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Letter of Transmittal

Date: Monday, July 19, 2004

To:

- Ian Ushe, NY State Dept of Health – E-mail: ziu01@health.state.ny.us
- Joe DeFranco, NCDH – E-mail: eemsjdf@health.co.nassau.ny.us

From: Kristin E. Scroope

CC:

- A. Joseph White, NYSDEC – E-mail: ajwhite@gw.dec.state.ny.us

Delivery Type: E-mail

Project Number: IEC # 04-455.1, Voluntary Cleanup Program Site Code # 347-1

Site Address: Melody Cleaners Site, 2050 Hempstead Turnpike, East Meadow, NY

Message:

At the request of Joe White of the NYSDEC, in an effort to prevent the approved work schedule from being delayed, the enclosed Draft Interim Remedial Measures Soil Vapor Extraction Work Plan is being forwarded directly to you for your review. This work plan was prepared excluding the NYSDEC DAR-1 software output due to problems encountered in downloading and installing the DAR-1 software for use. We now have the DAR-1 software installed, and we anticipate that the DAR-1 software output will be forwarded as an addendum to this work plan by Friday, July 23, 2004. Please forward any comments you have on the enclosed work plan directly to Joe White.

DRAFT

INTERIM REMEDIAL MEASURES
SOIL VAPOR EXTRACTION
WORK PLAN

Proposed for:

Melody Cleaners Site
2050 Hempstead Turnpike
East Meadow, New York
Voluntary Cleanup Program Site Code #347-1

Prepared for:

The New York State Department of Environmental Conservation

July 2004

IMPACT ENVIRONMENTAL

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Richard S. Parrish	Kristin E. Scroope	Hal Benjamin
Project Manager	*Remedial Engineering Supervisor*	*Remedial System Specialist*

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1. INTRODUCTION

This Draft Interim Remedial Measures (IRM) Work Plan proposes tasks to mitigate point pollution sources that have been identified at the property located at 2045 Front Street, Hempstead Turnpike, East Meadow, New York, herein identified as the Site. The Site is situated on the real property tax map designation Section 50; Block C; Lot 22, which is part of the Melody Cleaners VCP Site. The NYSDEC designated Volunteer is Lowden Family Trust d/b/a Lowden Properties. Activities occurring on the Site have caused the release of hazardous waste to the environment. Soil and soil gas contamination was detected at various locations on the Site, inclusive of two areas of identified point pollution sources for which source removal activities have been proposed and approved by the NYSDEC: three cesspools associated with Melody Cleaners (source removal activities completed in November 2000) and seven abandoned cesspools associated with the Laundromat (source removal activities to be completed in July 2004).

The purpose of the proposed activities presented herein, is to prevent the further contamination of on and off-site soil and soil-gas from the identified point pollution sources. The IRM only addresses soil vapor and residual source removal and is not intended as the entire remedy for the Site contamination. This document is divided into the following sections:

- **Introduction**
- **Site Description**
- **Results of Supplemental Remedial Investigation**
- **Proposed Interim Remedial Measures**

Presented herein is the proposed IRM Work Plan to be implemented by Impact Environmental Consulting, Inc. on behalf of the Volunteer for the remediation of the Melody Cleaners VCP Site. Refer to Appendix A: Performance Schedule, *East Meadow, New York* for a schedule of proposed activities, as approved by the NYSDEC.

2. SITE DESCRIPTION

The site is located within a 74,702 square foot commercial shopping center situated at the southwestern intersection of Hempstead Turnpike and Front Street (see **Figure 1:** Site Location Map). The shopping center contains five single-story buildings that are utilized by separate tenants including a donut shop, a laundromat, a dry cleaner, car wash and a vacant television repair shop. The surface area of the site consists of asphalt parking areas and concrete walkways. The site exhibits low topographic relief (one to three percent slopes). The elevation of the site, as presented on the United States Geologic Survey (USGS), Freeport Quadrangle Map, approximates eighty-five (85) feet above mean sea level.

3. RESULTS OF SUPPLEMENTAL INVESTIGATION

This section presents data obtained from the Supplemental Investigation Plan implemented by Impact Environmental in June 2003 for the purposes of the IRM. The balance of data collected under the scope of said plan was presented in a Supplemental Investigation Report dated February 2004.

3.1 Geophysical Survey

A geophysical survey was performed over target portions of the planimetric surface of the Site utilizing a GSSI model SIR-2 ground penetrating radar system equipped with a 400MHz antenna. The survey was performed to confirm the location of abandoned underground injection wells associated with the former wastewater disposal systems historically operated by the car wash and the laundromat on the Site. Target locations were based upon site plans on file with the Town of Hempstead Building Department. An analysis of the data obtained from the survey identified the presence of several anomalies interpreted to represent cesspools (underground injection wells) at the laundromat and car wash properties. Seven abandoned cesspools were suspected to be present at the laundromat building, and four cesspools were suspected to be present at the car wash building. The location and layout of said cesspools was consistent with the historic site plans. In accordance with the Supplemental RI/FS work plan, these locations were sampled (see Section 3.2). The results of the survey are presented in **Figure 2:** Sample Acquisition Plan, *East Meadow, New York.*

3.2 Investigation of Former Wastewater Disposal Systems

One subsurface sediment sample was secured at the location of each abandoned cesspool confirmed at the laundromat and the car wash, as identified from the geophysical survey. These activities revealed that the former cesspools associated with the laundromat were not previously backfilled and therefore not properly abandoned, and that the four cesspools associated with the car wash had been previously backfilled. One sediment sample was secured from each location for laboratory analysis. The samples were preserved in the field with methanol in accordance with USEPA Test Method 5035 and subjected to ELAP certified laboratory analysis consisting of USEPA Test Method 8260 for total volatile organic analytes.

The results of the Supplemental Remedial Investigation confirmed that seven abandoned cesspools associated with the laundromat building and one abandoned cesspool associated with the car wash building have been contaminated by organic solvents at concentrations exceeding NYSDEC TAGM # 4046

Recommended Soil Cleanup Objectives. The concentrations detected in the cesspool associated with the car wash marginally exceeded said cleanup objectives, and the detected contamination in the cesspool associated with the car wash will therefore be addressed through the long-term remediation of the Site.

3.3 Soil Quality Results

Seven subsurface soil samples were selected from sampling probes SP-3, SP-4, SP-5 and SP-6 acquired from beneath and immediately outside the dry cleaning building for ELAP certified laboratory analysis by USEPA Test Method 8260 for total volatile organic analytes. The laboratory analysis results for these samples are presented in **Table 1:** Analytical Summary Table-VOC Soil Analysis Results. Based on the results of the laboratory analysis, two samples identified as SP-4 (2') and SP-5 (2') exhibited concentrations of tetrachloroethene at concentrations ranging from 9,000 parts per billion (ppb) to 46,000 ppb. The detected concentrations from said samples exceeded the applicable standards, criteria and guidance's (SCGs) for soil quality under NYSDEC, Technical and Administrative Guidance Memorandum (TAGM) #4046, Determination of Soil Cleanup Objectives. The balance of samples failed to exhibit any target volatile organic analytes above minimum detection limits. No background concentrations were detected in the sample trip or field blanks.

