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January 31, 2022

Ms. Melissa L. Sweet
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233

RE: New York State Department of Environmental Conservation
Comments for Remedial Design Report for OU-1
Plaza Cleaners, NYSDEC Site No. 130108

Dear Ms. Sweet:

We prepared the enclosed revised Remedial Design Report in response to the November 18, 2021 New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health comments on our September 2021 Remedial Design Report.

The requested revisions were made for comment numbers 1, 2, 4 through14. Comment number 3 related to the need for an additional SVE well at the northwest corner of the site. As shown on Figure 6, the capture radius of the proposed SVE wells covers the northwest corner of the site.

We look forward to your approval of the Remedial Design Report.

Sincerely,

Nicholas A. Andrianas, P.E.

Enclosure

cc: John Stelakis, Esq. (Farrell Fritz, P.C.)
Kevin Shields (Long Island Sound, LLC)

REMEDIAL DESIGN REPORT

Plaza Cleaners

Port Washington, New York

State Superfund Project Site No. 130108

Operable Unit Number 01: On-Site Remedial Program

January 2022 Rev-3

Prepared By: Nicholas A. Andrianas, P.E.
1 Sound Breeze Drive
Miller Place, New York 11764

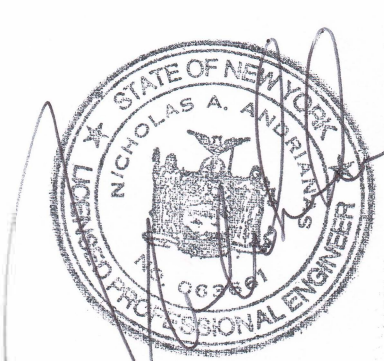
CERTIFICATION STATEMENT

I, NICHOLAS A. ANDRIANAS, P.E. certify that I am currently a NYS registered professional engineer and that this Remedial Design Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidanc e for Site Investigation and Remediation (DER-10).

P.E.

REGISTERED PROFESSIONAL ENGINEER NUMBER: 063661

DATE: January 15, 2022



TABLES

FIGURES

DRAWINGS

APPENDICES

1.0 INTRODUCTION

This Remedial Design (RD) report presents the remedial objectives and design criteria for the air sparge/soil vapor extraction (AS/SVE) system modifications at 966 Port Washington Blvd., Port Washington, New York (Site). This final design was prepared is in accordance with the New York State Department of Environmental Conservation (NYSDEC) approved December 2015 Remedial Design Work Plan (RDWP).

1.1 PURPOSE

The purpose of the remedial design is to optimize the performance of the existing AS/SVE system to address low concentrations of volatile organic compounds (VOCs) found in on-site groundwater, as required by the NYSDEC Proposed Remedial Action Plan (PRAP) and Record of Decision (ROD).

2.0 SITE HISTORY AND UNDERGROUND INVESTIGATION

The Plaza Cleaners site is located in a mixed commercial and residential area at 966 Port Washington Blvd, Port Washington, New York in Nassau County near the intersection of Main Street and Port Washington Blvd. The site location is shown in Figure 1. The site consists of a one-story concrete slab on grade building surrounded by parking lot on an approximately 0.25-acre lot. The property outside the building footprint is entirely paved with asphalt parking areas and concrete walkways. The Former Munsey Cleaners Site (Site No. 130081) is located approximately 200 feet offsite to the northeast. The site is zoned commercial and is an active dry cleaner. The current operator of the site reports that it uses a proprietary chemical that does not contain tetrachloroethylene (PCE). PCE was used at the site by prior operators of the site. The downgradient area (to the west) is zoned residential and commercial.

The site is underlain by the Upper Glacial Aquifer made up of sand with some gravel. It is situated at an elevation approximately 125 feet above mean sea level. Regional topography irregularly slopes towards the harbor from the higher inland areas, but gently slopes away from the site to the west and upward from the site to the east. Surface water run-off is controlled by gently sloping pavement toward on-site storm drains.There are no existing drinking water supply wells at the site and groundwater is not used at the site. Potable water in the area is supplied by the Port Washington Water District and the wells are screened in the underlying Upper Glacial Aquifer.

The potable water supply wells are located approximately 3000 feet downgradient of the site, and reports by others confirm that the wells have not been impacted to date by site related contamination. Groundwater flow direction is to the west and the depth to water is approximately 25 feet below ground surface.

The building on the site was constructed in 1964 for a dry-cleaning business. In 1998, a Phase I Environmental Site Assessment identified environmental conditions associated with an on-site underground storage tank (UST) and the long-term operation of a dry cleaner. PCE was subsequently identified in a floor drain within the building and in sub-slab soils during a Phase II Environmental Audit. In 1998, under the oversight of the Nassau County Department of Health

(NCDOH), approximately 103 tons of contaminated soil were excavated and disposed of off-site at a permitted disposal facility. In 1999, an additional 837 tons of contaminated soil from under the west side of the building were removed and disposed of off-site. The excavation extended to the water table, however no confirmatory end-point sampling was conducted at that time. In 2003, a soil and groundwater investigation was conducted and PCE was found in on-site groundwater. Soil borings were drilled around the extent of the former excavation area and PCE was found in soil at concentrations less than the unrestricted use soil cleanup objective. In October 2007, the property was listed as Class 2 site on the Registry of Inactive Hazardous Waste Disposal Sites in New York State and the site was referred to the State for completion of the Remedial Investigation/Feasibility Study (RI/FS). An Air Sparge/Soil Vapor Extraction (AS/SVE) system was installed at the Plaza Cleaners site by Long Island Sound, LLC (LIS) without NYSDEC oversight or approval and the AS/SVE system was placed in service in May 2012. On or around November 17, 2014, LIS entered into a consent order with the NYSDEC, in which it agreed to implement the OU1 ROD for the Plaza Cleaners Site, upon its issuance. Routine inspection of the operational equipment was conducted until a fire in the system room occurred in October of 2017. The SVE and AS systems have been non-operational since the fire. The SVE blower was damaged in the fire, but the associated system piping was not damaged. The equipment and associated piping for the systems were left in place for future modification to prevent migration of sub-slab air into the occupied space.

3.0 REMEDIAL DESIGN OBJECTIVES

3.1 REMEDIAL SELECTION CRITERIA

The objectives for the remedial action were established through the remedy selection process in accordance with Title 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate and/or mitigate all significant threats to public health and the environment presented by the COC identified at the site through the proper application of scientific and engineering principles. The remedial action objectives (RAOs) for the site are described below on media specific basis.

3.1.1 GROUNDWATER

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

3.1.2 SOIL

RAOs for Public Health Protection

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

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or

surface water contamination.

3.1.3 SOIL VAPOR

RAOs for Public Health Protection

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

3.2 REMEDIAL DESIGN

The selected remedy must be protective of human health and the environment, be cost effective, comply with statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives identified for the site, which are presented in Section 3.0. Potential remedial alternatives for the Site were identified, screened and evaluated in the focused feasibility study (FFS) report.

3.2.1 SELECTED REMEDY

Based on the NYSDEC PRAP and ROD the selected remedy for the Site is to optimize the existing Air Sparge/Soil Vapor Extraction system currently installed on site. The elements associated with the selected remedy are as follows:

3.2.2 OPTIMIZE EXISTING AS/SVE SYSTEM

An AS/SVE system was installed at the Plaza Cleaners site by LIS and placed in service in May 2012. The existing AS/SVE system will be optimized, considering green remediation principles as per DER 31, to address the groundwater VOC plume by implementing a functional air sparge system and extending the radius of influence of the SVE beyond the building footprint. VOCs will be removed from the groundwater and soil below the water table (saturated soil) by injecting air below the water table. As the injected air rises through the groundwater, the VOCs will volatilize and transfer from the groundwater and/or soil into the injected air. The VOCs are conveyed in the injected air into the vadose zone (the area below the ground surface and above the water table)

where the SVE system is used to capture the injected air in the soil vapor space above the water table.

The SVE system applies a vacuum to wells that have been installed in the vadose zone to remove the VOCs along with the air introduced by the sparging process. The air extracted from the SVE wells is treated, as necessary, and discharged to the atmosphere. The existing system schematics are shown in Figures 2 and 3, the Well Construction Logs are provided in Appendix A, and the major equipment catalog cut sheets are provided in Appendix B.

A fire in the system room occurred in October of 2017 the system has been non-operational since the fire. The SVE blower was damaged in the fire, but the associated system piping was not damaged. The equipment and associated piping for the systems were left in place to prevent migration of sub-slab air into the occupied space.

3.2.3 COVER SYSTEM

A site cover presently exists and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable SCOs. Where a soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

3.3 PILOT TEST

In March 2017, a pilot test was performed on the existing air sparge and SVE system to determine the radius of influence of the wells and the air compressor capacity. The existing Air Sparge system is shown on Figure 3. The existing AS well locations are shown on Figure 4. The results of this pilot test determined that the existing air sparge system does not achieve the radius of influence

required to volatilize VOCs in groundwater beneath the site, because the well screens intercept the water table and a significant portion of the injected air apparently short circuits to the vadose zone.

Prior to further testing, 3 one-inch diameter SCH 40 PVC air sparge wells were installed outside of the building footprint in the parking lot as shown in Figure 5. The new wells are spaced approximately 20 feet apart. Each sparge well is constructed of SCH 40 PVC well casing with a two-foot SCH 40 PVC, 10-slot screen and finished flush with grade with curb boxes. The wells are screened at approximately 48 to 50 feet bgs. The new wells will be incorporated in the final air sparge system design, and the existing air sparge wells will be left in place and will be used as monitoring points for the final air sparge system. The construction logs for the new air sparge wells are provided in Appendix A.

In February 2019, a second pilot test was performed using the newly installed air sparge wells. The existing Becker air compressor was not operational at the time of the pilot test. A portable Mi-T-M Model # AM1-PH65-08HD compressor was substituted for the pilot test.

Groundwater depth for the site was determined prior to air sparge pilot testing with a Solinst 101 Water Level Meter with P7 Probe. The groundwater depth was determined to be approximately 22 feet below slab grade. The temperature and dissolved oxygen (DO)of groundwater was measured using a YSI model 550A DO meter. The meter was calibrated prior to use in accordance with the calibration method in the user manual. The data were collected by manually moving the YSI model 550A vertically through the water column at a rate of half a foot per second in accordance with the operations manual.

One operational configuration was prepared for the pilot test, identified as Configuration 1. Since Configuration 1 met the RAOs and had a sufficient radius of influence, a second configuration was not necessary.

Prior to the air sparge pilot testing, dissolved oxygen concentrations in groundwater and the depth to water were measured at each of the air sparge wells and at the groundwater monitoring wells. The background measurements are provided in Table 1.

3.3.1 CONFIGURATION 1

Configuration 1 consisted of the Mi-T-M compressor providing 23 CFM of air at 40 PSI to air sparge well AS-2N for 1-hour, before depth to water and dissolved oxygen (DO) were measured. The water level and DO measurements are provided in Table 2. Groundwater mounding was observed at each well indicated by the decrease in depth to water level observed. An increase of ten percent in the DO concentrations and a noticeable mounding at the well, was used to determine the most distant monitoring point to determine the radius of influence of each individual air sparge well. The DO concentrations at AS-1N and AS-3N confirmed that the radius of influence reached both air sparge wells. The DO concentrations at monitoring wells MW-1, MW-2, and MW-3A (former AS-3) also increased, confirming that the radius of influence was at least 30 ft from the air sparge wells. After one hour, the DO concentration at AS-1N increased from 3.33 mg/L to 4.65 mg/L. The DO concentration at AS-3N increased from 5.75 mg/L to 6.65 mg/L.

The air sparge system ran for one additional hour, before final measurements were taken. The DO concentration at AS-1N increased from 4.65 mg/L to 5.98 mg/L. The DO concentration at AS-3N was 6.65 mg/L.

The DO concentrations were also measured at air sparge well AS-2N, where the air was injected. The DO concentration at AS-2N increased from 5.06 mg/L before the test, to 9.45 mg/L after the test. Post-test measurements are presented in Table 3, DO concentrations at AS-1N, AS-2N, and AS-3N were unchanged after 15 minutes from the completion of the AS pilot test.

The AS pilot results demonstrate that an acceptable radius of influence can be achieved to volatize VOCs in groundwater beneath the site. The AS wells and radius of influence (ROI) for the AS system are shown on Figure 6.

4.0 COMPONENTS OF FINAL DESIGN

4.1 AIR SPARGE SYSTEM

The existing Becker Model number KDT 3.60 air compressor may be used to provide the air for the modified system. The compressor will be tested and/or rebuilt to determine whether it can provide adequate air pressure and flow for the final system operation. Alternatively, an Airtech Model no. SDU-205, with a 5 HP motor will be installed. The Airtech specifications sheet are provided in Appendix B.

Five additional air sparge wells will be installed at the site to expand the area of influence of the air sparge system to include the entire property as shown on Drawing 1. Three air sparge wells will be installed evenly spaced in the alleyway to the west of the site, and two air sparge wells will be installed on the north side of the site. The radius of influence of the air sparge wells in this configuration would significantly cover the site.

The air sparge system will be installed to sequentially run one to two air sparge wells at a time for a set time period. The system will cycle air flow through all sparge wells. A new control system will be fabricated to run the air sparge and the SVE wells. The AS and SVE controls will be interlocked to ensure that the SVE system must be in operation for the air sparge system to function. The time frame, and number of wells for sequential sparging will be established during system startup. The DO and groundwater mounding in the sparge wells will be optimized, based on the total well run time, air pressure, air flow rate and the dwell run time for each sparge well or for 2 wells run at a time in the air sparge system.

4.1.1 WELL SELECTION CRITERIA

Existing air sparge wells AS-1N, AS-2N, and AS-3N were selected for the final design. The three wells provide a radius of influence that encompasses most of the east side of the site. The remaining existing air sparge wells (AS- 1, AS-2, AS-3, AS-4, AS-5) will be used to monitor the final system operation. The existing PVC piping to the AS wells (AS- 1, AS-2, AS-3, AS-4, AS-5) will be removed and the wells will be finished at grade with well access curb boxes.

4.1.2 AIR SPARGE WELL CONSTRUCTION

In addition to AS-1N, 2N, and 3N, five air sparge wells will be drilled and installed around the north and west side of the site. Construction details for the AS wells are provided in Appendix A. Proposed air sparge wells are shown on Drawing No. 1. The new wells will be one-inch diameter SCH 40 PVC well casing with a two-foot SCH 40 PVC, 10-slot screen and finished flush with grade with curb boxes. The wells will be screened at approximately 48 to 50 feet bgs. Construction details for the typical new AS wells are provided in Appendix A. The schematic for the new air sparge well piping runs is shown on Drawing No. 1.

4.1.3 AIR SPARGE COMPRESSOR

The existing Becker Model number KDT 3.60 air compressor may be used to provide the air for the modified system. The compressor will be tested and/or rebuilt to determine whether it can provide adequate air pressure and flow for the final system operation. Alternatively, an Airtech Model no. SDU-205, with a 5 HP motor or equivalent will be installed. The Airtech specifications sheet is provided in Appendix B of this report.

The AS system equipment schematics are provided on Drawing No. 2.

4.2 SOIL VAPOR EXTRACTION SYSTEM

The existing deep SVE wells SVE-1D, SVE-3D, and SVE-5D will be used in the SVE operation. Three additional SVE points will be installed as shown on Drawing No. 1 to provide the required vacuum field that encompasses the site boundaries. One SVE well will be installed at the northeast corner of the site, one SVE well will be installed at the southwest corner of the site, and one will be installed at the southeast corner of the site. The modified SVE well configuration achieves the SVE remedial objective for the site, while covering the radius of influence created by the AS system. Active and passive ventilation in the equipment room will be installed to mitigate heat build up. The SVE blower was sized based on the pilot test for the site conditions and the piping was designed to prevent heat build up in the motor. The SVE blower will be installed with proper thermal overload protection and the motor is sized based on the static pressure, flow rate and

temperature curve specified by the manufacturer on it's performance curve provided in the attached.

4.2.1 WELL SELECTION CRITERIA

The SVE wells SVE-1D, 3D, and 5D were chosen for the final SVE design, because the wells encompass the site with a sufficient vacuum response at 0.100 inches wc based on data collected from the pilot test. The existing deep SVE wells SVE-2D and SVE-4D with the associated piping are not necessary and will be removed and decommissioned in accordance with CP-43. Wells 2S and 4S will be left in place and modified to be used as system vacuum monitoring points in the final system operation, the wells will be finished at grade curb boxes . The existing piping connected to the deep SVE wells SVE-1D, SVE-3D, and SVE-5D will be removed and replaced with more efficient piping runs to minimize system vacuum system head losses and related electrical operating costs for the SVE system. The new piping runs will consist of two-inch diameter SCH 40 PVC.

4.2.2 SVE WELL CONSTRUCTION

Three additional SVE wells will be constructed to expand the capture zone of the SVE system. The proposed SVE wells are shown on Drawing No. 1. The new wells will consist of two-inch diameter SCH 40 PVC well casing with 10 feet of well screen set between 10 and 20 feet below slab grade and finished flush with grade in curb boxes. The schematic for the new SVE piping runs is shown on Drawing No. 1. A typical SVE well shown in Appendix A.

4.2.3 SVE BLOWER

The existing deep SVE blower was damaged in October 2017. The blower will be removed and replaced with a new regenerative vacuum blower, Airtech Model No. 3BA1600-7AT16, 3 HP, or approved equivalent, to provide approximately 210 CFM at 30 inches of WC. The specifications are provided in the Appendix B. The blower was sized for the site conditions, based on the pilot test. At the calculated headloss and flow rate the blower motor will not overheat under normal operating conditions. Thermal overload protection will be installed to prevent overheating under abnormal operating conditions. The blower motor is sized for the proper vacuum, flow rate and

temperature rise based on the manufacturer's specifications and temperature curve provided in Appendix B. The SVE system equipment schematics are provided on Drawing No. 2.

4.2.4 EFFLUENT TREATMENT

The effluent of the system will be run through four (4) VR-225 vapor phase carbon vessels or equivalent, set in two parallel flow trains to handle the flow rate and headloss of the system. Each flow train will have 2 carbon vessels to prevent breakthrough. Two (2) additional VR-225 vapor phase carbon vessels will be on site for quick change out if, required. The specifications for the carbon vessels are provided in Appendix B.

4.3 NEW ELECTRIAL EQUIPMENT

PSEG long Island will be contacted to install a new meter in the meter panel. A new integrated AS/SVE control panel will be installed and there will be an interlock with the SVE blower and the air sparge compressor to prevent the AS system from operating when the SVE system is not in operation. The new SVE system blower and AS compressor with appropriate electrical wiring and conduit will be connected to the control panel. The new integrated control panel will be installed with audible/visual alarms for low air flow, blower/compressor temperature, and KO tank high water level. Remote supervisory monitoring of alarm conditions and a power failure alarm for the remedial system will be installed and will be connected to the office of the person/s responsible to operate and maintain the system.

A mechanical exhaust fan will be installed to cool the system equipment room, and new area lighting will be installed.

4.4 START-UP

The system start-up will be performed within two weeks of system installation. Data collected during the start-up testing will be used to tune the performance of both the AS and SVE system. The SVE system will reach a steady state within 48 hours before data are collected. The data will

be collected at the SVE system every 15-45 minutes for vacuum and flow at the SVE wells, system manifold, KO vessel, carbon vessels, system effluent, permanent and temporary monitoring points, and system stack. Data will be collected using a digital manometer, hot wire anemometer, installed gauges and meters. The VOC data will be collected prior to the vapor phase carbon vessels, at the vapor phase carbon vessels, and at the stack using a photo-ionization detector (PID).

Once the SVE system is tuned for capture performance, the AS system will be placed into service. The AS system will be monitored for pressure and flow at the manifold (for each well), and system compressor. The data will be collected at the AS system every 15-45 minutes for pressure and flow at the AS system manifold, permanent and temporary monitoring points. Data will be collected using a digital manometer, hot wire anemometer, installed gauges and meters. The VOC data will be collected prior to the vapor phase carbon vessels, at the vapor phase carbon vessels, and at the stack using a PID. The VOC data collected during the system start-up will help to determine which areas should be focused on with the AS system.

Samples for VOC analyses (pre-treatment, mid, and post) will be collected, once steady state has been reached and submitted to a lab for TO-15 analysis. Then a sample will be submitted after the first week, first month, and quarterly thereafter. This sampling regime will be used to better understand the timing for carbon changeout.

An interim operations, maintenance, and monitoring (OM&M) plan will be prepared and submitted under separate cover prior to system startup. The interim OM&M will describe the SVE and AS system startup, shut down procedures, system monitoring inspections and maintenance procedures and recording, system repair, alarm conditions, corrective action procedures sampling parameters and sampling/inspection schedule and the QAPP. The final OM&M plan will be prepared and submitted to NYSDEC after system startup as part of the Site Management Plan (SMP). The final OM&M plan will include the interim operating procedures and items described in the interim plan and the monitoring parameters, frequency and schedule to track progress toward achieving the remedial objectives moving forward.

5.0 SCHEDULE AND REPORTING

Once the final design is approved by NYSDEC, construction for the new modified system can begin. Construction and installation of equipment is set to be completed 16 weeks after NYSDEC approval and is dependent of the lead time for major equipment. The System Start-up report will be completed four weeks after system start-up testing. The SMP will be completed six weeks after system start-up report submittal and will include the final OM&M plan. An environmental easement with the SMP will be filed and recorded , once the SMP is approved by NYSDEC. The Final Engineering Report will be submitted for review and approval to the NYSDEC six weeks after approval of the SMP. Table 4 presents the schedule of events and document submittal moving forward.

Plaza Cleaners
Port Washington, New York
State Superfund Project Site No. 130108
2019 Pilot Test Results
Background Measurements
Table 1

Well Identification	Temperature (^{o}C)	Depth to Groundwater (ft bgs)	Dissolved Oxygen (mg/L)
AS-1N	16.6	22.20	3.33
AS-2N	16.6	22.11	5.06
AS-3N	16.6	21.93	5.75
MW-1	16.6	22.51	6.78
MW-2	16.1	21.62	0.17
MW-3A*	15.7	24.18	5.73

Notes:

1. Temperatures were measured using a DO meter YSI model 550A and are reported in degrees Celsius.
2. Depth to groundwater was measured using an electronic water tape senor.

