975 NOSTRAND AVENUE

BROOKLYN, NEW YORK

Engineering Controls Design Document

AKRF Project Number: 210225
NYSDEC BCP Numbers: C224335

Prepared For:

New York State Department of Environmental Conservation
Division of Environmental Remediation, Remedial Bureau B
625 Broadway, 12th Floor
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Prepared On Behalf Of:

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NOVEMBER 2022

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CERTIFICATION

I, Rebecca Kinal, P.E., certify that I am currently a NYS registered Professional Engineer (P.E.), and that this Engineering Controls Design Document (ECDD) was prepared in accordance with all applicable statutes and regulations, in substantial conformance with the Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10), and that all activities were performed in full accordance with the DER-approved work plans and any DER-approved modifications.

Rebecca Kinal, P.E.	11-15-2022	
Professional Engineer	Date	Signature

1.0 INTRODUCTION

This Engineering Controls Design Document (ECDD) was prepared by AKRF, Inc. (AKRF) on behalf of Nostrand Green LLC (the Volunteer) for the 1.369-acre property located at 975 Nostrand Avenue Brooklyn, New York, hereafter referred to as "the Site." The Site is identified on the New York City Tax Map as Brooklyn Borough Block 1309, Lot 6. A Site Location Map is provided as Figure 1.

The Volunteer entered into a Brownfield Cleanup Agreement (BCA) (BCA Index No. C224335-12-21) with the New York State Department of Environmental Conservation (NYSDEC) in December 2021 to investigate and remediate the Site. A Remedial Action Work Plan (RAWP) and Decision Document (DD) were approved and issued on November 7, 2022. The Selected Remedy detailed in the RAWP and DD included two engineering controls (ECs): installation and operation of a soil vapor extraction (SVE) system (SVES) in the southwestern portion of the Site to treat and contain the contamination hotspot; and the installation and operation of an active sub-slab depressurization system (SSDS) below the proposed new building foundation to address the potential for future vapor intrusion into the proposed building.

These ECs are required to address the chlorinated volatile organic compounds (CVOCs) detected in the soil vapor samples collected during the Remedial Investigation (RI) [tetrachloroethylene (PCE) was detected at a maximum concentration of 37,000 micrograms per cubic meter ($\mu g/m^3$)]. A pre-design investigation (PDI), as discussed in Section 2.0 of this ECDD, was conducted to assess the on-site contamination profile for the design of the SVES towards satisfying the remedial goals of the RAWP and DD.

This ECDD summarizes the PDI sampling activities and associated findings, and includes the SVES design and requirements for installation and startup, and the SSDS design.

2.0 PRE-DESIGN INVESTIGATION (PDI)

The RI detected elevated concentrations of CVOCs in the northern and southwestern portions of the Site. A pre-design investigation (PDI) was conducted to further evaluate the soil vapor contamination profile at the two locations with elevated CVOCs. AKRF's July 20, 2022 PDI Work Plan (PDIWP) detailing the scope of the investigation was approved by NYSDEC in a letter dated July 21, 2022. The PDI was conducted between July 25 and 27, 2022, and included the installation of temporary soil vapor points for collection and analysis of 38 soil vapor samples, and collection and analysis of 10 soil samples (including a field duplicate). Air monitoring was conducted during the investigation in accordance with the PDIWP and daily field reports were prepared during the work and submitted to NYSDEC.

Copies of the PDIWP and NYSDEC approval letter, and the daily reports are included in Appendix A.

2.1 Temporary Soil Vapor Point Installation and Sampling

Between July 25 and 27, 2022, eight soil vapor sample point clusters (PDI-SV-01 through PDI-SV-08) were installed by Eastern Environmental Solutions, Inc. of Manorville, New York (Eastern) using a rotosonic drill rig. The vapor sample clusters were installed at boring locations PDI-SB-01 through PDI-SB-08. Sample points PDI-SV-01 through PDI-SV-06 were installed in the southwestern portion of the Site, and PDI-SV-07 and PDI-SV-08 were installed in the north-central portion of the Site. In addition, an observation soil boring (PDI-SB-OB) was advanced in the southwestern portion, but no soil vapor sample was collected from this location. Soil boring and sample locations are shown on Figure 2.

Each soil vapor point cluster was installed by advancing the borehole to a depth of 40 feet below ground surface (bgs). Dedicated 6-inch stainless steel mesh sample points connected to polyethylene tubing to grade were installed at each of the targeted sampling depths (5, 10, 20, 30, and 40 feet bgs for samples in the southwestern corner, and 15, 20, 30, and 40 feet bgs for samples collected in the northern portion) within each cluster. Each sample point was backfilled with No. 2 filter sand to 1 foot above the screened interval, followed by hydrated bentonite until the start of the next sampling point interval. Following installation of the clusters, samples were collected from each point (8 clusters, 4 or 5 points/intervals per cluster, for a combined total of 38 vapor samples) using 1-liter Summa canisters fitted with 10-minute flow controllers.

All samples were analyzed for CVOCs by analytical method TO-15 by Eurofins Environment Testing Northeast of Edison, New Jersey (Eurofins), a New York State Department of Health (NYSDOH)-certified laboratory. Sample containers were shipped to the laboratory via courier with appropriate chain of custody (CoC) documentation and analyzed with Category B deliverables. Third-party data validation was performed by L.A.B. Validation Corp and data usability summary reports (DUSRs) were prepared.

All drill cuttings were inspected by AKRF field personnel for evidence of contamination (e.g., odors and staining), and field screened for volatile organic compounds (VOCs) with a photoionization detector (PID) equipped with a 10.6 electron volt (eV) lamp. The PID was calibrated in accordance with manufacturer's specifications at the start of each work day.

PID readings ranging between 0.1 to 58.1 parts per million (ppm) were noted at the sampling locations during the drilling (with the maximum concentration detected in PDI-SB-05 at a depth of 16 feet bgs), and grab soil samples were collected at various depths (biased toward intervals with higher PID readings) for analysis of CVOCs. A total of 10 soil samples (including field duplicate sample PDI-SB-X_20_20220727, a duplicate of sample PDI-SB-OB_20_20220727) were collected for laboratory analysis. Quality assurance/quality control (QA/QC) samples were also collected in accordance with the PDIWP. No odors or other visual evidence of gross contamination

were noted during the drilling, and all investigative derived waste (IDW) was transferred to 55-gallon DOT drums and stored on-site for characterization and off-site disposal. Groundwater was not detected in the borings during the investigation event.

The soil vapor sample locations are shown on Figure 2 and soil sample locations are shown on Figure 3. Soil vapor point installation and sampling logs are provided in Appendix B.

2.2 Soil Vapor Findings

Seven of the 12 CVOCs analyzed were detected in one or more soil vapor samples. The CVOCs PCE, trichloroethylene (TCE), 1,1-dichloroethane, 1,1-dichloroethylene, 1,2-dichloroethane, cis-1,2-dichloroethylene (cis-1,2-DCE), and 1,1,1- trichloroethane (1,1,1-TCA) were detected in one or more soil vapor samples ranging from estimated trace concentrations up to a maximum of 260,000 µg/m^3 for PCE in sample PDI-SV-05_20_20220726 (which was collected at a depth of 20 feet bgs in the southwestern corner of the Site). Sample dilution (ranging from a factor of 10 to 1,010) was necessary for the majority of the samples due to the elevated CVOC concentrations. Soil vapor sample analytical results are included in Table 1. Soil vapor concentrations are shown on Figure 2.

For discussion purposes, the concentrations of the CVOCs were compared to their respective NYSDOH Vapor Intrusion Guidance matrix values (i.e., the soil vapor matrix concentrations that correspond to a recommended action of "Mitigate", regardless of the corresponding indoor air concentrations). Detected concentrations exceeded the matrix values in both the shallow and deeper sample intervals collected from the southwestern portion of the Site only. Concentrations of detected compounds from the northern portion of the Site were well below the matrix values (a maximum concentration of PCE of 40 µg/^{3} was detected in sample PDI-SV-07_40_202207027).

In the samples from the southwestern portion of the Site, TCE was detected at concentrations ranging from 0.78 to 1,800 µg/m^3; PCE was detected at concentrations ranging from 40 to 260,000 µg/m^3; and cis-1,2-DCE was detected at concentrations ranging from 0.83 to 1,500 µg/m^3. Concentrations for other CVOCs with matrix values (TCA, vinyl chloride, and 1,1-dichloroethylene) were well below their respective matrix values. The highest concentrations were noted in the deeper samples collected from the southwestern portion,d at the 20-, 30-, and 40-foot depth intervals. Some elevated concentrations of CVOCs were also noted in the shallow 5- and 10-foot intervals (with a maximum shallow sample PCE detection of 11,000 µg/m^3 in sample PDI-SV-05_5_20220726).

During the RI, 1,1,1-TCA was detected at a maximum concentration of 900 µg/m^3 in a sample (RI-SV-02_20220329) collected from the north central portion of the Site. As part of the PDI, two soil vapor sample clusters (at boring locations PDI-SB-07 and PDI-SB-08) were installed in this area to further investigate TCA concentrations. TCA was detected in the PDI vapor points at concentrations ranging from 2.1 to 11 µg/m^3 (in sample PDI-SV-07_40_20220727 collected at 40 feet bgs), well below the matrix value of 1,000 µg/m^3.Soil Sample Analytical Results

A total of 10 soil samples (including the field duplicate) were collected from select borings (PDI-SB-04, PDI-SB-05, and PDI-SB-OB) and at various depths based on the field findings (elevated PID readings) to identify Site contamination conditions. The samples were sent to Eurofins for analysis of CVOCs. The sample results were compared to 6 New York Codes, Rules, and Regulations (NYCRR) Restricted Residential Soil Cleanup Objectives (RRSCOs) and Unrestricted Use Soil Cleanup Objectives (UUSCOs), and the results are presented in Table 2 and on Figure 3.

PCE was detected in multiple samples at concentrations ranging from 0.095 to 36 milligrams per kilograms (mg/kg), exceeding the UUSCO of 1.3 mg/kg in two samples (PDI-SB-04_24_20220726 and PDI-SB-05_21_20220726). In addition, PCE was detected at a concentration of 36 mg/kg in

sample PDI-SB-05_21_20220726, exceeding the RRSCO of 19 mg/kg. TCE was detected in multiple samples at estimated trace concentrations well below the UUSCOs. No other CVOCs were detected in the samples analyzed.

It is noted that all Site soil down to approximately 15 feet below sidewalk grade is scheduled to be excavated and disposed of off-site as part of the soil remedy. As such, the highest CVOCs detections identified in the top 15 feet will be remediated through excavation and off-site disposal, and the proposed SVES will address residual soil and soil vapor contamination deeper than 15 feet below sidewalk grade.

3.0 SVE SYSTEM DESIGN

Based on the findings of the PDI and as specified in the NYSDEC-approved RAWP and the DD, an SVE system will be designed, installed, and operated to treat residual soil and soil vapor contamination remaining at the Site following soil excavation. The SVE system will be designed to treat and prevent off-site migration of contaminated soil vapor associated with the CVOCs in the approximately 4,000-square foot area in the southwestern portion of the Site. The proposed SVE system well and piping layout is provided on Figure 4. The SVE wells will be connected through a network of underground and aboveground piping to an SVE blower, which will apply a vacuum to draw contaminated vapors from the treatment area through a granular activated carbon (GAC) vapor treatment system prior to discharge to the atmosphere.

3.1 SVE Wells

The SVE system will include four SVE wells with spacing based on the conservative assumption that each well will have a radius of influence of 25 feet. The conservative ROI is based on soil conditions observed the RI soil boring/monitoring well installation and during the PDI investigation.

The following table itemizes the proposed SVE wells, and their respective ROIs and operating conditions.

Table T1
SVE System Operating Conditions

Existing and Proposed SVE Well ID	On-Site Location	Screened Interval (feet below cellar slab)	Applied Vacuum (inH_2O)	Air Flow Rate (SCFM)	ROI (feet)
SVE-01	Southwestern	15-40	35	75	25
SVE-02	Southwestern	15-30	35	75	25
SVE-03	Southwestern	15-30	35	75	25
SVE-04	Southwestern	15-30	35	75	25

SVE well SVE-01 will be installed to approximately 40 feet bgs, and SVE wells SVE-02 through SVE-04 will be installed to approximately 30 feet bgs using a Rotosonic drill rig. Well construction materials will consist of a 25-foot length screen for SVE-01 installed from 15 to 40 feet bgs, and a 15-foot length of 0.020-inch slotted screen installed from 15 to 30 feet bgs for SVE-02 through SVE-04, and solid riser piping from the top of the screen to surface grade. Riser pipes will extend through the cellar floor slab to the cellar ceiling, and dedicated transmission pipes from each SVE well will be routed to the SVE blower room.

The well annular space will be backfilled with a No. 1 sand filter pack from bottom of the well to one foot above the well screens, followed by 2 feet of hydrated bentonite, followed by non-shrinking bentonite-cement grout to grade.

A 5-mil plastic sheeting layer will be installed at approximately 6 to 16 inches below bottom of foundation slab throughout the entire SVE treatment zone to create a barrier between the SVE treatment zone and the SSDS gas permeable aggregate (GPA) layer, as the applied vacuums would otherwise compete against each other, reducing the effectiveness of both systems.

SVE wells will be connected to the SVE blower and system components via dedicated, solid PVC piping. Solid PVC piping will connect to the SVE well heads at the cellar ceiling, and will be sloped a minimum of 1% towards the SVE well heads to minimize or eliminate condensate accumulation.

3.2 Soil Vapor Monitoring Points

Three soil vapor monitoring points (SVMPs) will be installed to facilitate collection of vacuum measurements and/or vapor samples if required in the future during Site management. The SVMPs will be installed to a total depth of 25 feet below grade using 1 inch PVC piping with 5-foot long 0.020-inch slotted PVC well screens. The SVMP construction will include No. 2 sand to 1 foot above the well screen, followed by a 2-foot thick bentonite layer, and bentonite/cement slurry to grade.

3.3 SVE Blower and System Components

The SVE System process and instrumentation diagram (P&ID) is provided on Figure 5, and blower cut sheets and carbon system sizing calculation are provided in Appendix C.

The following system components will be required to control the four SVE wells:

- One 10-horsepower SVE blower (Ametek-Rotron DR 909BB72W, or engineer-approved equal) operating at approximately 60 inH_2O and 480 SCFM;
- One 100-gallon moisture separator tank with high-level alarm, transfer pump, and 55-gallon auxiliary drum with high-level alarm;
- One inline particulate filter;
- One dilution line with particulate filter;
- Two Tetrasolv VR-400 vapor-phase GAC vessels (piped in series, with influent, intermediate, and effluent sample ports).
- System alarms including one high temperature sensor, and one low vacuum sensor;
- Individual SVE line, and dilution line accessories, including vacuum gauges, pitot tube/differential pressure gauge assemblies for air flow rate measurements, throttling valves, and sampling ports (seven each);
- Additional accessories including pre- and post-blower vacuum/pressure, and temperature gauges, and pre- and post-particulate filter vacuum gauges (one each);
- One control panel equipped with a telemetry system to notify select personnel of alarm conditions;
- One equipment room (with electricity and separate ventilation) located on the southwestern portion of the Site; and
- One 6-inch diameter galvanized steel effluent stack.

All horizontal, solid SVE piping (regardless of piping material or location above or below grade) will be installed with a minimum 1% slope either towards vertical well piping to minimize or eliminate condensate accumulation.

All aboveground solid pipe runs will be pressure tested at approximately 5 psi for 30 minutes and/or soap tested to identify any leaks prior to installation within wall enclosures.

The carbon treatment system for the SVES comprises two 400-pound GAC units (Tetrasolv Model VFV-400, or engineer-approved equivalents). Influent, intermediate, and effluent sample ports will be installed for future PID screening, vapor sample collection, and pressure gauging. The SVE system equipment room will include a minimum 150 cfm ventilation fan, which will be separately ventilated/ducted from the building HVAC system.

The outlets of the carbon treatment system will be connected to a 6-inch diameter effluent riser that will be piped to a discharge stack located on the roof bulkhead of the new building, with the stack discharge point located approximately 25 feet away from any air intakes or operable windows, and at least 4 feet above the finished bulkhead located on the roof.

The SVE system blower and carbon cut sheets and carbon treatment system sizing calculations are included in Appendix C.

3.4 Operation, Maintenance, and Monitoring (OM&M)

3.4.1 Startup and Routine System Inspection

SVE system startup and balancing will be conducted to assess system conditions. If subsurface vacuum and air flow rate conditions are not adequately induced in the treatment area (as determined by individual line vacuum and air flow rate readings), the SVE system will be rebalanced by adjusting the variable frequency drive (VFD) and/or applied vacuum and air flow rate conditions at the individual SVE slotted horizontal pipes until acceptable conditions are observed.

After SVE system startup, daily checks will be performed during the first week of operation and weekly checks will be performed during the first month of operation. After the initial month of operation, the SVE system will be inspected at a minimum of once a month to ensure proper operation. Daily, weekly, and monthly checks will consist of individual SVE line gauge readings, blower and carbon inspections, and alarm checks. More detailed system O&M instructions, including the projected vacuum of the system, will be included in the SMP.

The SVE system will continue to be maintained and operational until permission to discontinue operation is granted in writing by NYSDEC and NYSDOH. A proposal to discontinue the SVE system may be submitted by the Owner based on SVE system operation history, and effluent vapor sample data.

3.4.2 Soil Vapor Sampling

Confirmatory extracted vapor sampling will be conducted following startup to reassess VOC emissions calculations, and to provide baseline VOC concentrations at the onset of long-term SVE system operation. Influent, intermediate, and effluent vapor samples will be collected using 1-Liter Tedlar® bags in accordance with the Quality Assurance Project Plan (QAPP) and analyzed for CVOCs by EPA Method TO-15 by a NYSDOH-ELAP-certified laboratory.

The effluent vapor VOC concentrations will be compared to the NYSDEC Division of Air Resources (DAR-1) publication Air Guide-1 (AG-1): Annual Guideline Concentrations (AGC)/Short-term Guideline Concentrations (SGC) Tables, updated October 18, 2010. The analysis will be performed using NYSDEC DAR-1 Air Guide-1 Policy (Policy DAR-1: Guidelines for the Control of Toxic Ambient Air Contaminants, November 12, 1997), which simulates the atmospheric processes that disperse pollutants from an emissions source to predict concentrations at selected downwind receptor locations. The procedures in the DAR-1 policy are used to model conservative, worst-case annual and short-term concentrations based on the laboratory analytical results and exhaust stack parameters to compare against the NYSDOH AGCs and SGCs.

3.4.3 Alarm Response and NYSDEC Notification

SVE system alarms will be communicated via telemetry system to the building maintenance team and the environmental consultant team. Technical alarm response will be conducted within 72 hours of the alarm notification, either by building personnel or the environmental consultant, depending on the alarm. In either scenario, the environmental consultant will perform a follow-up inspection after the initial alarm response to confirm that the SVE is operating as designed.

NYSDEC will be notified within 48 hours of any unexpected alarms from the SVE System, with notes on any system conditions that reduce or may have the potential to reduce the effectiveness of SVE, and any action to be taken to mitigate the damage or defect.

3.5 Other Requirements

Complete requirements for SVE operation and maintenance (as well as operation and maintenance requirements for all Engineering and Institutional Controls) will be provided in the Final Engineering Report (FER) and Site Management Plan (SMP), to be provided at a later date.

These requirements will include specific details on health and safety requirements in a Health and Safety Plan (HASP), air monitoring requirements for any potential invasive work required for SVE system repair in a Community Air Monitoring Plan (CAMP), quality assurance/quality control (QA/QC) requirements for vapor sampling and sample management in a QAPP, and management of spent carbon as solid waste.

4.0 SUB-SLAB DEPRESSURIZATION SYSTEM (SSDS)

In accordance with the NYSDEC-approved RAWP and the DD, an active SSDS will be installed below the proposed building foundation slab to mitigate the potential for sub-slab vapor intrusion. Slotted piping will extend horizontally Site-wide and will be connected via solid aboveground piping to suction fans, and ultimately exhausted to the atmosphere via discharge stacks. Due to the size of the Site, three separate independent systems will be installed: one below the east tower mat slab; the second below the west tower mat slab; and the third below the central slab-on-grade area. Each system will have its own separate riser, suction fan, and exhaust stack. The complete SSDS layout is shown on Figure 4 and the process and instrumentation diagrams (P&IDs) are provided on Figure 6. The proposed elements for the active SSDS include the following:

- A total of 15 runs (covering the entire building slab) of 4-inch diameter slotted Schedule 40 PVC pipe vapor collection piping beneath the entire building foundation slabs (including mat slabs) connecting to 4-inch diameter solid Schedule 40 PVC piping penetrating the slab.
- Transition from 4-inch solid PVC to 6-inch or 8-inch galvanized steel interior riser pipes (3 total) extending to the building roof.
- Three roof-mounted suction fans (IPF Colasit CHVS125 0.9 hp, 10 inH2O, adjusted to operate at 400, 500, and 600 cfm for SSDS systems 1, 2, and 3, respectively, or engineer-approved equivalent) connecting to the risers and discharging to galvanized steel exhaust stacks.
- A minimum 6-inch thick ¾-inch gas-permeable aggregate (GPA) layer underlain by a non-woven geotextile fabric beneath the entire building slab (or 5-mil plastic sheeting in the area of the SVES).
- A total of fourteen vacuum monitoring points (VMPs) installed beneath the concrete slab.
- Cleanouts, vacuum gauges, air flow rate meters, sample ports, and butterfly valves on each SSDS manifold leg, sample ports on each exhaust stack, and appropriate valves, gauges, meters, and alarms to properly operate and monitor system operation.

VMPs will be installed to facilitate collection of sub-slab vacuum measurements and/or vapor samples if required in the future during site management. The exhaust stacks will be installed at a minimum of 10 feet above the elevator bulkhead roofs and a minimum of 25 feet away from any air intakes or windows and/or in accordance with local and state building codes.