Eleven subsurface soil samples were selected from sampling probes UIW-4 through UIW-14 acquired from within the confines of each abandoned underground injection well confirmed at the laundromat and at the inferred base (invert) of each structure confirmed at the car wash for ELAP certified laboratory analysis by USEPA Test Method 8260 for total volatile organic analytes. The laboratory analysis results for these samples are presented in **Table 2:** Analytical Summary Table-VOC Sediment Analysis Results. Based on the results of the laboratory analysis, eight samples identified as UIW-4 (15'), UIW-5 (15'), UIW-6 (16.5'), UIW-7 (18'), UIW-8 (15'), UIW-9 (15'), UIW-10 (16') and UIW-11 (10') exhibited concentrations of several volatile organic analytes. The analytes detected above minimum detection limits included cis-1,2-dichloroethene, trichloroethene, toluene, tetrachlororethene, 1,2-dichlorobenzene, 1,3- dichlorobenzene, 1,4- dichlorobenzene, 1,2,4-trichlorobenzene, and 1,2,3-trichlorobenzene at concentrations ranging from 3,300 ppb to 110, 000. The detected concentrations from said samples exceeded the applicable standards, criteria and guidance's (SCGs) for soil quality under NYSDEC, Technical and Administrative Guidance Memorandum (TAGM) #4046, Determination of Soil Cleanup Objectives. The balance of samples failed to exhibit any target volatile organic analytes above minimum detection limits. No background concentrations were detected in the sample trip or field blanks. The ELAP certified laboratory analysis reports for soil samples can be referenced in **Appendix B.**

The contamination identified within these injection wells at the Site represents a source of contamination to soil gas and groundwater underlying the Site. Sampling of each of these injection wells indicated that a sludge layer was present at thicknesses ranging from six to fourteen inches. Removal of the source media contained within said injection wells has been proposed to the NYSDEC as an IRM under a separate work plan, dated November 2003. This proposed work is intended to permanently remove the sludge contained within each structure.

Any additional residual contamination beneath the sludge within each injection well as well as the detected concentration of tetrachloroethene within UIW-11 shall be addressed through remediation of the Site using soil vapor extraction, as proposed in **Section 4** of this report.

3.4 Soil-Gas Results

Thirty-six soil-gas samples were selected from soil-gas probes SG-6 through SG-23 acquired from on and off-Site for ELAP certified laboratory analysis by NIOSH Test Method TO-14 for tetrachloroethene and associated breakdown products: trichloroethene (TCE), cis-1,2-dichloroethene (1,2-DCE) and vinyl chloride (VC) by GC/MS. The soil-gas sampling locations can be referenced with **Figure 2** and **Figure 3**. The laboratory analysis results for these samples are presented in **Table 3:** Analytical Summary Table - VOC Soil-Gas Analysis Results. Based on the results of the laboratory analysis, twenty-eight samples identified as SG-6 through SG-19 secured on-Site at depths of five and ten feet below existing grade exhibited concentrations of tetrachloroethene, trichloroethene or cis-1,2-dichloroethene ranging to 284, 4 and 1 parts per million per volume (ppmv), respectively. One sample identified as SG-23 secured immediately off-Site at a depth of five feet below existing grade exhibited concentrations of tetrachloroethene, trichloroethene or cis-1,2-dichloroethene at concentrations 1, 0.2 and 0.04 ppmv, respectively. No concentrations of vinyl chloride were detected within any soil-gas samples. The detected concentration of tetrachloroethene from said sample exceeded the NYSDOH for indoor air quality (100 $\mu g/m^3$). This guidance value was proposed as the threshold level to evaluate the need to conduct indoor air testing at additional locations. The soil-gas sampling probe SG-23 location is adjacent to 2088 6th Street and 2036 Front Street. The dwelling located at 2088 6th Street is included in the current indoor air monitoring program and the dwelling located at 2036 Front Street is reportedly vacant according to the NYSDOH.

The balance of samples failed to exhibit any target volatile organic analytes above minimum detection limits. Minimal background concentrations of trichloroethene were detected in one field blank sample identified as field blank-6/23/03 secured prior to on-Site sampling. This detection is not expected to have

significantly affected the quality of the data for evaluation purposes. No background concentrations were detected in the sample identified as field blank-8/20/03 secured prior to off-Site sampling. The ELAP certified laboratory analysis reports for soil-gas samples can be referenced in **Appendix B.**

Based on a comprehensive quantitative analysis of the data collected from the on and off-Site soil gas samples, the highest concentrations of soil gas contamination in the vadose zone are present in the vicinity of the former sanitary system associated with the dry cleaning building. IRM of the source media from this former system was completed in November 2000. The horizontal extent of the soil gas contamination appears to be spread across the majority of the Site and extend off-Site to the west and south. The extent of the soil gas contamination toward the south (toward the residential dwellings) does not appear to extend significantly beyond Front Street as evinced by the results from soil gas probe SG-23. The additional soil gas samples secured from off-Site failed to exhibit any concentrations of target analytes. The multi-depth soil gas samples secured at the McVey Elementary School failed to exhibit any concentrations of target analytes. Based on this data, it appears that the depth and migration of soil gas contamination correlates to the depth of confirmed contamination sources at the Site. Therefore, it is concluded that the soil gas contamination is the result of vapor phase migration in the vadose zone from source areas at the Site and not the result of contributions from the underlying groundwater contaminant plume. As a result, it is not expected for the McVey Elementary School or any other dwellings/buildings outside the horizontal extent of the soil gas contamination to have a significant risk of exposure to indoor air quality. No additional dwellings or buildings are proposed for indoor air monitoring at this time. The source of soil gas contamination will be addressed through remediation of the Site using soil vapor extraction, as proposed in **Section 4** of this report.

4. PROPOSED INTERIM REMEDIAL MEASURES

4.1 In-Situ Remediation

Soil Vapor Extraction (SVE) is the remedial technique proposed for this IRM to address the residual soil contamination remaining subsequent to source removal activities conducted for the three cesspools associated with Melody Cleaners in November 2000 and to address residual soil contamination remaining subsequent to source removal activities proposed for the seven abandoned cesspools associated with the laundromat as per the approved IRM Work plan dated November 2003. Additionally, the SVE will be utilized to address soil gas contamination detected at the Site. Soil vapor extraction is an in-situ remedial technology in which concentrations of volatile organic compounds adsorbed to soil in the unsaturated (vadose) zone are reduced. Two SVE methods are proposed for the Site: passive venting and active SVE.

For passive venting, wells are drilled into the vadose zone, and left open to atmospheric influences by installing vented caps inside flush mounted manholes at grade. As wind, temperature, and barometric pressure changes occur at the vented wellhead, pressure differences between the subsurface and the atmosphere cause either vapors to be forced from the ground to the atmosphere or fresh air to infiltrate into the ground. This method has been shown to be an effective, but relatively slow method of remediation. This method will be utilized on site for the period of time between the drilling of the wells, and final connection and startup of the full system as described below.

With active SVE, a vacuum is applied to the contaminated soil through extraction wells that create a negative pressure gradient, which causes movement of vapors toward these wells. Volatile compounds in the vapor phase are readily removed from the subsurface through the extraction wells. The extracted vapors are then treated, as necessary, and discharged to the atmosphere. The increased airflow through the subsurface can also stimulate biodegradation of some of the contaminants.

