Lakeside Village Apartments

65-67 Lake Avenue

Erie County

Lancaster, New York

FINAL ENGINEERING REPORT

NYSDEC Site Number: C915344

Prepared for:

65 Lake Avenue LLC

32 Central Avenue, Lancaster, New York

Prepared by:

MATRIX
ENVIRONMENTAL TECHNOLOGIES INC.

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OCTOBER 2025

CERTIFICATION STATEMENT

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

I certify that the data submitted to the Department with this Final Engineering Report demonstrates that the remediation requirements set forth in the Remedial Action Work Plan and in all applicable statutes and regulations have been or will be achieved in accordance with the time frames, if any, established for the remedy.

I certify that all use restrictions, Institutional Controls, Engineering Controls, and/or any operation and maintenance requirements applicable to the Site are contained in an environmental easement created and recorded pursuant ECL 71-3605 and that all affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded.

I certify that a Site Management Plan has been submitted for the continual and proper operation, maintenance, and monitoring of all Engineering Controls employed at the Site, including the proper maintenance of all remaining monitoring wells, and that such plan has been approved by the Department.

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

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

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Sean R. Carter, P.E., of 3730 California Road, Orchard Park, New York, am certifying as Owner's Designated Site Representative, and I have been authorized and designated by all site owners to sign this certification for the site.

NYS Professional Engineer #083593	Date	Signature

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List of Acronyms

BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
bgs	Below ground surface
BMP	Best Management Practice
CAMP	Community Air Monitoring Plan
CP	Commissioner Policy
CPP	Citizen Participation Plan
DCE	Dichloroethene
DER	Division of Environmental Remediation
DNAPL	Dense Non-Aqueous Phase Liquids
DO	Dissolved Oxygen
DOT	Department of Transportation
DUSR	Data Usability Summary Report
EC	Engineering Control
EWP	Excavation Work Plan
FER	Final Engineering Report
GPM	Gallons Per Minute
HASP	Health and Safety Plan
IC	Institutional Control
ID	Inner Diameter
IP	Injection Point
IRM	Interim Remedial Measure
ISCO	*In situ* chemical oxidation
METI	Matrix Environmental Technologies Inc.
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
O&M	Operation and Maintenance
OM&M	Operation, Maintenance and Monitoring
ORP	Oxidation Reduction Potential
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
OVM	Organic Vapor Meter
P&ID	Process & Instrumentation Diagram
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethene
P.E. or PE	Professional Engineer
PFAS	Per- and Polyfluoroalkyl Substances
PID	Photoionization Detector
PM	Particulate Matter
PNOD	Permanganate Natural Oxidant Demand

PPE	Personal Protection Equipment
psi	pounds per square inch
QA/QC	Quality Assurance/Quality Control
QEP	Qualified Environmental Professional
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
SBL	Section Block Lot
SCO	Soil Cleanup Objective
SEFA	Spreadsheets for Environmental Footprint Analysis
SMP	Site Management Plan
SSD	Sub-slab Depressurization
SSO	Site Safety Officer
SVE	Soil Vapor Extraction
SVOC	Semi-volatile organic compound
TAL	Target Analyte List
TCE	Trichloroethene
TCL	Target Compound List
TCLP	Toxicity Characteristic Leachate Procedure
TPH	Total Petroleum Hydrocarbons
UIC	Underground Injection Control
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
WC	Water Column

FINAL ENGINEERING REPORT

1.0 BACKGROUND AND SITE DESCRIPTION

65 Lake Avenue LLC entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC or "Department") on December 16, 2019 to investigate and remediate a 1.18-acre property located in the Town of Lancaster, Erie County, New York. A Site Location Map is included as **Figure 1**. The property was remediated to restricted residential use standards as Track 2 Cleanup with the exception of an approximate 1,600-square foot area in the vicinity of the subsurface utility corridor, which is designated as a Track 4 Cleanup. An approximately 2,100-square foot area in the southwestern portion of the site is subject to a New York State Easement for Flood Protection Project for Cayuga Creek; soil in this area meets unrestricted use standards and is designated as a Track 1 Cleanup. The current and anticipated use of the Site is for residential housing.

The Site is located in the County of Erie, New York and is identified as SBL #115.27-1-22.21 (addressed as 65 Lake Avenue) and SBL #115.27-1-23.11 (addressed as 67 Lake Avenue) on the Erie County Tax Map as shown in **Figure 2**. The Site is bounded by private residences to the north, south, and west and by Lake Avenue to the east. The boundaries of the Site are fully described in **Appendix A -** Survey Map, Metes and Bounds and **Appendix B** –Environmental Easement.

1.1 Site History

Historically, the eastern portion of the Site was utilized as a dry cleaner from at least 1949. The former dry cleaning building was located on the eastern portion of 65 Lake Avenue and the northern portion of 67 Lake Avenue. The building was reportedly destroyed by a fire in the late 1970s and was removed or demolished by at least 1995. According to members of the Young family, who owned both properties from at least 1882 through 2005, historical use of the properties has remained residential since at least 1900 with the exception of the dry cleaner. Buildings utilized for vehicle storage were present in the current location of Building A and a private residence was located in the current vicinity of Buildings B and C. The storage buildings and the residence were reportedly demolished at approximately the same time as the dry cleaning building.

1.2 Geology and Hydrogeology

Soils underlying the Site consist of proglacial lake deposits, namely laminated clays and silts. Characterization of soil samples generally depict the subsurface environment as the following, with some variation across the Site:

- Surface to 4 to 5.5 feet below ground surface (bgs) – sand with gravel and silt (fill material)
- 4 to 11.3 feet bgs – laminated clay and silt (lacustrine)
- 11.3 to 20 feet bgs – silty sand with gravel, occasional 2- to-3-inch lenses of dry, weathered limestone

Sand was found at a depth of 4 to 5 feet bgs near the underground utilities that service the apartment buildings. It is likely that this sand layer is backfill used as bedding for the utility lines.

According to the Geologic Map of New York, 1970 (Richard and Fisher), the bedrock underlying the Site is shale and/or limestone of the Skaneateles Formation (Hamilton Group) from the Upper Devonian Period (383 to 358 million years ago). Weathered and dry to moist 2- to 3-inch lenses of limestone were identified in several borings ranging from 16 to 20 feet bgs. Auger and sample refusal was also documented in that depth range, suggesting the surface of competent bedrock begins at approximately 20 feet bgs.

Groundwater is encountered at an average depth of 5 to 12 feet bgs. This is consistent with observations from soil sample characterization indicating the water table exists within the clay and silt lacustrine sediments. Historical groundwater elevation data is provided in **Table 1**, attached.

Groundwater elevation data show that the groundwater flow direction is generally to the west, with components of flow to the west northwest and southwest, at a moderate gradient. Between the Site and Cayuga Creek, the gradient is estimated to be steeper (approximately 0.1 ft/ft) due to the difference in topographic elevation (28 feet). A groundwater elevation contour map is shown in **Figure 3**. The Site and surrounding area are serviced by municipal utilities and groundwater is not

used for drinking water purposes. There are no known groundwater supply wells located within a one-mile radius of the Site.

2.0 SUMMARY OF SITE REMEDY

2.1 Remedial Action Objectives

Based on the results of the Remedial Investigation (RI), the following Remedial Action Objectives (RAOs) were identified for this Site.

2.1.1 Groundwater RAOs

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

2.1.2 Soil RAOs

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

2.1.3 Soil Vapor RAOs

RAOs for Public Health Protection

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

2.2 DESCRIPTION OF SELECTED REMEDY

The Site was remediated in accordance with the remedy described in the Decision Document dated May 17, 2022, the Remedial Action Work Plan (RAWP) dated August 25, 2023, and the Explanation of Significant Difference dated September 2, 2025.

The factors considered during the selection of the remedy are those listed in 6 NYCRR 375-1.8. The following are the components of the selected remedy:

1. A remedial program was implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques were implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:
    - Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
    - Reducing direct and indirect greenhouse gases and other emissions;
    - Increasing energy efficiency and minimizing use of non-renewable energy;
    - Conserving and efficiently managing resources and materials;
    - Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
    - Maximizing habitat value and creating habitat when possible;
    - Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
    - Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
    - Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings

will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

As part of the remedial program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis was completed. The environmental footprint analysis was completed using an accepted environmental footprint analysis calculator, SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA). Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, was incorporated into the remedial program, as appropriate. The project included detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics were tracked during implementation of the remedial action and reported in this Final Engineering Report (FER), including a comparison to the goals established during the remedial program.

Additionally, the remedial program included a climate change vulnerability assessment, that evaluated the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise were identified, and the remedial program incorporated measures to minimize the impact of climate change on potential identified vulnerabilities.

2. Excavation of soil/fill exceeding protection of groundwater SCOs for select chlorinated volatile organic compounds (VOCs) as listed in **Table 2** to a depth of 5-7 feet bgs. Post-excavation confirmation soil samples were collected and submitted for laboratory analysis to evaluate the performance of the remedy with respect to attainment of Track 2 Protection of Groundwater Soil Cleanup Objectives (SCOs). The excavation was backfilled with clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) imported to the Site with NYSDEC approval.

3. *In situ* chemical oxidation (ISCO) to treat tetrachloroethene (PCE) and its degradation products in groundwater and any residual remaining in soil following excavation.

4. Installation and operation of a soil vapor extraction (SVE) system within the Track 4 Cleanup area to treat contaminated soils in the vicinity of subsurface utility lines that were inaccessible for excavation.

5. Installation and operation of sub-slab depressurization (SSD) systems in Building 1 and Building A to mitigate the migration of vapors into the buildings from groundwater. Mitigation will continue until the Department and NYSDOH determine it is no longer required.

6. Maintenance of a soil cover system consisting of asphalt pavement and a minimum of 24 inches of clean soil in two small areas that are unpaved to prevent human exposure to remaining contaminated soil/fill remaining at the Site.

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

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

9. Groundwater monitoring on a semi-annual basis or other frequency as required by the SMP; and,

10. Periodic certification of the ICs and ECs listed above.

3.0 INTERIM REMEDIAL MEASURES, OPERABLE UNITS AND REMEDIAL CONTRACTS

The remedy for this site was performed as a single project, and no interim remedial measures (IRMs), operable units (OUs), or separate construction contracts were performed.

4.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED

Remedial activities completed at the Site were conducted in accordance with the NYSDEC-approved RAWP for the Lakeside Village Apartments Site (August 25, 2023). All deviations from the RAWP are noted below.

4.1 Governing Documents

4.1.1 Site-Specific Health and Safety Plan (HASP)

A site-specific HASP was included as Appendix E of the approved RAWP. The HASP includes requirements for personnel training and personal protection equipment (PPE), descriptions of hazards and chemicals of concern (including Safety Data Sheets), and emergency response procedures. A Site Safety Officer (SSO) was present during all intrusive remedial work to document safe working procedures and to perform air monitoring. The HASP was complied with for all remedial and invasive work performed at the Site.

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

4.1.2 Community Air Monitoring Plan (CAMP)

The CAMP was included as Appendix F of the approved RAWP and includes procedures for real time monitoring in the field. Monitoring for particulate matter (PM10) was completed using a DustTrak II aerosol monitor. Monitoring for VOCs was completed using a MiniRAE 3000 organic vapor meter (OVM) equipped with an 11.7 eV photoionization detector (PID). Monitoring was implemented during all intrusive work in accordance with the procedures and action levels specified in NYSDEC DER-10 Appendix 1A and the "Special CAMP Requirements for Work in or Near Buildings" provided by NYSDEC. Locations of the upgradient and downgradient monitoring stations were established daily based on the observed wind direction. CAMP monitoring results are discussed in Section 4.2.5 below.

4.1.3 Citizen Participation Plan (CPP)

A CPP was prepared and was approved by NYSDEC on January 6, 2020. In accordance with the CPP, a Fact Sheet describing the upcoming remedial activities was released by NYSDEC on August 30, 2023.

4.2 Remedial Program Elements

4.2.1 Contractors and Consultants

The following consultants were involved in implementation of the remedy:

- Matrix Environmental Technologies Inc. (METI) served as the consultant responsible for oversight and performance of the remedial work. Work was completed under the oversight of the certifying Engineer of Record, Sean R. Carter, P.E. (New York Professional Engineer License #083593). The METI Project Manager was Steven Marchetti, and the SSO and field team lead technician was Patrick Bliek.
- Wendel of Williamsville, NY served as the NYS-licensed surveyor.
- Vali-Data of WNY, LLC of West Falls, NY served as the third-party data validator.

The following contractors were involved in implementation of the remedy:

- METI served as the contractor for all remediation activities, including excavation, injection, and installation of the SVE and SSD systems.
- Swan Trucking West Inc. of Lancaster, NY provided transportation for disposal of non-hazardous soil to the Allied Waste Niagara Falls Landfill in Niagara Falls, NY and import of backfill material to the Site.
- WTS, Inc. of Lewiston, NY served as the soil broker, coordinating the transport and disposal of hazardous soil.
- Frank's Vacuum Truck Service, LLC of Niagara Falls, NY provided transportation of hazardous soil to Wayne Disposal, Inc. in Belleville, Michigan.

4.2.2 Site Preparation

Mobilization was completed during the week of September 19, 2023 and on September 25, 2023 and included utility mark-outs, mobilization of heavy machinery, setup of temporary chain-link fencing around the perimeter of the work area for Site security, and demarcation of excavation extents and injection boring locations. Delivery of injection materials was completed on October 5, 2023.

An internal pre-construction meeting with the Applicant, the consultant, and contractors was held prior to the start of remedial activities on September 26, 2023. A NYSDEC-approved project sign was erected at the project entrance and remained in place during all phases of the remedial action.

Documentation of agency approvals required by the RAWP is included in **Appendix C**. Approvals were obtained from NYSDEC for imported backfill and a "contained-in" determination and from the USEPA through the Underground Injection Control (UIC) program. No non-agency permits relating to the remediation project were required. The Town of Lancaster was notified in advance of remedial activities and a Site inspection by Town personnel confirmed that no permits were needed.

4.2.3 General Site Controls

- **Site security**: Public access to the work area was limited by temporary chain-link fencing. At the end of each work day, the excavation was backfilled to the extent feasible and access to the active work area remained restricted.
- **Job site record keeping**: Documentation of remedial activities included notes taken in dedicated field books or on Daily Report forms, photographs, and collection of disposal documentation forms from transportation contractors.
- **Erosion and sedimentation controls**: All vehicles leaving the Site were inspected to ensure that no soil adhered to the wheels or undercarriage of the vehicle. No issues related to erosion or sedimentation, including material spilled or tracked off-site by trucks, occurred. Additional erosion and sedimentation controls were not required due to the lack of onsite surface water, flat topography, and implementation of fugitive dust and particulate monitoring according to the CAMP.
- **Equipment decontamination and residual waste management:** Decontamination of personnel and equipment was completed in a dedicated area cordoned off using plastic

construction fencing in the northeastern portion of the parking lot. Gross contamination was removed with plastic scrapers or other appropriate tools prior to pressure washing on a temporary equipment decontamination pad. All fluids generated during decontamination activities were containerized in 55-gallon drums for offsite disposal. Other potentially contaminated materials, such as disposable nitrile gloves, were bagged and segregated for proper disposal.

- **Soil screening results**: Evidence of gross contamination, including elevated PID readings, odors, and staining, were not observed in any material screened for off-site disposal.
- **Stockpile methods**: Excavated non-hazardous soils were loaded directly on to trucks (no staging) for off-site disposal at the Allied Waste Niagara Falls Landfill in Niagara Falls, NY. Soils excavated from the area subject to the "contained-in" determination were containerized in DOT-rated 55-gallon drums and managed as hazardous waste. The drums were properly labeled and stored in a portion of the parking lot cordoned off using plastic construction fencing prior to off-site disposal at Wayne Disposal, Inc. in Belleville, Michigan.
- **Problems encountered**: No significant problems were encountered relating to site controls.

4.2.4 Nuisance Controls

- **Truck wash and egress housekeeping**: Egress points for truck and equipment transport from the Site were kept clean of dirt and other materials by hosing down the surface with water and sweeping. Trucks exiting the Site were secured with tight-fitting covers.
- **Dust control**: Dust was monitored using portable particulate monitors within the work area and at upwind and downwind monitoring locations. Dust suppression techniques, such as spraying water on equipment and haul roads and hauling materials in trucks equipped with tight-fitting covers, were employed as appropriate.
- **Odor control**: Odors were monitored using portable OVMs according to the CAMP. Odor control measures were not required during implementation of the remedy.
- **Complaints response**: No complaints relating to nuisance controls were identified or received during implementation of the remedy.

4.2.5 CAMP Results

Community air monitoring was performed for VOCs and particulates (PM10) at locations upwind and downwind of the work area as well as at the nearest ventilation system intake where work was completed within 20 feet of an occupied structure. Locations of monitoring stations were verified daily based on wind conditions. CAMP monitoring was performed during excavation and backfilling activities on September 26-29, 2023 and October 2, 2023 and during injection activities on October 9-11, 2023 as summarized in the table below:

Table 4.1: CAMP Monitoring Summary

Monitor Type	Name/Location	Max. 15-Minute Avg. Reading	Exceedances /Response Actions
MiniRAE 3000 (PGM-7320)	PID #1 - Upwind	0.1 ppm	No
MiniRAE 3000 + (PGM-7320)	PID #2 – Work Area/Downwind	0.0 ppm	No
MiniRAE 3000 (PGM-7320)	PID #3 - Downwind	0.1 ppm	No
MiniRAE 3000 (PGM-7320)	PID #4 – Nearest Intake	0.3 ppm	No
DustTrak II	PM10 #1 - Upwind	94 µg/m^3	No
DustTrak II	PM10 #2 – Work Area/Downwind	175 µg/m^3	10/9/23 14:10-15:25 - wetting
DustTrak II	PM10 #3 - Downwind	55 µg/m^3	No
DustTrak II	PM10 #4 – Nearest Intake	1,059 µg/m^3	9/29/23 9:32-9:40 and 10:10-10:25 – wetting

NOTE: Elevated PID and/or PM-10 readings at startup that cleared within approximately 5-10 minutes are assumed to be attributable to humidity changes and/or the sensor's normal warm-up process and were not considered in determining the maximum 15-minute average reading.

No exceedances for VOCs were reported. Minor PM10 exceedances at the downwind perimeter of the work area when compared to background (upwind) levels were recorded for a brief period of time on October 9, 2023. Similarly, PM10 exceedances at the intake nearest to the work area when compared to background levels were recorded for a brief period of time during backfilling of the excavation area on September 29, 2023. Dust suppression techniques (e.g. surface wetting) were employed and PM10 concentrations quickly decreased to below action levels. Copies of all field data sheets, including a figure showing monitoring locations, relating to the CAMP are provided in electronic format in **Appendix D.**

4.2.6 Best Management Practices (BMPs)

The following BMPs were employed at the Site during implementation of the remedy:

- **Site Investigation and Environmental Monitoring**: Field activities were completed in as few mobilizations as possible, reducing fuel consumption and associated air emissions and with less disturbance to the land and local ecosystems. During drilling, plastic sheeting was used to contain and collect decontamination fluids and prevent their entrance into storm drains or groundwater, and purge water from the monitoring wells was treated with carbon filtration onsite prior to discharge.
- **Excavation**: The boundaries of the excavation were well defined during initial investigations, the RI, and subsequent supplemental investigations, allowing machinery to be efficiently operated in the field. The closest qualified waste facilities were selected for disposal of contaminated soil. Machinery was appropriately sized and was restricted to well-defined corridors that were minimally intrusive. Backfill was purchased from local vendors.
- **SVE and SSD Systems:** Systems were designed to minimize pressure drops and the resulting need for additional energy to operate blowers/fans. Waste generation is minimal as emissions are below discharge limits without the use of carbon treatment.
- **ISCO:** A thorough conceptual site model was developed during the design phase to optimize the placement of injection points as well as the volume and type of oxidant. Direct-push technology was used to eliminate the need for disposal of cuttings and improve efficiency of substrate delivery into discrete vertical intervals. Post-injection monitoring ensured that negative byproducts (i.e. mobilization of metals) did not impact local groundwater.

4.2.7 Reporting

Documentation of remedial activities was recorded in Daily Report forms. The daily reports included the following information:

- Weather and Site conditions;
- Sampling locations and sample designations;

- Photodocumentation;
- Excavation locations and depths;
- Soil PID readings;
- Truck loads/estimated volumes of soil removed from the Site and backfill brought in to the Site;
- SVE well installation details;
- SVE system settings and operating parameters, including vacuum readings and valve settings;
- Injection locations and depths;
- Injection data (pressures, flow rates, volume/concentration);
- Groundwater quality data; and
- Any deviations from the proposed scope of work.

All daily and monthly reports are included in **Appendix E**. The digital photo log required by the RAWP is included in electronic format in **Appendix F**.

4.3 Contaminated Materials Removal: Soil Excavation and Removal

As established by the RAWP and Decision Document, excavation of contaminated soils in a 4,000-square foot area the vicinity of the former dry cleaner was completed to remediate the Site for restricted residential use under a Track 2 Cleanup. Protection of Groundwater SCOs apply for the contaminants of concern (PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride) as shown in **Table 2**, attached. RI activities identified impacted soils from ground surface to a depth of approximately 5-7 feet bgs serving as an ongoing source of chlorinated VOCs to groundwater and indoor air. Sand and gravel soils below this depth did not meet criteria for excavation and were treated *in situ* as discussed in Section 4.6. A figure of the location of original sources and areas where excavations were performed is shown in **Figure 4**.

In March 2022 prior to beginning excavation, soil samples LF1 and LF2 were collected for landfill disposal approval. The samples were submitted to Eurofins Buffalo in Amherst, New York for analysis of TCL VOCs, pH, total petroleum hydrocarbons (TPH), flash point, reactive cyanide and

sulfide, Toxicity Characteristic Leaching Procedure (TCLP) volatiles, TCLP semi-volatiles, TCLP metals, PCBs, herbicides and pesticides. Samples were also collected from this boring at depths of 8 feet bgs in the clay layer and 12-13 feet bgs in the sand and gravel for laboratory analysis of Permanganate Natural Oxidant Demand (PNOD) to calculate chemical oxidant dosing. The PNOD samples were analyzed per ASTM D7262-10(2016)e1 by Carus Corporation of LaSalle, IL. Subsequently, three soil boring locations designated as DS1/LF3, DS2/LF4, and DS3/LF5 were completed on June 28, 2023 in order to further delineate hazardous soils and for additional landfill pre-profiling. The samples were submitted to Eurofins Buffalo in Amherst, New York for analysis of TCL VOCs, pH, flash point, Toxicity Characteristic Leaching Procedure (TCLP) volatiles, and TCLP metals. As required by NYSDEC in response to the contained-in determination request, samples analyzed for TCL VOCs were collected from 0 to 3 feet bgs and samples analyzed for landfill pre-characterization parameters were collected from 0 to 7 feet bgs. Concentrations of VOCs were below the applicable SCOs. A summary of the samples collected to characterize the waste and associated analytical results are summarized in **Table 3.** Sample locations are shown in **Figure 4.**

From September 26-28, 2023, total of 1,068.62 tons of soil were excavated and disposed of off-site at the Allied Waste Niagara Falls Landfill in Niagara Falls, NY. Dewatering was not required during excavation activities and no material was reused on Site. Monitoring wells MW2 and MW3 located within the footprint of the excavation were destroyed. To maintain access to the Site for apartment residents and to eliminate the need for temporary staging of soils, non-hazardous soil was loaded directly onto trucks for transportation to the landfill and the excavation was backfilled to the extent feasible after each work day. Backfilling activities continued through October 2, 2023.

Per the “contained-in” determination, an estimated 2.48 tons of soil were excavated and managed as hazardous waste. The soil was temporarily stored on Site in DOT-rated stainless steel 55-gallon drums. Following landfill approval, the drums were transported for off-site disposal at the Wayne Disposal, Inc. Site #2 Landfill in Belleville, MI.

Table 4 shows the total quantities of hazardous and non-hazardous soil removed from the Site and the disposal locations. Manifests and bills of lading are included in electronic format in **Appendix G**. Disposal documentation for decontamination water will be forwarded upon receipt.

4.4 Remedial Performance/Documentation Sampling

Confirmation soil samples were collected from sidewalls of the excavation prior to backfilling in accordance with DER-10 Section 5.4(b). Because the ISCO injection interval extended up to the floor of the excavation footprint as discussed in Section 4.6, samples were not collected from the floor of the excavation. Samples were collected from near the bottom of each sidewall at depths ranging from 3.4 to 6.5 feet bgs at a frequency of one sample for every 30 linear feet of sidewall. A total of 11 samples were collected, screened with an OVM, and submitted for laboratory analysis of TCL VOCs by EPA Method 8260. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples were also collected for QA/QC purposes. Results are summarized as follows:

- **EX-1, EX-2, EX-3, EX-4, EX-5, EX-9:** Concentrations of all VOCs were non-detect or below the applicable Protection of Groundwater SCO or Restricted Residential Use SCO.
- **EX-7:** The Protection of Groundwater SCO for cis-1,2-DCE (0.25 mg/kg) was slightly exceeded at a concentration of 0.29 mg/kg. The result was flagged by the analytical laboratory (F1 - MS and/or MSD recovery exceeds control limits; F2 - MS/MSD RDP exceeds control limits). This sample was located underneath the sidewalk in front of Building 1 along the southern sidewall of the excavation.
- **EX-11:** The Protection of Groundwater SCO for PCE (1.3 mg/kg) was slightly exceeded at a concentration of 5 mg/kg. This sample was located along the southern sidewall of the excavation.
- **EX-8, EX-10:** The Restricted Residential Use SCO for PCE (19 mg/kg) was exceeded at a concentration of 53 mg/kg in EX-8 and 34 mg/kg in EX-10. The Protection of Groundwater SCO for TCE (0.47 mg/kg) was exceeded at a concentration of 3.8 mg/kg in EX-8 and 0.74 mg/kg in EX-10. Both samples were located along the northern sidewall of the excavation adjacent to the subsurface utility corridor.
- **EX-6:** The Restricted Residential Use SCOs for PCE (19 mg/kg) and TCE (21 mg/kg) were exceeded at concentrations of 370 mg/kg and 46 mg/kg respectively. The Protection of Groundwater SCO for cis-1,2-DCE (0.25 mg/kg) was exceeded at a concentration of 16

mg/kg. This samples was located along the northern sidewall of the excavation adjacent to the subsurface utility corridor.

Because the post-excavation samples were collected prior to implementation of the ISCO remedy, additional soil samples were collected from five locations in the vicinity of the subsurface utility corridor on September 3, 2024 to characterize remaining contamination. Samples were collected from 6-7 feet bgs and submitted for laboratory analysis of TCL VOCs by EPA Method 8260. A field duplicate sample and an equipment blank were collected for QA/QC purposes. Results were consistent with those from the post-excavation confirmation samples and are summarized as follows:

- **SB301:** The Restricted Residential Use SCO for PCE (19 mg/kg) was exceeded at a concentration of 350 mg/kg. The Protection of Groundwater SCO for TCE (0.47 mg/kg) was exceeded at a concentration of 16 mg/kg. This sample was collected near post-excavation confirmation sample EX-6.
- **SB302:** The Restricted Residential Use SCO for PCE (19 mg/kg) was exceeded at a concentration of 150 mg/kg. This sample was collected near post-excavation sample EX-8.
- **SB303, SB304, SB305:** Concentrations of all VOCs were non-detect or below the applicable Protection of Groundwater SCO or Restricted Residential Use SCO.

A table and figure summarizing all end-point sampling are included in **Table 5** and **Figure 5**, respectively, and all exceedances of SCOs are highlighted. The laboratory analytical reports are included in **Appendix H.**

Data Usability Summary Reports (DUSRs) were prepared for all data generated in this remedial performance evaluation program. These DUSRs are included in **Appendix I**. Data was generally found acceptable for use with the following qualifications:

- Concentrations of 1,4-dioxane should be qualified as estimated in EX-1, EX-2, EX-3, and EX-4.
- Concentrations of carbon tetrachloride should be qualified as estimated in EX-2, EX-3, EX-4, EX-5, and EX-9.
- Concentrations of acetone should be qualified as estimated in EX-7, EX-8, EX-10, and EX-11.

4.5 Imported Backfill

A table of all sources of imported backfill with quantities for each source is shown in Table 4.2 below:

Table 4.2: Summary of Imported Backfill

Fill Type	Estimated Volume (cy)	Source	Analytical Testing Required
#1 Washed Stone	150	New Enterprise Stone and Lime Co., Williamsville, NY	No
2" Crusher Run	450	New Enterprise Stone and Lime Co., Williamsville, NY	No
Topsoil	225	Alden Center LLC, Alden, NY	Yes

The excavation was backfilled with 2" crusher run to a depth of approximately 2-3 feet bgs and finished with topsoil or asphalt based on location. In the vicinity of the SVE lines, #1 washed stone was used to bed the screens, with approximately 1 foot of #1 washed stone installed under and around the screen.

Tables summarizing chemical analytical results for backfill, in comparison to allowable levels, are provided in the Request to Import/Reuse Fill or Soil forms included in **Appendix J**. A figure showing the site locations where backfill was used at the site is shown in **Figure 4**.

4.6 *In Situ* Chemical Oxidation (ISCO)

The groundwater plume was remediated using ISCO, which is effective at degrading soluble phase chlorinated VOCs. The ISCO treatment zone covered the entire groundwater plume and the contaminated soils to the north and west of the excavation. Therefore, all locations with contaminated soil and/or groundwater samples were addressed with the remediation design.

4.6.1 Injection Methods

A total of 2,725 pounds of potassium permanganate were injected at discrete depths into the subsurface via 14 injection points. Injections were completed using a Geoprobe® and injection tooling to disperse the oxidant laterally into the formation. Each injection point received approximately 500 gallons of a 4% solution divided into three discrete intervals. To reduce the likelihood of surfacing and/or daylighting of oxidant, the deeper injection intervals each received approximately 200 gallons of permanganate solution and the shallow interval in the clay layer

received approximately 110 gallons (22% of the total volume per point). When minor surfacing or daylighting of oxidant occurred, the injection flow rate was reduced or the remaining injection volume was reallocated to other injection points.

Where excavation extended to 7 feet bgs, injection was completed in the sand and gravel soils at approximately 16 and 13 feet below grade and in the clay layer at approximately 9 feet below grade. In all other areas, including those where excavation extended to 5 feet bgs, injection was completed in the sand and gravel soils at approximately 15 and 11 feet below grade and in the clay layer at approximately 7 feet below grade, which is the approximate average depth to groundwater within the treatment zone. Where refusal was encountered in IP2 at 15 feet below grade, the injection interval was adjusted to 13 feet below grade. The total length of the injection interval was 7 feet within the footprint of the shallow excavation area, 6 feet in IP2, and 8 feet in all other areas.

Health and safety measures were undertaken per the HASP during injection activities. Engineering controls and appropriate PPE were employed, particularly during handling and mixing of oxidants. Minor surface spills were neutralized using a chemical application sprayer with a 1:1:1 solution of water, hydrogen peroxide, and vinegar.

Sufficient distribution of permanganate throughout the target treatment area was considered the target endpoint for the injection. Color change was noted in MW1 and MW5, demonstrating sufficient distribution in the subsurface. Access to the basement sump was granted by the tenant in Apartment A-1; slight coloration was observed in the sump following the injection on October 11.

4.6.2 Injection Monitoring

The following injection parameters were recorded at regular intervals during the injection:

- Injection pressure
- Injection flow rate
- Injectate volume/concentration

Injection pressures ranged from 40-70 pounds per square inch (psi) and the injection flow rate ranged from 7.7-35 gallons per minute (GPM). Each injection point received 500 gallons of a 4%

weight solution, except for IP4 which received 390 gallons due to surfacing at the borehole. An injection data summary table is included as **Table 6**.

Groundwater quality data, including dissolved oxygen (DO), oxidation reduction potential (ORP), pH, temperature, and conductivity, was collected from the Site monitoring wells at regular intervals during the injection. Where oxidant solution and coloration was observed in a monitoring well, groundwater data was not collected to avoid damaging the probe of the water quality meter. The data indicated sufficient distribution of oxidant throughout the treatment area as evidenced by color change in MW1 and MW5 and elevated ORP readings in MW1, MW4, and MW5. Groundwater quality data is summarized in the attached. **Table 7**.

4.6.3 Post-Injection Groundwater Monitoring

Groundwater samples were collected from monitoring wells MW1, MW4, and MW5 prior to injection and approximately one, four, and ten months post-injection. Samples were submitted for laboratory analysis as follows:

Table 4.3. **ISCO Monitoring Parameters**

Parameter(s)	Method	Baseline	During Injection	Post-Injection
Permanganate	SM 4500-$KMnO_4$			X
Color	N/A (Field)	X	X	X
pH	N/A (Field)	X	X	X
ORP	N/A (Field)	X	X	X
Specific Conductivity	N/A (Field)	X	X	X
TCL VOCs	8260	[a]		X
Chloride	300.0	X		X
Metals	6010C, 6020B, 7196A, 7470A	[a]		X

[a] Data collected during RI is considered indicative of baseline conditions.

The results indicate that manganese and chloride remained elevated, particularly in MW1, compared to baseline levels, which is indicative of oxidant distribution across the target treatment area and the subsequent oxidation of chlorinated VOCs. There was no evidence of metals mobilization to hazardous levels as a result of the injection. Laboratory analytical data is summarized in **Table 1** and **Table 8**, attached. The laboratory analytical reports are included as attachments in the 1st, 2nd, and 3rd-4th Quarter Site Status Reports.

4.7 Contamination Remaining at the Site

As discussed in Section 4.4, analytical results of post-remediation soil samples SB301 and SB302 indicate that PCE contamination above restricted residential use SCOs exists at the Site in the vicinity of the subsurface utility corridor in an area that was inaccessible for excavation. In SB301, PCE was detected at a concentration of 350 mg/kg, which exceeds the Restricted Residential Use SCO of 19 mg/kg, and TCE was detected at a concentration of 16 mg/kg, which exceeds the Protection of Groundwater SCO of 0.47 mg/kg but does not exceed the Restricted Residential Use SCO of 21 mg/kg. In SB302, PCE was detected at a concentration of 150 mg/kg. Therefore, this area was completed as a Track 4 Cleanup as described in the Explanation of Significant Difference dated September 2, 2025. **Table 5** and **Figure 5** summarize the results of all soil samples remaining at the Site after completion of Remedial Action that exceed the Track 1 (unrestricted) SCOs. **Figure 6** summarizes the results of all soil samples remaining at the Site after completion of the remedial action that meet the SCOs for unrestricted use of the site.

Results of post-remediation groundwater monitoring, summarized in **Table 1**, indicate that PCE concentrations in monitoring wells MW1 and MW5 and cis-1,2-DCE in monitoring well MW5 exceed the NYSDEC Water Quality Standard of 5 µg/L. Groundwater contaminant concentrations are continuing to decline post-remediation; a comparison of the 4th quarter 2025 results to the 3rd quarter 2023 baseline results indicates a 60% reduction in chlorinated ethenes from MW5 and 97% reduction from MW1 on a molar basis. Groundwater contaminant concentration data from the most recent sampling event completed on June 17, 2025 are shown in **Figure 7**.

Since contaminated soil and groundwater remain beneath the Site after completion of the Remedial Action, ICs and ECs are required to protect human health and the environment. These ECs and ICs are described in the following sections. Long-term management of these EC/ICs and residual contamination will be performed under the SMP approved by the NYSDEC.

4.8 Soil Cover/Cap System

Exposure to remaining contamination in soil/fill at the Site is prevented by a soil cover system placed over the Site within the Track 4 Cleanup Area. This cover system is comprised of asphalt pavement and in areas that are unpaved, a minimum of 24 inches of clean soil as shown in **Figure 8.** As shown in **Table 5**, analytical results of soil samples SB401 and SB402 collected within the unpaved areas indicate that soil meets SCOs for unrestricted use.

An Excavation Work Plan, which outlines the procedures required in the event the cover system and/or underlying residual contamination are disturbed, is provided in Appendix A of the SMP.

4.9 Other Engineering Controls

Since remaining contaminated soil, groundwater, and soil vapor exist beneath the Site, ECs are required to protect human health and the environment. The Site has the following primary ECs, as described in the following subsections.

4.9.1 Soil Vapor Extraction (SVE)

The locations of the underground gas and water utilities in front of Building A and through the center of the parking lot presented a significant logistical challenge to soil excavation. The sanitary sewer is also assumed to be located within this utility corridor. The more permeable backfill surrounding the utilities likely serves as a preferential pathway for vapors into Buildings 1 and A. Residual contamination in the backfill and soils in the vicinity of the utility corridor was therefore addressed with SVE.

The SVE system treats residual concentrations in the unsaturated zone and utility corridors that are inaccessible for excavation. Horizontal screens provide greater surface area in contact with contaminated soil, allowing for more effective treatment over a relatively large area and minimizing the possibility "dead zones" that may occur between vertical wells.

Three 2-inch inner diameter (ID) horizontal wells consisting of 0.030-inch slot well screen were installed at a depth of 4 to 5 feet bgs along the western and northern boundaries of the excavation as shown in **Figure 9**. The surrounding area was backfilled with #1 washed stone to bed the screen, with approximately 12 inches of gravel installed under and around the screen. Geotextile fabric was installed on top of the peastone, and the remaining area was backfilled in the same manner as the rest of the remedial excavation as described in Section 4.5. Each well is connected to solid 2-inch ID PVC pipe extending towards a manifold for connection to the regenerative blower. The manifold includes a ball valve, vacuum gauge, and air sample port for each well.

The blower is equipped with an inlet filter, pre- and post-filter vacuum gauges, an air dilution valve, post-blower pressure gauge and an air sample port. A vapor-liquid separator is installed in line before the blower; however, it is anticipated that liquid recovery will be low due to asphalt cover over the SVE wells and the depth of the water table. If water is removed from the separator,

it will either be contained in a DOT-rated drum for off site disposal or treated with carbon filtration and discharged onsite with NYSDEC approval.

The equipment is housed in a remediation shed located outside of Building A. The system effluent discharges to the atmosphere at least 10 feet above ground level, 10 feet away from any opening that is less than 2 feet below the exhaust point, 12 inches above the roof of any adjacent building, and 10 feet from any adjacent buildings, HVAC intakes, or supply registers. The remediation shed is insulated to minimize noise and sound attenuating hoods are installed on all vents. A process and instrumentation diagram (P&ID) and blower specifications are attached in **Appendix K**.

The SVE system was activated on June 4, 2024 and will not be deactivated without prior approval from NYSDEC. Deactivation will be proposed when asymptotic low-level VOC concentrations are attained in the system effluent. System checks and system effluent sampling are completed on a routine basis according to the SMP. System operating and analytical data are included in Site Status Reports. Data from the first year of system operation is included as Table K-1 of **Appendix K**.

Procedures for monitoring, operating and maintaining the SVE system are provided in the Operation and Maintenance Plan in Section 4 of the SMP. The Monitoring Plan also addresses inspection procedures that must occur after any severe weather condition has taken place that may affect on-site ECs.

4.9.2 Sub-Slab Depressurization (SSD) Systems

Exposure to chlorinated VOCs in Building A and Building 1 is mitigated by continued operation and maintenance of SSD systems in each apartment basement area. The design objective of the SSD systems is to mitigate potential vapor migration into the basement areas of Building 1 and Building A by maintaining a negative pressure of at least 0.004 inches water column (WC) in the sub-slab. The design was developed in accordance with the applicable standards, criteria, and guidance contained in or referenced in NYSDOH's "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006 and its updates.

4.9.2.1 SSD Systems Description

To complete the design objective, seven separate SSD systems were installed in the following basement areas:

- Building 1 West
- Building 1 Central
- Building 1 East
- Building A, Apartment 1
- Building A, Apartment 2
- Building A, Apartment 3
- Building A, Apartment 4

Installation of the SSD systems was completed by METI from October through November 2019. Deficiencies were identified and addressed through system modifications and repairs completed through June 2020. These included encapsulation of the basement space in Building 1 with a waterproof barrier, replacement of the VP-A1 vacuum gauge, and temporary removal of the VP-1 fan operating in Building 1 for repairs.

Each vapor extraction point was constructed using four-inch ID Schedule 40 PVC pipe with screen extending to just below the concrete slab. The annular space was filled with clean gravel and sealed with non-shrinking grout. A hammer drill was used to install vacuum monitoring points at numerous locations in each building. The monitoring points, which include a ¾-inch female coupling and threaded cap, were installed to a depth extending just below the surface of the concrete slab. Construction details are included in **Appendix L**.

Four-inch diameter Schedule 40 PVC vent pipes were installed to convey the vapor to the wall-mounted fans located outside of the buildings. The riser pipes from the vapor extraction points extend vertically up to the basement ceiling, and the vent pipes are routed through the southern basement wall (Building A) and the western basement wall (Building 1) to the outside of the building. All piping is level or sloped toward the vapor extraction points to prevent condensate accumulation in pipe runs. Piping is labeled with an arrow indicating the air flow direction.

Piping from the extraction points terminates at wall-mounted fans located outside the buildings. Each extraction point line is equipped with a Dwyer differential pressure vacuum gauge (0-20 inches WC for Building 1, and 0-5 inches WC for Building A) at the blower. The collected sub-slab vapor is discharged to the atmosphere more than 12 inches above the building roofline, 10 feet above ground level, and 10 feet away from any openings within two feet below the exhaust point. Each discharge point is located least 10 feet from any adjacent buildings, HVAC intakes or supply registers.

Equipment for vapor extraction and treatment in each treatment area is as follows:

Building 1

Three RadonAway HS2000E fans (37 SCFM at 10 inches WC) were installed to maintain a pressure differential of 0.004 inches WC in the sub-slab in Building 1. Based on pilot testing and sub-slab vapor analytical data, vapor phase carbon treatment is not required.

Building A

One RadonAway GP501 fan (50 SCFM at 3 inches WC) was installed to maintain a pressure differential of 0.004 inches WC in the sub-slab in each apartment in Building A. Based on pilot testing and sub-slab vapor analytical data, vapor phase carbon treatment is not required.

Single phase electrical service was installed to each of the fans in Building 1 and Building A. These fans do not have control panels and are operated with an on/off switch. All system piping is labeled with arrows to indicate air flow direction and switches are labeled "ON/OFF – DO NOT SHUT OFF" to avoid accidental changes or system deactivation.

Subsequent to the installation of each SSD system, sub-slab pressure was monitored to verify that a negative pressure of at least 0.004 inches was being achieved in the vapor monitoring points in each treatment area. Each SSD system was started and smoke tubes were used to check for leaks through cracks or floor joints and observable leaks in Building 1 were sealed with non-shrinking caulk.

The systems began operating on November 12, 2019. The fans are operating at 14 to 16 in w.c. in Building 1 and 0.5 to 4.0 in w.c. in Building A. Vacuum in all monitoring points exceeds 0.004 inches WC. Routine monitoring includes the identification and repair of any leaks, operational status checks of blowers and fans and documentation of vacuum at each vapor extraction point and monitoring point. Non-routine maintenance is completed as necessary. Tenants are notified in advance of system checks requiring apartment access and may refer to information sheets provided to them that include an overview of system operation, maintenance, and monitoring.

Procedures for monitoring, operating and maintaining the SSD systems are provided in the Operation and Maintenance Plan in Section 4 of the SMP. The Monitoring Plan also addresses inspection procedures that must occur after any severe weather condition has taken place that may affect on-site ECs.

4.9.2.2 Confirmation Indoor Air Sampling

Air monitoring was completed from January 31 – February 1, 2022 in Building A and Building 1. Indoor air samples were collected from the basement area of each apartment in Building A and from the basement area of Building 1 as shown in Figure L-6 included in **Appendix L**. In addition, one ambient outdoor air sample was collected from between Building 1 and Building A. The home heating systems and SSD systems were operational at the time of sampling.

Prior to sampling, a product inventory survey was completed in each basement area. Surveys are included in Appendix A. Samples were then collected simultaneously over a 24-hour period using six-liter Summa canisters equipped with calibrated flow regulators in accordance with NYSDOH "Guidance for Evaluating Soil Vapor Intrusion in the State of New York". Indoor air samples were collected from a central location at a height of approximately 2-3 feet above the basement floor and the outdoor air sample was collected from a height of approximately 3-4 feet above ground surface. Samples were submitted to Centek Laboratories of Syracuse, New York for analysis of VOCs using EPA Method TO-15.

The indoor and background air sampling results were compared to the Table C1 Indoor and Outdoor Air Background Levels (upper fence values) included in the NYSDOH Soil

Vapor Guidance. Background levels and results are summarized in Table L-1 of **Appendix L**. Results are also shown on Figure L-6 of **Appendix L**. The laboratory analytical report is included in **Appendix H**.

Results of the air sampling event indicates that implementation of SSD systems met the objective of lowering the concentrations of chlorinated solvents in indoor air in Building 1 and Building A. Where detected, concentrations of target VOCs remained below or near background levels established in guidance from NYSDOH. PCE was detected in the samples collected from Apartment A-3, Apartment A-4, and Building 1 and slightly exceeded background levels in Building 1 at a concentration of 3.0 µg/m^3. Using NYSDOH decision matrices and the sub-slab vapor concentration of 36 µg/m^3 recorded in Building 1 in 2019, no further action is recommended based on this result. Prior to activation of the SSD systems, the PCE concentration in indoor air in Building 1 was 35 µg/m^3.

Of the compounds subject to the NYSDOH decision matrices, three VOCs – TCE, methylene chloride, and carbon tetrachloride – were detected at one or more sampling locations at a concentration lower than background levels. The remaining compounds (1,1,1-trichloroethane, cis-1,2-DCE, 1,1-DCE, and vinyl chloride) were not detected.

Minor exceedances of background levels were recorded for 1,2-dichloroethane and chloroform in Apartment A-1 and for chloroform in Apartment A-3. The result for 1,2-dichloroethane was flagged as estimated in the laboratory report. While the source of the detections is not definitively known, it is suspected that the chloroform concentrations may be related to the use of chlorinated water in the washing machines located in the basements of both apartments.

4.10 Other Engineering Controls

The Site remedy requires that an environmental easement be placed on the property to (1) implement, maintain and monitor the ECs; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the Site (excluding the NYS Easement area) to restricted residential uses only.

The environmental easement for the Site will be included as **Appendix B** upon execution and filing with the Erie County Clerk.

4.11 Deviations from the Remedial Action Work Plan

As discussed in Section 4.6, injection volumes and depths were adjusted in the field as needed when refusal was encountered or daylighting or surfacing of oxidant occurred. No other significant deviations from the RAWP were noted during implementation of the remedy.

TABLES

TABLE 1

Historical Groundwater Data Summary

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

Well ID	Casing Elevation (feet)	Sampling Date	Depth to Water (feet)	Groundwater Elevation (feet)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Vinyl chloride (µg/L)	Total VOCs (µg/L)	KMnO4 (mg/L)	Manganese (µg/L)	Chloride mg/L
			NYSDEC Groundwater Standard		*5*	*5*	*5*	*5*	*2*				
MW1	668.47	08/11/20	5.51	662.96	**180**	2.3	ND	ND	ND	182	NA	ND	NA
		08/31/21	5.43	663.04	**85**	0.93	ND	ND	ND	86	NA	NA	NA
		09/19/23	5.58	662.89	**78**	0.92	ND	ND	ND	79	NA	NA	NA
		01/05/24	5.52	662.95	**35**	ND	ND	ND	ND	35	ND	1,200	231
		04/16/24	5.23	663.24	**21**	ND	ND	ND	ND	21	ND	300	235
		08/27/24	7.25	661.22	ND	ND	ND	ND	ND	0.78	ND	2,500	210
		11/06/24	7.93	660.54	**15**	ND	ND	ND	ND	15	ND	770	ND
		06/17/25	5.83	662.64	**17**	ND	ND	ND	ND	29	NA	NA	NA
MW2	667.97	08/10/20	5.55	662.42	**2,200**	**160**	**670**	**11**	**20**	3,061	NA	NA	NA
		08/31/21	5.07	662.90	**3,200**	**160**	**830**	ND	ND	4,190	NA	NA	NA
		09/19/23	5.95	662.02	**1,300**	**85**	**620**	ND	ND	2,005	NA	NA	120
		WELL DESTROYED											
MW3	666.81	08/11/20	7.71	659.10	2.9	1.2	ND	ND	ND	4.1	NA	NA	NA
		08/31/21	7.34	659.47	**15**	**18**	**23**	1.3	1.7	62	NA	NA	NA
		09/19/23	6.72	660.09	**18**	**15**	**13**	ND	ND	46	NA	NA	NA
		WELL DESTROYED											
MW4	667.44	08/10/20	10.08	657.36	ND	ND	ND	ND	ND	ND	NA	NA	NA
		08/31/21	10.90	656.54	ND	ND	ND	ND	ND	ND	NA	NA	NA
		09/19/23	11.50	655.94	ND	ND	ND	ND	ND	ND	NA	NA	NA
		01/05/24	6.74	660.70	ND	ND	ND	ND	ND	ND	ND	17	31.3
		04/16/24	5.90	661.54	ND	ND	ND	ND	ND	ND	ND	ND	4.5
		08/27/24	11.11	656.33	ND	ND	ND	ND	ND	4.9	ND	210	12.9
		11/06/24	11.32	656.12	ND	ND	ND	ND	ND	ND	ND	ND	ND
		06/17/25	8.94	658.50	ND	ND	ND	ND	ND	6.6	NA	NA	NA
MW5	667.06	08/11/20	8.05	659.01	**480**	**33**	**140**	**5.3**	ND	658	NA	46	NA
		08/31/21	6.46	660.60	**580**	**30**	**56**	ND	ND	666	NA	NA	NA
		09/19/23	6.77	660.29	**400**	**22**	**61**	ND	ND	483	NA	NA	NA
		01/05/24	4.44	662.62	**140**	2.8	ND	ND	ND	143	ND	46	98.0
		04/16/24	4.23	662.83	**130**	3.0	ND	ND	ND	133	ND	17	68.4
		08/27/24	8.86	658.20	ND	ND	ND	ND	ND	0.54	ND	47	105
		11/06/24	9.30	657.76	**94**	**6.0**	**64**	1.1	ND	165	ND	ND	ND
		06/17/25	7.91	659.15	**71**	3.5	**9.2**	ND	0.42	90	NA	NA	NA

TABLE 1 (Continued)
Historical Groundwater Data Summary

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

Well ID	Casing Elevation (feet)	Sampling Date	Depth to Water (feet)	Groundwater Elevation (feet)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Vinyl chloride (µg/L)	Total VOCs (µg/L)	KMnO4 (mg/L)	Manganese (µg/L)	Chloride mg/L
MW6	668.09	08/12/20	11.20	656.89	ND	ND	ND	ND	ND	ND	NA	NA	NA
		08/31/21	11.29	656.80	ND	ND	ND	ND	ND	4.1	NA	NA	NA
		09/19/23	12.17	655.92	ND	ND	ND	ND	ND	ND	NA	NA	NA
		01/05/24	NG	NG	NS	NS	NS	NS	NS	NS	NA	NA	NS
		04/16/24	10.06	658.03	ND	ND	ND	ND	ND	ND	NA	NA	NA
		08/27/24	12.13	655.96	0.45	ND	ND	ND	ND	4.6	NA	NA	NA
		11/06/24	12.44	655.65	ND	ND	ND	ND	ND	ND	NA	NA	NA
		06/17/25	11.13	656.96	ND	ND	ND	ND	ND	7.0	NA	NA	NA
MW7	664.37	08/12/20	8.44	655.93	ND	ND	ND	ND	ND	ND	NA	NA	NA
		08/31/21	8.36	656.01	ND	ND	ND	ND	ND	ND	NA	NA	NA
		09/19/23	8.51	655.86	ND	ND	ND	ND	ND	ND	NA	NA	NA
		01/05/24	7.55	656.82	ND	ND	ND	ND	ND	ND	NA	NA	NA
		04/16/24	7.13	657.24	ND	ND	ND	ND	ND	ND	NA	NA	NA
		08/27/24	8.80	655.57	ND	ND	ND	ND	ND	4.4	NA	NA	NA
		11/06/24	8.65	655.72	ND	ND	ND	ND	ND	ND	NA	NA	NA
		06/17/25	7.97	656.40	ND	ND	ND	ND	ND	19	NA	NA	NA
MW8	667.48	08/11/20	7.78	659.70	ND	ND	ND	ND	ND	ND	NA	NA	NA
		08/31/21	7.79	659.69	ND	ND	ND	ND	ND	ND	NA	NA	NA
		09/19/23	8.06	659.42	ND	ND	ND	ND	ND	ND	NA	NA	NA
		01/05/24	6.43	661.05	ND	ND	ND	ND	ND	ND	NA	NA	NA
		04/16/24	5.02	662.46	ND	ND	ND	ND	ND	ND	NA	NA	NA
		08/27/24	7.77	659.71	**34**	ND	ND	ND	ND	34.6	NA	NA	NA
		11/06/24	8.24	659.24	ND	ND	ND	ND	ND	ND	NA	NA	NA
		06/17/25	6.90	660.58	ND	ND	ND	ND	ND	19	NA	NA	NA
MW9	666.47	08/31/21	8.38	658.09	ND	ND	1.3	ND	ND	1.5	NA	NA	NA
		09/19/23	9.17	657.30	ND	ND	ND	ND	ND	ND	NA	NA	102.0
		01/05/24	8.01	658.46	ND	ND	ND	ND	ND	ND	NA	NA	NA
		04/16/24	7.66	658.81	ND	ND	ND	ND	ND	ND	NA	NA	NA
		08/27/24	9.13	657.34	**80**	4.9	**47**	ND	0.95	134	NA	NA	NA
		11/06/24	9.44	657.03	ND	ND	ND	ND	ND	ND	NA	NA	NA
		06/17/25	8.45	658.02	ND	ND	ND	ND	ND	5.4	NA	NA	NA

NOTES:
ND = not detected NA = not analyzed NG = not gauged NS = not sampled
Remedial excavation and injection of potassium permanganate completed September-October 2023.
Bolded values exceed the applicable NYSDEC groundwater standard.

