

Dalewood I Shopping Center

357 NORTH CENTRAL AVENUE

HARTSDALE

WESTCHESTER COUNTY, NEW YORK

Site Management Plan

NYSDEC Site Number: V00457-3

Prepared for:

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Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date
1	5/28/14	Inclusion of NYSDEC pre-construction vapor assessment requirement per NYSDEC SMP approval	5/20/14

I, Neal M. Drawas, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modification.



Neal M. Drawas

March 4, 2014

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SITE MANAGEMENT PLAN

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 INTRODUCTION

This document is required as an element of the remedial program of a portion of the Property located at Dalewood I Shopping Center (hereinafter referred to as the (“Site”) under the New York State (“NYS”), Voluntary Cleanup Program (VCP) administered by New York State Department of Environmental Conservation (“NYSDEC”). The Site was remediated in accordance with Voluntary Cleanup Agreement (VCA) # W3-0892-01-07, Site # V00457-3, which was executed on February 6, 2002.

1.1.1 General

Brixmor SPE 6 LLC (formerly Heritage SPE, LLC) entered into a VCA with the NYSDEC to remediate a portion of the approximately six (6) acre Dalewood I Shopping Center property (“the Property”) located in the Village of Hartsdale, Town of Greenburgh, Westchester County, New York. This VCA required the Remedial Party (“Brixmor SPE 6 LLC”) to investigate and remediate contaminated media at the Site. Figure 1 is a property locus map showing local topographic features. Having completed numerous environmental assessments of the Property, the Site is more precisely defined as an approximate 4.932 acre portion of the Property as illustrated in Figure 2. The specific boundaries of the defined Site are more fully described in the Metes and Bounds description that is part of the Deed Restriction. The Metes and Bounds information and the Deed Restriction are provided as Appendix B and Appendix C of this Plan, respectively.

Various remedial activities have been completed at the Site. However, residual dry cleaning solvent (Perchloroethylene) remains at the Site, which is hereafter referred to as “residual contamination.” This Site Management Plan (“SMP”) was prepared to manage the residual contamination until the Deed Restriction can be removed in accordance with ECL

Article 71, Title 36. All reports associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by Faulkner & Flynn, Inc., on behalf of Brixmor SPE 6 LLC, in accordance with the requirements in NYSDEC DER-10 *Technical Guidance for Site Investigation and Remediation*, dated May 3, 2010, and the guidelines provided by NYSDEC. This SMP addresses the means for implementing the Institutional Controls (ICs) and Engineering Controls (ECs) that are required by the Deed Restriction for the Site.

1.1.2 Purpose

This SMP provides a detailed description of all procedures required to manage residual contamination at the Site including: (1) implementation and management of all Engineering and Institutional Controls; (2) media monitoring; (3) operation and maintenance of Sub Slab Depressurization System (“SSDS”); (4) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports; and (5) defining criteria for termination of the SSDS treatment system operations.

To address these needs, this SMP includes three plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; and (3) an Operation and Maintenance Plan for operation of the SSDS system (including an Operation and Maintenance Manual). The SMP also includes a description of proposed Periodic Review Reports for the periodic submittal of data, information, recommendations, and certifications to NYSDEC.

The Site contains residual Perchloroethylene (PCE) and its degradation compounds which remains after completion of the remedial action. Engineering Controls have been incorporated into the site remedy to control potential exposure to remaining Chlorinated Volatile Organic Constituents (“CVOCs”) to ensure protection of public health and the environment. A Deed Restriction granted to the NYSDEC and recorded with the Westchester County Clerk will require compliance with this SMP and all ECs and ICs placed on the Site. The ICs place restrictions on Site use, and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. This SMP specifies the methods necessary to ensure compliance with all ECs and ICs required by the Deed Restriction. This SMP has been approved by the NYSDEC and compliance with this SMP is required by the grantor of the Deed Restriction and the Grantor’s successors and assigns. This SMP may only be revised with the written approval of the NYSDEC.

It is important to note that:

- This SMP details the Site-specific implementation procedures that are required by the Deed Restriction. Failure to properly implement the SMP is a violation of the Deed Restriction;
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the VCA (Index # W3-0892-01-07; Site #V00457-3) for the Site, and thereby subject to applicable penalties.

1.1.3 Revisions

Revisions to this Plan will be proposed in writing to the NYSDEC's project manager. In accordance with the Deed Restriction for the Site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.2 SITE BACKGROUND

1.2.1 Site Location and Description

The Site consists of approximately 4.9 acres, and is located within a portion of the Dalewood I Shopping Center in the Village of Hartsdale in Westchester County, New York at longitude N41°01'45" and latitude E73°47'27". The Property is identified as Tax Parcel 8.150-96-3 in the Westchester County Tax records, and consists of approximately six (6) acres of land and was improved with two (2) structures consisting of 57,700 square feet and approximately 1,500 square feet. The two structures consist of a main retail shopping center building and a bank building. The surrounding properties are heavily developed with a mixed use of commercial and residential buildings. The Property is bounded by a shopping center known as Dalewood II to the north, Dalewood Road and a shopping center to the south, Central Avenue (Route 100) to the east, and a steep embankment located immediately west of the Plaza which rises approximately 110 feet in less than 500 linear feet and is bounded by Fieldstone Drive (see Figure 2).

1.2.2 Site History

The Site, known as "Dalewood I Shopping Center" consists of a portion of the Dalewood I retail shopping center. The Site area was reportedly occupied by residential structures prior to

1966. The Site currently contains one retail building structure, consisting of 57,700 square feet. The retail building currently is occupied by the following businesses:

355 N. Central Avenue	Verizon Wireless
357 N. Central Avenue	Jakes Way Back Burger (former Cross Westchester Cleaners)
359 N. Central Avenue	Doctor's Express
361 N. Central Avenue	Friendly's Restaurant
365 N. Central Avenue	Sally Beauty Supply
371 N. Central Avenue	HMart (former Pathmark)

357 N. Central Avenue was previously occupied by the Cross Westchester Cleaners, a dry cleaning facility from 1966 until 1997. Huntington Learning Center occupied this space from March 2003 until 2004. Quizno's Sub restaurant began operated in this space from February 2005 until March 2010. The tenant space was renovated in November 2011 and Jake's Way Back Burger began operating in November 2011. The former dry cleaner is the source of the Perchloroethylene (PCE). An abutting tenant space (Verizon) located at 355 N. Central Avenue was previously occupied by Coconuts music and video store (through spring 2005). The tenant unit located at 359 N. Central Avenue was previously known as Spectrum and/or Hallmark Card Store until it was vacated in November 2008. The tenant space was renovated in November and December 2010 with new interior walls, flooring, ceiling and other features and is now utilized as a doctor's office. The tenant unit located at 371 N. Central Avenue was previously occupied by Pathmark (grocery store) until May 2011 when it was vacated. The tenant space was renovated during 2011 and re-opened as a HMart grocery store in 2012. The renovation included new interior walls, subfloor utilities, food preparation areas, flooring, ceilings and equipment.

A second building is located in the southeast area of the Property with an address of 353 N. Central Avenue and is not considered part of the Site. This building was occupied by Proper Service Center (a former ExxonMobil vehicle service center and retail gasoline sales facility) until December 31, 2005. In 2006, the gas station building was vacated, the underground petroleum systems were removed and the building was demolished. In 2008, a new building was constructed adjacent to this area of the Property and is currently utilized as a bank. The 353 N. Central Avenue Site (formerly ExxonMobil Station) was the subject of a separate corrective action with the NYSDEC (NYSDEC Spill #00-09624), and was granted "no further action" status by the NYSDEC on August 18, 2011.

1.2.3 Geologic Conditions

Soil encountered in the borings generally consisted of a medium size brown sand. The boring logs for intermediate and deep wells identified more silt content in soil samples collected from increased depths. Thin silt layers (2 to 4 inches thick) were present at varying depths between 10 and 24 feet below grade (fbg). The silt content gradually increased from 24 to 26 fbg and a layer of silt with fine sand was present from 26fbg to at least 30 fbg. This silt layer acts as a confining unit for vertical migration of contaminants. A geologic cross section is shown in Figure 3.

Groundwater is typically present throughout the Site between 3.5 and 5 fbg. Based on water table elevation data, shallow groundwater within the Site area has been determined to flow toward the east/northeast as depicted in Figure 4.

A regional drainage culvert is present in the front (eastern) parking area of the Property that runs in a north-south orientation. The size of the drainage culvert, based on field measurements, is five feet (5') in diameter. Based on surveyed elevation data for the culvert in the area of the Dalewood I driveway, the top of the culvert is at an elevation approximately 1.5 to 2 feet above the groundwater table and extends 3 to 3.5 feet into the groundwater table. Therefore, the culvert extends into the shallow groundwater table and appears to act as a shallow barrier in this area of the Site. Historic topographic maps indicate that a former natural stream was present in the approximate location of the culvert.

1.3 SUMMARY OF PREVIOUS INVESTIGATION & REMEDIATION ACTIVITIES

Various investigations were performed to characterize the nature and extent of CVOCs at the Site. The results of the investigations were described in detail in the following reports:

1. *Voluntary Cleanup Program (VCP) Application*, March 2001: The VCP application was submitted to the NYSDEC in March 2001 and was developed based on information obtained in previous investigations completed at the Site.
2. *Site Investigation Work Plan*, October 2002. The site investigation activities proposed in the work plan and subsequent Interim Remedial Measure (IRM) reports were completed between February 2003 and February 2005. This SI Work Plan was approved by the NYSDEC in January 2003.

3. *Interim Remedial Measures (IRM) Reports*, September 2003 and February 2004.
Documented the completion of the two IRMs to excavate source area soil beneath the former dry cleaning facility and from the exterior rear parking area. These reports detailed the completion of the IRMs which were proposed based upon initial results of the January 2003 Site Investigation Work Plan.
4. *Final-Remedial Action Work Plan (RAWP)*, November 2005. The 2005 RAWP documented the results of a comprehensive site investigation completed between February 2003 and February 2005, and provide a remedial strategy for addressing CVOCs in soil vapor beneath the building and in groundwater. This RAWP was approved by the NYSDEC on December 1, 2006.
5. *Site Management Plan Dalewood I Shopping Center*, October 2006. The 2006 SMP described the future remedial activities, operations and maintenance for engineering and institutional controls, and monitoring plans for groundwater, indoor air, and sub slab vapor. Pursuant to the NYSDEC approved SMP, quarterly groundwater sampling and analysis, monthly SSDS O&M, annual sub slab vapor and indoor air quality monitoring, and annual IC/EC certification have been performed since February 2006.
6. *Revised Remedial Action Work Plan (Revised RAWP)*, April, 2010. In July 2009, a supplemental RAWP was submitted to the NYSDEC and NYSDOH to perform *in situ* groundwater treatment using enhanced in-situ bioremediation (EISB) injections at various locations on the Site. A Revised RAWP was submitted to the NYSDEC in April 2010 which was subsequently approved on May 24, 2010 and implemented in July 2010. The revised RAWP included the installation of additional upgradient monitoring wells identified as MW-11, 12, 13, and 14. The Revised RAWP consisted of multiple EISB injections in the shallow groundwater in the following CVOC plume areas:
 - a. Upgradient – behind the Site building (10 total injection points)
 - b. Under the building – 1 horizontal injection line extending under the building
 - c. Downgradient – in front of the Site building (15 injection points)

7. *Construction Completion Report (CCR)* was submitted to the NYSDEC on January 21, 2011 and approved by the NYSDEC on February 22, 2011.
8. *Notification to NYSDEC for Installation of New HMart Monitoring Wells*, September 2011. Notification was provided for the installation of 4 soil borings and 4 monitoring wells within the HMart (formerly Pathmark) tenant space as part of the space renovation. The soil borings provided analytical results confirming that no soil sample exceeded the Commercial/ Industrial Use Objectives for protection of public health of shallow soil beneath the tenant space, and additional groundwater data. New monitoring wells MW-15, 16, 17, and 18 were installed in the interior of the HMart grocery store after approval was granted by the NYSDEC on September 29, 2011.
9. *Annual Certification and Site Status Reports* have been completed and submitted to the NYSDEC in January of 2007, 2008, 2009, 2010, 2011 and 2012.

The various investigations determined that based on the results of soil and groundwater sampling, a historical chlorinated volatile organic constituent release area was present in the shallow intervals. Impacted groundwater was identified in the rear source area behind the former dry cleaner, as well as the front area of the retail building. The groundwater plume was partially delineated in the front (east) area of the retail building as part of the 2001 assessment. The former Cross Westchester Cleaners located at 357 N. Central Avenue was identified as the source of the soil and groundwater impacts. Perchloroethylene was the primary constituent identified. Trichloroethylene (TCE), Vinyl Chloride (VC), and cis & trans 1,2-Dichloroethylene (cDCE and tDCE) isomers (degradation by-products) were also reported to be present, and are indicative of an environment with active natural attenuation of Perchloroethylene.

The following is a summary of site conditions determined by various investigations performed at the Site between March 2000 and October 2011.

Soil

A total of forty-nine (49) soil samples were collected and laboratory analyzed between March 2000 and March 2001. The samples were collected from shallow (0 to 5 fbg), intermediate (5 to 10 fbg), and deep (12 to 50 fbg) intervals. Additionally, the soil samples were collected from the front and rear of the shopping center and through the building floor. Reported CVOC concentrations in soil ranged from Below Detection Limits (BDL) to 241,000 parts per

billion (ppb). PCE was the primary constituent identified. TCE, VC, and DCE isomers (degradation by-products) were also reported to be present.

A total of twelve (12) additional soil samples were collected from borings B-104, B-105, and MW-205 through MW-214 as part of the investigation work completed in 2003. Laboratory analysis identified several CVOCs to be present in the samples. However, the reported concentrations were less than the applicable NYSDEC Cleanup Objective for “Unrestricted Use”. There was one (1) sample that exceeded the Cleanup Objective, however, this soil sample was collected from a depth within the groundwater table, and the PCE concentration may be a result of the groundwater impact or the presence of absorbed PCE. The soil sample locations are shown in Figures 5 and 6A, and the data for the post soil remediation samples are provided in Tables 1A and 1B (interior and external sample locations, respectively).

In September 2011, four (4) shallow and four (4) deep soil samples were collected from borings installed in the area where utility trenches were to be excavated with Tenant Space 371 (HMart) (See Figure 6B). The shallow soil samples were collected from a depth of 3” below grade (the maximum depth of the proposed utility trench), and were analyzed for CVOCs. The laboratory results are summarized in Table 1C, and confirmed that the unsaturated soil beneath Tenant Space 371 did not exceed Commercial/ Industrial Use Objectives for the protection of public health. One (1) soil sample (HM HB-1) was identified with a concentration of PCE that exceeded the Residential Use objective, and one (1) other soil sample (HM HB-2) exceeded the Unrestricted Use Objective. Only one (1) deep soil sample MW-18-10’ reported Vinyl Chloride in excess of the Unrestricted Use Objectives.

Site-Related Groundwater

A total of thirty-four (34) monitoring wells have been installed at the Site. Additional monitoring wells are present in the area of the former ExxonMobil gasoline station in the southeast portion of the property, which are not part of dry cleaning facility investigation. The monitoring wells included twenty-eight (28) shallow wells (5 to 15 fbg), three (3) intermediate depth wells (23 to 29 fbg), and one (1) deep well (40 to 50 fbg).

Groundwater at the Site was generally present between 3.5 and 5 feet below grade and flowed toward the east / northeast. Two (2) CVOc source areas were identified in shallow soil. One located beneath the building floor of 357 N. Central Avenue, where a former dry cleaner was located, and a second area in the outdoor rear area behind 357 N. Central Avenue. The investigation defined a CVOc groundwater plume extending from the rear area of the Site building to the northeast property line and to the downgradient of the Dalewood II Shopping

Center property boundary. PCE concentrations in deep and intermediate depth borings indicated that the CVOC plume had not migrated to deeper groundwater areas.

A potable well search was completed for a ½ mile radius around the Site, and no public or private potable wells were identified.

In July 2010 additional monitoring wells identified as MW-11, 12, 13, and 14 were installed in the upgradient rear area of the Site. This work was completed in conjunction with the Revised RAWP which was implemented in July 2010.

In October 2011, monitoring wells MW-15, 16, 17 and 18 were installed in the interior of Unit #371 (HMart). This work was completed in conjunction with renovation work within a portion of the retail building which involved work to install new subfloor utilities and required the removal of sections of the concrete floor and shallow excavation within the Soil Management Area. The NYSDEC was notified of the proposed subfloor renovations in correspondence dated September 23, 2011 and approval was granted by the NYSDEC on September 29, 2011.