4.2 Remedial System Design

4.2.1 Pilot Study

Pilot testing is utilized to evaluate SVE effectiveness and design parameters for the proper design of a full-scale SVE system. Data provided by the pilot test defines the design Radius of Influence (ROI), or the greatest distance from an extraction well at which a sufficient vacuum and vapor flow can be induced to adequately enhance volatilization and extraction of the contaminants in the soil. Extraction wells should be

sited so that the radius of influence for each extraction well overlaps the next in order to completely cover the defined area of contamination.

A pilot test was conducted on June 26, 2003. The pilot test procedures were performed in accordance with a previously submitted work plan. The pilot test consisted of the installation of three 1-inch vapor monitoring points (VP-1 through VP-3) and approximately 4 hours of soil vapor extraction using a 3 HP EG&G Rotron DR523K58 regenerative blower. During the pilot test, the blower produced with a maximum flow rate of 105 CFM and a maximum vacuum rating of 10 inches of water applied to a 2 inch monitoring well (MW-3). Vacuum influence data (ROI) was collected at VP1, VP-2, VP-3, MW-1, and MW-2.

The soil vapors extracted during the pilot test were treated using carbon filtration to mitigate release of contaminants to the atmosphere, and to assess the requisite carbon treatment for the SVE design. The air effluent was sampled at the start-up and shutdown of the pilot study before carbon treatment and after carbon treatment. The samples were collected in the field into a tedlar bag for ELAP certified laboratory analysis. In addition, a photo ionization detector was utilized to screen air effluent before carbon treatment and after carbon treatment in thirty-minute intervals (between start-up and shutdown) during the run time of the pilot study.

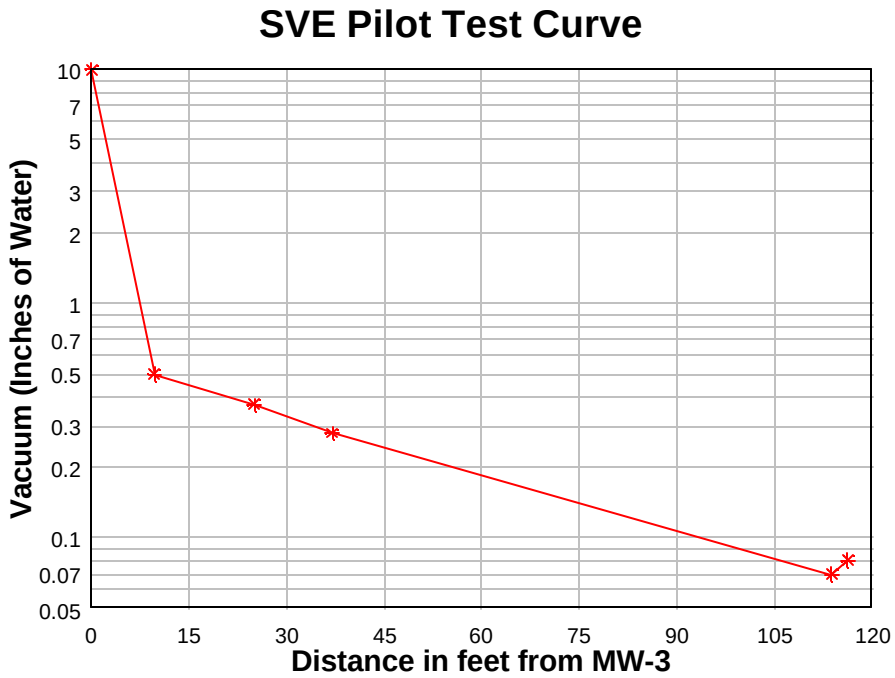
Results of the field screening ranged from 446 to 2,000 ppm for effluent air from the blower (with no dilution air from the blower), and was non-detect (0.0) for effluent air from the primary and secondary carbon units at each sampling interval. The data generated from the SVE pilot test is presented in **Table 4:** SVE Pilot Test Data. The average change versus the distance to the respective test point (ROI) is presented in **Figure 5:** SVE Pilot Test Curve– Distance vs. Vacuum.

Table 4: SVE Pilot Test Data
East Meadow, New York

Time	6/23/2003	Vacuum Readings Inches of $H^2 0$				
		VP-1	VP-2	VP-3	MW-1	MW-2
Distance to MW-3		9.8 ft	25.2 ft	37.1 ft	116.2 ft	113.7 ft
30		0.52	0.38	0.28	NA	NA
60		0.49	0.36	0.28	0.08	0.05
90		0.49	0.38	0.27	NA	NA
120		0.49	0.36	0.26	NA	NA
150		0.51	0.38	0.3	NA	NA
180		0.5	0.36	0.26	0.08	0.07
210		0.51	0.36	0.3	NA	NA
240		0.5	0.38	0.28	NA	NA

Vacuum @ SVE Blower - 10 inches of H^2O
Flow Rate - 105 CFM

Figure 5: SVE Pilot Test Curve
East Meadow, New York



Based on the results of the pilot test, it was concluded that soil vapor extraction technology is a sufficient remedial alternative to mitigate residual soil and soil gas contamination at the Site. It was recommended that a soil vapor extraction system be designed and implemented to mitigate on-site sources of contamination.

4.2.2 SVE System Design

Based on the pilot test data compiled, it was concluded that the application of 10 inches of water vacuum yielded a flow rate of approximately 105 CFM for the site specific soil conditions would yield an approximate ninety-foot radius of influence utilizing a cut off point of 0.1 inches of water.

For purposes of the proposed SVE well location design, a design radius of influence of 80 feet was used to be conservative, and to minimize the effects of vacuum depletion if a sparge system is implemented on the site in the future. A design wellhead vacuum of 10 to 12 inches of water, and a flow of approximately 100-115 CFM per well is to be expected with the well placement, friction losses, carbon adsorber pressure drop, and system equipment installed as described in the following sections.

4.2.2.1 SVE System Components

A Rotron Model EN909BD72WL Environmental Sealed Regenerative Blower with an explosion proof 10-horse power motor has been selected for this system. This blower is capable of providing a flow of approximately 450 SCFM at a vacuum of 50 inches of water. Blower specifications are presented in **Exhibit 1:** Blower Specifications.

Airflow from the wells will be connected to a manifold in the system housing. Said manifold will include provisions to control and monitor individual flows, vacuums, and vapor concentrations from each dual level well trunk line. Airflow will then be piped to a moisture separator and inline filter prior to entering the SVE blower. Manual dilution and vacuum relief valves will be installed on the influent line of the blower.

4.2.2.2 Vapor Extraction Wells

Installation of four dual level soil vapor extraction wells are proposed on the subject property (See **Figure 4:** SVE System Layout). Dual level wells consisting of two separate well screens per location allow for better flow control and enable enhanced vacuum focus throughout the vadose zone.

Each location will consist of two (2) two-inch diameter wells installed in the same 8.25" borehole. One shallow well will be screened from two to twenty feet below grade. A second deeper well will be screened from twenty-two to approximately forty two feet below grade, to serve as a groundwater monitoring well in addition to being a vapor extraction well. Number two well gravel will serve as a filter pack surrounding each screen. The balance of each well, from the top of the screen to just below land surface, will consist of two-inch diameter riser. All well materials will be SCH-40 PVC, and screen slot size will be 0.020. A bentonite clay seal will be installed between the screened sections of each well to segregate the zones. The dual level wells will be finished at grade in a two (2) foot square manhole. A manifold in each manhole will connect both well levels to horizontal piping extending back to the system housing. The manifold will have provisions to control and monitor individual flows, vacuums, and vapor concentrations from each depth.