3 Depth to groundwater is measured in feet below ground surface.

4. DO was measured using a DO meter YSI model 550A and are reported in mg/L.
5. Compressor was connected to AS-2N.

* MW-3A is former Air Sparge Well 3.

Plaza Cleaners
Port Washington, New York
State Superfund Project Site No. 130108
2019 Pilot Test Results
Table 2: Configuration 1

Configuration 1: (12:31) 1-Hour Runtime

Well Identification	Temperature (^{o}C)	Depth to Groundwater (ft bgs)	Dissolved Oxygen (mg/L)
AS-1N	16.0	22.19	4.65
AS-2N	-	-	-
AS-3N	16.8	21.89	6.65
MW-1	15.2	22.50	7.55
MW-2	16.0	21.58	0.33
MW-3A*	15.8	24.14	6.28

Configuration 1: (13:31) 2-Hour Runtime

Well Identification	Temperature (^{o}C)	Depth to Groundwater (ft bgs)	Dissolved Oxygen (mg/L)
AS-1N	16.2	22.19	5.98
AS-2N**	16.8	23.75	9.45
AS-3N	16.8	21.89	6.65
MW-1	15.1	22.50	8.22
MW-2	16.1	21.58	0.46
MW-3A*	15.8	24.14	6.47

Notes:

1. Temperatures were measured using a DO meter YSI model 550A and are reported in degrees Celsius.
2. Depth to groundwater was measured using an electronic water tape senor.
3 Depth to groundwater is measured in feet below ground surface.
4. DO was measured using a DO meter YSI model 550A and are reported in mg/L.
5. Compressor was connected to AS-2N.

* MW-3A is former Air Sparge Well 3.

** AS-2N Data was collected immediately after the well was disconnected from the compressor.

Plaza Cleaners
Port Washington, New York
State Superfund Project Site No. 130108
2019 Pilot Test Results
Table 3: Post-Test Measurements
Configuration 1

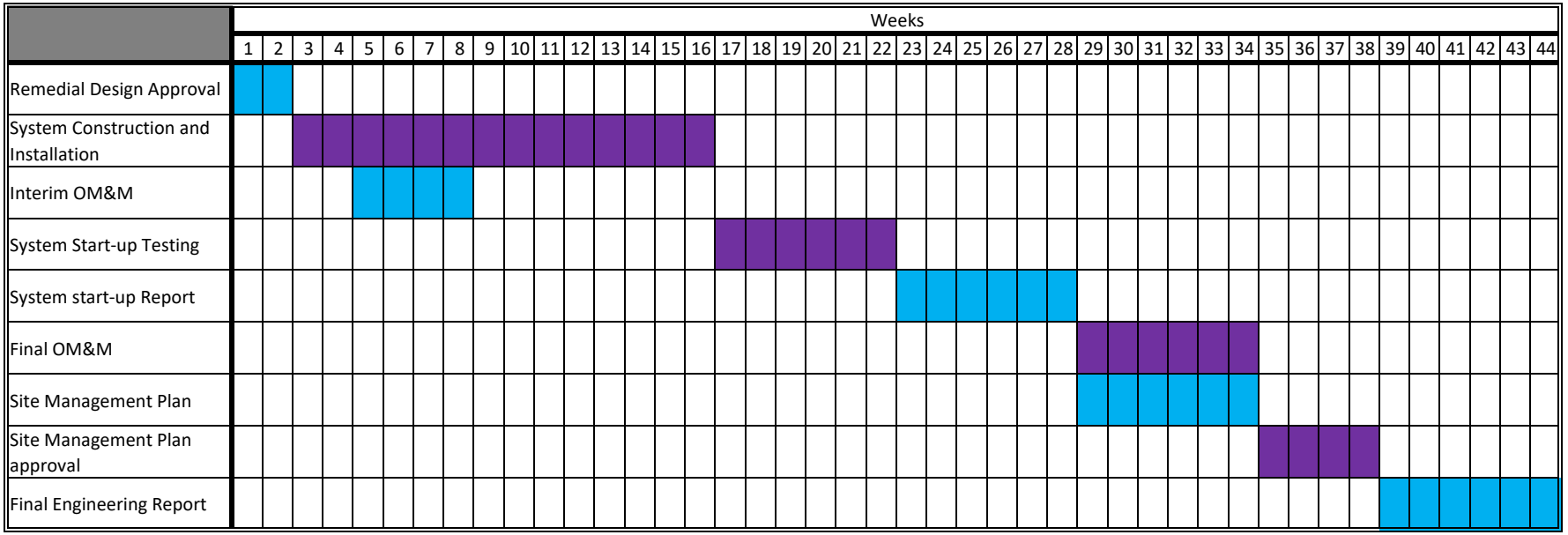
Well Identification	Temperature (^{o}C)	Depth to Groundwater (ft bgs)	Dissolved Oxygen (mg/L)
AS-1N	16.2	22.20	5.98
AS-2N	16.8	22.11	9.45
AS-3N	16.8	21.93	6.65
MW-1	15.1	22.51	8.22
MW-2	16.1	21.62	0.46
MW-3A*	15.8	24.18	6.47

Notes:

1. Temperatures were measured using a DO meter YSI model 550A and are reported in degrees Celsius.
2. Depth to groundwater was measured using an electronic water tape senor.
3 Depth to groundwater is measured in feet below ground surface.
4. DO was measured using a DO meter YSI model 550A and are reported in mg/L.
5. Compressor was connected to AS-2N.

* MW-3A is former Air Sparge Well 3.

Plaza Cleaners
Port Washington, New York
State Superfund Project Site No. 130108
Remedial Design Work Plan
Table 4: Schedule of Events and Document Submittal



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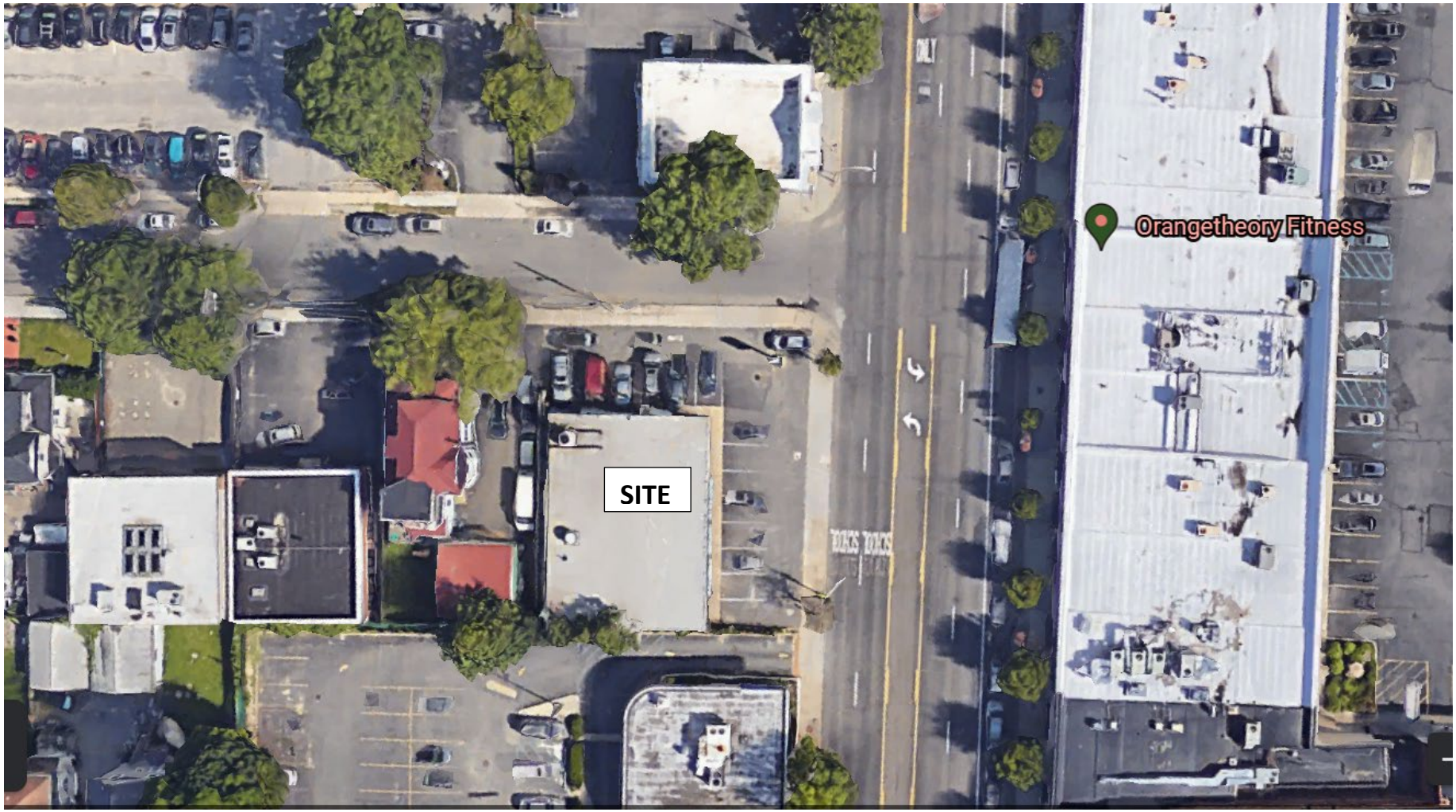


**FIGURE 1**

**SITE LOCATION 966 Port Washington Blvd., Port Washington, New York**
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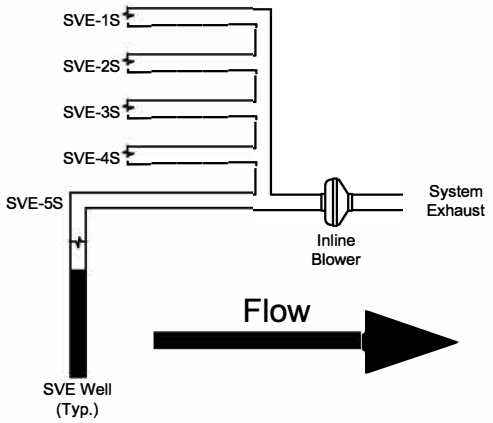
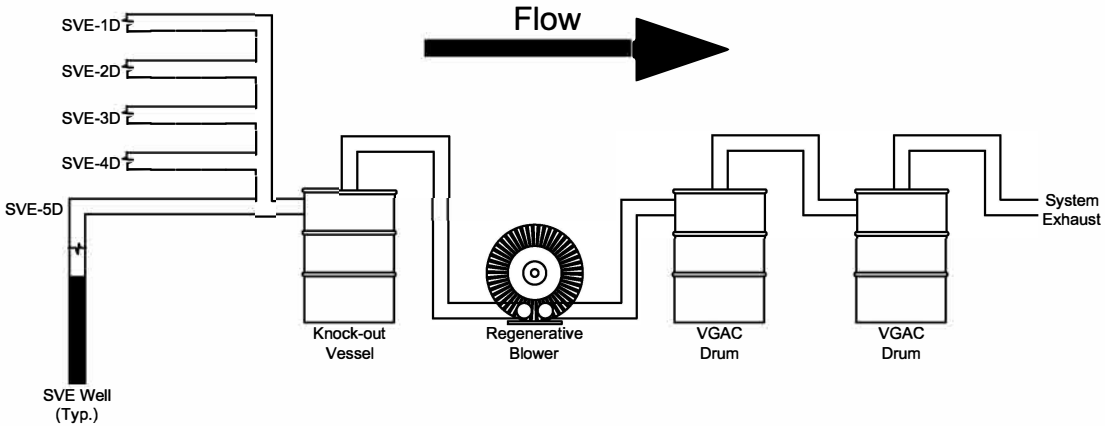


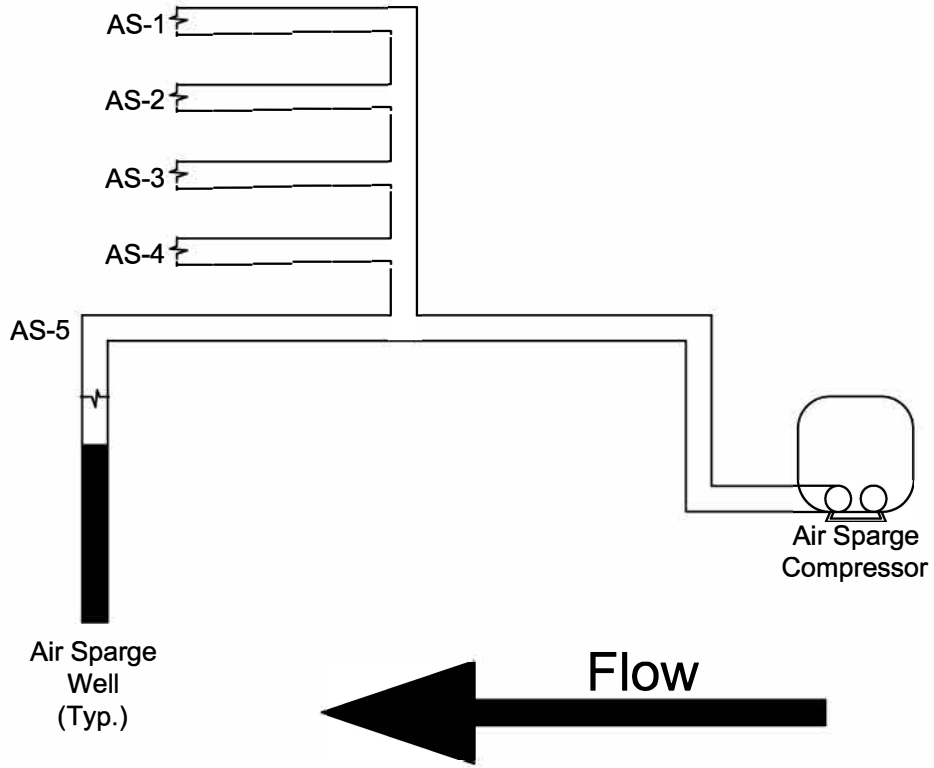
Existing Shallow SVE Schematic



Existing Deep SVE Schematic

Nicholas A. Andrianas, P.E.
1 Sound Breeze Drive Miller Place, New York 11764

TITLE: Existing SVE Schematics		DATE: 5/29/2015
		SCALE: As Shown
FIGURE: 2	Former Plaza Cleaner Port Washington, NY Superfund Site #130108	DRAWN BY: J.R.S.
DRAWING NO: N/A		APPR. BY: N.A.A.

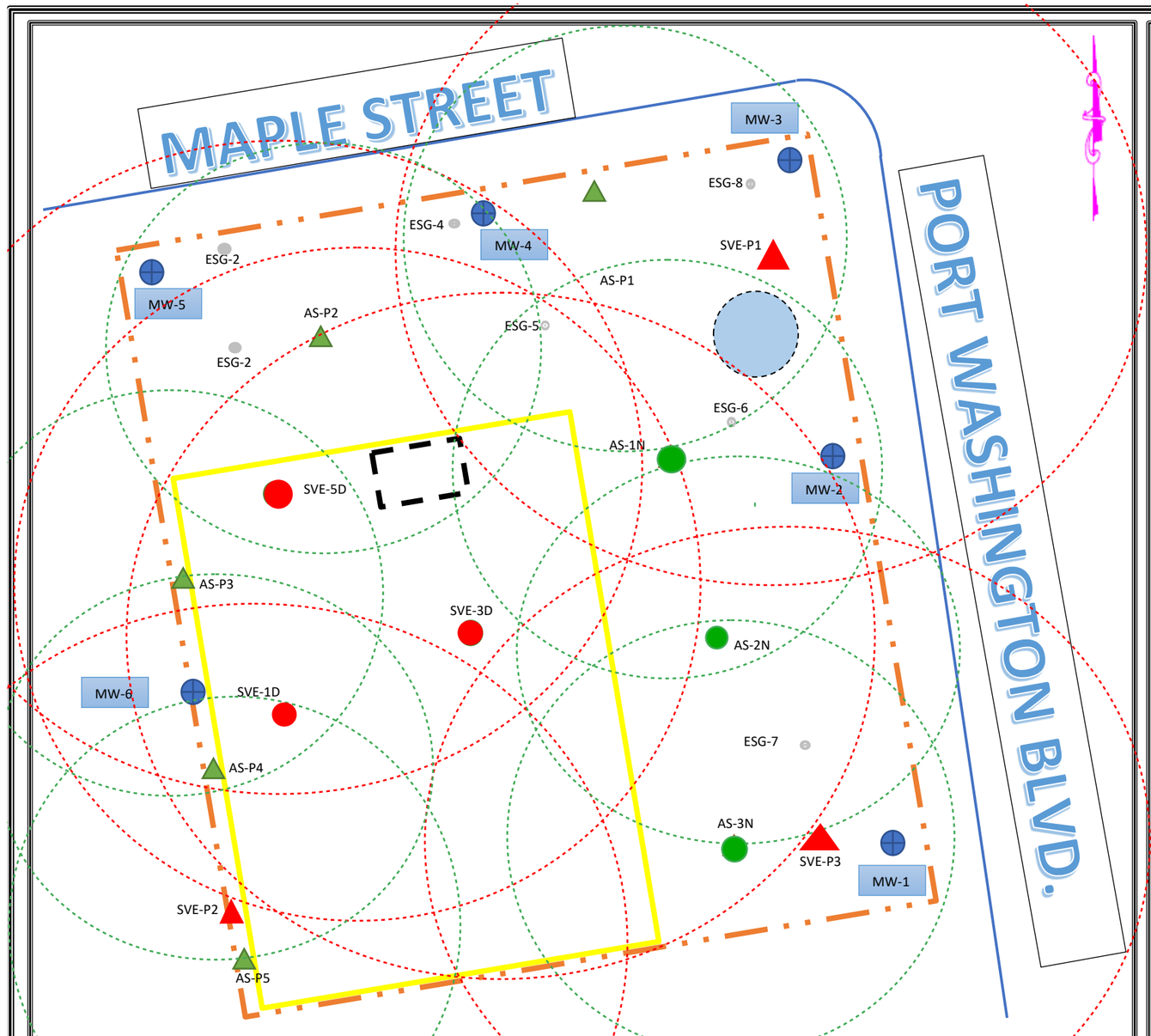


Nicholas A. Andrianas, P.E.
1 Sound Breeze Drive
Miller Place, New York 11764

TITLE: Existing Air Sparge Schematic		DATE: 5/29/2015
		SCALE: As Shown
FIGURE: 3	Former Plaza Cleaner Port Washington, NY Superfund Site #130108	DRAWN BY: J.R.S.
DRAWING NO: N/A		APPR. BY: N.A.A.

Nicholas A. Andrianas, P.E. 1 Sound Breeze Drive Miller Place, New York 11764	Remedial Design Work Plan Plaza Cleaners Port Washington, New York State Superfund Project Site No. 130108 Operable Unit Number 01: On-Site Remedial Program	Figure Title: Figure 4 Existing SVE and AS Wells Legend: SVE Wells AS Wells Site Boundary

Nicholas A. Andrianas, P.E. 1 Sound Breeze Drive Miller Place, New York 11764	Remedial Design Work Plan Plaza Cleaners Port Washington, New York State Superfund Project Site No. 130108 Operable Unit Number 01: On-Site Remedial Program	Figure 5 2019 Pilot Test AS Wells Legend: AS Wells Site Boundary



LEGEND

- Monitoring Well
- Air Sparge Well Existing
- SVE Well Existing
- Air Sparge Well Radius of Influence
- SVE Capture Radius All SVE Wells (SVE-1D, SVE-3D SVE-5D & Proposed New Wells SVE)
- Proposed Air Sparge Well
- Proposed SVE Well
- Open Grate Stormwater Drywell
- Existing Building Structure
- AS/SVE System Equipment Room
- PropertyLine

Note: Low response in Northeast corner due to short circuiting from existing drywell.