Groundwater monitoring data has been collected at the Site on a quarterly basis from February 2006 through the present. The most recently installed monitoring wells MW-15, 16, 17 and 18 within the HMart tenant space were sampled in October 2011 and December 2011.

The intent of the groundwater monitoring has been to obtain additional site data in support of the Monitored Natural Attenuation (MNA) remediation strategy and to monitor conditions with the CVOC groundwater plume beneath the retail building. The analytical data indicated that naturally occurring biodegradation, enhanced by the *in situ* treatment conducted in July 2010 has been effective for reducing the CVOC concentrations. The groundwater monitoring results have been summarized in annual status reports and are presented in Table 2. The monitoring well locations are shown in Figure 4. These results show a consistent declining trend in the CVOC concentrations, degradation of the PCE and its degradation constituents and plume stability within the Dalewood I Site.

Soil Vapor Intrusion

Sub slab vapor and indoor air samples have been collected from various locations throughout the main retail building. Initial indoor air sample results obtained in February 2003 identified PCE concentrations in excess of applicable NYSDOH guidance values. Decision matrices that are provided in the *NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York* indicated that mitigation was recommended. The Sub Slab Depressurization (SSDS) system was installed and certified to operate in September 2006 as part of the Indoor IRM, and maintains a negative pressure in the source area beneath the Tenant Spaces 355 and

357 floors to prevent vapors from migrating into the main retail building. Post installation monitoring verified that the potential for vapor intrusions was effectively mitigated through the installation of the SSDS. Additional indoor air sampling was completed between 2003 and 2011. Target compounds were identified at low concentrations (less than NYSDOH guidance values) in indoor air at all locations, and within the background range for most interior spaces.

On an annual basis, a sub slab soil vapor sample had been collected from various sampling locations established in each of the tenant spaces within the building, and one (1) sample had been collected from the two (2) sampling locations in the Tenant Space 371. Annual sampling of soil vapor had not been completed in Tenant Spaces 355 and 357 as the SSDS system remained active and removes any soil vapor beneath these tenant spaces. All vapor samples had been collected from locations within the tenant spaces as shown on Figure 8, and the soil vapor data is summarized in Table 3. Based on the extensive sub slab vapor and indoor air monitoring results NYSDEC approved the discontinuation of the annual indoor air and sub slab vapor monitoring as the SSDS has been demonstrated to effectively mitigate any potential impact to public health.

Underground Storage Tanks

A second building was located in the southeast area of the Property with an address of 353 N. Central Avenue. This building was occupied by Proper Service Center (a vehicle service center and retail gasoline (ExxonMobil) sales facility until December 31, 2005. In 2006, the retail gasoline station was vacated, the underground petroleum systems were removed and the building was demolished. In 2008, a new bank building was constructed adjacent to this area of the former station. The 353 N Central Avenue site was the subject of a separate corrective action involving ExxonMobil as the responsible party (NYSDEC Spill #00-09624), and was granted “no further action” status by the NYSDEC on August 18, 2011.

1.4 SUMMARY OF REMEDIAL ACTIONS

The Site was remediated in accordance with the various NYSDEC approved Remedial Actions from 2001 through 2010. The following is a summary of the Remedial Actions performed at the Site:

1. Excavation of 111.4 tons of soil to an approximate depth of 5 fbg beneath the building floor in the area of the former dry cleaner in Unit 357, and 225.56 tons of soil to an approximate depth of 6-7 fbg from the outdoor area at the rear or northwest of the former dry cleaner (Unit 357). Soil exceeding Unrestricted Use listed in Tables

1A and 1B, was excavated in 2003 as part of these two IRMs. Interior excavation depth was limited by the foundation wall depth and the exterior excavation was limited by the groundwater table at 6.5 fbg. (see Section 1.4.1).

2. Substrate Release Composition (SRC™) was subsequently placed in the two excavations prior to backfilling. SRC™ provided for the sustained release of substrates, co-substrates, nutrients, and other proprietary amendments into groundwater to remediate residual CVOCs in local soil and groundwater through enhanced *in situ* bioremediation
3. A Sub Slab Depressurization System was installed beneath Tenant Spaces 355 and 357 as part of the IRM completed in 2003. The SSDS provides continued CVOC removal from the source area and effectively protects the occupied building space from potential vapor intrusion (see Section 1.4.2).
4. In accordance with the revised April 2010 RAWP, multiple enhanced *in situ* bioremediation injection wells were completed in the following VOC plume areas:
 - Upgradient – behind the retail building (10 total injection points)
 - Under the building - 1 horizontal injection line extending under the former dry cleaning facility
 - Downgradient - in front of the retail building (15 injection points)

In July 2010, in accordance with the NYSDEC approve RAWP, injection of Regenesis product 3DMe material was completed pursuant to the Regenesis recommendations utilizing a direct push type device equipped with an injection probe in the rear and front parking areas. In addition, 3DMe was pumped into a series of horizontal leaching lines that were installed with the SSDS beneath the former dry cleaner floor. A summary of the injection intervals, quantities of treatment chemical and relevant comments pertaining to the injection/pumping process is provided below. No permanent borings or well materials were installed as part of the injection process in the rear or front parking areas. Following injection, each injection point was backfilled with inert material and the asphalt surface was repaired to its pre-construction condition.

- Downgradient portion of plume
 - o 15 injection points, targeting 3 to 18 feet below grade
 - o Injection Rate: 14.4 gal/ft or 216 gal/point of 3DMe solution
 - o Solution Mix: ~11:1 ratio, 3,296 gal water : 295 gal 3DMe concentrate
 - Upgradient portion of plume
 - o 6 new Injection points, targeting 3 to 18 feet below grade
 - o 4 existing GTW injection points, targeting 5 to 10 feet below grade.
 - o Injection Rate: 7 gal/ft or 102 gal/point of 3DMe solution
 - o Solution Mix: ~11:1 ratio, 933 gal water : 90 gal 3DMe concentrate
 - Under Building portion of plume
 - o 1 horizontal groundwater injection line, targeting 6 to 8 feet below grade
 - o The horizontal line includes 5 vertical screened points which are each two feet long and located 25', 30', 35', 40', and 45' into the building from the back wall.
 - o Injection Rate: 135 gal/point of 3DMe solution
 - o Solution Mix: ~11:1 ratio, 616 gal water : 62 gal 3DMe concentrate
5. A soil cover system consisting of the existing building floor and external asphalt parking areas prevents human exposure to residual CVOCs in soil remaining at the Site.
 6. Execution and recording of a Deed Restriction will be completed to restrict land use and prevent future exposure to any residual CVOCs remaining at the Site.
 7. Development and implementation of this Site Management Plan for long term site management as required by the Deed Restriction, which includes plans for: (1) Institutional and Engineering Controls, (2) periodic groundwater monitoring, (3) SSDS operation and maintenance , (4) annual Site inspections, and (5) periodic reporting to the NYSDEC.

1.4.1 Removal of Contaminated Materials from the Site

As previously described two (2) Interim Remedial Measures (IRM) were completed at the Site in 2003. The first IRM (Indoor Soil) consisted of excavation and off-site disposal of 111.4 tons of soil from under the building floor in the area of the former dry cleaner (Tenant Space 357) in May 2003. The second IRM (Outdoor Soil) consisted of excavation and off-site disposal of 225.56 tons of soil from the outdoor rear area of the Site in October 2003 (behind

Tenant Space 357). Figure 5 illustrates the boundaries of the IRM soil excavations. A list of the applicable Unrestricted Use criteria for the primary contaminants of concern (COCs) and applicable land use for the Site is provided in Tables 1A, 1B and 1C. IRM completion reports were prepared and submitted to the NYSDEC in September 2003 and February 2004.

Post excavation (post-remedy) soil sample results from the Indoor IRM and Outdoor IRM were provided in the respective IRM Completion reports. The Outdoor IRM included seven (7) post excavation soil samples with only one sample with PCE (2,100 ppb) exceeding the NYSDEC Unrestricted Use criteria (1,300 ug/kg). The Indoor IRM included twenty-seven (27) post excavation soil samples with six (6) samples collected from the bottom of the excavation (6 fbg) and twenty-one (21) collected from varying depths on the sidewalls. The PCE bottom sample results ranged from 140 ug/kg to 230,000 ug/kg with five (5) exceeded the NYSDEC Unrestricted Use criteria. The PCE results from the sidewall samples ranged from 340 ug/kg to 16,000 ug/kg with nine samples exceeding the NYSDEC Unrestricted Use criteria.

As part of the IRM, SRC™ (Substrate Release Composition) product was placed in the open excavations following the removal of the impacted soil to provide enhanced bioremediation of residual CVOCs beneath the former dry cleaning facility.

1.4.2 Sub Slab Depressurization System (SSDS)

A SSDS was installed at the Site in 2003. A Westchester County Department of Health (WCDOH) Air Emission permit (Permit # 52-6786, WCDH Facility #0220, Emission Point #SVE01) to construct was issued on April 28, 2006. Final permit documents, including “As-built” figures were submitted on September 12, 2006 and a “Certificate to Operate” was initially issued by the WCDOH on September 29, 2006. The WCDOH permit was renewed on March 2, 2010 and is valid through December 31, 2015. The system’s vapor extraction piping and other components for the SSDS were installed in the area of Tenant Spaces 355 and 357. An annual summary of the operation of the SSDS has been provided to the NYSDEC in the prior Annual Certification and Site Status Reports.

Passive mitigation measures included annual inspection of each tenant space for vapor migration pathways including documenting the operation and condition of the heating ventilation and air conditioning (HVAC) systems and measuring the indoor pressure

differentials. Annual summaries of the passive measures and building conditions had been provided to the NYSDEC in the Annual Certification and Site Status Reports.

1.4.3 Groundwater *In Situ* Treatment

In accordance with the NYSDEC approved April 2010 RAWP, multiple enhanced *in situ* bioremediation injections of 3DMicroemulsion to promote groundwater CVOC degradation were completed in the following plume areas in July 2010:

- Upgradient – behind the Site building (10 total injection points)
- Under the building - 1 horizontal injection line extending under the building
- Downgradient - in front of the site building (15 injection points)

A Construction Completion Report summarizing this work was provided to the NYSDEC on January 21, 2011 and subsequently approved by NYSDEC on February 22, 2011. Additional details on the injections were provided in Section 1.4 above.

1.4.4 Residual Contamination

Section 1.4.1 of this SMP describes the historical remediation of source area soil and areas of residual CVOC impacted soil. Based on data obtained from previous investigations and the historical IRMs completed at the Site, some areas exhibiting residual concentrations of COCs were inaccessible as they are beneath a portion of the retail building (due to structural concerns), or were not a risk to human health as they were beneath the rear parking area asphalt and/or at depth below the groundwater table. Accessible impacted soil was removed from beneath Unit 357 and an outdoor area behind (west) Unit 357, to the extent possible without causing damage to the main building foundations. Figure 9 (Soil Management Area Map) illustrates the Site areas with potential residual impacted soil. A description of the nature and extent of the remaining soil contamination is provided in Section 1.3. The residual groundwater contamination at the Site was summarized recently in the 2012 Annual Certification and Site Status Reports. Tables 1A and 1B summarize and Figures 5 and 6 illustrate the results of residual soil samples that exceed the NYSDEC Unrestricted Use criteria.

2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

2.1 INTRODUCTION

2.1.1 General

As residual CVOC impacted soil, soil vapor and groundwater exist beneath and adjacent to the main retail building, Engineering Controls and Institutional Controls (EC/ICs) are required to protect human health and the environment. This Engineering and Institutional Control Plan describes the procedures for the implementation and management of all EC/ICs at the Site. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

2.1.2 Purpose

This Plan provides:

- A description of all EC/ICs on the site;
- The basic implementation and intended role of each EC/IC;
- A description of the key components of the ICs set forth in the Deed Restriction;
- A description of the features to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Excavation Work Plan for the proper handling of remaining contamination that may be disturbed during maintenance or re-development work on the Site; and
- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the site remedy, as determined by the NYSDEC.

2.2 ENGINEERING CONTROLS

2.2.1 Engineering Control Systems

2.2.1.1 Soil Cap

Exposure to remaining CVOC impacted soil at the Site is prevented by an engineered cover system. This cover system is comprised of a minimum of 6 inches of the concrete building

floor slabs or 4 to 6 inches of asphalt paving (exterior portion of Site) and non-impacted sub-base material. The location of the Soil Management Area and associated soil cap is shown in Figure 9. The Excavation Work Plan, provided in Appendix A, outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection and maintenance of this cover are provided in the Monitoring Plan included in Section 3 of this SMP.

2.2.1.2 Sub Slab Depressurization Systems (SSDS)

A SSDS was installed at the Site to prevent potential migration of soil vapors into the retail building. In addition, passive mitigation measures (i.e. ensure concrete slab integrity) that consist of inspecting and sealing, as needed, each tenant space floor slab for vapor migration pathways are completed on an annual basis. The Monitoring Plan also addresses severe conditions inspections via continuous monitoring telemetry in the event that a severe condition affects the operating controls of the SSDS.

The operation of the SSDS system was initiated following issuance of a Westchester County Department of Health (WCDOH) air emission source “Certificate to Operate” on September 29, 2006, and is currently valid through December 31, 2015. The SSDS system consists of ten (10) PVC extraction points installed beneath the building floor within the area of Tenant Spaces 355 and 357. The extraction points are connected to a single header, one (1) 19-gallon moisture separator tank, a particulate filter, one (1) 2 horsepower regenerative type blower, and two (2) granular activated carbon (GAC) units (200 pounds each) for treatment of the air stream prior to discharge. All equipment is specified to operate unattended and equipment failsafes are incorporated into the design to terminate operation if undesired deviations occur. The system has a telemetry/alarm system that will trigger remote notification if the system power is interrupted. The location of the treatment system and extraction point locations are shown in Figure 10. As-built figures of the system components are included as Figures 11 and 12 of this SMP.

Procedures for operating and maintaining the SSDS are documented in the Operation and Maintenance Plan (Section 4 of this SMP). Procedures for monitoring the system are included in the Monitoring Plan (Section 3 of this SMP).

2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.6 of NYSDEC DER-10.

2.2.2.1 Composite Cover System

The building cover system (i.e., floor slab) and a portion of the exterior parking area are the permanent control and the quality and integrity of this system will be inspected annually.

2.2.2.2 Sub Slab Depressurization (SSDS)

The active SSDS system will not be discontinued unless prior written approval is granted by the NYSDEC. In the event that monitoring data indicates that the SSDS system is no longer required, a proposal to discontinue the SSDS system will be submitted to the NYSDEC and NYSDOH.

Conditions that warrant discontinuing the operation of the of the SSDS include : (1) influent vapor concentrations declining to levels such that potential vapor intrusion is no longer a concern; or (2) the NYSDEC has determined that the SSDS has reached the limit of its effectiveness. This assessment will be based in part on post-remediation contaminant levels in groundwater collected from on-site monitoring wells and periodic analysis of influent vapor samples. The system will remain in place and operational until permission to discontinue their use is granted in writing by the NYSDEC.

2.2.2.3 Monitored Natural Attenuation

Groundwater monitoring activities to assess natural attenuation will continue, as determined by the NYSDEC, until residual groundwater concentrations are found to be less than NYSDEC standards or have become asymptotic at an acceptable level over an extended period. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the NYSDEC, additional treatment and/or control measures may be evaluated for effectiveness, and only implemented after approval by NYSDEC.

2.3 INSTITUTIONAL CONTROLS

A series of Institutional Controls (ICs) are required to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the Site to restricted commercial and industrial uses only. Adherence to these ICs on the Site is required by the Deed Restriction and will be implemented under this Site Management Plan. These Institutional Controls are:

- Compliance with the Deed Restriction and this SMP by the Grantor and the Grantor's successors and assigns;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;
- Implement a Soil Management Plan to establish guidelines for management of potential impacted soil material during any future site activities that would breach the cover system within the Soil Management Area (i.e. the existing retail building concrete floor slab or a portion of the exterior parking area)(see Figure 9) at the Site and expose impacted soil;
- Groundwater monitoring must be performed as defined in this SMP; and
- Data and information pertinent to Site Management must be reported at the frequency and in a manner defined in this SMP.

Institutional Controls identified in the Deed Restriction may not be discontinued without an amendment to or extinguishment of the Deed Restriction. The Site has a series of Institutional Controls in the form of site restrictions. Adherence to these Institutional Controls is required by the Deed Restriction. Site restrictions that apply to the Controlled Property are:

- The Site may only be used for commercial and industrial uses provided that the long-term Engineering and Institutional Controls included in this SMP are employed.