The installation of a minimum 20-mil vapor barrier under the entire building slab (including the mat slab) is expected to enhance vacuum capabilities beneath the proposed building slabs and further assist in the prevention of sub-slab vapor infiltration into indoor air.

4.1 SSDS Monitoring

SSDS startup, including balancing the system and the collection of vacuum readings at the VMPs, will be conducted to assess induced vacuum conditions under the building slab and determine the efficacy of the SSDS following the construction and completion of the building envelope. Adequate sub-slab vacuum will be determined via VMP vacuum readings of a minimum of 0.004 inH2O. If sub-slab vacuum readings indicate minimum vacuum readings less than the target operating conditions, the SSDS will be rebalanced by adjusting the applied vacuum and air flow rate conditions at the individual SSDS lines until acceptable induced vacuum conditions are observed at each of the VMPs.

SSDS operations and maintenance requirements will be outlined in the SMP. As-built drawings, diagrams, calculations, manufacturer documentation for the SSDS will be presented in the FER. The SSDS blower cut sheets are provided in Appendix D.

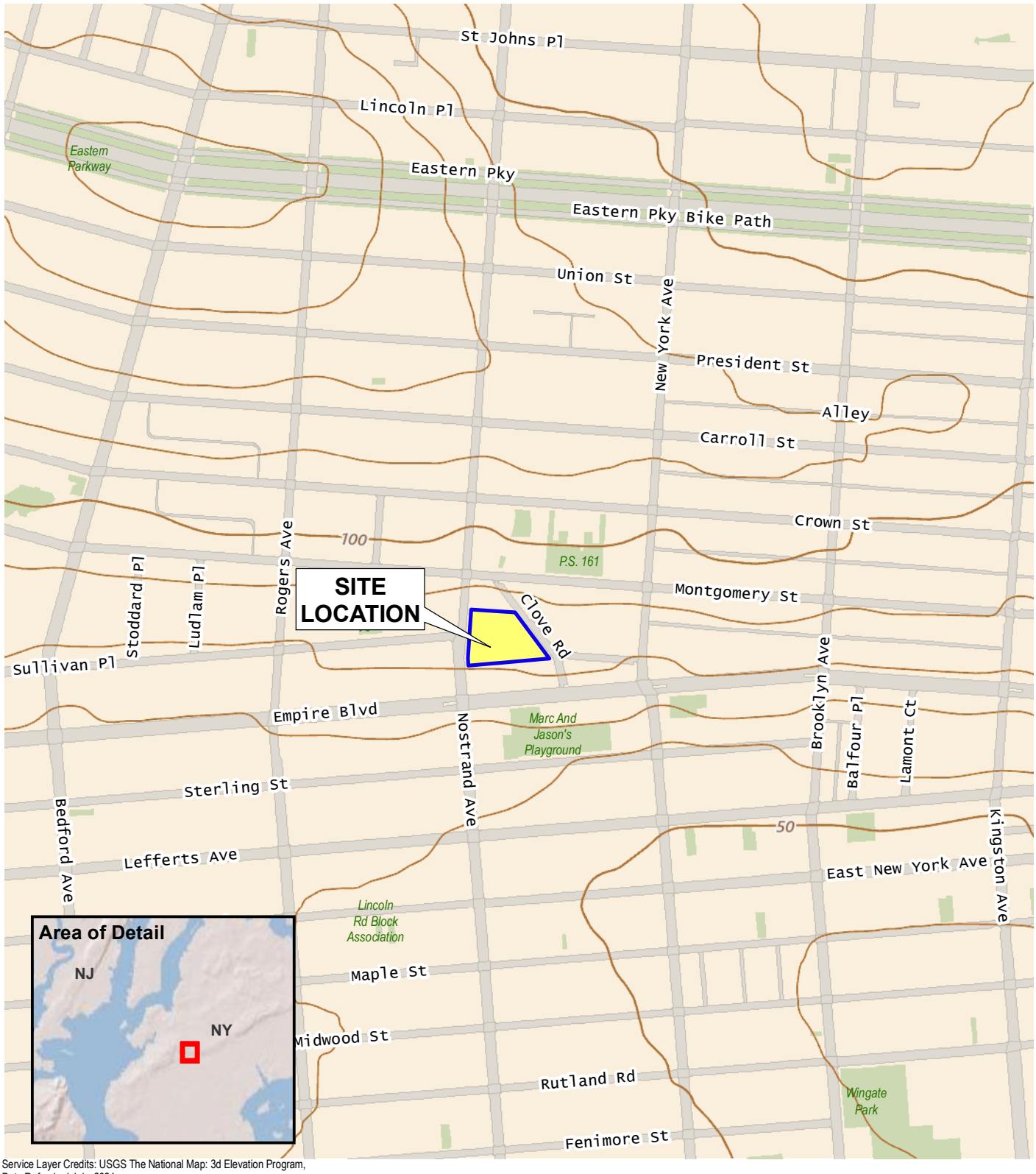
5.0 PROPOSED PROJECT SCHEDULE

The proposed project schedule is provided in Table T2, below. All potential timelines are subject to change.

Table T2
Proposed Project Schedule

Activity	Time To Complete
Submittal of Draft Environmental Easement	June 2023
Field Construction of SVE System	On or before September 30, 2023
Draft SMP Submitted to NYSDEC	September 2023
Execution of Environmental Easement	September 2023
Draft Final Engineering Report Submitted to NYSDEC	October 2023
Certificate of Completion and Fact Sheet	December 2023
Completion of Building	December 2024

FIGURES



Service Layer Credits: USGS The National Map: 3d Elevation Program, Data Refreshed July, 2021

0 600 1,200

SCALE IN FEET

AKRF
440 Park Avenue South, New York, NY 10016

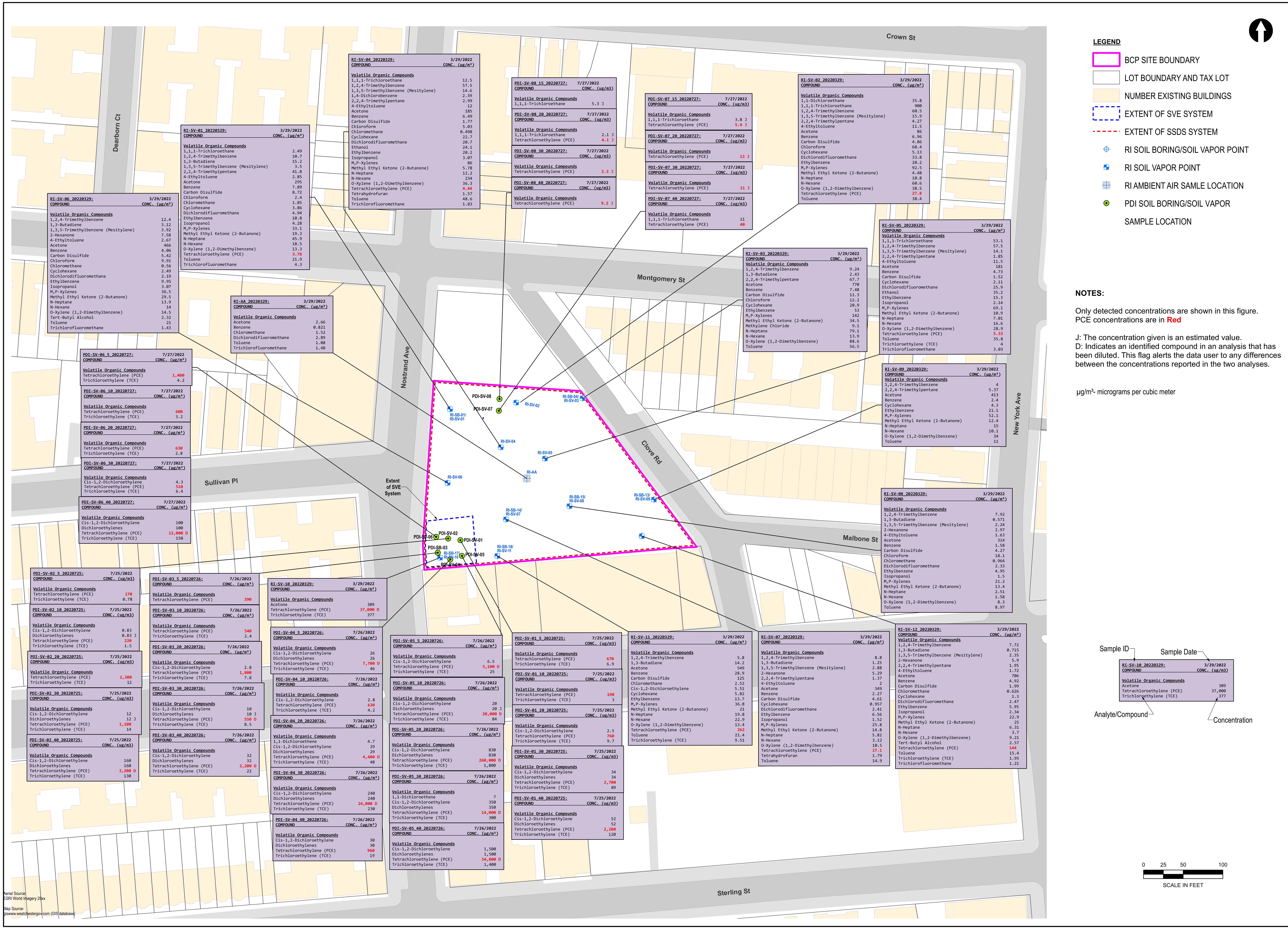
975 Nostrand Avenue
Brooklyn, New York

SITE LOCATION

DATE
11/2/2022

PROJECT NO.
210225

FIGURE
1



Crown St
Montgomery St
Sullivan Pl
Malbone St
Sterling St
Nostrand Ave
New York Ave
Clove Rd
Dearborn Ct
Extent of SVE System
LEGEND
BCP SITE BOUNDARY
LOT BOUNDARY AND TAX LOT
NUMBER EXISTING BUILDINGS
EXTENT OF SVE SYSTEM
EXTENT OF SSDS SYSTEM
RI SOIL BORING/SOIL VAPOR POINT
RI SOIL VAPOR POINT
RI AMBIENT AIR SAMLE LOCATION
PDI SOIL BORING/SOIL VAPOR SAMPLE LOCATION
NOTES:
Only detected concentrations are shown in this figure.
PCE concentrations are in Red
J: The concentration given is an estimated value.
D: Indicates an identified compound in an analysis that has been diluted. This flag alerts the data user to any differences between the concentrations reported in the two analyses.
µg/m³- micrograms per cubic meter
Sample ID
Sample Date
Analyte/Compound
Concentration
SCALE IN FEET
Aerial Source: ESRI World Imagery 20xx
Map Source: gis.westchestergov.com (GIS database)
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Pre-Design Investigation Soil Vapor Detections

DATE
11/2/2022

PROJECT NO.
210225

FIGURE
2

LEGEND

- PROJECT SITE BOUNDARY
- 20 — LOT BOUNDARY AND TAX LOT NUMBER
- 1309 — BLOCK NUMBER
- BUILDING
- EXTENT OF SSDS SYSTEM
- EXTENT OF SVE SYSTEM
- SOIL BORING LOCATION (AKRF, 2021)
- RI SOIL BORINGS
- RI SOIL BORING/MONITORING WELL
- RI SOIL BORING/SOIL VAPOR POINT
- PDI SOIL BORING LOCATION

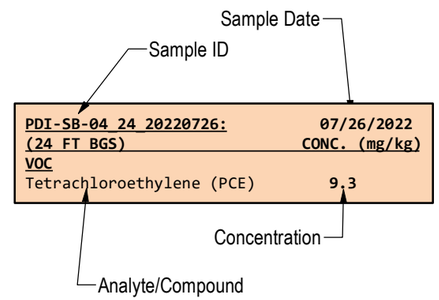
Part 375 Soil Cleanup Objectives (SCOs): SCOs listed in the New York State Department of Environmental Conservation (NYSDEC) "Part 375" Regulations (6 NYCRR Part 375).

Exceedances of NYSDEC Unrestricted Use Soil Cleanup Objectives (UUSCOs) are presented in bold font.

Exceedances of NYSDEC Restricted Residential Soil Cleanup Objectives (RRSCOs) are presented in red.

mg/kg:milligrams per kilogram = parts per million (ppm)

	PART 375 RESTRICTED RESIDENTIAL mg/kg	PART 375 UNRESTRICTED mg/kg
Volatile Organic Compounds		
Tetrachloroethylene (PCE)	19	1.3



0 25 50 100

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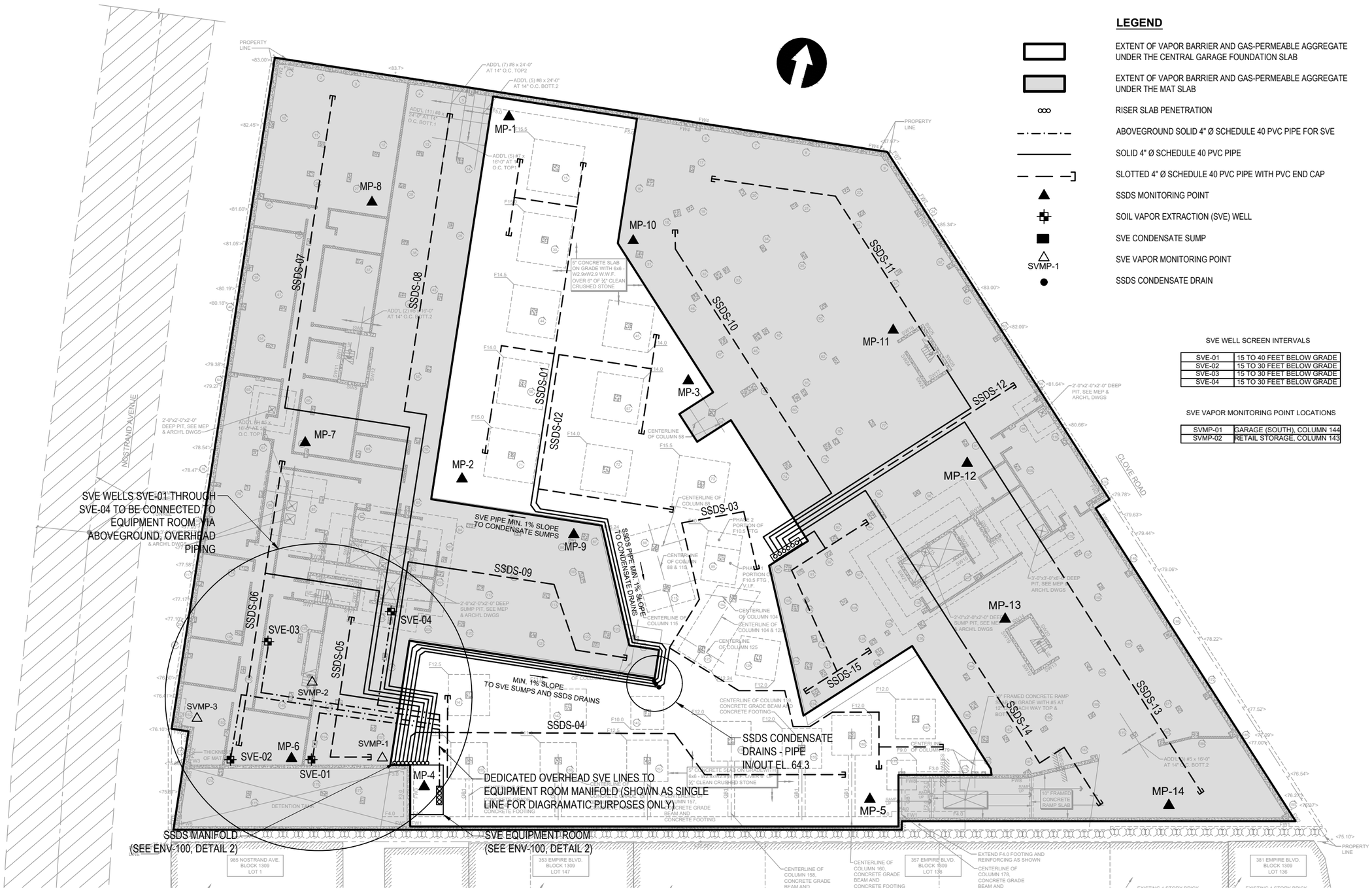
Brooklyn, New York

Pre-Design Investigation Soil Sample Analytical Results Above UUSCOs and/or RRSCOs

DATE
11/3/2022

PROJECT NO.
210225

FIGURE
3



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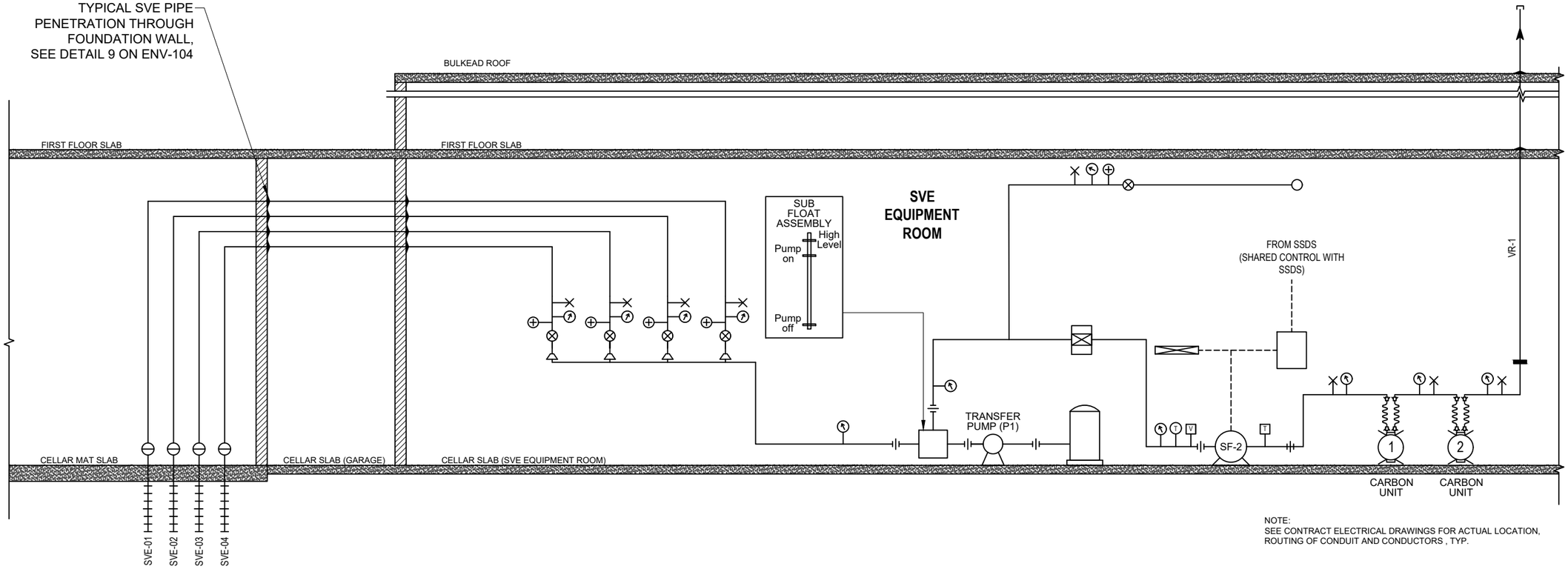
SOIL VAPOR EXTRACTION (SVE) SYSTEM AND SUB-SLAB DEPRESSURIZATION SYSTEM (SSDS) LAYOUT

DATE
10/26/2022

PROJECT NO.
210225

FIGURE
4



NOTE:
SEE CONTRACT ELECTRICAL DRAWINGS FOR ACTUAL LOCATION, ROUTING OF CONDUIT AND CONDUCTORS , TYP.

LEGEND

- SCHEDULE 40 SOLID PIPE
- ELECTRICAL CONDUIT
- SCHEDULE 40 0.02-INCH SLOTTED PIPE
- FLANGE
- BLOWER HIGH TEMP SENSOR (WIRED TO CONTROL PANEL)
- BLOWER INFLUENT LOW VACUUM SENSOR (WIRED TO CONTROL PANEL)
- 4" X 6" REDUCER
- RAIN CAP
- BUTTERFLY VALVE
- CLEANOUT
- VACUUM/PRESSURE GAUGE
- SAMPLE PORT
- FLOW METER
- TEMPERATURE GAUGE
- FLEXIBLE HOSE WITH CAMLOCK FITTING

SVE PROCESS AND INSTRUMENTATION DIAGRAM

SCALE: N.T.S.