10' 0' 10' 20'
SCALE

Nicholas A. Andrianas, P.E.
1 Sound Breeze Drive
Miller Place, New York 11764

NEW YORK STATE DEPARTMENT OF ENVIRONMNETAL CONSERVATION

PLAZA CLEANER SITE, OU-1

PORT WASHINGTON, NEW YORK

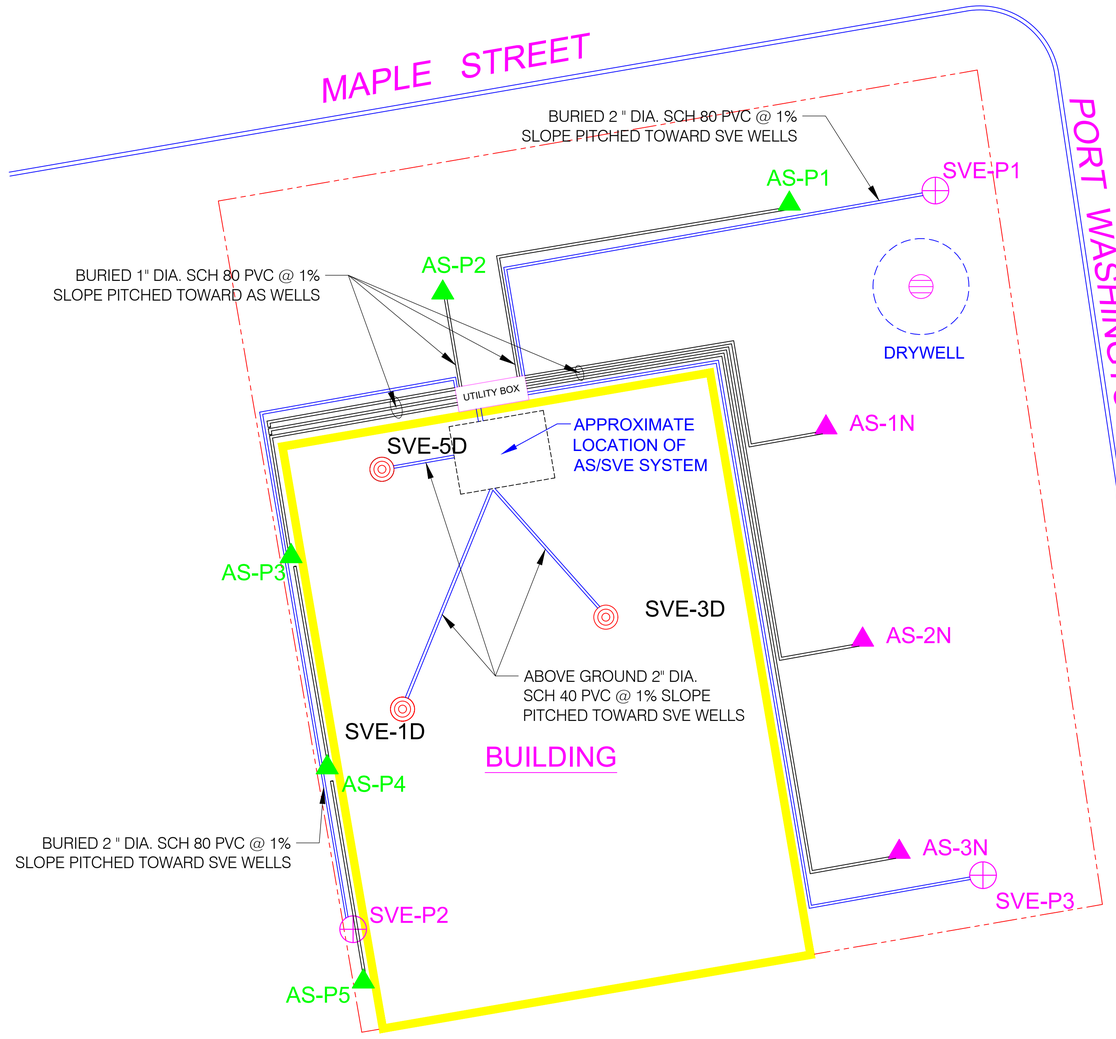
TOWN OF HEMPSTEAD

AIR SPARGE RADIUS OF INFLUENCE and SOIL VAPOR EXTRACTION WELL CAPTURE RADIUS

January 2022

FIGURE 6

TOP VIEW



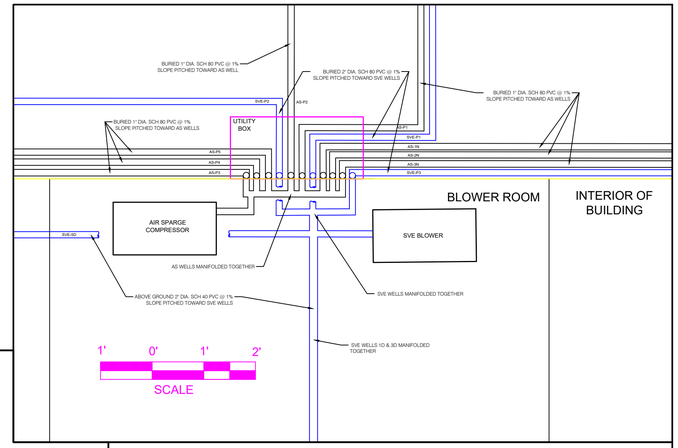
LEGEND

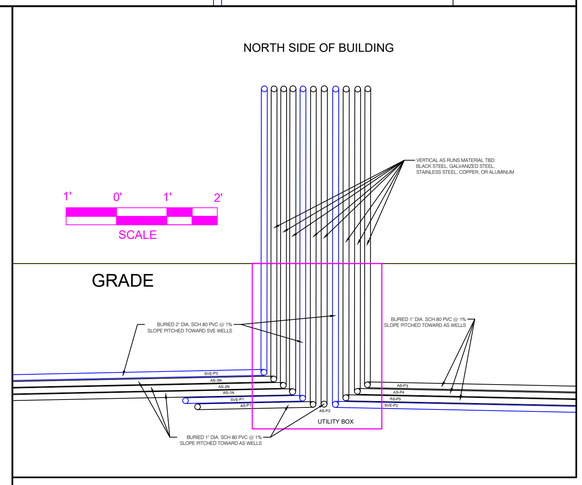
SVE-1D ◎	EXISTING SVE POINT
SVE-P1 ⊕	PROPOSED SVE POINT
AS-P1 ▲	PROPOSED AIR SPARGING WELL
AS-1N ▲	AIR SPARGING WELL

NOTE:
PROPOSED SVE AND AS WELLS TO BE USED IN FINAL DESIGN ARE SHOWN

NOTE:
EXISTING SOIL VAPOR POINTS SVE-1D, SVE-3D, AND SVE-5D WILL BE USED IN FINAL DESIGN

10' 0' 10' 20'
SCALE





SIDE VIEW

Nicholas A. Andrianas, P.E.

1 Sound Breeze Drive
Miller Place, NY 11764

516-680-1677

CLIENT:
PORT WASHINGTON

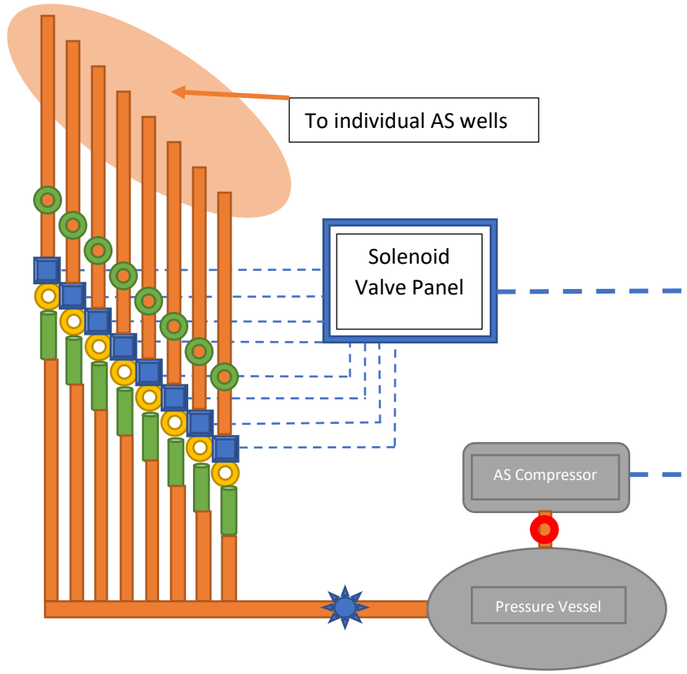
WORK LOCATION:
966 PORT WASHINGTON BLVD
PORT WASHINGTON, NY 11050

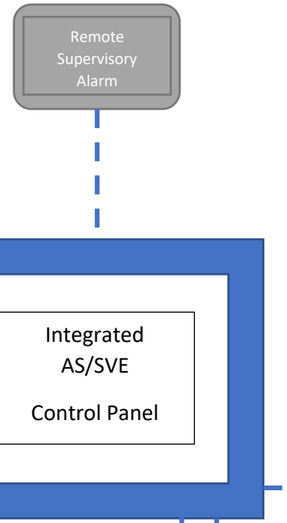
TITLE:
PRELIMINARY AIR SPARGE AND SVE SCHEMATIC

REV	DATE	BY	REVISION DESCRIPTION
0	06/07/19	MRG	PRELIMINARY DRAWING

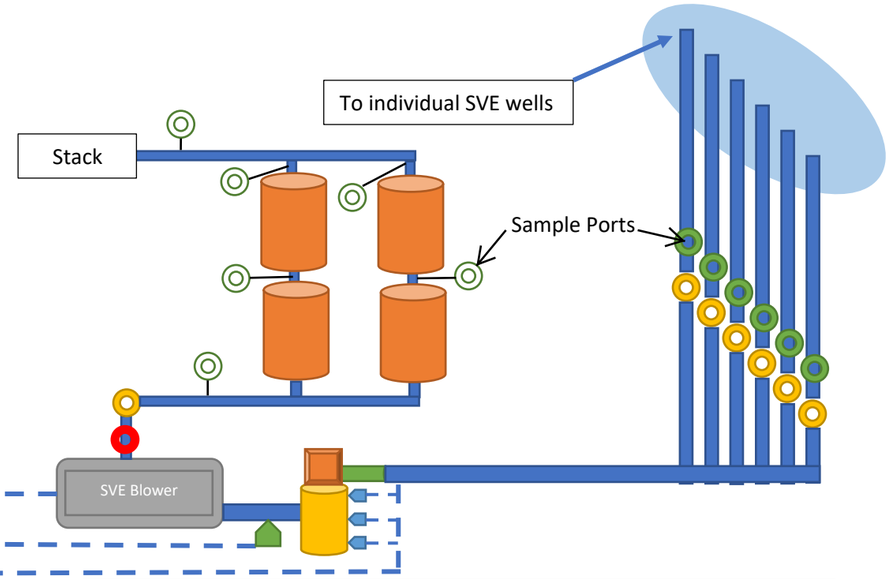
DWG NO: 1		
SCALE: AS_NOTED	DATE: 06/07/19	PROJECT NO: PROJECT_NAME
DRWN BY: MRG	DESIGNED BY: MRG	APPROVED BY: NAA
SHEET: 1 OF 1		

Air Sparge System Equipment Schematic





Soil vapor Extraction System Equipment Schematic



LEGEND

- Regulator Valve
- SVE System Piping
- AS System Piping
- Solenoid Valve
- Particulate Filter
- Float Switch
- Pressure Gauge
- Temperature Gauge
- Carbon vessel
- Flow Gauge
- KO vessel
- Sampling Port
- Flow Vane

Nicholas A. Andrianas, P.E.

1 Sound Breeze Drive, Miller Place, NY 11764

DRAWING 2

AS/SVE System Equipment Schematics

Plaza Cleaners

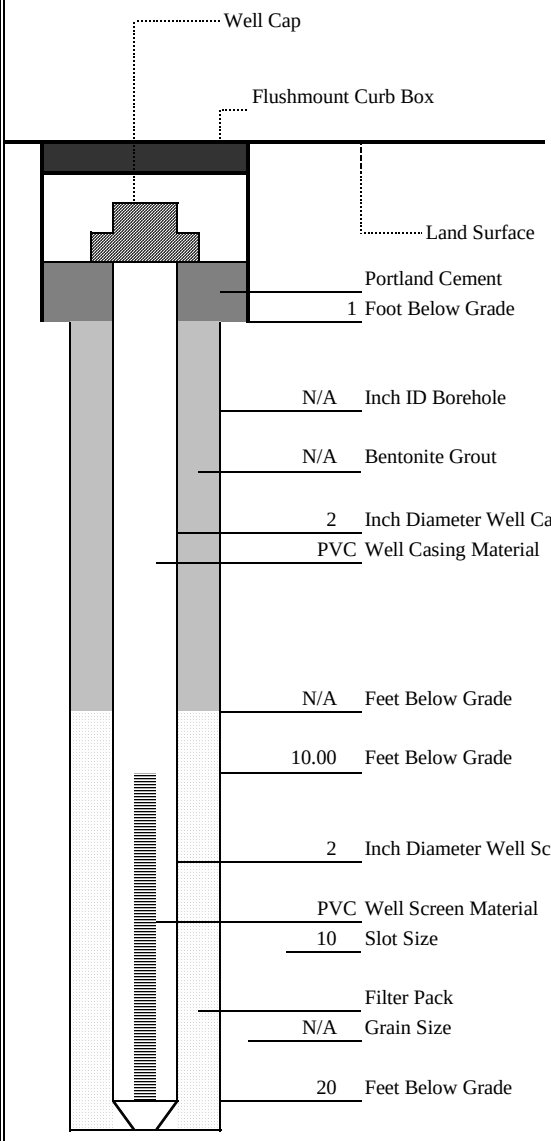
Port Washington, New York

State Superfund Project Site No. 130108

APPENDIX A

GROUNDWATER, AIR SPARGE, AND SOIL VAPOR EXTRACTION WELL CONSTRUCTION LOGS

TYPICAL GROUNDWATER MONITORING WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.

Well Number: New Proposed SVE wells

NYSDEC Project: Site # 130108

Project: Port Washington

Surveyor: N/A Survey Date: N/A

Land Surface Elevation: N/A

Measuring Point Elevation: N/A

Northing: N/A Easting: N/A

Installation Date: N/A

Drilling Contractor: N/A

Drilling Method: N/A

Drilling Fluid: N/A

Fluid Loss During Drilling: N/A

Development Techniques: N/A

Date(s) of Development: N/A

Water Removed During Development: N/A

Depth to Water: N/A

Pumping Depth to Water: N/A

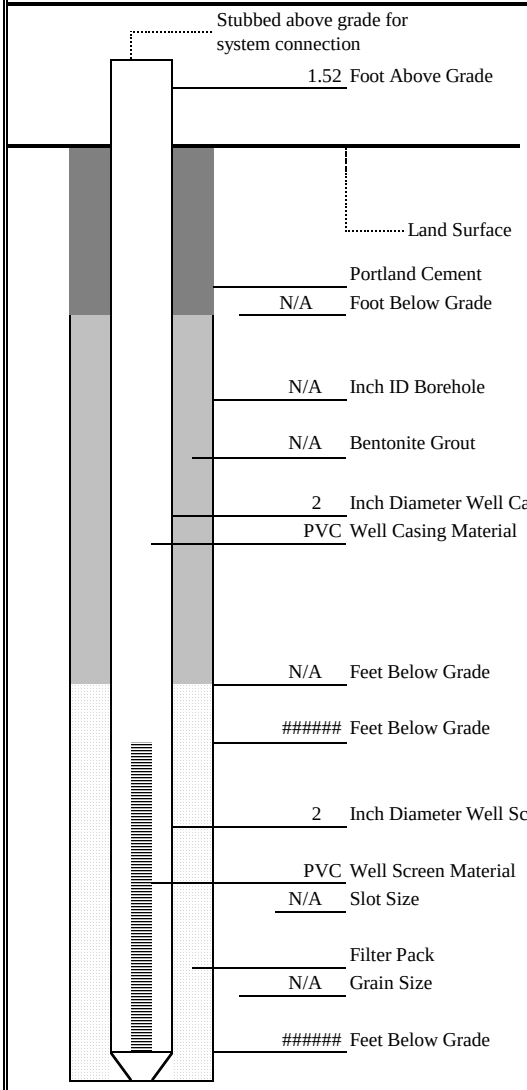
Pumping Duration: N/A Yield: N/A gpm

Specific Capacity: N/A

Hydrogeologist: N/A

Company: N/A

TYPICAL SOIL VAPOR EXTRACTION WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.
Wells are capped at bottom.

Well Number SVE-1D

NYSDEC Project Site # 130108

Project Port Washington

Surveyor N/A Survey Date N/A

Land Surface Elevation N/A

Measuring Point Elevation N/A

Northing N/A Easting N/A

Installation Date N/A

Drilling Contractor N/A

Drilling Method N/A

Drilling Fluid N/A

Fluid Loss During Drilling N/A

Development Techniques N/A

Date(s) of Development N/A

Water Removed During Development N/A

Depth to Water **N/A**

Pumping Depth to Water N/A

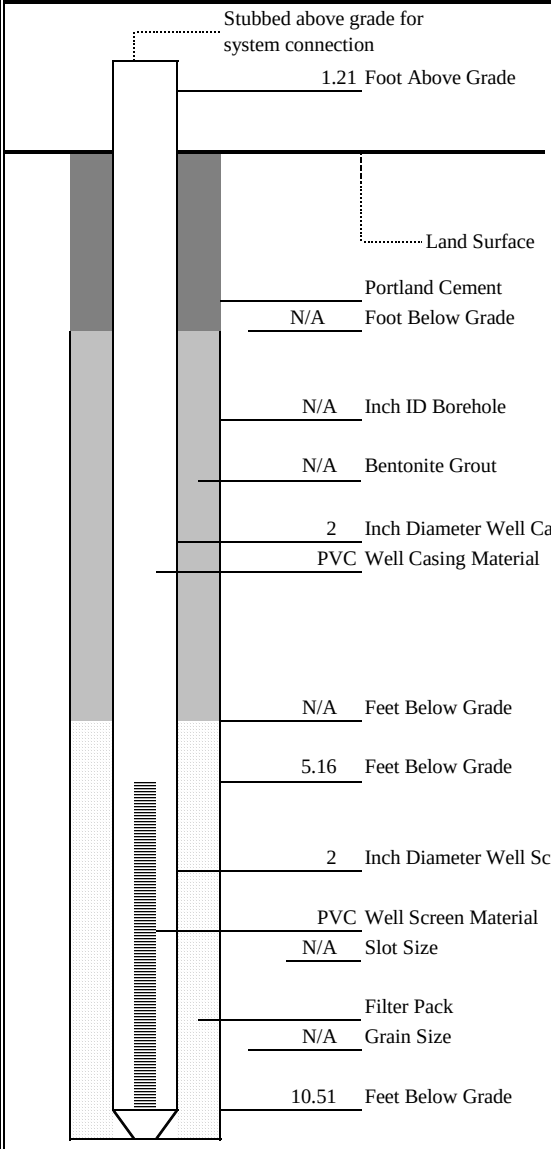
Pumping Duration N/A Yield N/A gpm

Specific Capacity N/A

Hydrogeologist N/A

Company N/A

TYPICAL SOIL VAPOR EXTRACTION WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.
Wells are capped at bottom.

Well Number SVE-1S

NYSDEC Project Site # 130108

Project Port Washington

Surveyor N/A Survey Date N/A

Land Surface Elevation N/A

Measuring Point Elevation N/A

Northing N/A Easting N/A

Installation Date N/A

Drilling Contractor N/A

Drilling Method N/A

Drilling Fluid N/A

Fluid Loss During Drilling N/A

Development Techniques N/A

Date(s) of Development N/A

Water Removed During Development N/A

Depth to Water **N/A**

Pumping Depth to Water N/A

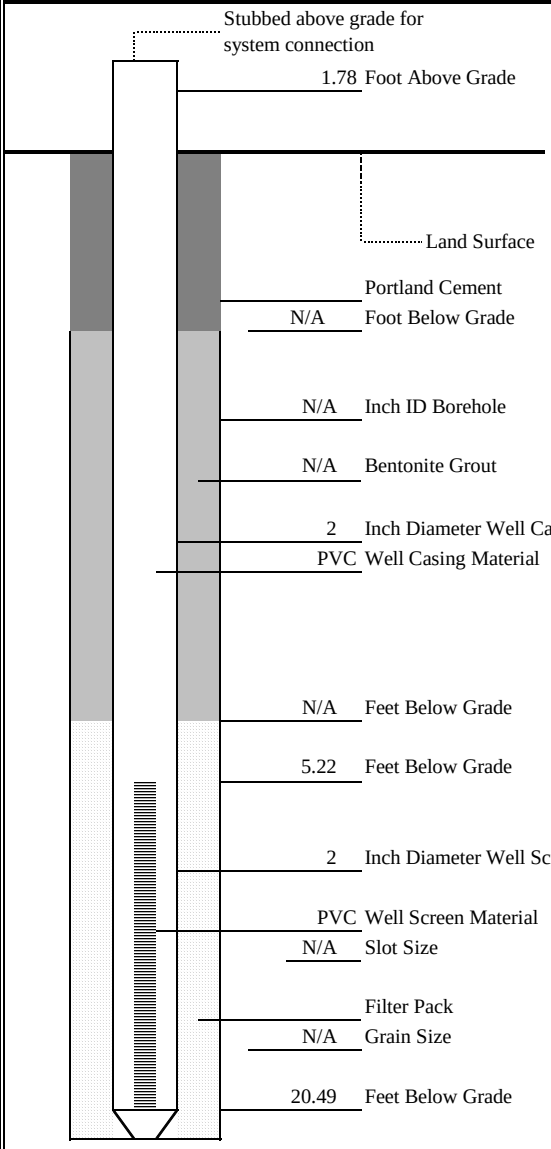
Pumping Duration N/A Yield N/A gpm

Specific Capacity N/A

Hydrogeologist N/A

Company N/A

TYPICAL SOIL VAPOR EXTRACTION WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.
Wells are capped at bottom.

Well Number SVE-2D

NYSDEC Project Site # 130108

Project Port Washington

Surveyor N/A Survey Date N/A

Land Surface Elevation N/A

Measuring Point Elevation N/A

Northing N/A Easting N/A

Installation Date N/A

Drilling Contractor N/A

Drilling Method N/A

Drilling Fluid N/A

Fluid Loss During Drilling N/A

Development Techniques N/A

Date(s) of Development N/A

Water Removed During Development N/A

Depth to Water **N/A**

Pumping Depth to Water N/A

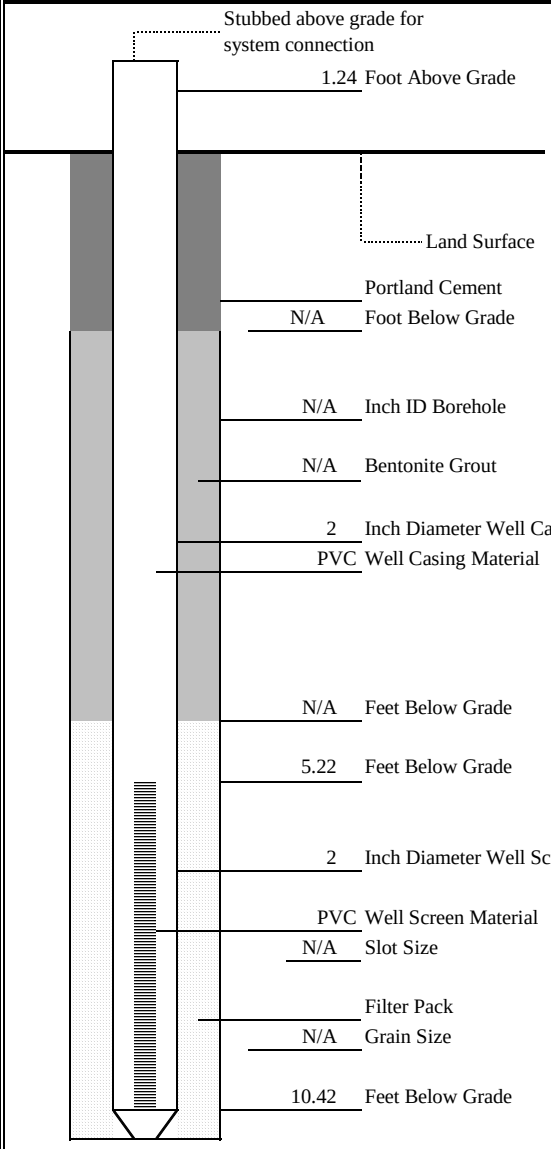
Pumping Duration N/A Yield N/A gpm

Specific Capacity N/A

Hydrogeologist N/A

Company N/A

TYPICAL SOIL VAPOR EXTRACTION WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.
Wells are capped at bottom.