Table 2: Soil Cleanup Objectives (ppm)

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

PARAMETER	Track 1 Area Only: Unrestricted Use SCO	Track 2 & 4 Areas: Restricted-Residential Use SCO	Track 2 & 4 Areas: Protection of Groundwater SCO
Metals			
Arsenic	13	16	
Barium	350	400	
Beryllium	7.2	72	
Cadmium	2.5	4.3	
Chromium, hexavalent	1	110	
Chromium, trivalent	30	180	
Copper	50	270	
Total Cyanide	27	27	
Lead	63	400	
Manganese	1600	2,000	
Total Mercury	0.18	0.81	
Nickel	30	310	
Selenium	3.9	180	
Silver	2	180	
Zinc	109	10,000	
PCBs/Pesticides			
2,4,5-TP Acid (Silvex)	3.8	100	
4,4'-DDE	0.0033	8.9	
4,4'-DDT	0.0033	7.9	
4,4'-DDD	0.0033	13	
Aldrin	0.005	0.097	
alpha-BHC	0.02	0.48	
beta-BHC	0.036	0.36	
Chlordane (alpha)	0.094	4.2	
delta-BHC	0.04	100	
Dibenzofuran	7	59	
Dieldrin	0.005	0.2	
Endosulfan I	2.4	24	
Endosulfan II	2.4	24	
Endosulfan sulfate	2.4	24	
Endrin	0.014	11	
Heptachlor	0.042	2.1	
Lindane	0.1	1.3	
Polychlorinated biphenyls	0.1	1	
Semivolatile organic compounds			
Acenaphthene	20	100	
Acenapthylene	100	100	
Anthracene	100	100	
Benz(a)anthracene	1	1	
Benzo(a)pyrene	1	1	
Benzo(b)fluoranthene	1	1	
Benzo(g,h,i)perylene	100	100	
Benzo(k)fluoranthene	0.8	3.9	
Chrysene	1	3.9	
Dibenz(a,h)anthracene	0.33	0.33	
Fluoranthene	100	100	
Fluorene	30	100	
Indeno(1,2,3-cd)pyrene	0.5	0.5	

Table 2: Soil Cleanup Objectives (ppm)

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

PARAMETER	Track 1 Area Only: Unrestricted Use SCO	Track 2 & 4 Areas: Restricted-Residential Use SCO	Track 2 & 4 Areas: Protection of Groundwater SCO
m-Cresol	0.33	100	
Naphthalene	12	100	
o-Cresol	0.33	100	
p-Cresol	0.33	100	
Pentachlorophenol	0.8	6.7	
Phenanthrene	100	100	
Phenol	0.33	100	
Pyrene	100	100	
Volatile organic compounds			
1,1,1-Trichloroethane	0.68	100	
1,1-Dichloroethane	0.27	26	
1,1-Dichloroethene	0.33	100	
1,2-Dichlorobenzene	1.1	100	
1,2-Dichloroethane	0.02	3.1	
cis -1,2-Dichloroethene	0.25		0.25
trans-1,2-Dichloroethene	0.19		0.19
1,3-Dichlorobenzene	2.4	49	
1,4-Dichlorobenzene	1.8	13	
1,4-Dioxane	0.1	13	
Acetone	0.05	100	
Benzene	0.06	4.8	
n-Butylbenzene	12	100	
Carbon tetrachloride	0.76	2.4	
Chlorobenzene	1.1	100	
Chloroform	0.37	49	
Ethylbenzene	1	41	
Hexachlorobenzene	0.33	1.2	
Methyl ethyl ketone	0.12	100	
Methyl tert-butyl ether	0.93	100	
Methylene chloride	0.05	100	
n - Propylbenzene	3.9	100	
sec-Butylbenzene	11	100	
tert-Butylbenzene	5.9	100	
Tetrachloroethene	1.3		1.3
Toluene	0.7	100	
Trichloroethene	0.47		0.47
1,2,4-Trimethylbenzene	3.6	52	
1,3,5-Trimethylbenzene	8.4	52	
Vinyl chloride	0.02		0.02
Xylene (mixed)	0.26	100	

Table 3
Landfill Characterization Sample Analytical Results

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

PARAMETER	LF1
	3/2/2022
1,1,1-Trichloroethane	ND
1,1,2,2-Tetrachloroethane	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	ND
1,1,2-Trichloroethane	ND
1,1-Dichloroethane	ND
1,1-Dichloroethene	ND
1,2,4-Trichlorobenzene	ND
1,2-Dibromo-3-Chloropropane	ND
1,2-Dibromoethane	ND
1,2-Dichlorobenzene	ND
1,2-Dichloroethane	ND
1,2-Dichloropropane	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
2-Butanone (MEK)	ND
2-Hexanone	ND
4-Methyl-2-pentanone (MIBK)	ND
Acetone	ND
Benzene	ND
Bromodichloromethane	ND
Bromoform	ND
Bromomethane	ND
Carbon disulfide	ND
Carbon tetrachloride	ND
Chlorobenzene	ND
Chloroethane	ND
Chloroform	ND
Chloromethane	ND
cis-1,2-Dichloroethene	0.370
cis-1,3-Dichloropropene	ND
Cyclohexane	ND
Dibromochloromethane	ND
Dichlorodifluoromethane	ND
Ethylbenzene	ND
Isopropylbenzene	ND
Methyl acetate	ND
Methyl tert-butyl ether	ND
Methylcyclohexane	ND
Methylene Chloride	ND
Styrene	ND
Tetrachloroethene	2.50
Toluene	ND
trans-1,2-Dichloroethene	0.14
trans-1,3-Dichloropropene	ND
Trichloroethene	1.2
Trichlorofluoromethane	ND
Vinyl chloride	ND
Xylenes, Total	ND

NOTES:
1. Analytical testing by Eurofins TestAmerica Buffalo.
2. ND = Not Detected
3. Results are shown in mg/kg.
4. Results are not shown for LF2 as the sample was collected from below the planned excavation depth.

Table 3 (Continued)
Landfill Characterization Sample Analytical Results

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

PARAMETER	ANALYTICAL METHOD	UNITS	LF1 (5-7)		LF3 (0-7)		LF4 (0-7)		LF5 (0-7)	
Tetrachloroethene (TCLP)	8260C TCLP	mg/L	0.011		ND		ND		ND	
Trichloroethene (TCLP)		mg/L	0.011		ND		ND		ND	
Barium (TCLP)	6010C TCLP	mg/L	0.75	J	0.92	J^2	1.0	J^2	0.67	J^2
Cadmium (TCLP)		mg/L	0.0018	J	0.0028		0.0013	J	0.0015	J
Lead (TCLP)		mg/L	0.0075	J	0.0047	J	0.0078	J	0.0035	J
Flashpoint	1010A	Degrees F	>175		98.0		>176		>176	
pH	9045D	SU	8.8	HF	8.3	HF	8.4	HF	8.3	HF
Temperature		Degrees C	19.8	HF	18.5	HF	18.5	HF	18.5	HF
GRO [C6-C10]	8015D	mg/kg	1.8		NA		NA		NA	
DRO [C10-C28]		mg/kg	9.6	J	NA		NA		NA	
cis-1,2-Dichloroethene	8260C	ug/kg	370		16	J	210		ND	
Tetrachloroethene		ug/kg	2500		470		130		480	
trans-1,2-Dichloroethene		ug/kg	140		ND		15	J	ND	
Trichloroethene		ug/kg	1200		19	J	16	J	ND	

PARAMETER	ANALYTICAL METHOD	UNITS	LF1 (8-9)		LF2 (10-11)	
Permanganate Natural Oxidant Demand	ASTM D7262010 Test Method A	g/kg	13.2		5.3	
			12.4		4.5	
			11.3		4.2	

NOTES:
1. Analytical testing by Eurofins TestAmerica Buffalo and Carus Corporation.
2. ND = Not Detected; "NA" = Not Analyzed
3. "J" = approximate value; "HF" = field parameter with a holding time of 15 minutes; "^2" = calibration blank outside acceptance limits report.
4. Results are not shown for LF2 as the sample was collected from below the planned excavation depth.

Table 4
Soil Disposal Summary

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

Non-Hazardous Soil

Date	Ticket Number	Quantity (CY)	Quantity (tn)	Disposal Location
9/26/2023	1250431	12	20.08	Allied Waste Niagara Falls Landfill, 5600 Niagara Falls Blvd, Niagara Falls, NY
	1250474	12	23.06	
	1250500	12	20.13	
	1250513	12	18.76	
	1250480	12	23.58	
	1250446	12	23.76	
	1250422	12	19.95	
	1250421	12	18.52	
	1250443	12	23.64	
	1250475	12	22.70	
	1250507	12	19.87	
	1250470	12	22.74	
	1250503	12	18.15	
9/27/2023	1250555	12	21.71	
	1250595	12	23.61	
	1250633	12	22.69	
	1250665	12	26.54	
	1250659	12	24.08	
	1250627	12	23.55	
	1250584	12	24.93	
	1250550	12	20.46	
	1250656	12	20.70	
	1250629	12	21.27	
	1250586	12	26.11	
	1250548	12	23.32	
	1250652	12	22.74	
	1250620	12	24.61	
	1250578	12	24.87	
	1250541	12	20.46	
	1250669	12	22.03	
	1250636	12	21.95	
	1250599	12	25.17	
	1250562	12	19.98	
9/28/2025	1250712	12	20.09	
	1250738	12	21.20	
	1250772	12	23.03	
	1250695	12	21.38	
	1250727	12	26.83	
	1250762	12	22.74	
	1250786	12	21.10	
	1250792	12	17.37	
	1250768	12	23.55	
	1250736	12	22.69	
	1250701	12	21.21	
	1250788	12	21.79	
	1250763	12	22.12	
	1250696	12	23.10	
	1250731	12	24.70	
	Total	*576*	*1,068.62*	

Hazardous Soil

Date	Manifest ID #	Quantity	Estimated Tons Soil	Disposal Location
3/14/2024	022859259JJK	5,500 lb/11 drums	2.48	WAYNE DISPOSAL, INC. SITE #2 LANDFILL, 49350 N I-94 SERVICE DRIVE, BELLEVILLE, MI

Table 5
Remedial Performance/Documentation Sampling Results

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

PARAMETER	Unrestricted Use SCO	Restricted-Residential Use SCO	Protection of Groundwater SCO	EX-1 (3.4)	EX-2 (4.6)	EX-3 (6.1)	EX-4 (6.2)	EX-5 (4.1)	EX-6 (6.2)	EX-7 (6.5)	EX-8 (6.5)	EX-9 (5.5)	EX-10 (6.5)	EX-11 (6.0)
			Sampling Date	9/26/2023	9/26/2023	9/26/2023	9/26/2023	9/27/2023	9/27/2023	9/28/2023	9/28/2023	9/28/2023	9/28/2023	9/28/2023
Acetone	0.05	100	0.05	ND	0.009J	0.0087J	0.0083J	0.0094J	ND	0.360 F1	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.25	100	0.25	ND	ND	0.0090	0.02	ND	**16**	**0.290 F1F2**	ND	ND	ND	ND
Methylene Chloride				ND	ND	ND	ND	ND	ND	0.015 JF1	ND	ND	ND	ND
Tetrachloroethene	1.3	19	1.3	0.110	ND	0.0064	ND	0.0041	**370**	ND	**53**	ND	**34**	**5**
trans-1,2-Dichloroethene	0.19	100	0.19	ND	ND	0.00086J	ND	ND	ND	0.016 JF1F2	ND	ND	ND	ND
Trichloroethene	0.47	21	0.47	ND	ND	0.0054	ND	ND	**46**	0.082 F1F2	**3.8**	ND	**0.74**	0.27
Vinyl chloride	0.02	0.9	0.02	ND	ND	ND	0.0082	ND	ND	ND	ND	ND	ND	ND
			In Cleanup Track 4 Area?						YES	NO	YES		YES	NO
			Under Cover?						YES	YES	YES		YES	NO

PARAMETER	Unrestricted Use SCO	Restricted-Residential Use SCO	Protection of Groundwater SCO	DER-10 Appendix 5	SB301 (6-7')	SB302 (6-6.5')	SB303 (6-7')	SB303 (6-7') DUPLICATE	SB304 (6-7')	SB305 (6-7')	SB401	SB402
				Sampling Date	9/3/2024	9/3/2024	9/3/2024	9/3/2024	9/3/2024	9/3/2024	8/5/2025	8/5/2025
Acetone	0.05	100	0.05	0.05	ND	ND	0.012J	0.010J	0.0089J	0.0068J	ND	ND
Chloroform	0.37	49	0.37	0.37	ND	ND	ND	ND	0.0003J	0.00025J	ND	ND
cis-1,2-Dichloroethene	0.25	100	0.05	0.25	ND	ND	0.053	0.110	ND	ND	ND	ND
Tetrachloroethene	1.3	19	1.3	1.3	**350**	**150**	0.00092J	0.0095	0.0010J	ND	0.0006	0.0021
trans-1,2-Dichloroethene	0.19	100	0.19	0.19	ND	ND	0.0011J	0.0048	ND	ND	ND	ND
Trichloroethene	0.47	21	0.47	0.47	**16**	ND	ND	0.083	ND	ND	ND	0.00015J
Vinyl chloride	0.02	0.9	0.02	0.02	ND	ND	0.0044	0.0014J	ND	ND	ND	ND
				In Cleanup Track 4 Area?	YES	YES						
				Under Cover?	YES	YES						

NOTES:
1. Analytical testing for VOCs via EPA Method 8260C by Eurofins Buffalo and Pace Analytical Services LLC.
2. Results present in mg/kg.
3. ND = Not Detected; NA = Not Applicable
4. Soil Cleanup Objectives (SCOs) from NYCRR Part 375
5. DER-10 Appendix 5 Allowable Consitiuent Levels for Imported Fill or Soil
6. "J" = estimated value; "F1" = MS and/or MSD recovery exceeds control limits; "F2" = MS/MSD RDP exceeds control limits.
7. Regulatory standards and results are shown for detected compounds only.
8. Bolded values exceed the protection of groundwater SCO. Highlighted values exceed the restricted residential SCO.

Table 6
Injection Data Summary

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

Date	Elapsed Start Time	Elapsed End Time	Injection Boring	Depth (ft bgs)	Flowrate (gpm)	Injection Pressure (psi)	4% KMnO4 Solution Injected (gal)
10/9/2023	0:00:00	0:13:55	IP14	16	14.0	45-40	195
	0:13:55	0:25:28		13	16.9	40	195
	0:41:12	0:44:55		9	29.6	40	110
	1:20:00*	1:36:04	IP12	16	12.1	40-45	195
	1:36:04	1:45:14		13	21.3	40-45	195
	1:45:14	1:51:08		9	18.6	40-45	110
	2:18:48	2:34:33	IP10	16	12.4	45	195
	2:34:33	2:42:21		13	25.0	45	195
	2:42:21	2:47:04		9	23.3	45	110
	3:41:40	3:52:32	IP7	15	18.1	60	195
	3:52:32	3:59:36		11	27.6	60	195
	4:02:14	4:05:40		7	32.0	60	110
	4:35:00*	4:45:17	IP4	15	19.0	60	195
	4:45:17	4:58:26		11	14.8	60	195
10/10/2023	0:00:00	0:09:00	IP13	16	22.2	60	200
	0:09:00	0:20:00		13	17.7	60	195
	0:20:00	0:23:00		9	35.0	60	105
	1:31:00	1:43:00	IP5	15	16.3	65	195
	1:43:00	1:52:00		11	21.7	65	195
	1:52:00	1:57:00		7	22.0	65	110
	2:19:00	2:28:00	IP8	15	21.7	60	195
	2:28:00	2:36:00		11	22.2	60	200
	2:36:00	2:47:00		7	9.5	60	105
	3:23:00	3:34:00	IP1	15	17.7	65	195
	3:34:00	3:40:00		11	32.5	65	195
	3:40:00	3:44:00		7	27.5	65	110
	4:21:00	4:28:00	IP6	15	27.9	60	195
	4:28:00	4:34:00		11	32.5	60	195
	4:34:00	4:39:00		7	22.0	60	110
	5:18:00	5:24:00	IP3	15	33.3	65	200
	5:24:00	5:32:00		11	25.0	65	200
	5:32:00	5:40:00		7	12.5	35	100
10/11/2023	0:00:00	0:10:00	IP2	13	19.5	65	195
	0:10:00	0:19:00		11	21.7	65	195
	0:19:00	0:24:00		7	22.0	65	110
	0:48:00	0:58:00	IP11	16	20.0	70	200
	0:58:00	1:06:00		13	23.8	70	190
	1:06:00	1:11:00		9	22.0	70	110
	1:36:00	1:48:00	IP9	16	16.7	65	200
	1:48:00	1:59:00		13	18.2	65	200
	1:59:00	2:12:00		9	7.7	65	100

*Elapsed time is estimated

Table 7
Groundwater Quality Data During Injection

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

Well	Date	Time	DO (mg/L)	ORP (mV)	pH (SU)	Temp (°C)	Conductivity (us/cm)	NOTES
MW1	10/9/2023	9:22	5.68	211	6.96	19.0	1241	
	10/9/2023	12:46	5.72	219	6.97	19.1	1235	
	10/9/2023	14:25	5.27	241	6.98	19.1	1307	
	10/10/2023	8:19	6.03	218	6.96	18.5	1267	
	10/10/2023	10:50						KMnO4 solution observed following injection at IP5.
								Monitoring ceased.
Well	**Date**	**Time**	**DO (mg/L)**	**ORP (mV)**	**pH (SU)**	**Temp (°C)**	**Conductivity (us/cm)**	**NOTES**
MW4	10/9/2023	12:55	2.35	96	6.98	12.6	659	
	10/9/2023	14:25	1.24	220	7.06	13.1	707	
	10/10/2023	8:39	1.87	202	7.06	13.5	711	
	10/10/2023	14:53	1.42	458	7.10	13.4	728	
	10/11/2023	8:55	2.80	168	7.00	13.1	642	
	10/11/2023	12:29	1.86	268	7.07	13.4	709	
Well	**Date**	**Time**	**DO (mg/L)**	**ORP (mV)**	**pH (SU)**	**Temp (°C)**	**Conductivity (us/cm)**	**NOTES**
MW5	10/9/2023	9:34	4.70	197	7.31	18.6	867	
	10/9/2023	12:59	4.85	138	7.29	19.2	878	
	10/9/2023	14:20	5.18	236	7.36	21.5	922	
	10/10/2023	8:35	5.32	204	7.41	21.2	738	
	10/10/2023	11:12	4.90	197	7.40	21.8	768	
	10/10/2023	14:47	5.68	503	7.42	21.2	878	KMnO4 solution observed following injection at IP5.
								Monitoring ceased.

Table 7
Groundwater Quality Data During Injection

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

Well	Date	Time	DO (mg/L)	ORP (mV)	pH (SU)	Temp (°C)	Conductivity (us/cm)	NOTES
MW8	10/9/2023	9:28	4.09	202	7.04	15.3	918	
	10/9/2023	12:49	3.79	221	7.04	16.4	929	
	10/9/2023	14:30	4.30	251	7.10	16.3	926	
	10/10/2023	8:26	4.33	196	7.04	16.2	926	
	10/10/2023	11:02	5.36	206	7.09	15.5	913	
	10/10/2023	14:44	5.82	209	7.09	15.5	920	
	10/11/2023	8:50	6.58	212	6.96	17.3	633	
	10/11/2023	12:26	6.44	328	6.96	17.8	665	
Well	**Date**	**Time**	**DO (mg/L)**	**ORP (mV)**	**pH (SU)**	**Temp (°C)**	**Conductivity (us/cm)**	**NOTES**
MW9	10/10/2023	15:00	2.45	434	7.14	18.2	1012	
	10/10/2023	9:00	4.00	188	7.39	17.9	585	
	10/11/2023	12:32	4.12	201	7.45	18.2	583	
Well	**Date**	**Time**	**DO (mg/L)**	**ORP (mV)**	**pH (SU)**	**Temp (°C)**	**Conductivity (us/cm)**	**NOTES**
A-1 SUMP	10/9/2023	15:05						No access.
	10/10/2023	16:00						Access granted. No coloration observed.
	10/11/2023	13:00						Access granted. Slight purple/brown coloration observed.

Table 8
Post-Injection Metals Concentration in Groundwater

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

January 5, 2024

PARAMETER	Analytical Method	Units	NYS Water Quality Standard or Guidance Value	MW1		MW4		MW5	
Arsenic	6010C	µg/L	25	ND		ND		ND	
Barium	6010C	µg/L	1,000	3.9		65		50	
Beryllium	6010C	µg/L	3	ND		ND		ND	
Cadmium	6010C	µg/L	5	ND		ND		ND	
Copper	6010C	µg/L	300	5.5	J	11		32	J
Lead	6010C	µg/L	25	ND		ND		ND	
Manganese	6010C	µg/L	300	**1,200**		17		46	
Nickel	6010C	µg/L	100	22	J	1.4	J	ND	
Selenium	6010C	µg/L	10	**11**	J	ND		10	J
Silver	6010C	µg/L	50	ND		ND		ND	
Zinc	6010C	µg/L	2,000	20		31		17	
Mercury	7470A	µg/L	0.7	0.058	J	0.062	J	0.3	
Chromium (Hexavalent)	7196A	µg/L	50	10	H H3	ND	H H3	ND	H H3
Chromium (Trivalent)	SM 3500 CR D	µg/L	NA	ND		ND		9.9	J
Cyanide	9012B	µg/L	200	11	B	5.8	J B	9.5	J B
Chloride	SM 4500 Cl-E	mg/L	250	231	B	31.3	B	98.0	B
Potassium Permanganate	SM 4500 KMnO4	mg/L	NA	ND	H H3	ND	H H3	ND	H H3

NOTES:
1. Analytical testing by Eurofins TestAmerica Buffalo.
2. Results present in ug/L.
3. ND = Not Detected
4. "J" = value is estimated; "H" = sample was prepped or analyzed beyond the specified holding time; "H3" = "sample was received and analyzed past the specified holding time; "B" = compound was found in the blank and sample
5. Bold text indicates exceedance of NYS Ambient Water Quality Standard (TOGS 1.1.1) for Class GA waters.

Table 8 (Continued)
Post-Injection Metals Concentration in Groundwater

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

April 16, 2024

PARAMETER	Analytical Method	Units	NYS Water Quality Standard or Guidance Value	MW1		MW4		MW5	
Arsenic	6010C	µg/L	25	ND		ND		ND	
Barium	6010C	µg/L	1,000	3.7		30		26	
Beryllium	6010C	µg/L	3	ND		ND		ND	
Cadmium	6010C	µg/L	5	ND		ND		ND	
Copper	6010C	µg/L	300	3.8	J	5.5	J	67	
Lead	6010C	µg/L	25	ND		ND		ND	
Manganese	6010C	µg/L	300	300		ND		17	
Nickel	6010C	µg/L	100	1.9	J	1.4	J	3.0	J
Selenium	6010C	µg/L	10	ND		ND		ND	
Silver	6010C	µg/L	50	ND		ND		ND	
Zinc	6010C	µg/L	2,000	20		14		13	
Mercury	7470A	µg/L	0.7	ND		ND		0.11	J
Chromium (Hexavalent)	7196A	µg/L	50	28	H H3	10		6.2	J H
Chromium (Trivalent)	SM 3500 CR D	µg/L	NA	ND		ND		ND	
Cyanide	9012B	µg/L	200	7.3	J B	ND		ND	
Chloride	SM 4500 Cl-E	mg/L	250	235		4.5		68.4	
Potassium Permanganate	SM 4500 KMnO4	mg/L	NA	ND	H H3	ND	H	ND	H

NOTES:
1. Analytical testing by Eurofins TestAmerica Buffalo.
2. ND = Not Detected
3. "J" = value is estimated; "H" = sample was prepped or analyzed beyond the specified holding time; "H3" = "sample was received and analyzed past the specified holding time; "B" = compound was found in the blank and sample
4. Bold text indicates exceedance of NYS Ambient Water Quality Standard (TOGS 1.1.1) for Class GA waters.

Table 8 (Continued)
Post-Injection Metals Concentration in Groundwater

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

August 27, 2024

PARAMETER	Analytical Method	Units	NYS Water Quality Standard or Guidance Value	MW1		MW4		MW5	
Arsenic	6010C	mg/L	25	ND		ND		5.9	J
Barium	6010C	mg/L	1,000	9.2		60		66	
Beryllium	6010C	mg/L	3	ND		ND		ND	
Cadmium	6010C	mg/L	5	ND		0.52	J	ND	
Copper	6010C	mg/L	300	6.8	J	9.5	J	5.7	J
Lead	6010C	mg/L	25	ND		4.3	J	ND	
Manganese	6010C	mg/L	300	**2,500**	B	210	B	47	B
Nickel	6010C	mg/L	100	5	J	1.8	J	1.3	J
Selenium	6010C	mg/L	10	ND		ND		ND	
Silver	6010C	mg/L	50	ND		ND		ND	
Zinc	6010C	mg/L	2,000	15		22		4.0	J
Mercury	7470A	mg/L	0.7	ND		ND		0.19	J
Chromium (Hexavalent)	7196A	mg/L	50	ND		ND		ND	
Chromium (Trivalent)	SM 3500 CR D	mg/L	NA	ND		ND		ND	
Cyanide	9012B	mg/L	200	5.4	J B	ND		ND	
Chloride	SM 4500 Cl-E	mg/L	250	210		12.9		105	
Potassium Permanganate	SM 4500 KMnO4	mg/L	NA	ND		ND		ND	

NOTES:
1. Analytical testing by Eurofins TestAmerica Buffalo.
2. ND = Not Detected
3. "J" = value is estimated; "B" = compound was found in the blank and sample
4. Bold text indicates exceedance of NYS Ambient Water Quality Standard (TOGS 1.1.1) for Class GA waters.

Table 8 (Continued)
Post-Injection Metals Concentration in Groundwater

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

November 6, 2024

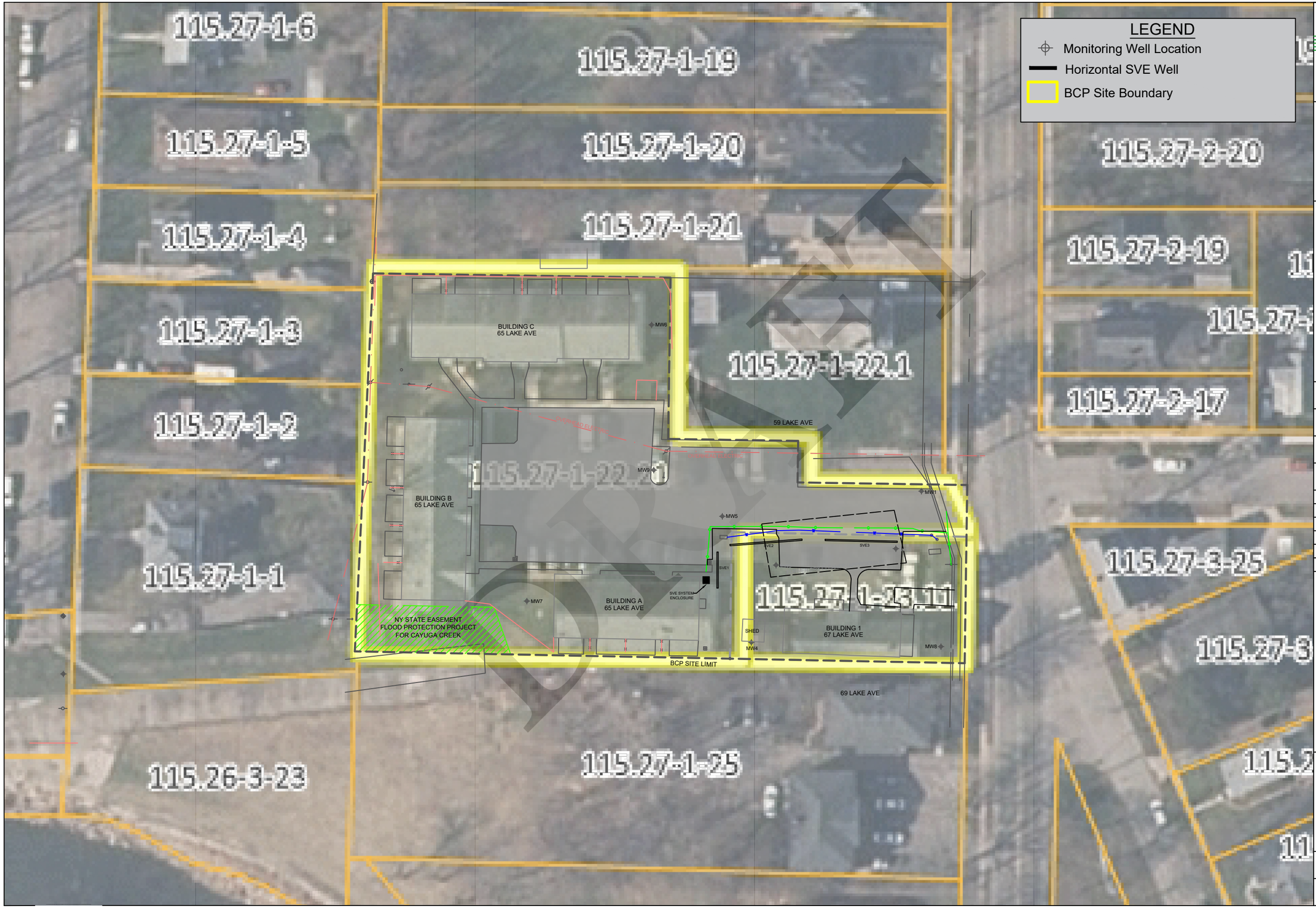
PARAMETER	Analytical Method	Units	NYS Water Quality Standard or Guidance Value	MW1		MW4		MW5	
Arsenic	6010C	mg/L	25	ND		5.8	J	6.6	J
Barium	6010C	mg/L	1,000	6		60		53	
Beryllium	6010C	mg/L	3	ND		ND		ND	
Cadmium	6010C	mg/L	5	ND		ND	J	ND	
Copper	6010C	mg/L	300	3.7	J	4.1	J	5	J
Lead	6010C	mg/L	25	4.5	J	4.2	J	5.1	J
Manganese	6010C	mg/L	300	**770**	B	300	B	5.8	B
Nickel	6010C	mg/L	100	1.5	J	2.5	J	2.0	J
Selenium	6010C	mg/L	10	ND		ND		ND	
Silver	6010C	mg/L	50	ND		ND		ND	
Zinc	6010C	mg/L	2,000	18		16	B	7.9	JB
Mercury	7470A	mg/L	0.7	ND		ND		0.22	J
Chromium (Hexavalent)	7196A	mg/L	50	ND		ND		ND	
Chromium (Trivalent)	SM 3500 CR D	mg/L	NA	ND		ND		ND	
Cyanide	9012B	mg/L	200	ND		ND		ND	
Chloride	SM 4500 Cl-E	mg/L	250	ND		ND		ND	
Potassium Permanganate	SM 4500 KMnO4	mg/L	NA	ND		ND		ND	

NOTES:
1. Analytical testing by Eurofins TestAmerica Buffalo.
2. ND = Not Detected
3. "J" = value is estimated; "B" = compound was found in the blank and sample
4. Bold text indicates exceedance of NYS Ambient Water Quality Standard (TOGS 1.1.1) for Class GA waters.

FIGURES

FIGURE: 1 DATE: N/A PROJECT NO.: 18-046	TITLE: Site Location Map	PROJECT NAME / LOCATION: Lakeside Village Apartments 65-67 Lake Avenue Lancaster, New York BCP Site No. C915344	REVISION BY: CMC — DATE: 6/15/24 SCALE IN FEET: 1" = 100' 0 — 100	PROJECT MGR: SLM DESIGNED BY: CMC REVIEWED BY: SRC DRAWN BY: CMC	PREPARED FOR: 65 Lake Avenue LLC	PREPARED BY: MATRIX ENVIRONMENTAL TECHNOLOGIES INC. 3730 California Road P.O. Box 427 Orchard Park, NY 14127 p:716.662.0745 www.matrixbiotech.com

30 years dedicated to a CLEANER ENVIRONMENT 1991-2021



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ORCHARD PARK - ROCHESTER - ITHACA
www.matrixbiotech.com

PREPARED FOR:

65 LAKE AVENUE LLC

PROJECT NAME/LOCATION:

LAKESIDE VILLAGE
APARTMENTS
65-67 LAKE AVENUE
LANCASTER, NEW YORK

BCP SITE NO. C915344

PROJECT NUMBER: 18-046

PROJECT MANAGER: SLM

DRAWN BY: CMC

REVIEWED BY: SRC

REVISION HISTORY

NUMBER	BY	DATE
0	CMC	8/20/25

N

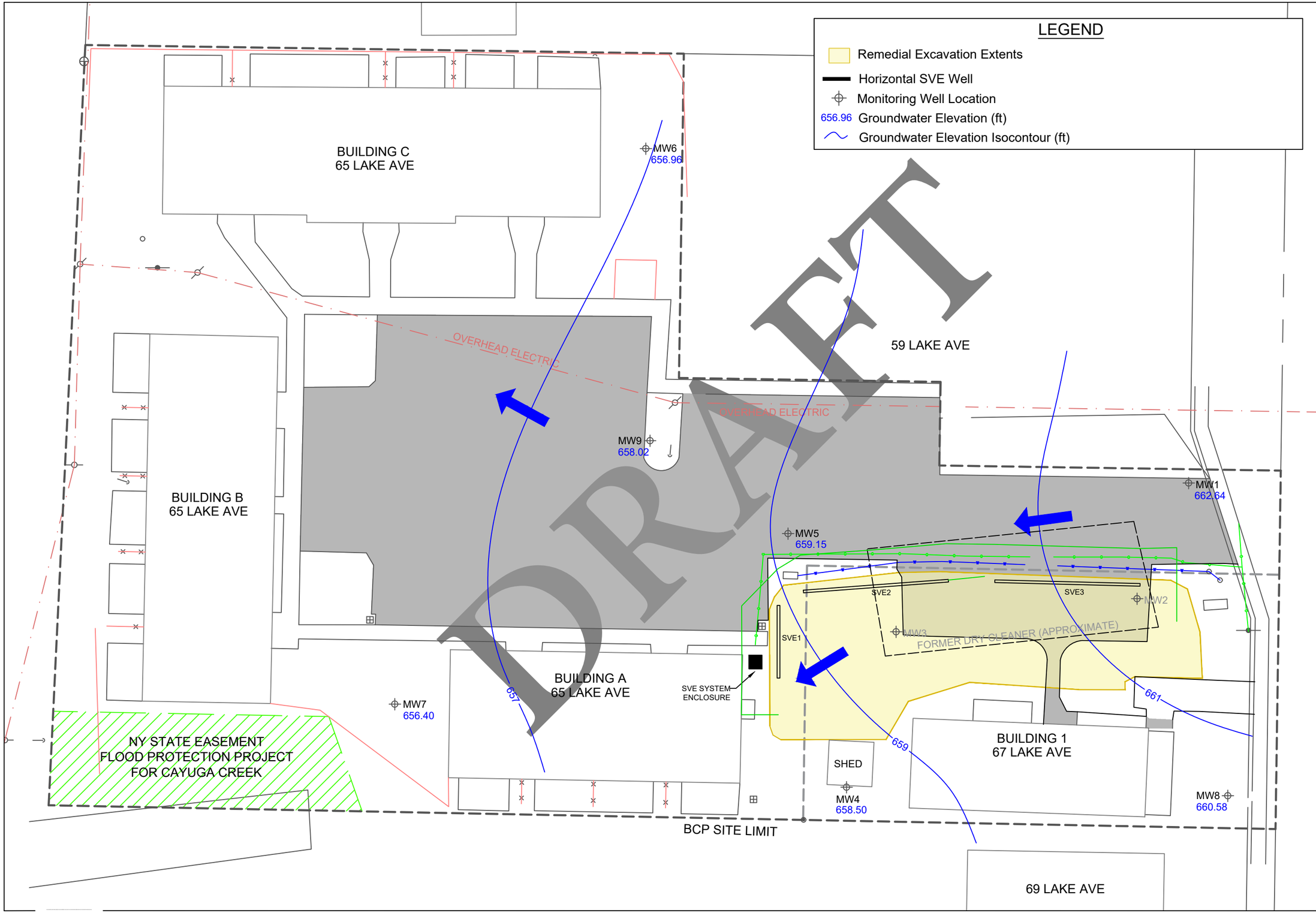
1" = 50'
0 50

TITLE:

SITE LAYOUT MAP

DATE:

FIGURE: 2



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PREPARED FOR:
65 LAKE AVENUE LLC

PROJECT NAME/LOCATION:
LAKESIDE VILLAGE APARTMENTS
65-67 LAKE AVENUE
LANCASTER, NEW YORK

BCP SITE NO. C915344

PROJECT NUMBER: 18-046
PROJECT MANAGER: SLM
DRAWN BY: CMC
REVIEWED BY: SRC

REVISION HISTORY

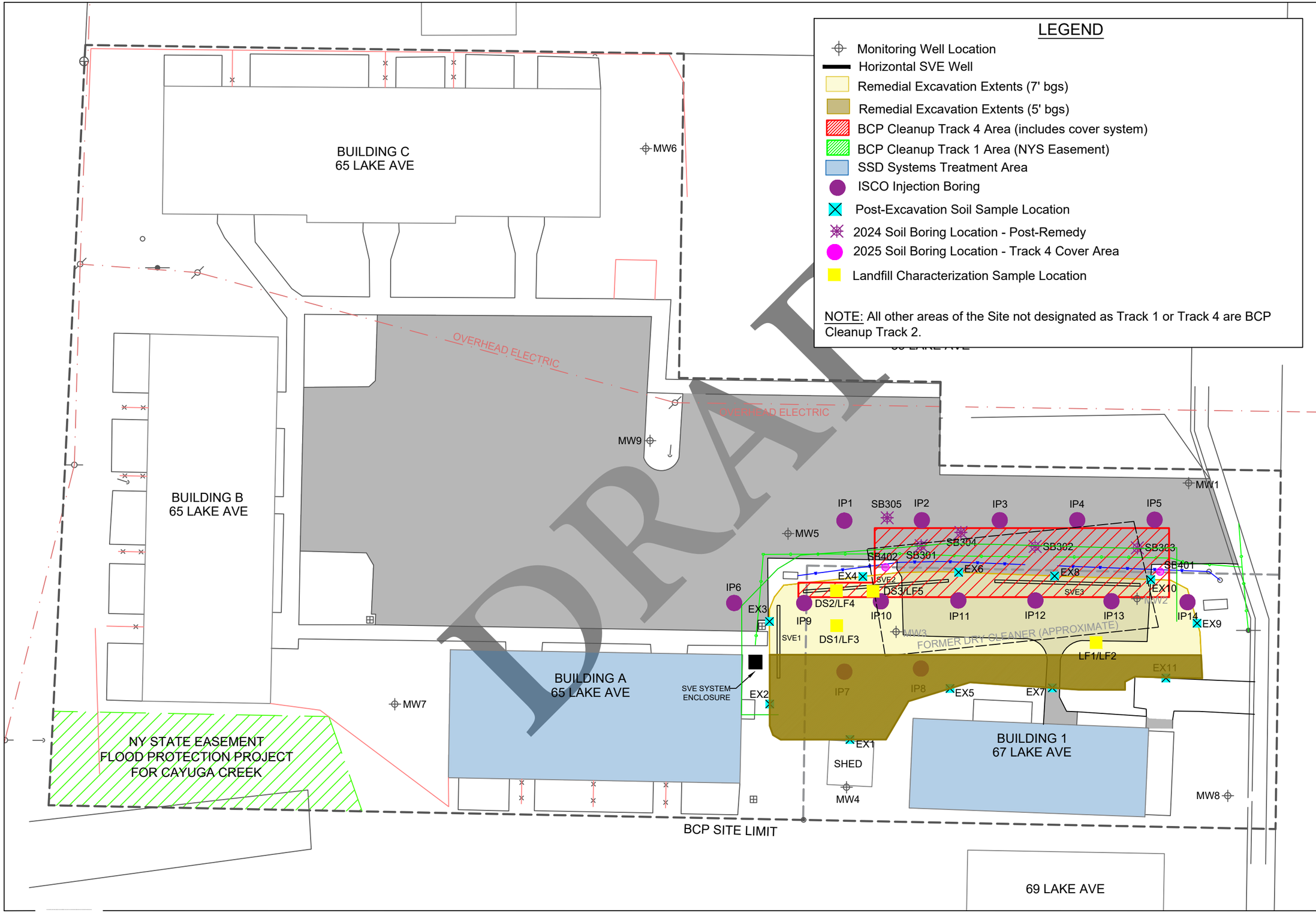
NUMBER	BY	DATE
0	CMC	8/20/25

N

1" = 25'
0 25

TITLE:
GROUNDWATER ELEVATION CONTOUR MAP

DATE: June 17, 2025
FIGURE: 3



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PREPARED FOR:

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PROJECT NAME/LOCATION:

LAKESIDE VILLAGE APARTMENTS
65-67 LAKE AVENUE
LANCASTER, NEW YORK

BCP SITE NO. C915344

PROJECT NUMBER: 18-046

PROJECT MANAGER: SLM

DRAWN BY: CMC

REVIEWED BY: SRC

REVISION HISTORY

NUMBER	BY	DATE
0	CMC	10/1/25

N

1" = 25'
0 25

TITLE:

REMEDIAL ELEMENTS AND BCP CLEANUP TRACK AREAS

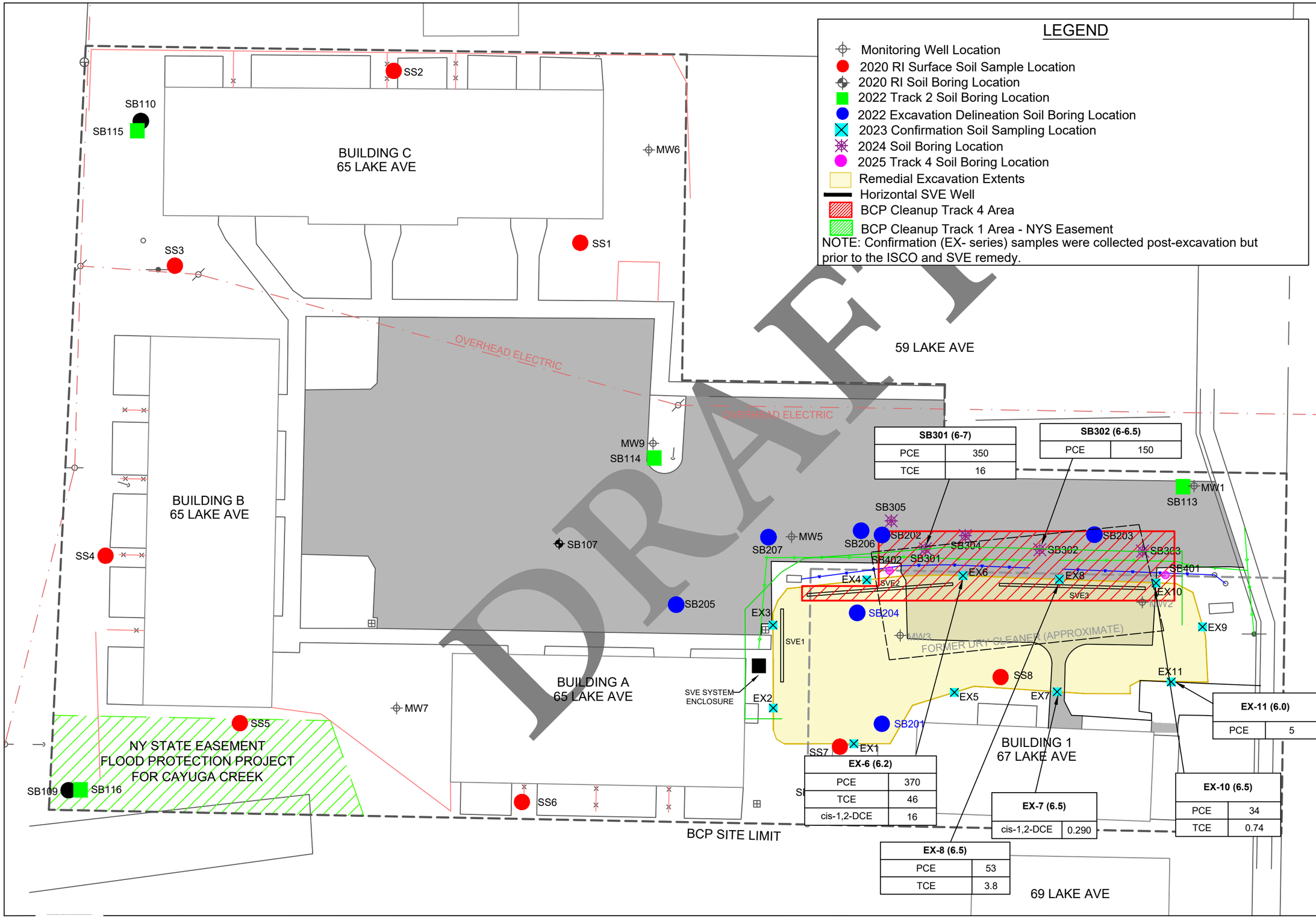
DATE: AS NOTED

FIGURE: 5

LEGEND

- Monitoring Well Location
- 2020 RI Surface Soil Sample Location
- 2020 RI Soil Boring Location
- 2022 Track 2 Soil Boring Location
- 2022 Excavation Delineation Soil Boring Location
- 2023 Confirmation Soil Sampling Location
- 2024 Soil Boring Location
- 2025 Track 4 Soil Boring Location
- Remedial Excavation Extents
- Horizontal SVE Well
- BCP Cleanup Track 4 Area
- BCP Cleanup Track 1 Area - NYS Easement

NOTE: Confirmation (EX- series) samples were collected post-excavation but prior to the ISCO and SVE remedy.



SB301 (6-7)	
PCE	350
TCE	16

SB302 (6-6.5)	
PCE	150

EX-11 (6.0)	
PCE	5

EX-6 (6.2)	
PCE	370
TCE	46
cis-1,2-DCE	16

EX-7 (6.5)	
cis-1,2-DCE	0.290

EX-10 (6.5)	
PCE	34
TCE	0.74

EX-8 (6.5)	
PCE	53
TCE	3.8

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PREPARED FOR:
65 LAKE AVENUE LLC

PROJECT NAME/LOCATION:
LAKESIDE VILLAGE APARTMENTS
65-67 LAKE AVENUE
LANCASTER, NEW YORK

BCP SITE NO. C915344

PROJECT NUMBER: 18-046
PROJECT MANAGER: SLM
DRAWN BY: CMC
REVIEWED BY: SRC

REVISION HISTORY

NUMBER	BY	DATE
0	CMC	10/2/25

N

1" = 25'
0 25

TITLE:
EXCEEDANCES OF UNRESTRICTED USE SCOs POST-REMEDY

DATE: AS NOTED
FIGURE: 5

LEGEND

- Monitoring Well Location
- 2020 RI Surface Soil Sample Location
- 2020 RI Soil Boring Location
- 2022 Track 2 Soil Boring Location
- 2022 Excavation Delineation Soil Boring Location
- 2023 Confirmation Soil Sampling Location
- 2024 Soil Boring Location
- 2025 Track 4 Soil Boring Location
- Remedial Excavation Extents
- Horizontal SVE Well
- BCP Cleanup Track 4 Area
- BCP Cleanup Track 1 Area - NYS Easement

Sample ID (ft. bgs)
PCE (mg/kg)
TCE (mg/kg)
cis-1,2-DCE (mg/kg)
trans-1,2-DCE (mg/kg)
Vinyl chloride (mg/kg)

NOTES: Highlighted values exceed the protection of groundwater SCO. PCE - 1.3 mg/kg; TCE - 0.47 mg/kg; cis-1,2-DCE - 0.25 mg/kg; trans-1,2-DCE - 0.19 mg/kg; Vinyl chloride - 0.02 mg/kg.
Confirmation (EX- series) samples were collected post-excavation but prior to the ISCO and SVE remedy.

SB301 (6-7)
350
16
ND
ND
ND

SB302 (6-6.5)
150
ND
ND
ND
ND

EX-6 (6.2)
370
46
16
ND
ND

EX-8 (6.5)
53
3.8
ND
ND
ND

EX-7 (6.5)
ND
0.082
0.290
0.016
ND

EX-10 (6.5)
34
0.74
ND
ND
ND

EX-11 (6.0)
5
0.27
ND
ND
ND

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65 LAKE AVENUE LLC

PROJECT NAME/LOCATION:
LAKESIDE VILLAGE APARTMENTS
65-67 LAKE AVENUE
LANCASTER, NEW YORK
BCP SITE NO. C915344

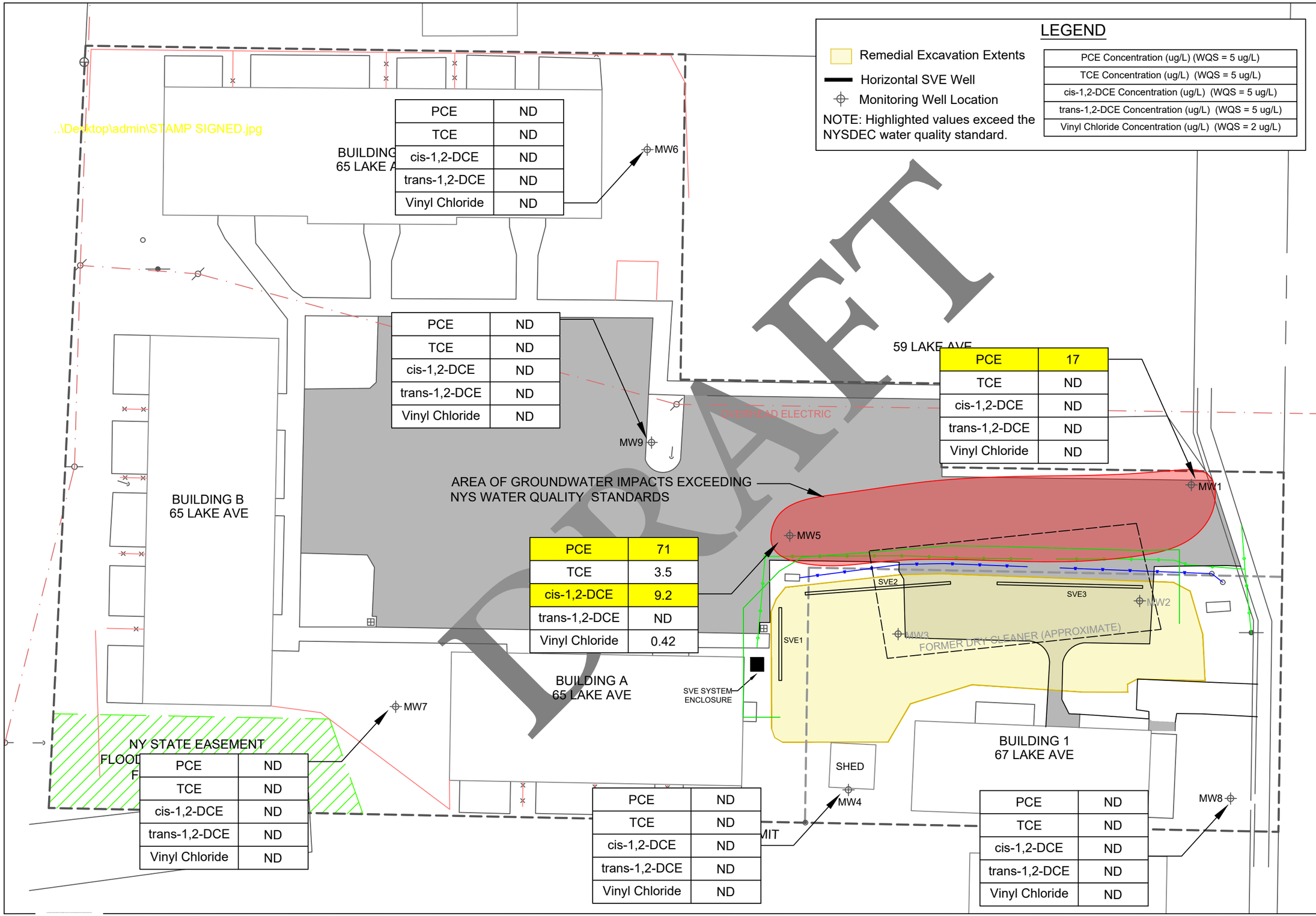
PROJECT NUMBER: 18-046
PROJECT MANAGER: SLM
DRAWN BY: CMC
REVIEWED BY: SRC

REVISION HISTORY

NUMBER	BY	DATE
0	CMC	5/29/25

TITLE:
REMAINING SOIL CONTAMINATION

DATE: AS NOTED
FIGURE: 6



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PROJECT NAME/LOCATION:

LAKESIDE VILLAGE
APARTMENTS
65-67 LAKE AVENUE
LANCASTER, NEW YORK

BCP SITE NO. C915344

PROJECT NUMBER: 18-046

PROJECT MANAGER: SLM

DRAWN BY: CMC

REVIEWED BY: SRC

REVISION HISTORY

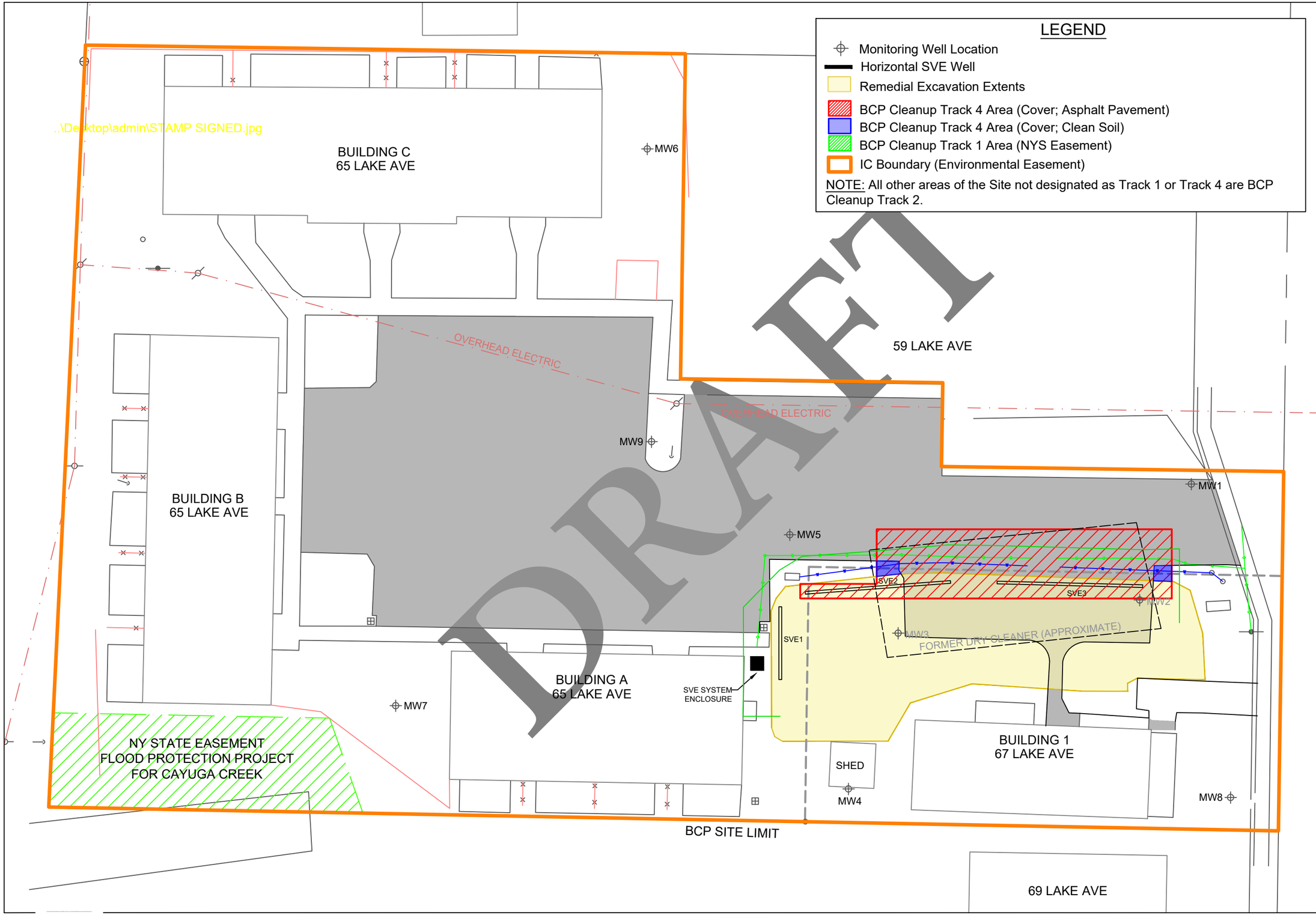
NUMBER	BY	DATE
0	CMC	8/20/25

TITLE:

GROUNDWATER VOC CONCENTRATIONS EXCEEDING STANDARDS

DATE: June 17, 2025

FIGURE: 7



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PROJECT NAME/LOCATION:
LAKESIDE VILLAGE APARTMENTS
65-67 LAKE AVENUE
LANCASTER, NEW YORK

BCP SITE NO. C915344

PROJECT NUMBER: 18-046
PROJECT MANAGER: SLM
DRAWN BY: CMC
REVIEWED BY: SRC

REVISION HISTORY

NUMBER	BY	DATE
0	CMC	10/3/25

N

1" = 25'
0 25

TITLE:
SOIL COVER

DATE:

FIGURE:
8

..\Desktop\admin\STAMP SIGNED.jpg

LEGEND

- Monitoring Well Location
- Horizontal SVE Well (EC)
- Remedial Excavation Extents
- BCP Cleanup Track 4 Area
- BCP Cleanup Track 1 Area (NYS Easement)
- Cover System (EC)
- SSD Systems Treatment Area (EC)
- SSD System Vapor Extraction Point (EC)
- SSD System Vapor Monitoring Point (EC)

BUILDING C
65 LAKE AVE

BUILDING B
65 LAKE AVE

BUILDING A
65 LAKE AVE

BUILDING 1
67 LAKE AVE

59 LAKE AVE

69 LAKE AVE

OVERHEAD ELECTRIC

OVERHEAD ELECTRIC

MW1 MW2 MW3 MW4 MW5 MW6 MW7 MW8 MW9

SVE1 SVE2 SVE3

FORMER DRY CLEANER (APPROXIMATE)

A4-M1 A3-M1 A2-M1 A1-M1

VP-A4 VP-A3 VP-A2 VP-A1

A4-M2 A4 FAN A3-M2 A3 FAN A2-M2 A2 FAN A1-M2 A1 FAN

SVE SYSTEM ENCLOSURE

M1 M2 M3 M4

VP-1 VP-2 VP-3

VP-1 FAN
SHED VP-1 FAN
VP-1 FAN

NY STATE EASEMENT
FLOOD PROTECTION PROJECT
FOR CAYUGA CREEK

BCP SITE LIMIT

DRAFT

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PREPARED FOR:
65 LAKE AVENUE LLC

PROJECT NAME/LOCATION:
LAKESIDE VILLAGE
APARTMENTS
65-67 LAKE AVENUE
LANCASTER, NEW YORK

BCP SITE NO. C915344

PROJECT NUMBER: 18-046
PROJECT MANAGER: SLM
DRAWN BY: CMC
REVIEWED BY: SRC

REVISION HISTORY

NUMBER	BY	DATE
0	CMC	9/4/25

N

1" = 25'
0 25

TITLE:
ENGINEERING CONTROLS

DATE:

FIGURE: 9

APPENDIX A – SURVEY MAP, METES AND BOUNDS

THIS PROPERTY IS SUBJECT TO AN ENVIRONMENTAL EASEMENT HELD BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION PURSUANT TO TITLE 36 OF ARTICLE 71 OF THE NEW YORK ENVIRONMENTAL CONSERVATION LAW. THE ENGINEERING AND INSTITUTIONAL CONTROLS FOR THIS EASEMENT ARE SET FORTH IN THE SITE MANAGEMENT PLAN (SMP). A COPY OF THE SMP MUST BE OBTAINED BY ANY PARTY WITH AN INTEREST IN THE PROPERTY. THE SMP CAN BE OBTAINED FROM NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF ENVIRONMENTAL REMEDIATION, SITE CONTROL SECTION, 625 BROADWAY, ALBANY, NY 12233 OR AT DERWEB@DEC.NY.GOV.