4.2.2.3 Piping

Each of the dual level well manifolds will be connected to main system manifold via three (3) inch diameter SCH-40 PVC piping. Said piping will be installed at minimum depth of two (2) feet below grade in a trench extending back to the system housing. Native fill will be used where possible to backfill said trench. If native soil is deemed unusable due to rock, debris, or excessive contamination, clean fill will be used. Pavement removed for trenching will be replaced in kind to match existing grade.

4.2.2.4 System Housing

SVE system components will be housed in a wood frame shed, approximately 10 wide and 12 feet long. An exhaust fan and louvers will be installed for equipment cooling. Carbon vessels will be situated just outside of the shed to facilitate carbon changing. An eight (8) foot lockable chain link fence will surround the shed and carbon vessels.

4.2.2.5 System Electrical and Controls

A dedicated 200 amp, 3 phase power service will be installed by a licensed electrician. A Steel NEMA 4, UL Listed, locking dead front control panel will be mounted on the outside of the system housing. Said panel will house the following SVES controls; IEC starters, circuit breakers, surge arrestor, HOA switches, electronic 24hour/7day timer for SVE blower, elapsed time meter, and intrinsically safe high moisture separator level shutdown control. Provisions for a future sparge system will be included.

4.3 Air Pollution Control / Effluent Air Treatment

Blower discharge will exit the system housing and proceed to two (2) Envirotrol model VPM-2000 vapor phase granular activated carbon (GAC) vessels. Each GAC vessel is rated for a maximum flow rate of 800 CFM, and will be filled with 2,000 lbs of 4 X 10 mesh, reactivated carbon. Said GAC vessels will be connected in series utilizing six (6) inch heat rated flexible hose fitted with cam and groove hose couplings. The use of hoses and cam and groove couplings will facilitate the change of lead-lag positions of the GAC vessels. Sampling ports will be installed: before carbon, between vessels, and after carbon treatment. A six (6) inch PVC effluent stack will extend to an elevation of 20 feet above grade (See **Exhibit 2:** Granular Activated Carbon).

Carbon changes will be performed by Envirotrol, Inc. at a frequency to be determined based on operational data / monitoring for the active system, as described in **Section 4.4** of this report. Oversight and air monitoring is to be performed by Impact Environmental personnel. The SVE system will be shut down and secured during each carbon change procedure. Each adsorber has an 18-inch diameter steel access cover on top through which spent carbon is removed & reactivated carbon is placed. Spent carbon will be removed from site at the time of change out and returned to one of Envirotrol's Pennsylvania facilities for reactivation.

4.4 Remedial System Startup & Monitoring

The SVE system will initially be started with ambient dilution air only. All process & electrical equipment will be tested for proper operating parameters including; rotation, amps, volts, process flow, and line integrity.

Flow will then be initiated from both levels of each of the four (4) SVE wells. Influent parameters including total and individual: vacuums, flows, and vapor concentrations will be monitored hourly. SVE system effluent concentrations will be monitored hourly with a Photo Ionization Detector (PID) before treatment, between carbon units, and after second carbon unit (stack effluent). Vacuum influence readings will then be taken at all on site monitoring wells to verify design vacuum influence.

Once all parameters have stabilized, the system flows will be adjusted to maximize recovery with emphasis on reduction of vapor concentrations in area basements.

At the end of the first day of the startup, stack effluent and pre-treatment samples will be collected utilizing summa canisters and sent to an ELAP certified laboratory and analyzed for tetrachloroethene and associated breakdown products: trichloroethene (TCE), cis-1,2-dichloroethene (1,2-DCE) and vinyl chloride (VC) by GC/MS by USEPA Test Method TO-14. The same procedure will apply if PID readings indicate contaminant breakthrough. In the case of contaminant breakthrough, stack effluent and pre-treatment samples will be collected and the system will be shut down and secured until laboratory analytical is received and a remedy has be found to avert excessive discharge of contaminants to the atmosphere.

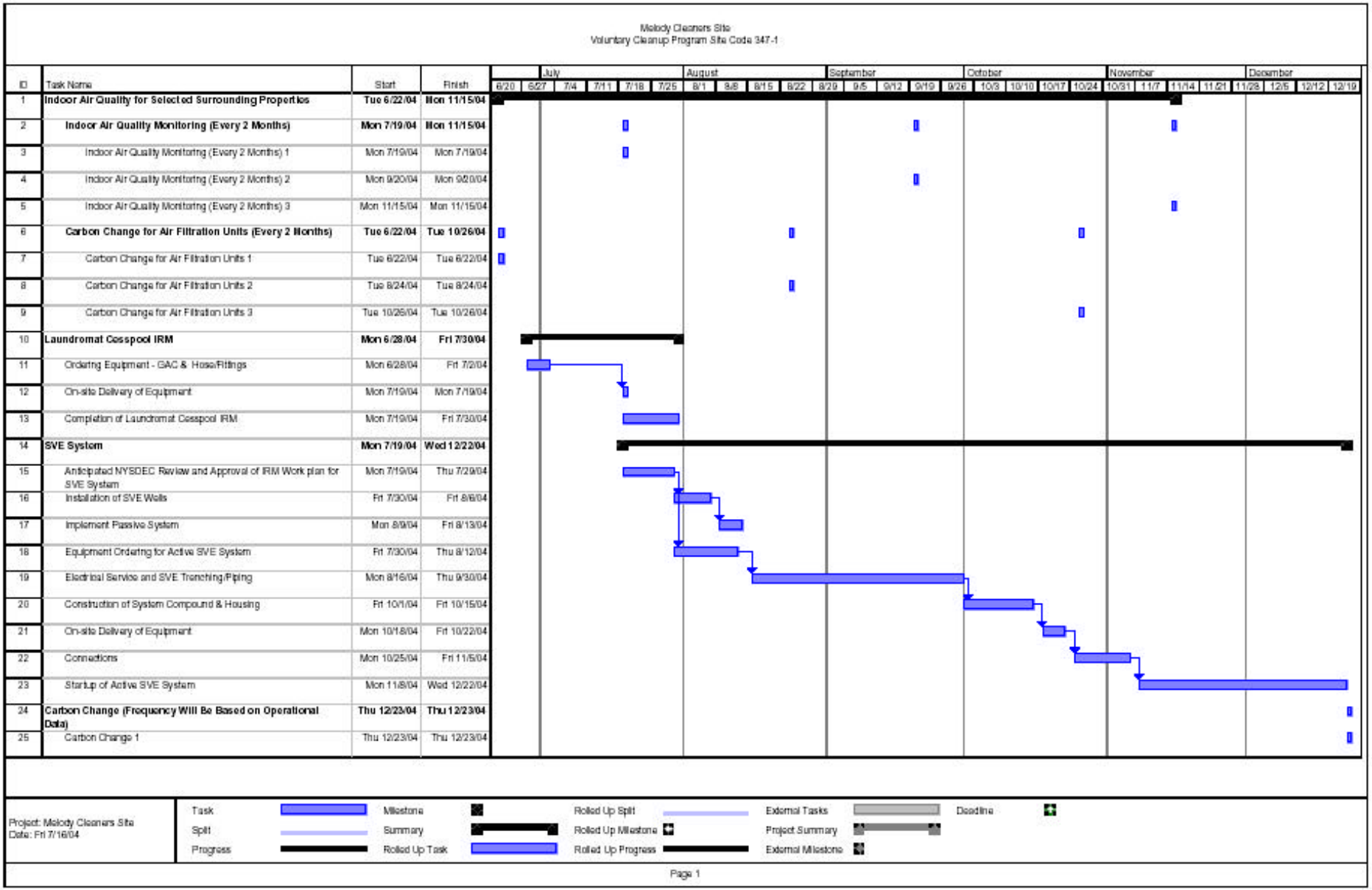
SVE parameters indicated above will be monitored daily for the first week of operation. If contaminant breakthrough is evident after the first carbon unit at the end of the first week, daily checks will continue until carbon has been changed. If no breakthrough is observed at the end of the first week, weekly checks will be performed until carbon effectiveness and duration of efficacy has been established.