Well Number SVE-2S

NYSDEC Project Site # 130108

Project Port Washington

Surveyor N/A Survey Date N/A

Land Surface Elevation N/A

Measuring Point Elevation N/A

Northing N/A Easting N/A

Installation Date N/A

Drilling Contractor N/A

Drilling Method N/A

Drilling Fluid N/A

Fluid Loss During Drilling N/A

Development Techniques N/A

Date(s) of Development N/A

Water Removed During Development N/A

Depth to Water **N/A**

Pumping Depth to Water N/A

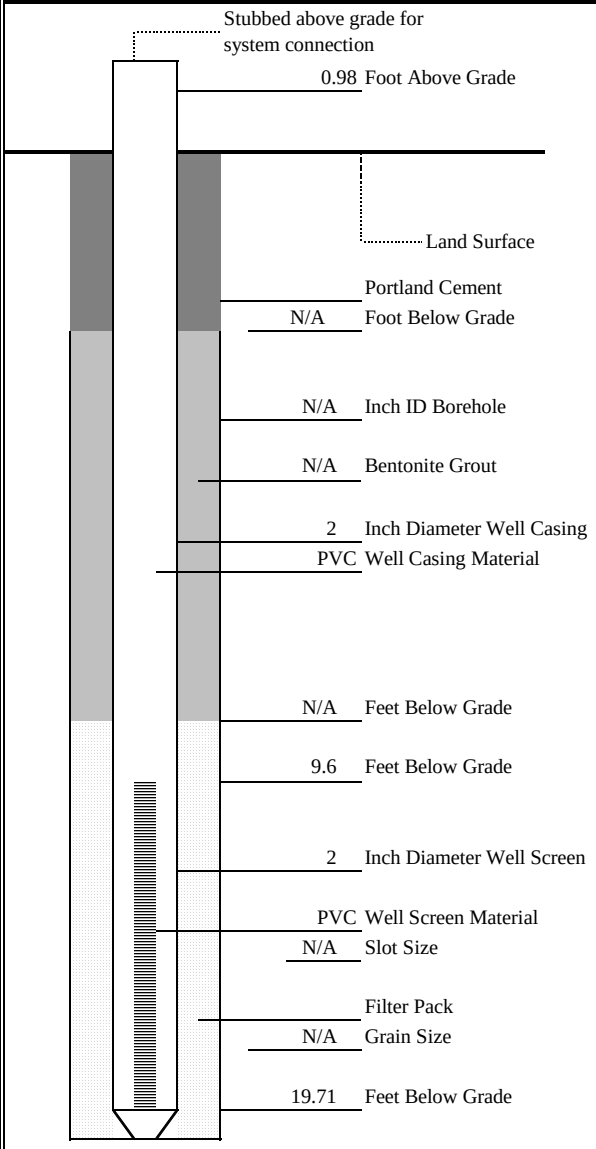
Pumping Duration N/A Yield N/A gpm

Specific Capacity N/A

Hydrogeologist N/A

Company N/A

TYPICAL SOIL VAPOR EXTRACTION WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.
Wells are capped at bottom.

Well Number SVE-3D

NYSDEC Project Site # 130108

Project Port Washington

Surveyor N/A Survey Date N/A

Land Surface Elevation N/A

Measuring Point Elevation N/A

Northing N/A Easting N/A

Installation Date N/A

Drilling Contractor N/A

Drilling Method N/A

Drilling Fluid N/A

Fluid Loss During Drilling N/A

Development Techniques N/A

Date(s) of Development N/A

Water Removed During Development N/A

Depth to Water **N/A**

Pumping Depth to Water N/A

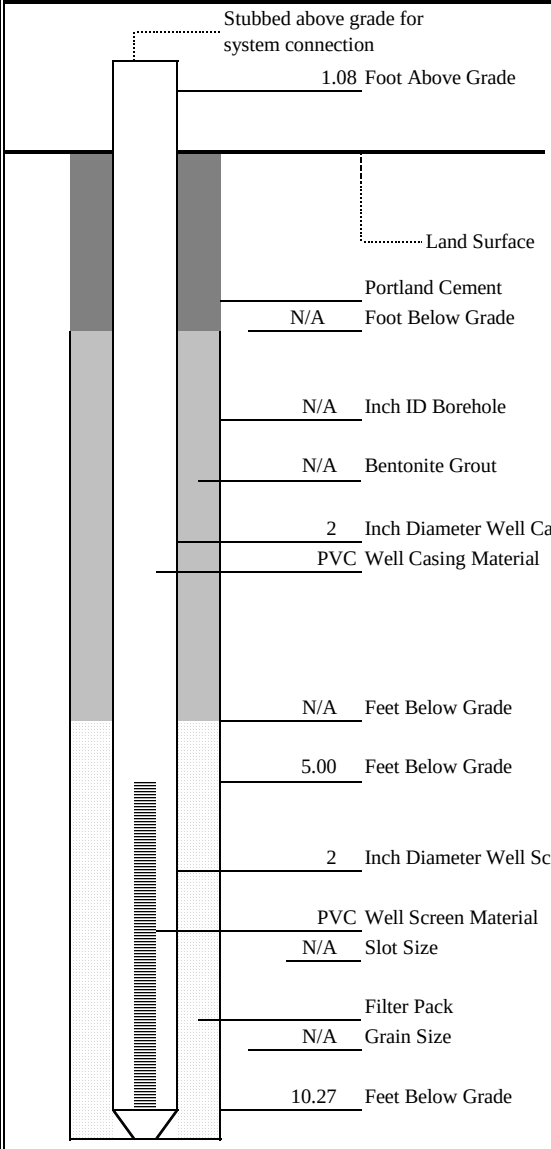
Pumping Duration N/A Yield N/A gpm

Specific Capacity N/A

Hydrogeologist N/A

Company N/A

TYPICAL SOIL VAPOR EXTRACTION WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.
Wells are capped at bottom.

Well Number SVE-3S

NYSDEC Project Site # 130108

Project Port Washington

Surveyor N/A Survey Date N/A

Land Surface Elevation N/A

Measuring Point Elevation N/A

Northing N/A Easting N/A

Installation Date N/A

Drilling Contractor N/A

Drilling Method N/A

Drilling Fluid N/A

Fluid Loss During Drilling N/A

Development Techniques N/A

Date(s) of Development N/A

Water Removed During Development N/A

Depth to Water **N/A**

Pumping Depth to Water N/A

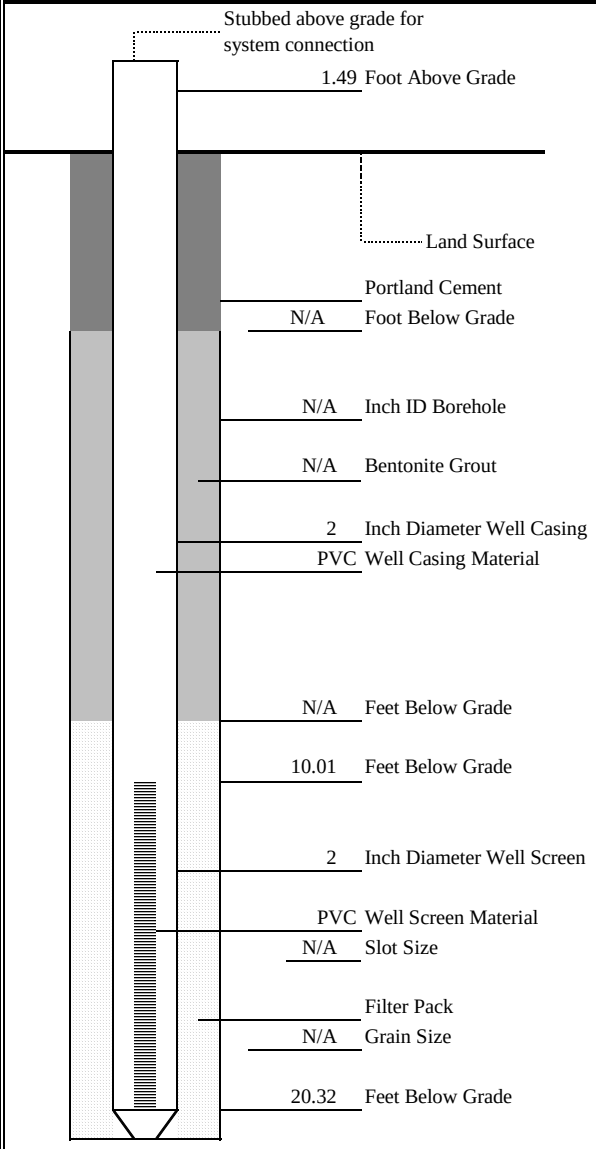
Pumping Duration N/A Yield N/A gpm

Specific Capacity N/A

Hydrogeologist N/A

Company N/A

TYPICAL SOIL VAPOR EXTRACTION WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.
Wells are capped at bottom.

Well Number SVE-4D

NYSDEC Project Site # 130108

Project Port Washington

Surveyor N/A Survey Date N/A

Land Surface Elevation N/A

Measuring Point Elevation N/A

Northing N/A Easting N/A

Installation Date N/A

Drilling Contractor N/A

Drilling Method N/A

Drilling Fluid N/A

Fluid Loss During Drilling N/A

Development Techniques N/A

Date(s) of Development N/A

Water Removed During Development N/A

Depth to Water **N/A**

Pumping Depth to Water N/A

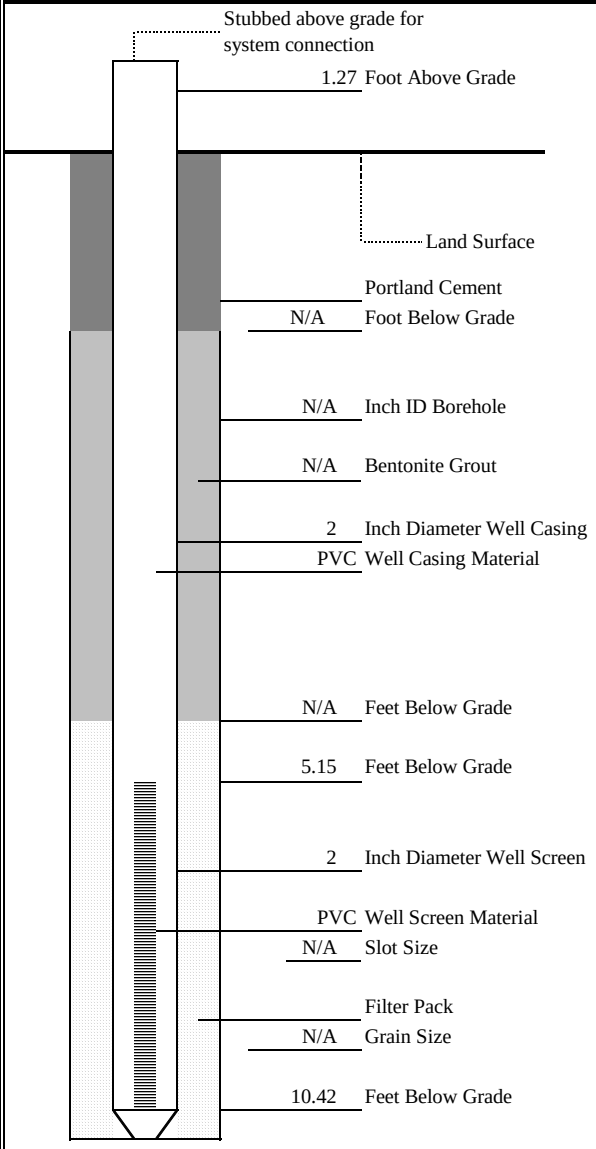
Pumping Duration N/A Yield N/A gpm

Specific Capacity N/A

Hydrogeologist N/A

Company N/A

TYPICAL SOIL VAPOR EXTRACTION WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.
Wells are capped at bottom.

Well Number SVE-4S

NYSDEC Project Site # 130108

Project Port Washington

Surveyor N/A Survey Date N/A

Land Surface Elevation N/A

Measuring Point Elevation N/A

Northing N/A Easting N/A

Installation Date N/A

Drilling Contractor N/A

Drilling Method N/A

Drilling Fluid N/A

Fluid Loss During Drilling N/A

Development Techniques N/A

Date(s) of Development N/A

Water Removed During Development N/A

Depth to Water **N/A**

Pumping Depth to Water N/A

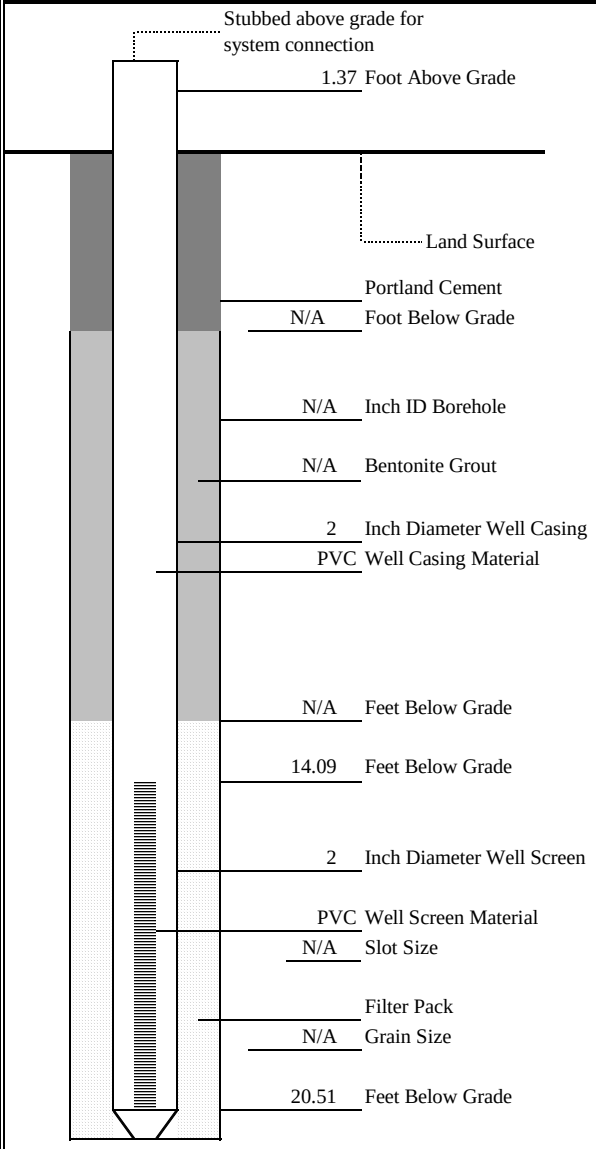
Pumping Duration N/A Yield N/A gpm

Specific Capacity N/A

Hydrogeologist N/A

Company N/A

TYPICAL SOIL VAPOR EXTRACTION WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.
Wells are capped at bottom.

Well Number SVE-5D

NYSDEC Project Site # 130108

Project Port Washington

Surveyor N/A Survey Date N/A

Land Surface Elevation N/A

Measuring Point Elevation N/A

Northing N/A Easting N/A

Installation Date N/A

Drilling Contractor N/A

Drilling Method N/A

Drilling Fluid N/A

Fluid Loss During Drilling N/A

Development Techniques N/A

Date(s) of Development N/A

Water Removed During Development N/A

Depth to Water **N/A**

Pumping Depth to Water N/A

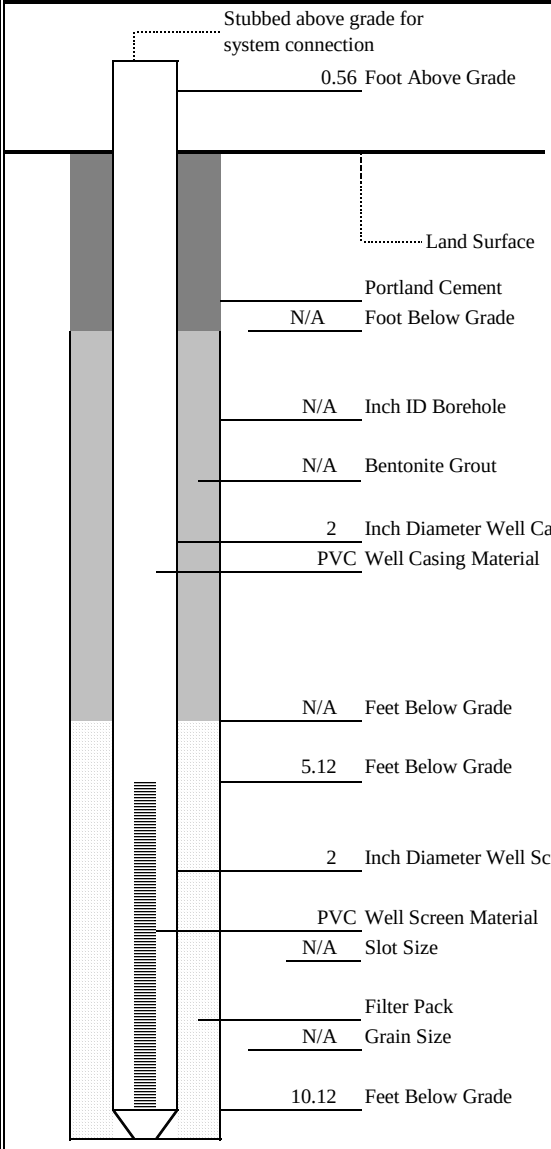
Pumping Duration N/A Yield N/A gpm

Specific Capacity N/A

Hydrogeologist N/A

Company N/A

TYPICAL SOIL VAPOR EXTRACTION WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.
Wells are capped at bottom.

Well Number SVE-5S

NYSDEC Project Site # 130108

Project Port Washington

Surveyor N/A Survey Date N/A

Land Surface Elevation N/A

Measuring Point Elevation N/A

Northing N/A Easting N/A

Installation Date N/A

Drilling Contractor N/A

Drilling Method N/A

Drilling Fluid N/A

Fluid Loss During Drilling N/A

Development Techniques N/A

Date(s) of Development N/A

Water Removed During Development N/A

Depth to Water **N/A**

Pumping Depth to Water N/A

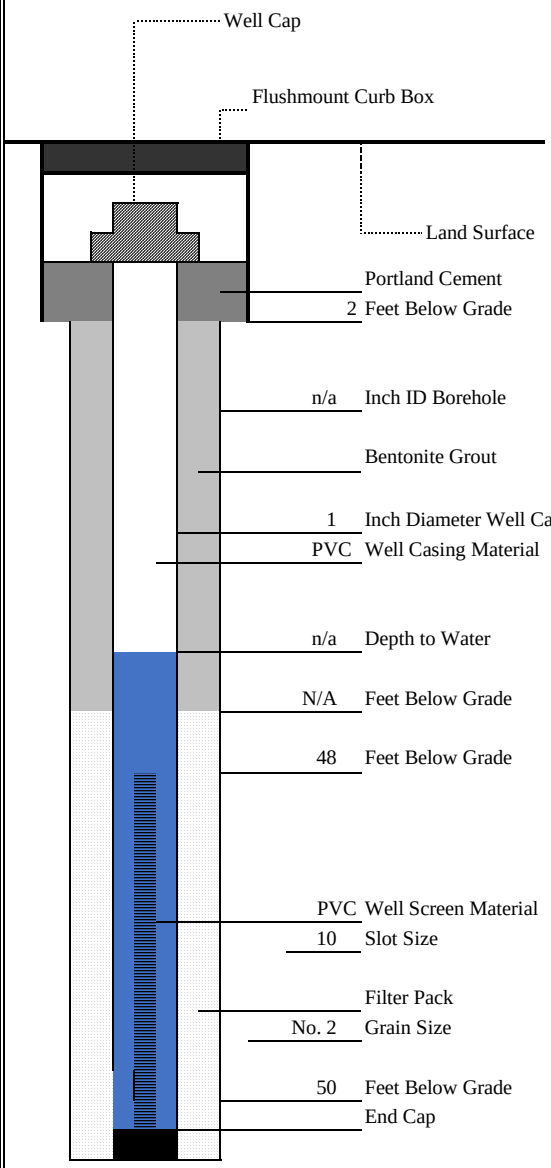
Pumping Duration N/A Yield N/A gpm

Specific Capacity N/A

Hydrogeologist N/A

Company N/A

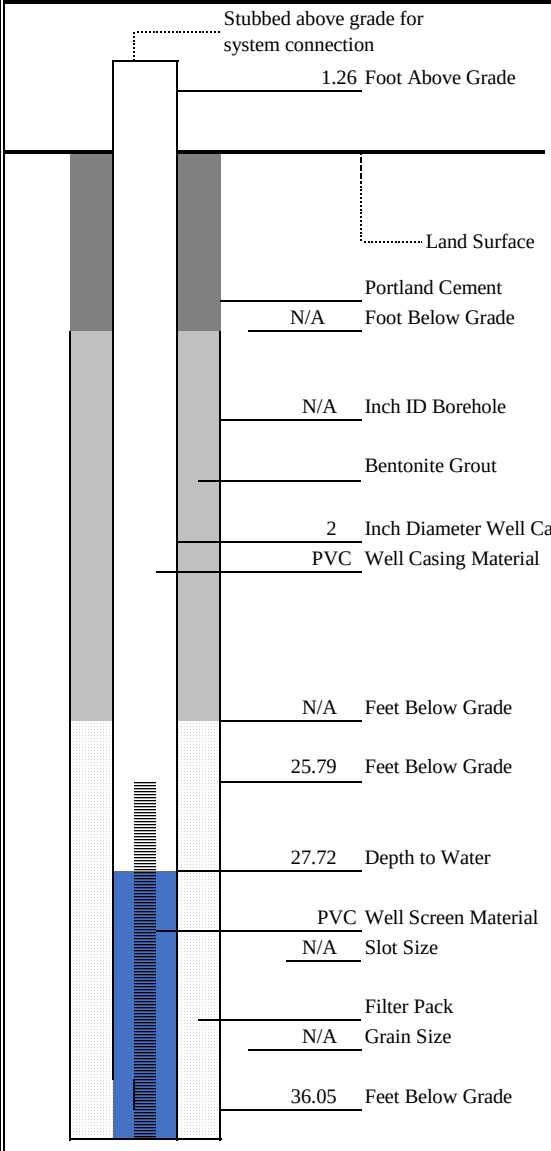
TYPICAL AIR SPARGE WELL
CONSTRUCTION LOG