GENERAL NOTES:

1. HORIZONTAL DATUM IS REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83) AS ESTABLISHED BY UTILIZING THE NEW YORK STATE DEPARTMENT OF TRANSPORTATIONS REAL TIME NETWORK (NYSnet).
2. VERTICAL DATUM IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD83) AS ESTABLISHED BY UTILIZING NYSnet
3. CURRENT DEEDS OF RECORD:
   -LIBER 11096, PAGE 6981 = 65 LAKE AVENUE
   ABSTRACT No. 81117535 BY STEWART TITLE INSURANCE COMPANY DATED AUGUST 27, 2020
   -LIBER 11149, PAGE 3828 = 67 LAKE AVENUE
   ABSTRACT No. 81117534 BY STEWART TITLE INSURANCE COMPANY DATED AUGUST 27, 2020
4. ACREAGE:
   -65 LAKE AVENUE = 1.01 ACRES
   -67 LAKE AVENUE = 0.21 ACRES
   -TOTAL ACREAGE = 1.22 ACRES
5. UTILITIES SHOWN FROM EVIDENCE LOCATED IN THE FIELD AND AS MARKED BY OTHERS.
6. LIMITS OF EXCAVATION IS SHOWN FROM EVIDENCE IN THE FIELD AND AS MARKED BY OTHERS.

65 LAKE AVENUE IS SUBJECT TO:

- NEW YORK STATE ELECTRIC & GAS CORPORATION EASEMENT L-4224, P-181
- A NOTICE OF APPROPRIATION; A PERMANENT EASEMENT TO THE PEOPLE OF THE STATE OF NEW YORK (SHOWN HEREON) L-4339, P-386
- NEW YORK STATE ELECTRIC & GAS CORPORATION EASEMENT L-7307, P-367
- IROQUOIS GAS CORPORATION RIGHT-OF-WAY L-8023, P-99
- ERIE COUNTY WATER AUTHORITY PERMANENT EASEMENT L-11100, P-2910
- NATIONAL FUEL GAS DISTRIBUTION CORPORATION RIGHT OF WAY AGREEMENT L-11106, P-8339
- NEW YORK STATE ELECTRIC & GAS CORPORATION EASEMENT L-11107, P-5464

67 LAKE AVENUE IS SUBJECT TO:

- NEW YORK STATE ELECTRIC & GAS CORPORATION EASEMENT L-4224, P-181
- NEW YORK STATE ELECTRIC & GAS CORPORATION EASEMENT L-7307, P-367
- IROQUOIS GAS CORPORATION RIGHT OF WAY L-8023, P-99

DEED DESCRIPTION - 65 LAKE AVENUE - LANCASTER, NY
BOOK: 11096, PAGE: 6981

ALL THAT TRACT OR PARCEL OF LAND, SITUATE IN THE VILLAGE AND TOWN OF LANCASTER, COUNTY OF ERIE AND STATE OF NEW YORK, BEING PART OF LOT 1, SECTION 10, TOWNSHIP 11 AND RANGE 6 OF THE HOLLAND LAND COMPANY'S SURVEY, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE EAST LINE OF LOT NO. 1, DISTANT 112.35 FEET SOUTHERLY FROM THE SOUTHEAST CORNER OF LANDS FORMERLY OWNED BY GUY LITTLE, SAID POINT OF BEGINNING ALSO BEING THE NORTHEAST CORNER OF LANDS CONVEYED TO ROBERT YOUNG BY DEED RECORDED IN ERIE COUNTY CLERK'S OFFICE IN LIBER 3706 OF DEEDS AT PAGE 49; THENCE WESTERLY AT RIGHT ANGLES WITH THE EAST LINE OF LOT NO. 1, 94 FEET TO A POINT; THENCE NORTHERLY AT RIGHT ANGLES AND PARALLEL WITH THE EAST LINE OF LOT NO. 1, 23 FEET TO A POINT; THENCE WESTERLY AT RIGHT ANGLES, 72 FEET TO A POINT; THENCE NORTHERLY AT RIGHT ANGLES AND PARALLEL WITH THE EAST LINE OF LOT NO. 1, 89.25 FEET TO A POINT IN A BOUNDARY LINE ESTABLISHED BY AGREEMENT RECORDED IN ERIE COUNTY CLERK'S OFFICE IN LIBER 3360 OF DEEDS AT PAGE 376; THENCE WESTERLY ALONG SAID BOUNDARY LINE, 164.71 FEET TO A POINT IN THE EAST LINE OF LANDS FORMERLY OWNED BY JOHN DINWOODIE; THENCE SOUTHERLY ALONG THE EAST LINE OF LANDS FORMERLY OWNED BY JOHN DINWOODIE, 208.37 FEET TO THE NORTH LINE OF LANDS FORMERLY OWNED BY EBENEZER BRIGGS, JR., SAID POINT ALSO BEING THE SOUTHWEST CORNER OF LANDS CONVEYED TO ROBERT YOUNG BY DEED AFORESAID; THENCE EASTERLY ALONG THE SOUTH LINE OF LANDS SO CONVEYED TO YOUNG AND THE NORTH LINE OF LANDS FORMERLY OWNED BY BRIGGS, AS AFORESAID, 207.65 FEET A POINT DISTANCE 130 FEET WESTERLY FROM THE EAST LINE OF LOT NO. 1, AS MEASURED ALONG THE SAID NORTH LINE OF LANDS FORMERLY OWNED BY BRIGGS; THENCE NORTHERLY AT AN INTERIOR ANGLE OF 89°-45'-03" AND PARALLEL WITH THE EAST LINE OF LOT NO. 1, 70 FEET TO A POINT; THENCE EASTERLY ON A LINE PARALLEL WITH THE SAID NORTH LINE OF LANDS FORMERLY OWNED BY BRIGGS, 130 FEET TO A POINT IN THE EAST LINE OF LOT NO. 1; THENCE NORTHERLY ALONG THE EAST LINE OF LOT NO. 1, 28.65 FEET TO THE POINT OF BEGINNING.

DEED DESCRIPTION - 67 LAKE AVENUE - LANCASTER, NY
BOOK: 11149, PAGE: 3828

ALL THAT TRACT OR PARCEL OF LAND, SITUATE IN THE VILLAGE AND TOWN OF LANCASTER, COUNTY OF ERIE AND STATE OF NEW YORK, BEING PART OF LOT NO. 1, SECTION 10, TOWNSHIP 11, RANGE 6 OF THE HOLLAND LAND COMPANY'S SURVEY, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING IN THE EAST LINE OF LOT NO. 1 AT ITS INTERSECTION WITH THE NORTH LINE OF LANDS CONVEYED TO EBENEZER BRIGGS, JUNIOR BY DEED RECORDED IN ERIE COUNTY CLERK'S OFFICE IN LIBER 227 OF DEEDS AT PAGE 45, SAID POINT BEING 211 FEET SOUTHERLY FROM THE SOUTHEAST CORNER OF LANDS FORMERLY OWNED BY GUY LITTLE, AS MEASURED ALONG THE EAST LINE OF LOT NO. 1; THENCE WESTERLY ALONG THE NORTH LINE OF LANDS SO CONVEYED TO BRIGGS, 130 FEET; THENCE NORTHERLY ON A LINE PARALLEL WITH THE EAST LINE OF LOT NO. 1, 70 FEET; THENCE EASTERLY ON A LINE PARALLEL WITH THE NORTH LINE OF LANDS SO CONVEYED TO BRIGGS, 130 FEET TO A POINT IN THE EAST LINE OF LOT NO. 1; THENCE SOUTHERLY ALONG THE EAST LINE OF LOT NO. 1, 70.0 FEET TO THE POINT OF BEGINNING.

PROPOSED LEGAL DESCRIPTION "ENVIRONMENTAL EASEMENT AREA":

ALL THAT TRACT OR PARCEL OF LAND SITUATE IN THE VILLAGE AND TOWN OF LANCASTER, COUNTY OF ERIE AND STATE OF NEW YORK, BEING PART OF LOT 1, SECTION 10, TOWNSHIP 11 AND RANGE 6 OF THE HOLLAND LAND COMPANY'S SURVEY, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE EAST LINE OF LOT 1, DISTANT 112.35 FEET SOUTHERLY FROM THE SOUTHEAST CORNER OF LANDS FORMERLY OWNED BY GUY LITTLE, SAID POINT OF BEGINNING ALSO BEING THE NORTHEAST CORNER OF LANDS CONVEYED TO ROBERT YOUNG BY DEED RECORDED IN THE ERIE COUNTY CLERK'S OFFICE IN LIBER 3706 OF DEEDS AT PAGE 49;

THENCE WESTERLY, AT RIGHT ANGLES WITH THE EAST LINE OF LOT 1, A DISTANCE OF 94.00 FEET, TO A POINT;

THENCE NORTHERLY, AT RIGHT ANGLES AND PARALLEL WITH THE EAST LINE OF LOT 1, A DISTANCE OF 23.00 FEET, TO A POINT;

THENCE WESTERLY, AT RIGHT ANGLES, A DISTANCE OF 72.00 FEET, TO A POINT;

THENCE NORTHERLY, AT RIGHT ANGLES AND PARALLEL WITH THE EAST LINE OF LOT 1, A DISTANCE OF 89.25 FEET, TO A POINT IN A BOUNDARY LINE ESTABLISHED BY AGREEMENT RECORDED IN THE ERIE COUNTY CLERK'S OFFICE IN LIBER 3360 OF DEEDS AT PAGE 376;

THENCE WESTERLY, ALONG SAID BOUNDARY LINE, A DISTANCE OF 164.71 FEET; S 89°-10'-20" E TO A POINT IN THE EAST LINE OF LANDS FORMERLY OWNED BY JOHN DINWOODIE;

THENCE SOUTHERLY, ALONG THE EAST LINE OF DINWOODIE, A DISTANCE OF 183.54 FEET; S 02°-45'-37" E, TO A POINT;

THENCE EASTERLY A DISTANCE OF 75.88 FEET; S 88°-53'-19" E TO A POINT;

THENCE SOUTHEASTERLY, A DISTANCE OF 27.64 FEET; S 19°-19'-15" E TO A POINT ON THE NORTH LINE OF LANDS FORMERLY OWNED BY BRIGGS, AS AFORESAID,

THENCE EASTERLY, A DISTANCE OF 251.37 FEET ALONG THE NORTH LINE OF LANDS FORMALLY OWNED BY BRIGGS, TO A POINT ON THE EAST LINE OF LOT 1;

THENCE NORTHERLY, AT AN INTERIOR ANGLE OF 89°-45'-04" AND PARALLEL WITH THE EAST LINE OF LOT 1, A DISTANCE OF 98.65 FEET, TO THE POINT OF BEGINNING. CONTAINING 1.01 ACRES OF LAND, MORE OR LESS.

PROPOSED LEGAL DESCRIPTION FOR 65 LAKE AVENUE :

ALL THAT TRACT OR PARCEL OF LAND SITUATE IN THE VILLAGE AND TOWN OF LANCASTER, COUNTY OF ERIE AND STATE OF NEW YORK, BEING PART OF LOT 1, SECTION 10, TOWNSHIP 11 AND RANGE 6 OF THE HOLLAND LAND COMPANY'S SURVEY, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE EAST LINE OF LOT 1, DISTANT 112.35 FEET SOUTHERLY FROM THE SOUTHEAST CORNER OF LANDS FORMERLY OWNED BY GUY LITTLE, SAID POINT OF BEGINNING ALSO BEING THE NORTHEAST CORNER OF LANDS CONVEYED TO ROBERT YOUNG BY DEED RECORDED IN THE ERIE COUNTY CLERK'S OFFICE IN LIBER 3706 OF DEEDS AT PAGE 49;

THENCE WESTERLY AT RIGHT ANGLES WITH THE EAST LINE OF LOT 1, A DISTANCE OF 94.00 FEET, TO A POINT;

THENCE NORTHERLY AT RIGHT ANGLES AND PARALLEL WITH THE EAST LINE OF LOT 1, A DISTANCE OF 23.00 FEET, TO A POINT;

THENCE WESTERLY AT RIGHT ANGLES, A DISTANCE OF 72.00 FEET, TO A POINT;

THENCE NORTHERLY AT RIGHT ANGLES AND PARALLEL WITH THE EAST LINE OF LOT 1, A DISTANCE OF 89.25 FEET, TO A POINT IN A BOUNDARY LINE ESTABLISHED BY AGREEMENT RECORDED IN THE ERIE COUNTY CLERK'S OFFICE IN LIBER 3360 OF DEEDS AT PAGE 376;

THENCE WESTERLY ALONG SAID BOUNDARY LINE, A DISTANCE OF 164.71 FEET, TO A POINT IN THE EAST LINE OF LANDS FORMERLY OWNED BY JOHN DINWOODIE;

THENCE SOUTHERLY ALONG THE EAST LINE OF DINWOODIE, A DISTANCE OF 209.45 FEET, TO A POINT IN THE NORTH LINE OF LANDS FORMERLY OWNED BY EBENEZER BRIGGS, JR., SAID POINT ALSO BEING THE SOUTHWEST CORNER OF LANDS CONVEYED TO ROBERT YOUNG BY DEED MENTIONED AFORESAID;

THENCE EASTERLY ALONG THE SOUTH LINE OF LANDS CONVEYED TO YOUNG, AND THE NORTH LINE OF LANDS FORMERLY OWNED BY BRIGGS, AS AFORESAID, A DISTANCE OF 207.65 FEET, TO A POINT, A DISTANCE OF 130.0 FEET WESTERLY FROM THE EAST LINE OF LOT 1, AS MEASURED ALONG THE SAID NORTH LINE OF LANDS FORMERLY OWNED BY BRIGGS;

THENCE NORTHERLY AT AN INTERIOR ANGLE OF 89°-45'-04" AND PARALLEL WITH THE EAST LINE OF LOT 1, A DISTANCE OF 70.00 FEET, TO A POINT;

THENCE EASTERLY ON A LINE PARALLEL WITH THE SAID NORTH LINE OF LANDS FORMERLY OWNED BY BRIGGS, 130.00 FEET TO A POINT ON THE EAST LINE OF LOT 1;

THENCE NORTHERLY ALONG THE EAST LINE OF LOT 1, 28.65 FEET, TO THE POINT OF BEGINNING. CONTAINING 1.01 ACRES OF LAND, MORE OR LESS.

PROPOSED LEGAL DESCRIPTION FOR 67 LAKE AVENUE :

ALL THAT TRACT OR PARCEL OF LAND SITUATE IN THE VILLAGE AND TOWN OF LANCASTER, COUNTY OF ERIE AND STATE OF NEW YORK, BEING PART OF LOT 1, SECTION 10, TOWNSHIP 11 AND RANGE 6 OF THE HOLLAND LAND COMPANY'S SURVEY, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE EAST LINE OF LOT 1 AT ITS INTERSECTION WITH THE NORTH LINE OF LANDS CONVEYED TO EBENEZER BRIGGS, JUNIOR BY DEED RECORDED IN THE ERIE COUNTY CLERK'S OFFICE IN LIBER 227 OF DEEDS AT PAGE 45, SAID POINT BEING 211.0 FEET SOUTHERLY FROM THE SOUTHEAST CORNER OF LANDS FORMERLY OWNED BY GUY LITTLE, AS MEASURED ALONG THE EAST LINE OF LOT 1;

THENCE WESTERLY ALONG THE NORTH LINE OF LAND SO CONVEYED TO BRIGGS, A DISTANCE OF 130.0 FEET, TO A POINT;

THENCE NORTHERLY ON A LINE PARALLEL WITH THE EAST LINE OF LOT 1, A DISTANCE OF 70.0 FEET, TO A POINT;

THENCE EASTERLY ON A LINE PARALLEL WITH THE NORTH LINE OF LANDS SO CONVEYED TO BRIGGS, A DISTANCE OF 130.0 FEET, TO A POINT IN THE EAST LINE OF LOT 1;

THENCE SOUTHERLY ALONG THE EAST LINE OF LOT 1, A DISTANCE OF 70.0 FEET, TO THE POINT OF BEGINNING. CONTAINING 0.21 ACRES OF LAND, MORE OR LESS.

PROPOSED LEGAL DESCRIPTION FOR TRACK 2 (WHOLE SITE EXCLUDING TRACK 1 & 4):

ALL THAT TRACT OR PARCEL OF LAND SITUATE IN THE VILLAGE AND TOWN OF LANCASTER, COUNTY OF ERIE AND STATE OF NEW YORK, BEING PART OF LOT 1, SECTION 10, TOWNSHIP 11 AND RANGE 6 OF THE HOLLAND LAND COMPANY'S SURVEY, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE EAST LINE OF LOT 1, DISTANT 112.35 FEET SOUTHERLY FROM THE SOUTHEAST CORNER OF LANDS FORMERLY OWNED BY GUY LITTLE, SAID POINT OF BEGINNING ALSO BEING THE NORTHEAST CORNER OF LANDS CONVEYED TO ROBERT YOUNG BY DEED RECORDED IN THE ERIE COUNTY CLERK'S OFFICE IN LIBER 3706 OF DEEDS AT PAGE 49;

THENCE WESTERLY AT RIGHT ANGLES WITH THE EAST LINE OF LOT 1, A DISTANCE OF 94.00 FEET, TO A POINT;

THENCE NORTHERLY AT RIGHT ANGLES AND PARALLEL WITH THE EAST LINE OF LOT 1, A DISTANCE OF 23.00 FEET, TO A POINT;

THENCE WESTERLY AT RIGHT ANGLES, A DISTANCE OF 72.00 FEET, TO A POINT;

THENCE NORTHERLY AT RIGHT ANGLES AND PARALLEL WITH THE EAST LINE OF LOT 1, A DISTANCE OF 89.25 FEET, TO A POINT IN A BOUNDARY LINE ESTABLISHED BY AGREEMENT RECORDED IN THE ERIE COUNTY CLERK'S OFFICE IN LIBER 3360 OF DEEDS AT PAGE 376;

THENCE, S 89°-10'-20" E, ALONG SAID BOUNDARY LINE, A DISTANCE OF 164.71 FEET, TO A POINT IN THE EAST LINE OF LANDS FORMERLY OWNED BY JOHN DINWOODIE;

THENCE, S 02°-45'-37" E, ALONG THE EAST LINE OF DINWOODIE, A DISTANCE OF 183.54 FEET, TO A POINT;

THENCE, S 88°-53'-19" E, A DISTANCE OF 75.88 FEET, TO A POINT;

THENCE, S 19°-19'-15" E, A DISTANCE OF 27.64 FEET, TO A POINT ON THE NORTH LINE OF LANDS FORMERLY OWNED BY BRIGGS, AS AFORESAID,

THENCE EASTERLY, A DISTANCE OF 251.37 FEET, ALONG THE NORTH LINE OF LANDS FORMALLY OWNED BY BRIGGS, TO A POINT ON THE EAST LINE OF LOT 1;

THENCE, N 00°-51'-45" E AND ALONG THE EAST LINE OF LOT 1, A DISTANCE OF 98.65 FEET, TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM TRACT 4:

COMMENCING IN THE EAST LINE OF LOT NO. 1 AND 28.65 FEET SOUTH OF THE NORTHEAST CORNER OF ROBERT YOUNG BY DEED RECORDED IN ERIE COUNTY CLERK'S OFFICE IN LIBER 3706 OF DEEDS AT PAGE 49, SAID POINT BEING 141.0 FEET SOUTHERLY FROM THE SOUTHEAST CORNER OF LANDS FORMERLY OWNED BY GUY LITTLE, AS MEASURED ALONG THE EAST LINE OF LOT NO. 1, SAID POINT ALSO BEING THE NORTH WEST CORNER OF LANDS CONVEYED TO 65 LAKE AVENUE LLC BY DEED AS RECORDED IN ERIE COUNTY CLERK'S OFFICE IN LIBER 11149 OF DEEDS AT PAGE 3828;

THENCE, N 88°-53'-19" W, A DISTANCE OF 30.35 FEET, TO THE POINT OF BEGINNING OF TRACK 4;

THENCE, N 00°-00'-00" W, A DISTANCE OF 12.25 FEET, TO A POINT;

THENCE, N 90°-00'-00" W, A DISTANCE OF 81.00 FEET, TO A POINT;

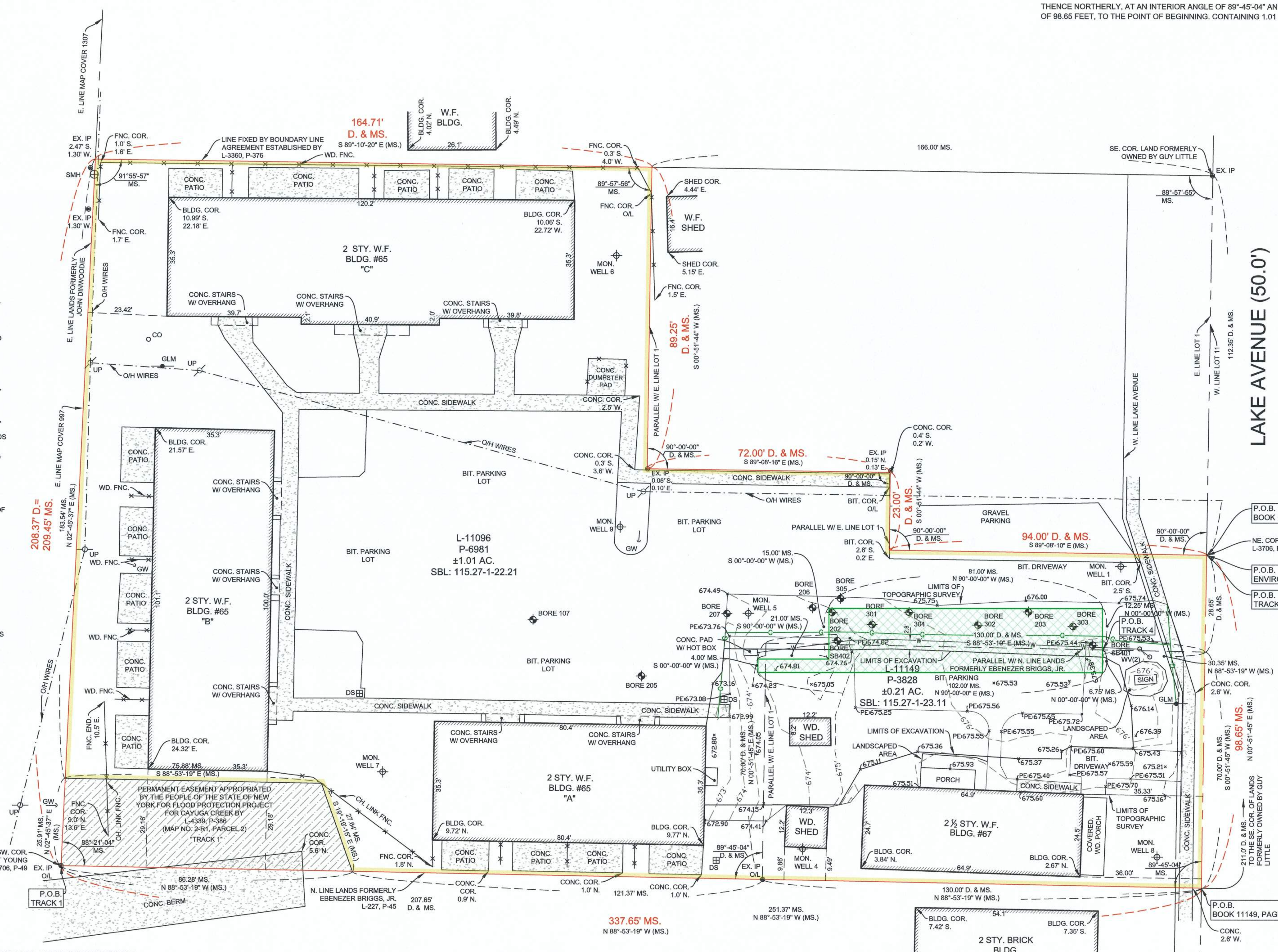
THENCE, S 00°-00'-00" W, A DISTANCE OF 15.00 FEET, TO A POINT;

THENCE, N 90°-00'-00" E, A DISTANCE OF 21.00 FEET, TO A POINT;

THENCE, S 00°-00'-00" W, A DISTANCE OF 4.00 FEET, TO A POINT;

THENCE, N 90°-00-00" E, A DISTANCE OF 102.00 FEET, TO A POINT;

THENCE, N 00°-00'-00" W, A DISTANCE OF 6.75 FEET, TO THE POINT OF BEGINNING OF TRACK 4. CONTAINING 1623 SQUARE FEET, ±0.037 AC.



LEGEND:

BORE		
CLEANOUT	CO	
DRAINAGE STRUCTURE	DS	
GUY WIRE	GW	
HYDRANT	HYD.	
IRON PIPE	IP.	
REBAR		
MONITORING WELL	MON. WELL	
MONUMENT (TYPE NOTED)		
SANITARY SEWER MANHOLE	SMH	
SIGN		
UTILITY POLE	UP	
WATER VALVE	WV	

BIT.	BITUMINOUS
BLDG.	BUILDING
CH.	CHAIN
CONC.	CONCRETE
DIA.	DIAMETER
FNC.	FENCE
INV.	INVERT
MTL.	METAL
P.O.B.	POINT OF BEGINNING
PVC	POLYVINYL CHLORIDE PIPE
STL.	STEEL
STN.	STONE
W/	WITH
N.	NORTH
E.	EAST
S.	SOUTH
W.	WEST

OVERHEAD WIRES
LOT LINE
WATER LINE
GAS LINE
MAJOR CONTOUR — 650'
MINOR CONTOUR — 645'
LIMITS OF EXCAVATION
ENVIRONMENTAL EASEMENT

BORE TABLE

BORE NUMBER	BORE ELEVATION
BORE 107	672.90
BORE 202	674.93
BORE 203	675.90
BORE 205	672.93
BORE 206	674.87
BORE 207	674.16
BORE 301	675.25
BORE 302	675.74
BORE 303	675.81
BORE 304	675.53
BORE 305	675.26
BORE SB401	*
BORE SB402	*

* DENOTES THAT THIS INFORMATION WAS PROVIDED BY MATRIX ENVIRONMENTAL TECHNOLOGIES INC. FOR HORIZONTAL PURPOSES ONLY. NO ELEVATION WAS GIVEN.

FEET: 0' 10' 20' 40'
METERS: 0 3.048 6.096 12.192
SCALE: 1"=20'

MONITORING WELL TABLE

MONITORING WELL NUMBER	RIM ELEVATION
MONITORING WELL 1	-
MONITORING WELL 4	675.02
MONITORING WELL 5	674.35
MONITORING WELL 6	675.67
MONITORING WELL 7	672.07
MONITORING WELL 8	675.00
MONITORING WELL 9	673.94

TRACK LEGEND:

"TRACK 1"
"TRACK 4"

PROPOSED LEGAL DESCRIPTION FOR TRACK 1

PERMANENT EASEMENT APPROPRIATED BY THE PEOPLE OF THE STATE OF NEW YORK FOR FLOOD PROTECTION PROJECT FOR CAYUGA CREEK BY L-4339, P-386 (MAP NO. 2-R1, PARCEL 2):

ALL THAT TRACT OR PARCEL OF LAND, SITUATE IN THE VILLAGE AND TOWN OF LANCASTER, COUNTY OF ERIE AND STATE OF NEW YORK, BEING PART OF LOT NO. 1, SECTION 10, TOWNSHIP 11, RANGE 6 OF THE HOLLAND LAND COMPANY'S SURVEY, BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING IN THE EAST LINE OF LOT NO. 1 AT ITS INTERSECTION WITH THE NORTH LINE OF LANDS CONVEYED TO EBENEZER BRIGGS, JUNIOR BY DEED RECORDED IN ERIE COUNTY CLERK'S OFFICE IN LIBER 227 OF DEEDS AT PAGE 45, SAID POINT BEING 211.0 FEET SOUTHERLY FROM THE SOUTHEAST CORNER OF LANDS FORMERLY OWNED BY GUY LITTLE, AS MEASURED ALONG THE EAST LINE OF LOT NO. 1;

THENCE, N 88°-53'-19" W, ALONG THE NORTH LINE OF LANDS SO CONVEYED TO BRIGGS, A DISTANCE OF 337.65 FEET, TO THE SOUTH WEST CORNER OF ROBERT YOUNG, L-3706, P-49 WHICH IS ALSO THE POINT OF BEGINNING;

THENCE, N 02°-45'-37" E, ALONG THE EAST LINE OF MAP COVER 997 ALSO KNOWN AS THE EAST LINE OF JOHN DINWOODIE, A DISTANCE OF 25.91 FEET, TO A POINT;

THENCE, S 88°-53'-19" E, AND PARALLEL WITH THE NORTH LINE OF BRIGGS, A DISTANCE OF 75.88 FEET, TO A POINT;

THENCE, S 19°-19'-15" E, A DISTANCE OF 27.64 FEET, TO A POINT IN THE NORTH LINE OF AFORESAID BRIGGS;

THENCE, N 88°-53'-19" W, A DISTANCE OF 86.28 FEET, TO THE POINT OF BEGINNING OF TRACK 1. CONTAINING 2099.94 SQUARE FEET, ±0.048 AC.

PROPOSED LEGAL DESCRIPTION FOR TRACK 4:

ALL THAT TRACT OR PARCEL OF LAND, SITUATE IN THE VILLAGE AND TOWN OF LANCASTER, COUNTY OF ERIE AND STATE OF NEW YORK, BEING PART OF LOT NO. 1, SECTION 10, TOWNSHIP 11, RANGE 6 OF THE HOLLAND LAND COMPANY'S SURVEY, BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING IN THE EAST LINE OF LOT NO. 1 AND 28.65 FEET SOUTH OF THE NORTHEAST CORNER OF ROBERT YOUNG BY DEED RECORDED IN ERIE COUNTY CLERK'S OFFICE IN LIBER 3706 OF DEEDS AT PAGE 49, SAID POINT BEING 141.0 FEET SOUTHERLY FROM THE SOUTHEAST CORNER OF LANDS FORMERLY OWNED BY GUY LITTLE, AS MEASURED ALONG THE EAST LINE OF LOT NO. 1, SAID POINT ALSO BEING THE NORTH WEST CORNER OF LANDS CONVEYED TO 65 LAKE AVENUE LLC BY DEED AS RECORDED IN ERIE COUNTY CLERK'S OFFICE IN LIBER 11149 OF DEEDS AT PAGE 3828;

THENCE, N 88°-53'-19" W, A DISTANCE OF 30.35 FEET, TO THE POINT OF BEGINNING OF TRACK 4;

THENCE, N 00°-00'-00" W, A DISTANCE OF 12.25 FEET, TO A POINT;

THENCE, N 90°-00'-00" W, A DISTANCE OF 81.00 FEET, TO A POINT;

THENCE, S 00°-00'-00" W, A DISTANCE OF 15.00 FEET, TO A POINT;

THENCE, N 90°-00'-00" E, A DISTANCE OF 21.00 FEET, TO A POINT;

THENCE, S 00°-00'-00" W, A DISTANCE OF 4.00 FEET, TO A POINT;

THENCE, N 90°-00-00" E, A DISTANCE OF 102.00 FEET, TO A POINT;

THENCE, N 00°-00'-00" W, A DISTANCE OF 6.75 FEET, TO THE POINT OF BEGINNING OF TRACK 4. CONTAINING 1623 SQUARE FEET, ±0.037 AC.

STATE OF NEW YORK · RICHARD NATHAN JOHNSON · 051043 · LICENSED LAND SURVEYOR

65 & 67 LAKE AVENUE, VILLAGE & TOWN OF LANCASTER COUNTY OF ERIE, STATE OF NEW YORK

PART OF LOT(S): 1	SECTION: 10	TOWNSHIP: 11	RANGE: 6

OF THE HOLLAND LAND COMPANY'S SURVEY

wendel
Centerpointe Corporate Park * 375 Essjay Road, Suite 200
Williamsville, New York 14221
PHONE: 716.688.0766 FAX: 716.625.6825
WEBSITE: www.wendelcompanies.com
Wendel WD Architecture, Engineering, Surveying and Landscape Architecture P.C.

PROJ. NO.	2963-24-77/014
DATE	6/18/2024
SCALE	1"=20'
CREW	MJM
DWN.	KAC
CHK.	RNJ

NO.	DATE	REVISION	BY	APPD.
3	8/25/2025	REVISED TO ADDRESS N.Y.S.D.E.C. COMMENTS	KSK	
2	8/7/2025	REVISED TO ADDRESS N.Y.S.D.E.C. COMMENTS	KSK	-
1	3/27/2025	ADDED TOPOGRAPHIC SURVEY DATA	-	-

-MAP REFERENCE:

-TAX IDENTIFICATION No.: 115.27-1-22.21 & 115.27-1-23.11

NOTE:
UNAUTHORIZED ALTERATION OR ADDITION TO ANY SURVEY DRAWING, DESIGN, SPECIFICATION, PLAN OR REPORT IS A VIOLATION OF SECTION 7209, PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

NOTE:
ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY MAP MARKED WITH THE SIGNATURE AND AN ORIGINAL OF THE LAND SURVEYOR'S EMBOSSED SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES.

Legend:

DRAWING NAME: 77.006

AC. = ACRES
APPROX. = APPROXIMATE
AVE. = AVENUE
BIT. = BITUMINOUS
CB = CATCH BASIN
CH. = CHAIN
CLR. = CLEAR
CONC. = CONCRETE
COR. = CORNER
C.T.V. = CABLE TV BOX
℄ = CENTERLINE
D. = DEED
DIA. = DIAMETER
DIST. = DISTANCE
E = EAST
EJB = ELECTRICAL JUNCTION BOX
ENC. = ENCROACHMENT
ESMT. = EASEMENT
EX. = EXISTING
FNC. = FENCE
GAR. = GARAGE
IP. = IRON PIPE/ IRON PIN
L = LIBER
LN. = LANE
MH = MANHOLE
MP. = MAP
MS. = MEASURED
N = NORTH
NTS = NOT TO SCALE
O/H = OVERHEAD
O/L = ON LINE
P = PAGE
℘ = PROPERTY LINE
PP = POWER POLE
PO. = PORCH
PAV'T = PAVEMENT
RD. = ROAD
S = SOUTH
ST. = STREET
STY. = STORY
TJB = TELEPHONE JUNCTION BOX
TYP. = TYPICAL
W = WEST
W/ = WITH
WD. = WOOD
W.F. = WOODFRAME

APPENDIX B – ENVIRONMENTAL EASEMENT

TO BE INCLUDED UPON EXECUTION AND FILING WITH ERIE COUNTY CLERK

APPENDIX C – AGENCY APPROVALS

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Materials Management, Bureau of Hazardous Waste and Radiation Management
625 Broadway, 9th Floor, Albany, New York 12233-7256
P: (518) 402-8651 | F: (518) 402-9024
www.dec.ny.gov

August 15, 2023

Sent via e-mail, no hard copy to follow

Christine M. Curtis
Senior Engineer
Matrix Environmental Technologies INC.
95 Brown Road, M/S 1052
Ithica, NY 14850

Re: Lakeside Village Apartments
65-67 Lake Avenue
Lancaster, Erie County, NY 14086
Site No. C915344

Dear Christine B Madsen:

The New York State Department of Environmental Conservation (NYSDEC or the Department) has reviewed your letter and data submitted with the email on April 27, 2023, and additional information on July 25, 2023, requesting a “contained-in” determination for about 1,090 tons excavated soil/fill from Excavation Area A and Excavation Area B at the Lakeside Village Apartments site (Please see attached Figure 5).

Evaluation

Concentrations (Lab Sample ID: AD18267-001, AD18267-002, AD18267-003, AD18267-004, AD18267-005, AD18291-001, AD18291-002, AD18291-003, AD18291-004, AD18291-005, AD18291-006, AD18291-007, AD18313-001, AD18313-002, AD18554-001, AD18554-002, , AD18554-006, AD18348-001, AD18348-002, AD18348-004, AD18396-001, AD18415-001, AD18415-002, AD18415-003, AD18415-004, AD18415-005, FA77215-1, FA77215-2, FA77215-3, FA77215-4, FA77215-5, FA77215-6, FA77215-7, FA77215-8, FA77313-1, FA77313-2, FA77313-3, FA77361-1, FA77361-2, FA77633-1, FA77908-1, FA77908-2, FA77908-3, FA77908-4, FA77908-5) detected for individual volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals were all less than their current NYSDEC "contained in" soil action levels and Land Disposal Restriction concentrations. Most of the individual VOCs and SVOCs, were not detected above the reporting limit. No hazardous constituents exhibited a hazardous waste characteristic by exceeding their TCLP regulatory level.

Concentration for Tetrachloroethylene (PCE) detected in the soil sample (Lab Sample ID: AD18267-001, AD18267-002, AD18267-003, AD18267-004, AD18267-005, AD18291-001, AD18291-002, AD18291-003, AD18291-004, AD18291-005, AD18291-006, AD18291-007, AD18313-001, AD18313-002, AD18554-001, AD18554-002, , AD18554-006, AD18348-001, AD18348-002, AD18348-004, AD18396-001, AD18415-001, AD18415-002, AD18415-003, AD18415-004, AD18415-005, FA77215-1, FA77215-2, FA77215-3, FA77215-4, FA77215-5, FA77215-6, FA77215-7, FA77215-8, FA77313-1, FA77313-2, FA77313-3, FA77361-1, FA77361-2, FA77633-1, FA77908-1, FA77908-2, FA77908-3, FA77908-4, FA77908-5) was below the current NYSDEC "contained in" soil action level and the Land Disposal Restriction concentration. Therefore, about 1,090 tons of soil/fill excavated from Excavation Area A outside the boundary of DS1/LF3, DS2/LF4 and DS3/LF5 from 0-7 feet, and within the boundary from 4-7 feet, and Excavation Area B from 0-5 feet, do not have to be managed as hazardous waste and may be transported off-site to a permitted solid waste facility for proper disposal as non-hazardous waste. Please provide the Department the name and address of the facility that will receive it and how much each facility will receive.

The area within the boundary of DS1/LF3, DS2/LF4 and DS3/LF5 (Lab Sample ID: AD18267-001, AD18267-002, AD18267-003, AD18267-004, AD18267-005, AD18291-001, AD18291-002, AD18291-003, AD18291-004, AD18291-005, AD18291-006, AD18291-007, AD18313-001, AD18313-002, AD18554-001, AD18554-002, , AD18554-006, AD18348-001, AD18348-002, AD18348-004, AD18396-001, AD18415-001, AD18415-002, AD18415-003, AD18415-004, AD18415-005, FA77215-1, FA77215-2, FA77215-3, FA77215-4, FA77215-5, FA77215-6, FA77215-7, FA77215-8, FA77313-1, FA77313-2, FA77313-3, FA77361-1, FA77361-2, FA77633-1, FA77908-1, FA77908-2, FA77908-3, FA77908-4, FA77908-5) from 0-3 feet is not part of this contained-in determination. The area fails the contained-in determination criteria for tetrachloroethene. The soil/fill must be disposed of as hazardous waste.

Should you have any questions regarding the content of this letter, please do not hesitate to contact me at (518) 402-9594 or email me at alison.egbon@dec.ny.gov.

Sincerely,

Alison Egbon
Assistant Environmental Engineer
RCRA Technical Assistance Section

ec: B. J Mcpherson , DEC

LEGEND

- Soil Boring Location (2022)
- Proposed Excavation Extents
- Confirmation Soil Sampling Location
- Excavation to 5 feet bgs
- Excavation to 7 feet bgs
- Horizontal SVE Well
- Hazardous waste soils (0-3 ft. bgs)

SB110
SB115
SB106/MW6
Building C
59 Lake Ave
SB112/MW9
SB114
SB101/MW1
SB113
SB107
SB105/MW5
SB206
SB207
SB202
DS3/LF5
SB203
TW1
Building B
UNDERGROUND GAS UTILITY
UNDERGROUND WATER UTILITY
UNDERGROUND STORM SEWER
UNDERGROUND ELECTRIC UTILITY
UNDERGROUND COMMUNICATIONS UTILITY
FORMER DRY CLEANER (APPROXIMATE)
SB205
DS2/LF4
SB204
SVE1
SVE2
SVE3
67 Lake Ave
SB102/MW2
SB103/MW3
DS1/LF3
Lake Ave
SB108/MW7
EXCAVATION AREA A
Building A
EXCAVATION AREA B
SB201
Building 1
SB109
SB116
65 Lake Ave
SVE SYSTEM ENCLOSURE
SB117
SB104/MW4
SB111/MW8
BCP Site Limit
Concrete Berm
69 Lake Ave

30 years dedicated to a CLEANER ENVIRONMENT 1991-2021

PREPARED BY:
MATRIX ENVIRONMENTAL TECHNOLOGIES INC.
3730 California Road
P.O. Box 427
Orchard Park, NY 14127
p:716.662.0745
www.matrixbiotech.com

PREPARED FOR:
65 Lake Avenue LLC

PROJECT MGR: SLM
DESIGNED BY: CMC
REVIEWED BY: SRC
DRAWN BY: CMC

REVISION

BY	DATE
CMC	7/17/23

SCALE IN FEET: 1" = 20'
0 20

PROJECT NAME / LOCATION:
Lakeside Village Apartments
65-67 Lake Avenue
Lancaster, New York

BCP Site No. C915344

TITLE:
Proposed Remedial Soil Excavation and SVE Well Locations

DATE:
PROJECT NO.: 18-046
FIGURE: 5

Christine Curtis

From: region2_uic@epa.gov
Sent: Tuesday, October 17, 2023 11:25 AM
To: aquinolaw@gmail.com
Cc: Christine Curtis; FungKhee.Finola@epa.gov
Subject: USEPA UIC notification regarding: 24NY02904879: Lakeside Village Apartments, Lancaster, NY, 14086

Total Wells: 14
14 - Under Construction - 5B6 Beneficial Use- Subsurface environmental remediation - as of 09/07/2023

October 17, 2023

Mark Aquino
65 Lake Avenue LLC
32 Central Ave,
Lancaster, NY, 14086

Dear Mr. Aquino:

The U.S. Environmental Protection Agency (EPA) Region 2 Drinking Water and Ground Water Protection Section is in receipt of Underground Injection Control (UIC) inventory information addressing UIC class V wells that you own or operate. This information was submitted to EPA as required by 40 Code of Federal Regulations (CFR) §144.26, which addresses UIC Class V wells.

This letter is to inform you that your Class V injection activity is "authorized by rule" in accordance with 40 CFR §144.24 and to outline measures that must be taken to prevent contamination of Underground Sources of Drinking Water (USDWs). You must comply with all Class V requirements of the UIC program. Pursuant to 40 CFR §144.12(a) and §144.82(a)(1), your injection activity cannot allow the movement of fluid containing any contaminant into USDWs if the presence of that contaminant may cause a violation of the primary drinking water standards under 40 CFR §141 or other health based standards, or may otherwise adversely affect the health of persons. This prohibition applies to owner/operator well construction, operation, maintenance, conversion, plugging, closure, or any other injection activity. Therefore, as an owner/operator, you must ensure that your activity does not allow movement of contaminated fluid into USDWs if the contaminated fluid could cause any violation of applicable regulations or adversely affect human health.

Whenever any conditions change in the operation of any inventoried wells (e.g., well closure), you as owner/operator must ensure that UIC program requirements are met and inventory information is updated. For work being conducted under a work plan approved by the New York State Department of Environmental Conservation (NYSDEC), it is not necessary to submit inventory with each subsequent injection. Please inform EPA when all injections are complete for this Facility.

To update inventory information, use the Owner or Operator Online Form for Inventory of Injection Wells (7520-16), which is available through the Region 2 UIC website: https://www.epa.gov/uic/underground-injection-control-epa-region-2-nj-ny-pr-and-vi. Enter the UIC ID number in section 2 (Facility ID Number) of the Online Form and use the comments section to specify the information being updated. If the information being updated does not fit in the Online Form (e.g., updating Additional Information as described in the R2 Supplemental Instructions), submit it separately by email to region2_uic@epa.gov. Be sure to include the UIC ID number referenced above with any email submittals.

All information you submit may be used in an administrative, civil judicial, or criminal action. Making a knowing submission of materially false information to the U.S. Government may be a criminal offense. Please also be advised that you should contact state and local authorities to ensure you have complied with all applicable regulations that may be more stringent than the UIC program.

For questions, contact UIC case handler Finola Fung-Khee at 212-637-4008 or FungKhee.Finola@epa.gov.

Sincerely,
UIC Program
Drinking Water and Ground Water Protection Section EPA Region 2
290 Broadway, New York, NY 10007
Region2_UIC@epa.gov

Christine Curtis

From: Mcpherson, Benjamin J (DEC) <benjamin.mcpherson@dec.ny.gov>
Sent: Thursday, September 14, 2023 4:34 PM
To: Christine Curtis
Cc: Mcpherson, Benjamin J (DEC)
Subject: RE: Lakeside Village Apts - schedule update

Christine,

The Department has reviewed the request dated September 14, 2023 to import up to 500 cubic yards of -2" Crusher Run material from New Enterprise Stone and Lime Co., Wehrle Drive. Based on the information provided, the request is hereby approved. The proposed fill material meets the requirements for material other than soil (i.e., gravel, rock, stone, recycled concrete or recycled brick) as specified in section 5.4(e)5 of DER-10.

Testing in accordance with DER-10 and approval by the Department is required for any additional material imported from this source.

Thanks,
Ben

Benjamin McPherson, P.E.
(he/him/his)
Professional Engineer 1 (Environmental), Division of Environmental Remediation

New York State Department of Environmental Conservation
700 Delaware Avenue, Buffalo, NY 14209
P: (716) 851-7220 | F: (716) 851-7226 | benjamin.mcpherson@dec.ny.gov
www.dec.ny.gov

From: Christine Curtis <ccurtis@matrixbiotech.com>
Sent: Thursday, September 14, 2023 3:42 PM
To: Mcpherson, Benjamin J (DEC) <benjamin.mcpherson@dec.ny.gov>
Subject: RE: Lakeside Village Apts - schedule update

Hi Ben,

Completed form is attached. I will submit one for the topsoil as well; we are sampling that early next week.

Thanks,
Christine

From: Mcpherson, Benjamin J (DEC) <benjamin.mcpherson@dec.ny.gov>
Sent: Thursday, September 14, 2023 3:21 PM
To: Christine Curtis <ccurtis@matrixbiotech.com>
Subject: RE: Lakeside Village Apts - schedule update

Thanks Christine.

For the gravel backfill can you complete the form found at this link (https://www.dec.ny.gov/docs/remediation_hudson_pdf/requesttoreusesoil.pdf) and resubmit with what you previously attached. This is standard for all BCP/SSF sites. This will also need to be done for the top soil material.

Thanks,
Ben

Benjamin McPherson, P.E.
(he/him/his)
Professional Engineer 1 (Environmental), Division of Environmental Remediation

New York State Department of Environmental Conservation
700 Delaware Avenue, Buffalo, NY 14209
P: (716) 851-7220 | F: (716) 851-7226 | benjamin.mcpherson@dec.ny.gov
www.dec.ny.gov

From: Christine Curtis <ccurtis@matrixbiotech.com>
Sent: Monday, September 11, 2023 11:12 AM
To: Mcpherson, Benjamin J (DEC) <benjamin.mcpherson@dec.ny.gov>
Subject: RE: Lakeside Village Apts - schedule update

Hi Ben,

We are estimating 2 weeks for the excavation. We will be backfilling as we go to allow continued access to the parking lot.

We just received documentation for the gravel backfill (attached). Still waiting on access to the topsoil but hope to have that ASAP.

Thanks,
Christine

From: Mcpherson, Benjamin J (DEC) <benjamin.mcpherson@dec.ny.gov>
Sent: Friday, September 8, 2023 1:02 PM
To: Christine Curtis <ccurtis@matrixbiotech.com>
Subject: RE: Lakeside Village Apts - schedule update

Christine,

For the 9/19 sampling event I think an MS/MSD and trip blank would be the only relevant QA/QC sampling.

For the excavation portion, how long do you expect the removal to take?

Thank you for keeping me posted and let me know if the schedule changes at all. As soon as you have all the information for the backfill soil make sure to send me the import/reuse request form for review.

Thanks,
Ben

Benjamin McPherson, P.E.
(he/him/his)
Professional Engineer 1 (Environmental), Division of Environmental Remediation

New York State Department of Environmental Conservation
700 Delaware Avenue, Buffalo, NY 14209
P: (716) 851-7220 | F: (716) 851-7226 | benjamin.mcpherson@dec.ny.gov
www.dec.ny.gov

From: Christine Curtis <ccurtis@matrixbiotech.com>
Sent: Thursday, September 7, 2023 2:20 PM
To: Mcpherson, Benjamin J (DEC) <benjamin.mcpherson@dec.ny.gov>
Subject: Lakeside Village Apts - schedule update

Hi Ben,

Thanks for the quick turnaround on the RAWP approval and fact sheet. We are looking to get moving soon with the field schedule. These are the tentative dates:

9/19 – baseline groundwater sampling from the existing well network. Do we need to collect a field dup, MS/MSD, equipment blank and trip blank as well?

9/25- begin excavation (pending final landfill approval). The non-haz soils are going to the Republic Services Landfill in Niagara Falls; haz soil disposal is still being worked out.

10/9 – begin injection (pending delivery of permanganate; there is currently a shortage of product so this may be delayed).

We will be sampling the imported fill (topsoil) shortly and Mark is working on getting the necessary documentation for the gravel fill. I will keep you posted.

Thanks,

Christine M. Curtis, P.E.
Matrix Environmental Technologies, Inc.
95 Brown Road, M/S 1052, Ithaca NY 14850
(908) 399-3651
www.matrixbiotech.com

Christine Curtis

From: Mcpherson, Benjamin J (DEC) <benjamin.mcpherson@dec.ny.gov>
Sent: Monday, October 23, 2023 9:57 AM
To: Christine Curtis
Cc: Mcpherson, Benjamin J (DEC)
Subject: RE: C915344 Request to reuse soil - #1 crushed stone

Christine,

The Department has reviewed the request dated October 23, 2023 to import up to 300 cubic yards of fill material from Alden Center LLC. Based on the information provided, the request is hereby approved.

The proposed fill material meets the Restricted Residential soil cleanup objectives. Therefore, this material may be placed as part of the backfill for the remedial excavation.

Testing in accordance with DER-10 and the Remedial Design/Action Work Plan and approval by the Department is required for any additional material imported from this source.

Thanks,
Ben

Benjamin McPherson, P.E.
(he/him/his)
Professional Engineer 1 (Environmental), Division of Environmental Remediation

New York State Department of Environmental Conservation
700 Delaware Avenue, Buffalo, NY 14209
P: (716) 851-7220 | F: (716) 851-7226 | benjamin.mcpherson@dec.ny.gov
www.dec.ny.gov

From: Christine Curtis <ccurtis@matrixbiotech.com>
Sent: Monday, October 23, 2023 9:38 AM
To: Mcpherson, Benjamin J (DEC) <benjamin.mcpherson@dec.ny.gov>
Subject: RE: C915344 Request to reuse soil - #1 crushed stone

Good morning Ben,

See attached for revised request to import topsoil. All results were under allowable limits.

Thank you,

Christine

From: Mcpherson, Benjamin J (DEC) <benjamin.mcpherson@dec.ny.gov>
Sent: Wednesday, October 4, 2023 10:11 AM

To: Christine Curtis <ccurtis@matrixbiotech.com>
Subject: RE: C915344 Request to reuse soil - #1 crushed stone

Christine,

Thanks for that additional information.

It looks like the soil source was not sampled for PFAS, this is a requirement for soil imports that is currently in DEC's PFAS Guidance document until DER-10 is revised.

I cannot approve final placement of this soil until PFAS data is provided and it meets the current guidance levels for soil.

Please let me know if you have any questions.

Thanks,
Ben

Benjamin McPherson, P.E.
(he/him/his)
Professional Engineer 1 (Environmental), Division of Environmental Remediation

New York State Department of Environmental Conservation
700 Delaware Avenue, Buffalo, NY 14209
P: (716) 851-7220 | F: (716) 851-7226 | benjamin.mcpherson@dec.ny.gov
www.dec.ny.gov

From: Christine Curtis <ccurtis@matrixbiotech.com>
Sent: Wednesday, October 4, 2023 8:53 AM
To: Mcpherson, Benjamin J (DEC) <benjamin.mcpherson@dec.ny.gov>
Subject: RE: C915344 Request to reuse soil - #1 crushed stone

The soil was generated from behind the Tops Plaza on the vacant parcel southeast of it. The land is owned by the same LLC. They reportedly cleared the land for farming, which you can see more clearly in this photo than in the google maps aerial.