Once the carbon change frequency has been established through the aforementioned monitoring procedures, system checks will be performed every two weeks, or as necessary to assure no discharge limits are exceeded. A stack effluent sample will be collected monthly utilizing a summa canister and sent to an ELAP certified lab and analyzed for tetrachloroethene and associated breakdown products: trichloroethene (TCE), cis-1,2-dichloroethene (1,2-DCE) and vinyl chloride (VC) by GC/MS by USEPA Test Method TO-14.

Quarterly monitoring reports will be submitted to the NYSDEC. Monitoring reports will include; monthly sampling data, carbon change dates, estimated totals of vapor removed, and operational data logged during each site event.

APPENDICES

Appendix A: Performance Schedule
East Meadow, New York



ID	Task Name	Start	Finish
1	**Indoor Air Quality for Selected Surrounding Properties**	**Tue 6/22/04**	**Mon 11/15/04**
2	**Indoor Air Quality Monitoring (Every 2 Months)**	**Mon 7/19/04**	**Mon 11/15/04**
3	Indoor Air Quality Monitoring (Every 2 Months) 1	Mon 7/19/04	Mon 7/19/04
4	Indoor Air Quality Monitoring (Every 2 Months) 2	Mon 9/20/04	Mon 9/20/04
5	Indoor Air Quality Monitoring (Every 2 Months) 3	Mon 11/15/04	Mon 11/15/04
6	**Carbon Change for Air Filtration Units (Every 2 Months)**	**Tue 6/22/04**	**Tue 10/26/04**
7	Carbon Change for Air Filtration Units 1	Tue 6/22/04	Tue 6/22/04
8	Carbon Change for Air Filtration Units 2	Tue 8/24/04	Tue 8/24/04
9	Carbon Change for Air Filtration Units 3	Tue 10/26/04	Tue 10/26/04
10	**Laundromat Cesspool IRM**	**Mon 6/28/04**	**Fri 7/30/04**
11	Ordering Equipment - GAC & Hose/Fittings	Mon 6/28/04	Fri 7/2/04
12	On-site Delivery of Equipment	Mon 7/19/04	Mon 7/19/04
13	Completion of Laundromat Cesspool IRM	Mon 7/19/04	Fri 7/30/04
14	**SVE System**	**Mon 7/19/04**	**Wed 12/22/04**
15	Anticipated NYSDEC Review and Approval of IRM Work plan for SVE System	Mon 7/19/04	Thu 7/29/04
16	Installation of SVE Wells	Fri 7/30/04	Fri 8/6/04
17	Implement Passive System	Mon 8/9/04	Fri 8/13/04
18	Equipment Ordering for Active SVE System	Fri 7/30/04	Thu 8/12/04
19	Electrical Service and SVE Trenching/Piping	Mon 8/16/04	Thu 9/30/04
20	Construction of System Compound & Housing	Fri 10/1/04	Fri 10/15/04
21	On-site Delivery of Equipment	Mon 10/18/04	Fri 10/22/04
22	Connections	Mon 10/25/04	Fri 11/5/04
23	Startup of Active SVE System	Mon 11/8/04	Wed 12/22/04
24	**Carbon Change (Frequency Will Be Based on Operational Data)**	**Thu 12/23/04**	**Thu 12/23/04**
25	Carbon Change 1	Thu 12/23/04	Thu 12/23/04

Appendix B: Laboratory Analysis
East Meadow, New York

(AVAILABLE UPON REQUEST)

TABLES

Table 1: Analytical Summary Table-VOC Soil Analysis Results
East Meadow, New York

Sample ID	**347-SP-3 (12')**	**347-SP-4 (2')**	**347-SP-4 (14')**	**347-SP-5 (2')**	**347-SP-5 (12')**	**347-SP-6 (4')**	**347-SP-6 (8')**
Units	*mg/Kg*	*mg/Kg*	*mg/Kg*	*mg/Kg*	*mg/Kg*	*mg/Kg*	
Volatile Organic Analytes:							
Trichloroethene	U	240J	U	U	U	U	U
Tetrachloroethene	U	**46,000**	U	**9,000**	U	110J	U

Table 2: Analytical Summary Table-VOC Sediment Analysis Results
East Meadow, New York