- The Site may not be used for a higher level of use, such as unrestricted or restricted residential use without additional remediation and amendment of the Deed Restriction, as approved by NYSDEC;
- A Soil Management Area has been established for the Site. (see Figure 9) All future activities on the Site that will disturb potentially residual impacted soil within the Soil Management Area must be conducted in accordance with this SMP;
- The use of the groundwater underlying the Site is prohibited without treatment rendering it safe for intended use;
- The continuous operation of a SSDS to mitigate the potential for vapor intrusion;
- Vegetable gardens and farming on the Site are prohibited; and
- The site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted every three (3) years as part of the Periodic Review Report and will be made by a New York State licensed professional engineer or a qualified environmental professional.

2.3.1 Excavation Work Plan

The Site has been remediated for restricted commercial and industrial use. Any future intrusive work that will penetrate the soil cap or encounter or disturb the residual contamination including any modifications or repairs to the existing cover system will be performed in compliance with the Excavation Work Plan (EWP) that is attached as Appendix A to this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the site. The HASP and CAMP are attached as Appendix D to this SMP that are in compliance with DER-10, and 29 CFR 1910, 29 CFR 1926, and all other applicable

compliance with the Excavation Work Plan (EWP) that is attached as Appendix A to this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the site. The HASP and CAMP are attached as Appendix D to this SMP that are in compliance with DER-10, and 29 CFR 1910, 29 CFR 1926, and all other applicable Federal, State and local regulations. Based on future changes to State and federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in the EWP, if appropriate. Any intrusive construction work in the Soil Management Area will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (See Section 5).

The Property owner and/or parties performing this work, are completely responsible for the safe performance of all intrusive work, the structural integrity of excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for structures that may be affected by excavations (such as building foundations and bridge footings). The Property owner will ensure that site development activities will not interfere with, or otherwise impair or compromise, the engineering controls described in this SMP.

NYSDEC has approved the re-use of any excavated soil if it is compliant with the commercial use chemical criteria provided in Part 375.6.8(d).

2.3.2 Soil Vapor Intrusion Evaluation

All enclosed tenant spaces located over the area with the potential for soil vapor intrusion (SVI) have been evaluated to verify that no additional mitigating measures (in addition to the SSDS) are necessary to eliminate potential exposure to vapors in accordance with the most recent NYSDOH “*Guidance for Evaluating Vapor Intrusion in the State of New York*”. A SSDS was installed beneath the floor of the former dry cleaning facility and included a vapor barrier beneath the former dry cleaning facility space. The SSDS has been demonstrated to be effective for mitigating vapor intrusion.

Prior to the construction of any enclosed structures on the site, an evaluation of the potential for soil vapor intrusion will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure.

Alternatively, an SVI mitigation system may be installed as an element of the building foundation without first conducting an investigation. This mitigation system will include a vapor barrier and passive sub-slab depressurization system that is capable of being converted to an active system.

2.4 INSPECTIONS AND NOTIFICATIONS

2.4.1 Inspections

Inspections of the SSDS and groundwater monitoring wells installed at the Site will be conducted at the frequency specified in the SMP Monitoring Plan schedule (see Table 4). A comprehensive site-wide inspection will be conducted annually. The inspections will determine and document the following:

- Whether Engineering Controls continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Deed Restriction;
- Achievement of remedial performance criteria;
- Sampling and analysis of appropriate media during monitoring events;
- If site records are complete and up to date; and
- Changes, or needed changes, to the remedial or monitoring system.

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements are outlined in the Periodic Review Reporting section of this plan (Section 5).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the Site will be conducted within 5 days of the event to verify the effectiveness of the EC/ICs implemented at the site by a qualified environmental professional as determined by NYSDEC.

2.4.2 Notifications

Notifications will be submitted by the Property owner to the NYSDEC as needed for the following reasons:

- 60-day advance notice of any proposed changes in site use in accordance with the Voluntary Cleanup Agreement (VCA), 6NYCRR Part 375, and/or Environmental Conservation Law.
- 15-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundations structures that reduces or has the potential to reduce the effectiveness of the SSDS system and likewise any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the Site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the Site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of the Voluntary Cleanup Agreement (VCA) and all approved work plans and reports, including this SMP
- Within 15 days after the transfer of all or part of the Site, the new owner's name, contact representative, and contact information will be confirmed in writing.

2.5 CONTINGENCY PLAN

Emergencies may include injury to personnel, fire or explosion, environmental release, or SSDS system shut-down.

2.5.1 Emergency Telephone Numbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance, the Owner or Owner's representative(s) should contact the appropriate party from the contact list provided in the Contingency Plan. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to Faulkner & Flynn LLC who is the qualified environmental professional. The emergency contact list is provided in Table 6 and in the Contingency Plan and must be maintained in an easily accessible location at the site.

2.5.2 Map and Directions to Nearest Health Facility (see Figure 14)

Site Location:	357 North Central Avenue, Hartsdale, NY
Nearest Hospital Name:	White Plains Hospital
Hospital Location:	41 East Post Road, White Plains, NY
Hospital Telephone:	(914) 681-0600

Directions to the Hospital:

1. Travel northeast on N Central Avenue/Central Park Avenue to Waldo Avenue
2. Turn right at Tarrytown Road
3. Turn right at S. Lexington Avenue
4. Turn left at E Post Road
5. Hospital will be on the right

Total Distance: 1.8 miles

Total Estimated Time: Five (5) minutes

2.5.3 Response Procedures

As appropriate, the fire department and other emergency response group(s) will be notified immediately by telephone of the emergency. In an emergency, the local fire, EMS, or police departments can be reached by dialing 911. The emergency telephone number list is found in the Contingency Plan. The list will also be maintained at the property management office and made readily available to the appropriate owner's personnel.

- Procedures for spills. There is the potential for spills of liquids associated with groundwater collected during the pre-sampling purging of the monitoring wells; or the removal of condensate from the knock-out tank on the SSDS during transfer to

temporary storage drums. Should a liquid spill occur, all spilled material will be absorbed with an appropriate absorbent material (e.g. towel, sand, “Speedi-dry”) and deposited into a USDOT rated drum for off-site disposal.

- The Contingency Plan will be appropriately amended should operations, monitoring or maintenance procedures specified in the SMP change, or response procedures need to be revised to address new potential hazards.

2.5.4 Supplemental Groundwater Treatment

Groundwater monitoring activities to assess natural attenuation will continue, as provided in this SMP, until residual groundwater concentrations are found to be less than NYSDEC standards or have become asymptotic at an acceptable level. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the NYSDEC, or the concentration of the constituents of concern significantly increase over three (3) consecutive sampling periods, or the plume significantly expands over three (3) consecutive sampling periods, additional treatment and/or control measures will be evaluated for effectiveness and discussed with NYSDEC. Upon NYSDEC agreement with the proposed approach, a supplemental groundwater treatment plan will be submitted to NYSDEC and will only be implemented after written approval by NYSDEC.

3.0 SITE MONITORING PLAN

3.1 INTRODUCTION

3.1.1 General

This Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate residual CVOCs at the Site, the soil cover system, and all affected site media identified below. Monitoring of the Engineering Controls is described in Chapter 4, Operation, Monitoring and Maintenance Plan. This Monitoring Plan may only be revised with the approval of NYSDEC.

3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

- CVOC Sampling and analysis of groundwater and SSDS influent and effluent;
- Assessing compliance with applicable NYSDEC standards, criteria and guidance, particularly ambient groundwater standards and Part 375 SCOs for soil;
- Assessing achievement of the remedial performance criteria;
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

To adequately address these issues, this Monitoring Plan provides information on:

- Sampling locations, protocol, and frequency;
- Information on all designed monitoring systems;
- Analytical sampling program requirements;
- Reporting requirements;
- Quality Assurance/Quality Control (QA/QC) requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; Annual inspection; and

- Periodic Review Report certification.

Performance review of the SSDS will be conducted on an annual basis. Groundwater monitoring and a review to confirm that natural attenuation is still appropriate will be conducted every eighteen months. Trends in contaminant levels in soil vapor and groundwater in the affected areas will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. Monitoring programs are summarized in Table 4 and outlined in detail in Sections 3.2 and 3.3 below.

3.2 SOIL COVER SYSTEM MONITORING

Annually, each tenant space within the Soil Management Area will be thoroughly inspected both visually and with a handheld photoionization detector (PID) to locate any penetrations through the interior building floor that may act as a pathway for vapor migration into the retail building. All accessible cracks, utility conduits and sumps will be inspected, documented, and sealed. Annual inspections will be conducted and documented to ensure that penetrations through the floor remain properly sealed and that new penetrations have not developed, and the exterior parking areas are protective of public health and the environment by preventing direct contact with the groundwater or the underlying impacted soil.

3.3 MEDIA MONITORING PROGRAM

3.3.1 Groundwater Monitoring

The existing groundwater sampling data indicates that Monitored Natural Attenuation (MNA) with enhanced bioremediation was the most effective remedial strategy for this Site. Groundwater monitoring of seven (7) selected monitoring wells will be conducted every eighteen (18) months.

3.3.1.1 Sample Method, Quality Assurance and Quality Control

Groundwater samples will be collected from monitoring wells MW-6, MW-10, MW-12, MW-200, MW-205, MW-211 and MW-212 (see Figure 13) and analyzed utilizing laboratory and field methods described below. Monitoring wells will be sampled and analyzed from the background area (MW-6, 10 & 12), source area (MW-200 & 205), and downgradient sentinel wells (MW-211 & 212) as specified in Table 4. All selected wells were installed to between 10 and 15 fbg and screened 5 to 15 fbg. Monitoring well logs are provided in Appendix E. Baseline

post-remedial groundwater quality conditions prior to the implementation of this SMP are based on groundwater monitoring results from June 2013. Sampling of additional monitoring wells may be required in the future, in the event that additional in situ chemical injections are performed at the Site.

The sampling frequency may be modified with the approval of NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC.

3.3.1.2 Sampling Protocol

All monitoring well sampling activities will be recorded in a field book and a groundwater sampling log presented in Appendix F. Other observations (e.g., well integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the groundwater monitoring well network.

All samples including a trip blank and equipment blank will be collected and laboratory analyzed for CVOCs by EPA Method 8260 in accordance with NYSDEC technical guidelines as well as certain field and other parameters. Groundwater samples and the trip blank will be placed into clean collection containers and maintained in an iced cooler. Chain-of-Custody documentation will be established and the samples will be transported on the day of sample collection to a New York State Department of Health ELAP (NYSDOH) certified laboratory for analysis.

Field sampling personnel will complete the well sampling following a low-flow or low stress method of groundwater sample collection. Prior to groundwater purging or sampling, the depth to static water in each well will be recorded to the nearest 0.01 feet using a sonic water level indicator probe. Between wells the probe will be decontaminated using standard procedures as described in Appendix G. The procedure generally follows the “Low Stress (Low Flow) Purging and Sampling Procedure” as published by the USEPA and described in Appendix G of this SMP.

Decontamination and purge water will be placed in a DOT rated drum, labeled, and temporarily stored in the rear parking area behind Tenant Space 357 pending disposal characterization until transported off-site for disposal.

3.3.1.3 Groundwater Analysis

Retrieved samples will be logged by the field staff and placed directly in laboratory supplied glassware and kept in an iced cooler; the cooler and samples will be transported to an independent NYSDOH ELAP Certified laboratory under Chain-of- Custody documentation. Groundwater samples will be analyzed utilizing both field instruments and analytical methods, as well as laboratory based methods as specified on Table 5. Groundwater sampling events are intended to target the parameters identified below, based on anticipated analytical method. The parameters listed below are based on the USEPA TPENA Document and are intended to establish a thorough understanding of conditions at the Site. The results of each sampling event will be reviewed and utilized to assess the need for modifying the target parameters and sampling points.

Field Analysis:

Temperature, conductivity, dissolved oxygen (DO), pH, oxidation reduction potential (ORP)

Laboratory Analysis:

Methane, Ethane, Ethene, Aromatic and/or Chlorinated Volatile Organic Compounds

The following laboratories are currently anticipated to be utilized for this project. However, alternate NYSDOH ELAP certified laboratories may be used, and NYSDEC will be advised of any such change.

Accutest Laboratories of New England, Marlborough MA- Aromatic and/or Chlorinated Volatile Organic Compounds

Microseeps, Pittsburgh, PA- Methane, ethane, ethane

The analytical procedures will follow available EPA and NYSDEC prescribed methodologies (where available). The methodologies include appropriate sample preservation, holding times, and analysis procedures. The field methods will follow manufacturer instructions and established procedures for the equipment utilized or test kits employed.

3.3.1.4 Monitoring Well Repairs, Replacement And Decommissioning

If bio-fouling or silt accumulation occurs in the groundwater monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced, if an event renders the wells unusable. Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic report. Well decommissioning without replacement will be done only with the prior approval of NYSDEC. Well abandonment will be performed in accordance with NYSDEC's "*Groundwater Monitoring Well Decommissioning Procedures*." Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

3.3.2 Sub Slab Depressurization System Influent Monitoring

Due to residual CVOCs in soil and groundwater beneath the retail building, the SSDS was installed to mitigate potential vapor intrusion into the building. To monitor the presence of CVOC vapors and the effectiveness of the SSDS emissions control equipment, a vapor sample of the SSDS influent and post treatment effluent will be collected on an annual basis.

3.3.2.1 Sample Method, Quality Assurance and Quality Control

Annual vapor samples will be collected from the SSDS influent and effluent sampling ports (see Figure 11) and analyzed utilizing laboratory methods described below. The sampling frequency may be modified with the approval of NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC. Deliverables for the SSDS vapor monitoring program are specified below.

3.3.2.2 Sampling Protocol

All sampling activities will be recorded in a field book and other observations (e.g., system condition, operating parameters) will be noted on the SSDS monitoring log (Appendix I).

The influent and effluent air samples will be collected within laboratory supplied Summa type canisters (0.5, 1.0, or 6.0 liter capacity). The sample collection time will be a minimum of 30 minutes and will be controlled with a laboratory supplied flow regulator. Chain-of-Custody documentation will be established and the samples will be transported on the day of sample collection to a NYSDOH ELAP certified laboratory for analysis in accordance with DER-10 Technical Guidance for Site Investigation and Remediation” issued May 3, 2010 by the NYSDEC.

3.3.2.3 Analytical Methods

Summa canisters will be logged on a Chain-of-Custody by the field staff and transported to an independent NYSDOH ELAP Certified laboratory under Chain-of- Custody documentation. SSDS vapor samples will be analyzed for chlorinated Volatile Organic Constituents utilizing laboratory based method TO-15. The results of each sampling event will be reviewed and utilized to assess the need for modifying the target parameters and system operating conditions. Accutest Laboratories of New England, Marlborough MA is intended to be utilized for this project.

The analytical procedure will follow available EPA and NYSDEC prescribed methodologies including appropriate sample preservation, holding times, and analysis procedures. The field methods will follow manufacturer instructions and established procedures for the equipment utilized.

3.4 SITE-WIDE INSPECTION

Site-wide inspections will be performed annually or after any severe site emergency or weather condition that may affect Engineering Controls or monitoring devices. During these inspections, an Inspection Form will be completed (Appendix H). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;

- Compliance with permits and schedules included in the Operation and Maintenance Plan; and
- Confirm that site maintenance records of the cap integrity, and SSDS O&M are up to date.

3.5 MONITORING QUALITY ASSURANCE/QUALITY CONTROL

All sampling and analyses will be performed in accordance with the requirements of this Quality Assurance Project Plan (QAPP). All groundwater, vapor and soil characterization samples collected during site monitoring activities will be analyzed using the most recent NYSDEC Analytical Services Protocol (ASP), consistent with Section 2 of DER-10, the *Technical Guidance for Site Investigation and Remediation*.

The laboratories performing the analyses will be certified through the NYSDOH ELAP to perform Contract Laboratory Program (CLP) analysis and Solid Waste and Hazardous Waste Analytical testing on all media and parameters to be sampled during this investigation. The laboratory will maintain this certification for the duration of the project.

Procedures for chain of custody, laboratory instrumentation calibration, laboratory analyses, reporting of data, internal quality control, and corrective actions shall be followed as per NYSDEC ASP and as per the laboratory's Quality Assurance Plan. Where appropriate, trip blanks, duplicates, and matrix spike, matrix spike duplicate shall be performed at a rate of 5% (1 per up to 20 samples) and will be used to assess the quality of the data. The laboratory's in-house QA/QC limits will be utilized whenever they are more stringent than those suggested by the EPA methods.