Verizon LTE
3:31 PM
88%
ON X HUNT
TICHY FRANK J JR
77°
4 E
RIMBECK ROBERT A SR.
20
ALDEN CENTER LLC
mapbox
Sat
2D
Hunt Map
Layers
Offline Maps
My Content
Tools
Tracker

Christine

From: Mcpherson, Benjamin J (DEC) <benjamin.mcpherson@dec.ny.gov>
Sent: Wednesday, October 4, 2023 8:48 AM
To: Christine Curtis <ccurtis@matrixbiotech.com>
Subject: RE: C915344 Request to reuse soil - #1 crushed stone

Christine,

What caused this soil to be generated? Looks like it could be from the Tops plaza and I am curious as to why it was dug up in the first place.

Please let me know.

Thanks,
Ben

Benjamin McPherson, P.E.
(he/him/his)
Professional Engineer 1 (Environmental), Division of Environmental Remediation

New York State Department of Environmental Conservation
700 Delaware Avenue, Buffalo, NY 14209
P: (716) 851-7220 | F: (716) 851-7226 | benjamin.mcpherson@dec.ny.gov
www.dec.ny.gov

From: Christine Curtis <ccurtis@matrixbiotech.com>
Sent: Tuesday, October 3, 2023 8:19 PM
To: Mcpherson, Benjamin J (DEC) <benjamin.mcpherson@dec.ny.gov>
Subject: RE: C915344 Request to reuse soil - #1 crushed stone

Thank you Ben. See attached for one last import request for the topsoil.

Christine

From: Mcpherson, Benjamin J (DEC) <benjamin.mcpherson@dec.ny.gov>
Sent: Tuesday, October 3, 2023 10:12 AM
To: Christine Curtis <ccurtis@matrixbiotech.com>
Cc: Mcpherson, Benjamin J (DEC) <benjamin.mcpherson@dec.ny.gov>
Subject: RE: C915344 Request to reuse soil - #1 crushed stone

Christine,

The Department has reviewed the request dated October 3, 2023 to import up to 200 cubic yards of #1 washed stone material from New Enterprise Stone & Lime Co., Inc. (#90018). Based on the information provided, the request is hereby approved.

The proposed fill material meets the requirements for material other than soil (i.e., gravel, rock, stone, recycled concrete or recycled brick) as specified in section 5.4(e)5 of DER-10. Therefore, this material may be placed without restriction on-site.

Testing in accordance with DER-10 and approval by the Department is required for any additional material imported from this source.

Thank you,
Ben

Benjamin McPherson, P.E.
(he/him/his)
Professional Engineer 1 (Environmental), Division of Environmental Remediation

New York State Department of Environmental Conservation
700 Delaware Avenue, Buffalo, NY 14209
P: (716) 851-7220 | F: (716) 851-7226 | benjamin.mcpherson@dec.ny.gov
www.dec.ny.gov

From: Christine Curtis <ccurtis@matrixbiotech.com>
Sent: Tuesday, October 3, 2023 8:57 AM
To: Mcpherson, Benjamin J (DEC) <benjamin.mcpherson@dec.ny.gov>
Subject: RE: C915344 Request to reuse soil - #1 crushed stone

Ben,

Revised form is attached. The source provided more detailed gradation analysis and their mining permit number.

Thanks for your quick turnaround on these; we appreciate it!

Christine

From: Mcpherson, Benjamin J (DEC) <benjamin.mcpherson@dec.ny.gov>
Sent: Monday, October 2, 2023 4:03 PM
To: Christine Curtis <ccurtis@matrixbiotech.com>
Subject: RE: C915344 Request to reuse soil - #1 crushed stone

Christine,

The sieve size does not go small enough since the ¼" spec allows for more than 10% to pass. You also provided the DOT source number, not the DEC permit number.

Please provide the above on a revised form.

Thanks,
Ben

Benjamin McPherson, P.E.
(he/him/his)
Professional Engineer 1 (Environmental), Division of Environmental Remediation

New York State Department of Environmental Conservation
700 Delaware Avenue, Buffalo, NY 14209
P: (716) 851-7220 | F: (716) 851-7226 | benjamin.mcpherson@dec.ny.gov
www.dec.ny.gov

From: Christine Curtis <ccurtis@matrixbiotech.com>
Sent: Monday, October 2, 2023 3:48 PM
To: Mcpherson, Benjamin J (DEC) <benjamin.mcpherson@dec.ny.gov>
Subject: C915344 Request to reuse soil - #1 crushed stone

Ben,

See attached for a request to bring in washed #1 crushed stone. This is for bedding the SVE screens. Top soil analytical results are due tomorrow so I anticipate sending that request soon as well.

Thank you,

Christine M. Curtis, P.E.
Matrix Environmental Technologies, Inc.
95 Brown Road, M/S 1052, Ithaca NY 14850
(908) 399-3651
www.matrixbiotech.com

APPENDIX D – CAMP FIELD DATA SHEETS AND AIR MONITORING DATA (ELECTRONIC FORMAT)

APPENDIX E – DAILY REPORTS

Date: 9-26-23

Project #18-046

Recorded By: Sim & CDZ

DAILY REPORT FORM

Weather Conditions: Clear 72°F

Sample Summary:

Sample ID/Depth	PID Reading (ppm)	Date/Time
Ex-1 / 3.9'	0.0	9-26-23 9:43 Am
Ex-2/4.6'	0.0	9-26-23 10:03Am
Ex-3/6.1	0.0	9-26-23 12:11 Pm
Ex-4/6.2	0.0	9-26-23 12:33pm

Soil Removal Summary:

Truck #	Time	Estimated Tons
111	7:22 A.m	20
109	7:35 Am	20
★ 112	7:49 A.m	20 - Truck Broke. Come back to site + dumped
114	9:26 A m	20 - 2334
111	9:44 Am	20
109	10:04 A.m	20
108	10:50 Am	20
110	11:05 Am	20

Deviations From Scope of Work:

★ Truck 112 Broke down. May need to come back to site to offload dirt.

Come back to site And dump load. Manifest # 3169835 - Carted

Date: 9-27-23

Recorded By: CR2

Project #18-046

DAILY REPORT FORM

Weather Conditions: Partly cloudy 60° - 73° sunny in afternoon

Sample Summary:

Sample ID/Depth	PID Reading (ppm)	Date/Time
EX5 (4.1')	0.0	9-27-23 9:33 Am
EX6 (6.2')	(final) 15.8 - 34 (Stockpile)	9-27-23 10:16 Am

Soil Removal Summary:

Truck #	Time	Estimated Tons
109	6:45, 9:00A, 10:55, 12:55	
113	6:55, 9:16, 11:14, 1:19	
111	7:15, 9:35, 11:24, 1:13	
114	7:40, 9:43, 11:39, 1:49	
102	7:50, 9:58, 11:55, 2:13	
Loads of CR-2	Backfill = 2	

Deviations From Scope of Work:

Date 9-28-23

Recorded By: CDL

Project #18-046

DAILY REPORT FORM

Weather Conditions: Sunny to partly cloudy 70°

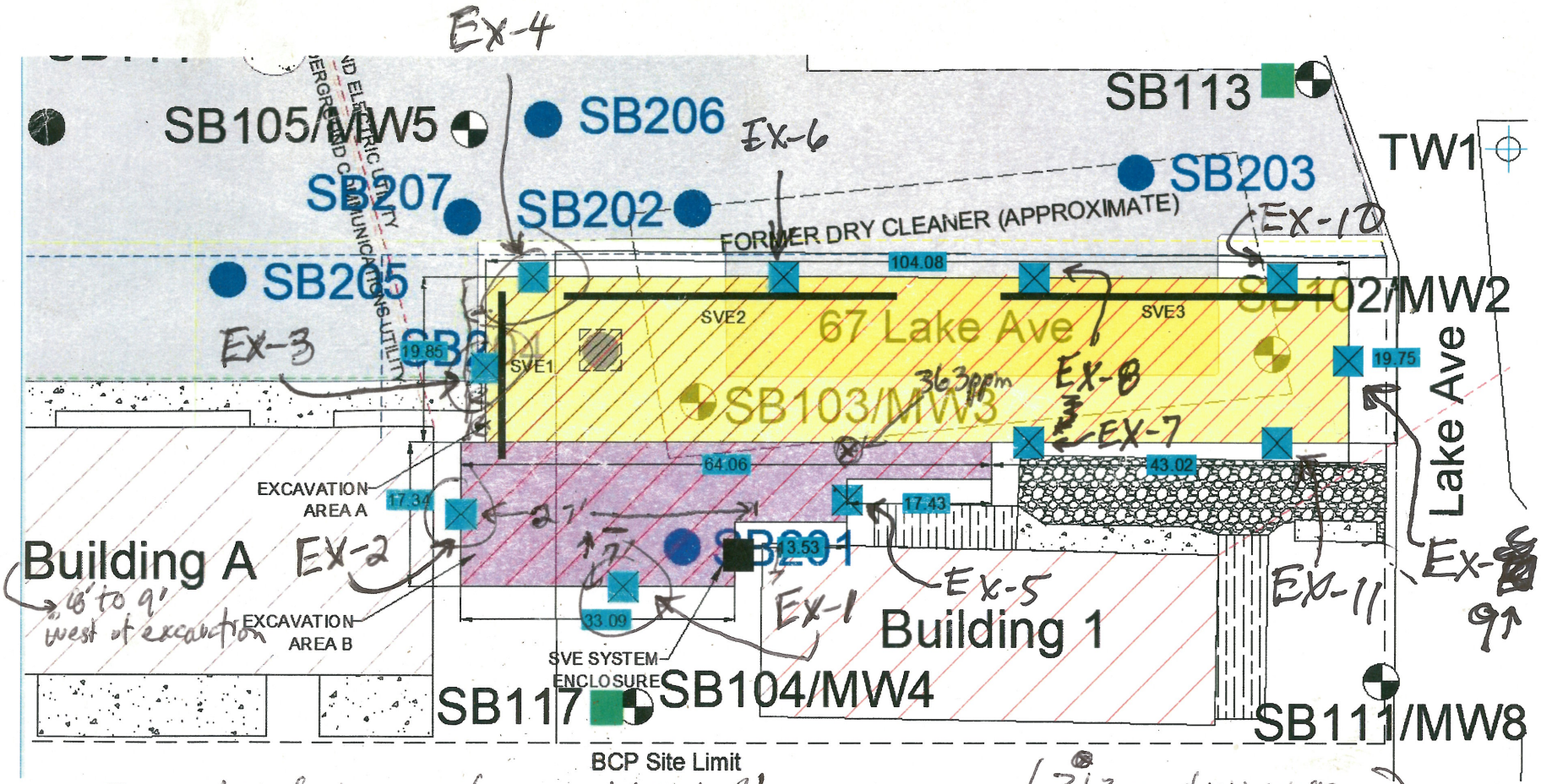
Sample Summary:

Sample ID/Depth	PID Reading (ppm)	Date/Time
EX-7 (6.5')	0.6	9-28-23 7:43 am
Matrix Spike / Duplicate	0.6	9-28-23 7:49 / 7:55
EX-8 (6.5')	17.3	9-28-23 9:49
EX-9 (5.5')	0.9	9-28-23 10:08 Am
EX-10 (6.5')	1.8	9-28-23 11:47
EX-11 (6.0')	0.6	9-28-23 11:58

Soil Removal Summary:

Truck #	Time	Estimated Tons
109	6:35, 8:42, 10:41, 12:40pm	
113	6:45, 8:55, 10:55, 12:45	
102	7:20, 9:25, 11:24	
111	7:35, 9:19, 11:22, 1:18	
Loads of CR-2 Backfill = HH, 1		

Deviations From Scope of Work:



Ex2 10' N of NW corner of Bldg 1, 27'W of corner

Ex3 27'N of NW corner of Bldg 1, 27'W of corner

Ex4 ~~Ex4~~ 33' N of NW corner of Bldg 1, 19' W of NW corner of Bldg 1

Ex5 9.5' E of NW corner of Bldg 1, 9.0' N of NW corner of Bldg 1

Ex9 - 31'N of NE corner of Bldg 1

Ex6 - 38'N of NW corner of Bldg 1

Ex7 - 32'E of NW Corner of Bldg 1, 20'N of NE corner Bldg 1

Ex8 - 32'E of NW Corner of Bldg 1, 39'N of NE Corner of Bldg 1

Ex11 - 20'N of NE corner of Bldg 1 4'E of NE corner Bldg 1 3'W ~~of E~~ of NE Corner Bldgs 1

Ex10 - 38'N or NE corner of Bldgs 1, 3'W of NE corner of Bld 1

(363 ppm at NW corner of patch. Removed to 5ppm

(E25' (Ex1)

16' to 9' west of excavation

Injection Data Summary Sheet

Date:	10/9/23	Pipe Diam (in):	
Site Location:	GS-C07 Lake Nyc	Fluid Injected:	KMnO4

SHALLOW: 16', 13', 9' DEEP: 15', 11', 7'

elapsed Start Time	End Time	Depth (ft bgs)	Flowrate (gpm)	Injection Pressure (psi)	Solution Injected (gal)
0:00	9:00	IP14 16'		45-50	100
9:00	13:55	IP14 16'		↓	95
13:55	19:38	IP14 13'		40	100
19:38	25:28	IP14 13'		↓	95
~~41:12~~ 41:12	44:55	IP14 9'		40	110
2	1:36:04	IP12 16'		40-45	~~195~~ 195
1:36:04	1:42:14	IP12 13'		40-45	100
1:42:14	1:45:14	IP12 13'		40-45	95
1:45:14	1:51:08	IP12 9'		40-45	110
2:18:48	2:34:33	IP10 16'		45	~~100~~ 195
2:34:33	2:42:21	IP10 13'		↓	195
2:42:21	2:47:04	IP10 9'		↓	110
~~3:16:45~~		~~IP7 15'~~			
		~~IP9 16'~~		~~60~~	100
3:41:40	3:48:10	IP7 15'		60	100
3:48:10	3:52:32	IP7 15'		↓	95
3:52:32	3:59:36	IP7 11'		↓	195

off

305 110

500 → ~~300~~ → ~~100~~

Gallons

high winds → surface dust

neutralizing w/ 1:1:1 mix water → 1% H2O2 - vinegar + directing hose water into excavation sufficiently cleaned up.

will use contractor bags + funnel to control dust & move all operations/tanks/hoses to gravel backfill area

large cobble moved up a little

pulled rods

after completing IP14+IP8, no daylighting/surfacing observed. Full volume injected.

~~3:59:36~~ 4:02:14	~~4:05:40~~ 4:05:40	IP7 7'		60	110
2	4:41:21	IP4 15'		60	100
4:41:21	4:45:17	IP4 15'		60	95
4:45:17	4:58:26	IP4 11'		60	195

Injection Data Summary Sheet

Date:	10/10/23	Pipe Diam (in):	
Site Location:	Lancaster, NY	Fluid Injected:	

Start Time	End Time	Depth (ft bgs)	Flowrate (gpm)	Injection Pressure (psi)	Solution Injected (gal)
8:52am					
[redacted]	9:01am	IP13 6'		60psi	200
9:01am	9:12am	IP13 13'		↓	195
9:12am	9:15am	IP13 9'		↓	105
10:23am	10:35am 5	IP[redacted] 15'		65psi	195
10:35am	10:44am 5	IP[redacted] 11'		↓	195
10:49am	10:49am 5	IP[redacted] 7'		↓	110
11:11am	11:20	IP 8 15'		60psi	195
11:20	11:28	IP8 11'		↓	200
11:28	11:39	IP8 7'		↓	105
12:[redacted]15	12:26	IP1 15'		65psi	195
12:26	12:32	IP1 11'		↓	195
12:32	12:36	IP1 7'		↓	110
1:13	1:20	IP6 15'		60psi	195
1:20	1:2[redacted]6	IP6 11'		↓	195
1:26	1:31	IP6 7'		↓	110
2:10	2:16	IP3 15'		65psi	200
2:16	2:24	IP3 11'		↓	200
2:24	2:32	IP3 7'		35psi	100

notes: - daylighting on IP2 → abandoned and vent to IP5. Injectate came up bore hole
- point fell out on first push of IP1
- @ the 7' interval the abandoned IP2 started daylighting, backed pressure down and repaired bore hole

Injection Data Summary Sheet

Date:	10/11/23	**Pipe Diam (in):**	
Site Location:	Lancaster, NY	**Fluid Injected:**	

Start Time	End Time	Depth (ft bgs)	Flowrate (gpm)	Injection Pressure (psi)	Solution Injected (gal)
9:14	9:24	IP2 13'		65 psi	195
9:24	9:33	IP2 11'		↓	195
9:33	9:38	IP2 7'		↓	110
10:02	10:12	IP11 16'		70 psi	200
10:12	10:20	IP11 13'		↓	190
10:20	10:25	IP11 9'		↓	110
10:50	11:02	IP9 16'		65 psi	200
11:02	11:13	IP9 13'		↓	200
11:13	11:26	IP9 9'		↓	100

notes: - IP2, refusal @ 13', changed injection intervals to 13', 11', 7'
- daylighting during the las 50 gal. of the 7' interval of IP2 on edge of parking lot

mg/L mV

INJECTION MONITORING DATA

uS/cm

MS
cm
SPC

Well	Date	Time	DTW (ft.)	DO	ORP	pH	Temp	Conductivity	~~Turbidity~~	NOTES
MW1	10/9	9:22		5.608	211.2	6.916		741		baseline
		12:46		5.32	218.7	6.97	19.1	1135		post IP-10
		14:25		5.27	241.2	6.98	19.1	1307	1.48	post-IP4
	10/10	8:19		6.03	217.7	6.96	18.5	1267		baseline day 2
	10/10									ingestede in well post IP5

Well	Date	Time	DTW (ft.)	DO	ORP	pH	Temp	Conductivity	~~Turbidity~~	NOTES
MW8	10/9	9:28		4.04	202.0	7.04	15.3	918	X	baseline
		12:49		3.79	220.8	7.04	16.4	929		
		[illegible]	14:30	4.20	250.7	7.10	16.3	929	1.12	
	10/10	8:26		4.33 [illegible]	195.7	7.04	16.2	926		baseline day 2
	10/10	11:03		5.36	206.3	7.09	15.5	913	1.12	post IP 3
	10/10	7:44		5.82	203.9	7.09	15.5	920	1.12	post IP 3
	10/11	8:50		6.53	211.7	6.96	17.3	633	0.74	baseline day 3
	10/11	12:26		6.44	327.5	6.96	17.8	665	0.77	post IP 4

Well	Date	Time	DTW (ft.)	DO	ORP	pH	Temp	Conductivity	~~Turbidity~~	NOTES
MW5	10/9	9:34		4.70	197.3	7.31	18.6	807		baseline
		12:59		4.85	137.9	7.29	19.2	878	1.00	
		14:20		5.18	235.9	7.36	21.5	922	0.99	post IP-7
	10/10	8:35		5.32	203.9	7.41	21.2	738		baseline day 2
	10/10	11:12		4.90	197.3	7.40	21.8	768	0.82	post IP5
	10/10	2:47		5.68	502.9	7.42	21.2	878	0.95	Evidence of injectate to slight purple water

INJECTION MONITORING DATA

µS/cm

Well	Date	Time	DTW (ft.)	DO	ORP	pH	Temp	Conductivity	~~Turbidity~~	NOTES
MW4	10/9	12:55		2.35	960.2	6.98	12.6	659	0.860	POST-IP10
		~~14:30~~				7.10	14.0	776		
		14:25		1.24	220.2	7.06	13.1	707	0.91	POST IP 7
	10/10	8:39		1.87	201.5	7.06	13.5	711	8.91	baseline day 2
	10/10	2:53		1.47	45.8	7.10	13.4	738	0.95	Post IP3
	10/11	8:55		2.80	167.8	7.00	13.4	647	0.83	baseline day 3
	10/11	12:29		1.86	207.5	7.07	13.4	709	0.91	Post IP 9

Well	Date	Time	DTW (ft.)	DO	ORP	pH	Temp	Conductivity	~~Turbidity~~	NOTES
MW9	10/10	3:00		2.45	434.2	7.14	18.2	1012	1.16	Post IP 3
	10/11	~~8:00~~	9:00	4.00	183.1	7.39	17.9	535	0.68	baseline day 3
	10/11	12:32		4.12	201.3	7.45	18.2	533	0.67	Post IP 9

Well	Date	Time	DTW (ft.)	DO	ORP	pH	Temp	Conductivity	Turbidity	NOTES
SUMP A1	10/9	15:05								cd and allow to [illegible] tomorrow.
SUMP A1	10/10	4:00pm								No coloration
SUMP A1	10/11	1pm								Slight purple/pink coloration in corner of sump, all other water was a cloudy brown color

APPENDIX F – PROJECT PHOTO LOG (ELECTRONIC FORMAT)

APPENDIX G – SOIL/WASTE CHARACTERIZATION DOCUMENTATION (ELECTRONIC FORMAT)

APPENDIX H – RAW ANALYTICAL LABORATORY DATA (ELECTRONIC FORMAT)

APPENDIX I – DUSRs FOR ALL ENDPOINT SAMPLES (ELECTRONIC FORMAT)

APPENDIX J – IMPORTED MATERIALS DOCUMENTATION

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Request to Import/Reuse Fill or Soil

This form is based on the information required by DER-10, Section 5.4(e) and 6NYCRR Part 360.13. Use of this form is not a substitute for reading the applicable regulations and Technical Guidance document.

SECTION 1 – SITE BACKGROUND

The allowable site use is: Restricted Residential Use

Have Ecological Resources been identified? no

Is this soil originating from the site? no

How many cubic yards of soil will be imported/reused? 200-300

If greater than 1000 cubic yards will be imported, enter volume to be imported:

SECTION 2 – MATERIAL OTHER THAN SOIL

Is the material to be imported gravel, rock or stone? no

Does it contain less than 10%, by weight, material that passes a size 100 sieve? no

Is this virgin material from a permitted mine or quarry? no

Is this material recycled concrete or brick from a DEC registered processing facility? no

SECTION 3 - SAMPLING

Provide a brief description of the number and type of samples collected in the space below:

Four discrete samples (SOIL PILE #1, SOIL PILE #2, SOIL PILE #3, SOIL PILE #4) were collected and analyzed for VOCs. One composite sample (SOIL PILE #5) was collected and analyzed for SVOCs, inorganics, and PCBs/Pesticides. One composite sample (ID) was collected and analyzed for PFAS. All samples were collected from the same source pile.

Example Text: 5 discrete samples were collected and analyzed for VOCs. 2 composite samples were collected and analyzed for SVOCs, Inorganics & PCBs/Pesticides.

If the material meets requirements of DER-10 section 5.4(e)5 (other material), no chemical testing needed.

SECTION 3 CONT'D - SAMPLING

Provide a brief written summary of the sampling results or attach evaluation tables (compare to DER-10, Appendix 5):

See attached analytical reports and data summary tables. All results are under allowable levels. VOCs were not detected.

Example Text: Arsenic was detected up to 17 ppm in 1 (of 5) samples; the allowable level is 16 ppm.

If Ecological Resources have been identified use the "If Ecological Resources are Present" column in Appendix 5.

SECTION 4 – SOURCE OF FILL

Name of person providing fill and relationship to the source:

Alden Center LLC

Location where fill was obtained:

42.893200, -78.509455 (12775 Broadway, Alden NY 14004)

Identification of any state or local approvals as a fill source:

If no approvals are available, provide a brief history of the use of the property that is the fill source:

Undeveloped land bordered by farmland, generated during clearing of land.

Provide a list of supporting documentation included with this request:

Laboratory Analytical Reports
Data Summary Tables

The information provided on this form is accurate and complete.

	10/23/2023
Signature	Date
Christine Curtis	
Print Name	
Matrix Environmental Technologies	
Firm	

Table 1
Imported Fill Laboratory Analytical Detection Summary

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

PARAMETER	Restricted-Residential Use SCO	SOIL PILE #5
Chromium (Trivalent)	180	16.1
Mercury	0.73	0.067
Barium	400	55.7
Chromium	180	18.4
Copper	270	19.6
Lead	400	28.1
Manganese	2,000	362
Nickel	130	21.1
Zinc	2,480	85.1
Arsenic	16	7.5
Beryllium	47	0.56
Cadmium	4.3	0.43
Selenium	4	0.80 (J)
4,4'-DDE	8.9	0.0010 (J)

NOTES:
1. Analytical testing by Eurofins TestAmerica.
2. Results present in mg/kg.
4. Regulatory standards and results are shown for detected compounds only.
5. Soil Cleanup Objectives (SCOs) from NYCRR Part 375
6. "J" = estimated value

Table 2
Imported Fill Laboratory Analytical Detection Summary - BROADWAY SOIL PILE

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

PARAMETER	Restricted-Residential Use SCO	BROADWAY SOIL PILE
Perfluorobutanoic acid		0.18 (J)
Perfluoropentanoic acid		0.034 (J I)
Perfluorohexanoic acid		0.085 (J)
Perfluoroheptanoic acid		0.057 (J)
Perfluorooctanoic acid	33	0.19 (J)
Perfluorononanoic acid		0.069 (J)
Perfluorooctanesulfonic acid	44	0.21 (J)

NOTES:
1. Analytical testing by Eurofins TestAmerica.
2. Results present in ug/kg (ppb).
4. Regulatory standards and results are shown for detected compounds only.
5. Soil Cleanup Objectives (SCOs) from NYSDEC PFAS Guidance
6. "J" = estimated value; "I" = Value is estimated maximum possible concentration

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Nickolas Ander
Matrix Environmental Technologies Inc
3730 California Road
PO BOX 427
Orchard Park, New York 14127

Generated 10/23/2023 6:17:48 AM

JOB DESCRIPTION

Project # 18-046 - Aquino Lancaster

JOB NUMBER

480-213390-1

Eurofins Buffalo
10 Hazelwood Drive
Amherst NY 14228-2298

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northeast, LLC Project Manager.

Authorization

Generated
10/23/2023 6:17:48 AM

Authorized for release by
John Schove, Project Manager II
John.Schove@et.eurofinsus.com
(716)504-9838

Table of Contents

Qualifiers

LCMS

Qualifier	Qualifier Description
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 480-213390-1

Laboratory: Eurofins Buffalo

Narrative

Job Narrative
480-213390-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 10/5/2023 1:55 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.8°C

Receipt Exceptions
1 day tat requested. Not possibel for this method. Logged for 5 day tat.

BROADWAY SOIL PILE (480-213390-1)

PFAS
Method 1633_B24: The continuing calibration verification (CCV) associated with batch 280-630428 recovered above the upper control limit for 9Cl-PF3ONS. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: BROADWAY SOIL PILE (480-213390-1), (CCB 280-630428/38), (CCB 280-630428/55), (CCB 280-630428/67), (CCV 280-630428/37), (CCV 280-630428/54), (CCV 280-630428/66), (LCS 280-630062/3-A), (LLCS 280-630062/2-A), (MB 280-630062/1-A), (480-213020-A-3-A), (480-213020-A-3-B MS) and (480-213020-A-3-C MSD).

Method 1633_B24: The “I” qualifier means the transition mass ratio for the indicated analytes were outside of the established ratio limits. The qualitative identification of the analytes have some degree of uncertainty. However, analyst judgment was used to positively identify the analyte. BROADWAY SOIL PILE (480-213390-1) and (480-213020-A-3-B MS)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-213390-1

Client Sample ID: BROADWAY SOIL PILE

Lab Sample ID: 480-213390-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.18	J	1.0	0.047	ug/Kg	1	☼	Draft 1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.034	J I	0.50	0.026	ug/Kg	1	☼	Draft 1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.085	J	0.25	0.026	ug/Kg	1	☼	Draft 1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.057	J	0.25	0.028	ug/Kg	1	☼	Draft 1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.19	J	0.25	0.053	ug/Kg	1	☼	Draft 1633	Total/NA
Perfluorononanoic acid (PFNA)	0.069	J	0.25	0.015	ug/Kg	1	☼	Draft 1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.21	J	0.25	0.071	ug/Kg	1	☼	Draft 1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-213390-1

Client Sample ID: BROADWAY SOIL PILE
Date Collected: 10/05/23 09:30
Date Received: 10/05/23 13:55

Lab Sample ID: 480-213390-1
Matrix: Solid
Percent Solids: 79.3

Method: EPA Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.18**	**J**	1.0	0.047	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluoropentanoic acid (PFPeA)	**0.034**	**J I**	0.50	0.026	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluorohexanoic acid (PFHxA)	**0.085**	**J**	0.25	0.026	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluoroheptanoic acid (PFHpA)	**0.057**	**J**	0.25	0.028	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluorooctanoic acid (PFOA)	**0.19**	**J**	0.25	0.053	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluorononanoic acid (PFNA)	**0.069**	**J**	0.25	0.015	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluorodecanoic acid (PFDA)	0.25	U	0.25	0.095	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluoroundecanoic acid (PFUnA)	0.25	U	0.25	0.035	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluorododecanoic acid (PFDoA)	0.25	U	0.25	0.071	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluorotridecanoic acid (PFTriA)	0.25	U	0.25	0.035	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluorotetradecanoic acid (PFTeDA)	0.25	U	0.25	0.021	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluorobutanesulfonic acid (PFBS)	0.25	U	0.25	0.018	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluoropentanesulfonic acid (PFPeS)	0.25	U	0.25	0.016	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluorohexanesulfonic acid (PFHxS)	0.25	U	0.25	0.025	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluoroheptanesulfonic acid (PFHpS)	0.25	U	0.25	0.035	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluorooctanesulfonic acid (PFOS)	**0.21**	**J**	0.25	0.071	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluorononanesulfonic acid (PFNS)	0.25	U	0.25	0.035	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluorodecanesulfonic acid (PFDS)	0.25	U	0.25	0.025	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluorododecanesulfonic acid (PFDoS)	0.25	U	0.25	0.021	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
4:2 FTS	1.0	U	1.0	0.097	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
6:2 FTS	1.0	U	1.0	0.61	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
8:2 FTS	1.0	U	1.0	0.15	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
Perfluorooctanesulfonamide (PFOSA)	0.25	U	0.25	0.015	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
NMeFOSA	0.25	U	0.25	0.030	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
NEtFOSA	0.25	U	0.25	0.039	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
NMeFOSAA	0.25	U	0.25	0.032	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
NEtFOSAA	0.25	U	0.25	0.030	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
NMeFOSE	2.5	U	2.5	0.12	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
NEtFOSE	2.5	U	2.5	0.14	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
HFPO-DA (GenX)	1.0	U	1.0	0.12	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.0	U	1.0	0.10	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
PFMBA	0.50	U	0.50	0.024	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
NFDHA	0.50	U	0.50	0.060	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
PFMPA	0.50	U	0.50	0.11	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
9Cl-PF3ONS	1.0	U	1.0	0.064	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
11Cl-PF3OUdS	1.0	U	1.0	0.15	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
PFEESA	0.50	U	0.50	0.050	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
3:3 FTCA	1.3	U	1.3	0.22	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
5:3 FTCA	6.3	U	6.3	0.46	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1
7:3 FTCA	6.3	U	6.3	0.39	ug/Kg	☼	10/18/23 08:57	10/20/23 04:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*41*		*20 - 150*	*10/18/23 08:57*	*10/20/23 04:02*	*1*
13C5 PFPeA	*86*		*20 - 150*	*10/18/23 08:57*	*10/20/23 04:02*	*1*
13C5 PFHxA	*85*		*20 - 150*	*10/18/23 08:57*	*10/20/23 04:02*	*1*
13C4 PFHpA	*79*		*20 - 150*	*10/18/23 08:57*	*10/20/23 04:02*	*1*

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-213390-1

Client Sample ID: BROADWAY SOIL PILE
Date Collected: 10/05/23 09:30
Date Received: 10/05/23 13:55

Lab Sample ID: 480-213390-1
Matrix: Solid
Percent Solids: 79.3

Method: EPA Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	79		20 - 150	10/18/23 08:57	10/20/23 04:02	1
13C9 PFNA	88		20 - 150	10/18/23 08:57	10/20/23 04:02	1
13C6 PFDA	88		20 - 150	10/18/23 08:57	10/20/23 04:02	1
13C7 PFUnA	88		20 - 150	10/18/23 08:57	10/20/23 04:02	1
13C2 PFDoA	80		20 - 150	10/18/23 08:57	10/20/23 04:02	1
13C2 PFTeDA	76		20 - 150	10/18/23 08:57	10/20/23 04:02	1
13C3 PFBS	89		20 - 150	10/18/23 08:57	10/20/23 04:02	1
13C3 PFHxS	88		20 - 150	10/18/23 08:57	10/20/23 04:02	1
13C8 PFOS	87		20 - 150	10/18/23 08:57	10/20/23 04:02	1
13C8 FOSA	96		20 - 150	10/18/23 08:57	10/20/23 04:02	1
d3-NMeFOSAA	104		20 - 150	10/18/23 08:57	10/20/23 04:02	1
d5-NEtFOSAA	111		20 - 150	10/18/23 08:57	10/20/23 04:02	1
M2-4:2 FTS	119		20 - 150	10/18/23 08:57	10/20/23 04:02	1
M2-6:2 FTS	127		20 - 150	10/18/23 08:57	10/20/23 04:02	1
M2-8:2 FTS	144		20 - 150	10/18/23 08:57	10/20/23 04:02	1
13C3 HFPO-DA	77		20 - 150	10/18/23 08:57	10/20/23 04:02	1
d7-N-MeFOSE-M	64		20 - 150	10/18/23 08:57	10/20/23 04:02	1
d9-N-EtFOSE-M	62		20 - 150	10/18/23 08:57	10/20/23 04:02	1
d5-NEtPFOSA	64		20 - 150	10/18/23 08:57	10/20/23 04:02	1
d3-NMePFOSA	70		20 - 150	10/18/23 08:57	10/20/23 04:02	1

Isotope Dilution Summary

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-213390-1

Method: Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(20-150)	(20-150)	(20-150)	(20-150)	(20-150)	(20-150)	(20-150)	(20-150)
480-213390-1	BROADWAY SOIL PILE	41	86	85	79	79	88	88	88
LCS 280-630062/3-A	Lab Control Sample	37	79	78	73	84	84	86	84
LLCS 280-630062/2-A	Lab Control Sample	39	88	87	83	83	89	87	87
MB 280-630062/1-A	Method Blank	55	91	94	83	93	94	95	89

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(20-150)	(20-150)	(20-150)	(20-150)	(20-150)	(20-150)	(20-150)	(20-150)
480-213390-1	BROADWAY SOIL PILE	80	76	89	88	87	96	104	111
LCS 280-630062/3-A	Lab Control Sample	79	84	82	85	86	79	90	87
LLCS 280-630062/2-A	Lab Control Sample	79	68	90	91	89	103	104	101
MB 280-630062/1-A	Method Blank	79	65	91	95	101	87	96	93

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(20-150)	(20-150)	(20-150)	(20-150)	(20-150)	(20-150)	(20-150)	(20-150)
480-213390-1	BROADWAY SOIL PILE	119	127	144	77	64	62	64	70
LCS 280-630062/3-A	Lab Control Sample	94	92	93	75	68	68	57	66
LLCS 280-630062/2-A	Lab Control Sample	107	112	122	76	65	64	57	61
MB 280-630062/1-A	Method Blank	111	105	104	80	57	56	47	49

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 280-630062/1-A
Matrix: Solid
Analysis Batch: 630428

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 630062

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.80	U	0.80	0.037	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluoropentanoic acid (PFPeA)	0.40	U	0.40	0.021	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluorohexanoic acid (PFHxA)	0.20	U	0.20	0.021	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluoroheptanoic acid (PFHpA)	0.20	U	0.20	0.022	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluorooctanoic acid (PFOA)	0.20	U	0.20	0.042	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluorononanoic acid (PFNA)	0.20	U	0.20	0.012	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluorodecanoic acid (PFDA)	0.20	U	0.20	0.075	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluoroundecanoic acid (PFUnA)	0.20	U	0.20	0.028	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluorododecanoic acid (PFDoA)	0.20	U	0.20	0.056	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluorotridecanoic acid (PFTriA)	0.20	U	0.20	0.028	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluorotetradecanoic acid (PFTeDA)	0.20	U	0.20	0.017	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluorobutanesulfonic acid (PFBS)	0.20	U	0.20	0.014	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluoropentanesulfonic acid (PFPeS)	0.20	U	0.20	0.013	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluorohexanesulfonic acid (PFHxS)	0.20	U	0.20	0.020	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluoroheptanesulfonic acid (PFHpS)	0.20	U	0.20	0.028	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluorooctanesulfonic acid (PFOS)	0.20	U	0.20	0.056	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluorononanesulfonic acid (PFNS)	0.20	U	0.20	0.028	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluorodecanesulfonic acid (PFDS)	0.20	U	0.20	0.020	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluorododecanesulfonic acid (PFDoS)	0.20	U	0.20	0.017	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
4:2 FTS	0.80	U	0.80	0.077	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
6:2 FTS	0.80	U	0.80	0.48	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
8:2 FTS	0.80	U	0.80	0.12	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
Perfluorooctanesulfonamide (PFOSA)	0.20	U	0.20	0.012	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
NMeFOSA	0.20	U	0.20	0.024	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
NEtFOSA	0.20	U	0.20	0.031	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
NMeFOSAA	0.20	U	0.20	0.025	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
NEtFOSAA	0.20	U	0.20	0.024	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
NMeFOSE	2.0	U	2.0	0.099	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
NEtFOSE	2.0	U	2.0	0.11	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
HFPO-DA (GenX)	0.80	U	0.80	0.094	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.80	U	0.80	0.081	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
PFMBA	0.40	U	0.40	0.019	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
NFDHA	0.40	U	0.40	0.048	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
PFMPA	0.40	U	0.40	0.091	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
9Cl-PF3ONS	0.80	U	0.80	0.051	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
11Cl-PF3OUdS	0.80	U	0.80	0.12	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
PFEESA	0.40	U	0.40	0.040	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
3:3 FTCA	1.0	U	1.0	0.18	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
5:3 FTCA	5.0	U	5.0	0.37	ug/Kg		10/18/23 08:57	10/20/23 00:50	1
7:3 FTCA	5.0	U	5.0	0.31	ug/Kg		10/18/23 08:57	10/20/23 00:50	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*55*		*20 - 150*	*10/18/23 08:57*	*10/20/23 00:50*	*1*
13C5 PFPeA	*91*		*20 - 150*	*10/18/23 08:57*	*10/20/23 00:50*	*1*
13C5 PFHxA	*94*		*20 - 150*	*10/18/23 08:57*	*10/20/23 00:50*	*1*

Method: Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 280-630062/1-A
Matrix: Solid
Analysis Batch: 630428

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 630062

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFHpA	83		20 - 150	10/18/23 08:57	10/20/23 00:50	1
13C8 PFOA	93		20 - 150	10/18/23 08:57	10/20/23 00:50	1
13C9 PFNA	94		20 - 150	10/18/23 08:57	10/20/23 00:50	1
13C6 PFDA	95		20 - 150	10/18/23 08:57	10/20/23 00:50	1
13C7 PFUnA	89		20 - 150	10/18/23 08:57	10/20/23 00:50	1
13C2 PFDoA	79		20 - 150	10/18/23 08:57	10/20/23 00:50	1
13C2 PFTeDA	65		20 - 150	10/18/23 08:57	10/20/23 00:50	1
13C3 PFBS	91		20 - 150	10/18/23 08:57	10/20/23 00:50	1
13C3 PFHxS	95		20 - 150	10/18/23 08:57	10/20/23 00:50	1
13C8 PFOS	101		20 - 150	10/18/23 08:57	10/20/23 00:50	1
13C8 FOSA	87		20 - 150	10/18/23 08:57	10/20/23 00:50	1
d3-NMeFOSAA	96		20 - 150	10/18/23 08:57	10/20/23 00:50	1
d5-NEtFOSAA	93		20 - 150	10/18/23 08:57	10/20/23 00:50	1
M2-4:2 FTS	111		20 - 150	10/18/23 08:57	10/20/23 00:50	1
M2-6:2 FTS	105		20 - 150	10/18/23 08:57	10/20/23 00:50	1
M2-8:2 FTS	104		20 - 150	10/18/23 08:57	10/20/23 00:50	1
13C3 HFPO-DA	80		20 - 150	10/18/23 08:57	10/20/23 00:50	1
d7-N-MeFOSE-M	57		20 - 150	10/18/23 08:57	10/20/23 00:50	1
d9-N-EtFOSE-M	56		20 - 150	10/18/23 08:57	10/20/23 00:50	1
d5-NEtPFOSA	47		20 - 150	10/18/23 08:57	10/20/23 00:50	1
d3-NMePFOSA	49		20 - 150	10/18/23 08:57	10/20/23 00:50	1

Lab Sample ID: LCS 280-630062/3-A
Matrix: Solid
Analysis Batch: 630428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 630062

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	12.8	15.4		ug/Kg		120	40 - 150
Perfluoropentanoic acid (PFPeA)	6.40	7.37		ug/Kg		115	40 - 150
Perfluorohexanoic acid (PFHxA)	3.20	3.77		ug/Kg		118	40 - 150
Perfluoroheptanoic acid (PFHpA)	3.20	3.75		ug/Kg		117	40 - 150
Perfluorooctanoic acid (PFOA)	3.20	3.92		ug/Kg		122	40 - 150
Perfluorononanoic acid (PFNA)	3.20	3.54		ug/Kg		111	40 - 150
Perfluorodecanoic acid (PFDA)	3.20	3.71		ug/Kg		116	40 - 150
Perfluoroundecanoic acid (PFUnA)	3.20	3.92		ug/Kg		123	40 - 150
Perfluorododecanoic acid (PFDoA)	3.20	3.56		ug/Kg		111	40 - 150
Perfluorotridecanoic acid (PFTriA)	3.20	3.71		ug/Kg		116	40 - 150
Perfluorotetradecanoic acid (PFTeDA)	3.20	3.56		ug/Kg		111	40 - 150
Perfluorobutanesulfonic acid (PFBS)	2.84	3.71		ug/Kg		131	40 - 150
Perfluoropentanesulfonic acid (PFPeS)	3.00	3.45		ug/Kg		115	40 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.92	3.18		ug/Kg		109	40 - 150
Perfluoroheptanesulfonic acid (PFHpS)	3.05	3.28		ug/Kg		108	40 - 150

Method: Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 280-630062/3-A
Matrix: Solid
Analysis Batch: 630428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 630062

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS)	2.98	3.15		ug/Kg		106	40 - 150
Perfluorononanesulfonic acid (PFNS)	3.08	3.57		ug/Kg		116	40 - 150
Perfluorodecanesulfonic acid (PFDS)	3.08	3.21		ug/Kg		104	40 - 150
Perfluorododecanesulfonic acid (PFDoS)	3.10	3.13		ug/Kg		101	40 - 150
4:2 FTS	12.0	15.5		ug/Kg		129	40 - 150
6:2 FTS	12.1	14.0		ug/Kg		115	40 - 150
8:2 FTS	12.3	14.2		ug/Kg		116	40 - 150
Perfluorooctanesulfonamide (PFOSA)	3.20	3.67		ug/Kg		115	40 - 150
NMeFOSA	3.20	3.86		ug/Kg		121	40 - 150
NEtFOSA	3.20	4.08		ug/Kg		127	40 - 150
NMeFOSAA	3.20	3.82		ug/Kg		119	40 - 150
NEtFOSAA	3.20	4.15		ug/Kg		130	40 - 150
NMeFOSE	32.0	36.2		ug/Kg		113	40 - 150
NEtFOSE	32.0	37.8		ug/Kg		118	40 - 150
HFPO-DA (GenX)	12.8	14.6		ug/Kg		114	40 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	12.1	15.0		ug/Kg		124	40 - 150
PFMBA	6.40	7.09		ug/Kg		111	40 - 150
NFDHA	6.40	8.07		ug/Kg		126	40 - 150
PFMPA	6.40	5.80		ug/Kg		91	40 - 150
9Cl-PF3ONS	11.9	15.5		ug/Kg		130	40 - 150
11Cl-PF3OUdS	12.1	13.9		ug/Kg		115	40 - 150
PFEESA	5.71	6.70		ug/Kg		117	40 - 150
3:3 FTCA	16.0	14.5		ug/Kg		91	40 - 150
5:3 FTCA	80.0	83.4		ug/Kg		104	40 - 150
7:3 FTCA	80.0	82.8		ug/Kg		104	40 - 150

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*37*		*20 - 150*
13C5 PFPeA	*79*		*20 - 150*
13C5 PFHxA	*78*		*20 - 150*
13C4 PFHpA	*73*		*20 - 150*
13C8 PFOA	*84*		*20 - 150*
13C9 PFNA	*84*		*20 - 150*
13C6 PFDA	*86*		*20 - 150*
13C7 PFUnA	*84*		*20 - 150*
13C2 PFDoA	*79*		*20 - 150*
13C2 PFTeDA	*84*		*20 - 150*
13C3 PFBS	*82*		*20 - 150*
13C3 PFHxS	*85*		*20 - 150*
13C8 PFOS	*86*		*20 - 150*
13C8 FOSA	*79*		*20 - 150*
d3-NMeFOSAA	*90*		*20 - 150*
d5-NEtFOSAA	*87*		*20 - 150*
M2-4:2 FTS	*94*		*20 - 150*

Method: Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 280-630062/3-A
Matrix: Solid
Analysis Batch: 630428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 630062

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
M2-6:2 FTS	*92*		*20 - 150*
M2-8:2 FTS	*93*		*20 - 150*
13C3 HFPO-DA	*75*		*20 - 150*
d7-N-MeFOSE-M	*68*		*20 - 150*
d9-N-EtFOSE-M	*68*		*20 - 150*
d5-NEtPFOSA	*57*		*20 - 150*
d3-NMePFOSA	*66*		*20 - 150*

Lab Sample ID: LLCS 280-630062/2-A
Matrix: Solid
Analysis Batch: 630428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 630062

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	1.28	1.41		ug/Kg		110	40 - 150
Perfluoropentanoic acid (PFPeA)	0.640	0.663		ug/Kg		104	40 - 150
Perfluorohexanoic acid (PFHxA)	0.320	0.353		ug/Kg		110	40 - 150
Perfluoroheptanoic acid (PFHpA)	0.320	0.348		ug/Kg		109	40 - 150
Perfluorooctanoic acid (PFOA)	0.320	0.372		ug/Kg		116	40 - 150
Perfluorononanoic acid (PFNA)	0.320	0.342		ug/Kg		107	40 - 150
Perfluorodecanoic acid (PFDA)	0.320	0.364		ug/Kg		114	40 - 150
Perfluoroundecanoic acid (PFUnA)	0.320	0.360		ug/Kg		112	40 - 150
Perfluorododecanoic acid (PFDoA)	0.320	0.329		ug/Kg		103	40 - 150
Perfluorotridecanoic acid (PFTriA)	0.320	0.317		ug/Kg		99	40 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.320	0.320		ug/Kg		100	40 - 150
Perfluorobutanesulfonic acid (PFBS)	0.284	0.341		ug/Kg		120	40 - 150
Perfluoropentanesulfonic acid (PFPeS)	0.300	0.307		ug/Kg		102	40 - 150
Perfluorohexanesulfonic acid (PFHxS)	0.292	0.321		ug/Kg		110	40 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.305	0.303		ug/Kg		100	40 - 150
Perfluorooctanesulfonic acid (PFOS)	0.298	0.318		ug/Kg		107	40 - 150
Perfluorononanesulfonic acid (PFNS)	0.308	0.379		ug/Kg		123	40 - 150
Perfluorodecanesulfonic acid (PFDS)	0.308	0.282		ug/Kg		91	40 - 150
Perfluorododecanesulfonic acid (PFDoS)	0.310	0.257		ug/Kg		83	40 - 150
4:2 FTS	1.20	1.45		ug/Kg		122	40 - 150
6:2 FTS	1.21	1.34		ug/Kg		110	40 - 150
8:2 FTS	1.23	1.33		ug/Kg		109	40 - 150
Perfluorooctanesulfonamide (PFOSA)	0.320	0.335		ug/Kg		105	40 - 150
NMeFOSA	0.320	0.387		ug/Kg		121	40 - 150
NEtFOSA	0.320	0.410		ug/Kg		128	40 - 150
NMeFOSAA	0.320	0.341		ug/Kg		107	40 - 150

Method: Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 280-630062/2-A
Matrix: Solid
Analysis Batch: 630428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 630062

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
NEtFOSAA			0.320	0.390		ug/Kg		122	40 - 150		
NMeFOSE			3.20	3.55		ug/Kg		111	40 - 150		
NEtFOSE			3.20	3.50		ug/Kg		109	40 - 150		
HFPO-DA (GenX)			1.28	1.48		ug/Kg		115	40 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			1.21	1.50		ug/Kg		124	40 - 150		
PFMBA			0.640	0.641		ug/Kg		100	40 - 150		
NFDHA			0.640	0.765		ug/Kg		120	40 - 150		
PFMPA			0.640	0.542		ug/Kg		85	40 - 150		
9Cl-PF3ONS			1.19	1.56		ug/Kg		130	40 - 150		
11Cl-PF3OUdS			1.21	1.20		ug/Kg		99	40 - 150		
PFEESA			0.571	0.606		ug/Kg		106	40 - 150		
3:3 FTCA			1.60	1.26		ug/Kg		79	40 - 150		
5:3 FTCA			8.00	7.61		ug/Kg		95	40 - 150		
7:3 FTCA			8.00	8.13		ug/Kg		102	40 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*39*		*20 - 150*
13C5 PFPeA	*88*		*20 - 150*
13C5 PFHxA	*87*		*20 - 150*
13C4 PFHpA	*83*		*20 - 150*
13C8 PFOA	*83*		*20 - 150*
13C9 PFNA	*89*		*20 - 150*
13C6 PFDA	*87*		*20 - 150*
13C7 PFUnA	*87*		*20 - 150*
13C2 PFDoA	*79*		*20 - 150*
13C2 PFTeDA	*68*		*20 - 150*
13C3 PFBS	*90*		*20 - 150*
13C3 PFHxS	*91*		*20 - 150*
13C8 PFOS	*89*		*20 - 150*
13C8 FOSA	*103*		*20 - 150*
d3-NMeFOSAA	*104*		*20 - 150*
d5-NEtFOSAA	*101*		*20 - 150*
M2-4:2 FTS	*107*		*20 - 150*
M2-6:2 FTS	*112*		*20 - 150*
M2-8:2 FTS	*122*		*20 - 150*
13C3 HFPO-DA	*76*		*20 - 150*
d7-N-MeFOSE-M	*65*		*20 - 150*
d9-N-EtFOSE-M	*64*		*20 - 150*
d5-NEtPFOSA	*57*		*20 - 150*
d3-NMePFOSA	*61*		*20 - 150*

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-213390-1

LCMS

Prep Batch: 630062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-213390-1	BROADWAY SOIL PILE	Total/NA	Solid	1633 Shake	
MB 280-630062/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 280-630062/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LLCS 280-630062/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 630428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-213390-1	BROADWAY SOIL PILE	Total/NA	Solid	Draft 1633	630062
MB 280-630062/1-A	Method Blank	Total/NA	Solid	Draft 1633	630062
LCS 280-630062/3-A	Lab Control Sample	Total/NA	Solid	Draft 1633	630062
LLCS 280-630062/2-A	Lab Control Sample	Total/NA	Solid	Draft 1633	630062

General Chemistry

Analysis Batch: 629163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-213390-1	BROADWAY SOIL PILE	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-213390-1

Client Sample ID: BROADWAY SOIL PILE

Lab Sample ID: 480-213390-1

Date Collected: 10/05/23 09:30

Matrix: Solid

Date Received: 10/05/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	629163	SL	EET DEN	10/10/23 12:08

Client Sample ID: BROADWAY SOIL PILE

Lab Sample ID: 480-213390-1

Date Collected: 10/05/23 09:30

Matrix: Solid

Date Received: 10/05/23 13:55

Percent Solids: 79.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1633 Shake			630062	SSS	EET DEN	10/18/23 08:57
Total/NA	Analysis	Draft 1633		1	630428	SCS	EET DEN	10/20/23 04:02

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: Matrix Environmental Technologies Inc
Job ID: 480-213390-1
Project/Site: Project # 18-046 - Aquino Lancaster

Laboratory: Eurofins Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	59923	03-31-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Draft 1633	1633 Shake	Solid	11Cl-PF3OUdS
Draft 1633	1633 Shake	Solid	3:3 FTCA
Draft 1633	1633 Shake	Solid	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
Draft 1633	1633 Shake	Solid	4:2 FTS
Draft 1633	1633 Shake	Solid	5:3 FTCA
Draft 1633	1633 Shake	Solid	6:2 FTS
Draft 1633	1633 Shake	Solid	7:3 FTCA
Draft 1633	1633 Shake	Solid	9Cl-PF3ONS
Draft 1633	1633 Shake	Solid	HFPO-DA (GenX)
Draft 1633	1633 Shake	Solid	NEtFOSA
Draft 1633	1633 Shake	Solid	NEtFOSE
Draft 1633	1633 Shake	Solid	NFDHA
Draft 1633	1633 Shake	Solid	NMeFOSA
Draft 1633	1633 Shake	Solid	NMeFOSE
Draft 1633	1633 Shake	Solid	Perfluorobutanesulfonic acid (PFBS)
Draft 1633	1633 Shake	Solid	Perfluorodecanesulfonic acid (PFDS)
Draft 1633	1633 Shake	Solid	Perfluorododecanesulfonic acid (PFDoS)
Draft 1633	1633 Shake	Solid	Perfluoroheptanesulfonic acid (PFHpS)
Draft 1633	1633 Shake	Solid	Perfluorohexanesulfonic acid (PFHxS)
Draft 1633	1633 Shake	Solid	Perfluorononanesulfonic acid (PFNS)
Draft 1633	1633 Shake	Solid	Perfluorooctanesulfonamide (PFOSA)
Draft 1633	1633 Shake	Solid	Perfluoropentanesulfonic acid (PFPeS)
Draft 1633	1633 Shake	Solid	PFEESA
Draft 1633	1633 Shake	Solid	PFMBA
Draft 1633	1633 Shake	Solid	PFMPA
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-213390-1

Method	Method Description	Protocol	Laboratory
Draft 1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET DEN
Moisture	Percent Moisture	EPA	EET DEN
1633 Shake	Shake Extraction with SPE	EPA	EET DEN

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-213390-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-213390-1	BROADWAY SOIL PILE	Solid	10/05/23 09:30	10/05/23 13:55

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Matrix Environmental

WASTE MANAGEMENT CHAIN OF CUSTODY

Internal Use Only

Sampler Name (Print):	Signature:
Stan Marchetti	
Site Name: Aguino 65 Lake	Spec Request: AC
Site Location:	Event Name:

TA Sample No.	Client Sample ID	Sampling Date	Sampling Time	MATRIX	COMP / GRAB	8260VOA	T-METALS	D-METALS	CHLORIDESULFATE/NITRATE PH, TSS, TDE	ALK / CARB / BICARB	HARDNESS	NH_3 / COD	TOC	EPA 1663 PFOA/PFOS	Additional Analysis/Remarks
				INDICATE PRESERVATIVE BY USING KEY BELOW (OPTINAL)											
				INDICATE CONTAINER BY USING KEY BELOW											
	Broadway Soil Pile	10-5-23	9:30 A.m	So.1	Comp									X	

480-213390 Chain of Custody

RELINQUISHED BY	COMPANY	DATE	TIME	RELINQUISHED BY	COMPANY	DATE	TIME
	MEI	10-5-23	1:55		Eurofins TA	10/5/23	1355
RELINQUISHED BY	COMPANY	DATE	TIME	RELINQUISHED BY	COMPANY	DATE	TIME
	Matrix Environmental Tech						
RELINQUISHED BY	COMPANY	DATE	TIME	RELINQUISHED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater
W = Water/Groundwater
S = Solid
SI = Sludge
MS = Miscellaneous Solids
OI = Oil
A = Air
O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

Preservsition Key
1. Plastic
2. HCl, Cool to 4"
3. H_2SO_4, Cool to 4"
4. HNO_3, Cool to 4"
5. NaOH/Zn Acetate, Cool to 4"
6. Cool to 4"
7. None

COMMENTS:
CAT B deleverable
24 Hour Turn (ASAP)

Courier: Temp 4.8#1 ICE

Bill of Lading:

TAL-8219 (12074)

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Schove, John R	Carrier Tracking No(s)	COC No: 480-83097.1
Client Contact: Shipping/Receiving	Phone	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: New York	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - New York		Job #: 480-213390-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 10/18/2023			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002	PO #:			
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	WO #			
Email				
Project Name: Project # 18-046 - Aquino Lancaster	Project #: 48026653			
Site	SSOW#			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1633_B24/1633_Shake PFAS - NY List of 40 (EPA 1633)	Moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
BROADWAY SOIL PILE (480-213390-1)	10/5/23	09:30 Eastern		Solid			X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment	
Relinquished by: [signature]	Date/Time: 10/6/23 1600	Company: TAB	Received by: [signature]	Date/Time: 10/7/23 1000 Company: EEDEN
Relinquished by:	Date/Time	Company	Received by:	Date/Time Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time Company
Custody Seals Intact:	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 0.9, 0.1 RRMemo CF0.3	

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Matrix Environmental Technologies Inc

Job Number: 480-213390-1

Login Number: 213390

List Source: Eurofins Buffalo

List Number: 1

Creator: Kolb, Chris M

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	MATRIX ENV
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Matrix Environmental Technologies Inc

Job Number: 480-213390-1

Login Number: 213390
List Number: 2
Creator: Rystrom, Joshua R

List Source: Eurofins Denver
List Creation: 10/07/23 12:46 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Nickolas Ander
Matrix Environmental Technologies Inc
3730 California Road
PO BOX 427
Orchard Park, New York 14127

Generated 10/3/2023 5:30:49 PM

JOB DESCRIPTION

Project # 18-046 - Aquino Lancaster

JOB NUMBER

480-212875-1

Eurofins Buffalo
10 Hazelwood Drive
Amherst NY 14228-2298

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northeast, LLC Project Manager.