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440 Park Avenue South, New York, NY 10016

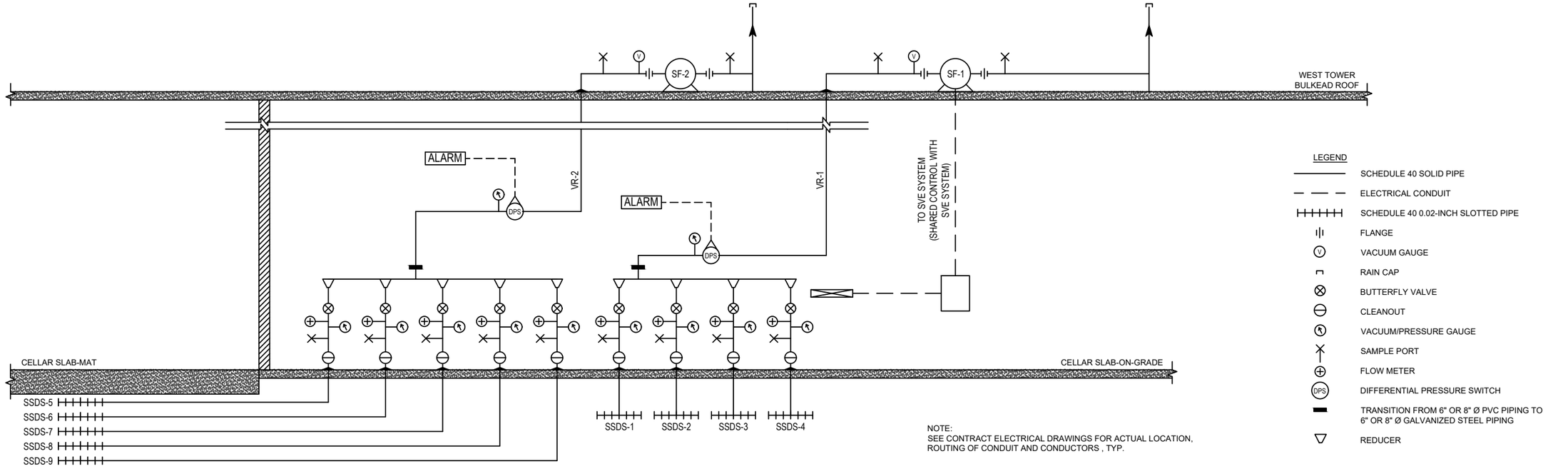
975 Nostrand Avenue
Brooklyn, New York

SVE SYSTEM INSTALLATION DETAILS AND PROCESS AND INSTRUMENTATION DIAGRAM

DATE
10/26/2022

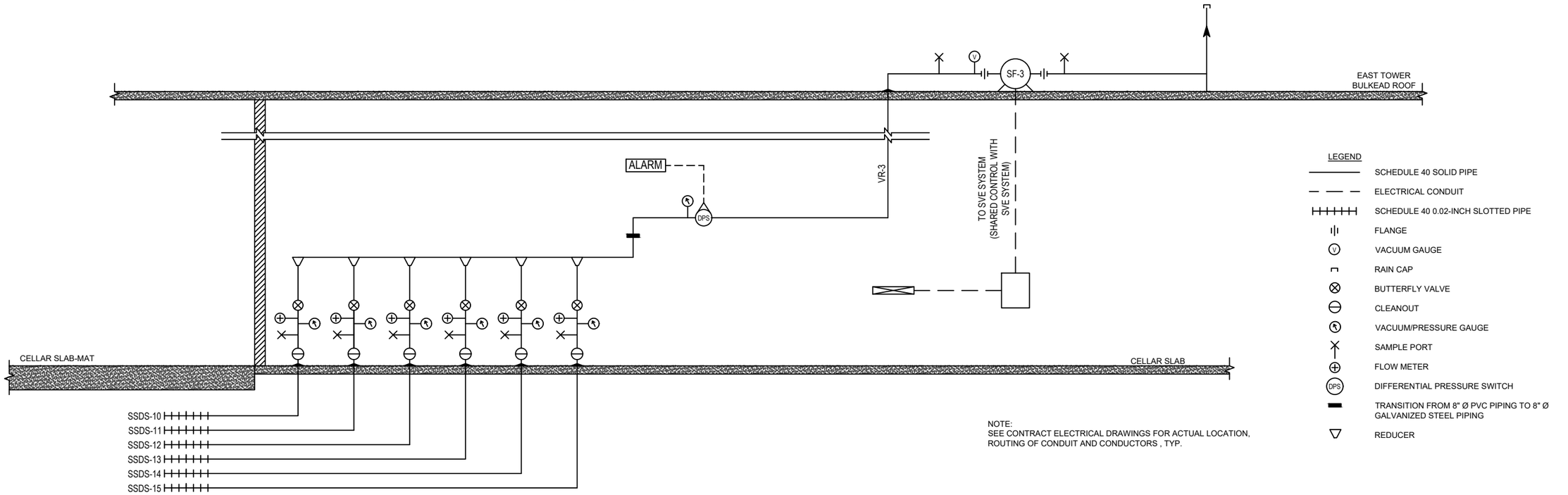
PROJECT NO.
210225

FIGURE
5



SSDS PROCESS AND INSTRUMENTATION DIAGRAM #1 - WEST TOWER AND CENTRAL GARAGE

SCALE: N.T.S.



SSDS PROCESS AND INSTRUMENTATION DIAGRAM #2 - EAST TOWER

SCALE: N.T.S.

AKRF
440 Park Avenue South, New York, NY 10016

975 Nostrand Avenue
Brooklyn, New York

SSDS PROCESS AND INSTRUMENTATION DIAGRAMS

DATE
10/26/2022

PROJECT NO.
210225

FIGURE
6

TABLES

Table 1
975 Nostrand Avenue
Brooklyn, NY
Pre-Design Investigation
Soil Vapor Analytical Results of Volatile Organic Compounds

Client ID	NYSDOH	NYSDOH	PDI-SV-01_40_20220725	PDI-SV-01_30_20220725	PDI-SV-01_20_20220725	PDI-SV-01_10_20220725	PDI-SV-01_5_20220725
Lab Sample ID	AGV	Matrix	200-64295-1	200-64295-2	200-64295-3	200-64295-4	200-64295-5
Date Sampled		Value	07/25/2022	07/25/2022	07/25/2022	07/25/2022	07/25/2022
Dilution			10	10	10	10	10
Analyte	µg/m³	µg/m³					
1,1,1-Trichloroethane	NS	1,000	11 U	11 U	11 U	11 U	11 U
1,1,2,2-Tetrachloroethane	NS	NS	14 U	14 U	14 U	14 U	14 U
1,1,2-Trichloroethane	NS	NS	11 U	11 U	11 U	11 U	11 U
1,1-Dichloroethane	NS	NS	8.1 U	8.1 U	8.1 U	8.1 U	8.1 U
1,1-Dichloroethene	NS	60	2 U	2 U	2 U	2 U	2 U
1,2-Dichloroethane	NS	NS	8.1 U	8.1 U	8.1 U	8.1 U	8.1 U
1,2-Dichloroethene, Total	NS	NS	52	34	16 U	16 U	16 U
cis-1,2-Dichloroethene	NS	60	52	34	2.5	2 U	2 U
Tetrachloroethene	30	1,000	**2,200**	**2,700**	**760**	**190**	**670**
trans-1,2-Dichloroethene	NS	NS	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U
Trichloroethene	2	60	**120**	**89**	**9.7**	**3**	**6.9**
Vinyl chloride	NS	60	2 U	2 U	2 U	2 U	2 U

Table 1
975 Nostrand Avenue
Brooklyn, NY
Pre-Design Investigation
Soil Vapor Analytical Results of Volatile Organic Compounds

Client ID	NYSDOH	NYSDOH	PDI-SV-02_40_20220725	PDI-SV-02_40_20220725	PDI-SV-02_30_20220725	PDI-SV-02_20_20220725	PDI-SV-02_10_20220725
Lab Sample ID	AGV	Matrix	200-64295-6	200-64295-6-DL	200-64295-7	200-64295-8	200-64295-9
Date Sampled		Value	07/25/2022	07/25/2022	07/25/2022	07/25/2022	07/25/2022
Dilution			10	20	10	10	1
Analyte	µg/m³	µg/m³					
1,1,1-Trichloroethane	NS	1,000	11 U	22 U	11 U	11 U	1.1 U
1,1,2,2-Tetrachloroethane	NS	NS	14 U	27 U	14 U	14 U	1.4 U
1,1,2-Trichloroethane	NS	NS	11 U	22 U	11 U	11 U	1.1 U
1,1-Dichloroethane	NS	NS	8.1 U	16 U	8.1 U	8.1 U	0.81 U
1,1-Dichloroethene	NS	60	2 U	4 U	2 U	2 U	0.2 U
1,2-Dichloroethane	NS	NS	8.1 U	16 U	8.1 U	8.1 U	0.81 U
1,2-Dichloroethene, Total	NS	NS	160	150 D	12 J	16 U	0.83 J
cis-1,2-Dichloroethene	NS	60	160	150 D	12	2 U	0.83
Tetrachloroethene	30	1,000	**3,200 E**	**3,200 D**	**1,100**	**2,300**	**220**
trans-1,2-Dichloroethene	NS	NS	7.9 U	16 U	7.9 U	7.9 U	0.79 U
Trichloroethene	2	60	**130**	**130 D**	**14**	**12**	1.5
Vinyl chloride	NS	60	2 U	4 U	2 U	2 U	0.2 U

Table 1
975 Nostrand Avenue
Brooklyn, NY
Pre-Design Investigation
Soil Vapor Analytical Results of Volatile Organic Compounds

Client ID	NYSDOH	NYSDOH	PDI-SV-02_5_20220725	PDI-SV-03_40_20220726	PDI-SV-03_40_20220726	PDI-SV-03_30_20220726	PDI-SV-03_20_20220726
Lab Sample ID	AGV	Matrix	200-64295-10	200-64303-1	200-64303-1-DL	200-64303-2	200-64303-3
Date Sampled		Value	07/25/2022	07/26/2022	07/26/2022	07/26/2022	07/26/2022
Dilution			1	10	20	10	10
Analyte	µg/m³	µg/m³					
1,1,1-Trichloroethane	NS	1,000	1.1 U	11 U	22 U	11 U	11 U
1,1,2,2-Tetrachloroethane	NS	NS	1.4 U	14 U	27 U	14 U	14 U
1,1,2-Trichloroethane	NS	NS	1.1 U	11 U	22 U	11 U	11 U
1,1-Dichloroethane	NS	NS	0.81 U	8.1 U	16 U	8.1 U	8.1 U
1,1-Dichloroethene	NS	60	0.2 U	2 U	4 U	2 U	2 U
1,2-Dichloroethane	NS	NS	0.81 U	8.1 U	16 U	8.1 U	8.1 U
1,2-Dichloroethene, Total	NS	NS	1.6 U	32	25 J D	10 J	16 U
cis-1,2-Dichloroethene	NS	60	0.2 U	32	25 D	10	2.8
Tetrachloroethene	30	1,000	**170**	**2,800 E**	**2,200 D**	**550**	**1,800**
trans-1,2-Dichloroethene	NS	NS	0.79 U	7.9 U	16 U	7.9 U	7.9 U
Trichloroethene	2	60	0.78	**22**	**18 D**	**8.5**	**7.8**
Vinyl chloride	NS	60	0.2 U	2 U	4 U	2 U	2 U

Table 1
975 Nostrand Avenue
Brooklyn, NY
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Soil Vapor Analytical Results of Volatile Organic Compounds

Client ID	NYSDOH	NYSDOH	PDI-SV-03_10_20220726	PDI-SV-03_5_20220726	PDI-SV-04_40_20220726	PDI-SV-04_30_20220726	PDI-SV-04_30_20220726
Lab Sample ID	AGV	Matrix	200-64303-4	200-64303-5	200-64303-6	200-64303-7	200-64303-7-DL
Date Sampled		Value	07/26/2022	07/26/2022	07/26/2022	07/26/2022	07/26/2022
Dilution			10	10	10	50	200
Analyte	µg/m³	µg/m³					
1,1,1-Trichloroethane	NS	1,000	11 U	11 U	11 U	55 U	220 U
1,1,2,2-Tetrachloroethane	NS	NS	14 U	14 U	14 U	69 U	270 U
1,1,2-Trichloroethane	NS	NS	11 U	11 U	11 U	55 U	220 U
1,1-Dichloroethane	NS	NS	8.1 U	8.1 U	8.1 U	40 U	160 U
1,1-Dichloroethene	NS	60	2 U	2 U	2 U	10 U	40 U
1,2-Dichloroethane	NS	NS	8.1 U	8.1 U	8.1 U	40 U	160 U
1,2-Dichloroethene, Total	NS	NS	16 U	16 U	30	240	220 J D
cis-1,2-Dichloroethene	NS	60	2 U	2 U	30	240	220 D
Tetrachloroethene	30	1,000	**540**	**390**	**960**	**25,000 E**	**24,000 D**
trans-1,2-Dichloroethene	NS	NS	7.9 U	7.9 U	7.9 U	40 U	160 U
Trichloroethene	2	60	**2.4**	2 U	**19**	**230**	**230 D**
Vinyl chloride	NS	60	2 U	2 U	2 U	10 U	40 U

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Client ID	NYSDOH	NYSDOH	PDI-SV-04_20_20220726	PDI-SV-04_20_20220726	PDI-SV-04_10_20220726	PDI-SV-04_5_20220726	PDI-SV-04_5_20220726
Lab Sample ID	AGV	Matrix	200-64303-8	200-64303-8-DL	200-64303-9	200-64303-10	200-64303-10-DL
Date Sampled		Value	07/26/2022	07/26/2022	07/26/2022	07/26/2022	07/26/2022
Dilution			10	20	10	10	45
Analyte	µg/m³	µg/m³					
1,1,1-Trichloroethane	NS	1,000	11 U	22 U	11 U	11 U	49 U
1,1,2,2-Tetrachloroethane	NS	NS	14 U	27 U	14 U	14 U	62 U
1,1,2-Trichloroethane	NS	NS	11 U	22 U	11 U	11 U	49 U
1,1-Dichloroethane	NS	NS	8.1 U	16 U	8.1 U	8.1 U	36 U
1,1-Dichloroethene	NS	60	4.7	4.1 D	2 U	2 U	9 U
1,2-Dichloroethane	NS	NS	8.1 U	16 U	8.1 U	8.1 U	36 U
1,2-Dichloroethene, Total	NS	NS	29	27 J D	16 U	26	71 U
cis-1,2-Dichloroethene	NS	60	29	27 D	2.8	26	9 U
Tetrachloroethene	30	1,000	**4,600 E**	**4,400 D**	**630**	**11,000 E**	**7,700 D**
trans-1,2-Dichloroethene	NS	NS	7.9 U	16 U	7.9 U	7.9 U	36 U
Trichloroethene	2	60	**48**	**46 D**	**4.2**	**46**	**29 D**
Vinyl chloride	NS	60	2 U	4 U	2 U	2 U	9 U

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Client ID	NYSDOH	NYSDOH	PDI-SV-05_40_20220726	PDI-SV-05_40_20220726	PDI-SV-05_30_20220726	PDI-SV-05_30_20220726	PDI-SV-05_20_20220726
Lab Sample ID	AGV	Matrix	200-64303-11	200-64303-11-DL	200-64303-12	200-64303-12-DL	200-64303-13-DL
Date Sampled		Value	07/26/2022	07/26/2022	07/26/2022	07/26/2022	07/26/2022
Dilution			100	500	20	101	1009.8
Analyte	µg/m³	µg/m³					
1,1,1-Trichloroethane	NS	1,000	110 U	550 U	22 U	110 U	1,100 U
1,1,2,2-Tetrachloroethane	NS	NS	140 U	690 U	27 U	140 U	1,400 U
1,1,2-Trichloroethane	NS	NS	110 U	550 U	22 U	110 U	6,800 D
1,1-Dichloroethane	NS	NS	81 U	400 U	16 U	82 U	820 U
1,1-Dichloroethene	NS	60	20 U	100 U	7	20 U	200 U
1,2-Dichloroethane	NS	NS	81 U	400 U	16 U	82 U	820 U
1,2-Dichloroethene, Total	NS	NS	1,500	1,400 D	350	320 D	760 J D
cis-1,2-Dichloroethene	NS	60	1,500	1,400 D	350	320 D	760 D
Tetrachloroethene	30	1,000	**55,000 E**	**54,000 D**	**14,000 E**	**14,000 D**	**260,000 D**
trans-1,2-Dichloroethene	NS	NS	79 U	400 U	16 U	80 U	800 U
Trichloroethene	2	60	**1,400**	**1,400 D**	**300**	**280 D**	**930 D**
Vinyl chloride	NS	60	20 U	100 U	4 U	20 U	200 U

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Client ID	NYSDOH	NYSDOH	PDI-SV-05_20_20220726	PDI-SV-05_10_20220726	PDI-SV-05_10_20220726	PDI-SV-05_5_20220726	PDI-SV-05_5_20220726
Lab Sample ID	AGV	Matrix	200-64303-13	200-64303-14	200-64303-14-DL	200-64303-15	200-64303-15-DL
Date Sampled		Value	07/26/2022	07/26/2022	07/26/2022	07/26/2022	07/26/2022
Dilution			200	24.9	127.3	9.98	51.4
Analyte	µg/m³	µg/m³					
1,1,1-Trichloroethane	NS	1,000	220 U	27 U	140 U	11 U	56 U
1,1,2,2-Tetrachloroethane	NS	NS	270 U	34 U	170 U	14 U	71 U
1,1,2-Trichloroethane	NS	NS	220 U	27 U	140 U	11 U	56 U
1,1-Dichloroethane	NS	NS	160 U	20 U	100 U	8.1 U	42 U
1,1-Dichloroethene	NS	60	40 U	5 U	25 U	2 U	10 U
1,2-Dichloroethane	NS	NS	160 U	20 U	100 U	8.1 U	42 U
1,2-Dichloroethene, Total	NS	NS	830	20 J	200 U	16 U	82 U
cis-1,2-Dichloroethene	NS	60	830	20	25 U	6.5	10 U
Tetrachloroethene	30	1,000	**260,000 E**	**20,000 E**	**20,000 D**	**5,000 E**	**5,100 D**
trans-1,2-Dichloroethene	NS	NS	160 U	20 U	100 U	7.9 U	41 U
Trichloroethene	2	60	**1,800**	**84**	**98 D**	**25**	**31 D**
Vinyl chloride	NS	60	40 U	5 U	25 U	2 U	10 U

Table 1
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Pre-Design Investigation
Soil Vapor Analytical Results of Volatile Organic Compounds

Client ID	NYSDOH	NYSDOH	PDI-SV-06_40_20220727	PDI-SV-06_40_20220727	PDI-SV-06_30_20220727	PDI-SV-06_20_20220727	PDI-SV-06_10_20220727
Lab Sample ID	AGV	Matrix	200-64359-1	200-64359-1-DL	200-64359-2	200-64359-3	200-64359-4
Date Sampled		Value	07/27/2022	07/27/2022	07/27/2022	07/27/2022	07/27/2022
Dilution			25	123	10	10	10
Analyte	µg/m³	µg/m³					
1,1,1-Trichloroethane	NS	1,000	27 U	130 U	11 U	11 U	11 U
1,1,2,2-Tetrachloroethane	NS	NS	34 U	170 U	14 U	14 U	14 U
1,1,2-Trichloroethane	NS	NS	27 U	130 U	11 U	11 U	11 U
1,1-Dichloroethane	NS	NS	20 U	100 U	8.1 U	8.1 U	8.1 U
1,1-Dichloroethene	NS	60	5 U	25 U	2 U	2 U	2 U
1,2-Dichloroethane	NS	NS	20 U	100 U	8.1 U	8.1 U	8.1 U
1,2-Dichloroethene, Total	NS	NS	100	110 J D	16 U	16 U	16 U
cis-1,2-Dichloroethene	NS	60	100	110 D	4.3	2 U	2 U
Tetrachloroethene	30	1,000	**12,000 E**	**12,000 D**	**510**	**630**	**600**
trans-1,2-Dichloroethene	NS	NS	20 U	98 U	7.9 U	7.9 U	7.9 U
Trichloroethene	2	60	**150**	**140 D**	**6.4**	**2.8**	**3.2**
Vinyl chloride	NS	60	5 U	25 U	2 U	2 U	2 U

Table 1
975 Nostrand Avenue
Brooklyn, NY
Pre-Design Investigation
Soil Vapor Analytical Results of Volatile Organic Compounds

Client ID	NYSDOH	NYSDOH	PDI-SV-06_5_20220727	PDI-SV-07_40_20220727	PDI-SV-07_30_20220727	PDI-SV-07_20_20220727	PDI-SV-07_15_20220727
Lab Sample ID	AGV	Matrix	200-64359-5	200-64359-6	200-64359-7	200-64359-8	200-64359-9
Date Sampled		Value	07/27/2022	07/27/2022	07/27/2022	07/27/2022	07/27/2022
Dilution			10	10	10	10	10
Analyte	µg/m³	µg/m³					
1,1,1-Trichloroethane	NS	1,000	11 U	11	11 U	11 U	3.8 J
1,1,2,2-Tetrachloroethane	NS	NS	14 U	14 U	14 U	14 U	14 U
1,1,2-Trichloroethane	NS	NS	11 U	11 U	11 U	11 U	11 U
1,1-Dichloroethane	NS	NS	8.1 U	8.1 U	8.1 U	8.1 U	8.1 U
1,1-Dichloroethene	NS	60	2 U	2 U	2 U	2 U	2 U
1,2-Dichloroethane	NS	NS	8.1 U	8.1 U	8.1 U	8.1 U	8.1 U
1,2-Dichloroethene, Total	NS	NS	16 U	16 U	16 U	16 U	16 U
cis-1,2-Dichloroethene	NS	60	2 U	2 U	2 U	2 U	2 U
Tetrachloroethene	30	1,000	**1,400**	**40**	11 J	13 J	5.4 J
trans-1,2-Dichloroethene	NS	NS	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U
Trichloroethene	2	60	**4.2**	2 U	2 U	2 U	2 U
Vinyl chloride	NS	60	2 U	2 U	2 U	2 U	2 U

Table 1
975 Nostrand Avenue
Brooklyn, NY
Pre-Design Investigation
Soil Vapor Analytical Results of Volatile Organic Compounds

Client ID	NYSDOH	NYSDOH	PDI-SV-08_40_20220727	PDI-SV-08_30_20220727	PDI-SV-08_20_20220727	PDI-SV-08_15_20220727
Lab Sample ID	AGV	Matrix	200-64359-10	200-64359-11	200-64359-12	200-64359-13
Date Sampled		Value	07/27/2022	07/27/2022	07/27/2022	07/27/2022
Dilution			10	10	10	10
Analyte	µg/m³	µg/m³				
1,1,1-Trichloroethane	NS	1,000	11 U	11 U	2.1 J	5.3 J
1,1,2,2-Tetrachloroethane	NS	NS	14 U	14 U	14 U	14 U
1,1,2-Trichloroethane	NS	NS	11 U	11 U	11 U	11 U
1,1-Dichloroethane	NS	NS	8.1 U	8.1 U	8.1 U	8.1 U
1,1-Dichloroethene	NS	60	2 U	2 U	2 U	2 U
1,2-Dichloroethane	NS	NS	8.1 U	8.1 U	8.1 U	8.1 U
1,2-Dichloroethene, Total	NS	NS	16 U	16 U	16 U	16 U
cis-1,2-Dichloroethene	NS	60	2 U	2 U	2 U	2 U
Tetrachloroethene	30	1,000	9.2 J	2.3 J	4.4 J	14 U
trans-1,2-Dichloroethene	NS	NS	7.9 U	7.9 U	7.9 U	7.9 U
Trichloroethene	2	60	2 U	2 U	2 U	2 U
Vinyl chloride	NS	60	2 U	2 U	2 U	2 U