Notes: _____

Well Number	New Proposed AS wells
NYSDEC Project	Site # 130108
Project	Port Washington
Surveyor	N/A
Survey Date	N/A
Land Surface Elevation	N/A
Measuring Point Elevation	N/A
Northing	N/A
Easting	N/A
Installation Date	N/A
Drilling Contractor	N/A
Drilling Method	N/A
Drilling Fluid	N/A
Fluid Loss During Drilling	N/A
Development Techniques	N/A
Date(s) of Development	N/A
Water Removed During Development	N/A
Depth to Water	N/A
Pumping Depth to Water	N/A
Pumping Duration	N/A
Yield	N/A gpm
Specific Capacity	N/A
Hydrogeologist	N/A
Company	N/A

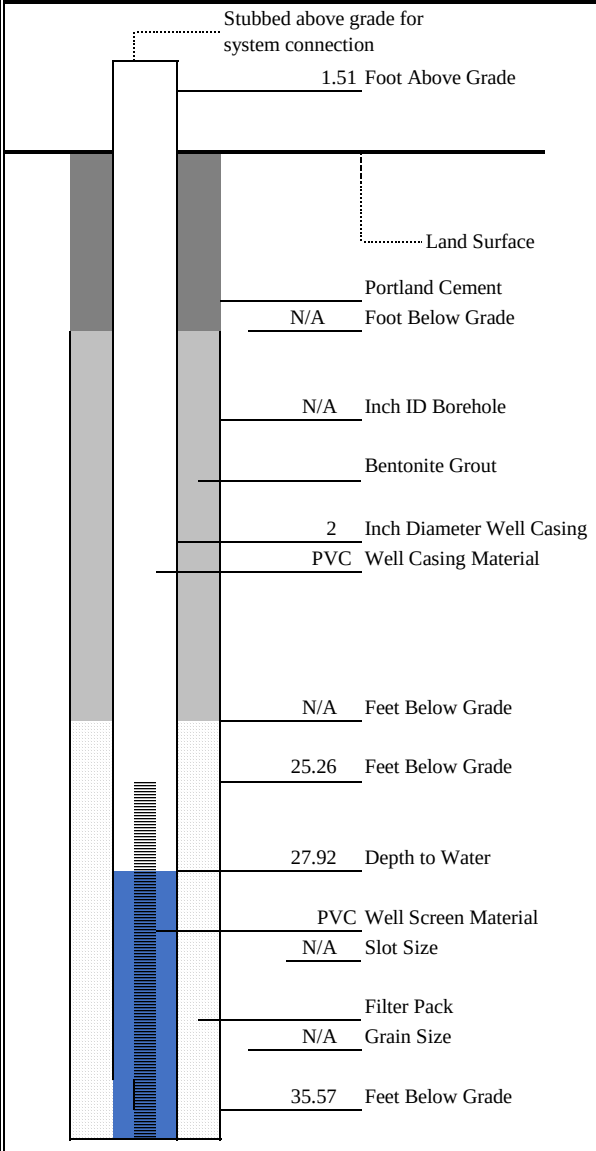
TYPICAL AIR SPARGE WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.
Wells appeare to be open bottom

Well Number	AS-1
NYSDEC Project	Site # 130108
Project	Port Washington
Surveyor	N/A
Survey Date	N/A
Land Surface Elevation	N/A
Measuring Point Elevation	N/A
Northing	N/A
Easting	N/A
Installation Date	N/A
Drilling Contractor	N/A
Drilling Method	N/A
Drilling Fluid	N/A
Fluid Loss During Drilling	N/A
Development Techniques	N/A
Date(s) of Development	N/A
Water Removed During Development	N/A
Depth to Water	**27.72**
Pumping Depth to Water	N/A
Pumping Duration	N/A
Yield	N/A gpm
Specific Capacity	N/A
Hydrogeologist	N/A
Company	N/A

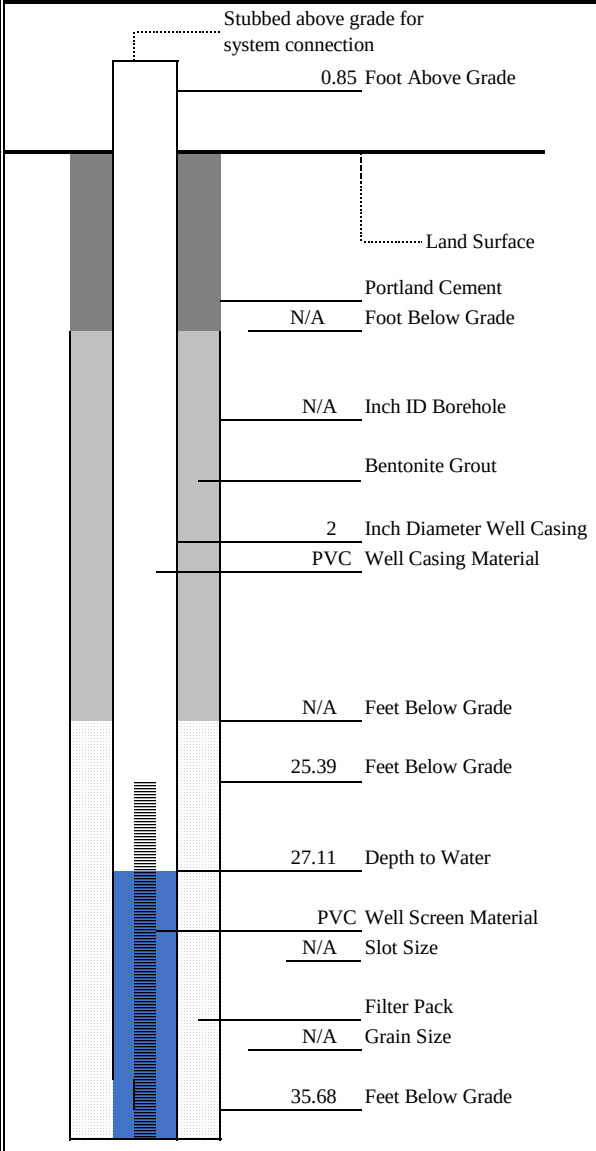
TYPICAL AIR SPARGE WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.
Wells appeare to be open bottom

Well Number	AS-2
NYSDEC Project	Site # 130108
Project	Port Washington
Surveyor	N/A
Survey Date	N/A
Land Surface Elevation	N/A
Measuring Point Elevation	N/A
Northing	N/A
Easting	N/A
Installation Date	N/A
Drilling Contractor	N/A
Drilling Method	N/A
Drilling Fluid	N/A
Fluid Loss During Drilling	N/A
Development Techniques	N/A
Date(s) of Development	N/A
Water Removed During Development	N/A
Depth to Water	**27.92**
Pumping Depth to Water	N/A
Pumping Duration	N/A
Yield	N/A gpm
Specific Capacity	N/A
Hydrogeologist	N/A
Company	N/A

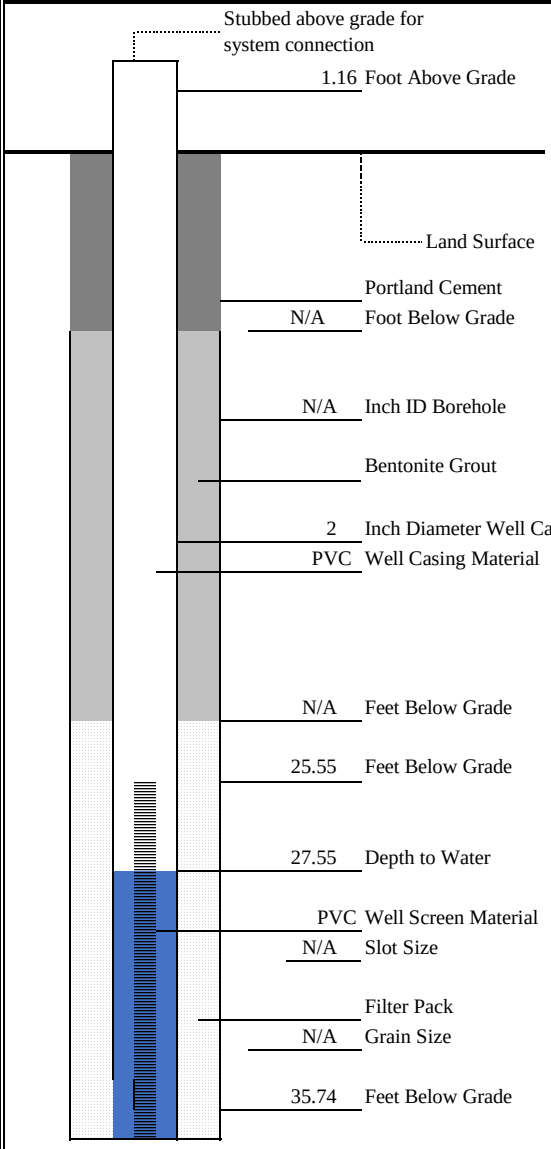
TYPICAL AIR SPARGE WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.
Wells appeare to be open bottom

Well Number	AS-3
NYSDEC Project	Site # 130108
Project	Port Washington
Surveyor	N/A
Survey Date	N/A
Land Surface Elevation	N/A
Measuring Point Elevation	N/A
Northing	N/A
Easting	N/A
Installation Date	N/A
Drilling Contractor	N/A
Drilling Method	N/A
Drilling Fluid	N/A
Fluid Loss During Drilling	N/A
Development Techniques	N/A
Date(s) of Development	N/A
Water Removed During Development	N/A
Depth to Water	**27.11**
Pumping Depth to Water	N/A
Pumping Duration	N/A
Yield	N/A gpm
Specific Capacity	N/A
Hydrogeologist	N/A
Company	N/A

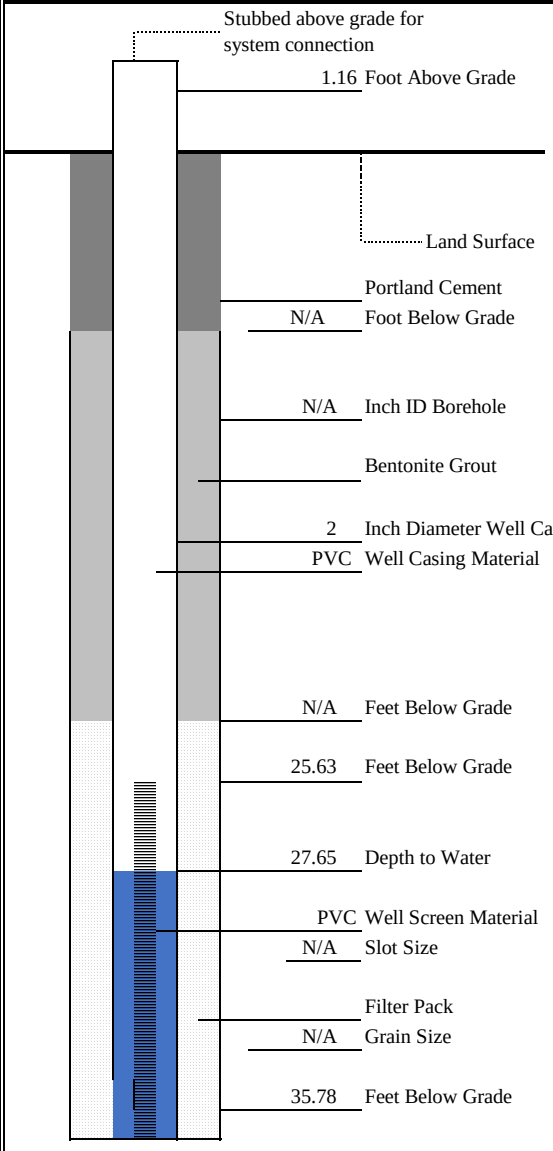
TYPICAL AIR SPARGE WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.
Wells appeare to be open bottom

Well Number	AS-4
NYSDEC Project	Site # 130108
Project	Port Washington
Surveyor	N/A
Survey Date	N/A
Land Surface Elevation	N/A
Measuring Point Elevation	N/A
Northing	N/A
Easting	N/A
Installation Date	N/A
Drilling Contractor	N/A
Drilling Method	N/A
Drilling Fluid	N/A
Fluid Loss During Drilling	N/A
Development Techniques	N/A
Date(s) of Development	N/A
Water Removed During Development	N/A
Depth to Water	**27.55**
Pumping Depth to Water	N/A
Pumping Duration	N/A
Yield	N/A gpm
Specific Capacity	N/A
Hydrogeologist	N/A
Company	N/A

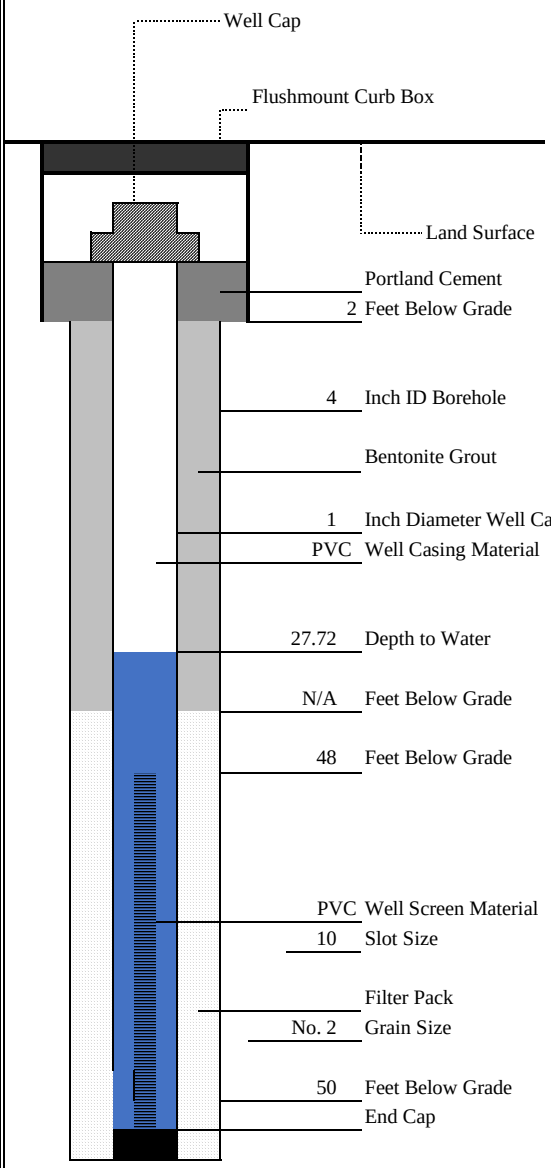
TYPICAL AIR SPARGE WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.
Wells appeare to be open bottom

Well Number	AS-5
NYSDEC Project	Site # 130108
Project	Port Washington
Surveyor	N/A
Survey Date	N/A
Land Surface Elevation	N/A
Measuring Point Elevation	N/A
Northing	N/A
Easting	N/A
Installation Date	N/A
Drilling Contractor	N/A
Drilling Method	N/A
Drilling Fluid	N/A
Fluid Loss During Drilling	N/A
Development Techniques	N/A
Date(s) of Development	N/A
Water Removed During Development	N/A
Depth to Water	
Pumping Depth to Water	N/A
Pumping Duration	N/A
Yield	N/A gpm
Specific Capacity	N/A
Hydrogeologist	N/A
Company	N/A

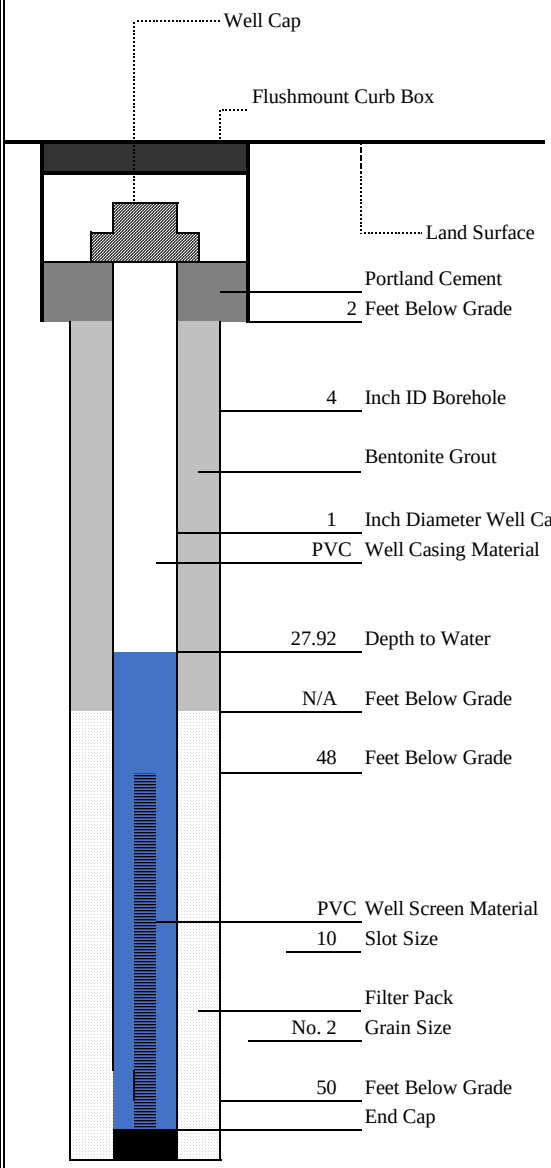
TYPICAL AIR SPARGE WELL
CONSTRUCTION LOG



Notes: _____

Well Number	AS-1N
NYSDEC Project	Site # 130108
Project	Port Washington
Surveyor	N/A
Survey Date	N/A
Land Surface Elevation	N/A
Measuring Point Elevation	N/A
Northing	N/A
Easting	N/A
Installation Date	July 12th, 2017
Drilling Contractor	AARCO Environmental
Drilling Method	Direct Push
Drilling Fluid	N/A
Fluid Loss During Drilling	N/A
Development Techniques	N/A
Date(s) of Development	N/A
Water Removed During Development	N/A
Depth to Water	**27.72**
Pumping Depth to Water	N/A
Pumping Duration	N/A
Yield	N/A gpm
Specific Capacity	N/A
Hydrogeologist	N/A
Company	N/A

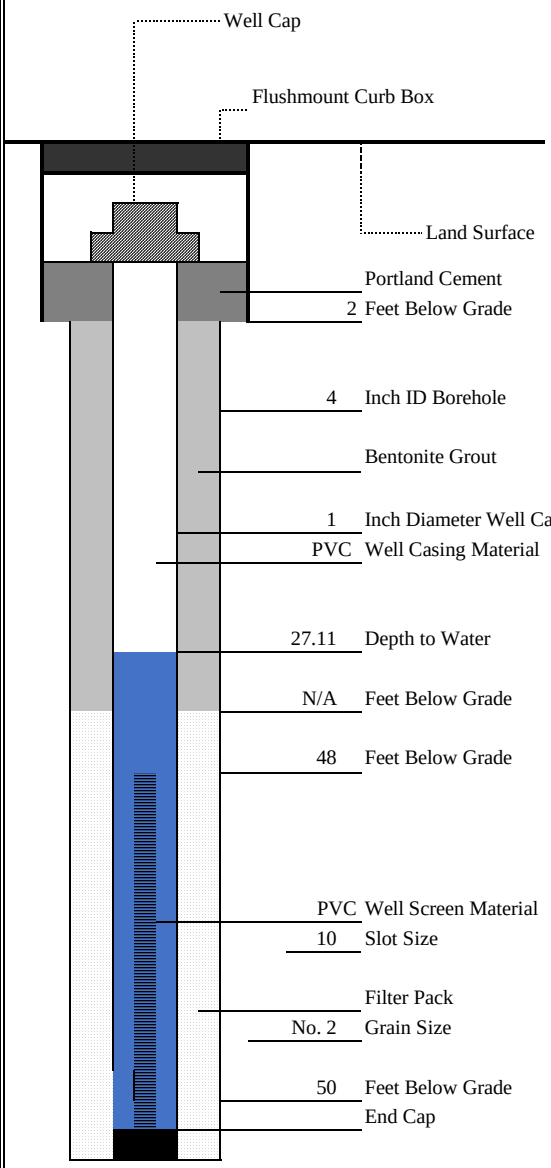
TYPICAL AIR SPARGE WELL
CONSTRUCTION LOG



Notes: _____

Well Number	AS-2N
NYSDEC Project	Site # 130108
Project	Port Washington
Surveyor	N/A
Survey Date	N/A
Land Surface Elevation	N/A
Measuring Point Elevation	N/A
Northing	N/A
Easting	N/A
Installation Date	July 12th, 2017
Drilling Contractor	AARCO Environmental
Drilling Method	Direct Push
Drilling Fluid	N/A
Fluid Loss During Drilling	N/A
Development Techniques	N/A
Date(s) of Development	N/A
Water Removed During Development	N/A
Depth to Water	**27.92**
Pumping Depth to Water	N/A
Pumping Duration	N/A
Yield	N/A gpm
Specific Capacity	N/A
Hydrogeologist	N/A
Company	N/A

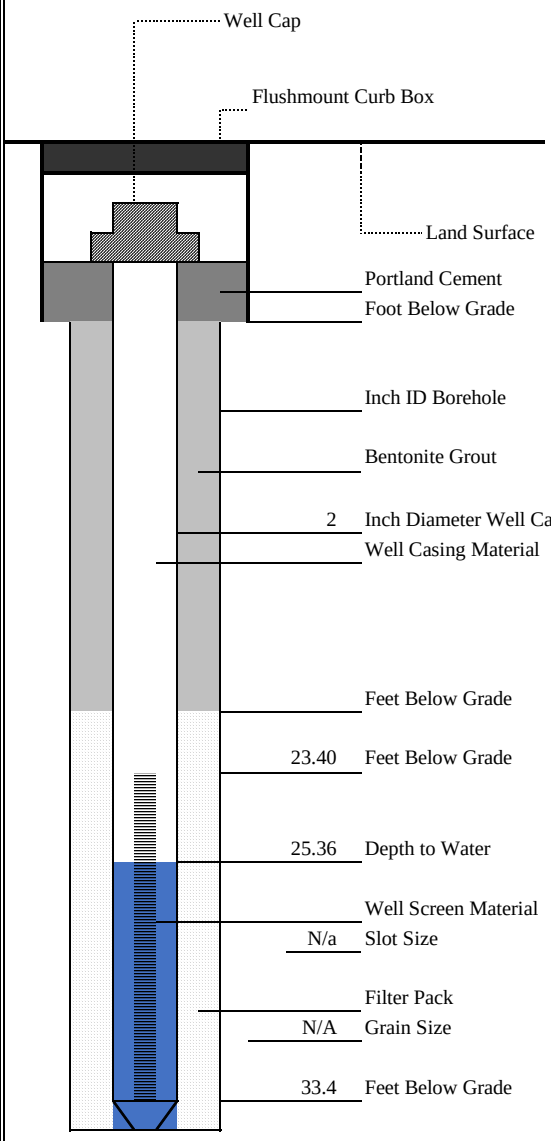
TYPICAL AIR SPARGE WELL
CONSTRUCTION LOG



Notes: _____

Well Number	AS-3N
NYSDEC Project	Site # 130108
Project	Port Washington
Surveyor	N/A
Survey Date	N/A
Land Surface Elevation	N/A
Measuring Point Elevation	N/A
Northing	N/A
Easting	N/A
Installation Date	July 12th, 2017
Drilling Contractor	AARCO Environmental
Drilling Method	Direct Push
Drilling Fluid	N/A
Fluid Loss During Drilling	N/A
Development Techniques	N/A
Date(s) of Development	N/A
Water Removed During Development	N/A
Depth to Water	**27.11**
Pumping Depth to Water	N/A
Pumping Duration	N/A
Yield	N/A gpm
Specific Capacity	N/A
Hydrogeologist	N/A
Company	N/A

TYPICAL GROUNDWATER MONITORING WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.