Main Components of this QAPP include:

- QA/QC objectives for data measurement of CVOCs in groundwater in conformance with applicable NYSDEC groundwater criteria
- Sampling Program:
 - o Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.

- o Sample holding times will be in accordance with the NYSDEC ASP requirements.
 - o Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody
- Calibration Procedures:
 - o All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
 - o The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent NYSDEC updates that apply to the instruments used for the analytical methods.
- Analytical Procedures (see Table 5)
- Preparation of a Data Usability Summary Report (DUSR), which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.
- Internal QC and Checks will be performed by a qualified professional to ensure data validation and compliance with NYSDEC ASP
- QA Performance and System Audits will be performed by each laboratory and independently verified by the Consultant
- Preventative Maintenance Procedures and Schedules will be independently reviewed by the Consultant; and Corrective Action Measures, if necessary, will be reported as part of the Periodic Review Reports

3.6 MONITORING REPORTING REQUIREMENTS

Forms and any other information generated during regular monitoring events and inspections will be kept on file at the Brixmor Corporate office and the Consultant's office. All forms, and

other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC; (2) submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP; and (3) all monitoring results will be reported to NYSDEC in the Periodic Review Report. Table 4 provides a schedule of the monitoring and inspections to be performed and their associated reporting.

4.0 OPERATION AND MAINTENANCE PLAN

4.1 INTRODUCTION

This Operation and Maintenance (O&M) Plan describes the measures necessary to operate, monitor and maintain the mechanical components of the remedy selected for the Site. This O&M Plan:

- Includes the steps necessary to allow individuals unfamiliar with the Site to operate and maintain the SSDS;
- Includes an operation and maintenance contingency plan; and
- Will be updated periodically to reflect changes in Site conditions or the manner in which the SSDS is operated and maintained.

Information on non-mechanical Engineering Controls (i.e. Soil cover system) is provided in Section 2 - Engineering and Institutional Control Plan. A copy of this Operation and Maintenance Plan, along with the complete SMP, will be kept at Brixmor's corporate office. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of the SMP.

4.2 ENGINEERING CONTROL SYSTEM OPERATION AND MAINTENANCE

Operation & Maintenance (O&M) of the SSDS will be required during periods of system operation in order to evaluate the system effectiveness and maintain continued sub slab depressurization. Maintenance of other Site components including monitoring wells and sub slab vapor points is also required to maintain data integrity and sample point availability, and are discussed in other sections of the SMP.

4.2.1 Sub Slab Depressurization System

4.2.1.1 Scope

An Air Registration Certificate was issued by NYSDEC on August 18, 2003 for the proposed installation of the SSDS. Final permit documents, including "As-built" figures were submitted to the Westchester County Department of Health (WCDOH) on September 12, 2006 and a Process, Exhaust or Ventilation System Application for Permit to Construct was submitted to NYSDEC on July 10, 2006. A WCDOH Air Emission permit (Permit # 52-6786, WCDOH Facility #0220,

Emission Point #SVE01) to construct was issued on April 28, 2006. A “Certificate to Operate” was initially issued by the WCDOH on September 29, 2006 and was renewed on January 1, 2013 and is valid through December 31, 2015.

4.2.1.2 System Restart and Inspection Protocols

The system’s extraction piping and other components for the SSDS were installed in the area of Tenant Spaces 355 and 357 (see Figure 10). An annual summary of the operation of the SSDS has been provided to the NYSDEC in the previous Annual Certification and Site Status Reports. Periodic status reports were submitted to WCDOH in response to WCDOH’s request. The SSDS consists of ten PVC extraction points installed below the building floor in the area of Tenant Spaces 355 and 357. The extraction points are then connected to a single header, one (1) 19 gallon moisture separator tank, a particulate filter, a 2 horsepower regenerative type blower, and two (2) granular activated carbon (GAC) units (200 pounds each) for treatment of the air stream prior to discharge. All equipment is specified to operate unattended and equipment failsafes are incorporated into the design to terminate operation if undesired deviations occur. As-built figures of the system components and extraction point locations are included as Figures 10, 11, and 12 of this SMP. The system inspection protocol described in this section will be conducted if, in the course of the SSDS lifetime, significant changes are made to the system, and the system must be restarted.

4.2.1.3 System Operation: Routine Equipment Maintenance

The calculated carbon life expectancy is approximately one (1) year for each 200 pound GAC unit when under constant maximum operation. When in operation, the SSDS O&M will be completed semi-annually. All routine and non-routine maintenance will be documented and included in the Annual Site Status Report.

The O&M procedures will include the following:

- Operational condition (on/off/irregularities) will be noted on arrival at the Site.
- General system operation will be noted (irregular vibration, noises, leaks, etc) as well as valve positions and visual condition of fittings, piping, discharge point, labeling, and equipment components.

- The area of the discharge point will be visually inspected to verify no air intakes have been located nearby.
- The air stream will be monitored at the pre equipment (SP-1), influent (SP-2), mid- point (SP-3), and effluent (SP-4) sample points of the SSDS utilizing a handheld PID, and the PID readings will be recorded on the SSDS O&M Inspection Record (see Appendix I).
- System parameters including vacuum or pressure levels will be recorded at points GA-V1, GA-P1, and GA-P2, and the levels will be recorded on the SSDS O&M Inspection Record (see Appendix I).
- The system will be shut down and water within the moisture separator tank will be drained as necessary. Drained water will be collected and placed within an on-site storage drum for temporary storage pending off-site disposal.
- The inlet particulate filter will be removed and cleaned based on visual inspection. The filter condition and potential need for replacement will be recorded on the SSDS O&M Inspection Record (see Appendix I).
- Adjustments of control valves will be made to maintain operation of the equipment within the specified design parameters.
- Operational condition (on/off/changes/irregularities) will be noted on the SSDS O&M Inspection Record (see Appendix I).

The “Installation and Operating Instructions for GAST Hazardous Duty Regenair Blowers” procedures were prepared by the manufacturer and is included within Appendix I of this SMP. The GAST will be maintained in accordance with the manufacturer’s recommendations. Specific fan or motor replacement intervals are not specified within the instructions. Equipment replacement or repair will be based upon operational data obtained as part of the O&M inspections.

Additional routine equipment monitoring and maintenance procedures are details in Section 4.3.1; Section 4.3.2; and Section 4.3.3 of this SMP.

4.2.1.4 System Operation: Non-routine Equipment Maintenance

The proposed system operation has been designed so that all components of the system are routinely monitored, inspected and maintained. Should there be an unforeseen situation, field technicians will follow the inspection protocol detailed in Section 4.2.1.3 and will prepare a Non-Routine Maintenance Report in accordance with Section 4.4.2 of this SMP.

4.3 ENGINEERING CONTROL SYSTEM PERFORMANCE MONITORING

4.3.1 Sub Slab Depressurization System Monitoring

The SSDS commenced operation in September 2006. The system's extraction piping and other components were installed in the area of tenant units 355 and 357 as part of the first IRM. All equipment is specified to operate unattended and equipment failsafes are incorporated into the design to terminate operation if undesired deviations occur. The SSDS is permitted to operate under an approvals issued by the NYSDEC Division of Air Resources and the Westchester County Department of Health.

The SSDS will be visually inspected semi-annually (Fall and Spring) as part of the system O&M. The inspection frequency is subject to change with approval of the NYSDEC and NYSDOH. Unscheduled inspections and/or sampling may take place when a suspected failure of the SSDS system has been reported or an emergency occurs that is deemed likely to affect the operation of the system. Monitoring deliverables for the SSDS are specified later in this Plan and Table 4. The SSDS is continuously monitored using and a remote, automatic notification telemetry system that monitors for power failure, loss of vacuum, overheating and general operating conditions.

4.3.2 General Equipment Inspections

A visual inspection of the SSDS will be conducted during each semi-annual inspection. SSDS system components to be monitored include the following components and conditions:

- o Operational condition (on or off)
- o General conditions (vibrations, noise, leaks)
- o Valve positions and piping conditions
- o Vacuum blower

- o Moisture separator tank
- o System vacuum and pressure levels
- o Inlet particulate filter
- o Effluent concentrations exiting the carbon canisters

A complete list of components to be checked is provided in the Inspection Checklist, presented in Appendix I. If any equipment readings are not within their typical range, any equipment observed to be malfunctioning, or the system is not performing within specifications, maintenance and repair as per the Operation and Maintenance Plan are required immediately, and the SSDS restarted.

4.3.3 System Monitoring Devices and Alarms

The SSDS has a warning device to indicate that the system is not operating, and will contact Brixmor and the Consultant to advice of a system power failure, loss of vacuum pressure or overheating. Upon receiving notice of a power failure, service personnel will be sent to the Site to implement the appropriate maintenance and repairs as specified in the Operation and Maintenance Plan, and the SSDS will be restarted. Operational problems will be noted in the subsequent Periodic Review Report.

A visual inspection of the SSDS will be conducted during each alarm response. SSDS system components to be monitored include the following components and conditions:

- o Operational condition (on or off)
- o Evaluation of the reason for alarm condition based upon operational status and condition
- o General conditions (vibrations, noise, leaks)
- o Valve positions and piping conditions
- o Vacuum blower
- o Moisture separator tank
- o System vacuum and pressure levels
- o Inlet particulate filter
- o System Integrity (need for repairs)

4.4 MAINTENANCE AND PERFORMANCE MONITORING REPORTING REQUIREMENTS

SSDS maintenance reports and any other information generated during regular operations at the Site will be kept on file at the Brixmor Corporate office and the Consultant's office. All reports, forms, and other relevant information generated will be available upon request to the NYSDEC and submitted as part of the Periodic Review Report, as specified in the Section 5 of this SMP.

4.4.1 Routine Maintenance Reports

A SSDS Maintenance Checklist (see Appendix I) will be completed during each routine maintenance event. The Checklists includes the following information:

- Date
- Name, company, and position of person(s) conducting maintenance activities
- Maintenance activities conducted
- Any modifications to the system
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet)
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form)

4.4.2 Non-Routine Maintenance Reports

During each non-routine maintenance event, a SSDS Maintenance Checklist (see Appendix I) form will be completed which will include, but not be limited to, the following information:

- Date;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Description of problem;

- Date of repair(s);
- Other repairs or adjustments made to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

5. INSPECTIONS, REPORTING AND CERTIFICATIONS

5.1 SITE INSPECTIONS

5.1.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 (“Monitoring Plan”) and Section 4 (“Operation and Maintenance Plan”) of this SMP which are summarized in Table 4. At a minimum, a Site-wide inspection will be conducted annually. Inspections of the SSDS will be conducted semi-annually or when a shutdown of the SSDS has occurred or whenever a severe condition has taken place that may affect the ECs.

5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports

The SSDS routine and non-routine inspections will be recorded on the SSDS Maintenance Checklist contained in Appendix I. The Annual Site-Wide Inspection Form will be completed during the annual site-wide inspection (see Appendix H). All applicable inspection forms and other records, including all media sampling data and system maintenance reports, generated for the Site during the reporting period will be provided in electronic format in the Periodic Review Report. The Periodic Review Report format is subject to NYSDEC revision.

5.1.3 Evaluation of Records and Reporting

The results of the inspection and site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- Operation and maintenance activities are being conducted properly; and, based on the above items,
- The site remedy continues to be protective of public health and the environment and is performing as designed in the RAWP.

5.2 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS

After the last inspection of the reporting period, a qualified environmental professional or Professional Engineer licensed to practice in New York State will prepare the following certification:

For each institutional or engineering control identified for the site, I certify that all of the following statements are true:

- The inspection of the Site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering control employed at this Site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;
- Access to the Site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the Site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the Site is compliant with the Deed Restriction:
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program; and
- The information presented in this report is accurate and complete.

- 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, [name], of [business address], am certifying as [Owner or Owner’s Designated Site Representative]: I have been authorized and designated by all site owners to sign this certification for the Site. The signed certification will be included in the Periodic Review Report.

5.3 PERIODIC REVIEW REPORT

A Periodic Review Report will be submitted to the Department every third year, beginning eighteen months after the Satisfactory Completion Letter is issued. In the event that the Site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix B (Metes and Bounds). The report will be prepared in accordance with NYSDEC DER-10 and submitted within 45 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The Periodic Review Report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site;
- Results of the required annual site inspections and severe condition inspections, if applicable;
- All applicable inspection forms and other records generated for the site during the reporting period in electronic format;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends;
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format;

- The results of the annual site evaluation, which includes the following:
 - o The compliance of the remedy with the requirements of the site-specific RAWP ;
 - o The operation and the effectiveness of the SSDS including identification of any needed repairs or modifications;
 - o Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
 - o Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
 - o The overall performance and effectiveness of the remedy.
- A performance summary for the SSDS at the Site during the reported calendar years, including information such as:
 - o The number of days the system was run for the reporting period;
 - o The estimated contaminant mass removed;
 - o A summary of breakdowns and/or repairs along with an explanation for any significant downtime;
 - o A description of the resolution of performance problems;
 - o A summary of the performance, effluent and/or effectiveness monitoring; and
 - o Comments, conclusions, and recommendations based on data evaluation.

The Periodic Review Report will be submitted, in hard-copy format, to the NYSDEC Central Office and Regional Office in which the site is located, and in electronic format to NYSDEC Central Office, Regional Office and the NYSDOH Bureau of Environmental Exposure Investigation.

5.4 CORRECTIVE MEASURES PLAN

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan will be submitted to the NYSDEC for approval. This plan will explain the failure

and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by the NYSDEC.

Tables

Table 1A - CVOC Concentration in Post Remediation Soil
Interior Former Westchester Dry Cleaner
Dalewood I Shopping Center
Hartsdale, New York
VCP Site V00457-3

ID	Sample Location and Depth								NYSDEC Restricted Use
	S Side 8	S Side 15	S Side 20	S Side 25	S Side 40	S Side 55			
Depth	5'	5.5'	5.5'	5.5'	5'	2'			
Parameter	Date Collected	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	1,300
Tetrachloroethylene		16,000	1,600	1,100	2,000	490	1,900		470
Trichloroethylene		ND	ND	ND	ND	ND	ND		NA
Field Screening Reading (PPMv)		NA	44.1	41.1	45.5	42	NA		

ID	Sample Location and Depth												NYSDEC Unrestricted Use
	N Side 10S	S Side 10D	N Side 20	N Side 30S	N Side 30D	N Side 40	N Side 50S	N Side 50D					
Depth	2'	5'	5'	2'	5'	5'	2'	5'					
Parameter	Date Collected	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	1,300
Tetrachloroethylene		14,000	460	2,200	360	5,100	540	2,000		640			470
Trichloroethylene		5.1	2	3.1	ND	3.9	ND	ND		ND			250
cis-1,2-Dichloroethylene		ND	ND	ND	3	ND	ND	ND		ND			NA
Field Screening Reading (PPMv)		24.1	3.2	8.4	9.8	30	10.5	12.9		0			

ID	Sample Location and Depth								NYSDEC Unrestricted Use
	E Side	E Side	W Side	W Side	SE Side	SW Side	C Back60		
Depth	2'	5'	2'	5'	3'	3'	2'		
Parameter	Date Collected	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	1,300
Tetrachloroethylene		2,200	400	340	890	340	340	950	700
Trichloroethylene		ND	ND	ND	ND	ND	ND	ND	300
cis-1,2-Dichloroethylene		ND	ND	ND	ND	ND	ND	NA	NA
Field Screening Reading (PPMv)		53	92	11	12	46	6		

ID	Sample Location and Depth										NYSDEC Unrestricted Use
	Bottom 10	Bottom 15	Bottom 25	Bottom 30	Bottom 40	Bottom 45	Out Bott 1	Out Bott 2			
Depth	6'	6'	6'	6'	6'	6'	15"	15"			
Parameter	Date Collected	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	05/22/03	1,300
Tetrachloroethylene		140	130,000	230,000	80,000	6,600	6,700	55,000	34,000	62	470
Trichloroethylene		ND	ND	120	ND	11	30	ND	ND	24	330
1,1-Dichloroethylene		ND	ND	ND	ND	ND	ND	ND	ND	83	250
cis-1,2-Dichloroethylene		ND	ND	ND	9.5	25	ND	ND	ND	NA	NA
Field Screening Reading (PPMv)		529	6664	NA	10000	28.7	39	1.1			

All concentrations reported in parts per billion (ug/kg) unless otherwise noted.

ND = Not Detected.