Table 2
975 Nostrand Avenue
Brooklyn, NY
Pre-Design Investigation
Soil Analytical Results of Volatile Organic Compounds

Client ID	NYSDEC	NYSDEC	PDI-SB-04_16_20220726	PDI-SB-04_21_20220726	PDI-SB-04_24_20220726	PDI-SB-04_27_20220726	PDI-SB-04_30_20220726
Lab Sample ID	UUSCO	RRSCO	460-262624-1	460-262624-2	460-262624-3	460-262624-4	460-262624-5
Date Sampled			07/26/2022	07/26/2022	07/26/2022	07/26/2022	07/26/2022
Dilution			1	1	50	1	1
Analyte	mg/kg	mg/kg					
1,1,1-Trichloroethane	0.68	100	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
1,1,2,2-Tetrachloroethane	NS	NS	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
1,1,2-Trichloroethane	NS	NS	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
1,1-Dichloroethane	0.27	26	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
1,1-Dichloroethene	0.33	100	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
1,2-Dichloroethane	0.02	3.1	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
1,2-Dichloropropane	NS	NS	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
Bromodichloromethane	NS	NS	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
Carbon tetrachloride	0.76	2.4	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
Chlorobenzene	1.1	100	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
Chloroethane	NS	NS	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
Chloroform	0.37	49	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
Chloromethane	NS	NS	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
cis-1,2-Dichloroethene	0.25	100	0.001 U	0.00038 J	0.12 U	0.0012 U	0.0012 U
cis-1,3-Dichloropropene	NS	NS	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
Dibromochloromethane	NS	NS	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
Methylene Chloride	0.05	100	0.002 U	0.002 U	0.12 U	0.0024 U	0.0023 U
Tetrachloroethene	1.3	19	0.22	0.33	**9.3**	0.04	0.0095
trans-1,2-Dichloroethene	0.19	100	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
trans-1,3-Dichloropropene	NS	NS	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
Trichloroethene	0.47	21	0.00085 J	0.0007 J	0.037 J	0.0012 U	0.0012 U
Vinyl chloride	0.02	0.9	0.001 U	0.001 U	0.12 U	0.0012 U	0.0012 U
Total Conc	NS	NS	0.22085	0.33108	9.337	0.04	0.0095

Table 2
975 Nostrand Avenue
Brooklyn, NY
Pre-Design Investigation
Soil Analytical Results of Volatile Organic Compounds

Client ID	NYSDEC	NYSDEC	PDI-SB-05_16_20220726	PDI-SB-05_21_20220726	PDI-SB-05_25_20220726	PDI-SB-OB_20_20220727	PDI-SB-OB_20_20220727
Lab Sample ID	UUSCO	RRSCO	460-262624-6	460-262624-7	460-262624-8	460-262719-1	460-262719-1-RA
Date Sampled			07/26/2022	07/26/2022	07/26/2022	07/27/2022	07/27/2022
Dilution			1	50	1	1	1
Analyte	mg/kg	mg/kg					
1,1,1-Trichloroethane	0.68	100	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
1,1,2,2-Tetrachloroethane	NS	NS	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
1,1,2-Trichloroethane	NS	NS	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
1,1-Dichloroethane	0.27	26	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
1,1-Dichloroethene	0.33	100	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
1,2-Dichloroethane	0.02	3.1	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
1,2-Dichloropropane	NS	NS	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
Bromodichloromethane	NS	NS	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
Carbon tetrachloride	0.76	2.4	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
Chlorobenzene	1.1	100	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
Chloroethane	NS	NS	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
Chloroform	0.37	49	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
Chloromethane	NS	NS	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
cis-1,2-Dichloroethene	0.25	100	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
cis-1,3-Dichloropropene	NS	NS	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
Dibromochloromethane	NS	NS	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
Methylene Chloride	0.05	100	0.002 U	0.13 U	0.0026 U	0.0021 U	0.0024 U
Tetrachloroethene	1.3	19	0.021	**36**	0.028	0.0037	0.086
trans-1,2-Dichloroethene	0.19	100	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
trans-1,3-Dichloropropene	NS	NS	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
Trichloroethene	0.47	21	0.00099 U	0.057 J	0.0013 U	0.001 U	0.0012 U
Vinyl chloride	0.02	0.9	0.00099 U	0.13 U	0.0013 U	0.001 U	0.0012 U
Total Conc	NS	NS	0.021	36.057	0.028	0.0037	0.086

Table 2
975 Nostrand Avenue
Brooklyn, NY
Pre-Design Investigation
Soil Analytical Results of Volatile Organic Compounds

Client ID	NYSDEC	NYSDEC	PDI-SB-X_20_20220727	PDI-SB-X_20_20220727	PDI-FB-01_20220727	PDI-TB-01_20220727
Lab Sample ID	UUSCO	RRSCO	460-262719-2	460-262719-2-RA	460-262719-3	460-262719-4
Date Sampled			07/27/2022	07/27/2022	07/27/2022	07/27/2022
Dilution			1	1	1	1
Analyte	mg/kg	mg/kg			µg/L	µg/L
1,1,1-Trichloroethane	0.68	100	0.0013 U	0.0011 U	1 U	1 U
1,1,2,2-Tetrachloroethane	NS	NS	0.0013 U	0.0011 U	1 U	1 U
1,1,2-Trichloroethane	NS	NS	0.0013 U	0.0011 U	1 U	1 U
1,1-Dichloroethane	0.27	26	0.0013 U	0.0011 U	1 U	1 U
1,1-Dichloroethene	0.33	100	0.0013 U	0.0011 U	1 U	1 U
1,2-Dichloroethane	0.02	3.1	0.0013 U	0.0011 U	1 U	1 U
1,2-Dichloropropane	NS	NS	0.0013 U	0.0011 U	1 U	1 U
Bromodichloromethane	NS	NS	0.0013 U	0.0011 U	1 U *	1 U *
Carbon tetrachloride	0.76	2.4	0.0013 U	0.0011 U	1 U	1 U
Chlorobenzene	1.1	100	0.0013 U	0.0011 U	1 U	1 U
Chloroethane	NS	NS	0.0013 U	0.0011 U	1 U	1 U
Chloroform	0.37	49	0.0013 U	0.0011 U	1 U	1 U
Chloromethane	NS	NS	0.0013 U	0.0011 U	1 U	1 U
cis-1,2-Dichloroethene	0.25	100	0.0013 U	0.0011 U	1 U	1 U
cis-1,3-Dichloropropene	NS	NS	0.0013 U	0.0011 U	1 U	1 U
Dibromochloromethane	NS	NS	0.0013 U	0.0011 U	1 U	1 U
Methylene Chloride	0.05	100	0.0025 U	0.0022 U	1 U	1 U
Tetrachloroethene	1.3	19	0.47	0.33	1 U	1 U
trans-1,2-Dichloroethene	0.19	100	0.0013 U	0.0011 U	1 U	1 U
trans-1,3-Dichloropropene	NS	NS	0.0013 U	0.0011 U	1 U	1 U
Trichloroethene	0.47	21	0.017	0.011	1 U	1 U
Vinyl chloride	0.02	0.9	0.0013 U	0.0011 U	1 U	1 U
Total Conc	NS	NS	0.487	0.341	0	0

Tables 1-2
975 Nostrand Avenue
Brooklyn, NY
Pre-Design Investigation
Notes

DEFINITIONS

D	:	Indicates an identified compound in an analysis that has been diluted. This flag alerts the data user to any differences between the concentrations reported in the two analyses.
E	:	Result exceeded calibration range.
J	:	The concentration given is an estimated value.
NS	:	No standard.
U	:	The analyte was not detected at the indicated concentration.
*****	:	LCS or LCSD is outside acceptance limits.
mg/kg	:	milligrams per kilogram
µg/L	:	micrograms per liter
µg/m^3	:	micrograms per cubic meter of air

STANDARDS

NYSDOH Soil Vapor Intrusion Air Guidance Value	:	New York State Department of Health (NYSDOH) Air Guideline Values (AGVs) presented in the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, dated October 2006 ("NYSDOH Vapor Intrusion Guidance Document"), updated September 2013 for change of AGV for PCE, August 2015 for TCE, and May 2017 for NYSDOH Matrices A, B, and C for PCE, TCE, c1,2-DCE, 1,1-DCE, carbon tetrachloride, 1,1,1-TCA, methylene chloride, and vinyl chloride. The matrix values listed are the sub-slab soil vapor concentration where mitigation is recommended regardless of the indoor air concentration.

Exceedances of NYSDOH AGVs are highlighted in bold font.
Exceedances of NYSDOH Matrix Values are highlighted in gray shading.

Part 375 Soil Cleanup Objectives	:	Soil Cleanup Objectives listed in New York State Department of Environmental Conservation (NYSDEC) "Part 375" Regulations [6 New York Codes, Rules and Regulations (NYCRR) Part 375].

Exceedances of Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs) are highlighted in bold font.
Exceedances of Part 375 Restricted Residential Soil Cleanup Objectives (RRSCOs) are highlighted in gray shading.

DUPLICATES

PDI-SB-X_20_20220727 is a blind duplicate of sample PDI-SB-OB_20_20220727.

APPENDIX A
PRE-DESIGN INVESTIGATION (PDI) WORK PLAN (PDIWP), NYSDEC APPROVAL LETTER, AND DAILY REPORTS

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Environmental Remediation, Region 2
47-40 21st Street, Long Island City, NY 11101
P: (718)482-4995 | F: (718)482-6358
www.dec.ny.gov

July 21, 2022

Joseph Kohl Riggs
Nostrand Green LLC
826 Broadway, 11th Floor
New York, NY 10003

Re: 975 Nostrand Avenue
Brownfield Cleanup Program Site No. C224335
Pre-Design Investigation Work Plan

Dear Mr. Riggs:

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has reviewed the Pre-Design Investigation Work Plan (PDIWP) dated July 21, 2022 for the above referenced site, which was prepared by AKRF, Inc. on behalf of Nostrand Green LLC (the Volunteer). The PDIWP was submitted to NYSDEC under the Brownfield Cleanup Program for site number C224335. The PDIWP has been revised to adequately address comments provided by the Department and NYSDOH on previous drafts and is hereby approved.

The Volunteer and its contractors are solely responsible for the safe execution of all invasive and other field work performed under the PDIWP. The Volunteer and its contractors must obtain all local, state, and/or federal permits or approvals that may be required to perform work under the PDIWP. Further, the Volunteer and its contractors are solely responsible for the identification of utilities that might be affected by work under the PDIWP and the implementation of all required, appropriate, or necessary health and safety measures during performance of work under the PDIWP.

In accordance with the requirements of the Brownfield Cleanup Agreement (BCA) and the Citizen Participation Plan, please place a copy of the approved PDIWP in the document repositories within 5 business days and provide certification that the repositories have been populated with all relevant site-related documents. Any draft copies of the PDIWP should be removed.

Please notify the Department at least 7 days in advance of commencing fieldwork related to the PDIWP. If you have any questions, please feel free to contact me at (718) 482-4065 or christopher.allan@dec.ny.gov.

Sincerely,

Christopher Allan
Project Manager

ec: J. O'Connell, C. Maycock, M. Yau – NYSDEC
S. McLaughlin, S. Rushford – NYSDOH
A. Schwendt, S. Ashutosh – AKRF

Environmental, Planning, and Engineering Consultants
440 Park Avenue South
7th Floor
New York, NY 10016
tel: 212 696-0670
fax: 212 213-3191
www.akrf.com

July 20, 2022

Mr. Christopher Allan
New York State Department of Environmental Conservation
Division of Environmental Remediation
47-20 21st Street
Long Island City, NY 11101

Re: Pre-Design Investigation Work Plan (PDIWP)
975 Nostrand Avenue
Brooklyn, New York
NYSDEC BCP Site No. C224335

Dear Mr. Allan:

AKRF, Inc. (AKRF) has prepared this Pre-Design Investigation (PDI) Work Plan (PDIWP) on behalf of Nostrand Green LLC for the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) Site Number C224335. The project site is located at 975 Nostrand Avenue in Brooklyn, NY, and is also identified as Brooklyn Tax Block 1309, Lot 9 (the "Site"). A Draft Remedial Action Work Plan (RAWP) was submitted to NYSDEC in June 2022 and is currently under review. The NYSDEC and New York State Department of Health (NYSDOH) have determined that the Site is considered a significant threat to human health and environment and, as such, a soil vapor extraction (SVE) system would need to be installed to treat and prevent contaminated soil vapor from migrating off-site.

Methodology

As part of the PDI, AKRF will collect additional soil vapor samples from the two target areas designated by NYSDOH (southwestern corner and north-central portion) where elevated concentrations of chlorinated volatile organic compounds (CVOCs) were identified during the remedial investigation (RI). The samples will be collected to better understand the soil vapor contamination profile in the target areas. Samples will be collected at five depth intervals (5, 10, 20, 30, and 40 feet below sidewalk grade) at eight soil vapor point clusters (six in the southwestern corner and two in the northcentral location). The findings will be used to prepare the SVE Design Document.

The samples will be collected by installing soil vapor point clusters using a rotosonic drill rig. Each soil vapor point cluster will be installed by advancing the borehole to a depth of 40 feet below grade. The lithology and field evidence of contamination at each location will be recorded and reserved for potential laboratory sampling. Dedicated 6-inch stainless steel mesh sample points connected to polyethylene tubing to grade will be installed at each of the targeted sampling depths (5, 10, 20, 30, and 40 feet below current sidewalk grade) within the respective cluster. Each sample point will be backfilled with No. 2 filter sand to 1-foot above the screened interval, followed by hydrated bentonite until the start of the next sampling

point interval. Following installation of the cluster, samples will be collected from each point (8 clusters x 5 points/intervals per cluster = 40 samples) using a 1-liter Summa canister fitted with a 10-minute flow controller. All samples will be analyzed by a NYSDOH-certified laboratory for CVOCs by analytical method TO-15. All quality assurance/quality control (QA/QC) work related to the sampling will be conducted in accordance with the Quality Assurance Project Plan (QAPP) included as Appendix B in the NYSDEC-approved Interim Remedial Measures Work Plan (IRMWP) dated June 2022. The results will also be validated by a third-party data validator prior to electronic data deliverable (EDD) submission to NYSDEC via EQuIS™. Proposed sample locations are shown on Figure 1.

In addition, all work will be conducted in accordance with the Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) included as Appendix A in the NYSDEC-approved IRMWP dated June 2022.

Reporting

Based on the PDI findings, an SVE Design Document will be prepared that will document field activities; present field and laboratory data; and include a Full Scale SVE design for future implementation. The document will also include associated engineering calculations, and regulatory compliance justification for NYSDEC and NYSDOH review and approval prior to construction.

Certification

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

Sincerely,
AKRF, Inc.

Axel Schwendt
Vice President

cc: A. Sharma/AKRF

Enclosures: Figure 1 – Conceptual SVE Treatment Areas and Proposed Sample Locations

LEGEND

- EXTENT OF VAPOR BARRIER UNDER 42-INCH MAT SLAB
- EXTENT OF GAS PERMEABLE AGGREGATE AND VAPOR BARRIER
- SOIL VAPOR EXTRACTION SYSTEM (SVES) TREATMENT AREA
- PROPOSED SAMPLE LOCATIONS

Source:
ODA Architects New York "975 Norstrand Avenue Cellar/Foundation Plan", DWG No: FO-100.00, Dated 2-25-2022.

0 15 30 60
SCALE IN FEET

AKRF
440 Park Avenue South, New York, NY 10016

975 Nostrand Avenue
Brooklyn, New York

CONCEPTUAL SVE TREATMENT AREAS AND PROPOSED SAMPLE LOCATIONS

DATE
7/12/2022

PROJECT NO.
210225

FIGURE
1

 W:\Projects\210225 - 975 NOSTRAND AVENUE\Technical\Hazmat\CAD\PD\WP\210225 Figure 1 Conceptual SVE Treatment Areas and Proposed Sample Locations.dwg last save: jszalus 7/12/2022 10:16 AM

Daily Activity Report

975 Nostrand Avenue
Brooklyn, NY
BCP Site No. C224335

General Site Information

Date:	Monday, July 25, 2022
Weather:	Sunny 82-90° F
Wind Direction/Speed:	South @ 5-12 mph
AKRF Personnel on Site:	Esme Faneuff
AKRF Equipment on Site:	Mini RAE 3000 Photoionization Detectors [(PID) x3] and DustTrak Aerosol Monitors (x3)
Visitors:	None

Contractor Information

Subcontractor	Service
Eastern Environmental (Eastern)	Drilling Using Rotosonic Drill Rig
Broadway Builders (Broadway)	General Contractor (GC)

Description and Location of Work Activities Performed

Eastern installed vapor points at two boring locations in Grids 11 and 12 for collection of soil vapor samples as part of the pre-design investigation (PDI). Borings were installed at two locations (PDI-SV-01 and PDI-SV-02) were drilled down to 40 feet below site grade and 5 soil vapor points were installed at each locations at various depths (5, 10, 20, 30, and 40 feet below site grade). Following the installation a soil vapor sample was collected from each soil vapor point using a 1-liter summa canister fitted with a 10-minute flow controller. Soil vapor was screened using a photoionization detector (PID). Soil from each boring was screened and logged.

Site Soil Disposal Tracking Information

Destination Facility	Daily Trucks	Total Trucks	Daily Approx. Cubic Yds	Total Approx. Cubic Yds	Total Site Loads	Total Approximate Cubic Yards
TBD	0	0	0	0	0	0
TBD	0	0	0	0		

Import Material Tracking Information

Origin Facility	Daily Trucks	Total Trucks	Daily Tonnage	Total Tonnage	Total Site Loads	Total Quantity (tons)
IRRC (Impact Recovery and Reuse Center) - 3/4" Clean Blue Stone	0	5	0	124.64	7	169.84
Impact Materials Jersey City - 3/4" Clean Blue Stone	0	2	0	45.20		

CAMP Air Monitoring Results

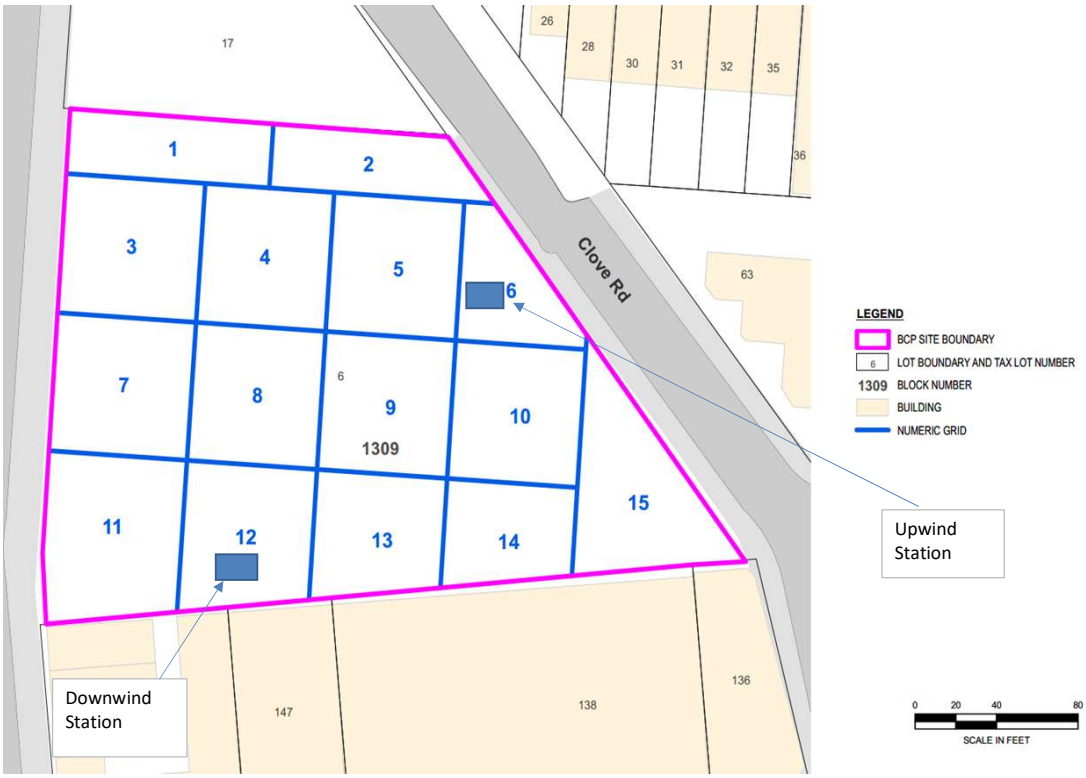
CAMP Station	UPWIND	DOWNWIND
Odors:	None	None
VOC Action Level Exceedance(s):	None	None
Particulate Action Level Exceedance(s):	None	None
Maximum VOC Level (ppm) 15-min avg:	0.8049	0.4827
Maximum Particulate Level (mg/m³) 15-min avg:	0.0511	0.0544

CAMP Response Actions: None

Additional Information

Planned Work Activity for Next Day/Week:	Continue soil vapor sampling as part of the PDI.
Comments:	None

Site Grid Plan



Upwind CAMP Station Data

Mass Conc. Total mg/m³ AVG 15m
mg/m³
DustTrak-8530
RS232(2)

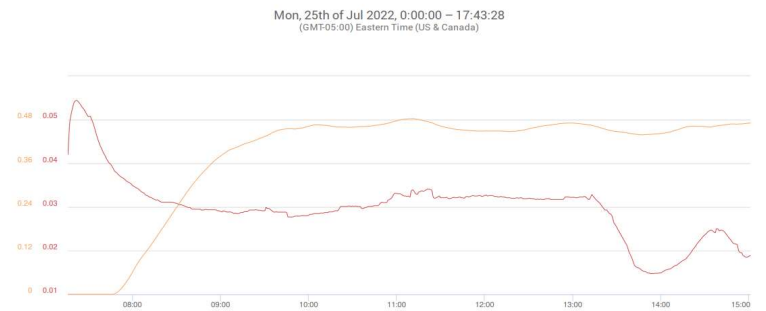
MIN	AVG	MAX
0.0188	0.0339	0.0511

VOC ppm AVG 15m ppm
miniRAE 3000
RS232(A)

MIN	AVG	MAX
0.277	0.3233	0.8049

Name	Nostrand UW (FA03920)
S/N	0B444802

Downwind CAMP Station Data



Mass Conc. Total mg/m³ AVG 15m
mg/m³
DustTrak-8530
RS232(2)

MIN	AVG	MAX
0.0147	0.0299	0.0544

VOC ppm AVG 15m ppm
miniRAE 3000
RS232(A)

MIN	AVG	MAX
0	0.3833	0.4827

Name	Nostrand DW (FA03981)
S/N	0B450530
Description	(FA03981)
Location	357 Empire Blvd, Brooklyn, NY 11225, USA

Site Photographs	
Photograph 1 - Eastern setting up the rotosonic drill rig for drilling, view facing northeast.	
Photograph 2 - Soil cores from drilling during the pre-design investigation, no evidence of gross contamination (elevated PID readings, odors, sludge etc.) was noted.	
Photograph 3 - Soil cores from predesign investigation borings, no evidence of gross contamination was noted.	