Authorization

Generated
10/3/2023 5:30:49 PM

Authorized for release by
John Schove, Project Manager II
John.Schove@et.eurofinsus.com
(716)504-9838

Table of Contents

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

Job ID: 480-212875-1

Laboratory: Eurofins Buffalo

Narrative

Job Narrative
480-212875-1

Receipt
The samples were received on 9/19/2023 11:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 10.8º C.

GC/MS VOA
Method 8260C: The continuing calibration verification (CCV) associated with batch 480-684134 recovered above the upper control limit for 1,1,1-Trichloroethane, 1,1-Dichloroethene, Carbon tetrachloride and trans-1,2-Dichloroethene. The sample(s) associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: SOIL PILE #1 (480-212875-1), SOIL PILE #2 (480-212875-2), SOIL PILE #3 (480-212875-3) and SOIL PILE #4 (480-212875-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 3550C: The following sample required a Florisil clean-up, via EPA Method 3620C, to reduce matrix interferences: SOIL PILE #5 (480-212875-5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-212875-1

Client Sample ID: SOIL PILE #1 — Lab Sample ID: 480-212875-1

No Detections.

Client Sample ID: SOIL PILE #2 — Lab Sample ID: 480-212875-2

No Detections.

Client Sample ID: SOIL PILE #3 — Lab Sample ID: 480-212875-3

No Detections.

Client Sample ID: SOIL PILE #4 — Lab Sample ID: 480-212875-4

No Detections.

Client Sample ID: SOIL PILE #5 — Lab Sample ID: 480-212875-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDE	1.0	J	2.0	0.41	ug/Kg	1	☼	8081B	Total/NA
Arsenic	7.5		2.3	0.47	mg/Kg	1	☼	6010C	Total/NA
Barium	55.7		0.58	0.13	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.56		0.23	0.033	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.43		0.23	0.035	mg/Kg	1	☼	6010C	Total/NA
Chromium	18.4		0.58	0.23	mg/Kg	1	☼	6010C	Total/NA
Copper	19.6		1.2	0.25	mg/Kg	1	☼	6010C	Total/NA
Lead	28.1		1.2	0.28	mg/Kg	1	☼	6010C	Total/NA
Manganese	362		0.23	0.037	mg/Kg	1	☼	6010C	Total/NA
Nickel	21.1		5.8	0.27	mg/Kg	1	☼	6010C	Total/NA
Selenium	0.80	J	4.7	0.47	mg/Kg	1	☼	6010C	Total/NA
Zinc	85.1		2.3	0.75	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.067		0.023	0.0053	mg/Kg	1	☼	7471B	Total/NA
Chromium, trivalent	16.1		1.5	0.63	mg/Kg	1	☼	SM 3500 CR D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-212875-1

Client Sample ID: SOIL PILE #1
Date Collected: 09/19/23 10:30
Date Received: 09/19/23 11:30

Lab Sample ID: 480-212875-1
Matrix: Solid
Percent Solids: 85.9

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.6	U	4.6	0.34	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
1,1-Dichloroethane	4.6	U	4.6	0.57	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
1,1-Dichloroethene	4.6	U	4.6	0.57	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
1,2,4-Trimethylbenzene	4.6	U	4.6	0.89	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
1,2-Dichlorobenzene	4.6	U	4.6	0.36	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
1,2-Dichloroethane	4.6	U	4.6	0.23	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
1,3,5-Trimethylbenzene	4.6	U	4.6	0.30	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
1,3-Dichlorobenzene	4.6	U	4.6	0.24	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
1,4-Dichlorobenzene	4.6	U	4.6	0.65	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
1,4-Dioxane	93	U	93	20	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
2-Butanone (MEK)	23	U	23	1.7	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
Acetone	23	U	23	3.9	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
Benzene	4.6	U	4.6	0.23	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
Carbon tetrachloride	4.6	U	4.6	0.45	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
Chlorobenzene	4.6	U	4.6	0.61	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
Chloroform	4.6	U	4.6	0.29	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
cis-1,2-Dichloroethene	4.6	U	4.6	0.59	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
Ethylbenzene	4.6	U	4.6	0.32	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
Methyl tert-butyl ether	4.6	U	4.6	0.46	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
Methylene Chloride	4.6	U	4.6	2.1	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
n-Butylbenzene	4.6	U	4.6	0.40	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
N-Propylbenzene	4.6	U	4.6	0.37	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
sec-Butylbenzene	4.6	U	4.6	0.40	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
Tetrachloroethene	4.6	U	4.6	0.62	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
Toluene	4.6	U	4.6	0.35	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
trans-1,2-Dichloroethene	4.6	U	4.6	0.48	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
Trichloroethene	4.6	U	4.6	1.0	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
Vinyl chloride	4.6	U	4.6	0.57	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
Xylenes, Total	9.3	U	9.3	0.78	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1
tert-Butylbenzene	4.6	U	4.6	0.48	ug/Kg	☼	09/19/23 16:30	09/19/23 23:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*64 - 126*	*09/19/23 16:30*	*09/19/23 23:35*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*09/19/23 16:30*	*09/19/23 23:35*	*1*
Toluene-d8 (Surr)	*96*		*71 - 125*	*09/19/23 16:30*	*09/19/23 23:35*	*1*
Dibromofluoromethane (Surr)	*111*		*60 - 140*	*09/19/23 16:30*	*09/19/23 23:35*	*1*

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-212875-1

Client Sample ID: SOIL PILE #2
Date Collected: 09/19/23 10:30
Date Received: 09/19/23 11:30

Lab Sample ID: 480-212875-2
Matrix: Solid
Percent Solids: 87.1

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	5.2	U	5.2	0.38	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
1,1-Dichloroethane	5.2	U	5.2	0.63	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
1,1-Dichloroethene	5.2	U	5.2	0.63	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
1,2,4-Trimethylbenzene	5.2	U	5.2	1.0	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
1,2-Dichlorobenzene	5.2	U	5.2	0.41	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
1,2-Dichloroethane	5.2	U	5.2	0.26	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
1,3,5-Trimethylbenzene	5.2	U	5.2	0.33	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
1,3-Dichlorobenzene	5.2	U	5.2	0.27	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
1,4-Dichlorobenzene	5.2	U	5.2	0.73	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
1,4-Dioxane	100	U	100	23	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
2-Butanone (MEK)	26	U	26	1.9	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
Acetone	26	U	26	4.4	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
Benzene	5.2	U	5.2	0.25	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
Carbon tetrachloride	5.2	U	5.2	0.50	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
Chlorobenzene	5.2	U	5.2	0.68	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
Chloroform	5.2	U	5.2	0.32	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
cis-1,2-Dichloroethene	5.2	U	5.2	0.66	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
Ethylbenzene	5.2	U	5.2	0.36	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
Methyl tert-butyl ether	5.2	U	5.2	0.51	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
Methylene Chloride	5.2	U	5.2	2.4	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
n-Butylbenzene	5.2	U	5.2	0.45	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
N-Propylbenzene	5.2	U	5.2	0.41	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
sec-Butylbenzene	5.2	U	5.2	0.45	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
Tetrachloroethene	5.2	U	5.2	0.70	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
Toluene	5.2	U	5.2	0.39	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
trans-1,2-Dichloroethene	5.2	U	5.2	0.54	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
Trichloroethene	5.2	U	5.2	1.1	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
Vinyl chloride	5.2	U	5.2	0.63	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
Xylenes, Total	10	U	10	0.87	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1
tert-Butylbenzene	5.2	U	5.2	0.54	ug/Kg	☼	09/19/23 16:30	09/19/23 23:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*64 - 126*	*09/19/23 16:30*	*09/19/23 23:59*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*09/19/23 16:30*	*09/19/23 23:59*	*1*
Toluene-d8 (Surr)	*95*		*71 - 125*	*09/19/23 16:30*	*09/19/23 23:59*	*1*
Dibromofluoromethane (Surr)	*110*		*60 - 140*	*09/19/23 16:30*	*09/19/23 23:59*	*1*

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-212875-1

Client Sample ID: SOIL PILE #3
Date Collected: 09/19/23 10:30
Date Received: 09/19/23 11:30

Lab Sample ID: 480-212875-3
Matrix: Solid
Percent Solids: 85.9

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.7	U	4.7	0.34	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
1,1-Dichloroethane	4.7	U	4.7	0.57	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
1,1-Dichloroethene	4.7	U	4.7	0.57	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
1,2,4-Trimethylbenzene	4.7	U	4.7	0.90	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
1,2-Dichlorobenzene	4.7	U	4.7	0.37	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
1,2-Dichloroethane	4.7	U	4.7	0.23	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
1,3,5-Trimethylbenzene	4.7	U	4.7	0.30	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
1,3-Dichlorobenzene	4.7	U	4.7	0.24	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
1,4-Dichlorobenzene	4.7	U	4.7	0.65	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
1,4-Dioxane	93	U	93	20	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
2-Butanone (MEK)	23	U	23	1.7	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
Acetone	23	U	23	3.9	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
Benzene	4.7	U	4.7	0.23	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
Carbon tetrachloride	4.7	U	4.7	0.45	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
Chlorobenzene	4.7	U	4.7	0.62	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
Chloroform	4.7	U	4.7	0.29	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
cis-1,2-Dichloroethene	4.7	U	4.7	0.60	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
Ethylbenzene	4.7	U	4.7	0.32	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
Methyl tert-butyl ether	4.7	U	4.7	0.46	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
Methylene Chloride	4.7	U	4.7	2.1	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
n-Butylbenzene	4.7	U	4.7	0.41	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
N-Propylbenzene	4.7	U	4.7	0.37	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
sec-Butylbenzene	4.7	U	4.7	0.41	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
Tetrachloroethene	4.7	U	4.7	0.63	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
Toluene	4.7	U	4.7	0.35	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
trans-1,2-Dichloroethene	4.7	U	4.7	0.48	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
Trichloroethene	4.7	U	4.7	1.0	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
Vinyl chloride	4.7	U	4.7	0.57	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
Xylenes, Total	9.3	U	9.3	0.78	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1
tert-Butylbenzene	4.7	U	4.7	0.49	ug/Kg	☼	09/19/23 16:30	09/20/23 00:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*64 - 126*	*09/19/23 16:30*	*09/20/23 00:24*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*09/19/23 16:30*	*09/20/23 00:24*	*1*
Toluene-d8 (Surr)	*95*		*71 - 125*	*09/19/23 16:30*	*09/20/23 00:24*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 140*	*09/19/23 16:30*	*09/20/23 00:24*	*1*

Client: Matrix Environmental Technologies Inc
Job ID: 480-212875-1
Project/Site: Project # 18-046 - Aquino Lancaster

Client Sample ID: SOIL PILE #4
Lab Sample ID: 480-212875-4
Date Collected: 09/19/23 10:30
Matrix: Solid
Date Received: 09/19/23 11:30
Percent Solids: 85.5

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	5.0	U	5.0	0.37	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
1,1-Dichloroethane	5.0	U	5.0	0.61	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
1,1-Dichloroethene	5.0	U	5.0	0.62	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
1,2,4-Trimethylbenzene	5.0	U	5.0	0.97	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
1,2-Dichlorobenzene	5.0	U	5.0	0.39	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
1,2-Dichloroethane	5.0	U	5.0	0.25	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
1,3,5-Trimethylbenzene	5.0	U	5.0	0.32	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
1,3-Dichlorobenzene	5.0	U	5.0	0.26	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
1,4-Dichlorobenzene	5.0	U	5.0	0.71	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
1,4-Dioxane	100	U	100	22	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
2-Butanone (MEK)	25	U	25	1.8	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
Acetone	25	U	25	4.2	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
Benzene	5.0	U	5.0	0.25	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
Carbon tetrachloride	5.0	U	5.0	0.49	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
Chlorobenzene	5.0	U	5.0	0.67	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
Chloroform	5.0	U	5.0	0.31	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
cis-1,2-Dichloroethene	5.0	U	5.0	0.65	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
Ethylbenzene	5.0	U	5.0	0.35	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
Methyl tert-butyl ether	5.0	U	5.0	0.49	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
Methylene Chloride	5.0	U	5.0	2.3	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
n-Butylbenzene	5.0	U	5.0	0.44	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
N-Propylbenzene	5.0	U	5.0	0.40	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
sec-Butylbenzene	5.0	U	5.0	0.44	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
Tetrachloroethene	5.0	U	5.0	0.68	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
Toluene	5.0	U	5.0	0.38	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
trans-1,2-Dichloroethene	5.0	U	5.0	0.52	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
Trichloroethene	5.0	U	5.0	1.1	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
Vinyl chloride	5.0	U	5.0	0.61	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
Xylenes, Total	10	U	10	0.85	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1
tert-Butylbenzene	5.0	U	5.0	0.52	ug/Kg	☼	09/19/23 16:30	09/20/23 00:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*113*		*64 - 126*	*09/19/23 16:30*	*09/20/23 00:49*	*1*
4-Bromofluorobenzene (Surr)	*99*		*72 - 126*	*09/19/23 16:30*	*09/20/23 00:49*	*1*
Toluene-d8 (Surr)	*95*		*71 - 125*	*09/19/23 16:30*	*09/20/23 00:49*	*1*
Dibromofluoromethane (Surr)	*110*		*60 - 140*	*09/19/23 16:30*	*09/20/23 00:49*	*1*

Client: Matrix Environmental Technologies Inc
Job ID: 480-212875-1
Project/Site: Project # 18-046 - Aquino Lancaster

Client Sample ID: SOIL PILE #5
Lab Sample ID: 480-212875-5
Date Collected: 09/19/23 10:30
Matrix: Solid
Date Received: 09/19/23 11:30
Percent Solids: 84.4

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	120	U	120	65	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
2-Methylphenol	200	U	200	24	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
3-Methylphenol	390	U	390	31	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
4-Methylphenol	390	U	390	24	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Acenaphthene	200	U	200	29	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Acenaphthylene	200	U	200	26	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Anthracene	200	U	200	49	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Benzo[a]anthracene	200	U	200	20	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Benzo[a]pyrene	200	U	200	29	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Benzo[b]fluoranthene	200	U	200	32	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Benzo[g,h,i]perylene	200	U	200	21	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Benzo[k]fluoranthene	200	U	200	26	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Chrysene	200	U	200	45	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Dibenz(a,h)anthracene	200	U	200	35	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Dibenzofuran	200	U	200	24	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Fluoranthene	200	U	200	21	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Fluorene	200	U	200	24	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Hexachlorobenzene	200	U	200	27	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Indeno[1,2,3-cd]pyrene	200	U	200	25	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Naphthalene	200	U	200	26	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Pentachlorophenol	390	U	390	200	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Phenanthrene	200	U	200	29	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Phenol	200	U	200	31	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1
Pyrene	200	U	200	24	ug/Kg	☼	09/20/23 16:30	09/21/23 20:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*85*		*54 - 120*	*09/20/23 16:30*	*09/21/23 20:29*	*1*
2-Fluorobiphenyl (Surr)	*82*		*60 - 120*	*09/20/23 16:30*	*09/21/23 20:29*	*1*
2-Fluorophenol (Surr)	*78*		*52 - 120*	*09/20/23 16:30*	*09/21/23 20:29*	*1*
Nitrobenzene-d5 (Surr)	*73*		*53 - 120*	*09/20/23 16:30*	*09/21/23 20:29*	*1*
Phenol-d5 (Surr)	*79*		*54 - 120*	*09/20/23 16:30*	*09/21/23 20:29*	*1*
p-Terphenyl-d14 (Surr)	*86*		*79 - 130*	*09/20/23 16:30*	*09/21/23 20:29*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	2.0	U	2.0	0.38	ug/Kg	☼	09/20/23 08:37	09/21/23 13:59	1
4,4'-DDE	**1.0**	**J**	2.0	0.41	ug/Kg	☼	09/20/23 08:37	09/21/23 13:59	1
4,4'-DDT	2.0	U	2.0	0.46	ug/Kg	☼	09/20/23 08:37	09/21/23 13:59	1
Aldrin	2.0	U	2.0	0.48	ug/Kg	☼	09/20/23 08:37	09/21/23 13:59	1
alpha-BHC	2.0	U	2.0	0.35	ug/Kg	☼	09/20/23 08:37	09/21/23 13:59	1
beta-BHC	2.0	U	2.0	0.35	ug/Kg	☼	09/20/23 08:37	09/21/23 13:59	1
cis-Chlordane	2.0	U	2.0	0.98	ug/Kg	☼	09/20/23 08:37	09/21/23 13:59	1
delta-BHC	2.0	U	2.0	0.37	ug/Kg	☼	09/20/23 08:37	09/21/23 13:59	1
Dieldrin	2.0	U	2.0	0.47	ug/Kg	☼	09/20/23 08:37	09/21/23 13:59	1
Endosulfan I	2.0	U	2.0	0.38	ug/Kg	☼	09/20/23 08:37	09/21/23 13:59	1
Endosulfan II	2.0	U	2.0	0.35	ug/Kg	☼	09/20/23 08:37	09/21/23 13:59	1
Endosulfan sulfate	2.0	U	2.0	0.37	ug/Kg	☼	09/20/23 08:37	09/21/23 13:59	1
Endrin	2.0	U	2.0	0.39	ug/Kg	☼	09/20/23 08:37	09/21/23 13:59	1
gamma-BHC (Lindane)	2.0	U	2.0	0.36	ug/Kg	☼	09/20/23 08:37	09/21/23 13:59	1
Heptachlor	2.0	U	2.0	0.43	ug/Kg	☼	09/20/23 08:37	09/21/23 13:59	1

Client Sample ID: SOIL PILE #5

Date Collected: 09/19/23 10:30
Date Received: 09/19/23 11:30

Lab Sample ID: 480-212875-5

Matrix: Solid
Percent Solids: 84.4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*100*		*45 - 120*	*09/20/23 08:37*	*09/21/23 13:59*	*1*
DCB Decachlorobiphenyl	*129*	*S1+*	*45 - 120*	*09/20/23 08:37*	*09/21/23 13:59*	*1*
Tetrachloro-m-xylene	*79*		*30 - 124*	*09/20/23 08:37*	*09/21/23 13:59*	*1*
Tetrachloro-m-xylene	*71*		*30 - 124*	*09/20/23 08:37*	*09/21/23 13:59*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.27	U	0.27	0.053	mg/Kg	☼	09/20/23 07:35	09/21/23 21:12	1
PCB-1221	0.27	U	0.27	0.053	mg/Kg	☼	09/20/23 07:35	09/21/23 21:12	1
PCB-1232	0.27	U	0.27	0.053	mg/Kg	☼	09/20/23 07:35	09/21/23 21:12	1
PCB-1242	0.27	U	0.27	0.053	mg/Kg	☼	09/20/23 07:35	09/21/23 21:12	1
PCB-1248	0.27	U	0.27	0.053	mg/Kg	☼	09/20/23 07:35	09/21/23 21:12	1
PCB-1254	0.27	U	0.27	0.13	mg/Kg	☼	09/20/23 07:35	09/21/23 21:12	1
PCB-1260	0.27	U	0.27	0.13	mg/Kg	☼	09/20/23 07:35	09/21/23 21:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*120*		*65 - 174*	*09/20/23 07:35*	*09/21/23 21:12*	*1*
DCB Decachlorobiphenyl	*113*		*65 - 174*	*09/20/23 07:35*	*09/21/23 21:12*	*1*
Tetrachloro-m-xylene	*130*		*60 - 154*	*09/20/23 07:35*	*09/21/23 21:12*	*1*
Tetrachloro-m-xylene	*114*		*60 - 154*	*09/20/23 07:35*	*09/21/23 21:12*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	20	U	20	7.1	ug/Kg	☼	09/21/23 08:39	09/26/23 13:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*85*		*28 - 129*	*09/21/23 08:39*	*09/26/23 13:44*	*1*
2,4-Dichlorophenylacetic acid	*72*		*28 - 129*	*09/21/23 08:39*	*09/26/23 13:44*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**7.5**		2.3	0.47	mg/Kg	☼	09/22/23 14:06	09/27/23 21:28	1
Barium	**55.7**		0.58	0.13	mg/Kg	☼	09/22/23 14:06	09/27/23 21:28	1
Beryllium	**0.56**		0.23	0.033	mg/Kg	☼	09/22/23 14:06	09/27/23 21:28	1
Cadmium	**0.43**		0.23	0.035	mg/Kg	☼	09/22/23 14:06	09/27/23 21:28	1
Chromium	**18.4**		0.58	0.23	mg/Kg	☼	09/22/23 14:06	09/27/23 21:28	1
Copper	**19.6**		1.2	0.25	mg/Kg	☼	09/22/23 14:06	09/27/23 21:28	1
Lead	**28.1**		1.2	0.28	mg/Kg	☼	09/22/23 14:06	09/27/23 21:28	1
Manganese	**362**		0.23	0.037	mg/Kg	☼	09/22/23 14:06	09/27/23 21:28	1
Nickel	**21.1**		5.8	0.27	mg/Kg	☼	09/22/23 14:06	09/27/23 21:28	1
Selenium	**0.80**	**J**	4.7	0.47	mg/Kg	☼	09/22/23 14:06	09/27/23 21:28	1
Silver	0.70	U	0.70	0.23	mg/Kg	☼	09/22/23 14:06	09/27/23 21:28	1
Zinc	**85.1**		2.3	0.75	mg/Kg	☼	09/22/23 14:06	09/27/23 21:28	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.067**		0.023	0.0053	mg/Kg	☼	09/27/23 10:15	09/27/23 14:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent (SW846 7196A)	2.3	U	2.3	0.98	mg/Kg	☼	10/03/23 06:45	10/03/23 13:00	1

Client: Matrix Environmental Technologies Inc
Job ID: 480-212875-1
Project/Site: Project # 18-046 - Aquino Lancaster

Client Sample ID: SOIL PILE #5
Lab Sample ID: 480-212875-5
Date Collected: 09/19/23 10:30
Matrix: Solid
Date Received: 09/19/23 11:30
Percent Solids: 84.4

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	1.0	U	1.0	0.51	mg/Kg	☼	09/23/23 15:20	09/23/23 18:06	1
Chromium, trivalent (SM 3500 CR D)	**16.1**		1.5	0.63	mg/Kg	☼		10/03/23 17:14	1

Surrogate Summary

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-212875-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(64-126)	(72-126)	(71-125)	(60-140)
480-212875-1	SOIL PILE #1	112	98	96	111
480-212875-2	SOIL PILE #2	114	98	95	110
480-212875-3	SOIL PILE #3	111	98	95	107
480-212875-4	SOIL PILE #4	113	99	95	110
LCS 480-684133/1-A	Lab Control Sample	104	99	97	106
MB 480-684133/2-A	Method Blank	103	98	95	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPHd14
Lab Sample ID	Client Sample ID	(54-120)	(60-120)	(52-120)	(53-120)	(54-120)	(79-130)
480-212875-5	SOIL PILE #5	85	82	78	73	79	86
LCS 480-684304/2-A	Lab Control Sample	106	90	82	81	88	101
MB 480-684304/1-A	Method Blank	77	84	80	75	81	95

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCBP1	DCBP2	TCX1	TCX2
Lab Sample ID	Client Sample ID	(45-120)	(45-120)	(30-124)	(30-124)
480-212875-5	SOIL PILE #5	100	129 S1+	79	71
LCS 480-684170/2-A	Lab Control Sample	93	106	72	67
MB 480-684170/1-A	Method Blank	87	103	66	59

Surrogate Legend

DCBP = DCB Decachlorobiphenyl
TCX = Tetrachloro-m-xylene

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCBP1	DCBP2	TCX1	TCX2
Lab Sample ID	Client Sample ID	(65-174)	(65-174)	(60-154)	(60-154)
480-212875-5	SOIL PILE #5	120	113	130	114

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	DCBP1 (65-174)	DCBP2 (65-174)	TCX1 (60-154)	TCX2 (60-154)
LCS 480-684156/2-A	Lab Control Sample	151	144	157 S1+	138
MB 480-684156/1-A	Method Blank	131	128	138	125

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Method: 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	DCPAA1 (28-129)	DCPAA2 (28-129)
480-212875-5	SOIL PILE #5	85	72
LCS 480-684356/2-A	Lab Control Sample	80	74
MB 480-684356/1-A	Method Blank	66	74

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-684133/2-A
Matrix: Solid
Analysis Batch: 684134

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 684133

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	5.0	U	5.0	0.36	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
1,1-Dichloroethane	5.0	U	5.0	0.61	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
1,1-Dichloroethene	5.0	U	5.0	0.61	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
1,2,4-Trimethylbenzene	5.0	U	5.0	0.96	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
1,2-Dichlorobenzene	5.0	U	5.0	0.39	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
1,2-Dichloroethane	5.0	U	5.0	0.25	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
1,3,5-Trimethylbenzene	5.0	U	5.0	0.32	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
1,3-Dichlorobenzene	5.0	U	5.0	0.26	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
1,4-Dichlorobenzene	5.0	U	5.0	0.70	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
1,4-Dioxane	100	U	100	22	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
2-Butanone (MEK)	25	U	25	1.8	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
Acetone	25	U	25	4.2	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
Benzene	5.0	U	5.0	0.25	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
Carbon tetrachloride	5.0	U	5.0	0.48	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
Chlorobenzene	5.0	U	5.0	0.66	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
Chloroform	5.0	U	5.0	0.31	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
cis-1,2-Dichloroethene	5.0	U	5.0	0.64	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
Ethylbenzene	5.0	U	5.0	0.35	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
Methyl tert-butyl ether	5.0	U	5.0	0.49	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
Methylene Chloride	5.0	U	5.0	2.3	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
n-Butylbenzene	5.0	U	5.0	0.44	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
N-Propylbenzene	5.0	U	5.0	0.40	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
sec-Butylbenzene	5.0	U	5.0	0.44	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
Tetrachloroethene	5.0	U	5.0	0.67	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
Toluene	5.0	U	5.0	0.38	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
trans-1,2-Dichloroethene	5.0	U	5.0	0.52	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
Trichloroethene	5.0	U	5.0	1.1	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
Vinyl chloride	5.0	U	5.0	0.61	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
Xylenes, Total	10	U	10	0.84	ug/Kg		09/19/23 17:54	09/19/23 20:57	1
tert-Butylbenzene	5.0	U	5.0	0.52	ug/Kg		09/19/23 17:54	09/19/23 20:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*64 - 126*	*09/19/23 17:54*	*09/19/23 20:57*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*09/19/23 17:54*	*09/19/23 20:57*	*1*
Toluene-d8 (Surr)	*95*		*71 - 125*	*09/19/23 17:54*	*09/19/23 20:57*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*	*09/19/23 17:54*	*09/19/23 20:57*	*1*

Lab Sample ID: LCS 480-684133/1-A
Matrix: Solid
Analysis Batch: 684134

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684133

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	57.8		ug/Kg		116	77 - 121
1,1-Dichloroethane	50.0	54.4		ug/Kg		109	73 - 126
1,1-Dichloroethene	50.0	53.9		ug/Kg		108	59 - 125
1,2,4-Trimethylbenzene	50.0	48.5		ug/Kg		97	74 - 120
1,2-Dichlorobenzene	50.0	48.3		ug/Kg		97	75 - 120
1,2-Dichloroethane	50.0	53.7		ug/Kg		107	77 - 122

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-684133/1-A
Matrix: Solid
Analysis Batch: 684134

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684133

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3,5-Trimethylbenzene	50.0	49.0		ug/Kg		98	74 - 120
1,3-Dichlorobenzene	50.0	47.3		ug/Kg		95	74 - 120
1,4-Dichlorobenzene	50.0	47.0		ug/Kg		94	73 - 120
1,4-Dioxane	1000	1030		ug/Kg		103	64 - 124
2-Butanone (MEK)	250	294		ug/Kg		117	70 - 134
Acetone	250	282		ug/Kg		113	61 - 137
Benzene	50.0	53.0		ug/Kg		106	79 - 127
Carbon tetrachloride	50.0	62.8		ug/Kg		126	75 - 135
Chlorobenzene	50.0	48.3		ug/Kg		97	76 - 124
Chloroform	50.0	53.3		ug/Kg		107	80 - 120
cis-1,2-Dichloroethene	50.0	54.1		ug/Kg		108	81 - 120
Ethylbenzene	50.0	49.4		ug/Kg		99	80 - 120
Methyl tert-butyl ether	50.0	52.9		ug/Kg		106	63 - 125
Methylene Chloride	50.0	56.0		ug/Kg		112	61 - 127
n-Butylbenzene	50.0	49.5		ug/Kg		99	70 - 120
N-Propylbenzene	50.0	48.8		ug/Kg		98	70 - 130
sec-Butylbenzene	50.0	48.9		ug/Kg		98	74 - 120
Tetrachloroethene	50.0	48.3		ug/Kg		97	74 - 122
Toluene	50.0	49.2		ug/Kg		98	74 - 128
trans-1,2-Dichloroethene	50.0	54.7		ug/Kg		109	78 - 126
Trichloroethene	50.0	52.8		ug/Kg		106	77 - 129
Vinyl chloride	50.0	50.2		ug/Kg		100	61 - 133
Xylenes, Total	100	98.5		ug/Kg		99	70 - 130
tert-Butylbenzene	50.0	49.6		ug/Kg		99	73 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*64 - 126*
4-Bromofluorobenzene (Surr)	*99*		*72 - 126*
Toluene-d8 (Surr)	*97*		*71 - 125*
Dibromofluoromethane (Surr)	*106*		*60 - 140*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-684304/1-A
Matrix: Solid
Analysis Batch: 684363

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 684304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	99	U	99	54	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
2-Methylphenol	170	U	170	20	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
3-Methylphenol	330	U	330	26	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
4-Methylphenol	330	U	330	20	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Acenaphthene	170	U	170	25	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Acenaphthylene	170	U	170	22	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Anthracene	170	U	170	41	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Benzo[a]anthracene	170	U	170	17	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Benzo[a]pyrene	170	U	170	25	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Benzo[b]fluoranthene	170	U	170	27	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Benzo[g,h,i]perylene	170	U	170	18	ug/Kg		09/20/23 16:30	09/21/23 14:41	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 480-684304/1-A
Matrix: Solid
Analysis Batch: 684363

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 684304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	170	U	170	22	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Chrysene	170	U	170	37	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Dibenz(a,h)anthracene	170	U	170	30	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Dibenzofuran	170	U	170	20	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Fluoranthene	170	U	170	18	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Fluorene	170	U	170	20	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Hexachlorobenzene	170	U	170	23	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Indeno[1,2,3-cd]pyrene	170	U	170	21	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Naphthalene	170	U	170	22	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Pentachlorophenol	330	U	330	170	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Phenanthrene	170	U	170	25	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Phenol	170	U	170	26	ug/Kg		09/20/23 16:30	09/21/23 14:41	1
Pyrene	170	U	170	20	ug/Kg		09/20/23 16:30	09/21/23 14:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*77*		*54 - 120*	*09/20/23 16:30*	*09/21/23 14:41*	*1*
2-Fluorobiphenyl (Surr)	*84*		*60 - 120*	*09/20/23 16:30*	*09/21/23 14:41*	*1*
2-Fluorophenol (Surr)	*80*		*52 - 120*	*09/20/23 16:30*	*09/21/23 14:41*	*1*
Nitrobenzene-d5 (Surr)	*75*		*53 - 120*	*09/20/23 16:30*	*09/21/23 14:41*	*1*
Phenol-d5 (Surr)	*81*		*54 - 120*	*09/20/23 16:30*	*09/21/23 14:41*	*1*
p-Terphenyl-d14 (Surr)	*95*		*79 - 130*	*09/20/23 16:30*	*09/21/23 14:41*	*1*

Lab Sample ID: LCS 480-684304/2-A
Matrix: Solid
Analysis Batch: 684363

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684304

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	1640	675		ug/Kg		41	23 - 120
2-Methylphenol	1640	1450		ug/Kg		89	54 - 120
3-Methylphenol	1640	1480		ug/Kg		90	55 - 120
4-Methylphenol	1640	1480		ug/Kg		90	55 - 120
Acenaphthene	1640	1480		ug/Kg		90	62 - 120
Acenaphthylene	1640	1490		ug/Kg		91	58 - 121
Anthracene	1640	1560		ug/Kg		95	62 - 120
Benzo[a]anthracene	1640	1580		ug/Kg		97	65 - 120
Benzo[a]pyrene	1640	1710		ug/Kg		104	64 - 120
Benzo[b]fluoranthene	1640	1550		ug/Kg		94	64 - 120
Benzo[g,h,i]perylene	1640	1590		ug/Kg		97	45 - 145
Benzo[k]fluoranthene	1640	1580		ug/Kg		97	65 - 120
Chrysene	1640	1560		ug/Kg		96	64 - 120
Dibenz(a,h)anthracene	1640	1590		ug/Kg		97	54 - 132
Dibenzofuran	1640	1500		ug/Kg		91	63 - 120
Fluoranthene	1640	1670		ug/Kg		102	62 - 120
Fluorene	1640	1520		ug/Kg		93	63 - 120
Hexachlorobenzene	1640	1620		ug/Kg		99	60 - 120
Indeno[1,2,3-cd]pyrene	1640	1690		ug/Kg		103	56 - 134
Naphthalene	1640	1380		ug/Kg		84	55 - 120
Pentachlorophenol	3280	3320		ug/Kg		101	51 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 480-684304/2-A
Matrix: Solid
Analysis Batch: 684363

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684304

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Phenanthrene	1640	1540		ug/Kg		94	60 - 120
Phenol	1640	1380		ug/Kg		84	53 - 120
Pyrene	1640	1570		ug/Kg		96	61 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*106*		*54 - 120*
2-Fluorobiphenyl (Surr)	*90*		*60 - 120*
2-Fluorophenol (Surr)	*82*		*52 - 120*
Nitrobenzene-d5 (Surr)	*81*		*53 - 120*
Phenol-d5 (Surr)	*88*		*54 - 120*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 480-684170/1-A
Matrix: Solid
Analysis Batch: 684341

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 684170

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	1.7	U	1.7	0.32	ug/Kg		09/20/23 08:37	09/21/23 11:43	1
4,4'-DDE	1.7	U	1.7	0.35	ug/Kg		09/20/23 08:37	09/21/23 11:43	1
4,4'-DDT	0.711	J	1.7	0.39	ug/Kg		09/20/23 08:37	09/21/23 11:43	1
Aldrin	1.7	U	1.7	0.41	ug/Kg		09/20/23 08:37	09/21/23 11:43	1
alpha-BHC	0.516	J	1.7	0.30	ug/Kg		09/20/23 08:37	09/21/23 11:43	1
beta-BHC	1.7	U	1.7	0.30	ug/Kg		09/20/23 08:37	09/21/23 11:43	1
cis-Chlordane	1.7	U	1.7	0.82	ug/Kg		09/20/23 08:37	09/21/23 11:43	1
delta-BHC	0.565	J	1.7	0.31	ug/Kg		09/20/23 08:37	09/21/23 11:43	1
Dieldrin	1.7	U	1.7	0.40	ug/Kg		09/20/23 08:37	09/21/23 11:43	1
Endosulfan I	0.565	J	1.7	0.32	ug/Kg		09/20/23 08:37	09/21/23 11:43	1
Endosulfan II	1.7	U	1.7	0.30	ug/Kg		09/20/23 08:37	09/21/23 11:43	1
Endosulfan sulfate	1.7	U	1.7	0.31	ug/Kg		09/20/23 08:37	09/21/23 11:43	1
Endrin	1.7	U	1.7	0.33	ug/Kg		09/20/23 08:37	09/21/23 11:43	1
gamma-BHC (Lindane)	1.7	U	1.7	0.30	ug/Kg		09/20/23 08:37	09/21/23 11:43	1
Heptachlor	1.7	U	1.7	0.36	ug/Kg		09/20/23 08:37	09/21/23 11:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*87*		*45 - 120*	*09/20/23 08:37*	*09/21/23 11:43*	*1*
DCB Decachlorobiphenyl	*103*		*45 - 120*	*09/20/23 08:37*	*09/21/23 11:43*	*1*
Tetrachloro-m-xylene	*66*		*30 - 124*	*09/20/23 08:37*	*09/21/23 11:43*	*1*
Tetrachloro-m-xylene	*59*		*30 - 124*	*09/20/23 08:37*	*09/21/23 11:43*	*1*

Lab Sample ID: LCS 480-684170/2-A
Matrix: Solid
Analysis Batch: 684341

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684170

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4,4'-DDD	16.6	14.0		ug/Kg		85	56 - 120
4,4'-DDE	16.6	12.2		ug/Kg		74	44 - 120

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 480-684170/2-A
Matrix: Solid
Analysis Batch: 684341

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684170

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4,4'-DDT	16.6	13.7		ug/Kg		83	38 - 120
Aldrin	16.6	13.5		ug/Kg		82	38 - 120
alpha-BHC	16.6	11.6		ug/Kg		70	39 - 120
beta-BHC	16.6	12.4		ug/Kg		75	40 - 120
cis-Chlordane	16.6	12.8		ug/Kg		77	47 - 120
delta-BHC	16.6	13.9		ug/Kg		84	45 - 120
Dieldrin	16.6	14.6		ug/Kg		88	58 - 120
Endosulfan I	16.6	14.0		ug/Kg		85	49 - 120
Endosulfan II	16.6	14.3		ug/Kg		86	55 - 120
Endosulfan sulfate	16.6	13.7		ug/Kg		83	49 - 124
Endrin	16.6	14.7		ug/Kg		89	58 - 120
gamma-BHC (Lindane)	16.6	13.0		ug/Kg		78	50 - 120
Heptachlor	16.6	14.3		ug/Kg		86	50 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*93*		*45 - 120*
DCB Decachlorobiphenyl	*106*		*45 - 120*
Tetrachloro-m-xylene	*72*		*30 - 124*
Tetrachloro-m-xylene	*67*		*30 - 124*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 480-684156/1-A
Matrix: Solid
Analysis Batch: 684353

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 684156

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.23	U	0.23	0.045	mg/Kg		09/20/23 07:35	09/21/23 18:17	1
PCB-1221	0.23	U	0.23	0.045	mg/Kg		09/20/23 07:35	09/21/23 18:17	1
PCB-1232	0.23	U	0.23	0.045	mg/Kg		09/20/23 07:35	09/21/23 18:17	1
PCB-1242	0.23	U	0.23	0.045	mg/Kg		09/20/23 07:35	09/21/23 18:17	1
PCB-1248	0.23	U	0.23	0.045	mg/Kg		09/20/23 07:35	09/21/23 18:17	1
PCB-1254	0.23	U	0.23	0.11	mg/Kg		09/20/23 07:35	09/21/23 18:17	1
PCB-1260	0.23	U	0.23	0.11	mg/Kg		09/20/23 07:35	09/21/23 18:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*131*		*65 - 174*	*09/20/23 07:35*	*09/21/23 18:17*	*1*
DCB Decachlorobiphenyl	*128*		*65 - 174*	*09/20/23 07:35*	*09/21/23 18:17*	*1*
Tetrachloro-m-xylene	*138*		*60 - 154*	*09/20/23 07:35*	*09/21/23 18:17*	*1*
Tetrachloro-m-xylene	*125*		*60 - 154*	*09/20/23 07:35*	*09/21/23 18:17*	*1*

Lab Sample ID: LCS 480-684156/2-A
Matrix: Solid
Analysis Batch: 684353

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684156

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
PCB-1016	2.31	3.32		mg/Kg		143	51 - 185
PCB-1260	2.31	3.91		mg/Kg		169	61 - 184

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 480-684156/2-A
Matrix: Solid
Analysis Batch: 684353

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684156

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*151*		*65 - 174*
DCB Decachlorobiphenyl	*144*		*65 - 174*
Tetrachloro-m-xylene	*157*	*S1+*	*60 - 154*
Tetrachloro-m-xylene	*138*		*60 - 154*

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 480-684356/1-A
Matrix: Solid
Analysis Batch: 685035

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 684356

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	17	U	17	6.0	ug/Kg		09/21/23 08:39	09/26/23 12:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*66*		*28 - 129*	*09/21/23 08:39*	*09/26/23 12:14*	*1*
2,4-Dichlorophenylacetic acid	*74*		*28 - 129*	*09/21/23 08:39*	*09/26/23 12:14*	*1*

Lab Sample ID: LCS 480-684356/2-A
Matrix: Solid
Analysis Batch: 685035

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684356

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Silvex (2,4,5-TP)	66.4	47.8		ug/Kg		72	39 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*80*		*28 - 129*
2,4-Dichlorophenylacetic acid	*74*		*28 - 129*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-684611/1-A
Matrix: Solid
Analysis Batch: 685356

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 684611

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.0	U	2.0	0.40	mg/Kg		09/22/23 14:06	09/27/23 20:44	1
Barium	0.50	U	0.50	0.11	mg/Kg		09/22/23 14:06	09/27/23 20:44	1
Beryllium	0.20	U	0.20	0.028	mg/Kg		09/22/23 14:06	09/27/23 20:44	1
Cadmium	0.20	U	0.20	0.030	mg/Kg		09/22/23 14:06	09/27/23 20:44	1
Chromium	0.50	U	0.50	0.20	mg/Kg		09/22/23 14:06	09/27/23 20:44	1
Copper	1.0	U	1.0	0.21	mg/Kg		09/22/23 14:06	09/27/23 20:44	1
Lead	1.0	U	1.0	0.24	mg/Kg		09/22/23 14:06	09/27/23 20:44	1
Manganese	0.20	U	0.20	0.032	mg/Kg		09/22/23 14:06	09/27/23 20:44	1
Nickel	5.0	U	5.0	0.23	mg/Kg		09/22/23 14:06	09/27/23 20:44	1
Selenium	4.0	U	4.0	0.40	mg/Kg		09/22/23 14:06	09/27/23 20:44	1
Silver	0.60	U	0.60	0.20	mg/Kg		09/22/23 14:06	09/27/23 20:44	1
Zinc	2.0	U	2.0	0.64	mg/Kg		09/22/23 14:06	09/27/23 20:44	1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCSSRM 480-684611/2-A
Matrix: Solid
Analysis Batch: 685356

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684611

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	218	174.5		mg/Kg		80.0	57.8 - 110.1
Barium	388	357.4		mg/Kg		92.1	68.3 - 113.9
Beryllium	165	149.6		mg/Kg		90.7	69.1 - 115.8
Cadmium	118	101.6		mg/Kg		86.1	67.0 - 111.9
Chromium	255	228.0		mg/Kg		89.4	63.5 - 118.4
Copper	135	116.9		mg/Kg		86.6	69.0 - 114.8
Lead	155	154.3		mg/Kg		99.6	67.7 - 119.4
Manganese	446	393.1		mg/Kg		88.1	70.4 - 114.3
Nickel	120	113.5		mg/Kg		94.6	63.2 - 117.5
Selenium	107	90.75		mg/Kg		84.8	58.3 - 121.5
Silver	51.0	47.17		mg/Kg		92.5	64.7 - 120.8
Zinc	406	342.6		mg/Kg		84.4	63.8 - 118.2

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 480-685082/1-A
Matrix: Solid
Analysis Batch: 685279

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 685082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.020	U	0.020	0.0045	mg/Kg		09/27/23 10:15	09/27/23 13:55	1

Lab Sample ID: LCSSRM 480-685082/2-A ^10
Matrix: Solid
Analysis Batch: 685279

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 685082

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	17.1	9.17		mg/Kg		53.6	36.0 - 109.9

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 460-935865/1-A
Matrix: Solid
Analysis Batch: 935940

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 935865

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	2.0	U	2.0	0.85	mg/Kg		10/03/23 06:45	10/03/23 12:00	1

Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: LCSI 460-935865/3-A
Matrix: Solid
Analysis Batch: 935940

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 935865

Analyte	Spike Added	LCSI Result	LCSI Qualifier	Unit	D	%Rec	%Rec Limits
Chromium, hexavalent	708	704.7		mg/Kg		100	80 - 120

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: MB 480-684741/1-A
Matrix: Solid
Analysis Batch: 684746

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 684741

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.96	U	0.96	0.47	mg/Kg		09/23/23 15:20	09/23/23 17:40	1

Lab Sample ID: LCS 480-684741/3-A
Matrix: Solid
Analysis Batch: 684746

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684741

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	0.400	0.466		mg/Kg		117	29 - 122

Lab Sample ID: LCS 480-684741/4-A
Matrix: Solid
Analysis Batch: 684746

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684741

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	0.250	0.290		mg/Kg		116	29 - 122

Lab Sample ID: LCSSRM 480-684741/2-A ^10
Matrix: Solid
Analysis Batch: 684746

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684741

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	131	50.41		mg/Kg		38.5	30.6 - 170.2

GC/MS VOA

Prep Batch: 684133

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-1	SOIL PILE #1	Total/NA	Solid	5035A_L	
480-212875-2	SOIL PILE #2	Total/NA	Solid	5035A_L	
480-212875-3	SOIL PILE #3	Total/NA	Solid	5035A_L	
480-212875-4	SOIL PILE #4	Total/NA	Solid	5035A_L	
MB 480-684133/2-A	Method Blank	Total/NA	Solid	5035A_L	
LCS 480-684133/1-A	Lab Control Sample	Total/NA	Solid	5035A_L	

Analysis Batch: 684134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-1	SOIL PILE #1	Total/NA	Solid	8260C	684133
480-212875-2	SOIL PILE #2	Total/NA	Solid	8260C	684133
480-212875-3	SOIL PILE #3	Total/NA	Solid	8260C	684133
480-212875-4	SOIL PILE #4	Total/NA	Solid	8260C	684133
MB 480-684133/2-A	Method Blank	Total/NA	Solid	8260C	684133
LCS 480-684133/1-A	Lab Control Sample	Total/NA	Solid	8260C	684133

GC/MS Semi VOA

Prep Batch: 684304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-5	SOIL PILE #5	Total/NA	Solid	3550C	
MB 480-684304/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 480-684304/2-A	Lab Control Sample	Total/NA	Solid	3550C	

Analysis Batch: 684363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-5	SOIL PILE #5	Total/NA	Solid	8270D	684304
MB 480-684304/1-A	Method Blank	Total/NA	Solid	8270D	684304
LCS 480-684304/2-A	Lab Control Sample	Total/NA	Solid	8270D	684304

GC Semi VOA

Prep Batch: 684156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-5	SOIL PILE #5	Total/NA	Solid	3550C	
MB 480-684156/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 480-684156/2-A	Lab Control Sample	Total/NA	Solid	3550C	

Prep Batch: 684170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-5	SOIL PILE #5	Total/NA	Solid	3550C	
MB 480-684170/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 480-684170/2-A	Lab Control Sample	Total/NA	Solid	3550C	

Analysis Batch: 684341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-5	SOIL PILE #5	Total/NA	Solid	8081B	684170
MB 480-684170/1-A	Method Blank	Total/NA	Solid	8081B	684170
LCS 480-684170/2-A	Lab Control Sample	Total/NA	Solid	8081B	684170

GC Semi VOA

Analysis Batch: 684353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-5	SOIL PILE #5	Total/NA	Solid	8082A	684156
MB 480-684156/1-A	Method Blank	Total/NA	Solid	8082A	684156
LCS 480-684156/2-A	Lab Control Sample	Total/NA	Solid	8082A	684156

Prep Batch: 684356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-5	SOIL PILE #5	Total/NA	Solid	8151A	
MB 480-684356/1-A	Method Blank	Total/NA	Solid	8151A	
LCS 480-684356/2-A	Lab Control Sample	Total/NA	Solid	8151A	

Analysis Batch: 685035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-5	SOIL PILE #5	Total/NA	Solid	8151A	684356
MB 480-684356/1-A	Method Blank	Total/NA	Solid	8151A	684356
LCS 480-684356/2-A	Lab Control Sample	Total/NA	Solid	8151A	684356

Metals

Prep Batch: 684611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-5	SOIL PILE #5	Total/NA	Solid	3050B	
MB 480-684611/1-A	Method Blank	Total/NA	Solid	3050B	
LCSSRM 480-684611/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Prep Batch: 685082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-5	SOIL PILE #5	Total/NA	Solid	7471B	
MB 480-685082/1-A	Method Blank	Total/NA	Solid	7471B	
LCSSRM 480-685082/2-A ^1	Lab Control Sample	Total/NA	Solid	7471B	

Analysis Batch: 685279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-5	SOIL PILE #5	Total/NA	Solid	7471B	685082
MB 480-685082/1-A	Method Blank	Total/NA	Solid	7471B	685082
LCSSRM 480-685082/2-A ^1	Lab Control Sample	Total/NA	Solid	7471B	685082

Analysis Batch: 685356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-5	SOIL PILE #5	Total/NA	Solid	6010C	684611
MB 480-684611/1-A	Method Blank	Total/NA	Solid	6010C	684611
LCSSRM 480-684611/2-A	Lab Control Sample	Total/NA	Solid	6010C	684611

General Chemistry

Analysis Batch: 684280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-1	SOIL PILE #1	Total/NA	Solid	Moisture	
480-212875-2	SOIL PILE #2	Total/NA	Solid	Moisture	
480-212875-3	SOIL PILE #3	Total/NA	Solid	Moisture	
480-212875-4	SOIL PILE #4	Total/NA	Solid	Moisture	
480-212875-5	SOIL PILE #5	Total/NA	Solid	Moisture	

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-212875-1

General Chemistry

Prep Batch: 684741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-5	SOIL PILE #5	Total/NA	Solid	9012B	
MB 480-684741/1-A	Method Blank	Total/NA	Solid	9012B	
LCS 480-684741/3-A	Lab Control Sample	Total/NA	Solid	9012B	
LCS 480-684741/4-A	Lab Control Sample	Total/NA	Solid	9012B	
LCSSRM 480-684741/2-A ^1	Lab Control Sample	Total/NA	Solid	9012B	

Analysis Batch: 684746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-5	SOIL PILE #5	Total/NA	Solid	9012B	684741
MB 480-684741/1-A	Method Blank	Total/NA	Solid	9012B	684741
LCS 480-684741/3-A	Lab Control Sample	Total/NA	Solid	9012B	684741
LCS 480-684741/4-A	Lab Control Sample	Total/NA	Solid	9012B	684741
LCSSRM 480-684741/2-A ^1	Lab Control Sample	Total/NA	Solid	9012B	684741

Analysis Batch: 685994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-5	SOIL PILE #5	Total/NA	Solid	SM 3500 CR D	

Prep Batch: 935865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-5	SOIL PILE #5	Total/NA	Solid	3060A	
MB 460-935865/1-A	Method Blank	Total/NA	Solid	3060A	
LCSI 460-935865/3-A	Lab Control Sample	Total/NA	Solid	3060A	

Analysis Batch: 935940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-212875-5	SOIL PILE #5	Total/NA	Solid	7196A	935865
MB 460-935865/1-A	Method Blank	Total/NA	Solid	7196A	935865
LCSI 460-935865/3-A	Lab Control Sample	Total/NA	Solid	7196A	935865

Lab Chronicle

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-212875-1

Client Sample ID: SOIL PILE #1
Date Collected: 09/19/23 10:30
Date Received: 09/19/23 11:30

Lab Sample ID: 480-212875-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	684280	JMM	EET BUF	09/20/23 15:34

Client Sample ID: SOIL PILE #1
Date Collected: 09/19/23 10:30
Date Received: 09/19/23 11:30

Lab Sample ID: 480-212875-1
Matrix: Solid
Percent Solids: 85.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035A_L			684133	CDC	EET BUF	09/19/23 16:30
Total/NA	Analysis	8260C		1	684134	CDC	EET BUF	09/19/23 23:35

Client Sample ID: SOIL PILE #2
Date Collected: 09/19/23 10:30
Date Received: 09/19/23 11:30

Lab Sample ID: 480-212875-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	684280	JMM	EET BUF	09/20/23 15:34

Client Sample ID: SOIL PILE #2
Date Collected: 09/19/23 10:30
Date Received: 09/19/23 11:30

Lab Sample ID: 480-212875-2
Matrix: Solid
Percent Solids: 87.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035A_L			684133	CDC	EET BUF	09/19/23 16:30
Total/NA	Analysis	8260C		1	684134	CDC	EET BUF	09/19/23 23:59

Client Sample ID: SOIL PILE #3
Date Collected: 09/19/23 10:30
Date Received: 09/19/23 11:30

Lab Sample ID: 480-212875-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	684280	JMM	EET BUF	09/20/23 15:34

Client Sample ID: SOIL PILE #3
Date Collected: 09/19/23 10:30
Date Received: 09/19/23 11:30

Lab Sample ID: 480-212875-3
Matrix: Solid
Percent Solids: 85.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035A_L			684133	CDC	EET BUF	09/19/23 16:30
Total/NA	Analysis	8260C		1	684134	CDC	EET BUF	09/20/23 00:24

Client Sample ID: SOIL PILE #4
Date Collected: 09/19/23 10:30
Date Received: 09/19/23 11:30

Lab Sample ID: 480-212875-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	684280	JMM	EET BUF	09/20/23 15:34