NYSDEC 375-6 Remedial Program Soil Cleanup Objectives

Shaded field indicates exceedence of NYSDEC Unrestricted Use Criteria

NA = Not analyzed or Not available

Field Screening Readings collected with a handheld Photoionization Detector (PID) with results in parts per million by volume (PPMv)

Table 1C - Soil Sample CVOC Results Summary
Dalewood I Shopping Center
371 N. Central Avenue, Hartsdale, NY

ID Date Depth Contaminant	HM HB 1 10/4/2011 3'	HM HB 2 10/4/2011 3'	HM HB 3 10/4/2011 3'	HM HB 4 10/4/2011 3'	MW 15 10/7/2011 4'	MW 16 10/7/2011 7'	MW 17 10/7/2011 13'	MW 18 10/7/2011 10'	Unrestricted Use	Residential	Restricted- Residential	Commercial	Industrial
Tetrachloroethene	9.5	3.8	0.38	0.35	0.013	0.011	0.24	0.15	1.3	5.5	19	150	300
Trichloroethene	0.15	0.12	0.014	ND<0.005	0.0052	0.006	0.048	0.021	0.47	10	21	200	400
Vinyl chloride	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	0.045	0.02	0.21	0.9	13	27
cis-1,2-Dichloroethene	0.046	0.035	ND<0.005	ND<0.005	0.0056	0.19	0.13	0.057	0.25	59	100 ^u	500 ^u	1,000 ^u
trans-1,2-Dichloroethene	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	ND<0.005	0.19	100 ^u	100 ^u	500 ^u	1,000 ^u
1,2 Dichlorobenzene	0.02	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	ND<0.005	1.1	100 ^u	100 ^u	500 ^u	1,000 ^u

All soil cleanup objectives (SCOs) are in parts per million (ppm) or mg/kg

Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives

Table 375-6.8(b): Restricted Use Soil Cleanup Objectives

Table 2- Groundwater Laboratory Analytical Summary
Dalewood I Shopping Center, Hartsdale, NY VCP # 00457-3

	Sample Date	VOCs					CVOCs					Vinyl Chloride		
		Chloroethane	Chloroform	1,2-DCB	1,3-DCB	1,4-DCB	MTBE	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Methylene Chloride	PCE	TCE	
NYSDEC		5	7	3	3	3	10	5	5	5	5	5	5	2
Shallow Wells - On Site														
MW-1S	8/1/00		17				0.6	1	NA	11.6	NA	8130	518	309
	11/1/00		4.5				NA	ND	NA	4.9	NA	1940	100	15.3
	3/29/01		15.8				NA	0.8	NA	3.3	5.4	920	191	46.3
	12/8/04		BDL				BDL	1.4	440	3.1	BDL	150	65	230
	2/8/06		ND				ND	3	700	9.3	0.65	140	99	230
	9/19/06		ND				ND	1.2	380	5.5	ND	100	39	300
	12/19/06		ND				ND	ND	320	ND	ND	79	31	350
	3/8/07		ND				ND	ND	510	5.4	ND	87	47	190
	6/26/07		ND				ND	ND	460	ND	ND	78	39	150
	9/20/07		<5				<10	<5	470	<5	<10	78	29	190
	12/4/07		<1				<1	<1	140	1.7	<1	120	33	110
	3/18/08		<1				<1	1.4	390	4	<1	84	29	130
	6/4/08		<5				<10	<5	270	<5	<5	73	13	90
	9/24/08		<5				<10	<5	140	<5	<5	61	13	140
	12/9/08		<5.0				<10	<5.0	140	<5.0	<5.0	92	11	110
	4/9/09		<1.0				<1.0	<1.0	220	2.7	<1.0	97	14	88
	6/17/09		<20				<20	<20	190	<20	<20	110	<20	84
	9/29/09		<1				<1	<1	130	2.6	<1	90	16	110
	12/2/09		<1.0				<1.0	<1.0	91	1.7	<1.0	100	10	62
	3/18/10		<20				<20	<20	400	<20	<20	150	40	63
6/25/10		<1.0				NA	1.1	300	6.1	<1.0	93	38	91	
7/20/10	INJECTION COMPLETED													
9/14/10		<1.0					NA	<1.0	76	<1.0	<1.0	130	19	58
12/1/10		<1.0					NA	<1.0	45	3.7	<1.0	22	4.4	51
6/22/11		<1.0					NA	<1.0	82	3.3	<1.0	27	9.6	59
9/28/11		<1.0					NA	<1.0	100	3.3	<1.0	23	7.1	90
12/8/11		<5.0					NA	<5.0	130	<5.0	<5.0	45	6.3	150
3/29/12	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	146	4	<2.0	38.5	9	50.1
6/6/12	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	79.6	2.3	<2.0	95	6.8	75.4
12/14/12	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	206	2.1	<2.0	9.3	2.1	118
8/1/2000		16					ND	1	NA	5.7	NA	1150	181	399
11/1/2000		6.7					NA	ND	NA	7.1	NA	2810	580	319
3/29/2001		22					NA	1.8	NA	10.9	ND	6610	675	190
6/4/2008		<5					<10	<5	69	<5	<5	1500	66	<5

Table 2- Groundwater Laboratory Analytical Summary
Dalewood I Shopping Center, Hartsdale, NY VCP # 00457-3

MW-2S	9/24/2008																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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Table 2- Groundwater Laboratory Analytical Summary
Dalewood I Shopping Center, Hartsdale, NY VCP # 00457-3

	12/9/08								<5.0	<10	<5.0	1,200	<5.0	<5.0	1,400	550	5.5
	4/9/09								<1.0	<1.0	<1.0	130	<1.0	1.2	250	74	11
	6/17/09								<1.0	<1.0	<1.0	40	<1.0	2	140	29	4.7
	9/29/09								<1	<1	<1	240	<1	1.4	680	150	2.2
	12/2/09								<1.0	<1.0	<1.0	410	<1.0	1.6	1000	300	1.1
	3/18/10								<1.0	<1.0	<1.0	11	<1.0	<1.0	28	6.1	ND
	6/25/10								<1.0	NA	<1.0	26	<1.0	<1.0	88	24	1.3
	7/20/10	INJECTION COMPLETED															
	9/14/10								<1.0	NA	<1.0	43	<1.0	<1.0	160	45	<1.0
	12/1/10								<1.0	NA	<1.0	58	<1.0	<1.0	120	21	5.1
	12/8/11								<1.0	NA	<1.0	13	<1.0	<1.0	30	8.5	4.2
	11/1/00								11.7	NA	1	NA	1.9	ND	713	253	21
	3/29/01								24.2	NA	0.5	NA	1.5	ND	673	288	51.7
	12/8/04								0.56	BDL	0.73	210	2.3	BDL	280	73	59
	2/7/06								ND	ND	ND	290	1.7	ND	210	66	11
	12/4/07								<10	<10	<10	72	<10	<10	98	14	36
	9/23/08								<5	<10	<5	100	<5	<5	90	38	44
	9/29/09								<1	<1	<1	120	<1	<1	370	49	50
	7/20/10	INJECTION COMPLETED															
	9/14/10								<1.0	NA	<1.0	180	<1.0	<1.0	320	68	76
	9/28/11								<2.0	NA	<2.0	98	<2.0	<2.0	180	49	20
	3/29/01								ND	NA	ND	NA	2.6	ND	0.8	2.1	23.3
	12/8/04								BDL	2.1	0.87	70	2.5	BDL	1.2	1.6	56
	2/7/06								ND	ND	ND	19	0.93	ND	27	2.5	14
	12/4/07								<1	<1	<1	13	<1	<1	<1	<1	8.7
	9/23/08								<5	<10	<5	10	<5	<5	6.9	<5	<5
	3/29/01								25.3	NA	ND	NA	ND	ND	1520	603	156
	2/27/03								3.3	17.7	2.6	1140	8.8	ND	11600	629	220
	12/8/04								BDL	BDL	3.2	600	4.1	BDL	750	280	200
	2/7/06								ND	ND	4.5	1100	7.9	ND	1100	410	190
	6/28/06								ND	ND	3.4	610	4.5	ND	420	410	70
	9/19/06								ND	ND	2.8	600	6.7	ND	280	120	160
	12/19/06								ND	ND	ND	630	ND	ND	350	130	290
	3/8/07								ND	ND	ND	920	7.9	ND	1400	460	170
	6/26/07								5.4	ND	ND	ND	ND	ND	22	ND	ND
	9/20/07								<5	<10	<5	350	<5	<10	290	88	69
	12/4/07								<1	<1	1.2	250	3.5	<1	280	88	95
	3/18/08								<1	<1	3.1	990	12	<1	930	410	110
	6/4/08								<5	<10	<5	450	6.2	<5	370	150	120
	9/23/08								<5	<10	<5	310	5.6	<5	240	84	61

Table 2- Groundwater Laboratory Analytical Summary
Dalewood I Shopping Center, Hartsdale, NY VCP # 00457-3

	12/14/12	<2.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	70.2	<1.0	<2.0	106	45	<1.0
	7/20/10	INJECTION COMPLETED												
MW-14	9/14/10		<10				NA	<10	620	<10	<10	890	270	<10
	12/1/10		<1.0				NA	<1.0	510	<1.0	<1.0	570	290	<1.0
	6/22/11		<1.0				NA	<1.0	6.3	<1.0	<1.0	32	4.8	<1.0
	9/28/11		<1.0				NA	<1.0	2.9	<1.0	<1.0	15	2	<1.0
	3/29/12	<2.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	6.7	<1.0	<2.0	12.7	2.2	<1.0
	6/6/12	<2.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	5.2	<1.0	<2.0	52.1	4.1	<1.0
	12/14/12		<1.0	<1.0	<1.0	<1.0	NA	<1.0	7.9	<1.0	<2.0	20.1	4.7	<1.0
	7/20/10	INJECTION COMPLETED												
MW-15	10/13/11		<10				NA	<10	67	<10	<10	890	92	<10
	12/8/11		<5.0				NA	<5.0	100	<5.0	<5.0	470	63	<5.0
	7/20/10	INJECTION COMPLETED												
MW-16	10/13/11		<10				NA	<10	1200	<10	<10	58	<5.0	56
	12/8/11		<10				NA	<10	940	<10	<10	220	56	50
	7/20/10	INJECTION COMPLETED												
MW-17	10/13/11		<10				NA	<10	480	<10	<10	24	<5.0	110
	12/8/11		<10				NA	<10	710	<10	<10	560	150	120
	7/20/10	INJECTION COMPLETED												
MW-18	10/13/11		<10				NA	<10	370	<10	<10	1500	220	7.3
	12/8/11		<10				NA	<10	380	<10	<10	860	200	11
	3/29/01		ND				NA	3.9	NA	7.8	5	288	1250	1260
	2/27/03		ND				2.8	3.6	1710	9.3	ND	106	330	825
	12/9/04		BDL				15	1.6	1300	9.2	BDL	230	25	710
	2/7/06		ND				17	1.3	760	3.4	ND	710	210	240
	6/29/06		ND				2.9	ND	140	ND	ND	61	23	47
	9/19/06		ND				9	1	560	6.4	ND	35	6.7	360
	12/18/06		ND				ND	ND	100	ND	ND	94	11	59
	3/8/07		ND				11	ND	340	ND	ND	17	6.5	300
	6/26/07		ND				ND	ND	1200	ND	ND	910	96	110
	9/20/07		<5				<10	7.7	6000	17	<10	1700	500	280
	12/4/07		<1				25	<1	410	4.1	<1	120	22	51
	3/18/08		<1				4.9	<1	2700	32	<1	160	10	1800
	6/4/08		<5				<10	<5	350	<5	<5	35	11	87
	9/23/08		<5				<10	<5	94	<5	<5	48	8.5	7.4
	12/9/08		<5.0				<10	<5.0	130	<5.0	<5.0	18	<5.0	6.6
	4/9/09		<1.0				4.5	<1.0	180	1.7	<1.0	100	10	26

Table 2- Groundwater Laboratory Analytical Summary
Dalewood I Shopping Center, Hartsdale, NY VCP # 00457-3

MW-200	6/17/09							4.4	<1.0	340	10	<1.0	130	17	10
	9/29/09							4.7	<1	240	1.9	<1	28	11	8.1
	12/2/09							<10	<10	210	<10	<10	120	<10	<10
	3/18/10							<20	<20	430	<20	<20	27	<20	160
	6/25/10							NA	<1	400	1.7	<1	110	31	6.1
	7/20/10	INJECTION COMPLETED													
	9/14/10							NA	<2.0	630	2.3	<2.0	77	19	23
	12/1/10							NA	<1.0	270	1.5	<1.0	47	10	21
	3/9/11							NA	<2.0	540	5	<2.0	8.4	<2.0	340
	6/22/11							NA	<5.0	580	<5.0	<5.0	110	62	5.3
	9/28/11							NA	<5.0	250	<5.0	<5.0	84	23	9.7
	12/8/11							NA	<20	3100	<20	<20	52	<20	1600
	3/29/12	5.9	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	562	4.8	<2.0	32.3	12.9	132
	6/6/12	5.7	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	262	2.1	<2.0	22.8	5.3	179
	12/14/12	<20	<10	<10	<10	<10	<10	NA	17.6	10000	35.7	<20	16.9	<10	2610
	6/26/13	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0	1690	15.7	<10.0	7.8	<5.0	653
MW-201	3/29/01							ND	ND	NA	ND	3.6	63.8	51.8	10.4
	2/27/03							ND	ND	11.8	ND	ND	0.6	2.1	2.3
	2/7/06							ND	ND	49	ND	ND	5.2	2.6	13
	6/29/06							ND	ND	2.1	ND	0.81	0.62	0.52	ND
	9/19/06							ND	ND	16	ND	ND	44	2.5	2.7
	12/18/06							3.3	ND	40	ND	ND	7.3	4	18
	3/8/07							ND	ND	82	ND	ND	47	33	15
	6/26/07							ND	ND	7.7	ND	ND	ND	ND	ND
	9/20/07							<10	<5	11	<5	<10	120	6.1	<5
	12/4/07							<1	<1	5.7	<1	<1	42	1.7	<1
	3/18/08							2.2	<1	47	<1	<1	48	17	14
	9/23/08							<10	<5	<5	<5	<5	<5	<5	<5
	9/29/09							<1	<1	2.3	<1	<1	60	1.8	<1
	7/20/10	INJECTION COMPLETED													
	9/14/10							NA	<1.0	2.8	<1.0	<1.0	7.1	<1.0	<1.0
	9/28/11							NA	<1.0	2.3	<1.0	<1.0	4.3	<1.0	<1.0
	3/29/01							NA	ND	NA	ND	ND	4.7	ND	ND
	2/27/03							ND	ND	2.5	ND	ND	8.1	ND	ND
	2/7/06							ND	ND	3.1	ND	ND	54	1.6	ND
	6/29/06							ND	ND	1.1	ND	ND	9.3	0.68	ND
	9/19/06							ND	ND	5.9	ND	ND	290	6.2	ND
	12/18/06							ND	ND	1.1	ND	ND	22	ND	ND
	3/8/07							ND	ND	ND	ND	ND	38	ND	ND

Table 2- Groundwater Laboratory Analytical Summary
Dalewood I Shopping Center, Hartsdale, NY VCP # 00457-3