Daily Activity Report

975 Nostrand Avenue
Brooklyn, NY
BCP Site No. C224335

General Site Information

Date:	Tuesday, July 26, 2022
Weather:	Sunny 82-88° F
Wind Direction/Speed:	North @ 2-4 mph
AKRF Personnel on Site:	Esme Faneuff
AKRF Equipment on Site:	Mini RAE 3000 Photoionization Detectors [(PID) x3] and DustTrak Aerosol Monitors (x3)
Visitors:	None

Contractor Information

Subcontractor	Service
Eastern Environmental (Eastern)	Drilling Using Rotosonic Drill Rig
Broadway Builders (Broadway)	General Contractor (GC)

Description and Location of Work Activities Performed

Eastern installed vapor points at three boring locations in Grids 11 and 12 for collection of soil vapor samples as part of the pre-design investigation (PDI). Borings installed at the three locations (PDI-SV-03, PDI-SV-04, and PDI-SV-05) were drilled down to 40 feet below site grade and 5 soil vapor points were installed at each locations at various depths (5, 10, 20, 30, and 40 feet below site grade). Following the installation a soil vapor sample was collected from each soil vapor point using a 1-liter summa canister fitted with a 10-minute flow controller. Soil vapor was screened using a photoionization detector (PID). Soil from each boring was screened and logged. In addition, collected soil samples (grab) at select depths from two of the borings (PDI-SB-04 and PDI-SB-05) and sent to the laboratory. The samples will be kept on hold and will analyzed (for VOCs) as needed depending on the results of the soil vapor samples.

Site Soil Disposal Tracking Information

Destination Facility	Daily Trucks	Total Trucks	Daily Approx. Cubic Yds	Total Approx. Cubic Yds	Total Site Loads	Total Approximate Cubic Yards
TBD	0	0	0	0	0	0
TBD	0	0	0	0		

Import Material Tracking Information

Origin Facility	Daily Trucks	Total Trucks	Daily Tonnage	Total Tonnage	Total Site Loads	Total Quantity (tons)
IRRC (Impact Recovery and Reuse Center) - 3/4" Clean Blue Stone	0	5	0	124.64	7	169.84
Impact Materials Jersey City - 3/4" Clean Blue Stone	0	2	0	45.20		

CAMP Air Monitoring Results

CAMP Station	UPWIND	DOWNWIND
Odors:	None	None
VOC Action Level Exceedance(s):	None	None
Particulate Action Level Exceedance(s):	None	None
Maximum VOC Level (ppm) 15-min avg:	0.3589	0.5285
Maximum Particulate Level (mg/m³) 15-min avg:	0.0141	0.0150

CAMP Response Actions: None

Additional Information

Planned Work Activity for Next Day/Week:	Continue soil vapor sampling as part of the PDI.
Comments:	None

Site Grid Plan

Upwind CAMP Station Data

Mass Conc. Total mg/m³ AVG 15m
mg/m³
DustTrak-8530
RS232(C)

MIN	AVG	MAX
0.0091	0.0114	0.0141

VOC ppm AVG 15m ppm
miniRAE 3000
RS232(A)

MIN	AVG	MAX
0.199	0.3112	0.3589

Name Nostrand UW (FA03920)
S/N 0B444802
Description (FA03920)
Location 958 Nostrand Ave., Brooklyn, NY 11225, USA

Downwind CAMP Station Data

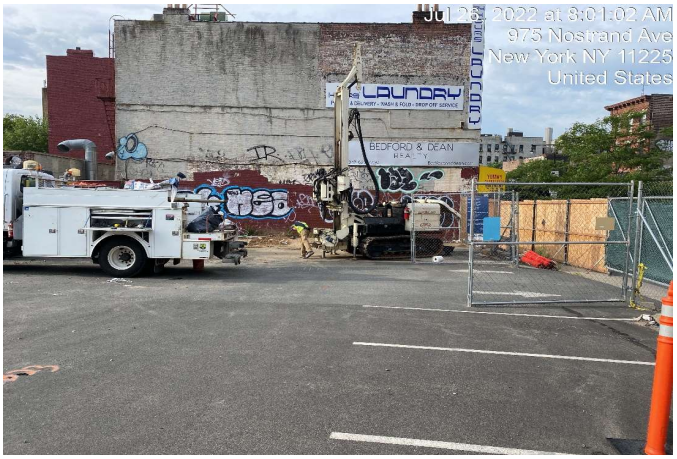
Mass Conc. Total mg/m³ AVG 15m
mg/m³
DustTrak-8530
RS232(C)

MIN	AVG	MAX
0.0073	0.0092	0.015

VOC ppm AVG 15m ppm
miniRAE 3000
RS232(A)

MIN	AVG	MAX
0.183	0.4083	0.5285

Name Nostrand DW (FA03981)
S/N 0B450530
Description (FA03981)

Site Photographs	
Photograph 1 - Eastern begins drilling at PDI-SB-03 located in the southwestern corner of the Site, view facing south.	
Photograph 2 - Soil cores from drilling during the pre-design investigation.	
Photograph 3 - General view of the site, view facing northeast.	

Daily Activity Report

975 Nostrand Avenue
Brooklyn, NY
BCP Site No. C224335

General Site Information

Date:	Wednesday, July 27, 2022
Weather:	Sunny 74-85° F
Wind Direction/Speed:	North @ 1-2 mph
AKRF Personnel on Site:	Esme Faneuff
AKRF Equipment on Site:	Mini RAE 3000 Photoionization Detectors [(PID) x3] and DustTrak Aerosol Monitors (x3)
Visitors:	None

Contractor Information

Subcontractor	Service
Eastern Environmental (Eastern)	Drilling Using Rotosonic Drill Rig
Broadway Builders (Broadway)	General Contractor (GC)

Description and Location of Work Activities Performed

Eastern installed vapor points at three boring locations in Grids 1 and 11 for collection of soil vapor samples as part of the pre-design investigation (PDI). The boring installed at PDI-SV-06 was drilled down to 40 feet below site grade and 5 soil vapor points were installed at various depths (5, 10, 20, 30, and 40 feet below site grade). Boring locations PDI-SV-07 and PDI-SV-08 were advanced in the north-central portion of the site. and 4 soil vapor points were installed at various depths (15, 20, 30, and 40 feet below site grade) at each location. Following the installation, a soil vapor sample was collected from each soil vapor point using a 1-liter summa canister fitted with a 10-minute flow controller. Soil vapor was screened using a photoionization detector (PID). Soil from each boring was screened and logged. In addition, collected soil samples (grab) at select depths from one observation boring (PDI-SB-OB) and sent to the laboratory. The samples will be kept on hold and will be analyzed (for VOCs) as needed depending on the results of the soil vapor samples.

Site Soil Disposal Tracking Information

Destination Facility	Daily Trucks	Total Trucks	Daily Approx. Cubic Yds	Total Approx. Cubic Yds	Total Site Loads	Total Approximate Cubic Yards
TBD	0	0	0	0	0	0
TBD	0	0	0	0		

Import Material Tracking Information

Origin Facility	Daily Trucks	Total Trucks	Daily Tonnage	Total Tonnage	Total Site Loads	Total Quantity (tons)
IRRC (Impact Recovery and Reuse Center) - 3/4" Clean Blue Stone	0	5	0	124.64	7	169.84
Impact Materials Jersey City - 3/4" Clean Blue Stone	0	2	0	45.20		

CAMP Air Monitoring Results

CAMP Station	UPWIND	DOWNWIND
Odors:	None	None
VOC Action Level Exceedance(s):	None	None
Particulate Action Level Exceedance(s):	None	None
Maximum VOC Level (ppm) 15-min avg:	0.3042	0.4509
Maximum Particulate Level (mg/m^3) 15-min avg:	0.0225	0.0130

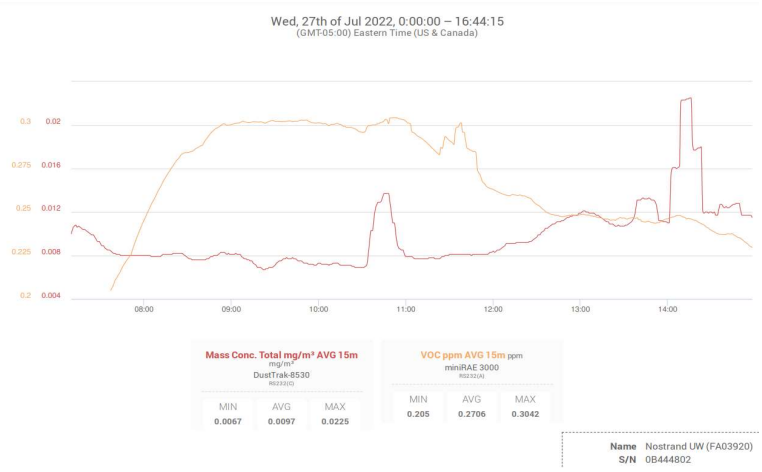
CAMP Response Actions: None

Additional Information

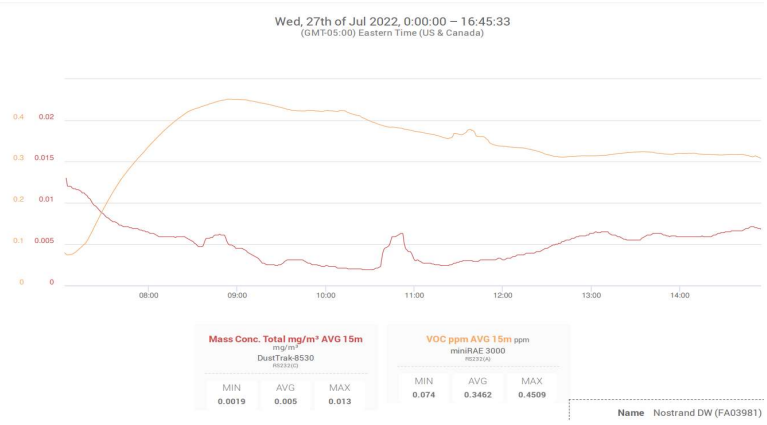
Planned Work Activity for Next Day/Week:	Continue soil vapor sampling as part of the PDI.
Comments:	None

Site Grid Plan

Upwind CAMP Station Data



Downwind CAMP Station Data



Site Photographs	
Photograph 1 - Eastern begins drilling at PDI-SB-OB located in the southwestern corner of the Site, view facing southeast.	
Photograph 2 - Soil cores from drilling during the pre-design investigation.	
Photograph 3 - Eastern begins drilling at PDI-SB-07 located in the northern portion of the Site, view facing north.	

APPENDIX B
PDI SOIL BORING/SOIL VAPOR POINT INSTALLATION LOGS AND SOIL VAPOR SAMPLING LOGS

SOIL BORING LOG

975 Nostrand Avenue
Brooklyn NY
AKRF Project Number: 210225

Soil Boring ID: PDI-SB-01/PDI-SV-01
Sheet 1 of 2

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling
Start Time: 10:15 **Finish Time:** 11:30
Date: 7/25/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Asphalt	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
1	24	Top 10": Brown SAND, some Silt, little Gravel, trace Brick, Asphalt (FILL).	ND	Dry	ND	ND	
2							
3		Bottom 14": Dark Brown SAND, some Silt, little Asphalt, trace Brick, Gravel (FILL).					
4							
5							
6	30	All 30": Brown SAND, some Silt, little Brick, Gravel, trace Asphalt (FILL).	ND	Dry	ND	ND	
7							
8							
9							
10							
11	40	Top 5": Dark Brown SAND, some Silt, little Asphalt, trace Brick, Gravel (FILL).	ND	Dry	ND	ND	
12							
13		Bottom 35": Brown SAND, some Silt, little Brick, Gravel, trace Asphalt (FILL).					
14							
15							
16	40	Top 20": Light Brown SILT, little Sand (FILL).	ND	Dry	ND	ND	
17							
18		Bottom 20": Dark Brown SILT, some Sand, trace Brick, Gravel (FILL).					
19							
20							

Notes: Soil samples were not collected from this boring. Installed temporary soil vapor sampling points at a depth of 5, 10, 20, 30 and 40 feet below grade.

Groundwater not encountered during soil boring installation.

End of soil boring at 40 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

SOIL BORING LOG	975 Nostrand Avenue Brooklyn NY AKRF Project Number: 210225	Soil Boring ID: Sheet 2 of 2	PDI-SB-01/PDI-SV-01

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling
Start Time: 10:15 **Finish Time:** 11:30
Date: 7/25/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Asphalt	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
21 22 23 24 25	40	Top 10": Brown SILT, some Sand, trace Rock (FILL). Bottom 30": Light Brown SILT, little Sand (FILL).	ND	Dry	ND	ND	
26 27 28 29 30	30	All 30": Brown SAND, trace Silt (FILL).	ND	Dry	ND	ND	
31 32 33 34 35	40	Top 10": Brown SILT, some Sand, little Cobbles, trace Gravel (FILL). Next 10": Brown SAND, some Silt, trace Gravel, Brick (FILL). Bottom 20": Brown SILT, little Sand.	ND	Dry	ND	ND	
36 37 38 39 40	10	All 10": Brown SILT, some Sand, little Cobbles, trace Gravel, Rock.	ND	Dry	ND	ND	

Notes: Soil samples were not collected from this boring. Installed temporary soil vapor sampling points at a depth of 5, 10, 20, 30 and 40 feet below grade.
Groundwater not encountered during soil boring installation.
End of soil boring at 40 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

SOIL BORING LOG

975 Nostrand Avenue Brooklyn NY AKRF Project Number: 210225	Soil Boring ID: PDI-SB-02/PDI-SV-02 Sheet 1 of 2

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling

Start Time: 12:40 **Finish Time:** 13:50

Date: 7/25/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Asphalt	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
1 2 3 4 5	30	Top 10": ASPHALT and CONCRETE. Bottom 20": Brown SAND, some Silt, little Asphalt, Brick, trace Gravel (FILL).	ND	Dry	ND	ND	
6 7 8 9 10	30	All 30": Brown Sandy SILT, trace Gravel (FILL).	ND	Dry	ND	ND	
11 12 13 14 15	10	All 10": Brown SAND, some Silt, trace Concrete, Gravel (FILL).	ND	Dry	ND	ND	
16 17 18 19 20	30	All 30": Brown SAND, some Silt, little Gravel.	ND	Dry	ND	ND	

Notes: Soil samples were not collected from this boring. Installed temporary soil vapor sampling points at a depth of 5, 10, 20, 30 and 40 feet below grade.
Groundwater not encountered during soil boring installation.
End of soil boring at 40 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

SOIL BORING LOG	975 Nostrand Avenue Brooklyn NY AKRF Project Number: 210225	Soil Boring ID: Sheet 2 of 2	PDI-SB-02/PDI-SV-02

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling

Start Time: 12:40 **Finish Time:** 13:50

Date: 7/25/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Asphalt	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
21 22 23 24 25	40	Top 20": Brown SAND, some Silt, little Gravel. Bottom 20": Brown SAND, little Silt, trace Gravel.	ND	Dry	ND	ND	
26 27 28 29 30	20	Top 10": Brown SAND, some Silt, little Gravel. Bottom 10": Brown SAND, little Silt, trace Gravel.	ND	Dry	ND	ND	
31 32 33 34 35	30	Top 10": Brown SAND, some Silt, little Cobble, Gravel, trace Concrete, Brick (SLOUGH). Next 10": Brown SAND, some Silt, little Rock, trace Gravel. Bottom 10": Brown SAND, some Silt, little Gravel.	ND	Dry	ND	ND	
36 37 38 39 40	20	All 20": Brown SAND, some Silt, little Rock, Cobbles, trace Gravel.	ND	Dry	ND	ND	

Notes: Soil samples were not collected from this boring. Installed temporary soil vapor sampling points at a depth of 5, 10, 20, 30 and 40 feet below grade.
Groundwater not encountered during soil boring installation.
End of soil boring at 40 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

SOIL BORING LOG

975 Nostrand Avenue
Brooklyn NY
AKRF Project Number: 210225

Soil Boring ID: PDI-SB-03/PDI-SV-03
Sheet 1 of 2

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling
Start Time: 7:45 **Finish Time:** 9:00
Date: 7/26/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Asphalt	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
1 2 3 4 5	30	Top 5": ASPHALT. Next 5": CONCRETE. Bottom 20": Brown SAND, some Silt, little Gravel, trace Concrete, Asphalt, Brick (FILL).	ND	Dry	ND	ND	
6 7 8 9 10	30	All 30": Brown SAND, some Silt, little Gravel, trace Concrete, Asphalt, Brick (FILL).	ND	Dry	ND	ND	
11 12 13 14 15	30	All 30": Brown SAND, some Silt, little Cobble, Gravel, trace Rock, Brick (FILL).	ND	Dry	ND	ND	
16 17 18 19 20	40	Top 30": Brown SILT, little Sand. Bottom 10": Brown SILT, some Sand.	ND	Dry	ND	ND	

Notes: Soil samples were not collected from this boring. Installed temporary soil vapor sampling points at a depth of 5, 10, 20, 30 and 40 feet below grade.
Groundwater not encountered during soil boring installation.
End of soil boring at 40 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

SOIL BORING LOG	975 Nostrand Avenue Brooklyn NY AKRF Project Number: 210225	Soil Boring ID: Sheet 2 of 2	PDI-SB-03/PDI-SV-03

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling
Start Time: 7:45 **Finish Time:** 9:00
Date: 7/26/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Asphalt	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
21 22 23 24 25	40	Top 20": Brown SILT, some Sand. Bottom 20": Brown SILT, little Sand.	ND	Dry	ND	ND	
26 27 28 29 30	40	Top 30": Brown SILT, some Sand. Bottom 10": Brown SILT, some Sand, little Cobbles, trace Rock, Gravel.	ND	Dry	ND	ND	
31 32 33 34 35	40	Top 5": Brown SILT, little Gravel, trace Sand. Bottom 35": Brown SAND, little Gravel, Silt, trace Cobbles, Rock.	ND	Dry	ND	ND	
36 37 38 39 40	30	All 30": Brown SAND, little Gravel, Silt, trace Cobbles, Rock.	ND	Dry	ND	ND	

Notes: Soil samples were not collected from this boring. Installed temporary soil vapor sampling points at a depth of 5, 10, 20, 30 and 40 feet below grade.
Groundwater not encountered during soil boring installation.
End of soil boring at 40 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

SOIL BORING LOG

975 Nostrand Avenue Brooklyn NY AKRF Project Number: 210225	Soil Boring ID:	PDI-SB-04/PDI-SV-04
	Sheet 1 of 2	

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling

Start Time: 10:00 **Finish Time:** 11:15

Date: 7/26/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Asphalt	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
1 2 3 4 5	20	Top 10": ASPHALT and CONRETE. Bottom 10": Brown SAND, some Silt, little Gravel, trace Brick, Concrete (FILL).	ND	Dry	ND	ND	
6 7 8 9 10	20	All 20": Brown SAND, some Silt, little Gravel, trace Brick, Concrete (FILL).	ND	Dry	ND	ND	
11 12 13 14 15	30	Top 20": Brown SAND, some Silt, little Gravel, trace Brick, Concrete (FILL). Bottom 10": Brown Silty SAND, little Gravel, trace Asphalt (FILL).	ND	Dry	0.0 0.0 2.0 2.3 2.2	ND	
16 17 18 19 20	30	All 30": Brown SILT, little Sand.	ND	Dry	0.5 8.7 4.4 0.7 2.2	ND	PDI-SB-04_16_20220726

Notes: Soil samples were collected from this boring for analysis of CVOCs.
Groundwater not encountered during soil boring installation.
End of soil boring at 40 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