Well Number MW-1

NYSDEC Project Site # 130108

Project Port Washington

Surveyor N/A Survey Date N/A

Land Surface Elevation N/A

Measuring Point Elevation N/A

Northing N/A Easting N/A

Installation Date N/A

Drilling Contractor N/A

Drilling Method N/A

Drilling Fluid N/A

Fluid Loss During Drilling N/A

Development Techniques N/A

Date(s) of Development N/A

Water Removed During Development N/A

Depth to Water **25.36**

Pumping Depth to Water N/A

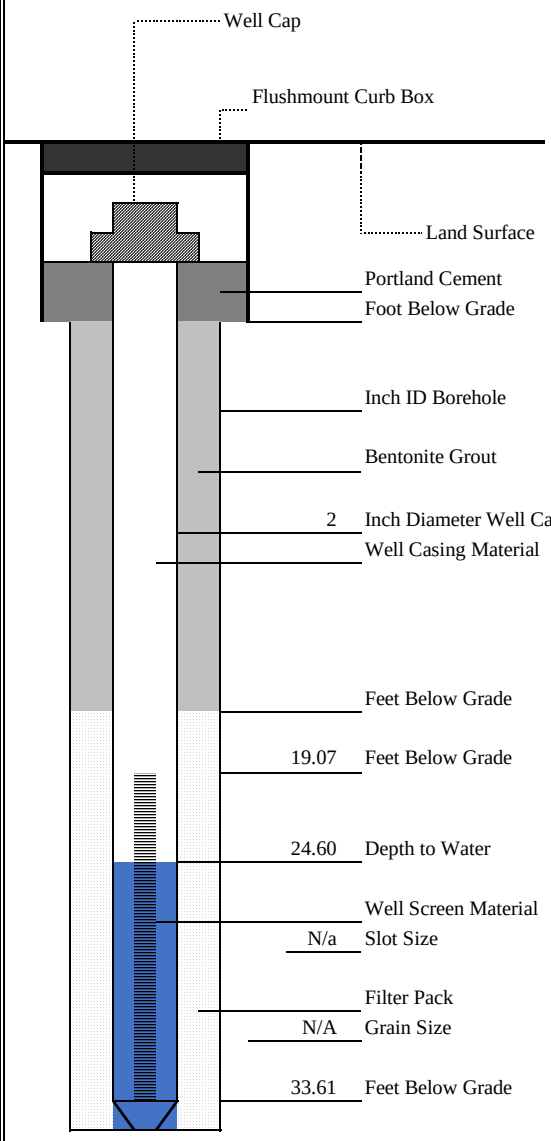
Pumping Duration N/A Yield N/A gpm

Specific Capacity N/A

Hydrogeologist N/A

Company N/A

TYPICAL GROUNDWATER MONITORING WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.

Well Number MW-2

NYSDEC Project Site # 130108

Project Port Washington

Surveyor N/A Survey Date N/A

Land Surface Elevation N/A

Measuring Point Elevation N/A

Northing N/A Easting N/A

Installation Date N/A

Drilling Contractor N/A

Drilling Method N/A

Drilling Fluid N/A

Fluid Loss During Drilling N/A

Development Techniques N/A

Date(s) of Development N/A

Water Removed During Development N/A

Depth to Water **24.60**

Pumping Depth to Water N/A

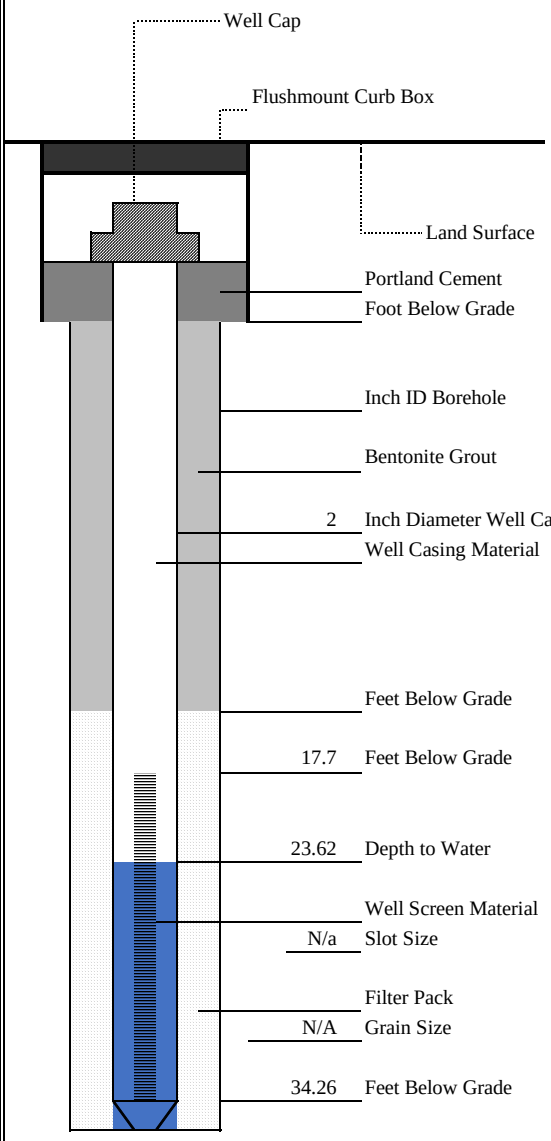
Pumping Duration N/A Yield N/A gpm

Specific Capacity N/A

Hydrogeologist N/A

Company N/A

TYPICAL GROUNDWATER MONITORING WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.

Well Number MW-3

NYSDEC Project Site # 130108

Project Port Washington

Surveyor N/A Survey Date N/A

Land Surface Elevation N/A

Measuring Point Elevation N/A

Northing N/A Easting N/A

Installation Date N/A

Drilling Contractor N/A

Drilling Method N/A

Drilling Fluid N/A

Fluid Loss During Drilling N/A

Development Techniques N/A

Date(s) of Development N/A

Water Removed During Development N/A

Depth to Water **23.62**

Pumping Depth to Water N/A

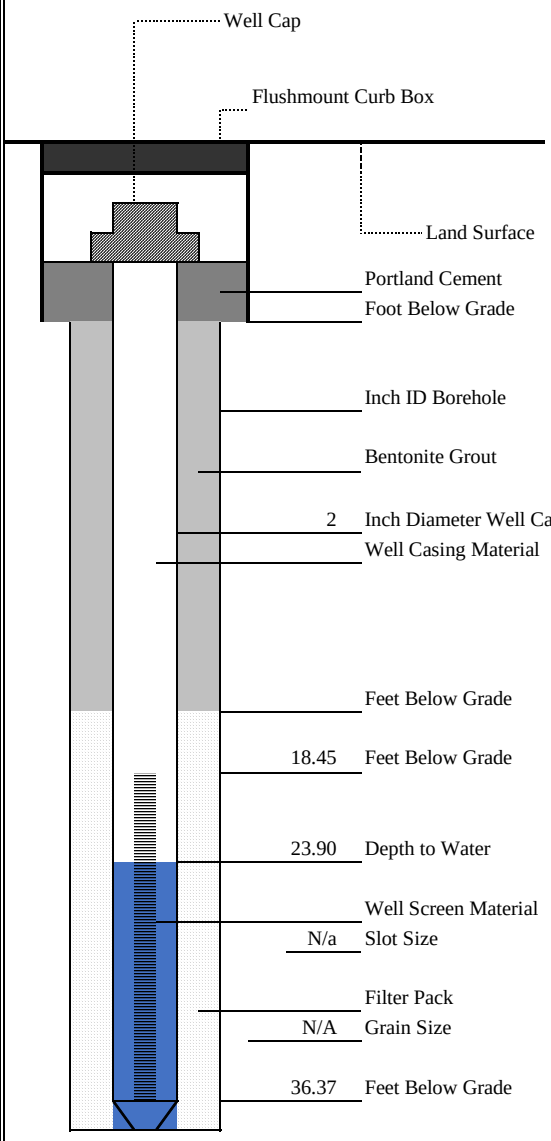
Pumping Duration N/A Yield N/A gpm

Specific Capacity N/A

Hydrogeologist N/A

Company N/A

TYPICAL GROUNDWATER MONITORING WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.

Well Number MW-4

NYSDEC Project Site # 130108

Project Port Washington

Surveyor N/A Survey Date N/A

Land Surface Elevation N/A

Measuring Point Elevation N/A

Northing N/A Easting N/A

Installation Date N/A

Drilling Contractor N/A

Drilling Method N/A

Drilling Fluid N/A

Fluid Loss During Drilling N/A

Development Techniques N/A

Date(s) of Development N/A

Water Removed During Development N/A

Depth to Water **23.90**

Pumping Depth to Water N/A

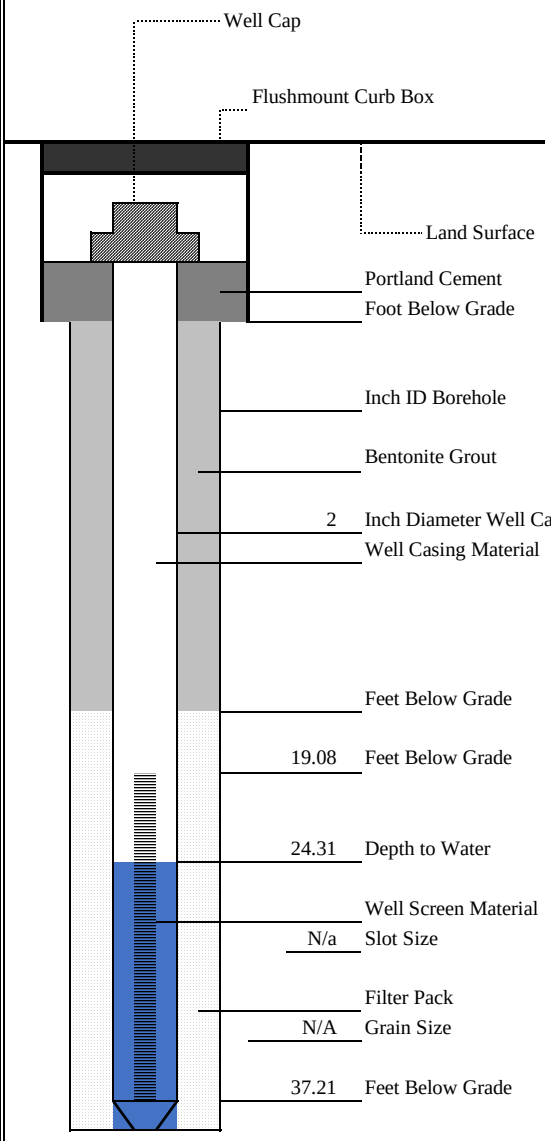
Pumping Duration N/A Yield N/A gpm

Specific Capacity N/A

Hydrogeologist N/A

Company N/A

TYPICAL GROUNDWATER MONITORING WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.

Well Number MW-5

NYSDEC Project Site # 130108

Project Port Washington

Surveyor N/A Survey Date N/A

Land Surface Elevation N/A

Measuring Point Elevation N/A

Northing N/A Easting N/A

Installation Date N/A

Drilling Contractor N/A

Drilling Method N/A

Drilling Fluid N/A

Fluid Loss During Drilling N/A

Development Techniques N/A

Date(s) of Development N/A

Water Removed During Development N/A

Depth to Water **24.31**

Pumping Depth to Water N/A

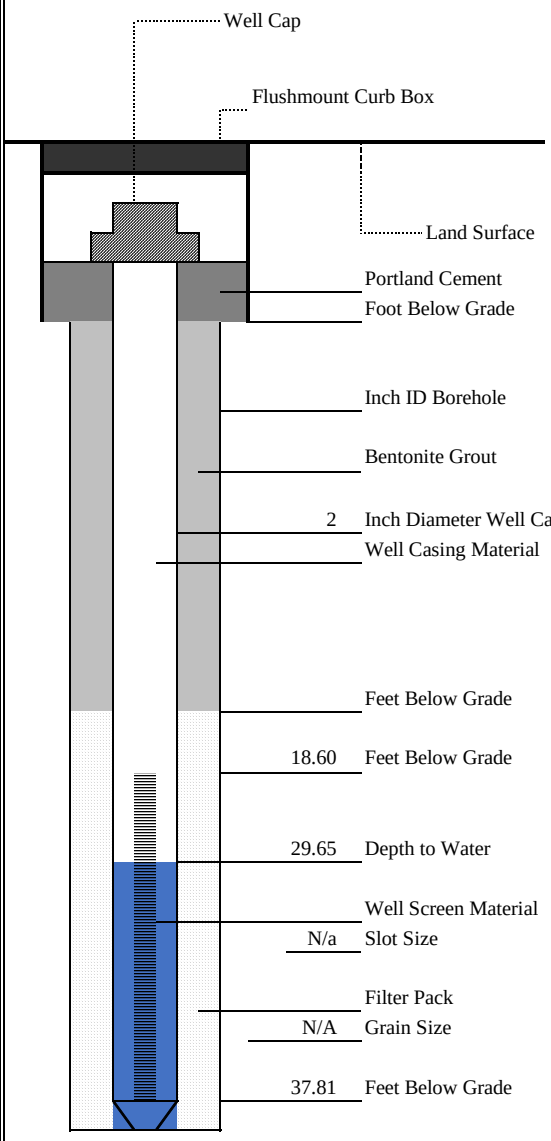
Pumping Duration N/A Yield N/A gpm

Specific Capacity N/A

Hydrogeologist N/A

Company N/A

TYPICAL GROUNDWATER MONITORING WELL
CONSTRUCTION LOG



Notes: Data for Logs was collected in field on 8/23/16.

Well Number	MW-6
NYSDEC Project	Site # 130108
Project	Port Washington
Surveyor	N/A
Survey Date	N/A
Land Surface Elevation	N/A
Measuring Point Elevation	N/A
Northing	N/A
Easting	N/A
Installation Date	N/A
Drilling Contractor	N/A
Drilling Method	N/A
Drilling Fluid	N/A
Fluid Loss During Drilling	N/A
Development Techniques	N/A
Date(s) of Development	N/A
Water Removed During Development	N/A
Depth to Water	**29.65**
Pumping Depth to Water	N/A
Pumping Duration	N/A
Yield	N/A gpm
Specific Capacity	N/A
Hydrogeologist	N/A
Company	N/A

APPENDIX B

MAJOR EQUIPMENT CATALOG CUT SHEETS

KDT Series

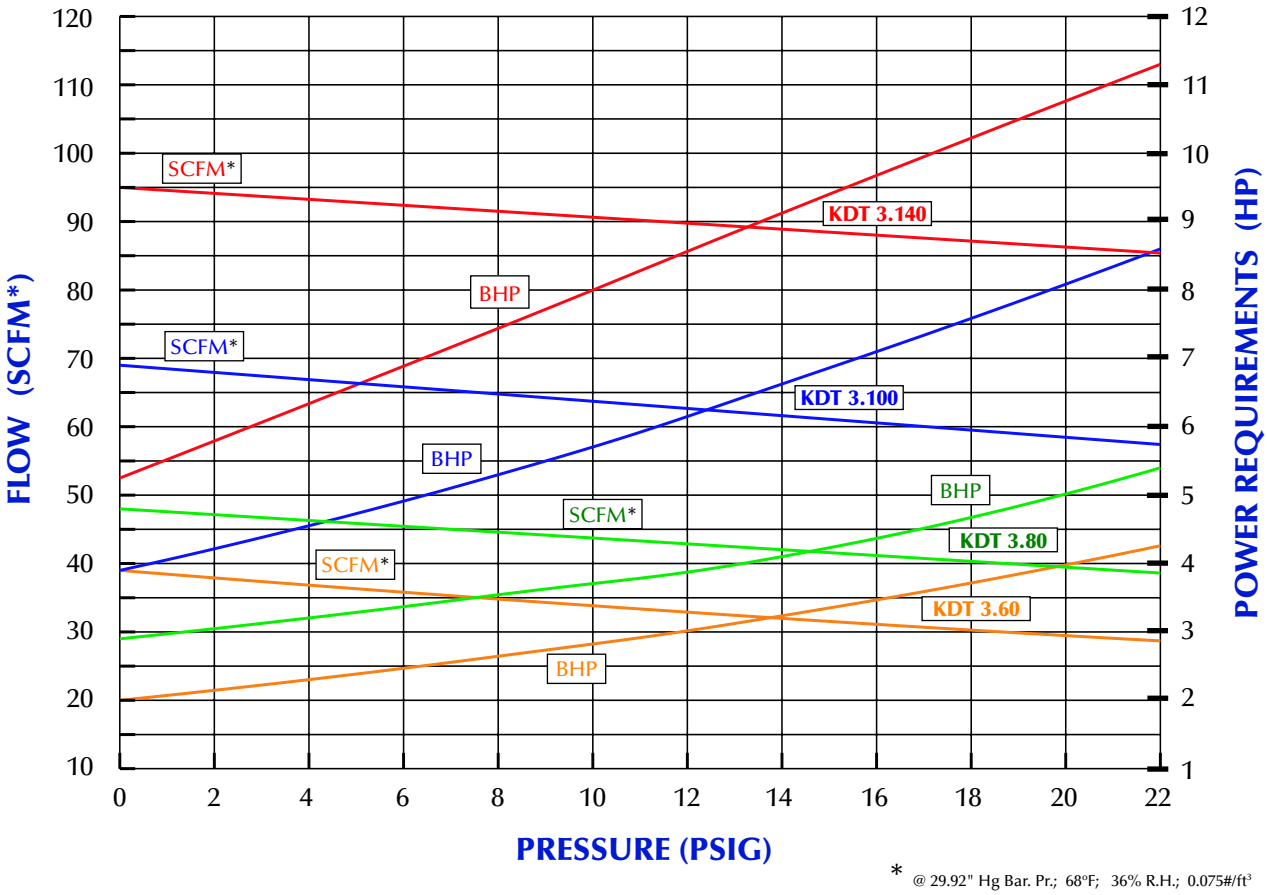
ISO 9001 Certified
CE Compliant

100% OIL-LESS COMPRESSORS

The Becker KDT series is a line of 100% Oil-less, rotary vane, low pressure compressors. They are designed to operate on a continuous basis throughout a pressure range from atmospheric pressure to 22 PSIG.

Each KDT unit is a direct drive compressor and is supplied with a TEFC flange mounted electric motor. Each unit is equipped with inlet and discharge filters, a pressure regulating valve, and vibration isolators as standard equipment, all of which are an integral part of the compressor.

The Becker KDT compressor is ideal for applications where air is the gas and where operation is in the low pressure range where high pressure compressors are less efficient. Applications for the KDT compressor include graphic arts, soil remediation, pneumatic conveying, robotics and material handling, packaging, and paper converting.