MW-202	6/26/07							ND				ND	ND	ND	10	ND	ND	ND
	9/20/07							<5				<10	<5	<5	10	<5	<5	<5
	12/4/07							<1				<1	<1	<1	<1	<1	<1	<1
	3/18/08							<1				<1	<1	<1	13	<1	<1	<1
	6/4/08							<5				<10	<5	<5	5.4	<5	<5	<5
	9/23/08							<5				<10	<5	9.1	47	<5	<5	<5
	12/9/08							<5.0				<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	9/29/09							<1				<1	<1	4	96	<1	<1	<1
	7/20/10	INJECTION COMPLETED																
	9/14/10							<1.0				NA	<1.0	<1.0	39	<1.0	3.3	<1.0
	9/28/11							<2.0				NA	<2.0	14	55	<2.0	8.3	<2.0
	3/29/01							ND				ND	5.4	NA	396	5.7	554	20.1
	2/27/03							ND				1	4.8	640	186	ND	125	32.8
	12/9/04							BDL				13	0.63	260	220	BDL	28	7.4
MW-204	2/7/06							ND				27	0.58	210	630	ND	61	14
	6/29/06							ND				9.2	ND	88	96	ND	27	8.9
	9/19/06							ND				12	ND	250	600	ND	63	22
	12/18/06							ND				9	1.1	270	220	ND	59	17
	3/8/07							ND				10	ND	490	480	ND	160	15
	6/26/07							ND				ND	ND	7.8	17	ND	ND	ND
	9/20/07							<5				<10	<5	13	120	<10	6.4	<5
	3/18/08							<1				5.7	<1	160	190	<1	26	7.8
	6/4/08							<5				<10	<5	97	52	<5	13	<5
	9/23/08							<5				28	<5	460	130	<5	57	22
	12/9/08							<5.0				14	<5.0	390	130	<5.0	56	11
	4/9/09							<1.0				4.7	2	1300	620	<1.0	200	17
	6/17/09							<20				<20	<20	1500	700	<20	140	<20
	9/29/09							<1				3.4	<1	190	74	<1	24	11
	12/2/09							<1.0				5.8	<1.0	350	290	<1.0	38	16
	3/18/10							<20				<20	<20	530	250	<20	92	<20
	6/25/10							<2.0				NA	<2.0	180	130	<2.0	16	3.4
	7/20/10	INJECTION COMPLETED																
	9/14/10							ND<1.0				NA	<1.0	150	64	<1.0	20	5.2
	12/1/10							<20				NA	<20	1200	120	<20	56	<20
	3/9/11							<2.0				NA	<2.0	440	76	<2.0	35	19
	6/22/11							<2.0				NA	<2.0	270	1700	<2.0	36	16
	9/28/11							ND<5.0				NA	<5.0	57	650	<5.0	15	9.9
	12/8/11							<20				NA	<20	2500	6000	<20	910	80
	3/29/12							<1.0				NA	<1.0	56.1	250	<1.0	28.5	<1.0
	6/6/12							<1.0				NA	<1.0	351	1430	<2.0	249	4.6

Table 2- Groundwater Laboratory Analytical Summary
Dalewood I Shopping Center, Hartsdale, NY VCP # 00457-3

	12/14/12	<10	<5.0	<5.0	<5.0	NA	<5.0	246	<5.0	<5.0	845	139	5.9
MW-205	2/27/03		ND			ND	ND	460	ND	ND	6750	535	81.9
	3/11/03		ND			1.6	3.2	298	0.9	ND	9980	791	46.2
	12/9/04		8.1			19	6.7	2500	11	BDL	19000	1700	160
	2/7/06		7			9.7	16	18000	44	ND	16000	1400	210
	6/28/06		ND			6.1	9.4	6800	40	ND	11000	1300	520
	9/19/06		4.9			10	14	6300	50	ND	28000	1600	400
	12/18/06		ND			ND	ND	4300	ND	ND	26000	1100	390
	3/8/07		ND			ND	9	6800	30	ND	25000	1200	220
	6/26/07		ND			ND	10	3900	20	ND	23000	730	660
	9/20/07		<5			<10	10	3800	25	<10	12000	1400	320
	12/4/07		<100			<100	<100	4200	<100	<100	22000	1500	180
	3/18/08		1.6			3.6	6.4	3600	20	<1	21000	910	400
	6/4/08		<5			<10	8.3	7,900	43	<5	8,400	890	700
	9/23/08		<5			<10	<5	2,800	8.2	<5	2,900	330	110
	4/9/09		<100			<100	<100	3,800	<100	<100	25,000	1300	270
	6/17/09		<1.0			1.3	5	4,200	12	<1.0	9,700	720	260
	9/29/09		<1.0			1.3	1.2	1,900	5.6	<1.0	6,200	320	130
	12/2/09		<1.0			1.4	3.6	2,100	8.3	<1.0	14,000	970	120
	3/18/10		<20			<20	<20	1,100	<20	<20	15,000	440	120
	6/25/10		<20			NA	<20	3,500	<20	<20	14,000	880	190
	7/20/10	INJECTION COMPLETED											
	9/14/10		<2.0			NA	<2.0	1,600	<2.0	<2.0	27	16	16
	12/1/10		<20			NA	<20	1,900	<20	<20	4,800	390	160
	3/9/11		<20			NA	<20	2,300	<20	<20	9,800	1000	160
	6/22/11		<20			NA	<20	1,800	<20	<20	1,700	450	85
	9/28/11		<50			NA	<50	4,200	<50	<50	8,100	1800	640
	12/8/11		<20			NA	<20	6,000	29	<20	5,500	2300	600
	3/29/12	14.4	<1.0	<1.0	<1.0	NA	11.2	4,490	151	<2.0	1,660	1500	374
	6/6/12	10.7	<1.0	<1.0	<1.0	NA	20.7	5,430	52.1	<2.0	5,830	2130	263
	12/14/12	<10	<5.0	<5.0	<5.0	NA	<5.0	857	<5.0	<10	269	189	36.3
	6/26/13	<4.0	<2.0	<2.0	<2.0	NA	<2.0	436	10.7	<4.0	65.4	49.7	58.3
	2/27/03		ND			ND	17.8	1010	23.2	ND	11200	1730	494
	3/11/03		2.5			ND	18.5	1800	23	ND	32400	4400	359
	12/9/04		9.4			9.3	13	3400	17	0.5	16000	1300	210
	2/7/06		2.9			15	9.7	3400	25	0.69	11000	420	310
	9/19/06		3.4			13	11	4700	41	ND	13000	520	620
	12/18/06		ND			ND	ND	3600	ND	ND	13000	420	560

Table 2- Groundwater Laboratory Analytical Summary
Dalewood I Shopping Center, Hartsdale, NY VCP # 00457-3

[illegible]

Table 2- Groundwater Laboratory Analytical Summary
Dalewood I Shopping Center, Hartsdale, NY VCP # 00457-3

MW-212	9/20/06		5.4					16	ND	350	2.2	ND	2300	110	16
	12/18/06		ND					ND	ND	330	ND	ND	2300	110	ND
	3/8/07		5.7					22	ND	1000	ND	ND	4900	200	34
	6/26/07		ND					ND	ND	270	ND	ND	1900	64	12
	9/20/07		6.1					11	<5	1300	5.6	<10	5900	390	40
	12/14/07		<100					<100	<100	<100	<100	<100	2000	<100	<100
	3/18/08		3.1					3.6	<1	310	1.7	<1	2100	130	3.1
	6/4/08		<5					<10	<5	580	19	<5	2,300	160	10
	9/23/08		<5					<10	<5	110	<5	<5	510	40	<5
	12/9/08		<5.0					<10	<5.0	300	<5.0	<5.0	1700	74	<5.0
	4/9/09		<10					<10	<10	360	<10	<10	1,900	110	<10
	6/17/09		3.5					2.9	<1.0	480	2.1	<1.0	2,300	130	3.9
	9/29/09		1.3					4.4	1.7	990	3.4	<1.0	3,200	300	18
	12/2/09		<5.0					<5.0	<5.0	230	<5.0	<5.0	1,100	58	<5.0
	3/18/10		<20					<20	<20	680	<20	<20	3,400	160	<20
	6/25/10		<20					NA	<20	1500	<20	<20	5,000	260	42
	7/20/10		INJECTION COMPLETED												
	9/14/10		<50					NA	<50	21,000	<50	<50	24,000	4300	2400
	12/1/10		1.2					NA	<1.0	520	<1.0	<1.0	3,900	92	5.3
	3/9/11		<20					NA	<20	480	<20.0	<20	3,100	180	<20
	6/22/11		<20					NA	<20	1900	<20.0	<20	2,700	350	98
	9/28/11		<2.0					NA	<2.0	880	6.3	<2.0	520	140	57
	12/8/11		<20					NA	<20	1400	<20	<20	520	150	72
	3/29/12	<4.0	<2.0	<2.0	<2.0			NA	<2.0	391	<2.0	<4.0	334	111	8.1
	6/6/12	<2.0	<1.0	<1.0	<1.0			NA	<1.0	78	<1.0	<2.0	110	23	2.5
	12/14/12	<2.0	<1.0	<1.0	<1.0			NA	<1.0	18.5	<1.0	<2.0	23.7	4.5	2.2
	6/26/13	<2.0	1.7	<1.0	<1.0			NA	<1.0	4.5	<1.0	<2.0	19.3	2.7	<1.0
	4/16/03		10.8					<0.8	2.4	1340	6.6	<3.0	18100	1140	500
	12/9/04		27					24	1.7	600	3.4	0.5	3800	540	160
	2/7/06		10					18	2.8	1200	7.8	0.57	4100	520	120
	6/28/06		4.5					7.3	1.1	1000	4.4	ND	2500	360	54
	9/19/06		10					13	4	2300	15	ND	11000	870	210
	12/18/06		ND					ND	ND	2100	ND	ND	7500	860	180
	3/8/07		9					15	6.2	3900	17	ND	14000	1200	190
	6/26/07		ND					ND	ND	2200	11	ND	6000	740	130
	9/20/07		<5					<10	<5	2600	12	<10	6400	790	130
	12/14/07		<100					<100	<100	2500	<100	<100	7500	870	110
	3/18/08		5.1					4	7.3	4500	30	<1	15000	1300	120
	6/4/08		<5					<10	<5	4,100	32	<5	11,000	1,000	110

Table 2- Groundwater Laboratory Analytical Summary
Dalewood I Shopping Center, Hartsdale, NY VCP # 00457-3

MW-214	9/23/08		<5				<10	7.1	3,900	19	<5	12,000	980	160	
	12/9/08		<5.0				<10	6	3,400	14	<5.0	9,600	820	140	
	4/9/09		<1.0				<1.0	5.1	3,100	22	<1.0	9,100	240	110	
	6/17/09		<1.0				<1.0	8.2	4,200	13	<1.0	11,000	1,100	120	
	9/29/09		<1.0				<1.0	6.2	3,500	25	<1.0	11,000	790	140	
	12/2/09		<10				<10	<10	6,800	20	<10	14,000	1,100	200	
	3/18/10		<20				<20	<20	8,600	23	<20	21,000	1,800	240	
	6/25/10		<20				NA	<20	3,400	<20	<20	7,400	52	180	
	7/20/10	INJECTION COMPLETED													
	9/14/10		<50				NA	<50	800	<50	<50	16,000	500	140	
	12/1/10		<20				NA	<20	3,400	<20	<20	7,300	1,000	170	
	3/9/11		<20				NA	<20	5,700	<20	<20	16,000	1,300	240	
	6/22/11		<20				NA	<20	1,300	<20	<20	4,700	330	98	
	9/28/11		<10				NA	<10	1,700	<10	<10	6,500	440	130	
	12/8/11		<20				NA	<20	2,000	<20	<20	5,500	420	140	
	3/29/12	<10	<5.0	<5.0	<5.0	<5.0	NA	<5.0	388	<5.0	<10	982	159	47.6	
	6/6/12	<2.0	<1.0	<1.0	<1.0	<1.0	NA	1.1	360	<1.0	<2.0	608	141	43.8	
	12/14/12	<2.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	233.0	1.6	<2.0	360	81.6	38.5	
MW-303	Shallow Downgradient - Off Site														
	2/19/04		<0.8				61.3	<0.6	4.8	<0.8	<3.0	1.3	<1.0	<0.3	
	12/8/04		BDL				55	BDL	3.2	BDL	BDL	1.7	1.3	0.85	
	2/8/06		ND				35	ND	1.8	ND	ND	1.6	1.2	ND	
	6/28/06		ND				68	ND	5.7	ND	ND	14	2.8	ND	
	9/20/06		ND				70	ND	7	ND	ND	11	2.2	ND	
	12/18/06		ND				60	ND	ND	ND	ND	35	ND	ND	
	3/8/07		ND				20	ND	ND	ND	ND	ND	ND	ND	
	6/26/07		ND				40	ND	ND	ND	ND	ND	ND	ND	
	9/20/07		<5				44	<5	<5	<5	<10	8.9	<5	<5	
	12/4/07		<2				45	<2	2.6	<2	<2	<2	<2	<2	
	3/18/08		<1				19	<1	4.8	<1	<1	34	2	<1	
	6/4/08		<5				34	<5	<5	<5	<5	<5	<5	<5	
	9/23/08		<5				28	<5	<5	<5	<5	<5	<5	<5	
	12/9/2008		<5.0				31	<5.0	<5.0	<5.0	<5.0	19	<5.0	<5.0	
	4/9/09		<1.0				26	<1.0	3.8	<1.0	<1.0	40	1.8	<1.0	
	6/17/09		<1.0				47	<1.0	12	<1.0	<1.0	62	4.6	<1.0	
	9/29/09		<1				34	<1	3.3	<1	<1	<1	1.1	<1	
	12/2/09		<1.0				39	<1.0	3.5	<1.0	<1.0	5.6	1.9	<1.0	
3/18/10		<5.0				28	<5.0	<5.0	<5.0	<5.0	80	<5.0	<5.0		
6/25/10		<1.0				NA	<1.0	5.9	<1.0	<1.0	59	2.3	<1.0		

Table 2-Groundwater Laboratory Analytical Summary
Dalewood I Shopping Center, Hartsdale, NY VCP # 00457-3

INJECTION COMPLETED														
7/20/10		<2.0				31	<2.0	7.4	<2.0	<2.0	13	<2.0	<2.0	<2.0
9/14/10		<1.0				NA	<1.0	<1.0	<1.0	<1.0	15	1.8	<1.0	<1.0
12/1/10		<1.0				NA	<1.0	18	<1.0	<1.0	3.1	1.3	2.4	<1.0
3/9/11		<1.0				NA	<1.0	<1.0	<1.0	<1.0	11	1.9	<1.0	<1.0
6/22/11		<1.0				22	<1.0	5.1	<1.0	<1.0	18	2.4	<1.0	<1.0
9/28/11		<1.0				NA	<1.0	12	<1.0	<1.0	<1.0	<1.0	1.5	<1.0
12/8/2011		<1.0				NA	<1.0	8.4	<1.0	<2.0	3.5	1.8	<1.0	<1.0
3/29/2012	<2.0	<1.0	3.0	2.6	3.2	NA	<1.0	4.0	<1.0	<2.0	1.6	<1.0	<1.0	<1.0
6/6/2012	<2.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	1.9	<1.0	<2.0	4.2	<1.0	<1.0	<1.0
#####	<2.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0							
3/18/2010						<200	<200	25,000	<200	<200	32,000	3,600	3,400	
HOR														
GWT		<200												
Deep Wells - On Site														
MW-1D	8/1/00		ND			NA	ND	NA	ND	ND	583	ND	ND	ND
	11/1/01		ND			NA	ND	NA	ND	BDL	6.3	ND	ND	ND
	12/8/04		6.9			3.3	BDL	0.72	BDL	BDL	28	2.5	BDL	BDL
	2/8/06		7.9			2	ND	ND	ND	ND	11	ND	ND	ND
	9/24/08		<5			<10	<5	6.4	<5	<5	71	<5	<5	<5
	9/29/09		3.3			<1	<1	2	<1	<1	24	3	<1	<1
7/20/10	INJECTION COMPLETED													
MW-2D	9/14/10		2.6			NA	<1.0	<1.0	<1.0	<1.0	13	<1.0	<1.0	<1.0
	9/28/11		1.7			NA	<1.0	<1.0	<1.0	<1.0	8.2	<1.0	<1.0	<1.0
	8/1/00		ND			NA	ND	NA	ND	ND	78.8	ND	ND	ND
	11/1/01		0.5			NA	ND	NA	ND	ND	9.5	ND	ND	ND
	12/8/04		11			3.1	BDL	BDL	BDL	BDL	15	BDL	BDL	BDL
	2/7/06		16			ND	ND	ND	ND	ND	31	0.7	ND	ND
MW-5	12/4/07		4.8			<1	<1	<1	<1	<1	22	<1	<1	<1
	9/24/08		<5			<10	<5	<5	<5	<5	56	<5	<5	<5
	11/1/00		ND			NA	ND	NA	ND	ND	1.7	ND	ND	ND
	3/29/01		ND			NA	ND	NA	ND	ND	ND	ND	ND	ND
	12/8/04		BDL			3.7	BDL	BDL	BDL	BDL	7.3	BDL	BDL	BDL
	2/8/06		ND			3.2	ND	ND	ND	ND	8.7	1.2	ND	ND
MW-21F	12/4/07		<1			1.5	<1	2.5	<1	<1	32	1.1	<1	<1
	9/23/08		<5			<10	<5	<5	<5	<5	6.6	<5	<5	<5
	2/19/04		<0.8			<0.8	<0.6	0.7	<0.8	<3.0	1	<1.0	<0.3	<0.3
	12/9/04		BDL			BDL	BDL	BDL	BDL	BDL	2.2	BDL	BDL	BDL
	2/7/06		ND			ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/06		ND			ND	ND	8.5	ND	ND	58	4	0.71	0.71
12/4/07		<1			<1	<1	<1	<1	<1	<1	<1	<1	<1	