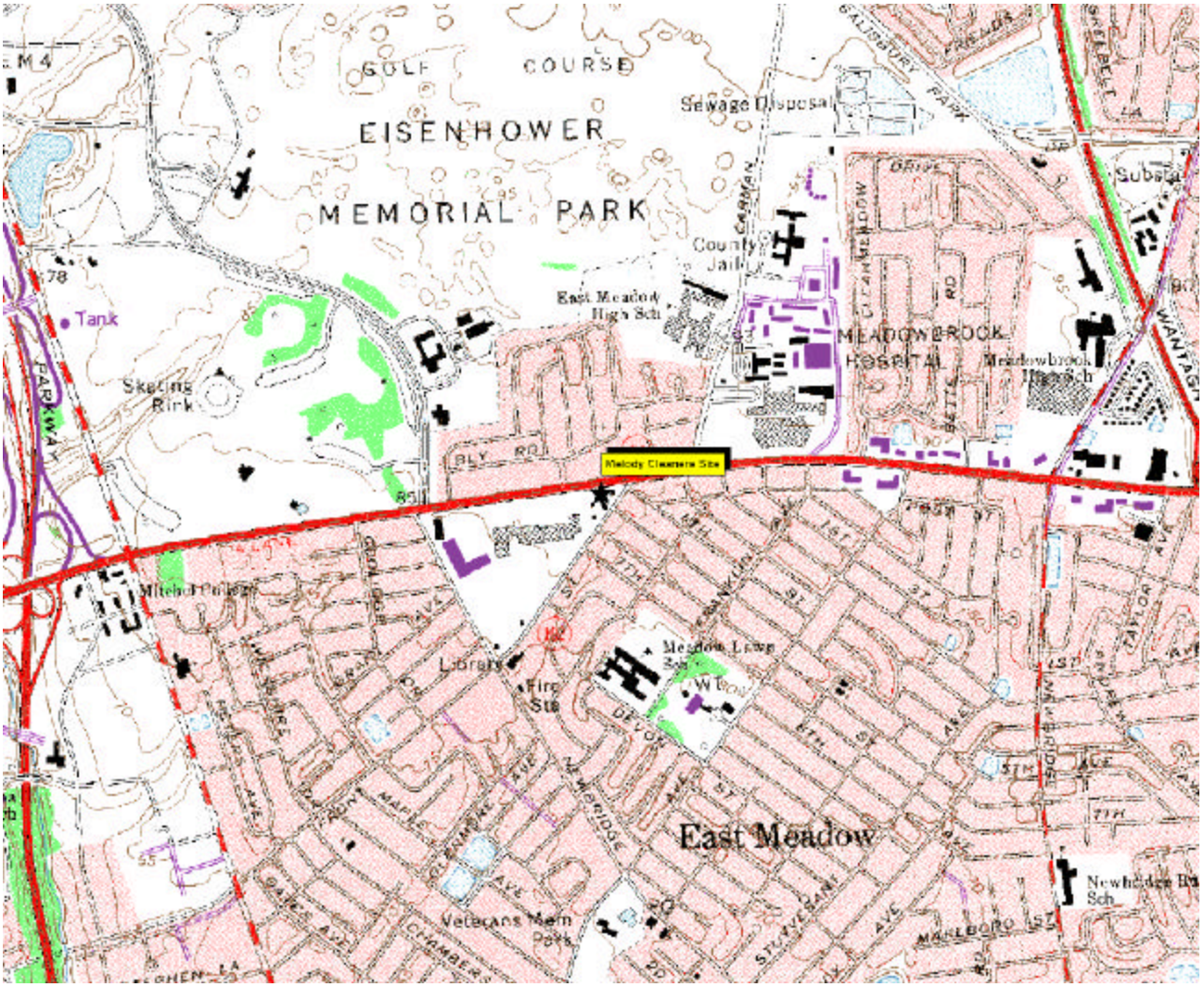
Sample ID	**347-UIW-4 (15')**	**347-UIW-5 (15')**	**347-UIW-6 (16.5')**	**347-UIW-7 (18')**	**347-UIW-8 (15')**	**347-UIW-9 (15')**	**347-UIW-10 (16')**	**347-UIW-11 (10')**
Units	*mg/Kg*	*mg/Kg*	*mg/Kg*	*mg/Kg*	*mg/Kg*	*mg/Kg*	*mg/Kg*	*mg/Kg*
Volatile Organic Analytes:								
Carbon Disulfide	U	U	**3100J**	U	**5000J**	U	U	U
cis-1,2-Dichloroethene	38,000	23,000	30,000	6200J	63,000	10,000	72,000	U
Trichloroethene	**1000J**	**12,000**	**8200J**	**10,000**	**12,000**	**3800J**	U	U
Toluene	U	U	**2500J**	U	**9,000**	U	U	U
Tetrachloroethene	**5000J**	**110,000**	**7,200**	**77,000**	**50,000**	**16,000**	U	**3,300**
1,3,5-Trimethylbenzene	U	U	U	U	**2100J**	U	**6600J**	U
tert-Butylbenzene	U	U	U	U	U	U	U	U
1,2,4-Trimethylbenzene	2900J	4100J	4400J	U	5300J	U	3500J	U
1,2-Dichlorobenzene	3300J	3700J	3100J	U	U	U	**95,000**	U
1,3-Dichlorobenzene	U	U	U	U	U	U	**23,000**	U
1,4-Dichlorobenzene	3300J	3500J	U	2800J	2800J	U	**37,000**	U
1,2,4-Trichlorobenzene	U	U	U	U	U	U	43,000	U
Naphthalene	6000J	9000J	3700J	U	6100J	U	4500J	U
1,2,3-Trichlorobenzene	U	U	U	U	U	U	14,000	U

Table 3: Analytical Summary Table-VOC Soil-Gas Analysis Results
East Meadow, New York

Volatile Organic Analyte	PCE	TCE	cis-1,2-DCE	VC
Units	*ppmv*	*ppmv*	*ppmv*	*ppmv*
Sample ID				
347-Field Blank 6/23/03	U	0.044	U	U
347-SG-6 (5')	1.104	2.819	0.098	U
347-SG-6 (10')	17.893	2.196	0.122	U
347-SG-7 (5')	23.759	0.931	0.179	U
347-SG-7 (10')	75.469	4.160	1.078	U
347-SG-8 (5')	77.273	2.024	0.273	U
347-SG-8 (10')	100.130	2.149	0.877	U
347-SG-9 (5')	69.591	0.688	0.028	U
347-SG-9 (10')	67.027	0.655	0.050	U
347-SG-10 (5')	84.064	3.743	0.181	U
347-SG-10 (10')	63.069	3.330	0.270	U
347-SG-11 (5')	35.804	0.217	U	U
347-SG-11 (10')	42.823	0.169	U	U
347-SG-12 (5')	108.421	1.178	0.136	U
347-SG-12 (10')	32.073	0.552	0.160	U
347-SG-13 (5')	56.148	2.269	U	U
347-SG-13 (10')	44.158	0.256	U	U
347-SG-14 (5')	30.895	0.058	U	U
347-SG-14 (10')	18.150	0.041	U	U
347-SG-15 (5')	12.494	0.055	U	U
347-SG-15 (10')	32.029	0.094	U	U
347-SG-16 (5')	5.425	0.025	U	U
347-SG-16 (10')	7.281	0.037	U	U
347-SG-17 (5')	99.849	1.993	0.662	U
347-SG-17 (10')	138.620	1.663	0.574	U
347-SG-18 (5')	284.407	3.882	0.279	U
347-SG-18 (10')	33.443	1.857	0.194	U
347-SG-19 (5')	27.307	0.621	U	U
347-SG-19 (10')	33.354	0.380	U	U
347-Field Blank 8/20/03	U	U	U	U
347-SG-20 (5')	U	U	U	U
347-SG-20 (10')	U	U	U	U
347-SG-21 (5')	U	U	U	U
347-SG-21 (10')	U	U	U	U
347-SG-22 (5')	U	U	U	U
347-SG-22 (10')	U	U	U	U
347-SG-23 (5')	1.104	0.210	0.046	U
347-SG-23 (10')	U	U	U	U
347-SVE-In (#1)	1915.25	9.78	1.014	U
347-SVE-Eff (#1)	3.506	U	U	U
347-SVE-In (#2)	2141.48	8.151	1.063	U
347-SVE-Eff (#2)	4.247	U	U	U

FIGURES

Figure 1: Site Location Map
East Meadow, New York



Scale 1:24000
CONTOUR INTERVAL 10 FEET
DASHED LINES REPRESENT 5 – FOOT CONTOURS
DATUM IS MEAN SEA LEVEL
DEPTH CURVES AND SOUNDINGS IN FEET – DATUM IS MEAN LOW WATER

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Figure 2: Sample Acquisition Plan

Melody Cleaners Site
2050 Hempstead Turnpike, East Meadow, New York
VCP Site Code # 347-1

Legend scale: 1" = 40'

- monitoring well
- temporary well point
- soil probe
- soil-gas probe
- vapor monitoring point