Lab Chronicle

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-212875-1

Client Sample ID: SOIL PILE #4

Lab Sample ID: 480-212875-4
Date Collected: 09/19/23 10:30
Matrix: Solid
Date Received: 09/19/23 11:30
Percent Solids: 85.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035A_L			684133	CDC	EET BUF	09/19/23 16:30
Total/NA	Analysis	8260C		1	684134	CDC	EET BUF	09/20/23 00:49

Client Sample ID: SOIL PILE #5

Lab Sample ID: 480-212875-5
Date Collected: 09/19/23 10:30
Matrix: Solid
Date Received: 09/19/23 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	684280	JMM	EET BUF	09/20/23 15:34
Total/NA	Analysis	SM 3500 CR D		1	685994	JRS1	EET BUF	10/03/23 17:14

Client Sample ID: SOIL PILE #5

Lab Sample ID: 480-212875-5
Date Collected: 09/19/23 10:30
Matrix: Solid
Date Received: 09/19/23 11:30
Percent Solids: 84.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3550C			684304	SJM	EET BUF	09/20/23 16:30
Total/NA	Analysis	8270D		1	684363	JMM	EET BUF	09/21/23 20:29
Total/NA	Prep	3550C			684170	ER	EET BUF	09/20/23 08:37
Total/NA	Analysis	8081B		1	684341	JLS	EET BUF	09/21/23 13:59
Total/NA	Prep	3550C			684156	VXF	EET BUF	09/20/23 07:35
Total/NA	Analysis	8082A		1	684353	NC	EET BUF	09/21/23 21:12
Total/NA	Prep	8151A			684356	VXF	EET BUF	09/21/23 08:39
Total/NA	Analysis	8151A		1	685035	JLS	EET BUF	09/26/23 13:44
Total/NA	Prep	3050B			684611	MP	EET BUF	09/22/23 14:06
Total/NA	Analysis	6010C		1	685356	LMH	EET BUF	09/27/23 21:28
Total/NA	Prep	7471B			685082	NVK	EET BUF	09/27/23 10:15
Total/NA	Analysis	7471B		1	685279	NVK	EET BUF	09/27/23 14:19
Total/NA	Prep	3060A			935865	AMN	EET EDI	10/03/23 06:45 - 10/03/23 07:45 [1]
Total/NA	Analysis	7196A		1	935940	AMN	EET EDI	10/03/23 13:00
Total/NA	Prep	9012B			684741	AM	EET BUF	09/23/23 15:20
Total/NA	Analysis	9012B		1	684746	AM	EET BUF	09/23/23 18:06

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

EET EDI = Eurofins Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Accreditation/Certification Summary

Client: Matrix Environmental Technologies Inc
Job ID: 480-212875-1
Project/Site: Project # 18-046 - Aquino Lancaster

Laboratory: Eurofins Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	03-31-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids
SM 3500 CR D		Solid	Chromium, trivalent

Laboratory: Eurofins Edison

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	11452	04-01-24

Method Summary

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-212875-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	EET BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	EET BUF
8081B	Organochlorine Pesticides (GC)	SW846	EET BUF
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	EET BUF
8151A	Herbicides (GC)	SW846	EET BUF
6010C	Metals (ICP)	SW846	EET BUF
7471B	Mercury (CVAA)	SW846	EET BUF
7196A	Chromium, Hexavalent	SW846	EET EDI
9012B	Cyanide, Total andor Amenable	SW846	EET BUF
Moisture	Percent Moisture	EPA	EET BUF
SM 3500 CR D	Chromium, Trivalent	SM	EET BUF
3050B	Preparation, Metals	SW846	EET BUF
3060A	Alkaline Digestion (Chromium, Hexavalent)	SW846	EET EDI
3550C	Ultrasonic Extraction	SW846	EET BUF
5035A_L	Closed System Purge and Trap	SW846	EET BUF
7471B	Preparation, Mercury	SW846	EET BUF
8151A	Extraction (Herbicides)	SW846	EET BUF
9012B	Cyanide, Total and/or Amenable, Distillation	SW846	EET BUF

Protocol References:

EPA = US Environmental Protection Agency
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600
EET EDI = Eurofins Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Sample Summary

Client: Matrix Environmental Technologies Inc
Project/Site: Project # 18-046 - Aquino Lancaster

Job ID: 480-212875-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-212875-1	SOIL PILE #1	Solid	09/19/23 10:30	09/19/23 11:30
480-212875-2	SOIL PILE #2	Solid	09/19/23 10:30	09/19/23 11:30
480-212875-3	SOIL PILE #3	Solid	09/19/23 10:30	09/19/23 11:30
480-212875-4	SOIL PILE #4	Solid	09/19/23 10:30	09/19/23 11:30
480-212875-5	SOIL PILE #5	Solid	09/19/23 10:30	09/19/23 11:30

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: Lee Marchetti	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-188676-39758.1
Client Contact: Nickolas Ander	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: Matrix Environmental Technologies Inc	PWSID:			Job #:
Address: 3730 California Road PO BOX 427	Due Date Requested: 3 days			
City: Orchard Park	TAT Requested (days): 3			
State, Zip: NY, 14127	Compliance Project: Δ Yes Δ No			
Phone: 716-807-1711(Tel)	PO #: 18-046			
Email: nander@matrixbiotech.com	WO #:			
Project Name: Project # 18-046 - Aquino Lancaster	Project #: 48026653			
Site:	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - Part 375 VOCs (LL)	7196A - Part 375 Hexavalent Chromium	9012B - Part 375 Cyanide	3500_CR3_D, 6010C, 7471B	8081B, 8082A, 8151A, 8270D	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N		
Soil Pile #1	9-19-23	10:30	G	Solid			X						
Soil Pile #2		10:30	G	Solid			X						
Soil Pile #3		10:30	G	Solid			X						
Soil Pile #4		10:30	G	Solid			X						
Soil Pile #5		10:30	C	Solid				2	1	1	X		

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

480-212875 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		9/19/23	MTI			
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	9/19/23 1130	MTI

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 10.8 #1 ICE

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: Tee Marchi	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-188676-39758.1
Client Contact: Nickolas Ander	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: Matrix Environmental Technologies Inc	PWSID:			Job #:
Address: 3730 California Road PO BOX 427	Due Date Requested: 3 day			
City: Orchard Park	TAT Requested (days): 3			
State, Zip: NY, 14127	Compliance Project: Δ Yes Δ No			
Phone: 716-807-1711(Tel)	PO #: 18-046			
Email: nander@matrixbiotech.com	WO #:			
Project Name: Project # 18-046 - Aquino Lancaster	Project #: 48026653			
Site:	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - Part 375 VOCs (LL)	7196A - Part 375 Hexavalent Chromium	9012B - Part 375 Cyanide	3500_CR3_D, 6010C, 7471B	8081B, 8082A, 8151A, 8270D	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N		
Soil Pile #1	9-19-23	10:30	G	Solid			X						
Soil Pile #2		10:30	G	Solid			X						
Soil Pile #3		10:31	G	Solid			X						
Soil Pile #4		10:30	G	Solid			X						
Soil Pile #5		10:30	C	Solid				4	4	4	X		

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

480-212875 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 9/19/23	Company: MTI	Received by:
Relinquished by:	Date/Time:	Company	Received by:
Relinquished by:	Date/Time:	Company	Received by:

Received by:	Date/Time:	Company
	9/19/23 1130	

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 10.8 #1 ICE

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-82872.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: New York	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): NELAP New York		Job #: 480-212875-1
Address: 777 New Durham Road	Due Date Requested: 10/2/2023			
City: Edison	TAT Requested (days):			
State, Zip: NJ, 08817				
Phone: 732-549-3900(Tel) 732-549-3679(Fax)	PO #:			
Email:	WO #:			
Project Name: Project # 18-046 Aquino Lancaster	Project #: 48026653			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	7196A/3060A Part 375 Hexavalent Chromium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SOIL PILE #5 (480-212875-5)	9/19/23	10:30 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III IV Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.
Empty Kit Relinquished by:	Date: Time: Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by: [signature] 9/25/23	9/25/23 1700	EA	[signature] FedEx	9/26/23 920	ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☑ Yes ☐ No | Custody Seal No. 225674 | Cooler Temperature(s) °C and Other Remarks: 0.8/0.9 IR 9

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-82872.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: New York	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): NELAP New York		Job #: 480-212875-1
Address: 777 New Durham Road	Due Date Requested: 10/2/2023			
City: Edison	TAT Requested (days):			
State, Zip: NJ, 08817				
Phone: 732-549-3900(Tel) 732-549-3679(Fax)	PO #:			
Email:	WO #:			
Project Name: Project # 18-046 Aquino Lancaster	Project #: 48026653			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	7196A/3060A Part 375 Hexavalent Chromium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SOIL PILE #5 (480-212875-5)	9/19/23	10:30 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III IV Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.
Empty Kit Relinquished by:	Date: Time: Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by: [signature] 9/25/23 1700	9/25/23 1700	TA	[signature] FedEx	9/26/23 920	ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☑ Yes ☐ No | Custody Seal No. 225674 | Cooler Temperature(s) °C and Other Remarks: 0.8/0.9 IR 9

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Matrix Environmental Technologies Inc

Job Number: 480-212875-1

Login Number: 212875
List Number: 1
Creator: Kolb, Chris M

List Source: Eurofins Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	tcores in freezer 9/19 @ 1630
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	matrix
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Matrix Environmental Technologies Inc

Job Number: 480-212875-1

Login Number: 212875
List Number: 2
Creator: Armbruster, Chris

List Source: Eurofins Edison
List Creation: 09/27/23 03:45 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Request to Import/Reuse Fill or Soil

This form is based on the information required by DER-10, Section 5.4(e) and 6NYCRR Part 360.13. Use of this form is not a substitute for reading the applicable regulations and Technical Guidance document.

SECTION 1 – SITE BACKGROUND

The allowable site use is: Restricted Residential Use

Have Ecological Resources been identified? no

Is this soil originating from the site? no

How many cubic yards of soil will be imported/reused? 100-200

If greater than 1000 cubic yards will be imported, enter volume to be imported:

SECTION 2 – MATERIAL OTHER THAN SOIL

Is the material to be imported gravel, rock or stone? yes

Does it contain less than 10%, by weight, material that passes a size 100 sieve? yes

Is this virgin material from a permitted mine or quarry? yes

Is this material recycled concrete or brick from a DEC registered processing facility? no

SECTION 3 - SAMPLING

Provide a brief description of the number and type of samples collected in the space below:

Material meets the requirements of DER-10 Section 5.4(e)5.

Example Text: 5 discrete samples were collected and analyzed for VOCs. 2 composite samples were collected and analyzed for SVOCs, Inorganics & PCBs/Pesticides.

If the material meets requirements of DER-10 section 5.4(e)5 (other material), no chemical testing needed.

SECTION 3 CONT'D - SAMPLING

Provide a brief written summary of the sampling results or attach evaluation tables (compare to DER-10, Appendix 5):

Material is washed #1 crushed stone. See attached documentation letter and gradation analysis from fill source.

Example Text: Arsenic was detected up to 17 ppm in 1 (of 5) samples; the allowable level is 16 ppm.

If Ecological Resources have been identified use the "If Ecological Resources are Present" column in Appendix 5.

SECTION 4 – SOURCE OF FILL

Name of person providing fill and relationship to the source:

New Enterprise Stone & Lime Co., Inc.

Location where fill was obtained:

8615 Wehrle Dr Williamsville, NY 1422

Identification of any state or local approvals as a fill source:

NYSDOT Source #5-3R, Mining permit #90018

If no approvals are available, provide a brief history of the use of the property that is the fill source:

The #1 stone to be supplied for the project was extracted and screened at New Enterprise's Lancaster, NY facility. The material is produced from a virgin stone source, unimpacted by hazardous materials or contaminants and free of loom/organic matter including clay.

Provide a list of supporting documentation included with this request:

New Enterprise Stone & Lime Co. certification and gradation analysis.

The information provided on this form is accurate and complete.

	10/3/2023
Signature	Date
Christine Curtis	
Print Name	
Matrix Environmental Technologies	
Firm	

NEW ENTERPRISE STONE & LIME CO., INC.

500 Como Park Boulevard • Buffalo NY 14227

Office: (716) 826-7310
Fax: (716) 826-1342
Dispatch: (716) 566-9690

September 29, 2023

Mark Aquino
65 Lake Ave
Lancaster NY 14086

Re: 65 Lake Ave

Dear Mark:

We certify the aggregates we supply on the subject project meet the New York State Department of Transportation Specification and Gradations as follows:

Item #703.0201 // #1 Crushed Stone	
Sieve Size	Percent Passing
1"	100
1/2"	90-100
1/4"	0-15

Our New York State Source Number at our Wehrle Drive location is 5-3R.

We trust this meets with your approval.

Sincerely,

RW:TG

Robert Warrington
Account Representative

Gradation Sheet

Wehrle Dr. New Enterprise Stone & Lime

Sample of	1's	Date	8/2/22	Time	
From Pt. 23			mill		

Sieve Size	Sieve Size	Weight Retained	% Retained	% Passing	Spec.
90mm	3-1/2"		0.0	100.0	
75mm	3"		0.0	100.0	
63mm	2-1/2"		0.0	100.0	
50mm	2"		0.0	100.0	
37.5mm	1-1/2"		0.0	100.0	
25.0mm	1"		0.0	**100.0**	100
19.0mm	3/4"		0.0		
12.5mm	1/2"	0.95	5.6	**94.4**	90/100
9.5mm	3/8"	6.00	35.3	**59.1**	
6.3mm	1/4"	8.85	52.1	**7.1**	0/15
4.75mm	4	0.95	5.6	**1.5**	
3.2mm	1/8"	0.15	0.9	**0.6**	
2.36mm	8		0.0		
2.0mm	10		0.0		
1.4mm	14		0.0		
1.18mm	16		0.0		
850µm	20		0.0		
600µm	30		0.0		
425µm	40		0.0		
300µm	50		0.0		
180µm	80	0.05	0.3	**0.3**	
150µm	100		0.0		
75µm	200		0.0		
	Pan	0.05	0.3	0.0	
	Total	17.00	100		

Wash Loss:		
Before:	0.0	
After:	0.0	
Loss:	0.0	
	#DIV/0!	%

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Request to Import/Reuse Fill or Soil

This form is based on the information required by DER-10, Section 5.4(e) and 6NYCRR Part 360.13. Use of this form is not a substitute for reading the applicable regulations and Technical Guidance document.

SECTION 1 – SITE BACKGROUND

The allowable site use is: Restricted Residential Use

Have Ecological Resources been identified? no

Is this soil originating from the site? no

How many cubic yards of soil will be imported/reused? 400-500

If greater than 1000 cubic yards will be imported, enter volume to be imported:

SECTION 2 – MATERIAL OTHER THAN SOIL

Is the material to be imported gravel, rock or stone? yes

Does it contain less than 10%, by weight, material that passes a size 100 sieve? yes

Is this virgin material from a permitted mine or quarry? yes

Is this material recycled concrete or brick from a DEC registered processing facility? no

SECTION 3 - SAMPLING

Provide a brief description of the number and type of samples collected in the space below:

Material meets requirements of DER-10 Section 5.4(e)5

Example Text: 5 discrete samples were collected and analyzed for VOCs. 2 composite samples were collected and analyzed for SVOCs, Inorganics & PCBs/Pesticides.

If the material meets requirements of DER-10 section 5.4(e)5 (other material), no chemical testing needed.

SECTION 3 CONT'D - SAMPLING

Provide a brief written summary of the sampling results or attach evaluation tables (compare to DER-10, Appendix 5):

Sieve analysis and moisture density test results attached

Example Text: Arsenic was detected up to 17 ppm in 1 (of 5) samples; the allowable level is 16 ppm.

If Ecological Resources have been identified use the "If Ecological Resources are Present" column in Appendix 5.

SECTION 4 – SOURCE OF FILL

Name of person providing fill and relationship to the source:

Paul Juda, New Enterprise Stone and Lime Co. QC Manager

Location where fill was obtained:

8615 Wehrle Dr, Williamsville, NY 14221

Identification of any state or local approvals as a fill source:

DOT source #5-3R, approved test #21AR088

If no approvals are available, provide a brief history of the use of the property that is the fill source:

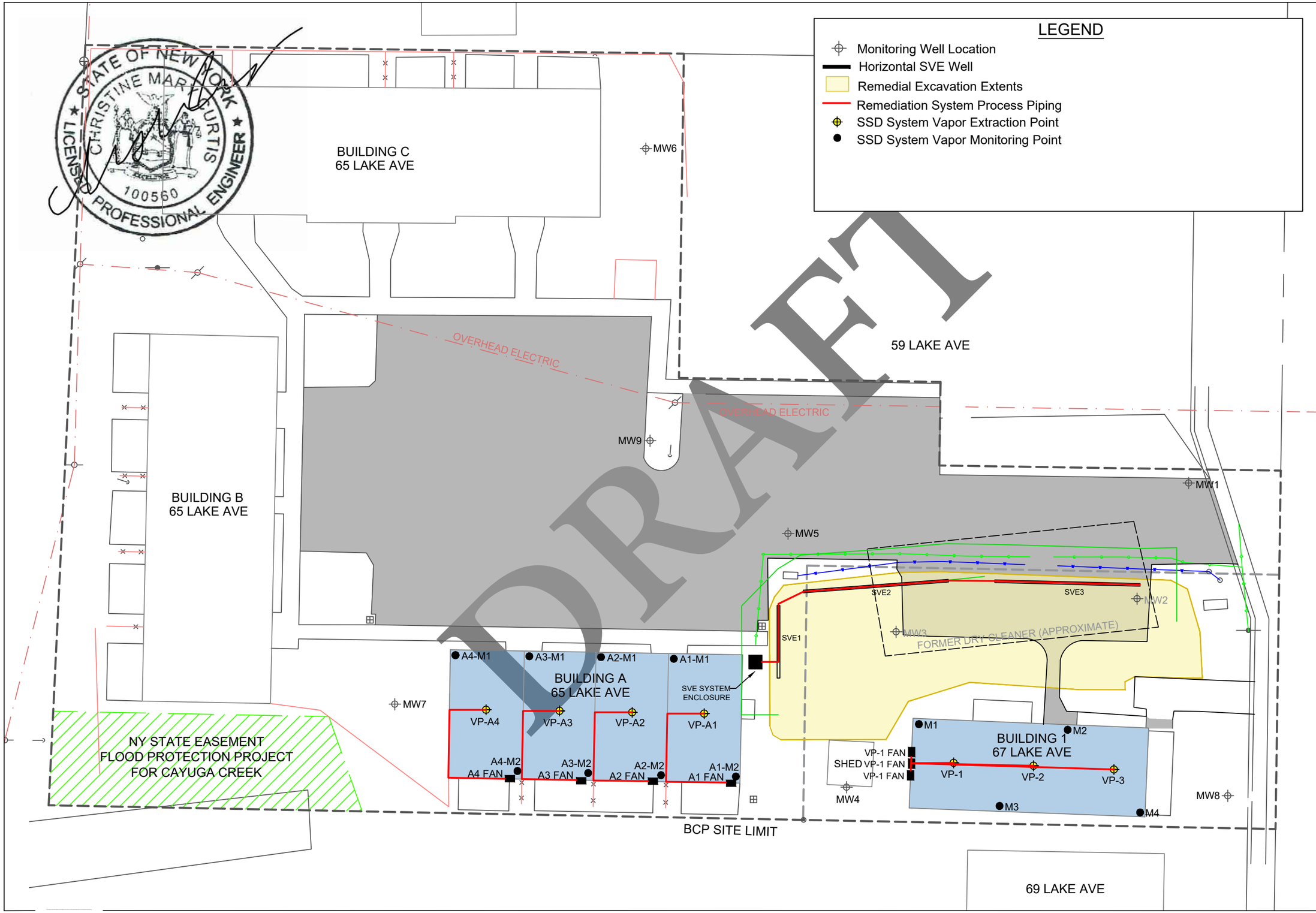
Provide a list of supporting documentation included with this request:

Lab Report Summary

The information provided on this form is accurate and complete.

	9/15/23
Signature	Date
Christine Curtis	
Print Name	
Matrix Environmental Technologies	
Firm	

APPENDIX K – SVE SYSTEM AS-BUILT DRAWINGS AND DOCUMENTATION



PREPARED BY:

MATRIX
ENVIRONMENTAL TECHNOLOGIES INC.
ORCHARD PARK - ROCHESTER - ITHACA
www.matrixbiotech.com

PREPARED FOR:

65 LAKE AVENUE LLC

PROJECT NAME/LOCATION:

LAKESIDE VILLAGE
APARTMENTS
65-67 LAKE AVENUE
LANCASTER, NEW YORK

BCP SITE NO. C915344

PROJECT NUMBER: 18-046

PROJECT MANAGER: SLM

DRAWN BY: CMC

REVIEWED BY: SRC

REVISION HISTORY

NUMBER	BY	DATE
0	CMC	9/4/25

N

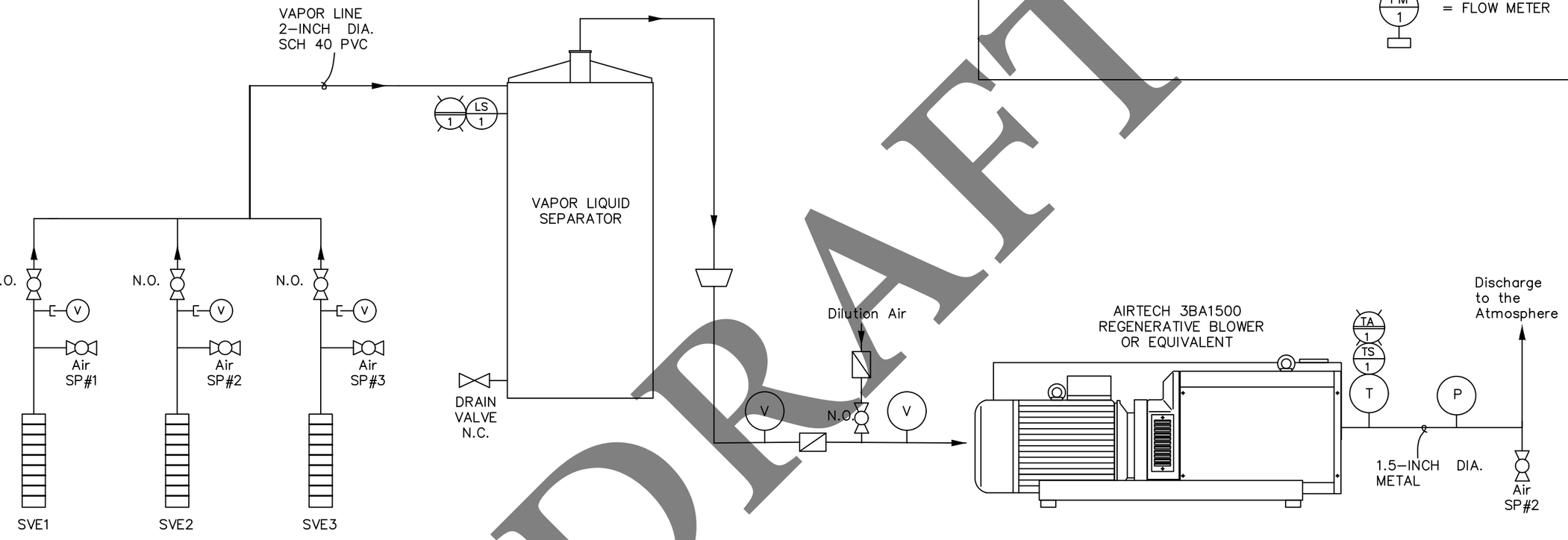
1" = 25'
0 25

TITLE:

SVE AND SSD SYSTEMS LAYOUT AND PIPING DIAGRAM

DATE:

FIGURE: K-1



PREPARED BY:
MATRIX
ENVIRONMENTAL TECHNOLOGIES INC.
3730 California Road
P.O. Box 427
Orchard Park, NY 14127
p:716.662.0745
www.matrixbiotech.com

PREPARED FOR:
65 Lake Avenue LLC

PROJECT MGR: SLM

DESIGNED BY: CMC

REVIEWED BY: SRC

DRAWN BY: CMC

REVISION

BY	DATE
CMC	1/19/23
CMC	9/8/25

SCALE IN FEET: N/A
0

PROJECT NAME / LOCATION:
Lakeside Village Apartments
65-67 Lake Avenue
Lancaster, New York

BCP Site No. C915344

TITLE:
SVE SYSTEM
PROCESS &
INSTRUMENTATION
DIAGRAM

DATE:

PROJECT NO.: 18-046

FIGURE: K-2

Table K-1
Historical SVE System Data Summary

Lakeside Village Apartments
65-67 Lake Avenue, Lancaster, New York
BCP Site No. C915344

Date	System Status on Arrival	Operational Efficiency	Active Extraction Legs	Applied Vacuum (inches H_2O)	Flow Rate (cfm)	PID Effluent Concentration (ppm)	Benzene (mg/m3)	Benzene Loading Rate (lbs/hr) *	Benzene Cumulative Recovery (lbs) **	Carbon Tetrachloride (mg/m3)	Carbon Tetrachloride Loading Rate (lbs/hr) *	Carbon Tetrachloride Cumulative Recovery (lbs) **	Vinyl Chloride (mg/m3)	Vinyl Chloride Loading Rate (lbs/hr) *	Vinyl Chloride Cumulative Recovery (lbs) **	TCE (mg/m3)	TCE Loading Rate (lbs/hr) *	TCE Cumulative Recovery (lbs) **	PCE (mg/m3)	PCE Loading Rate (lbs/hr) *	PCE Cumulative Recovery (lbs) **
SOIL VAPOR EXTRACTION SYSTEM ACTIVATED ON 6/4/24																					
6/4/2024	Operational	100%	L1, L2, L3	13	137	1.2	NS	-	0.0	NS	-	0.0	NS	-	0.0	NS	-	0.0	NS	-	-
6/10/2024	Operational	100%	L1, L2, L3	14	134	0.0	NS	-	0.0	NS	-	0.0	NS	-	0.0	NS	-	0.0	NS	-	-
8/27/2024	Operational	100%	L1, L2, L3	14	134	0.0	ND	0.0	0.0	ND	0.0	0.0	ND	ND	0.0	0.121	6.06E-05	0.12	1.85	9.27E-04	1.87
9/12/2024	Operational	100%	L1, L2, L3	12	139	0.0	NS	-	0.0	NS	-	0.0	NS	-	0.0	NS	-	0.12	NS	-	1.87
11/6/2024	Operational	100%	L1, L2, L3	15	132	0.0	0.0018	9.03E-07	0.0012	ND	0.0	0.0	ND	ND	0.0	0.0809	3.99E-05	0.17	0.64	3.16E-04	2.29
12/19/2024	Operational	100%	L1, L2, L3	15	132	0.0	NS	-	0.0012	NS	-	0.0	NS	-	0.0	NS	-	0.17	NS	-	2.29

ND = Not Detected
NR = Not Recorded
NS = Not Sampled

AIRTECH® VACUUM

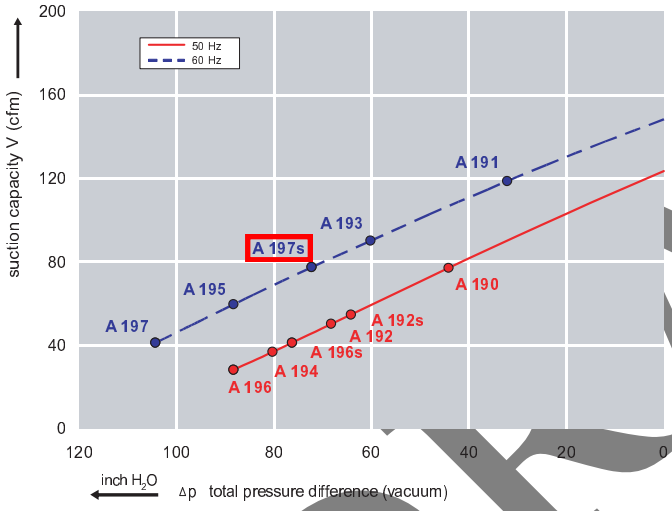
3BA1500

Vacuum/Pressure Regenerative Blower

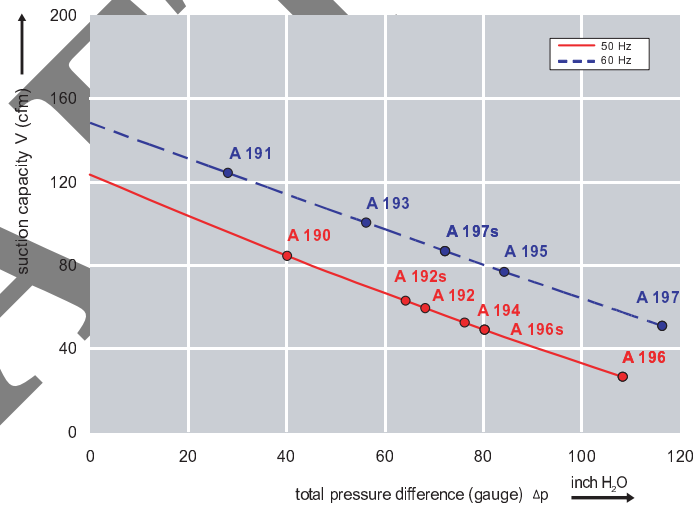
Features:

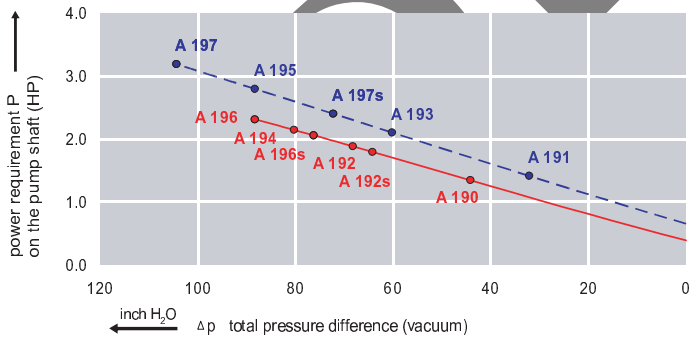
- Cooler running, outboard bearing provides maintenance-free operation
- Environmentally friendly oil-free technology
- Extremely quiet operation
- All motors are standard TEFC with Class F insulation, UL recognized, CE Compliant
  Explosion-Proof motors available
- Custom construction blowers are available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

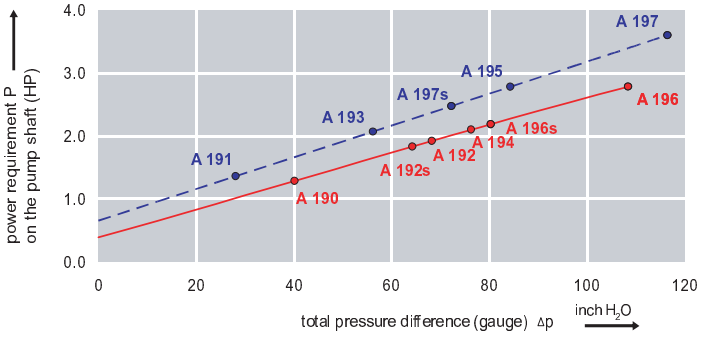
Performance curve for Vacuum pump

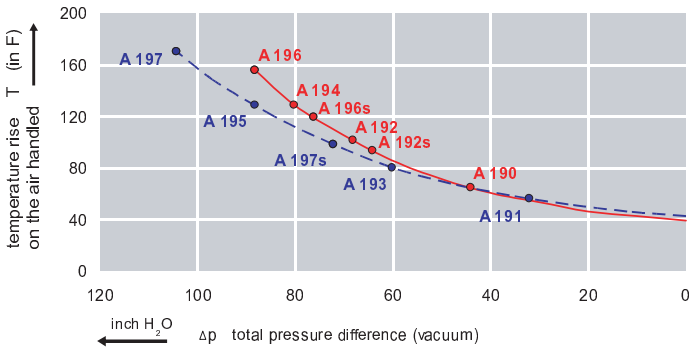


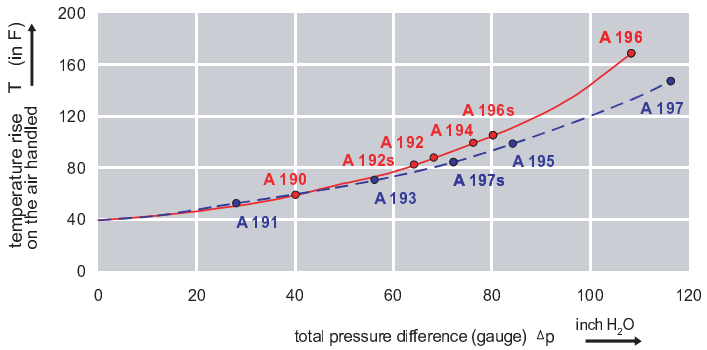
Performance curve for Compressor









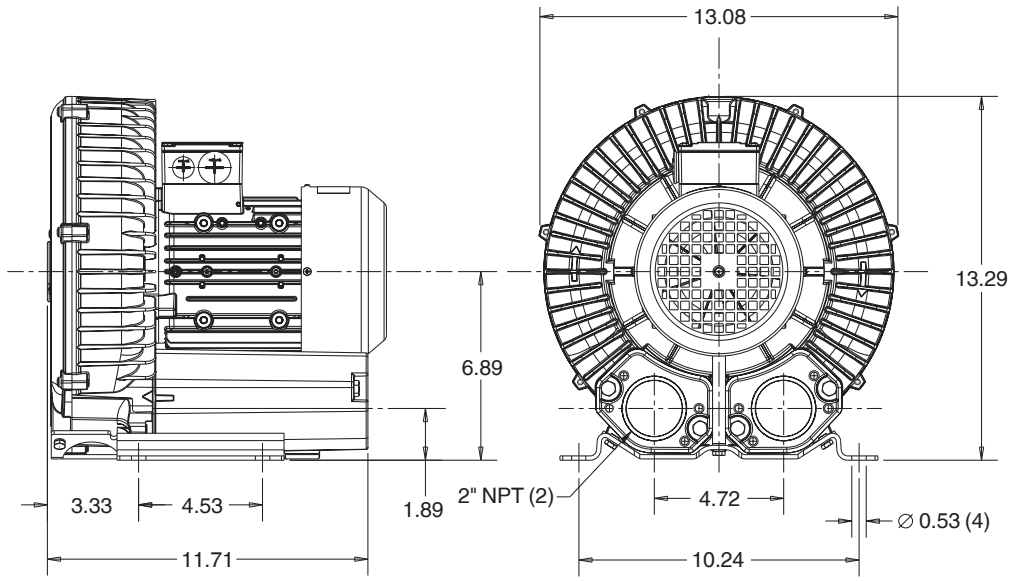


AIRTECH® VACUUM

3BA1500

Vacuum/Pressure Regenerative Blower

Dimensions: (inches)



Recommended Accessories:

Relief valve:

VC61Z (Vacuum)

PC61Z (Pressure)

Filter:

ATF-200-15124/1 (Vacuum)

AFS-30-200-10 (Pressure)

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

Selection & Ordering Data - Type 3BA1500

Curve No.	Order No.	Frequency Hz	Rated power HP	Input voltage V		Input current A		Permissible total differential pressure Vacuum inch H2O	Compressor inch H2O	Sound pressure level dB(A)	Weight lbs
3~ 50/60 Hz IP55 insulation material class F											
A 190	3BA1500-7AT06	50	1.14	200D ... 240D	345Y ... 415Y	4.2D	2.4Y	-44	40	64	40
A 191	3BA1500-7AT06	60	1.27	220D ... 250D	415Y ... 460Y	4.35D	2.5Y	-32	28	70	40
A 192	3BA1500-7AT16	50	1.74	200D ... 240D	345Y ... 415Y	5.7D	3.3Y	-68	68	64	44
A 193	3BA1500-7AT16	60	2.0	220D ... 250D	415Y ... 460Y	5.5D	3.2Y	-60	56	70	44
A 194	3BA1500-7AT26	50	2.14	200D ... 240D	345Y ... 415Y	7.5D	4.3Y	-80	76	64	46
A 195	3BA1500-7AT26	60	2.75	220D ... 250D	415Y ... 460Y	7.5D	4.4Y	-88	84	70	46
A 196	3BA1500-7AT36	50	2.95	200D ... 240D	345Y ... 415Y	9.7D	5.6Y	-88	108	64	55
A 197	3BA1500-7AT36	60	3.42	220D ... 250D	415Y ... 460Y	9.0D	5.3Y	-104	116	70	55
1~ 50/60 Hz IP55 with attached capacitor for continuous operation											
A 196s	3BA1500-7AS35	50	2.0	115	230	22.0	11.0	-76	80	64	48
A 197s	3BA1500-7AS35	60	2.35	115	230	24.0	12.0	-72	72	70	48

Suitable for 208 Volt Operation

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

AIRTECH®
VACUUM

Operating and Maintenance Instructions

3BA Regenerative Blowers

INSTALLATION & OPERATING MANUAL
3BA REGENERATIVE BLOWERS

Table of Contents

1. Safety

1.1 General Safety Precautions

WARNING: Improper operation of 3BA units can result in serious or even fatal injuries. Please make sure all personnel have read and understood this manual before operating the unit.

All personnel should familiarize themselves with the units' specifications and be careful not to exceed the unit's capacity.

Transport, installation, operation, shut-down, maintenance and disposal of 3BA units should be carried out by qualified professionals.

Do not attempt to start or run the unit unless it has been completely assembled. Particular attention should be paid to: the vacuum pump/compressor cover, the muffler on the inlet and discharge connections, and the fan guard.

The standard 3BA unit must never come into contact with flammable substances.

1.2 Clothing and Protective Gear

It is recommended that all personnel wear proper protective gear while operating the unit. This may include eye protection, gloves and helmets.

Please be aware that it is possible for hair and clothing to be pulled into the unit. Avoid wearing loose-fitting clothing near the unit while it is operating and wear a hairnet if necessary.

1.3 Electrical Safety

Electrical installation should only be done by qualified electricians. Before doing any electrical work on a 3BA unit, please ensure that **power to the unit has been disconnected.** Do not attempt to open the unit's terminal box until you have made certain that the unit is not connected to a power source.

The terminal box must be kept free of dirt and moisture at all times. Make sure the terminal box cover and cable entries are tightly sealed so they remain dustproof and waterproof. Check the terminal box regularly to make sure it is sealed and free of debris and moisture.

1.4 Vacuum and Gauge Pressure Safety

In order to avoid dangerous situations associated with vacuum and gauge pressure, please utilize secure mounting elements, connections, lines, fittings, and containers. Pipes/hoses must be securely connected to the inlet and discharge connections. The inlet and discharge connections and the pipes/hoses connected to them must not be closed, clogged, or soiled. Check regularly to ensure that these connections and mountings are not becoming unseated. If necessary, support pipes and hoses to ensure that there is no tension on the connections. **Failure to observe these precautions can lead to sudden evacuation of hazardous fluids or dangerous suction that can pull hair or clothing into the unit.**

1.5 Installation/Start-up

The unit and any lines connected to it must be securely installed. In particular, the feed pipes must be securely routed, e.g. in cable ducts, in the floor, etc.

If a separate control panel or other such interface will be used to start and stop the unit, it should be installed in an area with an unobstructed view of the unit to ensure that it is not switched on while being serviced.

Excess vibration can cause damage to the unit and/or unsafe conditions. Install the unit on a solid foundation or a solid mounting surface. Check screw glands/unions for strength and firm seating.

Cables and pipes should be installed in a recess in the floor or duct so they do not present a tripping hazard.

To ensure sufficient cooling of the unit, ventilation screens and openings must remain clear. Ensure that discharge air from other units cannot be pulled into the unit.

Make sure that the inlet and pressure lines are clearly marked to avoid confusion. **Interchanged inlet and pressure lines can lead to damage to the unit and/or serious injury.**

Install a filter in the inlet pipe and replace it regularly. If particulates or debris enter the unit, the blades of the impellers can be damaged and blades could potentially break off, potentially creating a hazardous situation.

If re-starting the unit after it has been idle for a long period of time, measure the insulation resistance of the motor. If values are less than 1 k Ω per volt of nominal voltage, the winding may be too dry.

If the unit is installed or stored in an environment with a temperature of over 104°F (40°C) be aware that the winding may be damaged and the grease might need to be changed more often.

1.6 Maintenance Procedures

Before beginning work on the pump-motor unit, please take the following precautions:

- Make sure power has been completely disconnected
- Wait for the unit to come to a complete stop.
- Allow the unit time to cool.
- Shut off lines and release pressure
- Make certain that no vacuum or gauge pressure is present in the lines/tanks to be opened.
- Make sure that no fluids can escape

Please note that the rotating impeller is accessible when the inlet and discharge connections are open. Do not reach into the unit through open connections or insert objects into the unit through any openings. Serious injury could occur. If the unit is running without piping or tubing, provide the inlet and discharge of the unit with either additional mufflers or piping of a sufficient length to prevent access to the impeller.

Check regularly to ensure the terminal box is free of any dirt or foreign substances and there is no moisture or humidity present. Make certain the terminal box cover and cable entries are tightly closed.

1.7 Hot Surfaces

During operation, the surface of the unit can reach temperatures of 320° F (160° C). It is advisable to cover the unit with suitable touch protection (e.g. a perforated plate or wire cover). Do not touch the unit during operation, and allow time to cool after shut-down. Temperature-sensitive parts such as lines or electronic components should not come into contact with the surface of the unit.

1.8 Hearing Protection

Make certain any missing or defective silencers are replaced. Noise emitted by the unit can cause serious hearing damage. Conduct a noise measurement test while the unit is running. If the unit operates over 90 dB(A), please place a warning sign in the area where the unit has been installed and make certain that

any personnel working in the vicinity wear ear protection at all times while the unit is running.

1.9 Safety Guidelines for Transport of the unit:

Prior to transport and handling, please make sure that all components are properly assembled and secure. Any machinery used to transport these units must have the proper lifting capacity. Please consult the table on page 27 to find the weight of the unit being handled. Do not stand or walk under suspended loads.

If a 3BA unit has come in contact with any dangerous substances, it must be decontaminated before being sent to Airtech for repair evaluation.

2 Technical Data

These operating instructions cover the Airtech 3BA side channel vacuum pumps and compressors supplied with standard TEFC motors. Other configurations are available including V-belt driven units, units with explosion proof motors, mechanical seals, magnetic drives, coatings and modifications for high pressure service. Airtech can provide any combination of modifications to meet your application requirements. Such blowers, however, are outside the scope of this manual.

Description

All regenerative blowers are dynamic compression devices and utilize a non-contacting impeller to accelerate the gas and a specially designed housing to compress the gas. Cooling is accomplished by using the motor fan to blow air over the housing. In larger models, the housing is specially designed with cooling fins to allow a wider range of operation. Both the inlet and outlet ports have built-in silencers and mesh screens. Both the inlet and outlet have an inside connection thread corresponding to DIN ISO 228. On larger units, multiple suction and discharge connection configurations may be available.

The wetted parts are constructed of Aluminum on all models. The blower shares a bearing with the motor. The seal between the bearing and the motor is not gas tight in most models, therefore these blowers are not recommended for handling of toxic or explosive gases. (Contact Airtech Vacuum, Inc. for additional options if explosive or toxic gases will be handled.)

A full range of accessory items are available, including vacuum or pressure relief valves, check valves, suction filters, motor starters, vacuum/pressure cross-over valves, and in-line filters.

Application/Installation Environment

CAUTION! These blowers are designed for use in general industry. Suitable personnel protection according to OSHA requirements is provided, but the equipment should not be operated in residential settings.

Airtech blowers can be operated as either vacuum pumps or compressors. They are suitable for use with air having a relative humidity up to 90 percent, but not generally suitable for handling corrosive or erosive gases. Special versions for toxic or aggressive gases may be available. Use of the standard blower in aggressive environments may cause damage to the blower or exposure to gases being handled in the local environment.

CAUTION! Dangerous (flammable or explosive) or aggressive (corrosive) gases should not be handled by the standard blower.

Handling of flammable or aggressive gases and vapors may be possible by using a specially configured or modified blower. Contact factory for additional information. The standard blower is not suitable for operation in explosive environments as defined by NFPA 70. Contact factory for assistance.

CAUTION! The ambient and suction temperatures should be between 40 and 105 F. For temperatures outside this region, please contact the factory.

The maximum permissible pressure difference for vacuum or pressure is dependent on the motor rating (See Tables 1 to 4 for detailed information by model number.) and power supply frequency. The figures in Tables 1 to 4 are computed assuming an ambient temperature of 77 F (25 C) and a local barometric pressure of 1013 mbar (sea level). Operation at an ambient temperature of 104 F (40C) is the maximum permissible, and will result in a reduction of 10 percent on maximum vacuum or pressure attainable by the unit. For temperatures between 77 F and 104 F, reduce the maximum pressure reduction is a linear function of temperature.

Table 1. Three-phase, Single Stage, 50 Hertz

Model	Rated Power HP/kW	Voltage	Motor Current (Amps)	Open Flow Capacity CFM/m3/hr	Maximum Pressure (mbar)	Sound Pressure Level (dBA)
3BA1300-7AT06	.33/.25	200-240/345-415	2.1/1.2	48/82	-100/100	53
2BA1300-7AT16	.54/.4	200-240/345-415	2.6/1.5	48/82	-120/130	53
3BA1400-7AT06	.94/.7	200-240/345-415	3.8/2.2	84/142	-120/120	63
2BA1400-7AT16	1.15/.85	200-240/345-415	4.2/2.4	84/142	-160/160	63
3BA1400-7AT26	1.75/1.3	200-240/345-415	5.7/3.3	84/142	-170/200	63
3BA1500-7AT06	1.15/.85	200-240/345-415	4.2/2.4	120/204	-100/100	64
3BA1500-7AT16	1.75/1.3	200-240/345-415	5.7/3.3	120/204	-170/170	64
3BA1500-7AT26	2.15/1.6	220-250/415-460	7.5/4.3	120/204	-200/190	64
3BA1500-7AT36	2.96/2.2	200-240/345-415	9.7/5.6	120/204	-220/270	64
3BA1530-7AT16	1.75/1.3	200-240/345-415	5.7/3.3	165/280	-120/110	65
3BA1530-7AT26	2.15/1.6	200-240/345-415	7.5/4.3	165/280	-160/150	65
3BA1530-7AT36	2.96/2.2	200-240/345-415	9.7/5.6	165/280	-220/230	65
3BA1600-7AT06	2.15/1.6	200-240/345-415	8.5/4.9	188/320	-160/150	69
3BA1600-7AT16	2.96/2.2	200-240/345-415	9.7/5.6	188/320	-190/190	69
3BA1600-7AT26	4.04/3.0	200-240/345-415	12.5/7.2	188/320	-260/270	69
3BA1600-7AT36	5.4/4.0	200-240/345-415	13.0/7.5	188/320	-290/360	69
3BA1630-7AT06	2.15/1.6	200-240/345-415	8.5/4.9	240/408	-160/150	69
3BA1630-7AT16	2.96/2.2	200-240/345-415	9.7/5.6	240/408	-190/190	69
3BA1630-7AT26	4.04/3.0	200-240/345-415	12.5/7.2	240/408	-260/270	69
3BA1630-7AT36	5.4/4.0	200-240/345-415	15.6/9.0	240/408	-260/290	69
3BA1800-7AT06	5.4/4.0	200-240/345-415	15.6/9.0	280/476	-200/200	70
3BA1800-7AT16	7.4/5.5	200-240/345-415	23/13.3	280/476	-300/300	70
3BA1800-7AT26	10/7.5	200-240/345-415	29/16.7	280/476	-320/430	70
3BA1830-7AT06	5.4/4	200-240/345-415	15.6/9	400/680	-150/140	76
3BA1830-7AT16	7.4/5.5	200-240/345-415	23/13.3	400/680	-200/190	76
3BA1830-7AT26	10/7.5	200-240/345-415	29/16.7	400/680	-270/260	76
3BA1900-7AT06	10.8/8	200-240/345-415	31.5/18.2	568/965	-190/190	74
3BA1900-7AT16	16.8/12.5	200-240/345-415	48.5/28	568/965	-290/280	74
3BA1900-7AT36	25/18.5	200-240/345-415	64.5/37	568/965	-362/462	74
3BA1930-7AT16	16.8/12.5	200-240/345-415	48.5/28	744/1264	-290/280	71
3BA1930-7AT36	25/18.5	200-240/345-415	64.5/37	744/1264	-310/310	71
3BA1930-7AT36	25/18.5	200-240/345-415	64.5/37	744/1264	-310/310	71
3BA7310-0AT167	.75/.55	200-240/345-415	2.8/1.6	40/68	-250/250	57
3BA7410-0AT167	1.5/1.1	200-240/345-415	5.4/3.1	50/84	-300/380	58
3BA7510-0AT168	2/1.5	200-240/345-415	7.5/4.3	70/120	-370/650	64
3BA7510-0AT268	3/2.2	200-240/345-415	9.7/5.6	70/120	-310/430	64
3BA7610-0AT168	3/2.2	200-240/345-415	9.7/5.6	96/163	-310/430	65
3BA7610-0AT368	4.4/3.3	200-240/345-415	13/7.5	96/163	-500/750	65

Table 2. Three-phase, Single-stage, 60 Hz

Model	Rated Power HP/kW	Voltage	Motor Current (Amps)	Open Flow Capacity CFM/m3/hr	Maximum Pressure (mbar)	Sound Pressure Level (dBA)
3BA1300-7AT06	.39/.29	220-250/415-460	1.74/1.0	60/102	-100/100	56
2BA1300-7AT16	.67/.5	220-250/415-460	2.6/1.5	60/102	-150/160	56
3BA1400-7AT06	1.12/.83	220-250/415-460	3.75/2.15	105/179	-130/130	64
3BA1400-7AT16	1.28/.95	220-250/415-460	4.35/2.5	105/179	-160/160	64
3BA1400-7AT26	2/1.5	220-250/415-460	5.5/3.2	105/179	-210/200	64
3BA1500-7AT06	1.28/.95	220-250/415-460	4.35/2.5	150/255	-80/70	70
3BA1500-7AT16	2/1.5	220-250/415-460	5.5/3.2	150/255	-150/140	70
3BA1500-7AT26	2.7/2.05	220-250/415-460	7.5/4.4	150/255	-220/210	70
3BA1500-7AT36	3.4/2.55	220-250/415-460	9.0/5.3	150/255	-260/290	70
3BA1530-7AT16	2/1.5	220-250/415-460	5.7/3.3	200/340	-90/80	71
3BA1530-7AT26	2.7/2.05	220-250/415-460	7.6/4.4	200/340	-260/270	70
3BA1530-7AT36	3.4/2.55	220-250/415-460	10.3/6.0	200/340	-260/250	70
3BA1600-7AT06	2.7/2.05	220-250/415-460	7.5/4.4	235/400	-160/150	72
3BA1600-7AT16	3.4/2.55	220-250/415-460	9.0/5.3	235/400	-190/190	72
3BA1600-7AT26	4.6/3.45	220-250/415-460	12.0/6.5	235/400	-240/230	72
3BA1600-7AT36	6.1/4.6	220-250/415-460	15.2/8.5	235/400	-320/310	72
3BA1630-7AT06	2.7/2.05	220-250/415-460	7.5/4.4	300/510	-160/150	72
3BA1630-7AT16	3.4/2.55	220-250/415-460	9.0/5.3	300/510	-190/190	72
3BA1630-7AT26	4.6/3.45	220-250/415-460	12.0/6.5	300/510	-240/230	72
3BA1630-7AT36	6.1/4.6	220-250/415-460	15.2/8.5	300/510	-260/260	72
3BA1800-7AT06	6.1/4.6	220-250/415-460	15.2/8.5	350/595	-160/160	74
3BA1800-7AT16	8.4/6.3	220-250/415-460	20/11.2	350/595	-300/280	74
3BA1800-7AT26	11.5/8.6	220-250/415-460	27.5/15	350/595	-350/400	74
3BA1830-7AT06	6.2/4.6	220-250/415-460	15.2/8.5	500/850	-90/90	79
3BA1830-7AT16	8.4/6.3	220-250/415-460	20/11.2	500/850	-180/180	79
3BA1830-7AT26	11.5/8.6	220-250/415-460	27.5/15	500/850	-270/260	79
3BA1900-7AT06	12.1/9	220-250/415-460	31.5/18.2	710/1207	-150/140	79
3BA1900-7AT16	19.5/14.5	220-250/415-460	50/29	710/1207	-270/260	79
3BA1900-7AT36	28.7/21.3	220-250/415-460	68/39	710/1207	-382/422	79
3BA1930-7AT16	19.5/14.5	220-250/415-460	50/29	930/1581	-270/260	75
3BA1930-7AT36	28.7/21.3	220-250/415-460	68/39	930/1581	-300/280	75
3BA7210-0AT167	1.1/.83	220-250/415-460	3.75/2.15	35/60	-270/320	62
3BA7310-0AT167	1.1/.83	220-250/415-460	3.75/2.15	48/82	-260/250	62
3BA7410-0AT167	2/1.5	220-250/415-460	5.5/3.2	60/102	-340/370	62

When operating at altitudes above 3280 feet (1000 m) above mean sea level, contact Airtech Inc.

CAUTION! Operation of the unit outside the recommended range of pressures and ambient conditions will result in shorted operating life.