Table 3 - Sub Slab Soil Vapor Sample Analysis Summary
Dalewood I Shopping Plaza
355 - 371 North Central Avenue, Hartsdale, NY
VPC Site V00457-3

SUB SLAB VAPOR SAMPLE RESULTS\$

Compound	units	Doctors Express (Former Jump Ship / Spectrum / Hallmark) SG-3-359								units	NYSDOH Guideline
Sample Date		2/17/2005	3/8/2006	3/2/2007	2/27/2008	2/12/2009	2/11/2010	2/9/2011	2/2/2012		
Vinyl Chloride	ppbv	ND<0.5	ND<0.5	ND<1.0	ND<0.2	ND<0.1	ND<0.10	1.2	ND<0.1	ppbv	NE
	mcg/m3	ND<1.3	ND<1.3	ND<2.6	ND<0.51	ND<0.26	ND<0.26	3.2	ND<0.26	mcg/m3	
trans-1,2-Dichloroethylene	ppbv	ND<0.5	ND<0.5	ND<1.0	ND<0.2	ND<0.1	ND<0.10	ND<0.05	ND<0.1	ppbv	NE
	mcg/m3	ND<2.0	ND<2.0	ND<4.0	ND<0.79	ND<0.40	ND<0.4	ND<0.20	ND<0.40	mcg/m3	
cis-1,2-Dichloroethylene	ppbv	ND<0.5	ND<0.5	ND<1.0	ND<0.2	ND<0.1	ND<0.10	ND<0.05	ND<0.1	ppbv	NE
	mcg/m3	ND<2.0	ND<2.0	ND<4.0	ND<0.79	ND<0.40	ND<0.4	ND<0.20	ND<0.40	mcg/m3	
Trichloroethylene	ppbv	ND<0.5	ND<0.5	5.5	7.7	3.5	0.15	1.7	ND<0.1	ppbv	1
	mcg/m3	ND<2.7	ND<2.7	30	41	19	0.81	9	ND<0.54	mcg/m3	5
Tetrachloroethylene	ppbv	42	44	75	19	8.4	8.8	68	1	ppbv	15
	mcg/m3	280	300	510	130	57	59	460	7.1	mcg/m3	100

Compound	units	Friendly's SG-4-361								units	NYSDOH Guideline
Sample Date		2/17/2005	3/8/2006	3/2/2007	2/27/2008	2/12/2009	2/11/2010	2/9/2011	2/2/2012		
Vinyl Chloride	ppbv	ND<0.5	ND<0.5	ND<0.80	ND<1.0	ND<1.0	ND<1.0	ND<0.050	ND<1.0	ppbv	NE
	mcg/m3	ND<1.3	ND<1.3	ND<2.0	ND<2.6	ND<2.6	ND<2.6	ND<0.13	ND<2.6	mcg/m3	
trans-1,2-Dichloroethylene	ppbv	ND<0.5	ND<0.5	ND<0.80	ND<1.0	ND<1.0	ND<1.0	ND<0.050	ND<1.0	ppbv	NE
	mcg/m3	ND<2.0	ND<2.0	ND<3.2	ND<4.0	ND<4.0	ND<4.0	ND<0.20	ND<4.0	mcg/m3	
cis-1,2-Dichloroethylene	ppbv	ND<0.5	ND<0.5	ND<0.80	ND<1.0	ND<1.0	ND<1.0	ND<0.050	ND<1.0	ppbv	NE
	mcg/m3	ND<2.0	ND<2.0	ND<3.2	ND<4.0	ND<4.0	ND<4.0	ND<0.20	ND<4.0	mcg/m3	
Trichloroethylene	ppbv	2.4	ND<200	11	11	5.9	3.5	3.4	5	ppbv	1
	mcg/m3	13	ND<110	58	57	32	19	18	27	mcg/m3	5
Tetrachloroethylene	ppbv	1,900	2,800	3,400	4,000	3,200	2,900	2,900	5,100	ppbv	15
	mcg/m3	13,000	19,000	23,056	27,000	22,000	20,000	19,000	35,000	mcg/m3	100

Compound	units	Sally Beauty SG-5-365								units	NYSDOH Guideline
Sample Date		2/17/2005	3/8/2006	3/2/2007	2/27/2008	2/12/2009	2/11/2010	2/9/2011	2/2/2012		
Vinyl Chloride	ppbv	ND<100	ND<500	ND<0.80	ND<10	ND<4.0	ND<1.0	ND<0.050	ND<1.0	ppbv	NE
	mcg/m3	ND<260	ND<1300	ND<2.0	ND<26	ND<10	ND<2.6	ND<0.13	ND<2.6	mcg/m3	
trans-1,2-Dichloroethylene	ppbv	ND<100	ND<500	ND<0.80	ND<10	ND<4.0	ND<1.0	0.35	ND<1.0	ppbv	NE
	mcg/m3	ND<400	ND<2000	ND<3.2	ND<40	ND<16	ND<4.0	1.4	ND<4.0	mcg/m3	
cis-1,2-Dichloroethylene	ppbv	ND<100	ND<500	ND<0.80	ND<10	ND<4.0	ND<1.0	0.87	ND<1.0	ppbv	NE
	mcg/m3	ND<400	ND<2000	ND<3.2	ND<40	ND<16	ND<4.0	3.4	ND<4.0	mcg/m3	
Trichloroethylene	ppbv	170	ND<500	480	360	290	36	280	280	ppbv	1
	mcg/m3	910	ND<2700	2580	1900	1600	190	1500	1500	mcg/m3	5
Tetrachloroethylene	ppbv	17,000	25,000	19,000	31,000	20,000	1,500	9,400	25,000	ppbv	15
	mcg/m3	120,000	170,000	128,843	210,000	140,000	10,000	63,000	170,000	mcg/m3	100

Compound	units	Hmart / Pathmark - Rear Store Area SG-6-371A								units	NYSDOH Guideline
Sample Date		2/17/2005	3/8/2006	3/2/2007	2/27/2008	2/12/2009	2/11/2010	2/9/2011	2/2/2012		
Vinyl Chloride	ppbv	ND<300	ND<500	ND<0.80	ND<10	ND<4.0	ND<1.0	0.71	ND<1.0	ppbv	NE
	mcg/m3	ND<770	ND<1300	ND<2.0	ND<26	ND<10	ND<2.6	1.8	ND<2.6	mcg/m3	
trans-1,2-Dichloroethylene	ppbv	ND<300	ND<500	23	13	14	14	12	23	ppbv	NE
	mcg/m3	ND<1200	ND<2000	91	50	55	57	47	93	mcg/m3	
cis-1,2-Dichloroethylene	ppbv	850	ND<500	1700	1100	1400	1100	1200	20	ppbv	NE
	mcg/m3	3,400	ND<2000	6741	4400	5600	4200	4800	81	mcg/m3	
Trichloroethylene	ppbv	2,400	750	4,800	3,100	2,200	2,200	2,000	37	ppbv	1
	mcg/m3	13,000	4,000	25,796	17,000	12,000	12,000	11,000	200	mcg/m3	5
Tetrachloroethylene	ppbv	27,000	23,000	130,000	54,000	53,000	41,000	29,000	46,000	ppbv	15
	mcg/m3	180,000	160,000	881,554	370,000	360,000	280,000	200,000	310,000	mcg/m3	100

Compound	units	Hmart / Pathmark - Front Store Area SG-371B								units	NYSDOH Guideline
Sample Date		2/17/2005	3/8/2006	3/8/2007	NA	NA	NA	NA	2/2/2012		
Vinyl Chloride	ppbv	ND<0.5	ND<0.5	ND<0.2					ND<0.1	ppbv	NE
	mcg/m3	ND<1.3	ND<1.3	ND<0.51					ND<0.26	mcg/m3	
trans-1,2-Dichloroethylene	ppbv	ND<0.5	ND<0.5	ND<0.2					0.51	ppbv	NE
	mcg/m3	ND<2.0	ND<2.0	ND<0.79					2	mcg/m3	
cis-1,2-Dichloroethylene	ppbv	ND<0.5	ND<0.5	ND<0.2					0.77	ppbv	NE
	mcg/m3	ND<2.0	ND<2.0	ND<0.79					3.1	mcg/m3	
Trichloroethylene	ppbv	ND<0.5	ND<0.5	7					4	ppbv	1
	mcg/m3	ND<2.7	ND<2.7	39					23	mcg/m3	5
Tetrachloroethylene	ppbv	69	21	39					85	ppbv	15
	mcg/m3	470	140	260					580	mcg/m3	100

Analysis completed for Halogenated Volatile Organic Compounds via EPA Method TO-14A or TO-15

ND = reported as less than (<) value listed

NE = Not Established

ppbv = parts per billion, volume

mcg/m3 = microgram per cubic meter

PCE 1 mcg/m3 = 0.15 ppbv

TCE 1 mcg/m3 = 0.186 ppbv

2/11/10 and 2/9/2011 - NEW point installed in 359 / Jump Ship Unit

2/2/2012 - New Points installed within renovated Hmart Store (former Pathmark)

Table 4: Monitoring/Inspection Schedule

Monitoring Program	Frequency	Media/Component	Analysis/Information
SSDS	Continuous	Vacuum/Pressure Power	Auto-Telemetry
	Annually	GAC Influent & Effluent	Chlorinated Volatile Organic Constituents
	Semi-Annual O&M Inspection	System Components	System Meters Visual Photoionization Meter
Groundwater MNA	Once Every 18 Months	Ground Water	Temperature pH Conductivity Dissolved Oxygen Oxidation/ Reduction Potential Methane, Ethane, Ethene Chlorinated Volatile Organic Constituents
Site Inspection	Annual	Monitoring well condition Evidence of Slab Penetration Property Use Groundwater Use Soil Cap Integrity	Visual Photoionization Meter
Periodic Review Report	Once Every 3 years	SSDS O&M Groundwater Monitoring Site Inspections Deed Restriction Compliance Non-routine Events or Severe Site Conditions Verification of EC/IC	Visual Site Inspections Records Review Environmental Data Summary Laboratory Reports Monitoring Data QA/QC Owner & Qualified Environmental Professional Certification

TABLE 5
ANALYTICAL METHODS

<u>PARAMETER</u>	<u>METHOD</u>
Temperature	Field / YSI Instrument
Conductivity	Field / YSI Instrument
Dissolved oxygen (DO),	Field / YSI Instrument
pH	Field / YSI Instrument
Oxidation Reduction Potential (ORP)	Field / YSI Instrument
Methane	AM20GAX
Ethane	AM20GAX
Ethene	AM20GAX
Aromatic and/or Chlorinated VOCs	SW-846 8260

Table 6. Emergency Contact Information

	EMERGENCY #	NON-EMERGENCY #	CONTACT
Fire Department	911	(914) 949-2325	Hartsdale Fire Department
Police Department	911		
Medical	911	(914) 681-0600	White Plains Hospital
Poision Control Center	(800) 222-1222	(914) 681-2325	White Plains Hospital
NYSDEC Spills Hot Line	(800) 457-7362	(518) 402-9662	Jamie Verrigni (NYSDEC)
Faulkner & Flynn Environ Professional	(617) 803-4012	(978) 443-1833	Neal Drawas
Brixmor Property Group	(646) 285-3908	(646) 344-8700	Daren Moss
Brixmor Property Mgmt		(631) 249-6250	John Fogarty
Underground Utilities	811	(800) 962-7962	Call One- Dig Safely NY
Town of Greenburgh	(914) 993-1592		
United Water	(914) 637-5309		
Gas Utility	(718) 319-2340		ConEdison
Eastern Locating	(718)416-2832		

Figures

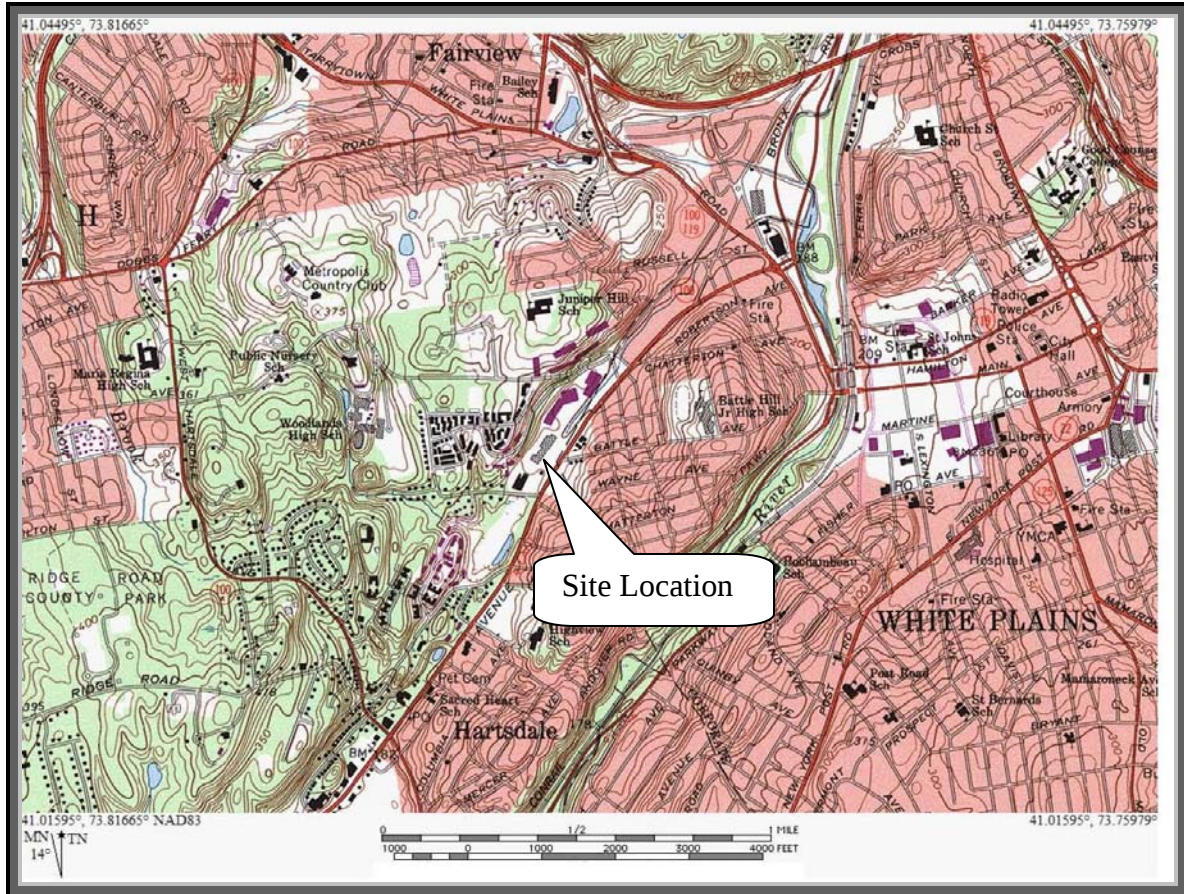


Figure 1 – Site Locus Map

Dalewood I Shopping Plaza
357 North Central Avenue
Hartsdale, NY
VCP Site V00457-3

NOTE: The figure was modified from Google Maps (<http://maps.google.com>) aerial photo for 367 North Centro Avenue, Hartsdale, NY.