SOIL BORING LOG

975 Nostrand Avenue Brooklyn NY AKRF Project Number: 210225	Soil Boring ID:	PDI-SB-04/PDI-SV-04
	Sheet 2 of 2	

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling

Start Time: 10:00 **Finish Time:** 11:15

Date: 7/26/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Asphalt	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
21	40	Top 10": ROCK. Bottom 30": Brown SILT, little SAND.	ND	Dry	0.4 7.9 0.2 6.5 17.9 1.2	ND	PDI-SB-04_21_20220726 PDI-SB-04_24_20220726
26	10	All 10": Brown SAND, some Silt, little Rock, trace Cobble, Gravel.	ND	Dry	0.1 0.2 0.0 0.0 0.0	ND	PDI-SB-04_27_20220726
31	30	Top 10": Brown SILT, some Sand, trace Cobbles, Gravel. Bottom 20": Brown SAND, some Silt, little Rock, trace Cobble, Gravel.	ND	Dry	ND	ND	PDI-SB-04_30_20220726
36	30	All 30": Brown SAND, some Silt, little Rock, trace Cobble, Gravel.	ND	Dry	ND	ND	

Notes: Soil samples were collected from this boring for analysis of CVOCs.
Groundwater not encountered during soil boring installation.
End of soil boring at 40 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

SOIL BORING LOG	975 Nostrand Avenue Brooklyn NY AKRF Project Number: 210225	Soil Boring ID: Sheet 1 of 2	PDI-SB-05/PDI-SV-05

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling

Start Time: 12:00 **Finish Time:** 13:00

Date: 7/26/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Asphalt	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
1 2 3 4 5	30	Top 5": ASPHALT and CONRETE. Bottom 25": Brown SAND, some Silt, trace Gravel, Brick, Concrete (FILL).	ND	Dry	ND	ND	
6 7 8 9 10	30	All 30": Brown SILT, some Sand, little Brick, trace Gravel, Concrete (FILL).	ND	Dry	ND	ND	
11 12 13 14 15	30	All 30": Brown SILT, some Sand, little Asphalt, trace Concrete, Brick, Gravel (FILL).	ND	Dry	ND	ND	
16 17 18 19 20	40	All 40": Brown SILT, little Sand.	ND	Dry	5.3 26.6 15.2 8.3 5.7	ND	PDI-SB-05_16_20220726

Notes: Soil samples were collected from this boring for analysis of CVOCs.
Groundwater not encountered during soil boring installation.
End of soil boring at 40 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

SOIL BORING LOG	975 Nostrand Avenue Brooklyn NY AKRF Project Number: 210225	Soil Boring ID: Sheet 2 of 2	PDI-SB-05/PDI-SV-05

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling

Start Time: 12:00 **Finish Time:** 13:00

Date: 7/26/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Asphalt	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
21	40	Top 20": Brown SILT, little Sand. Bottom 20": Brown SAND, little Silt, trace Gravel.	ND	Dry	3.1 58.1 40.9 38.0 4.2 1.2	ND	PDI-SB-05_21_20220726
22							
23							
24							
25							
26	40	All 40": Brown SAND, some Silt, little Cobbles, Gravel, trace Rock.	ND	Dry	0.6 0.4 0.3 0.1 0.0	ND	PDI-SB-05_25_20220726
27							
28							
29							
30							
31	40	All 40": Brown SAND, some Silt, little Cobbles, Gravel, trace Rock.	ND	Dry	1.7 0.5 0.0 0.0	ND	
32							
33							
34							
35							
36	40	All 40": Brown SAND, some Silt, little Cobbles, Gravel, trace Rock.	ND	Dry	ND	ND	
37							
38							
39							
40							

Notes: Soil samples were collected from this boring for analysis of CVOCs.
Groundwater not encountered during soil boring installation.
End of soil boring at 40 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

SOIL BORING LOG

975 Nostrand Avenue Brooklyn NY AKRF Project Number: 210225	Soil Boring ID: PDI-SB-06/PDI-SV-06 Sheet 1 of 2

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling

Start Time: 8:30 **Finish Time:** 9:30

Date: 7/27/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Asphalt	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
1	30	Top 10": ASPHALT and CONRETE. Bottom 20": Brown SAND, some Silt, little Gravel, trace Brick, Concrete (FILL).	ND	Dry	ND	ND	
2							
3							
4							
5							
6	30	All 30": Brown SAND, some Silt, little Gravel, trace Brick, Concrete (FILL).	ND	Dry	ND	ND	
7							
8							
9							
10							
11	30	All 30": Brown SAND, some Silt, little Gravel, trace Brick, Concrete (FILL).	ND	Dry	ND	ND	
12							
13							
14							
15							
16	20	All 20": Brown SILT, trace Sand.	ND	Dry	ND	ND	
17							
18							
19							
20							

Notes: Soil samples were not collected from this boring. Installed temporary soil vapor sampling points at a depth of 5, 10, 20, 30 and 40 feet below grade.
Groundwater not encountered during soil boring installation.
End of soil boring at 40 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

SOIL BORING LOG	975 Nostrand Avenue Brooklyn NY AKRF Project Number: 210225	Soil Boring ID: Sheet 2 of 2	PDI-SB-06/PDI-SV-06

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling

Start Time: 8:30 **Finish Time:** 9:30

Date: 7/27/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Asphalt	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
21 22 23 24 25	10	Top 8": Brown SILT, little Sand. Bottom 2": ROCK.	ND	Dry	ND	ND	
26 27 28 29 30	30	All 30": Brown SILT, little Sand.	ND	Dry	ND	ND	
31 32 33 34 35	40	Top 20": Brown SILT, little Sand. Bottom 20": Brown SILT, some Sand, little Rock, Cobbles, Gravel.	ND	Dry	ND	ND	
36 37 38 39 40	40	Top 10": Brown SILT, little Sand. Bottom 30": Brown SILT, some Sand, little Rock, Cobbles, Gravel.	ND	Dry	ND	ND	

Notes: Soil samples were not collected from this boring. Installed temporary soil vapor sampling points at a depth of 5, 10, 20, 30 and 40 feet below grade.
Groundwater not encountered during soil boring installation.
End of soil boring at 40 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

SOIL BORING LOG	975 Nostrand Avenue Brooklyn NY AKRF Project Number: 210225	Soil Boring ID: Sheet 1 of 2	PDI-SB-07/PDI-SV-07

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling

Start Time: 11:00 **Finish Time:** 11:40

Date: 7/27/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Concrete	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
1 – 5		VOID					
6 – 10		VOID					
11 – 15	30	Top 10": CONCRETE. Bottom 20": Brown SAND, some Silt, trace Gravel, trace Brick, Concrete (FILL).	ND	Dry	ND	ND	
16 – 20	30	All 30": Brown SAND, some Silt, trace Gravel, trace Brick, Concrete (FILL).	ND	Dry	ND	ND	

Notes: Soil samples were not collected from this boring. Installed temporary soil vapor sampling points at a depth of 15, 20, 30, and 40 feet below grade.
Groundwater not encountered during soil boring installation.
End of soil boring at 40 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

SOIL BORING LOG	975 Nostrand Avenue Brooklyn NY AKRF Project Number: 210225	Soil Boring ID: Sheet 2 of 2	PDI-SB-07/PDI-SV-07

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling
Start Time: 11:00 **Finish Time:** 11:40
Date: 7/27/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Concrete	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
21 22 23 24 25	30	Top 25": Brown SAND, little Sand. Bottom 5": Brown SAND, some Silt, trace Gravel.	ND	Dry	ND	ND	
26 27 28 29 30	40	Top 5": Brown SAND, some Silt, trace Gravel. Bottom 35": Brown SILT, little Sand.	ND	Dry	ND	ND	
31 32 33 34 35	30	All 30": Brown SAND, some Silt, little Cobbles, trace Rock, Gravel.	ND	Dry	ND	ND	
36 37 38 39 40	40	All 40": Brown SAND, some Silt, little Cobbles, trace Rock, Gravel.	ND	Dry	ND	ND	

Notes: Soil samples were not collected from this boring. Installed temporary soil vapor sampling points at a depth of 15, 20, 30, and 40 feet below grade.
Groundwater not encountered during soil boring installation.
End of soil boring at 40 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

SOIL BORING LOG

975 Nostrand Avenue
Brooklyn NY
AKRF Project Number: 210225

Soil Boring ID: PDI-SB-08/PDI-SV-08

Sheet 1 of 2

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling

Start Time: 12:15 **Finish Time:** 13:30

Date: 7/27/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Concrete	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
1		VOID					
2							
3							
4							
5							
6		VOID					
7							
8							
9							
10							
11	30	Top 5": CONCRETE.	ND	Dry	ND	ND	
12							
13		Bottom 25": Brown SAND, some Silt, little Gravel, trace Cobble, Brick (FILL).					
14							
15							
16	30	Top 15": Brown SAND, some Silt, ,little Gravel, trace Cobble, Brick (FILL).	ND	Dry	ND	ND	
17							
18		Bottom 15": Brown SAND, some Silt, little Cobbles, trace Gravel.					
19							
20							

Notes: Soil samples were not collected from this boring. Installed temporary soil vapor sampling points at a depth of 15, 20, 30, and 40 feet below grade.
Groundwater not encountered during soil boring installation.
End of soil boring at 40 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

SOIL BORING LOG

975 Nostrand Avenue Brooklyn NY AKRF Project Number: 210225	Soil Boring ID: PDI-SB-08/PDI-SV-08 Sheet 2 of 2

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling
Start Time: 12:15 **Finish Time:** 13:30
Date: 7/27/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Concrete	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
21 22 23 24 25	40	Top 10": Brown SAND, some Silt, little Cobbles, trace Gravel. Bottom 30": Brown SILT, little Sand.	ND	Dry	ND	ND	
26 27 28 29 30	30	All 30": Brown SILT, some Sand.	ND	Dry	ND	ND	
31 32 33 34 35	40	All 40": Brown SAND, little Silt, trace Cobbles, Gravel.	ND	Dry	ND	ND	
36 37 38 39 40	15	Top 10": Brown SILT, some Sand. Bottom 5": ROCK.	ND	Dry	ND	ND	

Notes: Soil samples were not collected from this boring. Installed temporary soil vapor sampling points at a depth of 15, 20, 30, and 40 feet below grade.
Groundwater not encountered during soil boring installation.
End of soil boring at 40 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

SOIL BORING LOG

975 Nostrand Avenue
Brooklyn NY
AKRF Project Number: 210225

Soil Boring ID: **PDI-SB-OB**

Sheet 1 of 2

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling
Start Time: 7:45 **Finish Time:** 8:30
Date: 7/27/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Asphalt	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
1	30	Top 5": ASPHALT and CONRETE. Bottom 25": Brown SAND, some Silt, little Cobbles, Gravel, trace Brick, Concrete (FILL).	ND	Dry	ND	ND	
6	30	All 30": Brown SAND, some Silt, little Cobbles, Gravel, trace Brick, Concrete (FILL).	ND	Dry	ND	ND	
11	30	All 30": Brown SILT, some Sand, little Cobbles, trace Rock, Gravel.	ND	Dry	ND	ND	
16	30	Top 15": Brown SILT, some Sand, little Cobbles, trace Rock, Gravel. Bottom 15": Brown SILT, trace Sand.	ND	Dry	ND	ND	PDI-SB-OB_20_20220727

Notes: Soil samples were collected from this boring for analysis of CVOCs. No soil vapor points were installed.
Groundwater not encountered during soil boring installation.
End of soil boring at 30 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

SOIL BORING LOG

975 Nostrand Avenue
Brooklyn NY
AKRF Project Number: 210225

Soil Boring ID: **PDI-SB-OB**

Sheet 2 of 2

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Roto-Sonic Drill Rig
Sampling Method:	5' Plastic Bags
Driller:	Eastern Environmental
Weather:	75-95 °F, Sunny
Logged By:	E. Faneuff , AKRF

Drilling

Start Time: 7:45 **Finish Time:** 8:30

Date: 7/27/2022

Depth (feet)	Recovery (Inches)	Surface Condition: Asphalt	Odor	Moisture	PID	NAPL	Soil Samples Collected for Laboratory Analysis
21 – 25	40	All 40": Brown SILT, trace Sand.	ND	Dry	ND	ND	
26 – 30	40	Top 10": Brown SILT, trace Sand. Bottom 30": Brown SAND, little Silt.	ND	Dry	ND	ND	
31 – 35							
36 – 40							

Notes: Soil samples were collected from this boring for analysis of CVOCs. No soil vapor points were installed.
Groundwater not encountered during soil boring installation.
End of soil boring at 30 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/25/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	480	Inches	**Total Time of Purge:**	10 minutes	
Purging Pump:	Gilair Plus				
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**	7.7	ppm
			Helium Concentration:	0	%

Sample Identification

Soil Vapor Point ID:	SV-01_40	**SUMMA® Canister ID:**	4659
Flow Controller ID:	5953	**Soil Vapor Sample ID:**	PDI-SV-01_40_20220725

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	12:30	-30	0.0	
Time Halfway:	12:35	-20	0.0	
Time Stopped:	12:40	-8	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-01_40_20220725 collected in a 1-L SUMMA® canister using a 10-minute flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/25/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	360	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		2.7	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-01_30	**SUMMA® Canister ID:**	6449
Flow Controller ID:	6529	**Soil Vapor Sample ID:**	PDI-SV-01_30_20220725

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	12:57	-24	0.0	
Time Halfway:	13:02	-15	0.0	
Time Stopped:	13:04	-6	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-01_30_20220725 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/25/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	240	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		1.1	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-01_20	**SUMMA® Canister ID:**	34001940
Flow Controller ID:	6289	**Soil Vapor Sample ID:**	PDI-SV-01_20_20220725

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	12:42	-28	0.0	
Time Halfway:	12:46	-15	0.0	
Time Stopped:	12:51	-6	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-01_20_20220725 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/25/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	120	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		1.0	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-01_10	**SUMMA® Canister ID:**	6433
Flow Controller ID:	5242	**Soil Vapor Sample ID:**	PDI-SV-01_10_20220725

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	12:48	-24	0.0	
Time Halfway:	12:52	-12	0.0	
Time Stopped:	12:55	-4	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-01_10_20220725 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/25/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	60	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		1.2	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-01_5	**SUMMA® Canister ID:**	6382
Flow Controller ID:	6078	**Soil Vapor Sample ID:**	PDI-SV-01_5_20220725

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	12:52	-30	0.0	
Time Halfway:	12:57	-15	0.0	
Time Stopped:	13:02	-7	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-01_5_20220725 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/25/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	480	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		3.5	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-02_40	**SUMMA® Canister ID:**	6282
Flow Controller ID:	6093	**Soil Vapor Sample ID:**	PDI-SV-02_40_20220725

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	14:25	-28	0.0	
Time Halfway:	14:30	-21	0.0	
Time Stopped:	14:35	-10	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-02_40_20220725 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/25/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	360	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		1.2	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-02_30	**SUMMA® Canister ID:**	5877
Flow Controller ID:	4757	**Soil Vapor Sample ID:**	PDI-SV-02_30_20220725

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	14:30	-30	0.0	
Time Halfway:	14:35	-20	0.0	
Time Stopped:	14:40	-8	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-02_30_20220725 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/25/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	240	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		0.7	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-02_20	**SUMMA® Canister ID:**	34001188
Flow Controller ID:	8492	**Soil Vapor Sample ID:**	PDI-SV-02_20_20220725

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	14:35	-24	0.0	
Time Halfway:	14:40	-15	0.0	
Time Stopped:	14:43	-3	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-02_20_20220725 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/25/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	120	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		0.7	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-02_10	**SUMMA® Canister ID:**	4862
Flow Controller ID:	5157	**Soil Vapor Sample ID:**	PDI-SV-02_10_20220725

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	14:40	-30	0.0	
Time Halfway:	14:45	-20	0.0	
Time Stopped:	14:48	-4	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-02_10_20220725 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/25/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	60	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		0.4	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-02_5	**SUMMA® Canister ID:**	8956
Flow Controller ID:	2939	**Soil Vapor Sample ID:**	PDI-SV-02_5_20220725

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	14:44	-27	0.0	
Time Halfway:	14:50	-12	0.0	
Time Stopped:	14:32	-4	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-02_5_20220725 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/26/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	480	Inches	**Total Time of Purge:**	10 minutes	
Purging Pump:	Gilair Plus				
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**	1.6	ppm
			Helium Concentration:	0	%

Sample Identification

Soil Vapor Point ID:	SV-03_40	**SUMMA® Canister ID:**	4963
Flow Controller ID:	7518	**Soil Vapor Sample ID:**	PDI-SV-03_40_20220726

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	10:25	-28	0.0	
Time Halfway:	10:30	-18	0.0	
Time Stopped:	10:35	-6	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-03_40_20220726 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/26/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	360	Inches	**Total Time of Purge:**	10 minutes	
Purging Pump:	Gilair Plus				
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**	1.5	ppm
			Helium Concentration:	0	%

Sample Identification

Soil Vapor Point ID:	SV-03_30	**SUMMA® Canister ID:**	34002431
Flow Controller ID:	5239	**Soil Vapor Sample ID:**	PDI-SV-03_30_20220726

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	10:05	-30	0.0	
Time Halfway:	10:10	-14	0.0	
Time Stopped:	10:13	-4	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-03_30_20220726 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/26/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	240	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		1.5	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-03_20	**SUMMA® Canister ID:**	5926
Flow Controller ID:	6338	**Soil Vapor Sample ID:**	PDI-SV-03_20_20220726

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	10:10	-24	0.0	
Time Halfway:	10:14	-15	0.0	
Time Stopped:	10:19	-4	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-03_20_20220726 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/26/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	120	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		1.6	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-03_10	**SUMMA® Canister ID:**	6412
Flow Controller ID:	5596	**Soil Vapor Sample ID:**	PDI-SV-03_10_20220726

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	10:15	-30	0.0	
Time Halfway:	10:20	-20	0.0	
Time Stopped:	10:25	-10	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-03_10_20220726 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/26/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	60	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		1.5	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-03_5	**SUMMA® Canister ID:**	34001228
Flow Controller ID:	5957	**Soil Vapor Sample ID:**	PDI-SV-03_5_20220726

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	10:20	-24	0.0	
Time Halfway:	10:27	-4	0.0	
Time Stopped:	10:27	-4	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-03_5_20220726 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/26/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	480	Inches	**Total Time of Purge:**	10 minutes	
Purging Pump:	Gilair Plus				
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**	2.9	ppm
			Helium Concentration:	0	%

Sample Identification

Soil Vapor Point ID:	SV-04_40	**SUMMA® Canister ID:**	7565
Flow Controller ID:	5821	**Soil Vapor Sample ID:**	PDI-SV-04_40_20220726

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	12:05	-25	0.0	
Time Halfway:	12:10	-12	0.0	
Time Stopped:	12:14	-4	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-04_40_20220726 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/26/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	360	Inches	**Total Time of Purge:**	10 minutes	
Purging Pump:	Gilair Plus				
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**	2.2	ppm
			Helium Concentration:	0	%

Sample Identification

Soil Vapor Point ID:	SV-04_30	**SUMMA® Canister ID:**	6324
Flow Controller ID:	5599	**Soil Vapor Sample ID:**	PDI-SV-04_30_20220726

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	12:11	-30	0.0	
Time Halfway:	12:15	-18	0.0	
Time Stopped:	12:21	-5	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-04_30_20220726 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/26/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	240	Inches	**Total Time of Purge:**	10 minutes	
Purging Pump:	Gilair Plus				
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**	1.6	ppm
			Helium Concentration:	0	%

Sample Identification

Soil Vapor Point ID:	SV-04_20	**SUMMA® Canister ID:**	4388
Flow Controller ID:	6504	**Soil Vapor Sample ID:**	PDI-SV-04_20_20220726

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	12:16	-24	0.0	
Time Halfway:	12:21	-12	0.0	
Time Stopped:	12:24	-3	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-04_20_20220726 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/26/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	120	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		0.7	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-04_10	**SUMMA® Canister ID:**	4643
Flow Controller ID:	6033	**Soil Vapor Sample ID:**	PDI-SV-04_10_20220726

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	12:21	-26	0.0	
Time Halfway:	12:26	-15	0.0	
Time Stopped:	12:30	-4	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-04_10_20220726 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/26/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	60	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		1.3	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-04_5	**SUMMA® Canister ID:**	6436
Flow Controller ID:	4336	**Soil Vapor Sample ID:**	PDI-SV-04_5_20220726

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	12:29	-30	0.0	
Time Halfway:	12:35	-12	0.0	
Time Stopped:	12:38	-4	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-04_5_20220726 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/26/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	480	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		3.8	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-05_40	**SUMMA® Canister ID:**	6491
Flow Controller ID:	4189	**Soil Vapor Sample ID:**	PDI-SV-05_40_20220726

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	13:43	-26	0.0	
Time Halfway:	13:47	-10	0.0	
Time Stopped:	13:51	-2	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-05_40_20220726 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/26/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	360	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		1.2	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-05_30	**SUMMA® Canister ID:**	6447
Flow Controller ID:	6399	**Soil Vapor Sample ID:**	PDI-SV-05_30_20220726

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	13:45	-24	0.0	
Time Halfway:	13:49	-10	0.0	
Time Stopped:	13:53	-3	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-05_30_20220726 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225		**Point Installed By:**	Eastern Environmental	
Project Location:	975 Nostrand Ave		**Installation Method:**	rotosonic drill rig	
Client:	Nostrand Green LLC		**Sampled By:**	Esme Faneuff	
Date:	7/26/2022		**Weather:**	75-95 °F, Sunny	
Sample Setup					
Vapor Point Depth:	240	Inches	**Total Time of Purge:**	10 minutes	
Purging Pump:	Gilair Plus				
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**	3.6	ppm
			Helium Concentration:	0	%
Sample Identification					
Soil Vapor Point ID:	SV-05_20		**SUMMA® Canister ID:**	5942	
Flow Controller ID:	2529		**Soil Vapor Sample ID:**	PDI-SV-05_20_20220726	

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	13:51	-30	0.0	
Time Halfway:	13:55	-18	0.0	
Time Stopped:	14:00	-2	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-05_20_20220726 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/26/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	120	Inches	**Total Time of Purge:**	10 minutes	
Purging Pump:	Gilair Plus				
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**	3.2	ppm
			Helium Concentration:	0	%

Sample Identification

Soil Vapor Point ID:	SV-05_10	**SUMMA® Canister ID:**	6407
Flow Controller ID:	5886	**Soil Vapor Sample ID:**	PDI-SV-05_10_20220726