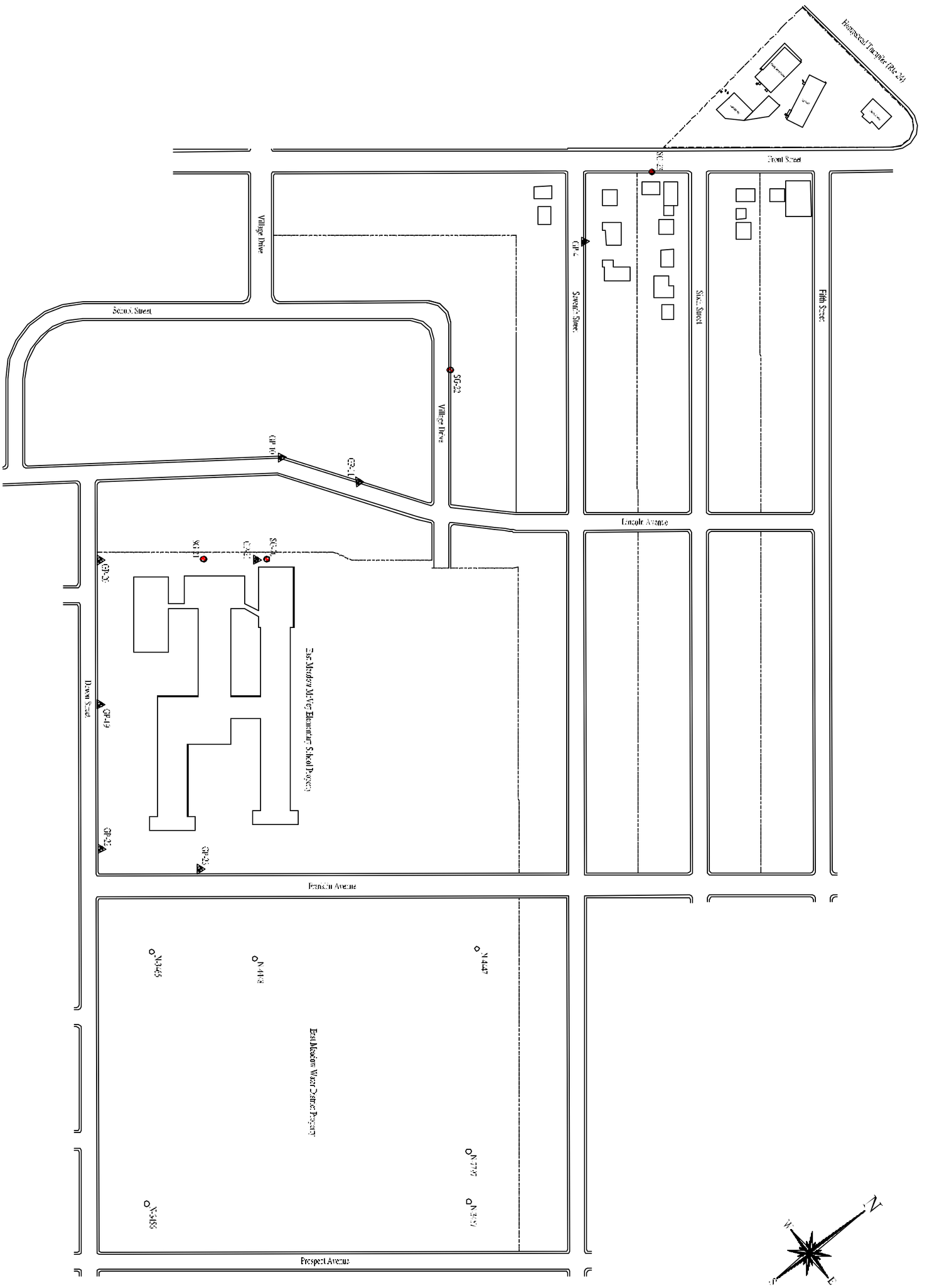

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Figure 3: Sample Acquisition Plan

Melody Cleaners Site
2050 Hempstead Turnpike, East Meadow, New York
VCP Site Code # 347-1

Legend

scale: 1" = 200'

- temporary well point
- soil probe
- soil-gas probe

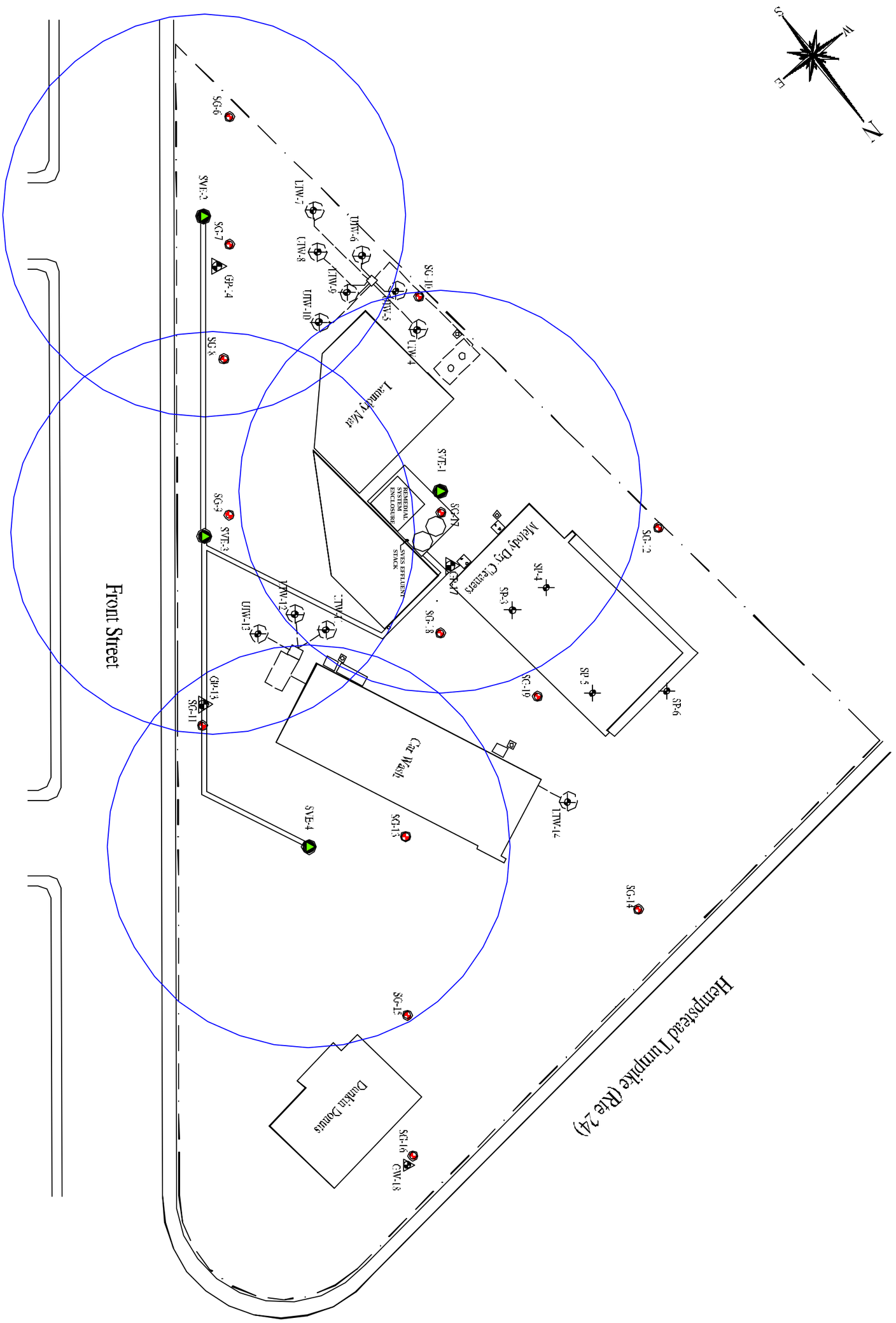

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Figure 4: SVE SYSTEM LAYOUT

Melody Cleaners Site
2050 Hempstead Turnpike, East Meadow, New York
VCP Site Code # 347-1

