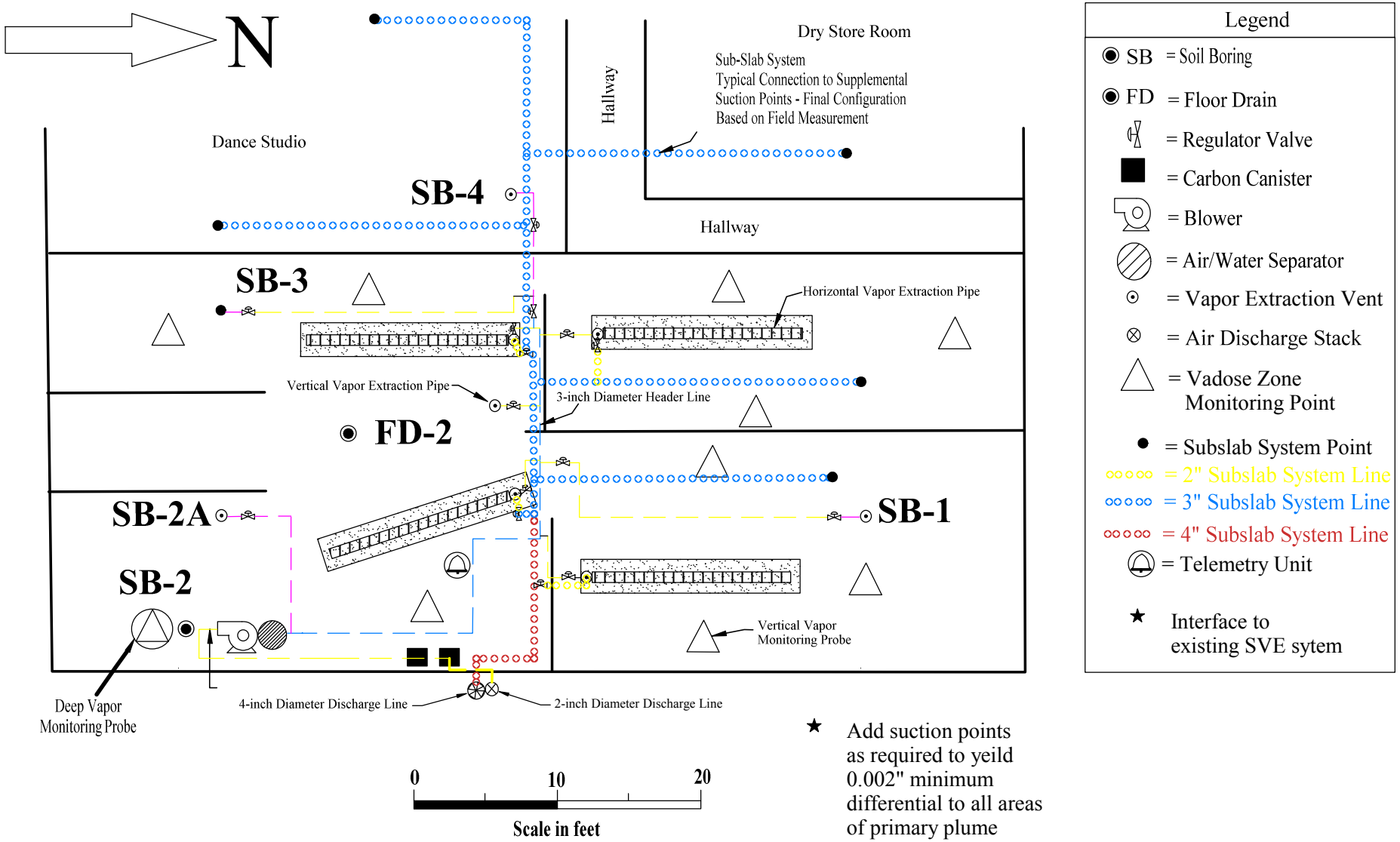
Legend

SB = Soil Boring
FD = Floor Drain
= Regulator Valve
= Carbon Canister
= Blower
= Air/Water Separator
= Vapor Extraction Vent
= Air Discharge Stack
= Vadose Zone Monitoring Point

0 10 20

Scale in feet

Laurel ENVIRONMENTAL ASSOCIATES, LTD	**Laurel Environmental Associates, Ltd.** 52 Elm Street Huntington, NY 11743 631-673-0612	Drawn by ZHB 6/3/03 Revised by ZHB 10/10/03	Figure 1.0 Vapor Extraction System as Built Details
		Scale: 1" = 10'	Former Munsey Cleaners 1029 Port Washington Blvd. Port Washington, New York



★ Add suction points as required to yeild 0.002" minimum differential to all areas of primary plume

Laurel ENVIRONMENTAL ASSOCIATES, LTD	**Laurel Environmental Associates, Ltd.** 52 Elm Street Huntington, NY 11743 631-673-0612	Drawn by ZHB 6/3/03 Revised by SAY 10/25/04 Revised by BCM 1/12/06	Figure 2.0 Sub Slab Depressurization System as Built Details
		Scale: 1" = 10'	Former Munsey Cleaners 1029 Port Washington Blvd. Port Washington, New York