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	13:59	-24	0.0	
Time Halfway:	14:05	-20	0.0	
Time Stopped:	14:09	-3	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-05_10_20220726 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/26/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	60	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		15.5	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-05_5	**SUMMA® Canister ID:**	5935
Flow Controller ID:	7309	**Soil Vapor Sample ID:**	PDI-SV-05_5_20220726

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	14:07	-25	0.0	
Time Halfway:	14:12	-18	0.0	
Time Stopped:	14:15	-2	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-05_5_20220726 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/27/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	480	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		2.1	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-06_40	**SUMMA® Canister ID:**	5855
Flow Controller ID:	6318	**Soil Vapor Sample ID:**	PDI-SV-06_40_20220727

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	10:12	-30	0.0	
Time Halfway:	10:17	-15	0.0	
Time Stopped:	10:22	-5	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-06_40_20220727 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/27/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	360	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		1.6	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-06_30	**SUMMA® Canister ID:**	34002416
Flow Controller ID:	6524	**Soil Vapor Sample ID:**	PDI-SV-06_30_20220727

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	10:15	-25	0.0	
Time Halfway:	10:19	-15	0.0	
Time Stopped:	10:25	-5	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-06_30_20220727 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/27/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	240	Inches	**Total Time of Purge:**	10 minutes	
Purging Pump:	Gilair Plus				
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**	1.4	ppm
			Helium Concentration:	0	%

Sample Identification

Soil Vapor Point ID:	SV-06_20	**SUMMA® Canister ID:**	4651
Flow Controller ID:	5168	**Soil Vapor Sample ID:**	PDI-SV-06_20_20220727

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	10:18	-28	0.0	
Time Halfway:	10:22	-18	0.0	
Time Stopped:	10:28	-4	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-06_20_20220727 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/27/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	120	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		1.3	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-06_10	**SUMMA® Canister ID:**	6354
Flow Controller ID:	3932	**Soil Vapor Sample ID:**	PDI-SV-06_10_20220727

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	10:26	-24	0.0	
Time Halfway:	10:30	-10	0.0	
Time Stopped:	10:34	0	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-06_10_20220727 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/27/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	60	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		1.4	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-06_5	**SUMMA® Canister ID:**	6390
Flow Controller ID:	9125	**Soil Vapor Sample ID:**	PDI-SV-06_5_20220727

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	10:31	-24	0.0	
Time Halfway:	10:34	-15	0.0	
Time Stopped:	10:39	-1	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-06_5_20220727 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/27/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	480	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		8.4	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-07_40	**SUMMA® Canister ID:**	6440
Flow Controller ID:	4522	**Soil Vapor Sample ID:**	PDI-SV-07_40_20220727

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	12:09	-30	0.0	
Time Halfway:	12:14	-16	0.0	
Time Stopped:	12:19	-3	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-07_40_20220727 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225		**Point Installed By:**	Eastern Environmental	
Project Location:	975 Nostrand Ave		**Installation Method:**	rotosonic drill rig	
Client:	Nostrand Green LLC		**Sampled By:**	Esme Faneuff	
Date:	7/27/2022		**Weather:**	75-95 °F, Sunny	
Sample Setup					
Vapor Point Depth:	360	Inches	**Total Time of Purge:**	10 minutes	
Purging Pump:	Gilair Plus				
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**	1.5	ppm
			Helium Concentration:	0	%
Sample Identification					
Soil Vapor Point ID:	SV-07_30		**SUMMA® Canister ID:**	34002005	
Flow Controller ID:	6058		**Soil Vapor Sample ID:**	PDI-SV-07_30_20220727	

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	12:11	-22	0.0	
Time Halfway:	12:16	-8	0.0	
Time Stopped:	12:20	0	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-07_30_20220727 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/27/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	240	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		1.3	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-07_20	**SUMMA® Canister ID:**	5842
Flow Controller ID:	6513	**Soil Vapor Sample ID:**	PDI-SV-07_20_20220727

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	12:14	-24	0.0	
Time Halfway:	12:20	-7	0.0	
Time Stopped:	12:23	0	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-07_20_20220727 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/27/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	180	Inches	**Total Time of Purge:**	10 minutes	
Purging Pump:	Gilair Plus				
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**	1.1	ppm
			Helium Concentration:	0	%

Sample Identification

Soil Vapor Point ID:	SV-07_15	**SUMMA® Canister ID:**	4652
Flow Controller ID:	6512	**Soil Vapor Sample ID:**	PDI-SV-07_15_20220727

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	12:23	-23	0.0	
Time Halfway:	12:27	-9	0.0	
Time Stopped:	12:31	-1	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-07_15_20220727 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/27/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	480	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		1.6	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-08_40	**SUMMA® Canister ID:**	34000764
Flow Controller ID:	6510	**Soil Vapor Sample ID:**	PDI-SV-08_40_20220727

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	14:00	-30	0.0	
Time Halfway:	14:05	-13	0.0	
Time Stopped:	14:10	-5	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-08_40_20220727 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/27/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	360	Inches	**Total Time of Purge:**	10 minutes		
Purging Pump:	Gilair Plus					
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**		0.7	ppm
			Helium Concentration:		0	%

Sample Identification

Soil Vapor Point ID:	SV-08_30	**SUMMA® Canister ID:**	5910
Flow Controller ID:	6092	**Soil Vapor Sample ID:**	PDI-SV-08_30_20220727

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	14:02	-24	0.0	
Time Halfway:	14:07	-10	0.0	
Time Stopped:	14:11	0	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-08_30_20220727 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/27/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	240	Inches	**Total Time of Purge:**	10 minutes	
Purging Pump:	Gilair Plus				
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**	1.1	ppm
			Helium Concentration:	0	%

Sample Identification

Soil Vapor Point ID:	SV-08_20	**SUMMA® Canister ID:**	34001023
Flow Controller ID:	6506	**Soil Vapor Sample ID:**	PDI-SV-08_20_20220727

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	14:08	-26	0.0	
Time Halfway:	14:13	-8	0.0	
Time Stopped:	14:17	-1	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

Soil vapor sample PDI-SV-08_20_20220727 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

Soil Vapor Sample Log

AKRF Project No:	210225	**Point Installed By:**	Eastern Environmental
Project Location:	975 Nostrand Ave	**Installation Method:**	rotosonic drill rig
Client:	Nostrand Green LLC	**Sampled By:**	Esme Faneuff
Date:	7/27/2022	**Weather:**	75-95 °F, Sunny

Sample Setup

Vapor Point Depth:	180	Inches	**Total Time of Purge:**	10 minutes	
Purging Pump:	Gilair Plus				
Pump Flow Rate*:	0.2	L/min	**Purged Vapor PID:**	0.7	ppm
			Helium Concentration:	0	%

Sample Identification

Soil Vapor Point ID:	SV-08_15	**SUMMA® Canister ID:**	34000655
Flow Controller ID:	8580	**Soil Vapor Sample ID:**	PDI-SV-08_15_20220727

Sample Collection

Time		Vacuum (in/Hg)	Background PID	Notes
Time Started:	14:13	-30	0.0	
Time Halfway:	14:18	-26	0.0	
Time Stopped:	14:23	-15	0.0	

Notes:

*Purge flow rate not to exceed 0.2 L/min.

ND = non-detect ppm = parts per million L/min = Liters per minute

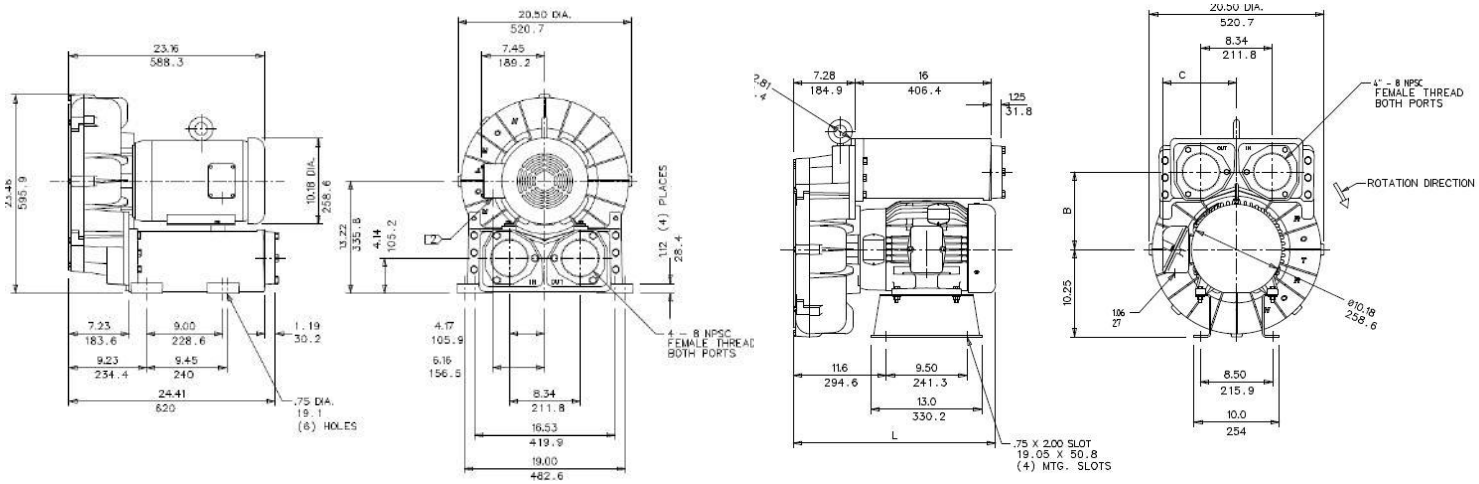
Soil vapor sample PDI-SV-08_15_20220727 collected in a 1-L SUMMA® canister using a 10-hour flow controller.

APPENDIX C
SVE SYSTEM BLOWER AND CARBON CUT SHEETS AND CARBON TREATMENT SYSTEM SIZING CALCULATIONS

DR 909 & CP 909

ROTRON®

10.0 / 15.0 HP Regenerative Blower



IN
MM

NOTES
1 TERMINAL BOX CONNECTOR HOLE 1.25 (31.8) DIA.
2 DRAWING NOT TO SCALE, CONTACT FACTORY FOR SCALE CAD DRAWING.
3 CONTACT FACTORY FOR BLOWER MODEL LENGTHS NOT SHOWN.

MODEL	L(IN/MM)	B(IN/MM)	C(IN/MM)
DR909BE72W	23.57/598.7	8.75/222.3	8.56/217.4
DR909BB72W	23.38/593.8	9.0/228.6	7.69/195.3

		Part/ Model Number					
		DR909BE72W	DR909BE86W	DR909BB72W	DR909BB86W	CP909FJ72WLR	HiE909BE72W
Specification	Units	081737	081739	081738	081744	038632	081735
Motor Enclosure - Shaft Mtl.	-	TEFC-CS	TEFC-CS	TEFC-CS	TEFC-CS	CHEM TEFC-SS	TEFC-CS
Horsepower	-	15	15	10	10	15	10
Voltage	AC	208-230/460	575	230/460	575	208-230/460	208-230/460
Phase - Frequency	-	Three-60 hz	Three-60 hz	Three - 60 Hz	Three-60 hz	Three-60 hz	Three-60 hz
Insulation Class	-	F	F	F	F	F	F
NEMA Rated Motor Amps	Amps (A)	41.5-37.6/18.8	14.6	26/13	10.5	41.5-37.6/18.8	41.5-37.6/18.8
Service Factor	-	1.15	1.15	1.15	1.15	1.15	1.15
Max. Blower Amps	Amps (A)	42/21	17	34/17	13.0	42/21	42/21
Locked Rotor Amps	Amps (A)	318/159	164	162/81	65	318/159	318/159
NEMA Starter Size	-	2/2	2	2/1	1	2/2	2/2
Shipping Weight	Lbs	400	400	400	400	400	400
	Kg	181.4	181.4	181.4	181.4	181.4	181.4
Model (Base Mount)		DR909BE72X	DR909BE86X	DR909BB72X	DR909BB86X		
Part Number (Base Mount)		038622	038626	038623	080183		

Voltage - ROTRON motors are designed to handle a broad range of world voltages and power supply variations. Our dual voltage 3 phase motors are factory tested and certified to operate on both: **208-230/415-460 VAC-3 ph-60 Hz** and **190-208/380-415 VAC-3 ph-50 Hz**. Our dual voltage 1 phase motors are factory tested and certified to operate on both: **104-115/208-230 VAC-1 ph-60 Hz** and **100-110/200-220 VAC-1 ph-50 Hz**. All voltages above can handle a ±10% voltage fluctuation. Special wound motors can be ordered for voltages outside our certified range.

Operating Temperatures - Maximum operating temperature: Motor winding temperature (winding rise plus ambient) should not exceed 140°C for Class F rated motors or 120°C for Class B rated motors. Blower outlet air temperature should not exceed 140°C (air temperature rise plus inlet temperature). Performance curve maximum pressure and suction points are based on a 40°C inlet and ambient temperature. Consult factory for inlet or ambient temperatures above 40°C.

Maximum Blower Amps - Corresponds to the performance point at which the motor or blower temperature rise with a 40°C inlet and/or ambient temperature reaches the maximum operating temperature.

AMETEK DYNAMIC FLUID SOLUTIONS
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www.ametekdfs.com

AMETEK®
PRECISION MOTION CONTROL
DYNAMIC FLUID SOLUTIONS

Industrial / Chemical Processing Blowers

DR 909 & CP 909

ROTRON®

10.0 / 15.0 HP Regenerative Blower

FEATURES

- Manufactured in the USA - ISO 9001 and NAFTA compliant
- CE compliant - Declaration of Conformity on file
- Maximum flow: 600 SCFM
- Maximum pressure: 137 IWG
- Maximum vacuum: 106 IWG
- Standard motor: 15 HP, TEFC
- Cast aluminum blower housing, impeller & cover; cast iron flanges (threaded)
- UL & CSA approved motor with permanently sealed ball bearings
- Inlet & outlet internal muffling
- Quiet operation within OSHA standards when properly piped and muffled

MOTOR OPTIONS

- International voltage & frequency (Hz)
- Chemical duty, high efficiency, inverter duty or industry-specific designs
- Various horsepowers for application-specific needs

BLOWER OPTIONS

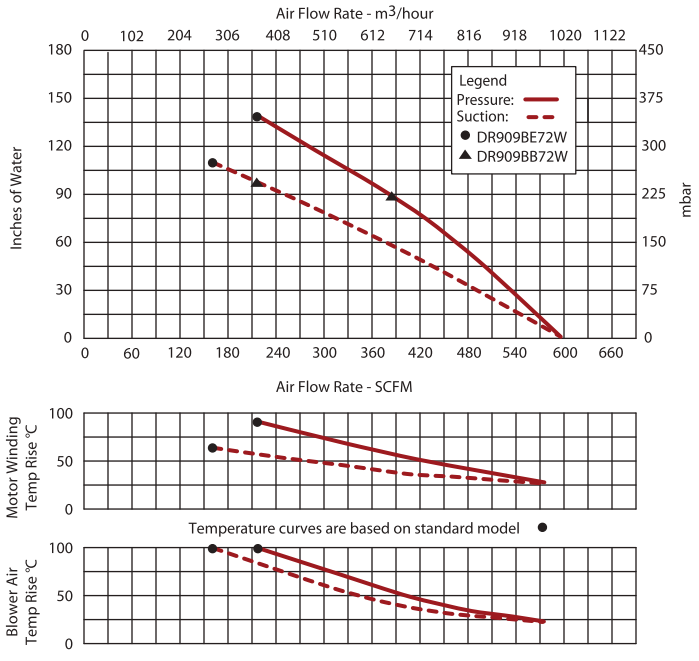
- Corrosion resistant surface treatments & sealing options
- Remote drive (motorless) models
- Slip-on or face flanges for application-specific needs

ACCESSORIES

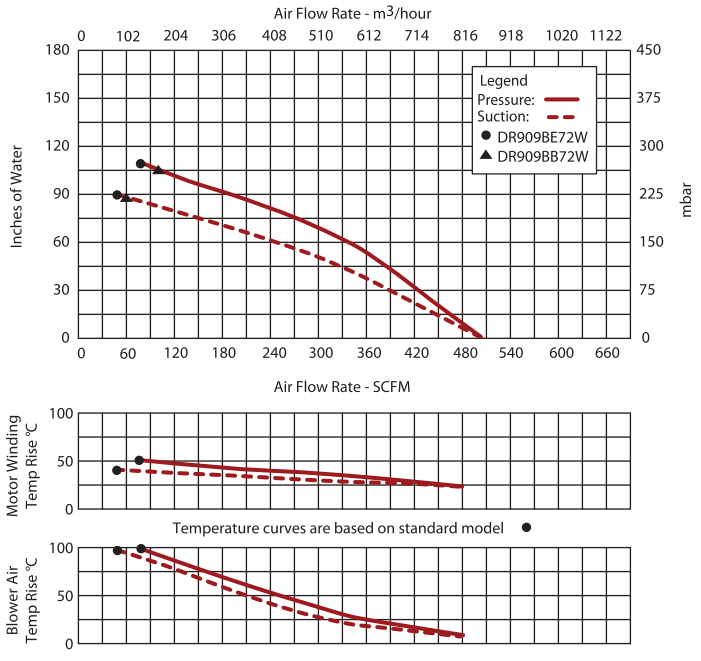
- Flowmeters reading in SCFM
- Filters & moisture separators
- Pressure gauges, vacuum gauges, & relief valves
- Switches - air flow, pressure, vacuum, or temperature
- External mufflers for additional silencing
- Air knives (used on blow-off applications)
- Variable frequency drive package

Blower Performance at Standard Conditions

60 Hz



50 Hz



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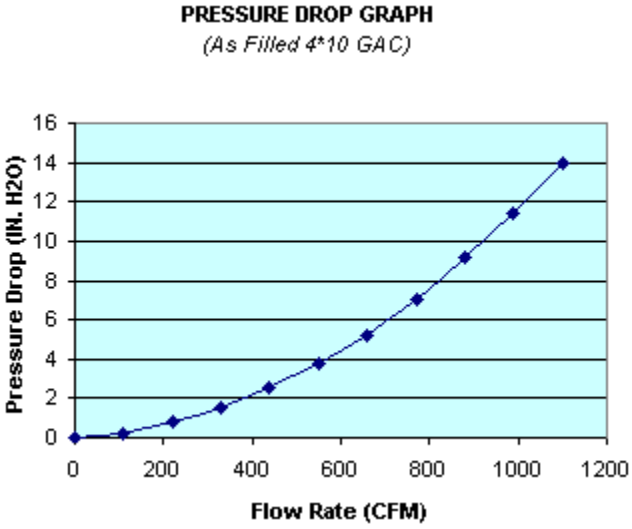
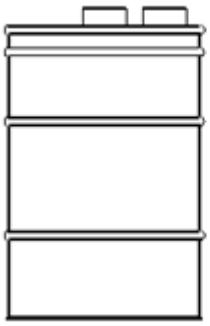
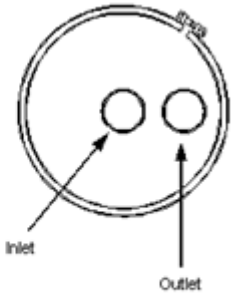
AMETEK®
PRECISION MOTION CONTROL
DYNAMIC FLUID SOLUTIONS

VR-400
High Flow Radial Design Vapor Phase Filter



N2 - Outlet Nozzle





Tetrasolv Notes (04-23-2018):
Along with the entire carbon handling procedure, The only thing different with the VR is:
Vacuum out through N2 (offset nozzle on lid).
When the majority of the carbon is removed, remove the top lid.
Finish vacuuming of the remainder of the carbon.
Install lid and fill carbon through N2.
It will be necessary to push the carbon around through N2 with hand or small tool to entirely fill the vessel.

VR-400 SPECIFICATIONS			
Overall Height	3'11"	Vessel/Internal Piping Materials	CS/ SCH 40 PVC
Diameter	30"	Internal Coating	Polyamide Epoxy Resin
Inlet / Outlet (FNPT)	6"	External Coating	Urethane Enamel
Drain / Vent (FNPT)	OPT	Maximum Pressure / Temp	2 PSIG / 150° F
GAC Fill (lbs)	400	Cross Sectional Bed Area	8.8 FT^2
Shipping / Operational Weight (lbs)	500/575	Bed Depth/Volume	11.7 IN / 14.25 FT^3

975 Nostrand Avenue
Brooklyn, NY
Engineering Controls Design Document
Granulated Activated Carbon Sizing Calculations

PCE Mass Loading Calculation			
Representative Influent Concentration	**14,000**	ug/m^3	Mean PDI PCE concentration for SVE treatment area.
Total air flow rate	**300**	cfm	75 cfm per SVE well, 4 total wells.
CF 1 (cubic feet to cubic meter)	0.027826	m^3/ft^3	
CF 2 (micrograms to grams)	0.000001	g/ug	
CF 3 (grams to kilograms)	0.001	kg/g	
CF 4 (kilograms to pounds)	2.2	lbs/kg	
CF 5 (minutes to hours)	60	min/hr	
CF 6 (hours to days)	24	hrs/day	
CF 7 (days to years)	365	days/yr	
CF 8 (years to months)	1/12	yr/months	
Contaminant Mass Recovery (monthly)	**11**	**lbs/month**	Conservative mass recovery estimate during first month of operation. Mass recovery expected to decrease significantly following start-up.
Carbon Loading - PCE	10%	percent	Conservative loading factor (lbs. contaminant/lbs. GAC).
Carbon Usage per month	**113**	**lbs/month**	Carbon changeout frequency expected to be higher during first month of operation (approximately two changeouts in first month).
Actual carbon vessel sizing	**800**	**lbs (total for two vessel in series)**	Contaminant concentrations expected to decrease drastically after SVE startup. Due to these assumptions, and SVE equipment room space limitations, GAC treatment design shall comprise two (2) 400 lbs. GAC vessels in series (with expectation for approximately two carbon changeouts within the first month of operation), and changed out as necessary until contaminant concentrations in extracted vapor reach a steady state. Carbon breakthrough will be assessed by using laboratory analysis of vapor samples, and a PID to confirm vessel effluent concentrations.