Legend

scale: 1" = 40'

- SVE Well
- soil probe
- soil-gas probe

EXHIBITS

Exhibit 1: Blower Specifications
East Meadow, New York

AMETEK Rotron Industrial Products

EN 909 & CP 909
Sealed Regenerative Blower w/Explosion-Proof Motor

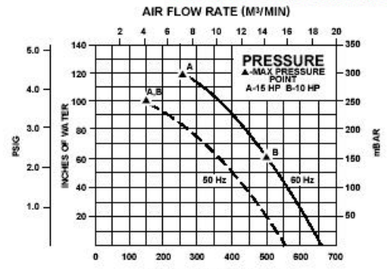
FEATURES
- Manufactured in the USA – ISO 9001 compliant
- Maximum flow: 600 SCFM
- Maximum pressure: 120 IWG
- Maximum vacuum: 100 IWG
- Standard motor: 15 HP, explosion-proof
- Cast aluminum blower housing, cover, impeller & manifold; cast iron flanges (threaded); teflon lip seal
- UL & CSA approved motor with permanently sealed ball bearings for explosive gas atmospheres Class I Group D minimum
- Sealed blower assembly
- Quiet operation within OSHA standards

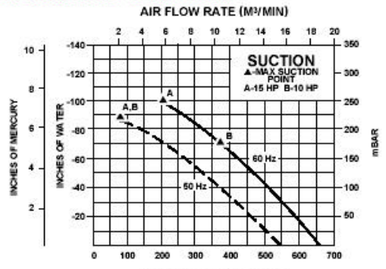
MOTOR OPTIONS
- International voltage & frequency (Hz)
- Chemical duty, high efficiency, inverter duty or industry-specific designs
- Various horsepowers for application-specific needs

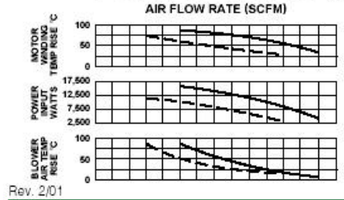
BLOWER OPTIONS
- Corrosion resistant surface treatments & sealing options
- Remote drive (motorless) models
- Slip-on or face flanges for application-specific needs

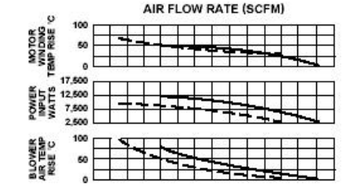
ACCESSORIES (See Catalog Accessory Section)
- Flowmeters reading in SCFM
- Filters & moisture separators
- Pressure gauges, vacuum gauges & relief valves
- Switches – air flow, pressure, vacuum or temperature
- External mufflers for additional silencing
- Air knives (used on blow-off applications)
-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

BLOWER PERFORMANCE AT STANDARD CONDITIONS







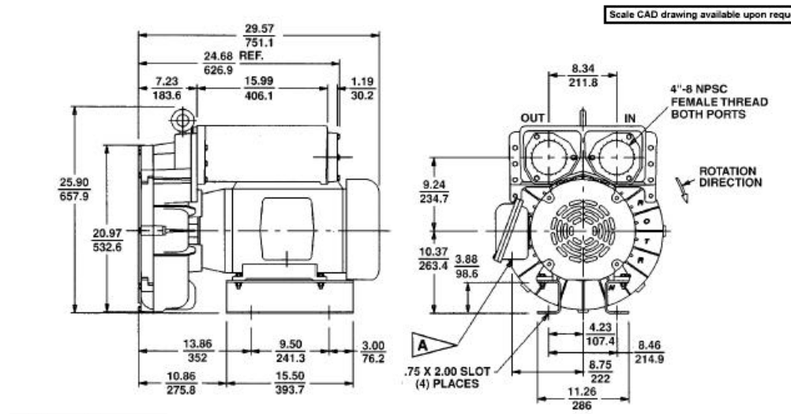


Rev. 2/01

AMETEK Rotron Industrial Products

EN 909 & CP 909
Sealed Regenerative Blower w/Explosion-Proof Motor

Scale CAD drawing available upon request.



DIMENSIONS: IN / MM
TOLERANCES: .XX ± 1/64
(UNLESS OTHERWISE NOTED)

A 1.25" NPT CONDUIT CONNECTION AT 6 O'CLOCK POSITION

SPECIFICATIONS

MODEL	EN909BG72WL		EN909BG86WL	EN909BD72WL		CP909GA72WLR
Part No.	038629		038634	080071		038982
Motor Enclosure – Shaft Material	Explosion-proof – **CS**		Explosion-proof – **CS**	Explosion-proof – **CS**		Chem XP – **SS**
Horsepower	15		15	10		Same as EN909BG72WL – 038629 except add Chemical Processing (CP) features from catalog inside front cover
Phase – Frequency [1]	Three - 60 Hz		Three - 60 Hz	Three - 60 Hz		
Voltage [1]	230	460	575	230	460	
Motor Nameplate Amps	36	18	14.4	24	12	
Max. Blower Amps [3]	44	22	18	26	13	
Inrush Amps	240	120	100	162	81	
Starter Size	2	2	2	2	1	
Service Factor	1.0		1.0	1.0		
Thermal Protection [2]	Class B - Pilot Duty		Class B - Pilot Duty	Class B - Pilot Duty		
XP Motor Class – Group	I-D, II-F&G		I-D, II-F&G	I-D, II-F&G		
Shipping Weight	584 lb (265 kg)		584 lb (265 kg)	564 lb (256 kg)		

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

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

[3] Maximum blower amps corresponds to the performance point at which the motor or blower temperature rise with a 40°C inlet and/or ambient temperature reaches the maximum operating temperature.

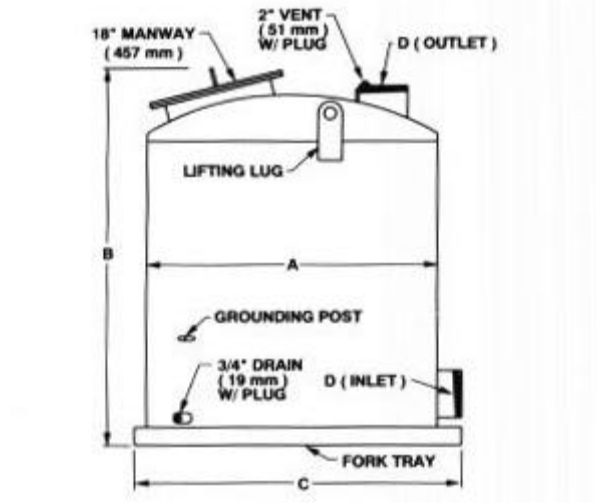
Specifications subject to change without notice. Please consult your Local Field Sales Engineer for specification updates..

Rev. 2/01.

Exhibit 2: Granular Activated Carbon

East Meadow, New York

STANDARD CONFIGURATION



PRESSURE DROP CHART