Table 3. 3 Phase, Two/Three Stage, 50 Hertz

Model	Rated Power HP/kW	Voltage	Motor Current (Amps)	Open Flow Capacity CFM/m3/hr	Maximum Pressure (mbar)	Sound Pressure Level (dBA)
3BA1310-7AT26	.94/.7	200-240/345-415	3.8/2.2	48/81.6	-120/120	55
3BA1410-7AT36	2.15/1.6	200-240/345-415	7.5/4.3	84/142.8	-200/190	66
3BA1410-7AT46	2.96/2.2	200-240/345-415	9.7/5.6	84/142.8	-320/420	66
3BA1510-7AT46	4.04/3.0	200-240/345-415	12.5/7.2	121.6/206.7	-340/410	72
3BA1510-7AT56	5.39/4.0	200-240/345-415	17.4/10	121.6/206.7	-390/440	72
3BA1610-7AT36	2.9/2.2	200-240/345-415	9.7/5.6	188/319.6	-190/190	73
3BA1610-7AT26	4.04/3.0	200-240/345-415	12.5/7.2	188/319.6	-260/270	73
3BA1610-7AT36	5.39/4.0	200-240/345-415	13.0/7.5	188/319.6	-290/360	73
3BA1610-7AT46	7.41/5.5	200-240/345-415	23/13.3	188/319.6	-420/500	73
3BA1610-7AT56	10.1/7.5	200-240/345-415	29/16.7	188/319.6	-420/610	73
3BA1640-7AT36	5.39/4.0	200-240/345-415	13.0/7.5	280/476	-290/360	74
3BA1640-7AT46	7.41/5.5	200-240/345-415	23/13.3	280/476	-420/500	74
3BA1640-7AT56	10.1/7.5	200-240/345-415	29/16.7	280/476	-420/610	74
3BA1810-7AT16	7.4/5.5	200-240/345-415	23/13.3	280/476	-420/500	74
3BA1810-7AT26	10.1/7.5	200-240/345-415	29/16.7	280/476	-320/430	74
3BA1810-7AT36	14.8/11	200-240/345-415	29/16.7	280/476	-430/600	74
3BA1810-7AT46	20.2/15	200-240/345-415	56.5/32.5	280/476	-460/670	74
3BA1840-7AT26	10.1/7.5	200-240/345-415	29.0/16.7	280/476	-320/430	74
3BA1840-7AT36	14.8/11.0	200-240/345-415	48.5/28.0	280/476	-430/600	74
3BA1910-7AT16	16.8/12.5	200-240/345-415	48.5/28	624/1061	-290/280	74
3BA1910-7AT36	26.95/20.0	200-240/345-415	69/40	624/1061	-443/502	74
3BA1910-7AT46	33.51/24.98	200-240/345-415	90/52	624/1061	-443/592	84
3BA19437AT26	20.1/15	200-240/345-415	59/34	1200/2040	-160/170	75
3BA19437AT36	26.8/20	200-240/345-415	69/40	1200/2040	-250/230	75
3BA19437AT46	33.5/25	200-240/345-415	90/52	1200/2040	-310/280	75
3BA7220-0AT567	2/1.5	200-240/345-415	7.5/4.3	28/48	-370/650	58
3BA7320-0AT467	1.5/1.1	200-240/345-415	5.4/3.1	40/68	-300/380	58
3BA7320-0AT567	2/1.5	200-240/345-415	7.5/4.3	40/68	-480/450	59
3BA7420-0AT267	2/1.5	200-240/345-415	7.5/4.3	50/84	-480/450	61
3BA7420-0AT567	4.4/3.3	200-240/345-415	13/7.5	50/84	-500/750	61
3BA7520-0AT268	3/2.2	200-240/345-415	9.7/5.6	70/120	-470/460	64
3BA7620-0AT368	4.4/3.3	200-240/345-415	13/7.5	96/163	-500/750	68
3BA7620-0AT468	5.4/4	200-240/345-415	14/8.1	96/163	-370/650	67
3BA7620-0AT568	7.5/5.5	200-240/345-415	19.9/11.5	96/163	-520/750	68
3BA7630-0AT668	10.1/7.5	200-240/345-415	29/16.7	96/163	-420/610	77

Table 4. 3 Phase, Two/Three Stage, 60 Hertz

Model	Rated Power HP/kW	Voltage	Motor Current (Amps)	Open Flow Capacity CFM/m3/hr	Maximum Pressure (mbar)	Sound Pressure Level (dBA)
3BA1310-7AT26	1.11/.83	220-250/415-460	3.75/2.15	60/102	-130/130	61
3BA1410-7AT36	2.7/2.05	220-250/415-460	7.5/4.4	105/179	-220/210	69
3BA1410-7AT46	3.4/2.55	220-250/415-460	9.0/5.3	105/179	-350/440	69
3BA1510-7AT46	4.6/3.45	220-250/415-460	12.0/6.5	152/258	-380/360	74
3BA1510-7AT56	6.1/4.6	220-250/415-460	15.2/8.5	152/258	-410/480	74
3BA1610-7AT36	3.4/2.55	220-250/415-460	9.0/5.3	235/400	-190/190	76
3BA1610-7AT26	4.6/3.45	220-250/415-460	12.0/6.5	235/400	-240/230	76
3BA1610-7AT36	6.4/4.8	220-250/415-460	16.5/9.8	235/400	-320/310	76
3BA1610-7AT46	8.4/6.3	220-250/415-460	20/11.2	235/400	-440/440	76
3BA1610-7AT56	11.5/8.6	220-250/415-460	27.5/15.0	235/400	-440/670	76
3BA1640-7AT36	6.1/4.6	220-250/415-460	15.2/8.5	350/595	-320/310	78
3BA1640-7AT46	8.4/6.3	220-250/415-460	20.0/11.2	350/595	-440/440	78
3BA1640-7AT56	11.5/8.6	220-250/415-460	27.5/15.0	350/595	-440/670	78
3BA1810-7AT16	8.4/6.3	220-250/415-460	20.0/11.2	350/595	-440/440	78
3BA1810-7AT26	11.5/8.6	220-250/415-460	27.5/15.0	350/595	-350/400	78
3BA1810-7AT36	17/12.6	220-250/415-460	50.2/29.0	350/595	-460/600	78
3BA1810-7AT46	23.3/17.3	220-250/415-460	60.0/34.5	350/595	-490/750	78
3BA1840-7AT26	11.5/8.6	220-250/415-460	27.5/15.0	350/595	-350/400	78
3BA1840-7AT36	17/12.6	220-250/415-460	50.2/29.0	350/595	-460/600	78
3BA1910-7AT16	19.5/14.5	220-250/415-460	50.0/29.0	780/1326	-270/260	84
3BA1910-7AT36	31/23	220-250/415-460	72 /42	780/1326	-443/433	84
3BA1910-7AT46	38.9/28.9	220-250/415-460	90/52	780/1326	-443/542	84
3BA19437AT26	23.4/17.5	220-250/415-460	63/36.5	1440/2447	-120/110	84
3BA19437AT36	30.8/23	220-250/415-460	72/42	1440/2447	-190/180	84
3BA19437AT46	38.8/28.9	220-250/415-460	90/52	1440/2447	-265/230	84
3BA7220-0AT567	2.7/2.05	220-250/415-460	7.5/4.4	35/60	-500/740	62
3BA7320-0AT467	2/1.5	220-250/415-460	5.5/3.2	48/82	-340/370	63
3BA7320-0AT567	2.7/2.05	220-250/415-460	7.5/4.4	48/82	-430/410	63
3BA7420-0AT267	2.7/2.05	220-250/415-460	7.5/4.4	60/102	-430/410	66
3BA7420-0AT567	5.1/3.8	220-250/415-460	13.5/7.8	60/102	-510/850	66
3BA7520-0AT268	3.4/2.55	220-250/415-460	9/5.3	84/143	-500/450	70
3BA7620-0AT368	5.1/3.8	220-250/415-460	13.5/7.8	115/196	-510/850	71
3BA7620-0AT468	6.1/4.6	220-250/415-460	15.2/8.5	115/196	-480/500	71
3BA7620-0AT568	8.4/6.6	220-250/415-460	22.5/12.6	115/196	-520/820	72
3BA7630-0AT668	11.5/8.6	220-250/415-460	27.5/15	115/196	-440/670	80

3BA7530-7AT76	6.2/4.6	220-250/415-460	16.3/9.5	82/139	-639/729	73

Table 5. Single Phase, 50 Hertz

Model	Rated Power HP/kW	Voltage	Motor Current (Amps)	Open Flow Capacity CFM/m3/hr	Maximum Pressure (mbar)	Sound Pressure Level (dBA)
3BA1100-7AS05	0.27/0.2	230	1.45	24/40	-60/70	50
3BA1200-7AS05	0.33/0.25	115/230	3.5/1.7	35/60	-100/100	50
3BA1300-7AS15	0.5/0.37	115/230	5.4/2.7	48/82	-110/110	53
3BA1330-7AS15	0.5/0.37	115/230	5.4/2.7	60/102	-110/110	54
3BA1400-7AS25	1.47/1.09	115/230	13/6.5	84/142	-149/189	64
3BA1410-7AS25	2/1.49	115/230	22/11	84/142.8	-279/259	66
3BA1500-7AS35	2/1.49	115/230	22/11	120/204	-189/199	64
3BA7210-0AS75	0.74/0.55	115/230	13/6.5	28/48	-229/289	57
3BA7220-0AS75	2/1.49	115/230	19.4/9.7	29/49	-371/600	57
3BA7310-0AS75	1.26/0.93	115/230	15.2/7.6	40/68	-249/351	58
3BA7320-0AS75	2/1.49	115/230	19.4/9.7	40/68	-401/550	59
3BA7410-OAS45	1.47/1.09	115/230	13/6.5	50/84	-299/381	59

Table 6. Single Phase, 60 Hertz

Model	Rated Power HP/kW	Voltage	Motor Current (Amps)	Open Flow Capacity CFM/m3/hr	Maximum Pressure (mbar)	Sound Pressure Level (dBA)
3BA1100-7AS05	0.31/0.23	230	1.3	30/51	-75/80	53
3BA1200-7AS05	0.38/0.28	115/230	5/2.8	48/82	-112/112	53
3BA1300-7AS15	0.6/0.44	115/230	6.0/3.0	60/102	-130/139	56
3BA1330-7AS15	0.6/0.44	115/230	6.0/3.0	74/126	-130/139	57
3BA1400-7AS25	1.74/1.29	115/230	14.0/7.0	105/179	-179/189	64
3BA1410-7AS25	2.35/1.75	115/230	24.0/12.0	105/179	-249/229	69
3BA1500-7AS35	2.35/1.75	115/230	24.0/12.0	150/255	-179/179	70
3BA7210-0AS75	0.84/0.63	115/230	14.2/7.1	35/60	-259/309	62
3BA7220-0AS75	2.35/1.75	115/230	20.6/10.3	35/60	-421/660	62
3BA7310-0AS75	1.47/1.09	115/230	18.0/9.0	48/82	-279/391	62
3BA7320-0AS75	2.35/1.75	115/230	20.6/10.3	48/82	-391/541	63
3BA7410-OAS45	1.74/1.29	115/230	14.0/7.0	60/102	-338/391	62

Operation of any blower is possible at 87 Hertz without modification in most cases. When using a VFD to operate the blower at this frequency, refer to the nameplate for limits on vacuum and pressure, current draw and motor performance.

If your specific model number is not listed above, please consult the nameplate on the unit for electrical data. If the model you are installing is listed above, please confirm the data on the nameplate. Data in Tables 1 through 4 is subject to change and is approximate. Be sure to confirm necessary operating data what that on the nameplate before commissioning the unit.

CAUTION! Do not operate any 3BA blower above 87 Hz without consultation with the factory. Failure of the blower motor is possible when operating out of range. Consult with the factory for assistance.

Expected temperature rise of the handled gas at maximum allowable pressure differential and when operating at sea level is indicated below:

Table 7: Single Stage – Approximate Temperature Rise

Blower Model	Maximum Rise at 50 Hz speed		Maximum Rise at 60 Hz speed	
	Degrees F	Degrees C	Degrees F	Degrees C
3BA1100-7..0.	115	64	136	76
3BA1200-7..0.	65	36	101	56
3BA1300-7..0.	90	50	77	43
3BA1300-7..1.	90	50	140	78
3BA1300-7..2.	90	50	158	88
3BA1400-7..0.	99	55	86	48
3BA1400-7..1.	129	72	122	68
3BA1400-7..2.	149	83	167	93
3BA1500-7..0.	86	48	72	40
3BA1500-7..1.	115	64	97	54
3BA1500-7..2.	138	77	122	68
3BA1500-7..3.	203	113	180	100
3BA1500-7..6.	248	138	248	138
3BA1600-7..0.	81	45	68	38
3BA1600-7..1.	145	81	104	58
3BA1600-7..2.	171	95	176	98
3BA1600-7..3.	225	125	185	103
3BA1600-7..6.	248	138	194	108
3BA1600-7..7.	248	138	248	138
3BA1800-7..0.	104	58	104	58
3BA1800-7..1.	153	85	185	103
3BA1800-7..2.	248	138	221	123
3BA1900-7..0.	97	54	95	53
3BA1900-7..1.	182	101	155	86
3BA1900-7..3.	230	128	212	118
3BA1943-7..2.	85	47	75	42
3BA1943-7..3.	130	72	100	56
3BA1943-7..4.	180	100	140	78
3BA7210-0..1..	126	70	142	79
3BA7310-0..1..	142	79	142	79
3BA7310-0..2..	178	99	187	104
3BA7410-0..1..	194	108	214	119
3BA7510-0..1..	199	111	232	129
3BA7510-0..2..	248	138	234	130
3BA7610-0..1..	244	136	255	142
3BA7610-0..3..	244	136	255	142

Table 8: Two/Three Stage – Approximate Temperature Rise

Blower Model	Maximum Rise at 50 Hz speed		Maximum Rise at 60 Hz speed	
	Degrees F	Degrees C	Degrees F	Degrees C
3BA1310-7..2.	127	71	165	92
3BA1410-7..3.	154	86	149	83
3BA1410-7..4.	181	101	180	100
3BA1510-7..4.	190	106	176	98
3BA1510-7..5.	194	108	201	112
3BA1610-7..1.	92	51	86	48
3BA1610-7..2.	129	72	118	66
3BA1610-7..3.	176	98	167	93
3BA1610-7..4.	221	123	190	106
3BA1610-7..5.	246	137	266	148
3BA1610-7..7.	176	98	167	93
3BA1610-7..8.	176	98	248	138
3BA1810-7..1.	113	63	80	45
3BA1810-7..2.	185	103	140	78
3BA1810-7..3.	248	138	248	138
3BA1910-7..1.	119	66	115	64
3BA1910-7..2.	203	113	169	94
3BA1910-7..3.	248	138	274	152
3BA1910-7..4.	248	138	274	152
3BA7220-0..2..	131	73	171	95
3BA7220-0..5..	165	92	230	128
3BA7320-0..5..	178	99	255	142
3BA7420-0..2..	192	107	176	98
3BA7420-0..5..	250	139	243	135
3BA7520-0..2..	192	107	216	120
3BA7520-0..7..	257	143	262	128
3BA7530-0..7..	250	121	250	121
3BA7620-0..3..	255	142	259	144
3BA7620-0..5..	255	142	262	146
3BA7630-0..6..	248	138	248	138

Table 9: Tightening Torque Specifications

For non-electrical connections

Thread	Ft-lbs maximum torque	Nm maximum torque
M4	2.43	3.3
M5	3.25	4.4
M6	6.49	8.8
M8	19.47	26.4
M10	34.10	46.2
M12	56.76	77

For electrical connections

Thread	Ft-lbs torque	Nm torque
M4	0.6 to 0.9	0.8 to 1.2
M5	1.3 to 1.8	1.3 to 1.8

For metal threaded glands/unions

Thread	Ft-lbs maximum torque	Nm maximum torque
M12x1.5	3 to 4.5	4 to 6
M16x1.5	3.7 to 5.5	5 to 7.5
M20x1.5	4.4 to 6.6	6 to 9
M32x1.5	5.9 to 8.9	8 to 12
M40x1.5	5.9 to 8.9	8 to 12

For plastic threaded glands/unions

Thread	Ft-lbs maximum torque	Nm maximum torque
M12x1.5	1.5 to 2.6	2 to 3.5
M16x1.5	2.2 to 3	3 to 4
M20x1.5	3 to 3.7	4 to 5
M32x1.5	3.7 to 5.2	5 to 7
M40x1.5	3.7 to 5.2	5 to 7

Operating above the indicated maximum pressure or vacuum would overload the motor and/or overheat the unit. In addition to the maximum allowable pressure difference, careful consideration should be given to matching the motor protection devices (provided by others) to the expected current draw. In no case should the blower be operated with inadequate motor overload protection.

Since regenerative blowers are dynamic compression devices, the performance limits shown in Tables 1 to 4 are applicable only for a gas with the same specific gravity, dynamic viscosity and chemical characteristics as air. For gases with different physical properties than air, the limits will be different from those shown in the tables. Please contact Airtech for assistance in determining the proper blower size and configuration if handling gases other than air.

A vacuum relief valve or pressure relief valve should always be installed at the suction or discharge of the regenerative blower. This will prevent operation outside the applicable ranges shown in Tables 1 to 4. If the relief valves were not specified in the ordering process, please contact Airtech for details, price and availability of the needed valves before commissioning the unit. Failure to use the proper relief valve may result in failure of the blower due to operation outside the applicable limits; any such failure is outside the scope of Airtech's standard warranty.

WARNING! Be sure to install the necessary personnel protection devices if unexpected shut-down of the unit presents danger of death or injury.

3. Installation

As illustrated in Figure 1, the Airtech 3BA blower can be installed in any physical configuration.

CAUTION! Regenerative blowers can have surface temperatures in excess of 320° F. To avoid burns or other physical injury, take care to avoid contact with the surfaces of the blower during and immediately after operation.

To ensure adequate cooling of the blower during operation, install the blower with the minimum clearance as indicated in the table below.

Minimum installation clearances, 3BA blowers

Range	Distance from fan guard to closest obstruction. (inches/mm)	Distance from cover (opposite of fan) to closest obstruction. (inches/mm)
3BA11 through 3BA14	1.4/34	0.79/20
3BA15 through 3BA19	2.1/53	1.57/40
3BA72 and 3BA73	1.3/34	1.18/30
3BA74 through 3BA76	2.1/54	1.18/30

Please note that it may be desirable, where possible, to allow for larger clearances to allow access for maintenance or repair personnel. The noted clearances are to ensure adequate air flow for cooling only and are a minimum requirement.

Failure to allow for the noted clearances may result in premature failure of the blower due to lack of cooling, even if all other precautions are taken as recommended. For specific advice about installations requiring closer clearances, please contact Airtech, Inc. for recommendations.

Airtech regenerative blowers can be mounted in any configuration, either horizontally or vertically mounted. It is not usually necessary to bolt the smaller blowers to a rigid surface during operation, though this may be desirable to reduce pipe vibration, movement and noise. Larger models should be bolted in place, especially when installed vertically, to prevent possible rotation, damage or injury due to start-up torque.

CAUTION! For installations at altitudes greater than 3250 Feet above sea level there will be a loss in capacity. Please contact your factory representative for assistance in determining the extent of the loss of capacity likely at your specific location.

WARNING! Be sure to follow all local codes and regulations with respect to installation and operation of the blower. The blower motor should be wired to a branch circuit disconnect and all other safety devices recommended by the relevant sections of NFPA 70, National Electrical Code, and in accordance with all applicable state and local regulations and requirements.

3.1 Installation Procedure

Perform the installation exactly in accordance with the following steps:

1. For vacuum operation, connect the suction pipe to connection A, and for pressure operation connect the pressure pipe to connection B (See Figure 1). Install startup screens before startup to protect pump from debris.

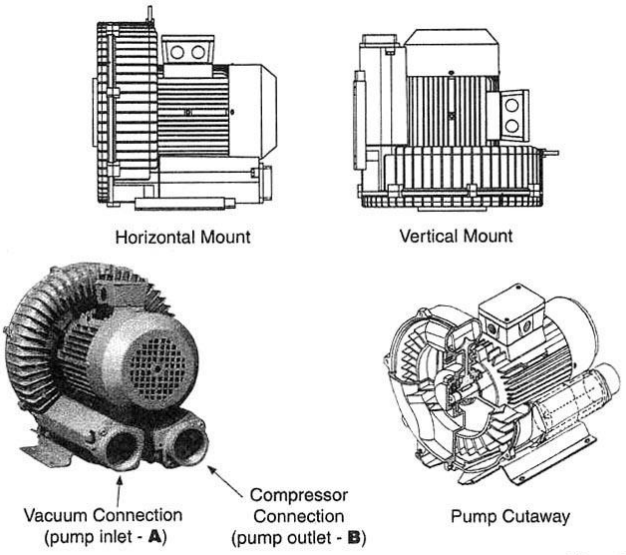


Figure 1

CAUTION! Design your piping system to avoid unnecessary pressure loss, which may significantly affect the operation of any regenerative blower. Contact your Airtech representative for assistance in designing and configuring an appropriate piping system for your application.

For alternation between vacuum and pressure in any application, changeover valves are available. Use of the changeover valve allows the same connection to be used for both vacuum and pressure.

2. The electrical data shown in Tables 1 to 4 (pages 10-14) should be confirmed by examination of the motor data plate on your 3BA blower. The standard motor features Class F insulation as a standard and are UL recognized for applications in both Canada and the United States (CUL). Motors are IEC design IP55, equal to a NEMA TEFC motor design. The connection diagram for the motors can be found in the inside of the terminal box cover. Be sure to confirm that your electrical supply has sufficient capacity to operate the blower according to the nameplate requirements.

3. A magnetic motor starter should always be used to connect the motor to the power supply. It is advisable to use thermal overload motor starters to provide maximum protection for the motor and wiring. All cabling used on starters should be secured with good quality cable clamps.

We recommend that the motor starters used feature a time delay trip on high amperage to avoid nuisance trips on start-up. When the unit is started cold, over amperage may be experienced for a short time due to the higher resistance of the windings at lower temperatures.

If using a change over or solenoid valve, ensure that the voltage connected to the valve matches that shown on the valve instructions or nameplate. Most valves are rated for 110 Volts 60Hz or 220 Volts 50 Hz. Connection of these valves to higher voltages may result in immediate valve failure.

WARNING! The electrical installation should be made by a qualified electrician and in complete compliance with all NFPA 70 (National Electrical Code) requirements along with all state and local code requirements. The main disconnect and motors starters are assumed to be provided by others.

4. Install the necessary relief valves and confirm their proper operation.

4. Start-up

CAUTION! Do not start the blower motor more than 10 times in one hour. If multiple and frequent start-ups are required by your application, install a minimum run timer in the motor control circuit to avoid decreased motor life and possible fire due to over-starting of the motor.

1.1 Start-up Procedure

1. Before operation, confirm the correct direction of rotation by jogging (switching rapidly on and off) the motor and observing the motor fan rotation in the same direction as the arrow. If the direction of rotation is incorrect, lock out the power and switch two leads (three phase) or rewire (single phase) to effect the opposite rotation direction. Recheck the direction of rotation before proceeding.

2. Do not operate the blower at pressure or vacuum ranges that exceed those shown in Tables one through four for the model being installed. This can be achieved by use of the recommended relief valve shown in Table 5.

Note: Relief valves that have been factory pre-set have a label indicating the set pressure and an arrow indicating the direction of flow. The arrow will point into the pipe when installed in vacuum applications and out of the pipe when installed in pressure applications. Do not re-set the relief valve if it has been pre-set from the factory.

In the event the relief valve setting needs to be reset, adjust the set screw to increase or decrease the tension on the spring. Place the blower in operation and note the current draw of the motor. When the current draw of the motor is near the maximum noted on the motor nameplate, tighten the locking nut on the valve and proceed.

3. When checking the current draw of the motor with an ammeter, be sure to confirm the voltage at the motor junction box. Low voltage conditions may result in difficulty starting or in unexpected motor failure or motor starter trips.

1.2 Potential Risks For Operators

Noise emission: Free field noise limits are indicated in Tables 1-4 (pages 10-14). Hearing protection is not normally required at the expected noise generation levels in the table; however, local conditions may result in higher ambient noise. If this is the case and local noise exceeds OSHA recommended levels for expected exposure time (typically 85 dBA for eight hours), hearing protection should be used.

5. Maintenance and Servicing

WARNING! Be sure the power supply is disconnected and locked out before attempting to do any maintenance on the unit. It is critical that the unit be locked out from starting during maintenance as severe injury or death could result from exposure to high voltage or rotating parts.

CAUTION! Allow the blower to cool to a surface temperature of less than 100 F before attempting maintenance. Prolonged exposure to temperatures above 120F can cause severe burns.

Clean the blower surfaces periodically to avoid build up of dust or other debris. Build up of debris can cause overheating and premature failure of the blower.

If an inlet filter is being use, ensure that it remains clean during operation by examining the filter cartridge for debris build up. Replace dirty or clogged filter cartridges.

On pressure units, periodically clean the inlet mesh screen to avoid loss of capacity. If an external inlet filter is used, the filter element should be cleaned monthly or as frequently as required by local conditions. Excessive pressure drop will develop from use of clogged or dirty filters. This pressure drop will degrade blower performance and increase operating temperatures, leading possibly to premature pump failure.

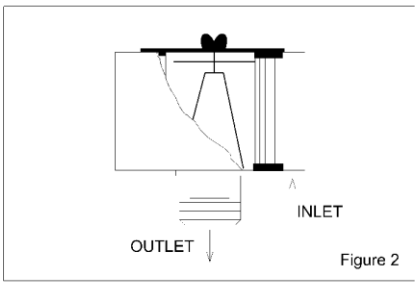


Figure 2

To replace the filter, remove the wing nut and cover. Remove the element and either clean with compressed air or replace. Reassemble in reverse order.

For vacuum applications, the optional in-line vacuum filter must be cleaned regularly, depending on local conditions. Cleaning can be achieved by blowing out with compressed air. If cleaning is not possible, replace the cartridge. Access the cartridge by unhooking the relevant clips and removing the cover.

CAUTION! Do not attempt to check the filter cartridge during operation of the blower. Only check the cartridge after disconnecting the power from the blower and locking out the power to prevent an unexpected start.

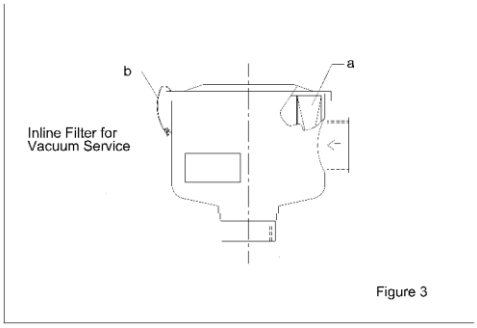


Figure 3

Bearings are grease-packed for life.

5.1 Troubleshooting Chart

Fault	Cause	Remedy	Responsible Party
Motor does not start, no noise.	Two or more power legs interrupted	Check fuses, terminals, etc.. for source of interruption and correct.	Electrician
Motor does not start, humming noise.	One power supply lead interrupted	Check fuses, terminals, etc.. for source of interruption and correct.	Electrician
	Impeller is jammed.	Open blower cover, remove debris, clean.	Service Technician
		Check impeller clearance and reset if necessary.	
	Defective Impeller	Replace impeller.	Service Technician
	Defective Bearing	Replace defective bearing.	Service Technician
Trip of motor starter at start-up	Incorrect starter setting	Ensure starter setting is correct (check current on nameplate)	Electrician
	Winding short-circuit	Megger motor	Electrician
	Motor overloaded due to operation of pump at excessive differential pressures.	Inspect filters, mufflers and connection pipes and clean as required. Check relief valve operation. Reset or replace as necessary.	Operator
	Impeller Jammed	See above fault Motor does not start, humming noise, cause jammed impeller.	Operator
Excessive Power Consumption	Lime or other deposits	Decalcify or clean unit as required (see Maintenance Chart)	Operator
No Vacuum or Pressure.	Severe leak in system	Close off pump and run deadheaded to confirm pump is operating properly. If so, find and fix leak in the system.	Operator
	Wrong direction of rotation	Check air flow direction and change direction of rotation if necessary.	Operator Electrician

Fault	Cause	Remedy	Responsible Party
Insufficient Vacuum	System too small	Use larger system	Operator
	Inlet piping too long or too small.	Increase pipe diameter to reduce pressure loss in inlet piping. Contact Airtech for assistance in determining correct pipe size.	Operator
	Leak at connection to vacuum system.	Check for leaks and repair if necessary.	Operator
	Density of gas handles different from air.	Consider increased limits on operation due to density differences. Consult Airtech, Inc. for assistance.	Airtech Engineering
	Change in impeller geometry due to erosion	Clean impeller and examine for wear. Replace if necessary.	Service Technician
	Inlet filter clogged.	Change filter element; remove clog.	Operator
	Vacuum relief valve incorrectly set.	Reset or replace vacuum relief valve. Contact Airtech for assistance.	Operator
	Seal defective.	Replace seal.	Service Technician
Abnormal flow noises.	Flow speed too high.	Clean pipes or use larger pipes to connect unit to process.	Operator
	Muffler soiled.	Clean muffler inserts, replace if necessary.	Operator
Abnormal running noise	Ball bearing defective or insufficient lubrication on bearing.	Replace bearing if required.	Service Technician
Compressor leaky	Seals on muffler defective.	Tighten muffler connection. Replace gasket if necessary.	Operator
	Seals in motor area defective	Replace as necessary.	Service Technician

WARNING! Before attempting an on-site repair, ensure that a qualified electrician has disconnected the motor from the power supply so that accidental starting of the motor is impossible.

After repairing the unit, be sure to follow the instructions noted in this manual in the **Installation** section (page 20).

5.2 Lifting

For smaller units (less than 65 lbs/ 30 kgs), it may be possible to lift the units manually. When doing so, be sure to understand the weight of the unit being lifted and to follow good lifting safety procedures.

Model	Weight Lbs/kgs	Model	Weight Lbs/kgs
3BA1300-7AT06	20/9	3BA1310-7AT26	33/15
2BA1300-7AT16	22/10	3BA1410-7AT36	55/25
3BA1400-7AT06	29/13	3BA1410-7AT46	59.5/29
3BA1400-7AT26	37.5/17	3BA1510-7AT46	86/39
3BA1500-7AT06	40/18	3BA1510-7AT56	97/44
3BA1500-7AT16	46.5/21	3BA1610-7AT26	104/47
3BA1500-7AT26	51/23	3BA1610-7AT36	119/54
3BA1500-7AT36	55/25	3BA1610-7AT46	163/74
3BA1600-7AT06	57.5/26	3BA1610-7AT56	172/78
3BA1600-7AT16	64/29	3BA1640-7AT36	128/58
3BA1600-7AT26	75/34	3BA1640-7AT46	172/78
3BA1600-7AT36	90.5/41	3BA1640-7AT56	181/82
3BA1800-7AT06	128/58	3BA1810-7AT16	250/113
3BA1800-7AT16	143/65	3BA1810-7AT26	260/118
3BA1800-7AT26	150/68	3BA1810-7AT36	316/143
3BA1900-7AT06	265/120	3BA1810-7AT46	341/155
3BA1900-7AT16	314/142	3BA1840-7AT26	260/118
3BA19437AT26	417/190	3BA1840-7AT36	316/143
3BA19437AT36	463/210	3BA1910-7AT16	409/186
3BA19437AT46	509/231	3BA1910-7AT36	455/206
3BA7210-0AT167	35.3/16	3BA1910-7AT46	500/226
3BA7310-0AT167	35.3/16	3BA7220-0AT567	61.7/28
3BA7410-0AT167	50.7/23	3BA7320-0AT567	66.1/30
3BA7510-0AT168	57.3/26	3BA7420-0AT267	72.7/33
3BA7510-0AT268	63.9/29	3BA7420-0AT567	86/39
3BA7610-0AT168	70.5/32	3BA7520-0AT268	88.2/40
3BA7610-0AT368	77.2/35	3BA7620-0AT368	106/48
3BA7530-0AT768	200/91	3BA7620-0AT568	143/65
		3BA7630-0AT668	207/94

When lifting 3BA15 through 3BA19 (but not 3BA1943 units) or the 3BA75 through the 3BA76, use the eye bolt provided (eye bolts are not included on smaller units). One attachment point should be sufficient. Ensure that the crane is rated for the weight being lifted.

For the 3BA1943, use the eye bolt and the holes in the feet of the blower to lift and maintain a balanced load.

5.3 Storage

The 3BA units should be stored in a clean, dry environment. If stored in an area with a humidity of greater than 80 percent, store in a closed container with desiccant drying agents to avoid damage.

5.4 Disposal

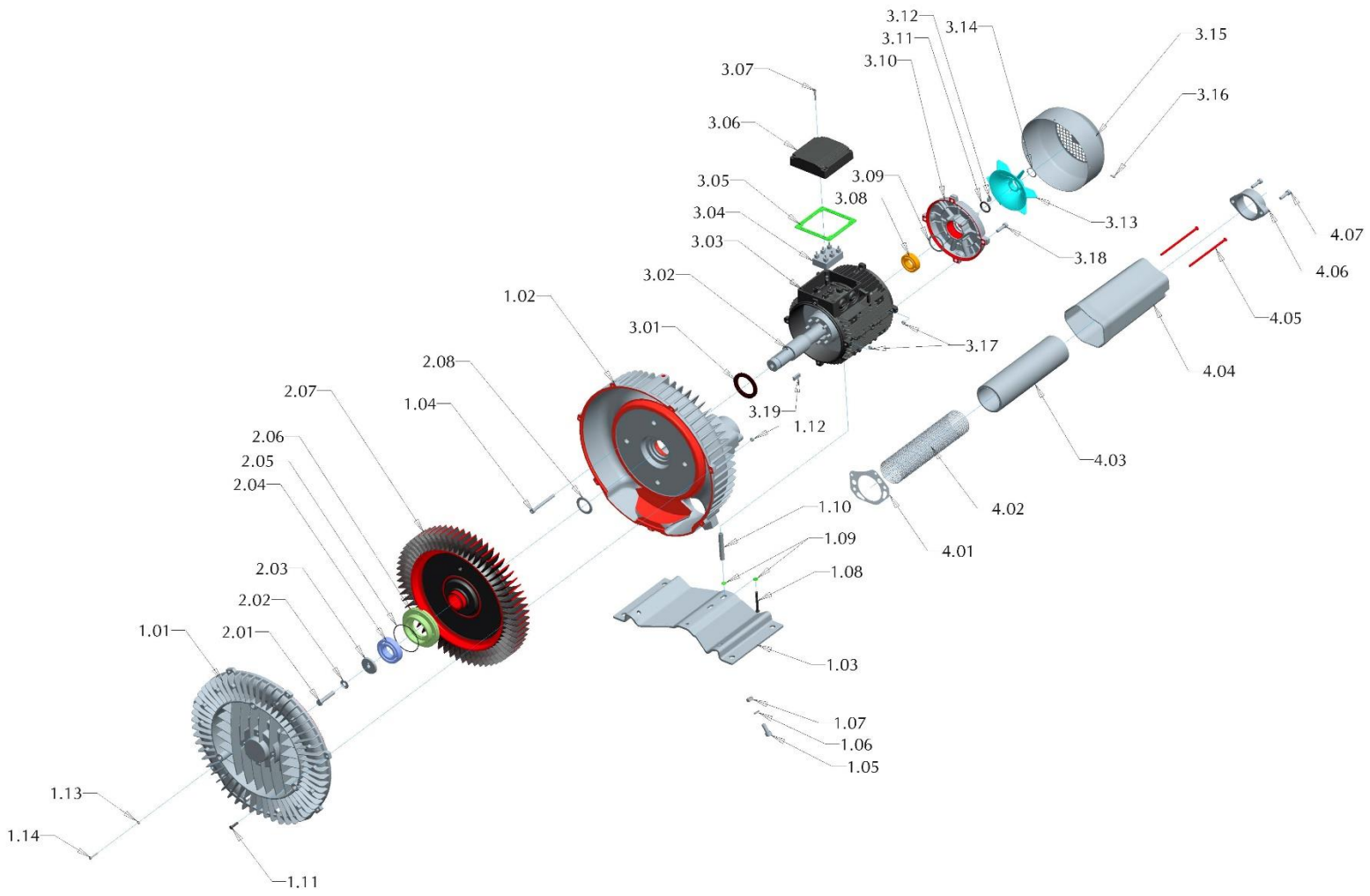
Dispose in accordance with all local health and safety regulations.

Spare parts list are available from your local Airtech service center. Please contact your local Airtech representative for assistance.

For additional assistance, please contact:

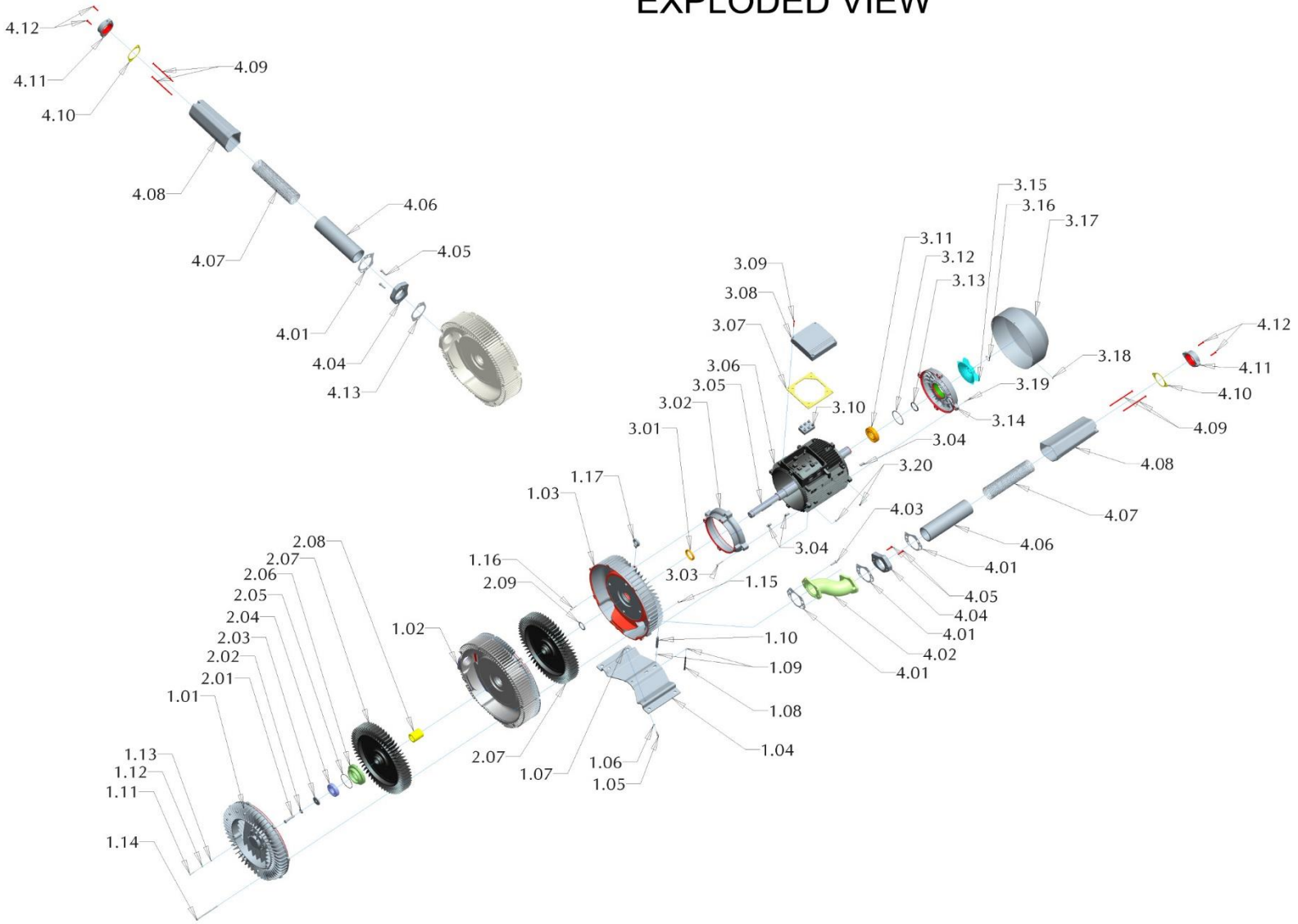
Airtech, Inc.,
301 Veterans Boulevard
Rutherford, NJ, 07070
Phone: 1-201-569-1173
Fax: 201-569-1696.

3BA1 SINGLE STAGE
EXPLODED VIEW



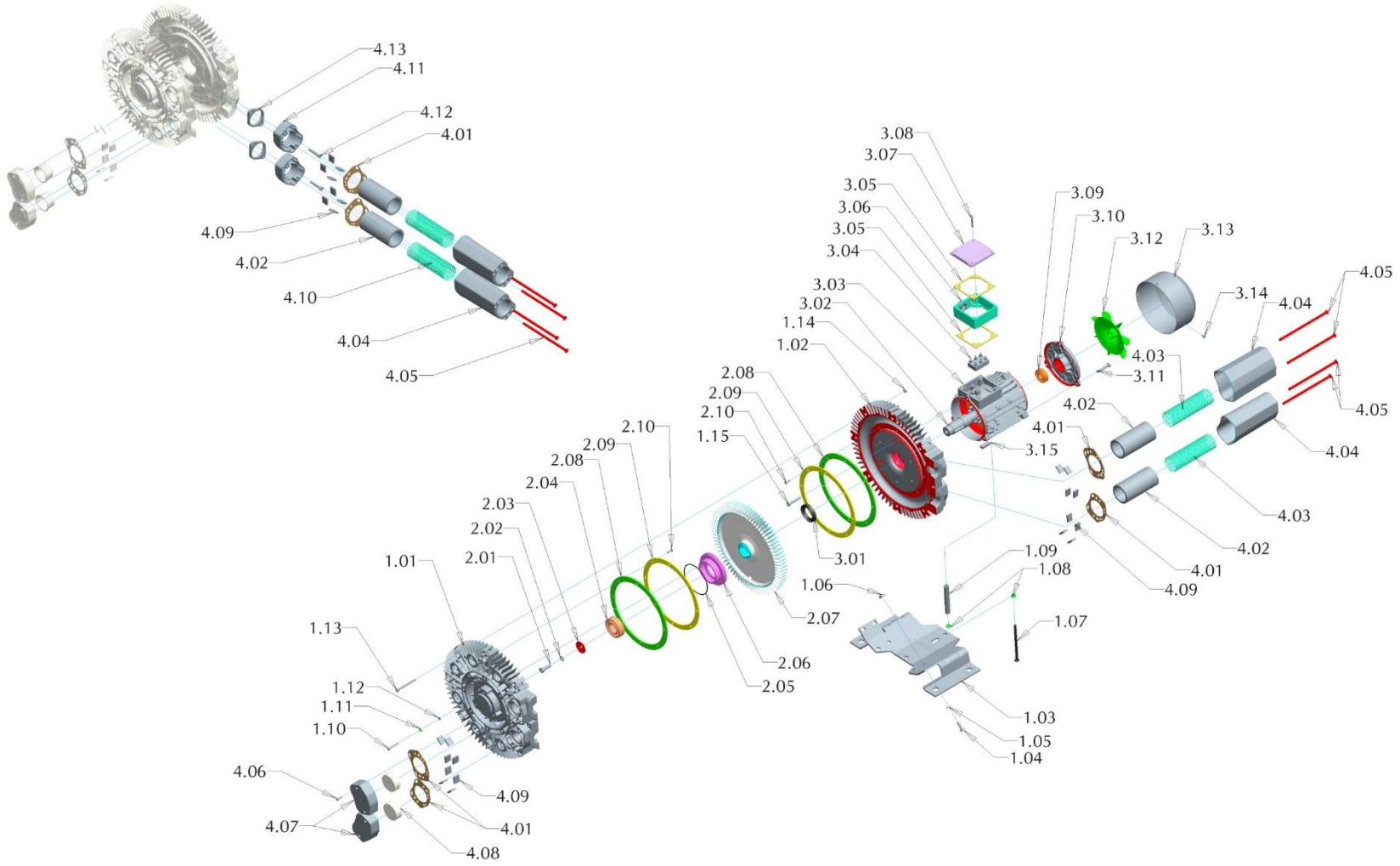
No.	Qty.	Description
1.01	1	Cover
1.02	1	Housing
1.03	1	Mounting Plate
1.04	4	Motor Mounting Screw
1.05	2	Mouting Plate Screw
1.06	2	Mounting Plate Washer
1.07	2	Mouting Plate Nut
1.08	1	Stator Support Screw
1.09	2	Stator Support Washer
1.10	1	Stator Support Sleeve
1.11	8	Cover Mounting Screw
1.12	8	Cover Mounting Nut
1.13	4	Bearing Cover Washer
1.14	4	Bearing Cover Screw
2.01	1	Shaft Screw
2.02	1	Shaft Lock Washer
2.03	1	Disc
2.04	1	Bearing
2.05	1	Bearing Cover O-Ring
2.06	1	Bearing Cover
2.07	1	Impeller
2.08	1	Disc
3.01	1	Seal
3.02	1	Motor Rotor
3.03	1	Stator
3.04	1	Terminal Block
3.05	1	Motor Terminal Box Gasket
3.06	1	Cover For Terminal Box
3.07	4	Terminal Box Cover Screw
3.08	1	Rear Bearing
3.09	1	Bearing Preloading Ring
3.10	1	End Shield
3.11	1	Tolerance Ring
3.12	1	Shaft Key
3.13	1	External Fan
3.14	1	Retaining Ring
3.15	1	Fan Cowl
3.16	4	Fan Cowl Screw
3.17	8	Stator Nut
3.18	4	End Shield Screw
3.19	1	Parallel Key
4.01	2	Silencer Gasket
4.02	2	Silencer Insert
4.03	2	Silencer Insert Filler
4.04	2	Silencer Casing
4.05	4	Silencer Screw
4.06	2	Flange
4.07	4	Flange Screw

3BA1 TWO STAGE
EXPLODED VIEW



No.	Qty.	Description
1.01	1	Cover
1.02	1	Center Section
1.03	1	Blower Housing
1.04	1	Mounting Plate
1.05	2	Plate Mounting Screw
1.06	2	Mouting Plate Washer
1.07	2	Mounting Plate Nut
1.08	1	Stator Support Screw
1.09	2	Stator Support Washer
1.10	1	Stator Support Sleeve
1.11	4	Bearing Cover Screw
1.12	4	Bearing Screw Washer
1.13	4	Bearing Ring Seal
1.14	8	Cover Mounting Screw
1.15	8	Cover Mounting Nut
1.16	4	Motor Mounting Screw
1.17	1	Lifting Ring
2.01	1	Shaft Screw
2.02	1	Shaft Lock Washer
2.03	1	Disc
2.04	1	Bearing
2.05	1	Bearing Cover O-Ring
2.06	1	Bearing Cover
2.07	2	Impeller
2.08	1	Sleeve
2.09	1	Disk
3.01	1	Shaft Seal Ring
3.02	1	Motor Attachment
3.03	4	Motor Attachment Screw
3.04	3	Parallel Key
3.05	1	Motor Rotor
3.06	1	Stator
3.07	1	Motor Terminal Box Gasket
3.08	1	Cover For Terminal Box
3.09	4	Terminal Box Cover Screw
3.10	1	Terminal Block
3.11	1	Rear Bearing
3.12	1	End Shield Seal
3.13	1	Rotary Shaft Lip Seal
3.14	1	End Shield
3.15	1	External Fan
3.16	1	Retaining Ring
3.17	1	Fan Cowl
3.18	4	Fan Cowl Screw
3.19	4	End Shield Screw
3.20	8	Stator Nut
4.01	4	Silencer Gasket
4.02	1	Silencer Attachment
4.03	2	Silencer Attachment Screw
4.04	2	Silencer Flange
4.05	4	Silencer Flange Screw
4.06	2	Silencer Insert Filler
4.07	2	Silencer Insert
4.08	2	Silencer Casing
4.09	4	Silencer Screw
4.10	2	Flange Gasket
4.11	2	Flnage
4.12	4	Flange Screw
4.13	1	Side Silencer Gasket

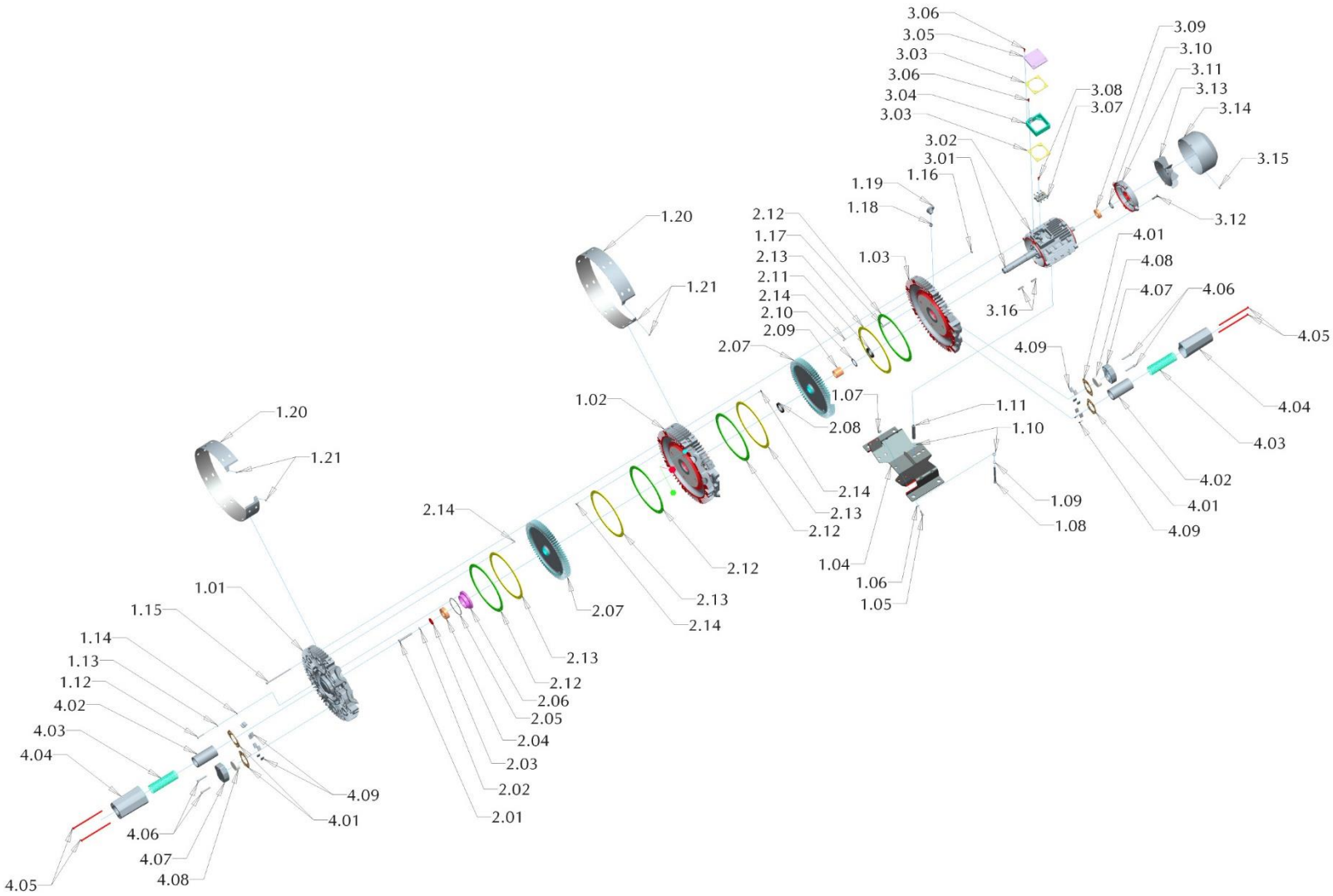
3BA7 SINGLE STAGE
EXPLODED VIEW



No.	Qty.	Description
1.01	1	Cover
1.02	1	Housing
1.03	1	Mounting Plate
1.04	4	Plate Mounting Screw
1.05	4	Mouting Plate Washer
1.06	4	Mounting Plate Nut
1.07	1	Stator Support Screw
1.08	2	Stator Support Washer
1.09	1	Stator Support Sleeve
1.10	3	Bearing Cover Screw
1.11	3	Bearing Screw Washer
1.12	3	Bearing Ring Seal
1.13	8	Cover Mounting Screw
1.14	8	Cover Mounting Nut
1.15	3	Motor Mounting Screw
2.01	1	Shaft Screw
2.02	1	Shaft Lock Washer
2.03	1	Disc
2.04	1	Bearing
2.05	1	Bearing Cover O-Ring
2.06	1	Bearing Cover
2.07	1	Impeller
2.08	2	Teflon Seal
2.09	2	Retaining Ring
2.10	16	Inner Seal Screw
3.01	1	Shaft Seal Ring
3.02	1	Motor Rotor
3.03	1	Stator
3.04	1	Terminal Block
3.05	2	Motor Terminal Box Gasket
3.06	1	Terminal Box
3.07	1	Cover For Terminal Box
3.08	4	Terminal Box Cover Screw
3.09	1	Rear Bearing
3.10	1	End Shield
3.11	3	End Shield Screw
3.12	1	External Fan
3.13	1	Fan Cowl
3.14	4	Fan Cowl Screw
3.15	1	Parallel Key
4.01	4	Silencer Gasket
4.02	2	Silencer Insert Filler
4.03	2	Silencer Insert
4.04	2	Silencer Casing
4.05	4	Silencer Screw
4.06	4	Flange Screw
4.07	2	Flange Cap
4.08	2	Flange Filler
4.09	16	Filler
4.10	2	Silencer Insert
4.11	2	Flange
4.12	4	Flange Screw
4.13	2	Flange Gasket

*Does not apply for 3BA76XX Blowers

3BA7 TWO STAGE
EXPLODED VIEW



No.	Qty.	Description
1.01	1	Cover
1.02	1	Center Section
1.03	1	Housing
1.04	1	Mounting Plate
1.05	4	Plate Mounting Screw
1.06	4	Mouting Plate Washer
1.07	4	Mounting Plate Nut
1.08	1	Stator Support Screw
1.09	1	Stator Support Lock Washer
1.10	2	Stator Support Washer
1.11	1	Stator Support Sleeve
1.12	3	Bearing Cover Screw
1.13	3	Bearing Screw Washer
1.14	3	Bearing Ring Seal
1.15	8	Cover Mounting Screw
1.16	8	Cover Mounting Nut
1.17	4	Motor Mounting Screw
1.18	1	Lifting Ring Nut
1.19	1	Lifting Ring
1.20	2	Blower Cowl
1.21	4	Blower Cowl Screw
2.01	1	Shaft Screw
2.02	1	Shaft Lock Washer
2.03	1	Disc
2.04	1	Bearing
2.05	1	Bearing Cover O-Ring
2.06	1	Bearing Cover
2.07	2	Impeller
2.08	1	Rotary Shaft Seal
2.09	1	Sleeve
2.10	1	Disk
2.11	1	Shaft Seal Ring
2.12	4	Teflon Seal*
2.13	4	Retaining Ring
2.14	32	Inner Seal Screw
3.01	1	Motor Rotor
3.02	1	Stator
3.03	2	Motor Terminal Box Gasket
3.04	1	Terminal Box
3.05	1	Cover For Terminal Box
3.06	8	Terminal Box Screw
3.07	1	Terminal Block
3.08	1	Terminal Block Screw
3.09	1	Rear Bearing
3.10	1	End Shield Disk
3.11	1	End Shield
3.12	4	End Shield Screw
3.13	1	External Fan
3.14	1	Fan Cowl
3.15	4	Fan Cowl Screw
3.16	2	Parallel Key
4.01	4	Silencer Gasket
4.02	2	Silencer Insert Filler
4.03	2	Silencer Insert
4.04	2	Silencer Casing
4.05	4	Silencer Screw
4.06	4	Flange Screw
4.07	2	Flange Cap
4.08	2	Flange Filler
4.09	16	Filler

*Does not apply for 3BA76XX Blowers

Airtech, Inc. ("Company") Warranty Statement

Company warrants that on the date of shipment to Purchaser the goods will be of the kind and quality described herein, merchantable, and free of all defects in workmanship and materials.

If within one year from the date of initial operation, but not more than eighteen months from date of shipment by the Company, of any item of the goods, Purchaser discovers that such item was not as warranted above and promptly notifies Company in writing thereof, Company shall remedy such defect by, at the Company's option, adjustment, repair or replacement of the item and any affected part of the good. Purchaser shall assume all responsibility and expense for removal, reinstallation and freight in connection with the foregoing remedy. The same obligations and conditions shall extend to replacement items furnished by the Company hereunder. Company shall have the right of disposal of items replaced by it. Purchaser shall grant Company access to the goods at all reasonable times in order for Company to determine any defect in the goods. In the event that adjustment, repair or replacement does not remedy the defect, the Company and Purchaser shall negotiate in good faith an equitable adjustment in the contract price.

The Company's responsibility does not extend to any item of the goods which has not been manufactured and sold by the Company. Such item shall be covered only by the express warranty, if any, by the manufacturer thereof. The Company and its suppliers shall also have no responsibility if the goods have been improperly stored, handled or installed, or if the goods have not been operated or maintained according to their ratings or according to the instructions in Company or supplier furnished manuals, or if unauthorized repairs or modifications have been made to the goods.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES (EXCEPT TITLE) INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, AND CONSTITUTES THE ONLY WARRANTY OF COMPANY WITH RESPECT TO THE GOODS.

The forgoing states Purchaser's exclusive remedy against Company and its suppliers for any defect in the good or for failure of the goods to be as warranted, whether Purchaser's remedy is based on contract, warranty, failure of such remedy to achieve its essential purpose, tort (including negligence), strict liability, indemnity, or any other legal theory, and whether arising out of warranties, representations, instructions, installations, or defects from any cause.