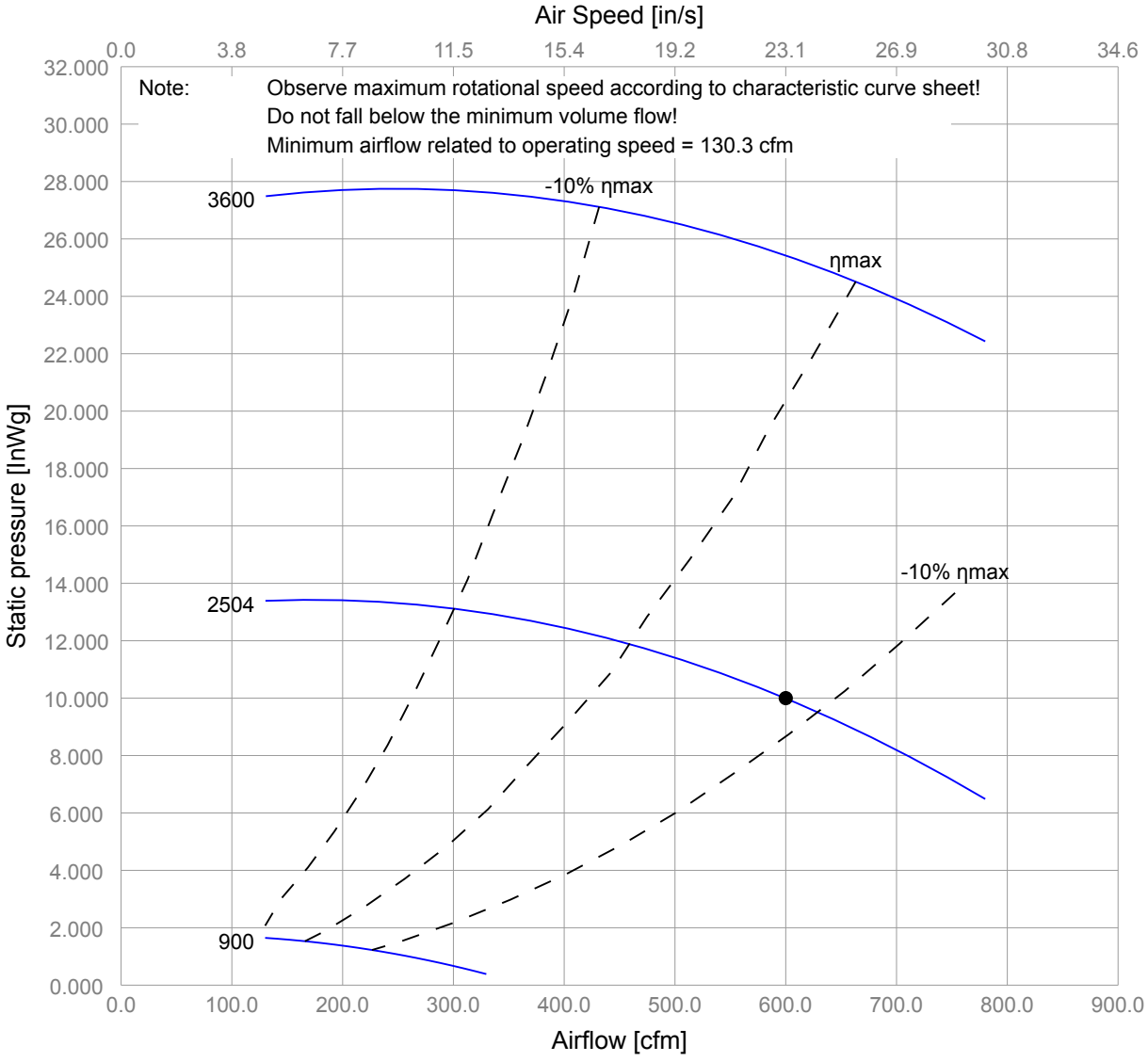
APPENDIX D
SSDS BLOWER CUT SHEETS

Industrial Plastic Fan
339 North Main Street • MA 01949 Middleton
Phone 1.800.891.3656 • Fax 781 938 0064
www.ipfcolasit.com • adamc@ipfcolasit.com

Characteristic curve CHVS 125

Configuration data

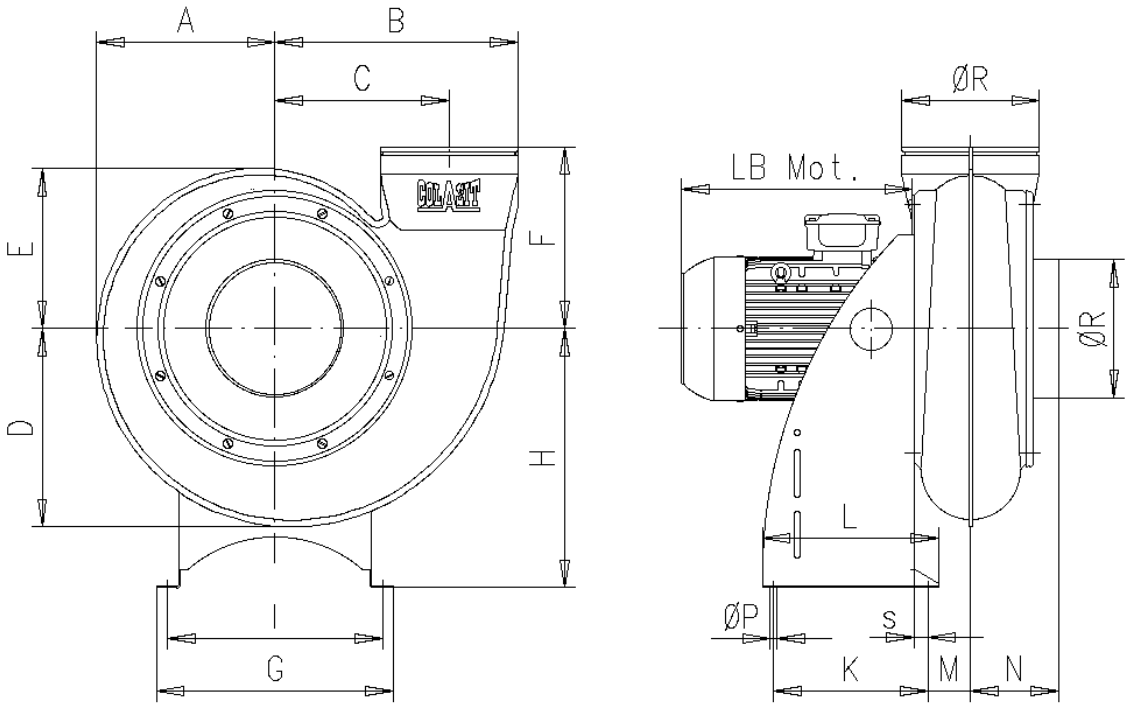
Airflow	600.0	cfm
Static pressure	10.000	InWg
Operating temp.	68	°F
Density	0.0000433	lb/in³
Medium	non defined	
Drive type	All drive types	



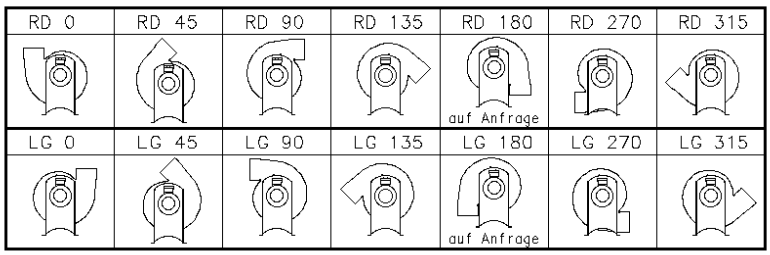
Operating data

Stage 1

Airflow	600.0	cfm
Static pressure	10.000	InWg
Dynamic pressure	1.281	InWg
Total pressure	11.281	InWg
Flow velocity	908.5	in/s
Mechanical efficiency	65.7	%
Sound pressure at 3 m	71	dB(A)
Operating impeller speed	2,504	rpm
Max.rpm at 68 °F	3,600	rpm
Shaft power	1.439	hp

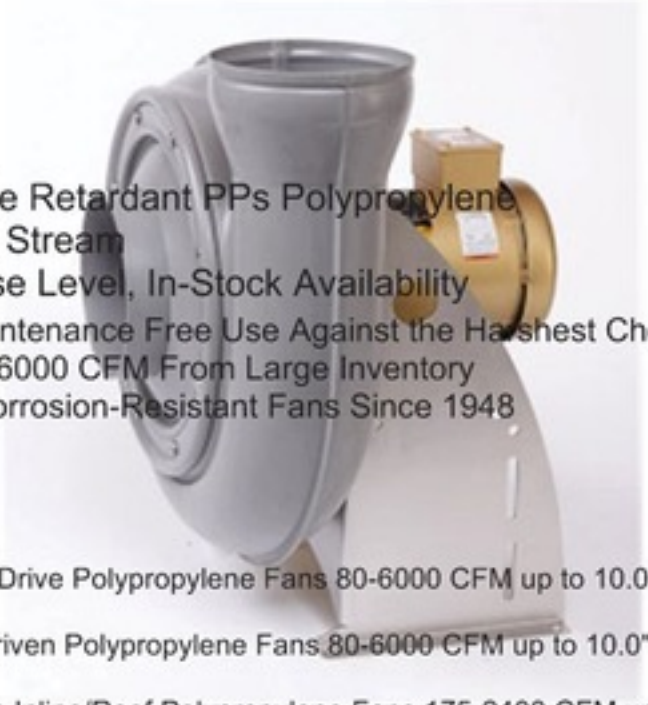


CDD	125	160	200	250	315	400
A	7.40	8.90	10.83	13.23	16.34	17.80
B	8.94	11.26	13.98	17.36	21.81	25.24
C	6.46	8.11	10.04	12.44	15.59	17.36
D	8.11	9.92	12.20	14.96	18.54	20.75
E	6.69	7.87	9.49	11.54	14.13	14.88
F	7.87	8.86	10.83	12.99	15.75	16.73
G	10.63	11.42	14.96	16.93	18.90	22.83
H	9.84	12.20	14.96	18.50	22.83	26.38
I	9.45	10.24	13.78	15.35	17.32	21.26
K	8.66	8.66	10.24	10.83	12.80	14.17
L	9.84	9.84	11.42	12.40	14.37	15.75
M	1.38	1.85	2.52	3.07	4.02	5.24
N	4.33	4.72	5.51	6.30	7.48	8.66
Ø P	0.39	0.39	0.39	0.39	0.39	0.39
Ø R	4.92	6.30	7.87	9.84	12.40	15.75
s	0.59	0.59	0.59	0.79	0.79	0.79



IPF colasit

Corrosion Resistant Polypropylene Fans



- PVC, PVDF and Fire Retardant PPs Polypropylene
- No Metal In The Air Stream
- ISO 9001, Low Noise Level, In-Stock Availability
- Provides Years of Maintenance Free Use Against the Harshest Chemicals
- Quick Shipping Up to 6000 CFM From Large Inventory
- Industry Leaders in Corrosion-Resistant Fans Since 1948

CDD 125eco-400eco Direct-Drive Polypropylene Fans 80-6000 CFM up to 10.0" SP

CMV 125eco-400eco Belt-Driven Polypropylene Fans 80-6000 CFM up to 10.0" SP

CRDV 180-315 Direct-Driven Inline/Roof Polypropylene Fans 175-2400 CFM up to 5.0" SP

Custom Polypropylene, PVC and PVDF Fans Available 6000-100,000 CFM up to 40.0" SP

Custom FRP Fans Available 100-100,000 CFM up to 40.0" SP

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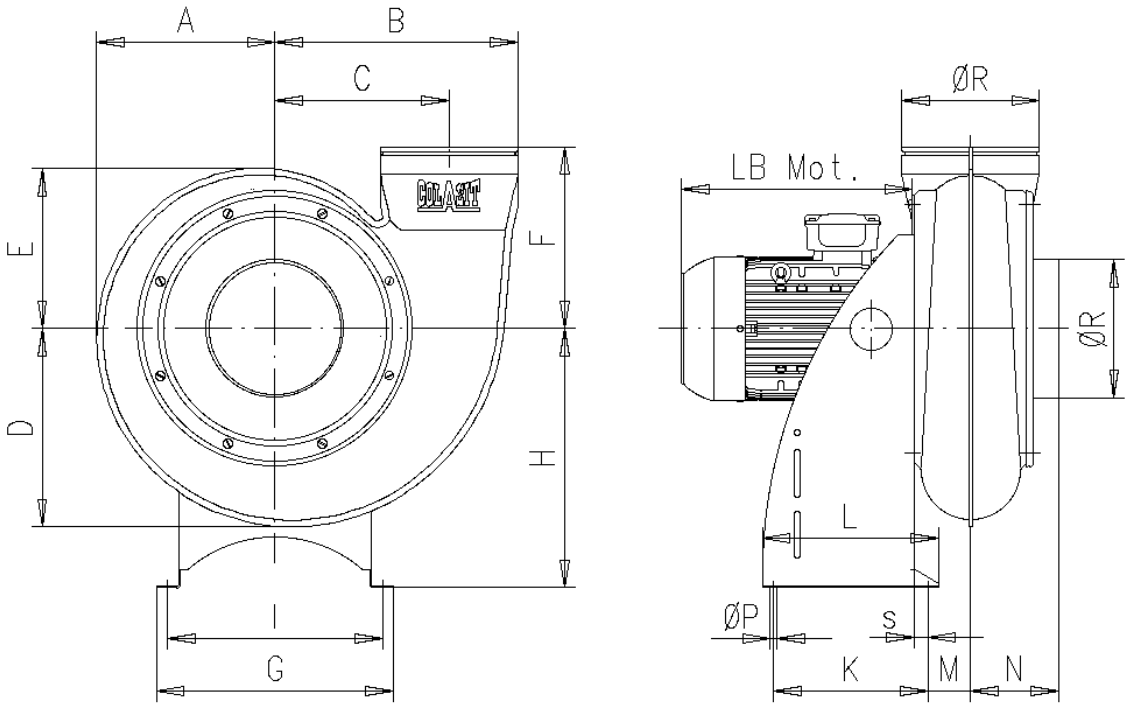

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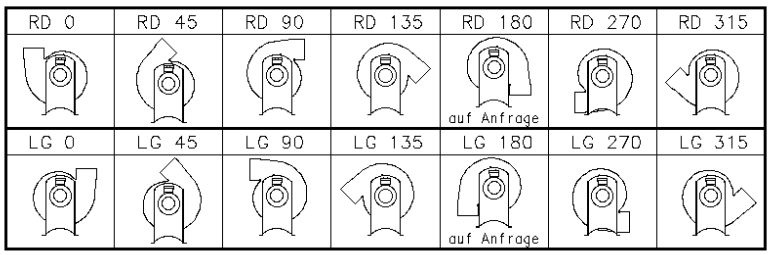
E	6.69	7.87	9.49	11.54	14.13	14.88
F	7.87	8.86	10.83	12.99	15.75	16.73
G	10.63	11.42	14.96	16.93	18.90	22.83
H	9.84	12.20	14.96	18.50	22.83	26.38
I	9.45	10.24	13.78	15.35	17.32	21.26
K	8.66	8.66	10.24	10.83	12.80	14.17
L	9.84	9.84	11.42	12.40	14.37	15.75
M	1.38	1.85	2.52	3.07	4.02	5.24
N	4.33	4.72	5.51	6.30	7.48	8.66
Ø P	0.39	0.39	0.39	0.39	0.39	0.39
Ø R	4.92	6.30	7.87	9.84	12.40	15.75
s	0.59	0.59	0.59	0.79	0.79	0.79



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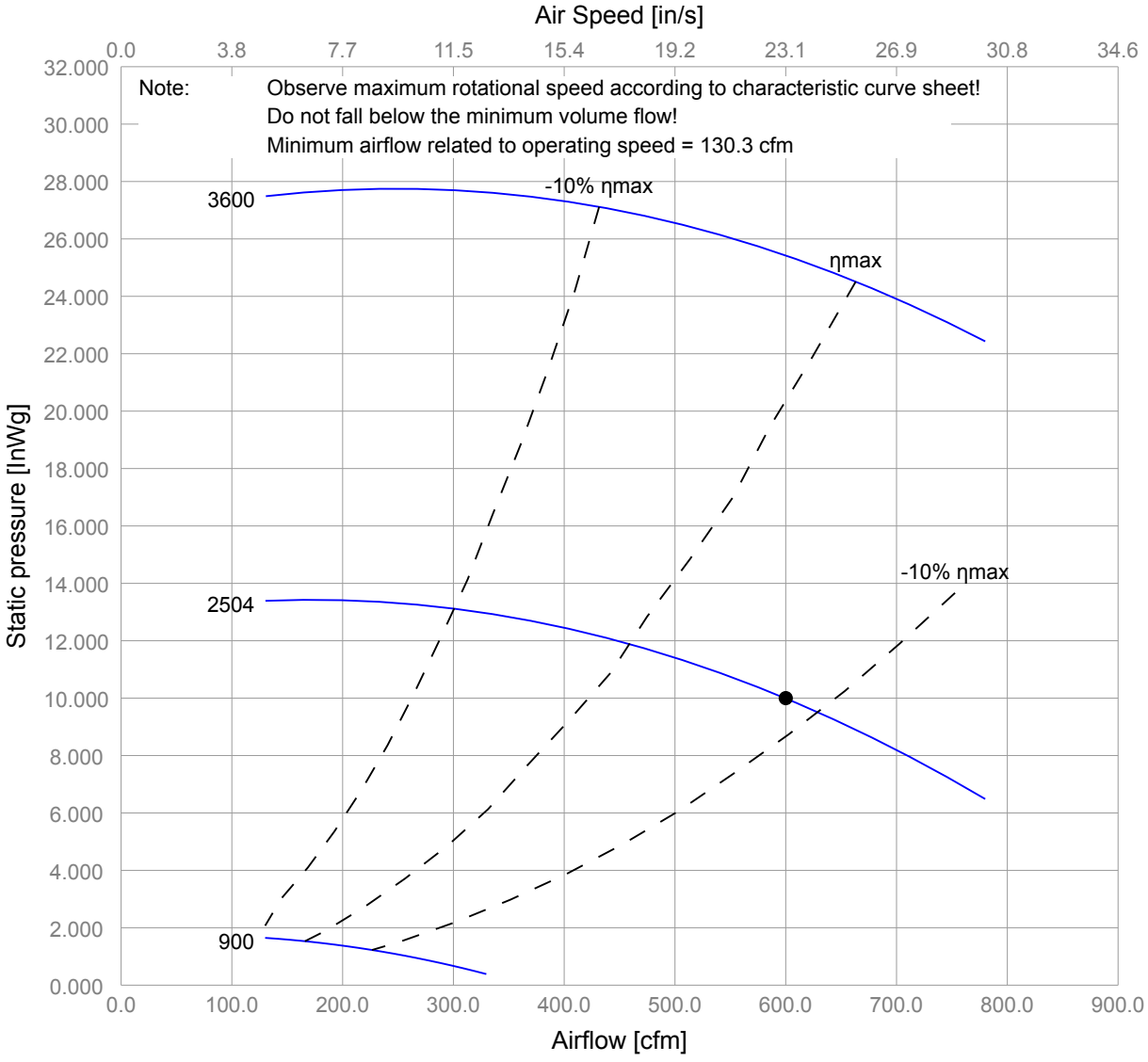
Characteristic curve CHVS 125

Configuration data

Airflow	600.0	cfm
Static pressure	10.000	InWg
Operating temp.	68	°F
Density	0.0000433	lb/in³
Medium	non defined	
Drive type	All drive types	



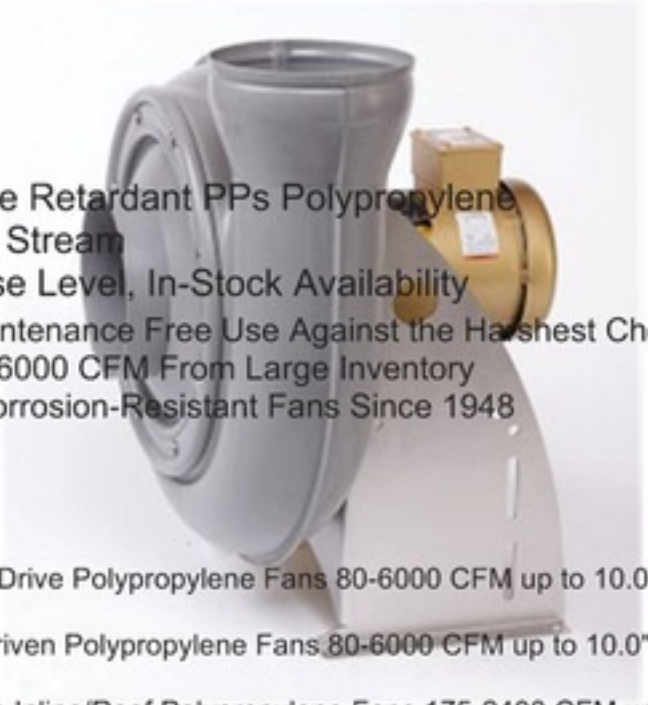
Operating data

Stage 1

Airflow	600.0	cfm
Static pressure	10.000	InWg
Dynamic pressure	1.281	InWg
Total pressure	11.281	InWg
Flow velocity	908.5	in/s
Mechanical efficiency	65.7	%
Sound pressure at 3 m	71	dB(A)
Operating impeller speed	2,504	rpm
Max.rpm at 68 °F	3,600	rpm
Shaft power	1.439	hp

IPF colasit

Corrosion Resistant Polypropylene Fans



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