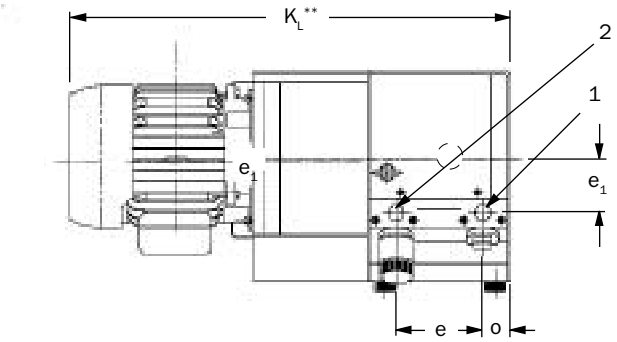


* @ 29.92" Hg Bar. Pr.; 68°F; 36% R.H.; 0.075#/ft³

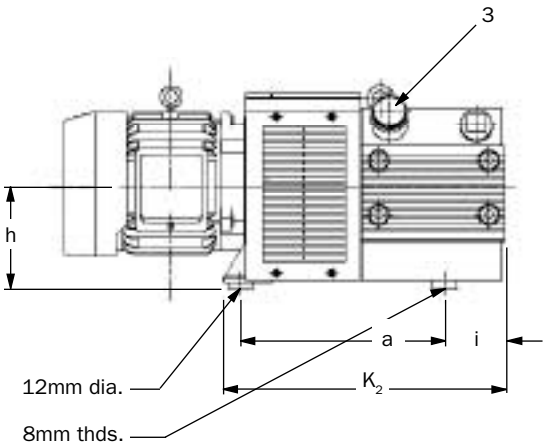
Becker Pumps Corp. • 100 East Ascot Lane • Cuyahoga Falls, Ohio 44223-3768
Ph. (330) 928-9966 · (888) 633-1083 · FAX: (330) 928-7065 · info@beckerpumps.com · www.beckerpumps.com

BECKER

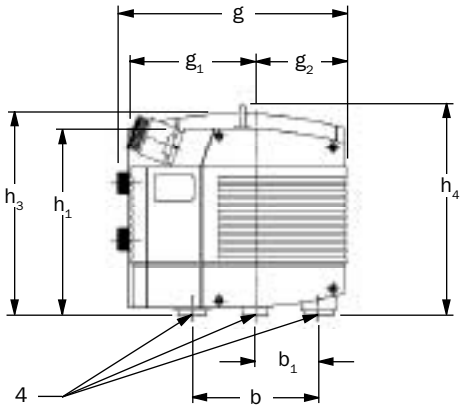
TECHNICAL DATA



Top View



Side View



End View (Opposite Motor End)

All data based on 60 Hz operation	KDT 3.60	KDT 3.80	KDT 3.100	KDT 3.140
Flow (SCFM @ 0 PSIG)	39	48	69	95
Horsepower	5*	7 1/2*	10*	12*
Speed (RPM)	1740	1740	1740	1740
Maximum Pressure (PSIG)	22	22	22	22
Weight (lbs.)—w/o motor	104	108	156	172
Weight (lbs.)—w/ motor**	191*	265*	323*	368*
Noise Level (Max. dBA)	74	76	78	84
Outlet size (BSP, inches)	1	1	1 1/2	1 1/2
Dimensional Data	(Inches)			
a	12.83	12.83	15.67	15.67
b	7.5	7.5	9.65	9.65
b_1	3.75	3.75	4.82	4.82
e	5.43	5.43	7.5	7.5
e_1	2.56	2.56	3.75	3.75
g	13.9	13.9	18.5	18.5
g_1	7.68	7.68	8.78	8.78
g_2	5.55	5.55	9.06	9.06
h	6.38	6.38	6.38	6.38
h_1	11.38	11.38	11.7	11.7
h_3	12.28	12.28	13.0	13.0
h_4	12.9	12.9	13.25	13.25
i	3.78	3.78	5.5	5.5
k_2	17.64	17.64	22.17	22.17
k_L	28.2	30	34.15	36.6
o	1.81	1.81	2.36	2.36

Manufacturer reserves right to alter data without notice.
* Operation at lower pressure may use smaller motor.
** May vary with motor type and manufacturer

1 - Inlet Port
2 - Discharge Port
3 - Pressure Relief Valve
4 - Vibration Isolators

3LIT0006 • 2/00

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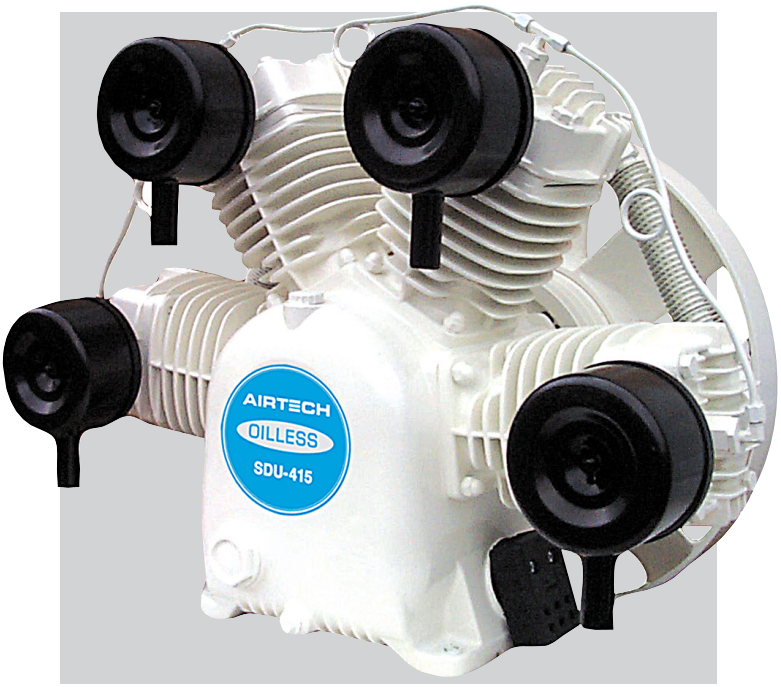
AIRTECH VACUUM

SDU Series

Oilless Reciprocating Air Compressors



Features:

- Meets NFPA-99 applications
- Low annual maintenance cost
- Air cooled intercooler
- Sealed bearings
- Head unloaders
- On board cooling fan
- Low noise

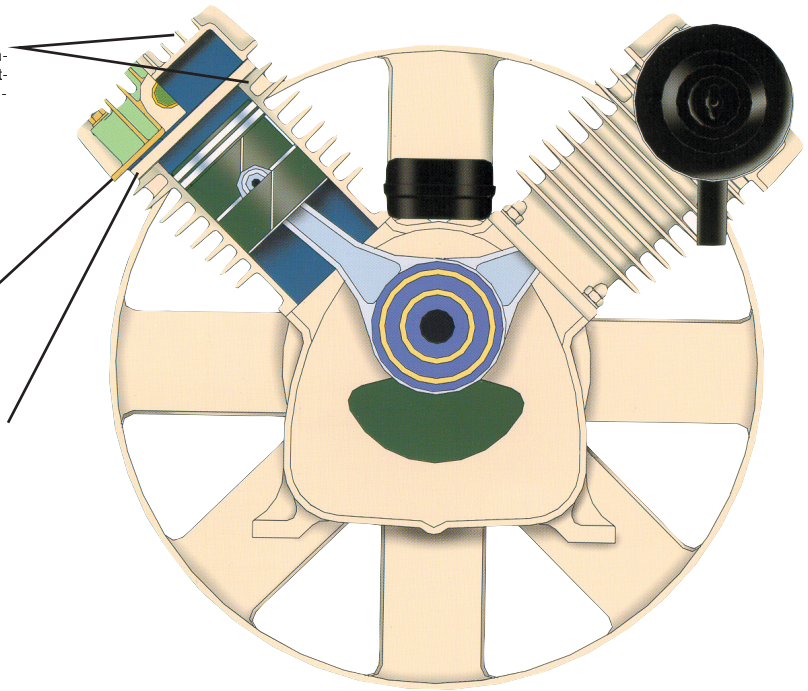
Product Construction Features:

Cylinder Barrel:
Aluminum alloy material and deep cooling fin ensure quick heat dissipation. Special cylinder hardening treatment results in improved wear resistance.

Compression Ring and Guide Ring:
Compression/guide ring made from high grade PTFE providing low friction and self lubrication.

Gasket:
Graphite material not only for reliable sealing but also environmental friendly.

Suction and Discharge Valve Assy:
High efficiency, low noise valve design for long life and trouble-free operation.



Cooling System:
Precision balanced cooling fan provides sufficient flow to control operating temperature.No additional cooling fan required.

Bearing:
Totally enclosed, packed with high temperature grease.Needle bearing in piston pin with rod made of low heat transmission alloy.

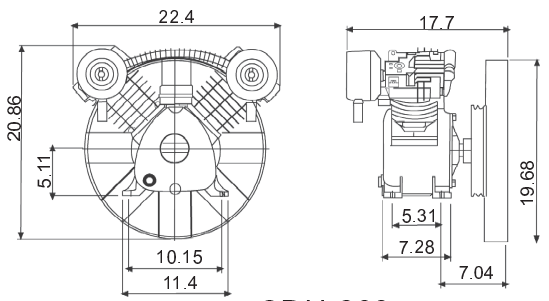
Crankshaft:
High grade ductile iron; hollow casting design with precise balance and machining.Effectively reducing running vibration and temperature.

AIRTECH® VACUUM

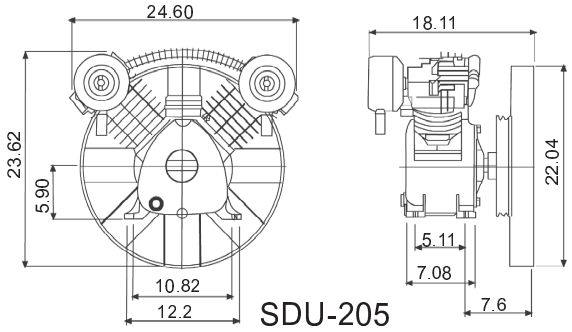
SDU Series

Oilless Reciprocating Air Compressors

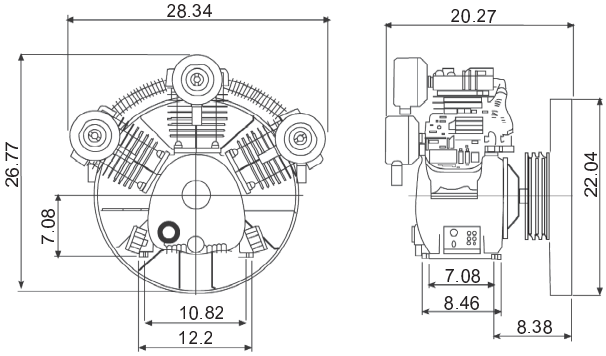
Dimensions: (Inches)



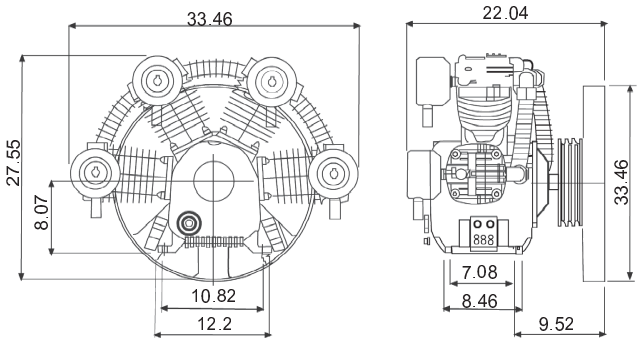
SDU-203



SDU-205



SDU-307/310



SDU-415

Specifications:

Model	SDU-203	SDU-205	SDU-307	SDU-310	SDU-415
HP	3	5	7.5	10	15
MAX PSIG	125	125	125	125	125
SCFM @ 50 PSIG	13	23	28	37.5	58
SCFM @ 100 PSIG	11.5	19.5	25.9	33.5	55
RPM @100 PSIG	700	700	700	850	950
Number/Cylinders	2	2	3	3	4

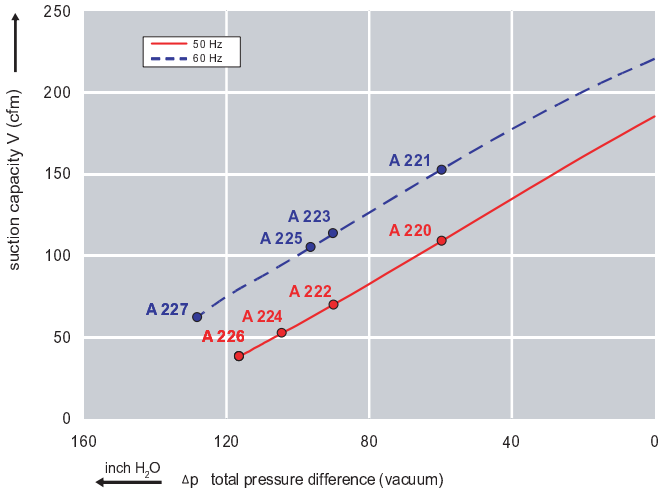
3BA1600

Vacuum/Pressure Regenerative Blower

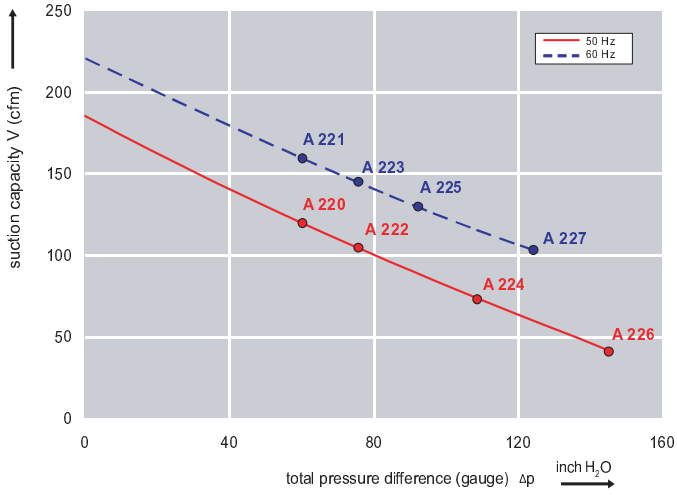
Features:

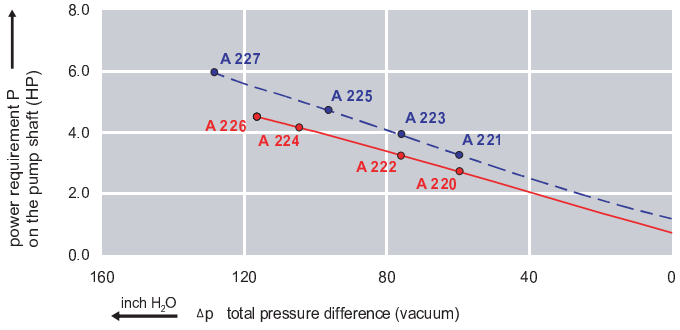
- Cooler running, outboard bearing provides maintenance-free operation
- Environmentally friendly oil-free technology
- Extremely quiet operation
- All motors are standard TEFC with Class F insulation, UL recognized, CE Compliant
  Explosion-Proof motors available
- Custom construction blowers are available
- Rugged die cast aluminum construction

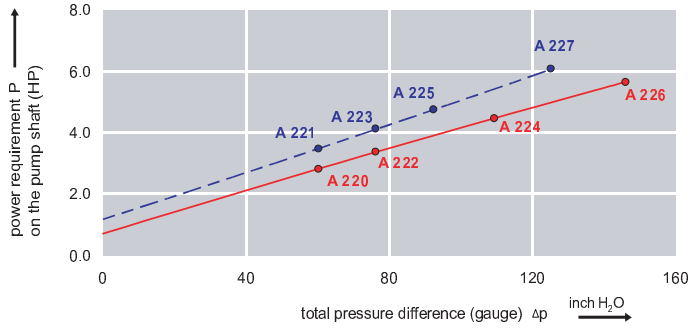
Performance curve for Vacuum pump

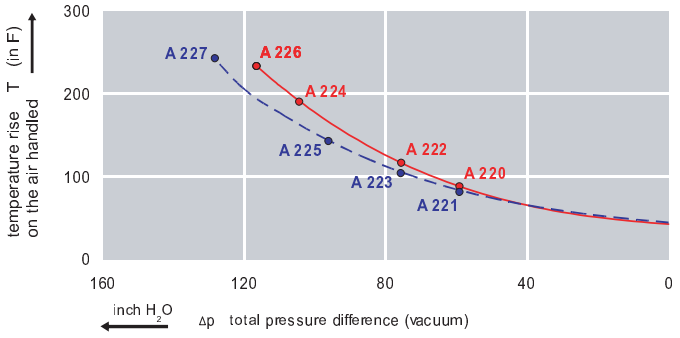


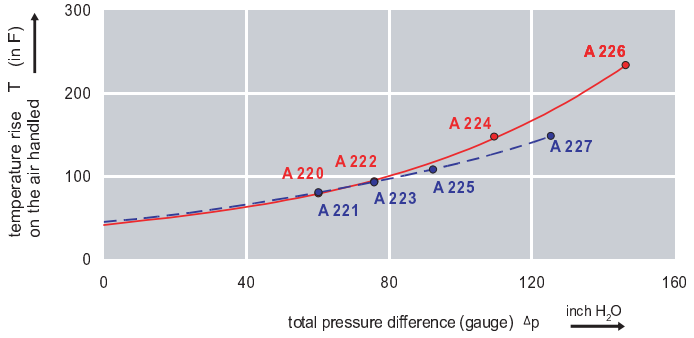
Performance curve for Compressor







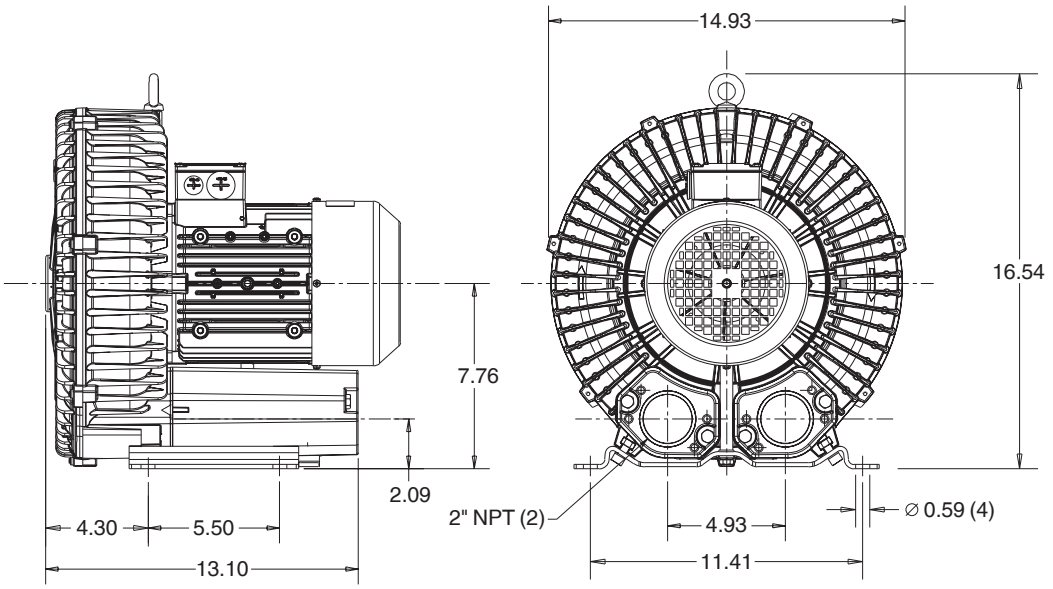




3BA1600

Vacuum/Pressure Regenerative Blower

Dimensions: (inches)



Recommended Accessories:

Relief valve:

VC61Z (Vacuum)

PC61Z (Pressure)

Filter:

ATF-200-15124/1 (Vacuum)

AFS-30-200-10 (Pressure)

Specifications subject to change without notice. Please contact factory for specification updates.

Selection & Ordering Data - Type 3BA1600

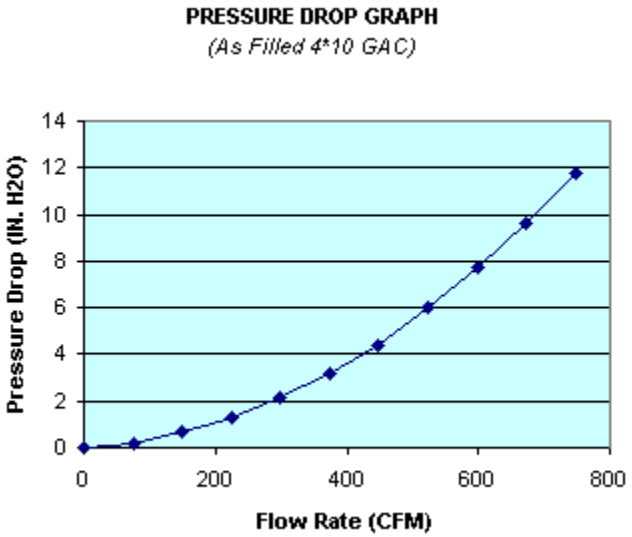
Curve No.	Order No.	Frequency Hz	Rated power HP	Input voltage V		Input current A		Permissible total differential pressure Vacuum inch H2O	Permissible total differential pressure Compressor inch H2O	Sound pressure level dB(A)	Weight lbs
3~ 50/60 Hz IP55 insulation material class F											
A 220	3BA1600-7AT06	50	2.15	200D ... 240D	345Y ... 415Y	8.5D	4.9Y	-64	60	69	57
A 221	3BA1600-7AT06	60	2.7	220D ... 250D	415Y ... 460Y	7.5D	4.4Y	-64	60	72	57
A 222	3BA1600-7AT16	50	2.95	200D ... 240D	345Y ... 415Y	9.7D	5.6Y	-85	70	70	64
A 223	3BA1600-7AT16	60	3.42	220D ... 250D	415Y ... 460Y	10.3D	6.0Y	-85	76	73	64
A 224	3BA1600-7AT26	50	4.02	200D ... 240D	345Y ... 415Y	12.5D	7.2Y	-104	108	70	75
A 225	3BA1600-7AT26	60	4.62	220D ... 250D	415Y ... 460Y	12.6D	7.3Y	-96	92	73	75
A 225	3BA1600-7AT25	60	4.60		575		5.8Y	-96	92	73	75
A 226	3BA1600-7AT36	50	5.36	200D ... 240D	345Y ... 415Y	17.3D	10.0Y	-116	145	70	93
A 227	3BA1600-7AT36	60	6.16	220D ... 250D	415Y ... 460Y	18.0D	10.4Y	-128	124	73	93

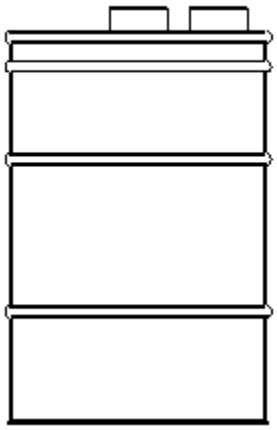
Suitable for 208 Volt Operation

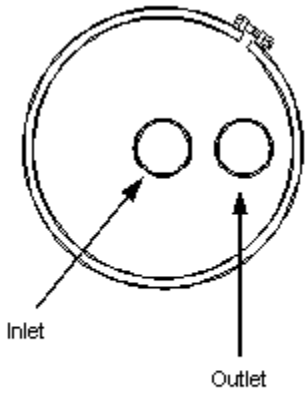
All curves are rated at 14.7 psia and 68° F ambient conditions and are reported in SCFM referenced to 68° F and 14.696 psia sea level conditions. Curve values are nominal, actual performance may vary by up to 10% of the values indicated. For inlet temperatures above approximately 80° F or for handling gases other than air, please contact your Airtech sales representative for assistance. Fixed voltage motor tolerances are +/-10% and voltage range motors are +/-5%. Single phase motors are +/-5% tolerance.