Neither Company nor its suppliers shall be liable, whether in contract, warranty, failure of a remedy to meet its essential purpose, tort (including negligence), strict liability, indemnity or any other legal theory, for loss of use, revenue or profit or for cost of capital or of substitute use or performance or for indirect, liquidated, incidental or consequential damages or for any other loss or cost of a similar type, or for claims by Purchaser for damages of Purchaser's customers.

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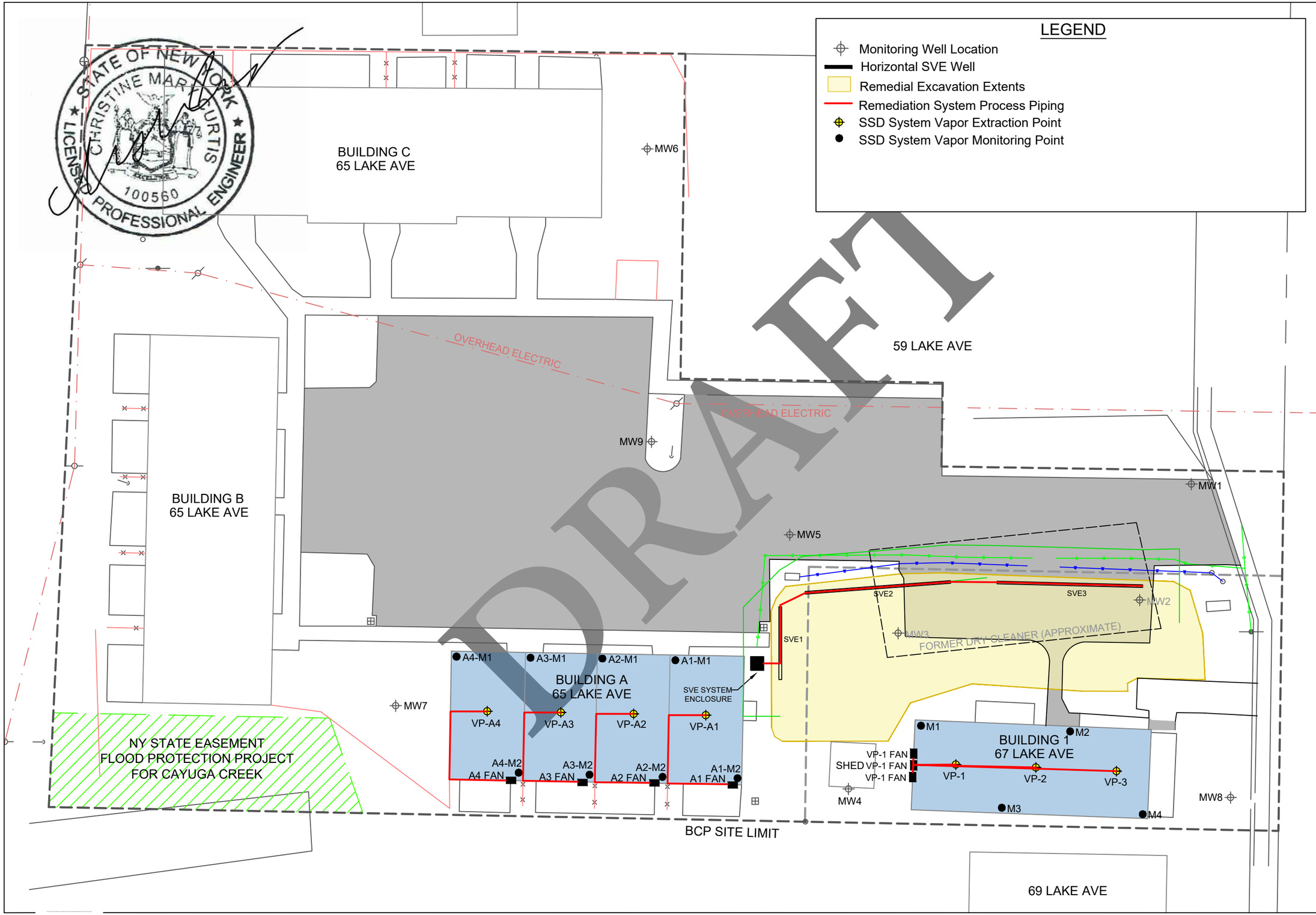
www.airtechusa.com

APPENDIX L – SSD SYSTEMS AS-BUILT DRAWINGS AND DOCUMENTATION



PREPARED BY:

MATRIX
ENVIRONMENTAL TECHNOLOGIES INC.
ORCHARD PARK - ROCHESTER - ITHACA
www.matrixbiotech.com

PREPARED FOR:

65 LAKE AVENUE LLC

PROJECT NAME/LOCATION:

LAKESIDE VILLAGE
APARTMENTS
65-67 LAKE AVENUE
LANCASTER, NEW YORK

BCP SITE NO. C915344

PROJECT NUMBER: 18-046

PROJECT MANAGER: SLM

DRAWN BY: CMC

REVIEWED BY: SRC

REVISION HISTORY

NUMBER	BY	DATE
0	CMC	9/4/25

N

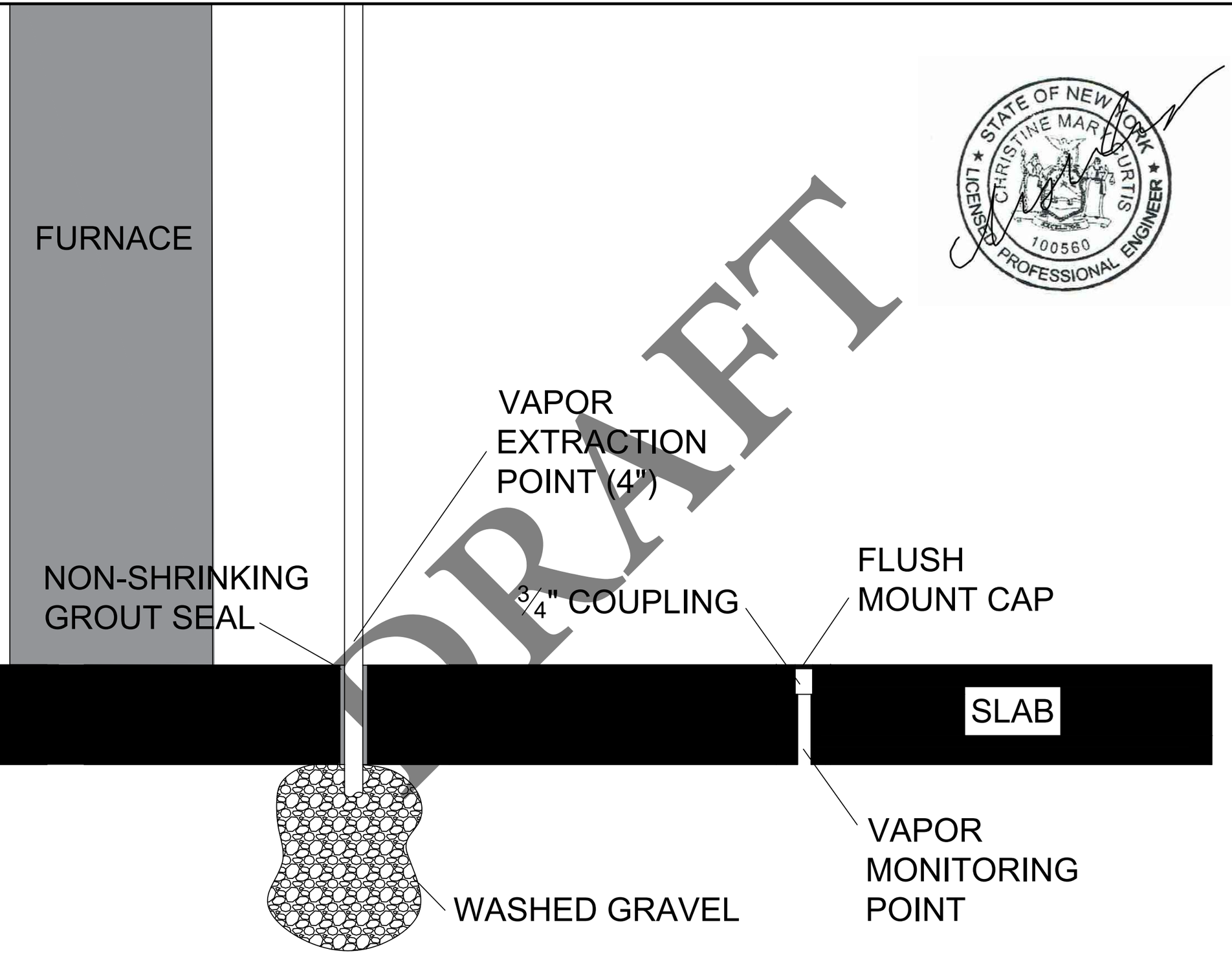
1" = 25'
0 25

TITLE:

SVE AND SSD SYSTEMS LAYOUT AND PIPING DIAGRAM

DATE:

FIGURE: L-1



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PREPARED FOR:
65 Lake Avenue LLC

PROJECT MGR: SLM
DESIGNED BY: CMC
REVIEWED BY: SRC
DRAWN BY: CMC

REVISION	
BY	DATE
CMC	6/4/21

SCALE IN FEET: NA
0

PROJECT NAME / LOCATION:
Lakeside Village
Apartments
65-67 Lake Avenue
Lancaster, New York

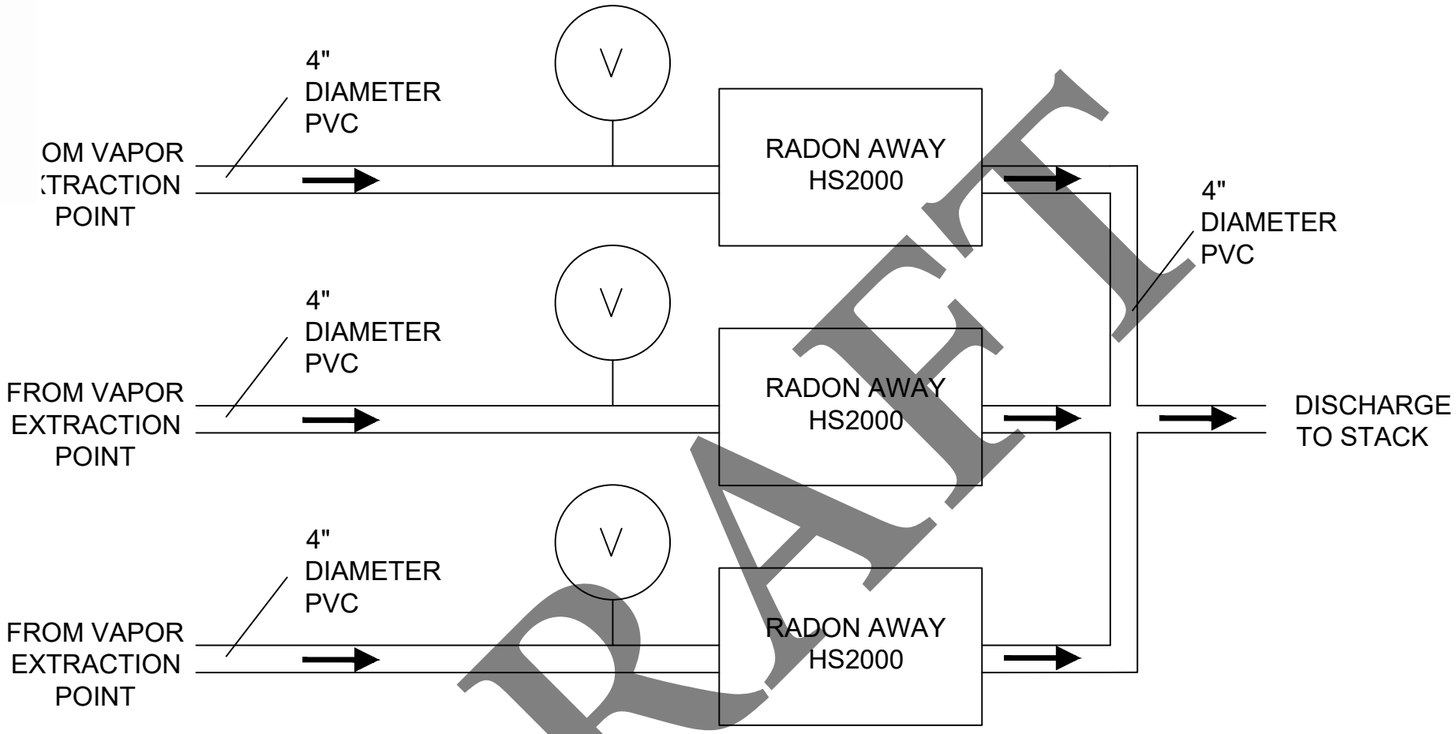
BCP Site No. 915344

TITLE:
VAPOR EXTRACTION POINT AND VAPOR MONITORING POINT CONSTRUCTION DETAILS (TYPICAL)

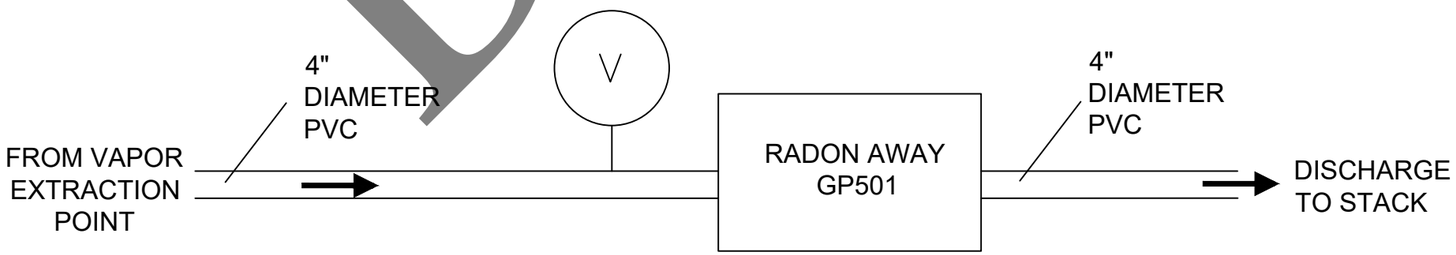
DATE: NA
PROJECT NO.: 18-046
FIGURE: L-2

30 years dedicated to a CLEANER ENVIRONMENT 1991-2021

BUILDING 1



BUILDING A (EACH APARTMENT, 4 TOTAL)



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PREPARED FOR:

65 Lake Avenue LLC

PROJECT MGR: SLM

DESIGNED BY: CMC

REVIEWED BY: SRC

DRAWN BY: CMC

REVISION	
BY	DATE
CMC	6/4/21

SCALE IN FEET: NA

0

PROJECT NAME / LOCATION:

Lakeside Village
Apartments
65-67 Lake Avenue
Lancaster, New York

BCP Site No. C915344

TITLE:

Process and
Instrumentation
Diagram

DATE: NA

PROJECT NO.: 18-046

FIGURE: L-3

30 years dedicated to a CLEANER ENVIRONMENT 1991-2021

30 years dedicated to a CLEANER ENVIRONMENT 1991-2021

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PREPARED FOR:
65 Lake Avenue LLC

PROJECT MGR: SLM
DESIGNED BY: CMC
REVIEWED BY: SRC
DRAWN BY: CMC

REVISION	
BY	DATE
CMC	6/4/21

SCALE IN FEET: NA
0

PROJECT NAME / LOCATION:
Lakeside Village Apartments
65-67 Lake Avenue
Lancaster, New York

BCP Site No. C915344

TITLE:
BUILDING 1
SSD SYSTEM LAYOUT - PROFILE VIEW

DATE: NA
PROJECT NO.: 18-046
FIGURE: L-4

PREPARED BY:
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PREPARED FOR:
65 Lake Avenue LLC

PROJECT MGR: SLM
DESIGNED BY: CMC
REVIEWED BY: SRC
DRAWN BY: CMC

REVISION

BY	DATE
CMC	6/4/21

SCALE IN FEET: NA
0

PROJECT NAME / LOCATION:
Lakeside Village
Apartments
65-67 Lake Avenue
Lancaster, New York

BCP Site No. C915344

TITLE:
BUILDING A APARTMENT
SSD SYSTEM LAYOUT -
PROFILE VIEW

DATE: NA
PROJECT NO.: 18-046
FIGURE: L-5

30 years dedicated to a CLEANER ENVIRONMENT 1991-2021

LEGEND

OA-1 - Outdoor Air Sampling Location

IA-1 - Indoor Air Sampling Location

NOTES:
- Yellow highlighted values exceed indoor air background level.
- All results in ug/m^3.
- For full results, refer to the attached laboratory analytical report.

Sample ID
1,1,1-TCA
1,1-DCE
1,2-DCA
Carbon Tetrachloride
Chloroform
cis-1,2-DCE
Methylene Chloride
PCE
TCE
Vinyl Chloride

Building C

59 Lake Ave

A-3	
1,1,1-TCA	ND
1,1-DCE	ND
1,2-DCA	ND
Carbon Tetrachloride	0.57
Chloroform	5.5
cis-1,2-DCE	ND
Methylene Chloride	1.0
PCE	1.4
TCE	0.16
Vinyl Chloride	ND

A-2	
1,1,1-TCA	ND
1,1-DCE	ND
1,2-DCA	ND
Carbon Tetrachloride	0.44
Chloroform	0.59 J
cis-1,2-DCE	ND
Methylene Chloride	1.2
PCE	ND
TCE	ND
Vinyl Chloride	ND

FORMER DRY CLEANER (APPROXIMATE)

Building B

OVERHEAD ELECTRIC UTILITY

A-4		
1,1,1-TCA	ND	ND
1,1-DCE	ND	ND
1,2-DCA	ND	ND
Carbon Tetrachloride	0.50	0.50
Chloroform	0.49 J	0.49 J
cis-1,2-DCE	ND	ND
Methylene Chloride	0.56	0.56
PCE	0.75 J	0.81 J
TCE	ND	ND
Vinyl Chloride	ND	ND

Building A

67 Lake

A-1	
1,1,1-TCA	ND
1,1-DCE	ND
1,2-DCA	0.49 J
Carbon Tetrachloride	0.44
Chloroform	2.4
cis-1,2-DCE	ND
Methylene Chloride	0.73
PCE	ND
TCE	ND
Vinyl Chloride	ND

OA-1	
1,1,1-TCA	ND
1,1-DCE	ND
1,2-DCA	ND
Carbon Tetrachloride	0.44
Chloroform	ND
cis-1,2-DCE	ND
Methylene Chloride	0.90
PCE	ND
TCE	ND
Vinyl Chloride	ND

Building 1	
1,1,1-TCA	ND
1,1-DCE	ND
1,2-DCA	ND
Carbon Tetrachloride	0.38
Chloroform	0.78
cis-1,2-DCE	ND
Methylene Chloride	0.73
PCE	3.0
TCE	0.27
Vinyl Chloride	ND

Lake Ave

65 Lake Ave

BCP Site Limit

Building 1

Concrete Berm

69 Lake Ave

30 years dedicated to a CLEANER ENVIRONMENT 1991-2021

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PREPARED FOR:
65 Lake Avenue LLC

PROJECT MGR: SLM

DESIGNED BY: CMC

REVIEWED BY: SRC

DRAWN BY: CMC

REVISION	
BY	DATE
CMC	3/3/22

SCALE IN FEET: 1" = 20'
0 20

PROJECT NAME / LOCATION:
Lakeside Village Apartments
65-67 Lake Avenue
Lancaster, New York

BCP Site No. C915344

TITLE:
Air Monitoring Results

DATE: January 31, 2022

PROJECT NO.: 18-046

FIGURE: L-6

Table L-1
Soil Vapor Intrusion Testing Analytical Results
65-67 Lake Avenue, Lancaster, New York

January 31, 2022

PARAMETER	Table C1 Indoor Air Background Level (Upper Fence Value)	A-1	A-2	A-3	A-4	A-4 Duplicate	Building 1	Table C1 Outdoor Air Background Level (Upper Fence Value)	OA-1
1,1,1-Trichloroethane	2.5	ND<0.82	ND<0.82	ND<0.82	ND<0.82	ND<0.82	ND<0.82	0.6	ND<0.82
1,1-Dichloroethene	0.4	ND<0.16	ND<0.16	ND<0.16	ND<0.16	ND<0.16	ND<0.16	0.4	ND<0.16
1,2,4-Trimethylbenzene	9.8	**0.93**	**0.64 J**	ND<0.74	**0.54 J**	**0.54 J**	ND<0.74	0.5	ND<0.74
1,2-Dichloroethane	0.4	**0.49 J**	ND<0.61	ND<0.61	ND<0.61	ND<0.61	ND<0.61	0.4	ND<0.61
1,4-Dichlorobenzene	1.2	**1.0**	ND<0.90	ND<0.90	**0.66 J**	ND<0.90	ND<0.90	0.5	ND<0.90
2,2,4-trimethylpentane		**0.84**	**0.47 J**	**0.56 J**	**0.65 J**	**0.61 J**	**0.61 J**		**0.56 J**
Acetone	115	**31**	**38**	**110**	**29**	**25**	**8.6**	30	**19**
Benzene	13	**3.7**	**2.5**	**1.2**	**1.3**	**1.2**	**1.7**	4.8	**0.93**
Carbon disulfide		ND<0.47	ND<0.47	**0.31 J**	ND<0.47	ND<0.47	ND<0.47		ND<0.47
Carbon tetrachloride	1.3	**0.44**	**0.44**	**0.57**	**0.50**	**0.50**	**0.38**	1.2	**0.44**
Chloroform	1.2	**2.4**	**0.59 J**	**5.5**	**0.49 J**	**0.49 J**	**0.78**	0.5	ND<0.73
Chloromethane	4.2	**3.9**	ND<0.31	ND<0.31	**0.99**	**1.0**	**1.4**	4.3	**0.87**
cis-1,2-Dichloroethene	0.4	ND<0.16	ND<0.16	ND<0.16	ND<0.16	ND<0.16	ND<0.16	0.4	ND<0.16
Cyclohexane	6.3	ND<0.52	ND<0.52	ND<0.52	ND<0.52	ND<0.52	ND<0.52	0.9	**0.55**
Ethyl acetate		**4.9**	**1.8**	**1.4**	**0.90**	**0.76**	ND<0.54		ND<0.54
Ethylbenzene	6.4	**1.1**	**0.69**	**0.43 J**	**0.56 J**	**0.52 J**	**0.65**	1.0	ND<0.65
Freon 11		**1.3**	**1.1**	**1.1**	**1.1**	**1.3**	**1.2**		**1.4**
Freon 12		**2.2**	**2.2**	**2.3**	**2.3**	**2.3**	**2.2**		**2.4**
Heptane		**1.7**	**2.0**	**1.1**	**1.1**	**0.98**	**0.86**		**0.49 J**
Hexane		**1.9**	**1.4**	**1.3**	**1.4**	**1.3**	**1.2**		**0.88**
Isopropyl alcohol		ND<0.37	**19**	ND<0.37	**7.4**	**6.4**	**3.7**		**1.7**
m&p-Xylene	11	**3.4**	**1.9**	**1.4**	**1.8**	**1.6**	**2.0**	1.0	**1.0 J**
Methyl Ethyl Ketone	16	**3.2**	**2.2**	**2.0**	**0.86 J**	**0.88**	**1.2**	5.3	**0.65 J**
Methylene chloride	16	**0.73**	**1.2**	**1.0**	**0.56**	**0.56 J**	**0.73**	1.6	**0.90**
o-Xylene	7.1	**1.0**	**0.65**	**0.52 J**	**0.56 J**	**0.56**	**0.61 J**	1.2	ND<0.65
Styrene	1.4	**0.81**	**0.60 J**	ND<0.64	ND<0.64	ND<0.64	ND<0.64	0.5	ND<0.64
Tetrachloroethylene	2.5	ND<1.0	ND<1.0	**1.4**	**0.75 J**	**0.81**	**3.0**	0.7	ND<1.0
Toluene	57	**7.5**	**6.1**	**3.1**	**4.0**	**3.5**	**5.4**	5.1	**2.4**
Trichloroethene	0.5	ND<0.16	ND<0.16	**0.16**	ND<0.16	ND<0.16	**0.27**	0.4	ND<0.16
Vinyl chloride	0.4	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	0.4	ND<0.10

NOTES:

1. Analytical testing for VOCs via EPA Method TO-15 by Centek Laboratories, LLC.
2. Results present in $\mu g/m^3$ (microgram per cubic meter).
3. Indoor and outdoor air background levels as presented in Appendix C, Table C1: NYSDOH 2003: Study of volatile organic chemicals in air of fuel oil heated homes, of "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" (NYSDOH, October 2006).
4. ND = Not Detected
5. Yellow highlighed values represent exceedance of Table C1 background level.
6. Compounds detected in one or more samples and select VOCs are included in this table. For a list of all compounds, refer to the attached analytical report.

RadonAway
The world's leading radon fan manufacturer

GP PRO SERIES

INSTALLS WHITE, STAYS WHITE

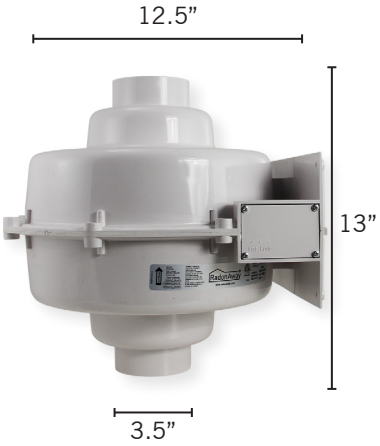
Radon Mitigation Fan

All RadonAway® fans are specifically designed for radon mitigation. GP Series Fans offer a wide range of performance options that make them ideal for most sub-slab radon mitigation systems.

Features

- NEW Stay-White™ housing
- Quiet operation
- Water-hardened motor
- Seams sealed under negative pressure (to inhibit radon leakage)
- Mounts on duct pipe or with integral flange
- 3" diameter ducts for use with 3" or 4" pipe
- Electrical box for hard wire or plug in
- ETL Listed - for indoor or outdoor use
- 4 interchangeable GP models

MODEL	P/N	FAN DUCT DIAMETER	WATTS	RECOM. MAX. OP. PRESSURE "WC	TYPICAL CFM vs. STATIC PRESSURE WC						
					1.0"	1.5"	2.0"	2.5"	3.0"	3.5"	4.0"
GP201	28465	3"	31-65	1.8	54	42	11	-	-	-	-
GP301	28466	3"	56-100	2.3	64	54	41	4	-	-	-
GP401	28467	3"	62-128	3.0	-	61	52	44	22	-	-
GP501	28468	3"	68-146	3.8	-	-	66	58	50	27	4



Made in USA with U.S. and imported parts.

ETL Listed

All RadonAway® inline radon fans are covered by our 5-year, hassle-free warranty.

For Further Information, Contact Your Radon Professional:

Rev D 0517
P/N 02045

RadonAway®
The world's leading radon fan manufacturer

HS Series

Radon Mitigation Fan

HS fans offer a proven solution for tough radon mitigation jobs, providing up to 25 times the suction of inline tube fans to deal with sand, tight soil or clay sub-slab material.

Features

- Internal condensate bypass
- Brackets for vertical mounting indoors and outdoors
- Inlet: 3.0" PVC / Outlet: 2.0" PVC
- Weight: 18 lbs.
- Size: 15.5"W x 13.3"H x 8.2"D
- Warranty: 1 year (3-year option available)

MODEL	WATTS	SOUND RATING (dBA)			RECOM. MAX. OP. PRESSURE "WC	TYPICAL CFM* vs. STATIC PRESSURE WC					
		OPEN	1/2	CLOSED		0"	10"	15"	20"	25"	35"
HS2000 with cord	174-307	56.5	56.2	51.9	14	63	37	12	-	-	-
HS3000 with cord	120-250	47.9	48.0	46.2	21	39	30	25	19	-	-
HS5000 with cord	223-385	56.0	55.3	53.1	35	44	37	33	29	25	16
HS2000E with switch box	174-307	56.5	56.2	51.9	14	63	37	12	-	-	-
HS3000E with switch box	120-250	47.9	48.0	46.2	21	39	30	25	19	-	-
HS5000E with switch box	223-385	56.0	55.3	53.1	35	44	37	33	29	25	16

* Made in the USA with U.S. and imported parts.

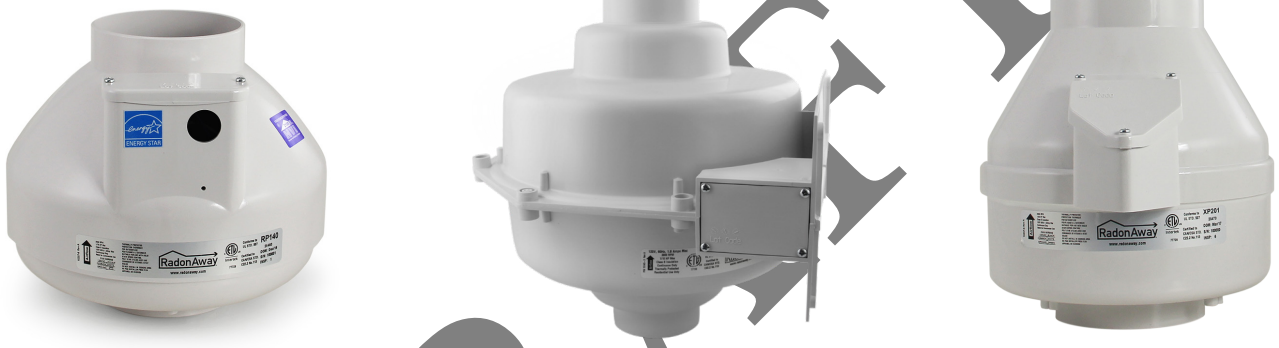
* CFM measured through suction.

For Further Information, Contact Your Radon Professional:

Rev C 0517
P/N 02002

RadonAway®

The world's leading radon fan manufacturer



RP, GP, XP Pro Series Installation Instructions

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

1. **WARNING!** For General Ventilating Use Only. Do Not Use to Exhaust Hazardous, Corrosive or Explosive Materials, Gases or Vapors. See Vapor Intrusion Application Note #AN001 for important information on VI Applications. RadonAway.com/vapor-intrusion

2. **NOTE:** Fan is suitable for use with solid state speed controls; however, use of speed controls is not generally recommended.

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

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

4. **NOTICE!** There are no user serviceable parts located inside the fan unit.
Do NOT attempt to open. Return unit to the factory. (See Warranty, p. 8, for details.)

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

6. **WARNING!** TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

    a) Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer. (See p. 8.)

    b) Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.

    c) Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire rated construction.

    d) Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent backdrafting. Follow the heating equipment manufacturers' guidelines and safety standards such as those published by any National Fire Protection Association, and the American Society for Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), and the local code authorities.

    e) When cutting or drilling into a wall or ceiling, do not damage electrical wiring and other hidden utilities.

    f) Ducted fans must always be vented to outdoors.

    g) If this unit is to be installed over a tub or shower, it must be marked as appropriate for the application and be connected to a GFCI (Ground Fault Circuit Interrupter) protected branch circuit.

1.0 SYSTEM DESIGN CONSIDERATIONS

1.1 INTRODUCTION

The RP, GP and XP Pro Series Radon Fans are intended for use by trained, professional, certified/licensed radon mitigators. The purpose of these instructions is to provide additional guidance for the most effective use of RP, GP and XP Series Fans. These instructions should be considered supplemental to EPA/radon industry standard practices, state and local building codes and regulations. In the event of a conflict, those codes, practices and regulations take precedence over these instructions.

1.2 FAN SEALING

The RP, GP and XP Pro Series Fans are factory sealed; no additional caulk or other materials are required to inhibit air leakage.

1.3 ENVIRONMENTALS

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

1.4 ACOUSTICS

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

(To ensure quiet operation of inline and remote fans, each fan shall be installed using sound attenuation techniques appropriate for the installation. For bathroom and general ventilation applications, at least 8 feet of insulated flexible duct shall be installed between the exhaust or supply grille(s) and the fan(s). RP, GP and XP Pro Series Fans are not suitable for kitchen range hood remote ventilation applications.)

1.5 GROUND WATER

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

1.6 SLAB COVERAGE

The RP, GP and XP Pro Series Fans can provide coverage up to 2000+ sq. ft. per slab penetration. This will primarily depend on the sub-slab material in any particular installation. In general, the tighter the material, the smaller the area covered per penetration. Appropriate selection of the RP, GP and XP Pro Series Fan best suited for the sub-slab material can improve the slab coverage. The RP, GP and XP Pro Series have a wide range of models to choose from to cover a wide range of sub-slab materials. The RP140 and 145 are best suited for general purpose use. The RP 260 can be used where additional airflow is required, and the RP265 and RP 380 are best suited for large slab, high airflow applications. Additional suction points can be added as required. It is recommended that a small pit (5 to 10 gallons in size) be created below the slab at each suction hole.

1.7 CONDENSATION & DRAINAGE

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

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

Pipe Diameter	Minimum Rise per Ft of Run*		
	@25 CFM	@50 CFM	@100 CFM
4”	1/8”	1/4”	3/8”
3”	1/4”	3/8”	1 1/2”

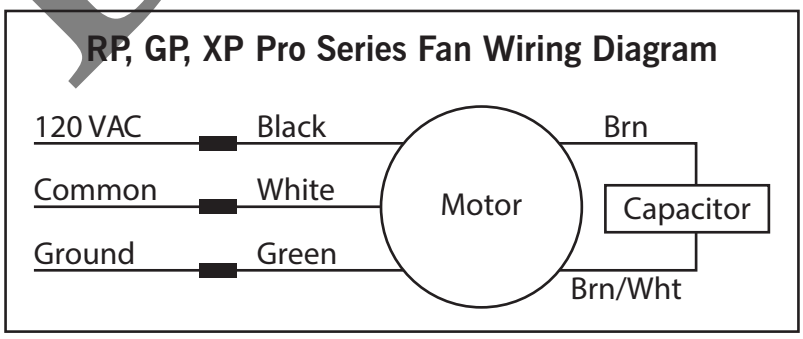
See p. 7 for detailed specifications.

1.8 SYSTEM MONITOR & LABEL

A System Monitor, such as a manometer (P/N 50017) or audible alarm (P/N 28001-2, 28001-4 or 28421), is required to notify the occupants of a fan system malfunction. A System Label (provided with Manometer P/N 50017) with instructions for contacting the installing contractor for service and identifying the necessity for regular radon tests to be conducted by the building occupants must be conspicuously placed in a location where the occupants frequent and can see the label.

1.9 ELECTRICAL WIRING

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



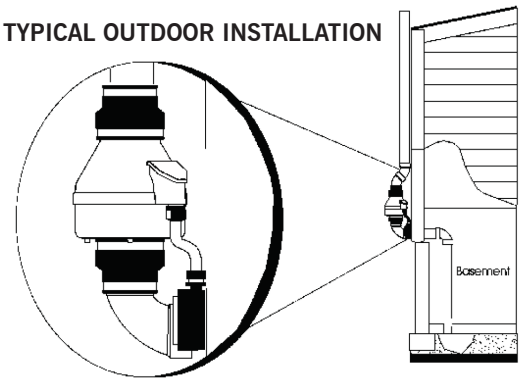
1.10 SPEED CONTROLS

The RP, GP and XP Pro Series Fans are rated for use with electronic speed controls; however, speed controls are generally not recommended. If used, the recommended speed control is Pass & Seymour Solid State Speed Control (Cat. No. 94601-1).

2.0 INSTALLATION

The RP, GP and XP Pro Series Fans can be mounted indoors or outdoors. (It is suggested that EPA and radon mitigation standards recommendations be followed in choosing the fan location.) The GP fans have an integrated mounting bracket; RP and XP Pro Series Fans may be mounted directly on the system piping or fastened to a supporting structure by means of an optional mounting bracket.
The ducting from the fan to the outside of the building has a strong effect on noise and fan energy use. Use the shortest, straightest duct routing possible for best performance, and avoid installing the fan with smaller ducts than recommended. Insulation around the ducts can reduce energy loss and inhibit mold growth. Fans installed with existing ducts may not achieve their rated airflow.

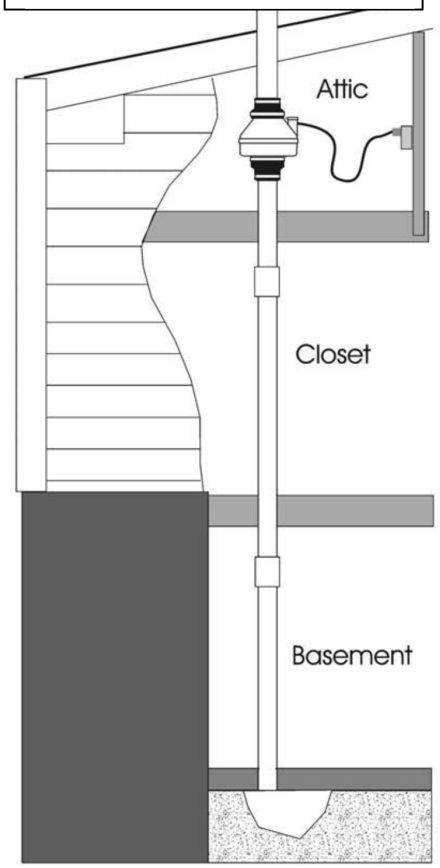
TYPICAL OUTDOOR INSTALLATION



2.1 MOUNTING

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

TYPICAL INDOOR INSTALLATION



2.2 MOUNTING BRACKET (optional)

The RP and XP Pro Series Fans may be optionally secured with the RadonAway P/N 25007 mounting bracket. Foam or rubber grommets may also be used between the bracket and mounting surface for vibration isolation.

2.3 SYSTEM PIPING

Complete piping run, using flexible couplings as a means of disconnect for servicing the unit and for vibration isolation. As the fan is typically outside of the building thermal boundary and is venting to the outside, installation of insulation around the fan is not required.

2.4 ELECTRICAL CONNECTION

Connect wiring with wire nuts provided, observing proper connections (See Section 1.9). Note that the fan is not intended for connection to rigid metal conduit.

2.5 VENT MUFFLER (optional)

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

2.6 OPERATION CHECKS & ANNUAL SYSTEM MAINTENANCE

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

_____ **Ensure** the RP, GP and XP Pro Series Fan and all ducting are **secure and vibration-free**.

_____ **Verify system vacuum pressure** with manometer. **Insure** vacuum pressure is within normal operating range and **less than** the maximum recommended operating pressure.
(Based on sea-level operation, at higher altitudes reduce by about 4% per 1000 feet)
(Further reduce Maximum Operating Pressure by 10% for High Temperature environments.)
See Product Specifications. If this is exceeded, increase the number of suction points.

_____ **Verify Radon levels** by testing to EPA Protocol and applicable testing standards.

THE FOLLOWING CHARTS SHOW THE PERFORMANCE OF THE RP, GP and XP PRO SERIES FANS

RP Pro Series Product Specifications

Typical CFM Vs. Static Pressure "WC									
Model	**0"**	**.25"**	**.5"**	**.75"**	**1.0"**	**1.25"**	**1.5"**	**1.75"**	**2.0"**
RP140	135	103	70	14	-	-	-	-	
RP145	166	146	126	104	82	61	41	21	3
RP260	251	209	157	117	70	26	-	-	-
RP265	375	330	282	238	204	170	140	108	70
RP380	531	490	415	340	268	200	139	84	41

Model	Power Consumption 120VAC, 60Hz, 1.5 Amp Maximum	Maximum Recommended Operation Pressure* (Sea Level Operation)**
RP140	15 - 21 watts	0.7" WC
RP145	41 - 72 watts	1.7" WC
RP260	47-65 watts	1.3" WC
RP265	95 - 139 watts	2.3" WC
RP380	96 - 138 watts	2.0" WC

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

Model	Size	Weight	Inlet/Outlet	L.2
RP140	8.5"H x 9.7" Dia.	5.5 lbs	4.5"OD (4.0" PVC Sched 40 size compatible)	25
RP145	8.5"H x 9.7" Dia.	5.5 lbs	4,5" OD	15
RP260	8.6"H x 11.75" Dia.	5.5 lbs	6.0" OD	48
RP265	8.6"H x 11.75" Dia.	6.5 lbs	6.0" OD	30
RP380	10.53"H x 13.41" Dia.	11.5 lbs	8.0" OD	57

L.2 = Estimated Equivalent Length of Rigid Metal Ducting resulting in .2" WC pressure loss for Duct Size listed. Longer Equivalent Lengths can be accommodated at Flows Lower than that at .2" WC pressure loss (see CFM Vs Static Pressure "WC Table).

XP Pro Series Product Specifications

Typical CFM Vs. Static Pressure "WC						
	0"	**.5"**	**1.0"**	**1.5"**	**1.75"**	**2.0"**
XP151	167	127	77	-	-	-
XP201	126	98	66	26	-	-

Model	Power Consumption 120VAC, 60Hz, 1.5 Amp Maximum	Maximum Recommended Operation Pressure* (Sea Level Operation)**
XP151	53-70 watts	1.4" WC
XP201	38-74 watts	1.6" WC

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

Model	Size	Weight	Inlet/Outlet
XP151	9.5"H x 8.5" Dia.	6 lbs	4.5"OD (4.0" PVC Sched 40 size compatible)
XP201	9.5"H x 8.5" Dia.	6 lbs	4.5" OD

GP Pro Series Product Specifications

Typical CFM Vs. Static Pressure "WC							
	1.0"	1.5"	2.0"	2.5"	3.0"	3.5"	4.0"
GP201	54	42	11	-	-	-	-
GP301	64	54	41	4	-	-	-
GP401	-	61	52	44	22	-	-
GP501	-	-	66	58	50	27	4

Model	Power Consumption 120VAC, 60Hz, 1.5 Amp Maximum	Maximum Recommended Operation Pressure* (Sea Level Operation)**
GP201	31-67 watts	1.8" WC
GP301	56-100 watts	2.3" WC
GP401	62-128 watts	3.0" WC
GP501	68 - 146 watts	3.8" WC

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

Model	Size	Weight	Inlet/Outlet
GP201	13"H x 12.5" Dia.	12 lbs	3.5"OD (3.0" PVC Sched 40 size compatible)
GP301	13"H x 12.5" Dia.	12 lbs	3.5" OD
GP401	13"H x 12.5" Dia.	12 lbs	3.5" OD
GP501	13"H x 12.5" Dia.	12 lbs	3.5" OD

RP, XP and GP Pro Series Additional Specifications

Model	Recommended Duct	PVC Pipe Mounting	Thermal Cutout	Insulation Class
RP140	3" or 4" Schedule 20/40 PVC	Mount on the duct pipe or with optional mounting bracket. For Ventilation: 4", 6" or 8" Rigid or Flexible Ducting.	130°C/266°F	Class B Insulation
RP145			130°C/266°F	Class F Insulation
RP260			150°C/302°F	
RP265			150°C/302°F	
RP380	6" Schedule 20/40 PVC Pipe		150°C/302°F	
XP151	3" or 4" Schedule 20/40 PVC	Fan may be mounted on the duct pipe or with integral flanges.	120°C/248°F	Class B Insulation
XP201				
GP201	3" or 4" Schedule 20/40 PVC	Fan may be mounted on the duct pipe or with integral flanges.	120°C/248°F	Class B Insulation
GP301				
GP401				
GP501				

Continuous Duty
3000 RPM
Thermally Protected
RP, GP Residential and Commercial
XP Residential Only
Rated for Indoor or Outdoor Use

Most Efficient 2019 ENERGY STAR www.energystar.gov
RP140 Only

LISTED Electric Fan

Intertek 77728

Conforms to UL STD. 507
Certified to CAN/CSA STD. C22.2 No.113

IMPORTANT INSTRUCTIONS TO INSTALLER

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

There are no user serviceable parts inside the fan. **Do not attempt to open the housing.** Return unit to factory. (See Warranty below).

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

Provide a copy of this instruction or comparable radon system and testing information to the building occupants after completing system installation.

Warranty

RadonAway® warrants that the RP, GP (excluding GP500) and XP Pro Series Fan (the "Fan") will be free from defects in materials and workmanship for a period of 12 months from the date of purchase or 18 months from the date of manufacture, whichever is sooner (the "Warranty Term").

RadonAway® will replace any fan which fails due to defects in materials or workmanship during the Warranty Term. This Warranty is contingent on installation of the Fan in accordance with the instructions provided. This Warranty does not apply where any repairs or alterations have been made or attempted by others, or if the unit has been abused or misused. Warranty does not cover damage in shipment unless the damage is due to the negligence of RadonAway®.

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

5-YEAR EXTENDED WARRANTY WITH PROFESSIONAL INSTALLATION.

RadonAway® will extend the Warranty Term of the fan to 60 months (5 years) from date of purchase or 66 months from date of manufacture, whichever is sooner, provided that the fan is installed by a professional radon mitigation contractor. Proof of purchase and/or proof of professional installation may be required for service under this warranty. No extended warranty is offered outside the Continental United States and Canada beyond the standard 12 months from the date of purchase or18 months from the date of manufacture, whichever is sooner.

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

LIMITATION OF WARRANTY

EXCEPT AS STATED ABOVE, THE RP, GP (excluding GP500) and XP PRO SERIES FANS ARE PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULARPURPOSE.

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

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

RadonAway® 3 Saber Way
Ward Hill, MA 01835 USA TEL (978) 521-3703
FAX (978) 521-3964
Email to: Returns@RadonAway.com

Record the following information for your records:

Serial Number: _____ Purchase Date: _____

RadonAway®

The world's leading radon fan manufacturer

HS Series Installation & Operating Instructions

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

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

2. **WARNING!** Check voltage at the fan to ensure it corresponds with nameplate. See Vapor Intrusion Application Note #AN001 for important information on VI Applications. RadonAway.com/vapor-intrusion

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

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

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

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

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

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

9. **WARNING!** TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

   a) Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.

   b) Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.

HS2000 p/n 23004-1
HS3000 p/n 23004-2
HS5000 p/n 23004-3
HS2000E p/n 23004-4
HS3000E p/n 23004-5
HS5000E p/n 23004-6

1.0 SYSTEM DESIGN CONSIDERATIONS

1.1 INTRODUCTION

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

1.2 ENVIRONMENTALS

The HS Series Fan is designed to perform year-round in all but the harshest climates without additional concern for temperature or weather. For installations in an area of severe cold weather, please contact RadonAway for assistance. When not in operation, the HS Series Fan should be stored in an area where the temperature is always greater than 32°F or less than 100°F. The HS Series Fan is thermally protected such that it will shut off when the internal temperature is above 194°F +/- 9°F (90°C +/- 5°C). If the HS Series Fan is idle in an area where the ambient temperature exceeds this shut off, it will not restart until the internal temperature falls below 104°F.

1.3 ACOUSTICS

The HS Series Fan, when installed properly, operates with little or no noticeable noise to the building occupants. Recommended system design and installation considerations to minimize noise: When installing the HS Series Fan above sleeping areas, select a location for mounting at the farthest possible distance. Avoid mounting near doors, fold-down stairs or other uninsulated structures which may transmit sound. Ensure a solid mounting for the HS Series Fan to avoid structure-borne vibration or noise.

The velocity of the outgoing air must also be considered in the overall system design. With small diameter piping, the “rushing” sound of the outlet air can be disturbing. The system design should incorporate a means to slow and quiet the outlet air. The use of the RadonAway Exhaust Muffler, p/n 24002, is strongly recommended.

1.4 GROUND WATER

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

In the event that a temporary high water table results in water at or above slab level, water will be drawn into the riser pipes thus blocking air flow to the HS Series Fan. The lack of cooling air will result in the HS Series Fan cycling on and off as the internal temperature rises above the thermal cutoff and falls upon shutoff. Should this condition arise, power down and disconnect the HS Series Fan until the water recedes allowing for return to normal operation; then reconnect and power on to turn the fan back on.

1.5 CONDENSATION & DRAINAGE

WARNING!: Failure to provide adequate drainage for condensation can result in system failure and damage the HS Series Fan.
Condensation is formed in the piping of a mitigation system when the air in the piping is chilled below its dew point. This can occur at points where the system piping goes through unheated space such as an attic, garage or outside. The system design must provide a means for water to drain back to a slab hole to remove the condensation.

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

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

*Typical operational flow rates:

HS2000 12 - 63 CFM
HS3000 19 - 39 CFM
HS5000 16 - 44 CFM

All exhaust piping should be 2” PVC.

1.6 SYSTEM MONITOR & LABEL

A properly designed system should incorporate a “System On” indicator for affirmation of system operation. A Magnehelic pressure gauge is recommended for this purpose. The indicator should be mounted at least 5 feet above the slab penetration to minimize the risk of filling the gauge with water in installations with occasional high water tables. A System Label (P/N 15022) with instructions for contacting the installing contractor for service and also identifying the necessity for regular radon tests to be conducted by the building occupants, must be conspicuously placed where the occupants frequent and can see the label.

1.7 SLAB COVERAGE

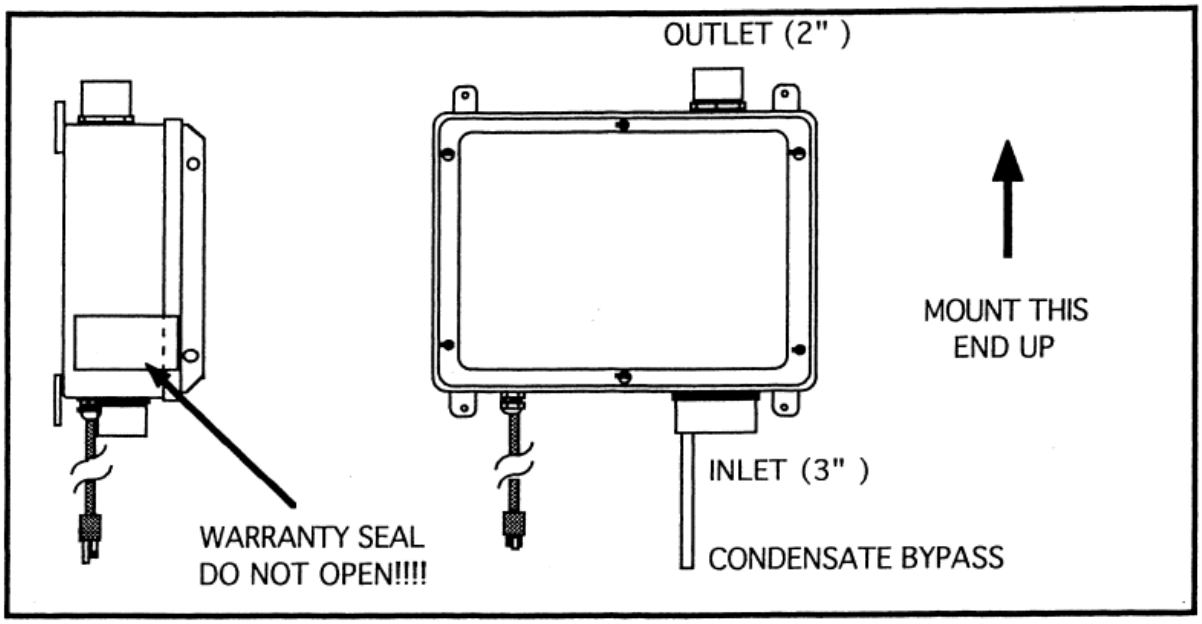
The HS Series Fan can provide coverage of well over 1000 sq. ft. per slab penetration. This will, of course, depend on the sub-slab aggregate in any particular installation and the diagnostic results. In general, sand and gravel are much looser aggregates than dirt and clay. Additional suction points can be added as required. It is recommended that a small pit (5 to 10 gallons in size; larger as needed) be created below the slab at each suction hole. When fine sand or dirt is present it is recommended that the pit be lined with a material such as clean gravel, size 4, 5, 56, or 6 as classified (ASTM C33).

1.8 ELECTRICAL WIRING

For models with a cord, the HS Series Fan plugs into a standard 120V outlet. The switch box models are hardwired. All wiring must be performed in accordance with the National Fire Protection Association’s (NFPA)”National Electrical Code, Standard #70”-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician. Outdoor installations require the use of a UL listed watertight conduit. Ensure that all exterior electrical boxes are outdoor rated and properly caulked to prevent water penetration into the box. A means, such as a weep hole, is recommended to drain the box.

1.9 SPEED CONTROLS

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



2.0 INSTALLATION

2.1 MOUNTING

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

2.2 DUCTING CONNECTIONS

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

NOTE: Do NOT solvent weld fittings to unit hubs.

2.3 VENT MUFFLER INSTALLATION

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

2.4 OPERATION CHECKS & ANNUAL SYSTEM MAINTENANCE

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

_____ **Ensure** the HS Series Fan and all ducting is secure and vibration-free.

_____ **Verify** system vacuum pressure with Magnehelic. **Ensure** vacuum pressure is within normal operating range and **less than** the maximum recommended as shown below:

HS2000 14" WC
HS3000 21" WC
HS5000 35" WC

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

_____ **Verify Radon levels** by testing to EPA Protocol and applicable testing standards.

Product Specifications

Model	Maximum Static Suction	Recommended Maximum Static Suction	Typical CFM vs Static Suction WC (Recommended Operating Range)						Power* Watts @ 115VAC
			0"	10"	15"	20"	25"	35"	
HS2000	16"	14"	62	40	23	-	-	-	153-314
HS3000	24"	21"	39	30	25	19	-	-	120-250
HS5000	41"	35"	43	35	32	28	24	18	349-381
HS2000E	16"	14"	62	40	23	-	-	-	153-314
HS3000E	24"	21"	39	30	25	19	-	-	120-250
HS5000E	41"	35"	43	35	32	28	24	18	349-381

**Power consumption varies with actual load conditions*

Inlet: 3.0" PVC
Outlet: 2.0" PVC
Mounting: Brackets for vertical mount
Weight: Approximately 18 lbs
Size: Approximately 15"W x 13"H x 8"D
Minimum recommended inlet ducting (greater diameter may always be used):
HS3000, HS5000 --- 2.0" PVC Pipe
HS2000 --- Main feeder line of 3.0" or greater PVC Pipe
Branch lines (if 3 or more) may be 2.0" PVC Pipe
Outlet ducting: 2.0" PVC
Storage Temperature Range: 32°F-100°F
Thermal Cutout: 194°F +/- 9°F (90°C +/- 5°C)
Locked rotor protection
Internal condensate bypass

IMPORTANT INSTRUCTIONS TO INSTALLER

Inspect the RadonAway® HS Series Fan for shipping damage within 15 days of receipt. **Notify RadonAway® of any damages immediately.** RadonAway® is not responsible for damages incurred during shipping.

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

Install the HS Series Fan in accordance with all EPA standard practices, and state and local building codes and state regulations.

Provide a copy of this instruction or comparable radon system and testing information to the building occupants after completing system installation.

Warranty

RadonAway® warrants that the HS Series Fan (the "Fan") will be free from defects in materials and workmanship for a period of 90 days from the date of purchase (the "Warranty Term").

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

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

1 YEAR EXTENDED WARRANTY WITH PROFESSIONAL INSTALLATION

RadonAway® will extend the Warranty Term of the fan to twelve (12) months from date of installation or fifteen (15) months from the date of manufacture, whichever is sooner, if the Fan is installed in a professionally designed and professionally installed active soil depressurization system or installed as a replacement fan in a professionally designed and professionally installed active soil depressurization system. Proof of purchase and/or proof of professional installation may be required for service under this warranty. RadonAway® is not responsible for installation, removal or delivery costs associated with this Warranty.

EXCEPT AS STATED ABOVE, THE HS SERIES FAN IS PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

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

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

RadonAway®
3 Saber Way
Ward Hill, MA 01835 USA
TEL (978) 521-3703
FAX (978) 521-3964
Email to: Returns@RadonAway.com

Record the following information for your records:

Serial No. _____

Purchase Date: _____