Enviro-Equipment Inc.
10120 Industrial Drive
Pineville NC 28134

VR-225 SPECIFICATIONS			
Overall Height	3'7"	**Vessel/Internal Piping Materials**	CS/ SCH 40 PVC
Diameter	26"	**Internal Coating**	Polyamide Epoxy Resin
Inlet / Outlet (FNPT)	6"	**External Coating**	Urethane Enamel
Drain / Vent (FNPT)	OPT	**Maximum Pressure / Temp**	6 PSIG / 150º F
GAC Fill (lbs)	225	**Cross Sectional Bed Area**	6 FT^2
Shipping / Operational Weight (lbs)	300/350	**Bed Depth/Volume**	8.25 IN / 8 FT^3







Appendix C

REMEDIAL DESIGN WORK PLAN

Health and Safety Plan
and
Community Air Monitoring Plan

Plaza Cleaners Site No.

130108

Port Washington, New York

January 2022

Nicholas A. Andrianas, P.E.

1 Sound Breeze Drive

Miller Place, NY 11764

TABLE OF CONTENTS

ATTACHMENTS

1.0 INTRODUCTION

Nicholas A. Andrianas, P.E. and his designated field personnel will oversee soil vapor extraction and air sparge remediation system equipment and well conduct system construction will start remediation systems up at the site located at 966 Port Washington Blvd, Port Washington, New York. This Health and Safety Plan (HASP) has been developed to address the potential physical and chemical hazards that employees may face while performing the planned field activities during the construction phases of the project. This HASP establishes procedures to minimize worker's exposure through personal protective equipment and safe work practices. This HASP has been developed to meet the requirements of the Occupational Safety and Health Administration (OSHA) regulation, Title 29, Code of Federal Regulations, Part 1910.120 (29 CFR 1910.120), "Hazardous Waste Operations and Emergency Response" (OSHA 1989). It is intended for the protection of Nicholas A. Andrianas, P.E. and his employees. Anyone else, such as subcontractors, client, and visitors may review this HASP and follow its procedures if they so decide. Subcontractors and others working on the site must provide their own HASP to be followed by its' personnel.

2.0 RESPONSIBILITIES

Nicholas A. Andrianas, P.E. is the Site Safety Officer (SSO) for NAC. He will be responsible for implementing the procedures and safe work practices established in this HASP. In the event that the SSO must leave the site while the work is in progress, an alternate SSO will be designated to ensure that the HASP will continue to be followed. Subcontractors and others that may be involved in the work must designate a SSO for their firm and the SSO shall enforce compliance with the subcontractor's HASP.

3.0 SITE DESCRIPTION

The Plaza Cleaners site is located in a mixed commercial and residential area at 966 Port Washington Blvd, Port Washington, NY, near the intersection of Main Street and Port Washington Blvd in Nassau County. It is located on Manhasset Neck, which is a 13.4 square mile peninsula that is bounded on the west, north and east by Manhasset Harbor, Long Island Sound and Hempstead Harbor. The site is a one-story concrete building surrounded by parking lot on approximately 0.25 acre lot (OU-1). There is no exposed soil or grass. The Former Munsey Cleaners Site (Site No. 130081) is located approximately 200 feet to the northeast. The site is zoned commercial and is an active dry cleaner. The current operator of the site reports that it uses a proprietary chemical that does not contain PCE. The downgradient area (to the west) is zoned residential and commercial.

The site is underlain by the Upper Glacial Aquifer made up of sand with some gravel. It is situated at an elevation of approximately 125-feet above mean sea level. Regional topography irregularly slopes towards the harbor from the higher inland areas, but gently slopes away from the site to the west and more steeply upward from the site to the east. Surface run-off is controlled by gently sloping pavement towards on-site storm drains. There are no existing drinking water supply wells at the site, nor is groundwater used for any purpose at the site. Potable water in the area is supplied by the Port Washington Water District whose wells are located in the underlying Upper Glacial Aquifer. The wells are located approximately 3000 feet downgradient of the site, but have not been impacted to date by site related contamination. Groundwater flow is to the west at a depth of 25 feet below ground surface.

4.0 PLANNED FIELD ACTIVITIES

The following is a brief description of the planned field activities:

- Install Soil Vapor Extraction (SVE) and Air Sparge (AS) wells below site grade and associated piping.

- Install piping associated with SVE and AS system.

- Measure air pressure, vacuum, air flow, from SVE and AS system.

Additional details of the design locations and planned field activity are provided in the Remedial Design Work Plan.

5.0 HAZARD EVALUATION

The potential physical and chemical hazards associated with the planned field activities for this site are evaluated in this document.

The physical hazards associated with the planned field activities include the following: potential for being struck by flying and falling objects while working near the saw cutting machine, slips and falls due to wet or uneven surfaces, pressurized gasses / pipes, electrical shock, lock-out tag-out, noise, and stored energy.

The chemical hazards associated with this site are based on the sub-slab vapor sampling results obtained from the site investigations. Volatile organic compounds (VOCs) were detected in the sub-slab vapor during this investigation, and groundwater. Based on this information, the following exposure pathways have been identified in order to minimize potential exposure to workers:

- Inhalation of vapors and gasses.

- Direct skin contact with and absorption of vapors, soil, groundwater, and sediments.

- Accidental inhalation of contaminants.

6.0 COMMUNITY AIR MONITORING PLAN

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for VOCs and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences, businesses, and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

Real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. VOC and particulate monitoring will be performed during SVE and AS system installation.

Continuous monitoring will be performed for all ground intrusive activities. Ground intrusive activities include, but are not limited to, soil excavation and handling, test pitting or trenching, and soil boring drilling/well installation.

Periodic monitoring for VOCs will be performed during non-intrusive activities such as the collection of soil and sediment samples. Periodic monitoring during sample collection will consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well bailing/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOCs will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. A photo-ionization detector (PID) will be used to monitor VOCs, and a particulate meter capable of measuring particulate matter less than 10 micrometers in size (PM-10) will be used to monitor particulate matter in the air (i.e., Dust). The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. Depending on real-time monitoring results appropriate actions will be taken to ensure worker safety:

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less, but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm over background at the perimeter of the

work area, activities must be shutdown.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

- All readings will be recorded and be available for State (DEC and NYSDOH) and Nassau County Health Department personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

7.0 LEVELS OF PROTECTION

Based upon the hazard evaluation results, drilling the soil vapor well screens, soil vapor suction pits, and sub-slab monitoring points will be performed in Level D protection. In the event that the established action level is exceeded, the level of protection will be upgraded to Level C. The following is a description of the personal protective equipment required for each level:

Level D

- Disposable coveralls (optional).
- Hard hat (optional for all tasks except well drilling)
- Safety glasses, goggles, or face shield (optional).
- Steel-toe and shank, chemical-resistant boots.
- Chemical-resistant gloves (optional except when handling soil or sediment).
- Hearing protection, NRR of 35 decibels (optional).

Level C

- Hard hat (optional for all tasks except well drilling).
- Disposable coveralls (optional).
- Safety glasses, goggles, or face shield.
- Steel-toe and shank, chemical-resistant boots.
- Chemical-resistant gloves (optional except when handling soil or sediment).
- Hearing protection, NRR of 35 decibels (optional).
- Full face air purifying respirator equipped with organic vapor cartridges.

To evaluate whether actual field conditions will require an upgrade in the level of protection, the following action level procedure based upon the existing data has been established for all planned field activities. Air monitoring will be conducted using a PID instrument during each task. A 5 ppm reading for a sustained period of 5 minutes in the worker's breathing zone has been selected as an

action level based on the presence of perchloroethylene (PCE). If this occurs, a second screening step using a Draeger tube specific for PCE will be done to confirm whether concentrations exceed 5 ppm in the worker's breathing zone. If the action level is exceeded, work will be discontinued and the work area will be permitted to vent while the workers move to an area upwind. Work will not resume until the PCE concentrations fall below 5 ppm. If after 30 minutes, the concentration of PCE does not fall below the action level, then the work will resume with the level of protection upgraded to Level C using a full-face air purifying respirator equipped with an organic vapor canister. Once in Level C, PCE detection tubes will be drawn every 30 minutes to monitor its presence. When this monitoring indicates that the concentration is below the action level, then downgrading to Level D is possible. If the monitoring indicates that the PCE concentration exceeds 10 ppm, all work will be discontinued and workers will move to an area upwind. Work will not resume until air monitoring results confirm that the levels are less than 10 ppm.

8.0 SITE CONTROL

Prior to the start of the field activities, the SSO will be responsible for the designation of the work zone, support zone, and clean zone. The work zone will be an area surrounding the immediate work being performed where the greatest potential hazards exist. Only the necessary workers required to perform the work will be permitted in this zone. A support zone will be established for the storage of equipment. Due to the size of the property and building layout, the clean zone boundary will not extend beyond the property line.

The SSO will delineate the boundaries of the different site control zones based on site operation/activity, physical site layout, and other logistical factors required to maintain a work area protective of workers and public safety.

9.0 EQUIPMENT DECONTAMINATION

The tools, drill rig, excavation equipment and any piece of equipment that comes in contact (directly or indirectly) with the formation, will be decontaminated on-site prior to drilling. Equipment will be cleaned at a specific decontamination area, between each borehole, and prior to leaving the site. All on-site cleaning activities will be monitored by the field geologist. In addition to the drilling and sampling equipment, the following equipment will be used during the drilling and sampling of boreholes.

- Alconox Laboratory Grade Detergent
- Brushes
- Plastic Buckets
- Distilled Water
- Potable Water
- Photo-ionization detector (PID)
- Health & Safety Equipment (As discussed in the Health & Safety Plan)
- Sample Containers

Disposable gloves will be worn while equipment is cleaned to avoid contamination, and the gloves will be changed frequently. The procedure for cleaning sampling equipment is as follows:

1. A solution of Alconox and potable water will be prepared in a bucket
2. The rods will be scrubbed and washed with the Alconox solution.
3. All equipment will be scrubbed with a brush to remove any adhering particles.
4. All equipment will be rinsed with potable water.

5. The clean rods will be placed on clean plastic sheeting until it is needed. The rods will be handled only when clean gloves are being worn.

10.0 SAFE WORK PRACTICES

A pre-entry, tailgate safety meeting will be conducted prior to the start of each task to discuss the associated hazards. Attendees will be recorded on the Tailgate Safety Meeting Form (Attachment 2).

- All utilities and structures will be cleared and marked out prior to the start of any ground intrusive work. The Utilities and Structures Checklist, Attachment 4, will be used to record this information.

- The SSO will inform all subcontractors of the potential hazards associated with the site and the planned field activities. A copy of the HASP will be made available for their review.

- No eating, drinking, or smoking will be permitted in the work and support zones.

- No sources of ignition, such as matches or lighters will be permitted in the work and support zones.

- Calls for help will be made via the cellular phone.

- During hazardous weather conditions, such as lightning and thunder storms, work will cease immediately.

11.0 EMERGENCY PLAN

On-site verbal communications should not be a problem because all tasks will be performed in Level D protection. In the event that the action level is exceeded and personnel are upgraded to Level C protection, verbal communications may become difficult. A universal set of hand signals will then be used. They are as follows:

Hand gripping throat:	Can't breathe.
Grip partner's wrist or place hands around waist:	Leave work area immediately.
Hand on top of head:	Need assistance.
Thumbs up:	OK, I'm all right.
Thumbs down:	No, negative.

Communications from the site will be with a cellular telephone which will be brought to the site.

All job-related injuries and illnesses will be reported to the SSO. If medical attention is needed, the injured worker will be decontaminated, if possible, prior to leaving the site. The SSO will investigate the cause of the accident and corrective measures will be taken before the work can resume. It will be the responsibility of the SSO to complete the accident reporting form, OSHA 101, included in this report for all injuries. The completed OSHA 101 form (Attachment 3) should be forwarded to the office health and safety manager within six days for recording into the OSHA 200 log. If there is a fatality, or if 5 or more workers are hospitalized as a result of a single incident, the SSO will contact the office health and safety manager immediately for OSHA reporting purposes.

EMERGENCY TELEPHONE NUMBERS

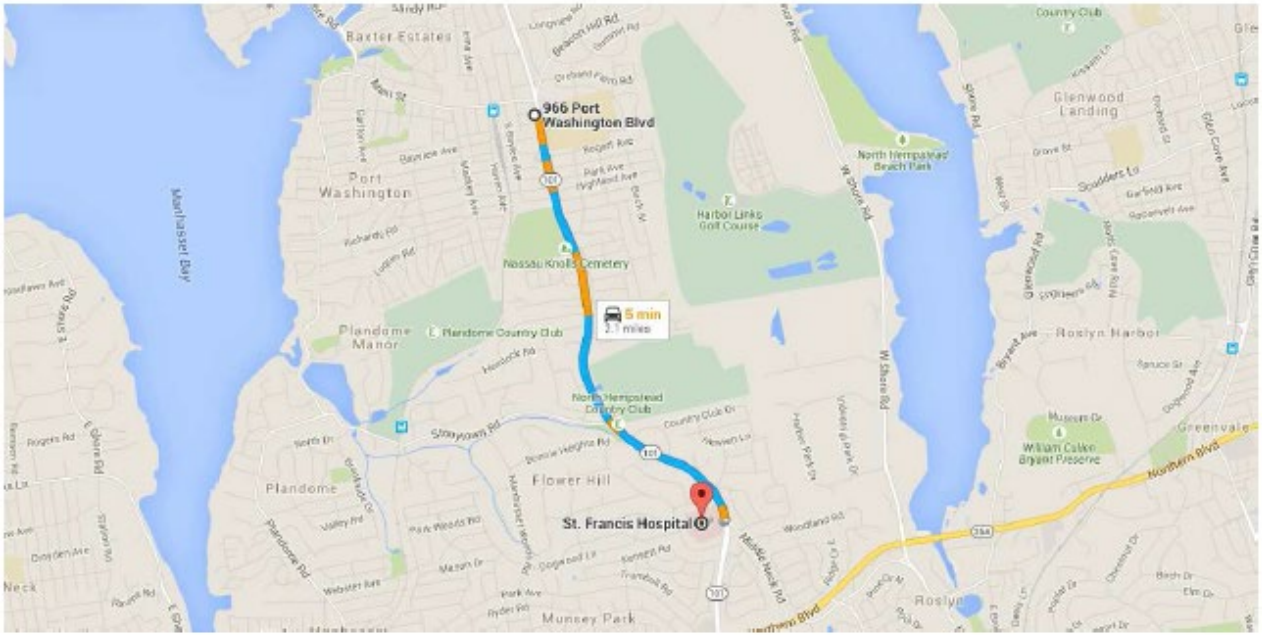
Police	911
Fire	911
St. Francis Hospital	(516) 562-6000
Chemtrec	(800) 424-9300
NYSDEC Spills	(800) 457-7362

HOSPITAL

Google

Drive 2.1 miles, 4 min

Directions from **966 Port Washington Blvd** to **St. Francis Hospital**



966 Port Washington Blvd
Port Washington, NY 11050

1. Head **south** on **NY-101 S/Port Washington Blvd** toward **Bernard St**

2.1 mi

2. Turn **right** onto **Port Washington Blvd**

Destination will be on the right

59 ft

St. Francis Hospital
100 Port Washington Boulevard, Roslyn, NY 11576

ATTACHMENT 1

SITE VISITORS LOG

SITE VISITORS LOG

THE UNDERSIGNED VISITORS REQUIRE ENTRANCE TO THE EXCLUSION ZONE AND HAVE THOROUGHLY READ THE HEALTH AND SAFETY PLANS. I UNDERSTAND THE POTENTIAL HAZARDS AT THE SITE AND THE PROCEDURES TO MINIMIZE EXPOSURE TO THE HAZARDS, WILL FOLLOW THE DIRECTION OF THE SITE HEALTH AND SAFETY MANAGER, AND WILL ABIDE BY THE HEALTH AND SAFETY PLAN.

NAME	COMPANY	DATE	SIGNATURE

ATTACHMENT 2

TAILGATE SAFETY MEETING FORM

TAILGATE SAFETY MEETING

Prepared by

Client Project

Date Project Number

Work Location

Type of Work to be Done

SAFETY TOPICS PRESENTED

Chemical Hazards

Physical Hazards/Underground Utilities

Protective Clothing/Equipment

Special Equipment

Emergency Procedures

Hospital/Clinic Phone ( )

Paramedic Phone ( )

Hospital Address Other

ATTENDEES

NAME PRINTED SIGNATURE

ATTACHMENT 3

ACCIDENT REPORTING FORM, OSHA 301

OSHA's Form 301 (Rev. 04/2004)

Injury and Illness Incident Report

Note: You can type input into this form and save it.
Because the forms in this recordkeeping package are "fillable/writable" PDF documents, you can type into the input form fields and then save your inputs using the free Adobe PDF Reader. In addition, the forms are programmed to auto-calculate as appropriate.

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

This *Injury and Illness Incident Report* is one of the first forms you must fill out when a recordable work-related injury or illness has occurred. Together with the *Log of Work-Related Injuries and Illnesses* and the accompanying *Summary,* these forms help the employer and OSHA develop a picture of the extent and severity of work-related incidents.

Within 7 calendar days after you receive information that a recordable work-related injury or illness has occurred, you must fill out this form or an equivalent. Some state workers' compensation, insurance, or other reports may be acceptable substitutes. To be considered an equivalent form, any substitute must contain all the information asked for on this form.

According to Public Law 91-596 and 29 CFR 1904, OSHA's recordkeeping rule, you must keep this form on file for 5 years following the year to which it pertains.

If you need additional copies of this form, you may photocopy the printout or insert additional form pages in the PDF, and then use as many as you need.

Completed by _____

Title _____

Phone _____ **Date** _____
Month Day Year

Information about the employee

1) Full name _____

2) Street _____

City _____ **State** _____ **ZIP** _____

3) Date of birth _____
Month Day Year

4) Date hired _____
Month Day Year

5) ○ **Male** ○ **Female**

Information about the physician or other health care professional

6) Name of physician or other health care professional

_____

7) If treatment was given away from the worksite, where was it given?

Facility _____

Street _____

City _____ **State** _____ **ZIP** _____

8) Was employee treated in an emergency room?
○ **Yes**
○ **No**

9) Was employee hospitalized overnight as an in-patient?
○ **Yes**
○ **No**

Information about the case

10) **Case number from the *Log*** _____ *(Transfer the case number from the Log after you record the case.)*

11) **Date of injury or illness** _____
Month Day Year

12) **Time employee began work** (HH:MM) _____ ○ **AM** ○ **PM**

13) **Time of event** (HH:MM) _____ ○ **AM** ○ **PM** ○ **Check if time cannot be determined**

*** Re fields 14 to 17:** Please do not include any personally identifiable information (PII) pertaining to worker(s) involved in the incident (e.g., no names, phone numbers, or Social Security numbers).

14)* ***What was the employee doing just before the incident occurred?*** Describe the activity, as well as the tools, equipment, or material the employee was using. Be specific. *Examples:* "climbing a ladder while carrying roofing materials"; "spraying chlorine from hand sprayer"; "daily computer key-entry."

15)* ***What Happened?*** **Tell us how the injury occurred.** *Examples:* "When ladder slipped on wet floor, worker fell 20 feet"; "Worker was sprayed with chlorine when gasket broke during replacement"; "Worker developed soreness in wrist over time."

16)* ***What was the injury or illness?*** Tell us the part of the body that was affected and how it was affected. *Examples:* "strained back"; "chemical burn, hand"; "carpal tunnel syndrome."

17) ***What object or substance directly harmed the employee?*** *Examples:* "concrete floor"; "chlorine"; "radial arm saw." *If this question does not apply to the incident, leave it blank.*

18) ***If the employee died, when did death occur?*** **Date of death** _____
Month Day Year

Add a Form Page

Reset

ATTACHMENT 4

UTILITIES AND STRUCTURES CHECKLIST

UTILITIES AND STRUCTURES CHECKLIST

Project: _____ **Prepared by:** _____

Location: _____ **Date:** _____

Instructions. This checklist has to be completed by a staff member as a safety measure to insure that all undergrounc utility lines, other underground structures as well as above-ground power lines are clearly marked out in the area selectec for boring or excavation. **DRILLING OR EXCAVATION WORK MAY NOT PROCEED UNTIL LINES ARE MARKED ANC THIS CHECKLIST HAS BEEN COMPLETED.** Arrangements for underground utility markouts are best made at the time o the preliminary site visit to allow client and/or utility company sufficient time. Keep completed checklist and maps onsite send copy to Project Manager.

Assignment of Responsibility. Client is responsible for having underground utilities and structures located and marked Preferably, the utilities themselves should mark out the lines.

Drilling or Excavation Sites. Attach a map of the property showing the proposed drilling or excavation site (or if sites are widely separated, several maps) clearly indicating the area(s) checked for underground utilities or underground structures and the location of above-ground power lines.

Utilities and Structures

Type	Not Present	Present	How Marked?[1]
Petroleum products line			
Natural gas line			
Steam line			
Water line			
Sewer line			
Storm drain			
Telephone cable			
Electric power line			
Product tank			
Septic tank/drain field			
Overhead power line			

1) Flags, paint on pavement, wooden stakes, etc.

Name and affiliation of person who marked out underground lines or structures.

_____ NAME _____ ORGANIZATION _____ PHONE

Emergency Procedures

Persons at site or facility to contact in case of emergency

1. _____ Phone _____

2. _____ Phone _____

Fire Dept.: Phone _____ Ambulance: Phone _____

Utility: Phone _____ Utility: Phone _____

Utility: Phone _____ Utility: Phone _____

Directions to nearest hospital (describe or attach map).

ATTACHMENT 5

AIR MONITORING LOG

Air Monitoring Log

DATE: ______________

Time	PID Readings (ppm)	Particulate Readings (mg/m^3)