Project No.: BPG.600.330

Drawn By / Date: TFL 10/23/12

Checked By / Date: ND 10/23/12

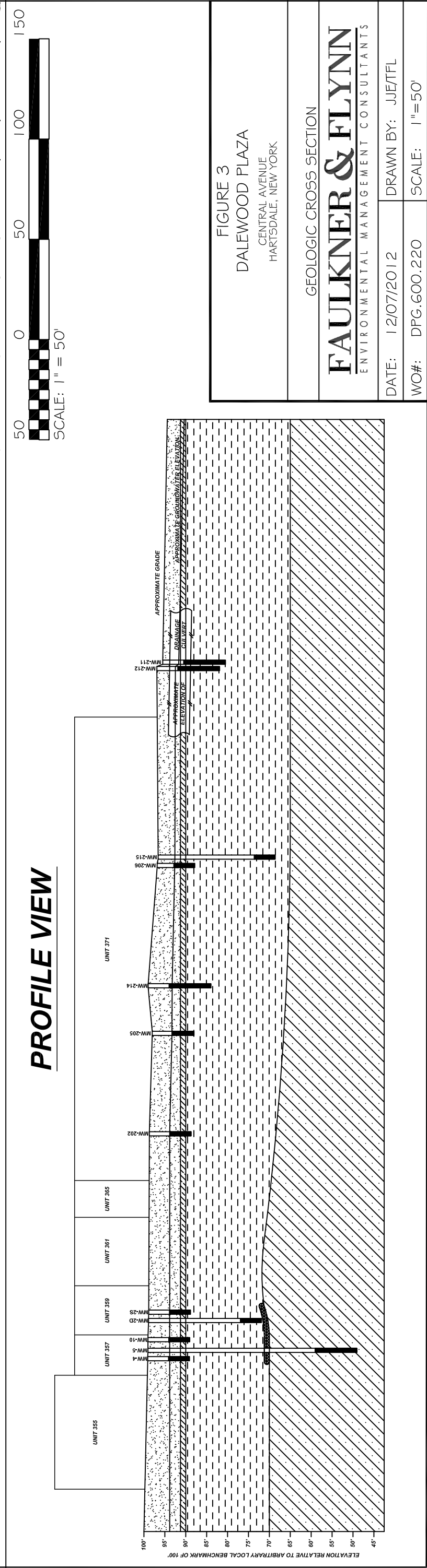
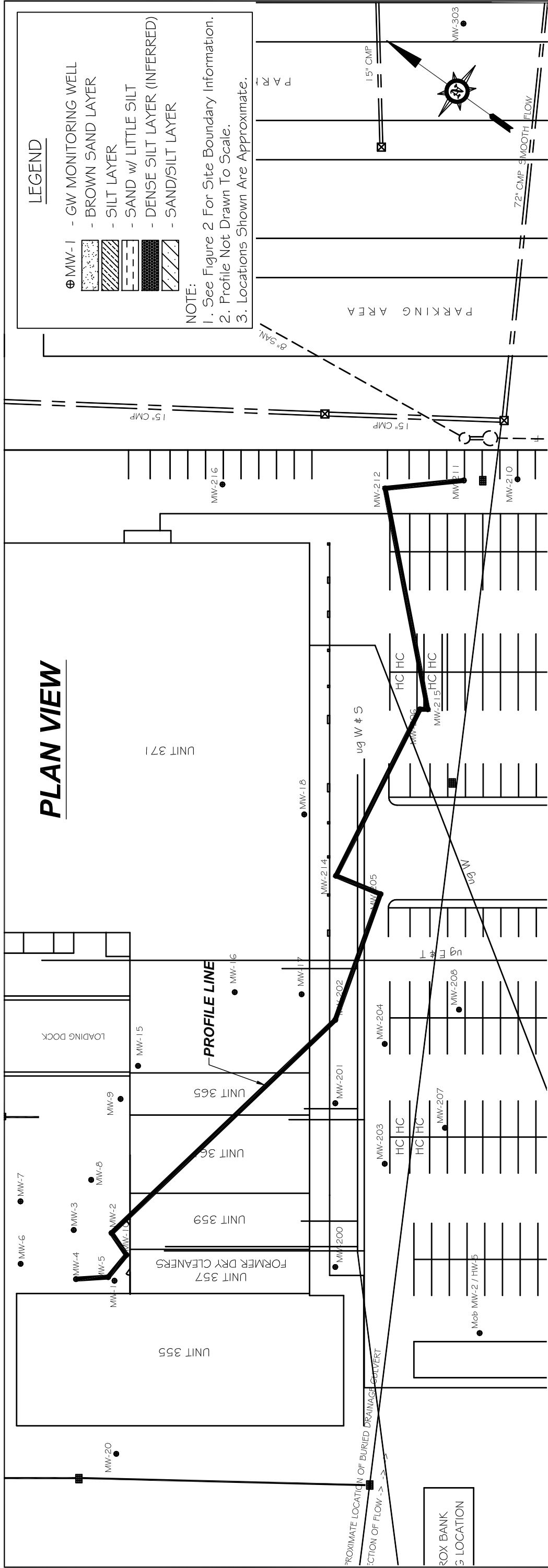
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Revised: 12/06/12, 02/07/14

FIGURE 2 SITE LOCATION MAP

Dalewood I Shopping Plaza
357 North Central Avenue
Hartsdale, New York

FAULKNER & FLYNN
ENVIRONMENTAL MANAGEMENT CONSULTANTS



LEGEND

- 93.00 — GROUNDWATER ELEVATION CONTOURS
- MW-206 MONITORING WELL LOCATION AND GROUNDWATER ELEVATION 92.49

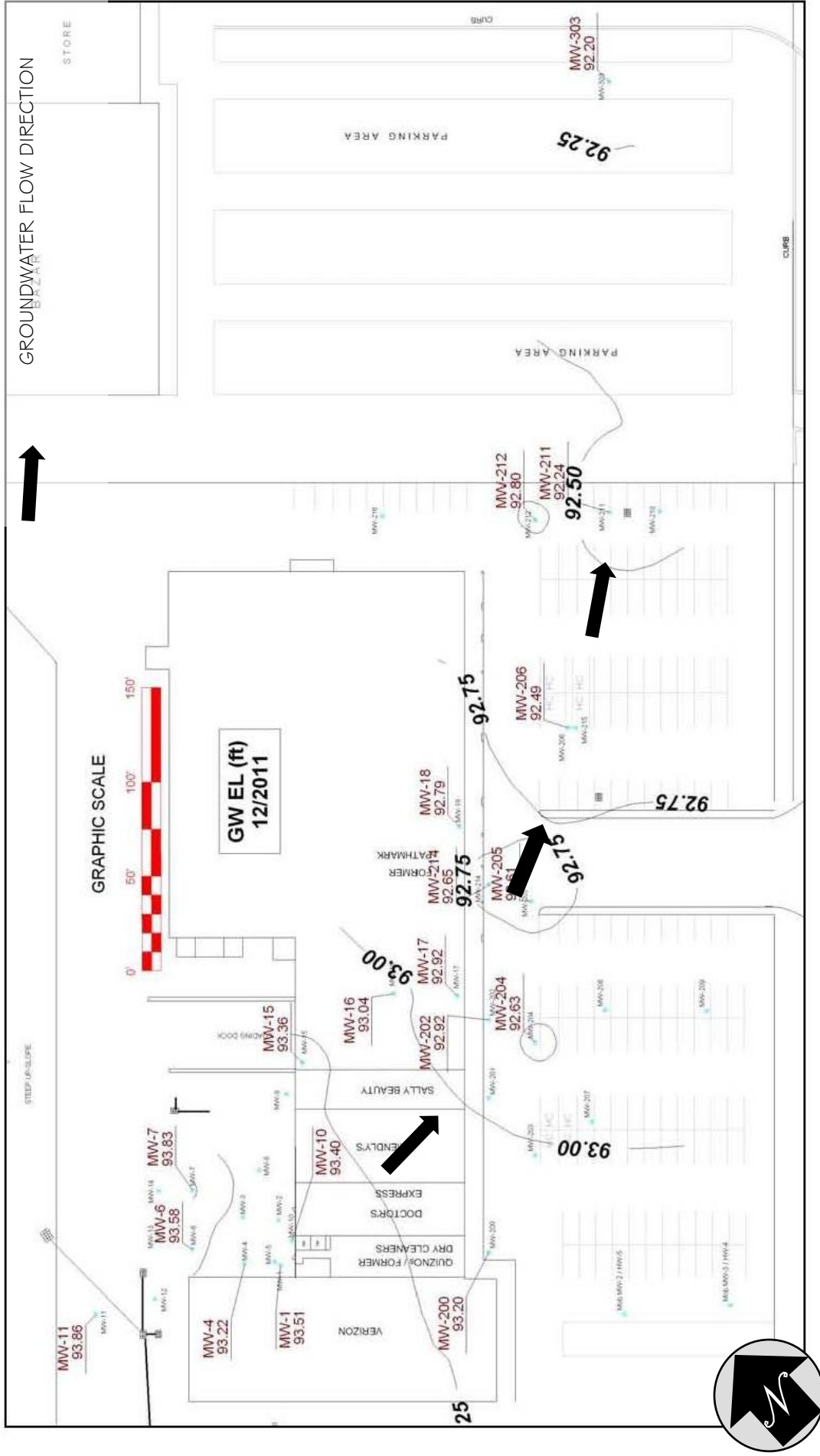
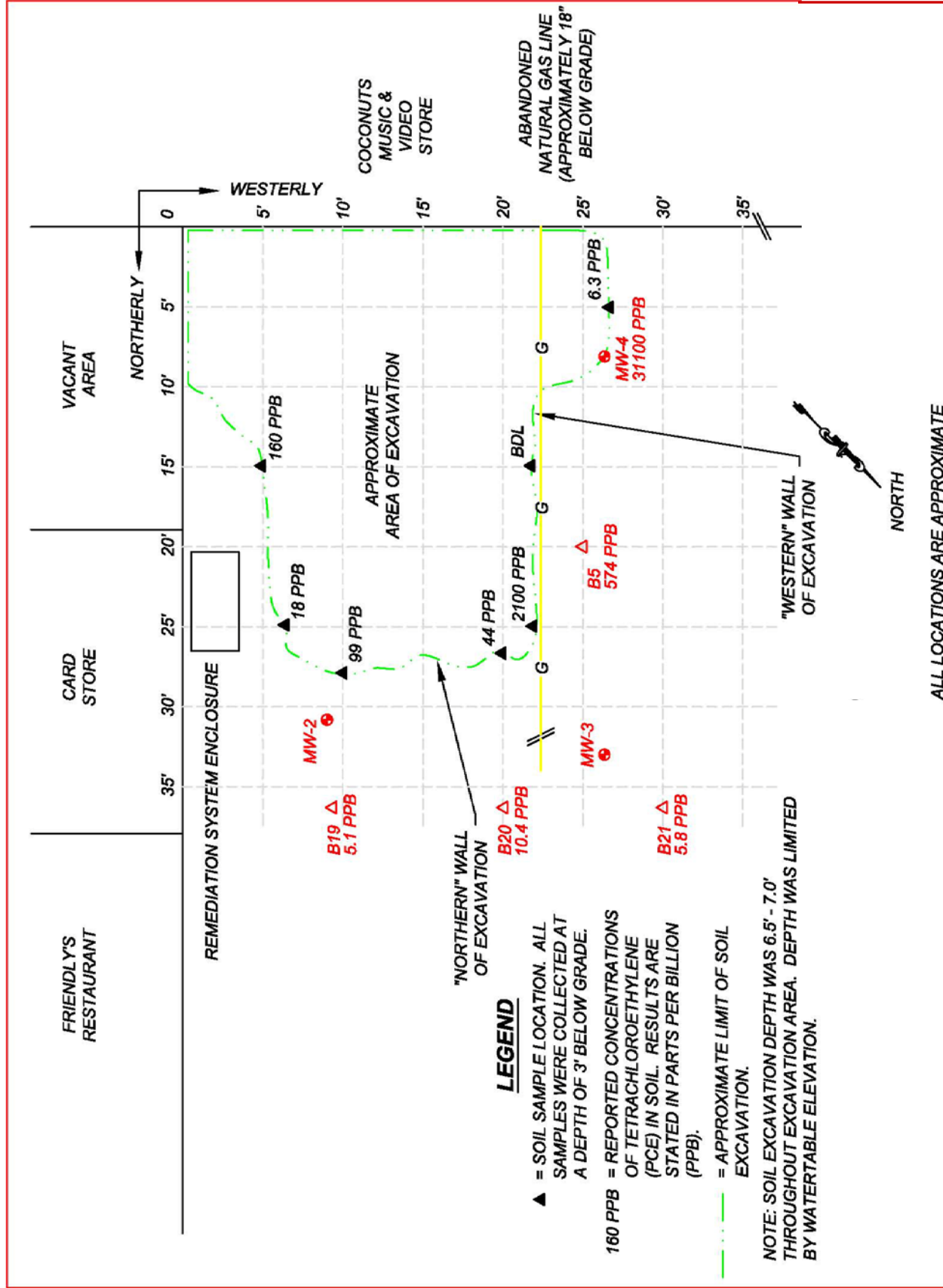
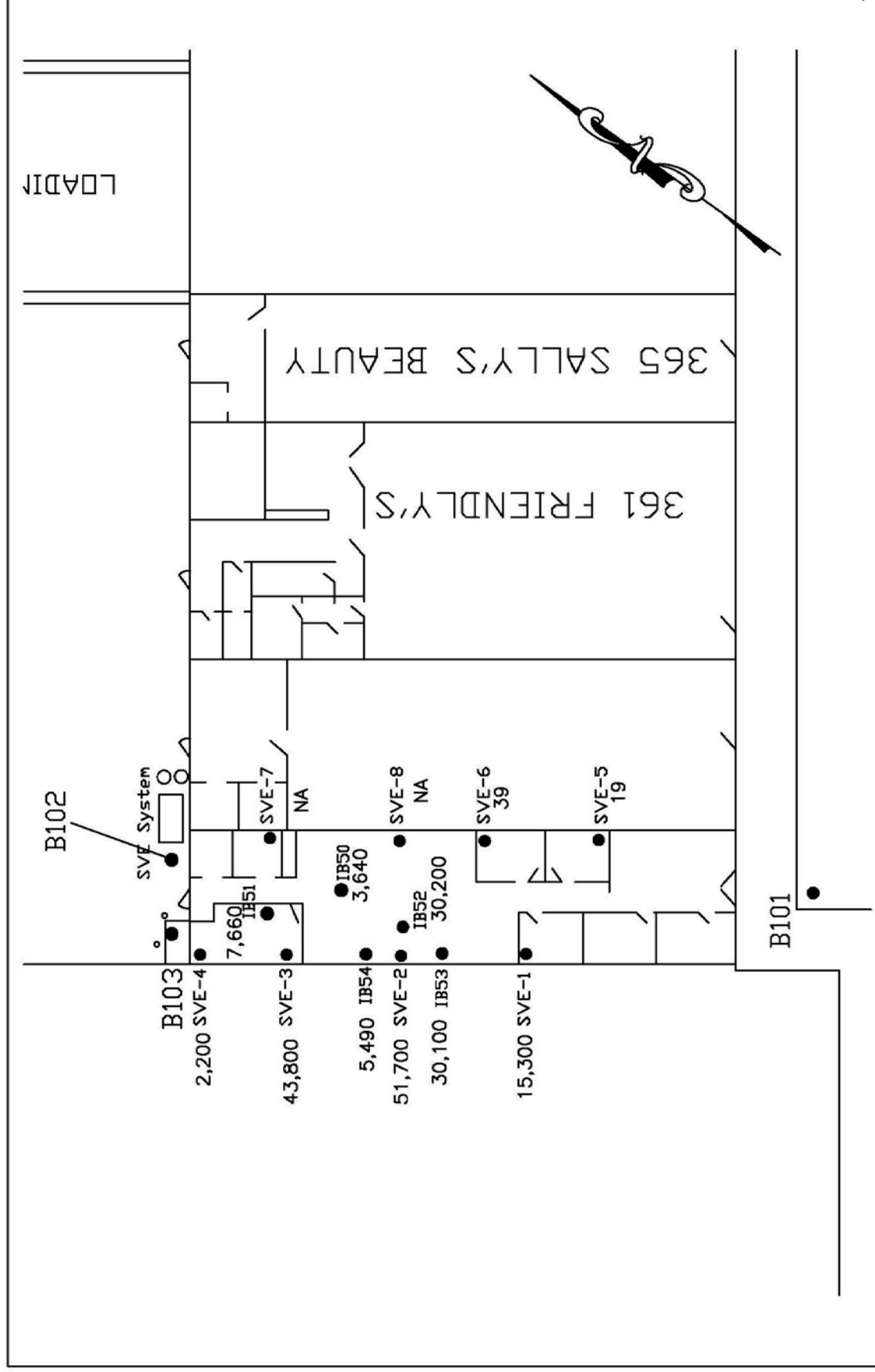


FIGURE 4
GROUNDWATER ELEVATION CONTOUR MAP
(December 2011)
Dalewood Shopping Plaza
357 North Central Avenue
Hartsdale, New York



NOTE: Figure modified from Figure 3 Soil Sample Location Map, Dalewood I Shopping Plaza, Hartsdale, New York, Project No. HT1094 dated 01/15/2004 from Kroll Associates, Inc., New York, New York.

Project No.: BPG.600.220		FIGURE 5 PCE CONCENTRATIONS (µg/kg) IN EXTERIOR POST-REMEDIATION SOIL Dalewood Shopping Plaza 357 North Centro Avenue Hartsdale, New York	FAULKNER & FLYNN ENVIRONMENTAL MANAGEMENT CONSULTANTS
Drawn By / Date: TFL 10/29/12			
Checked By /Date: ND 10/29/12			
Scale: See above			



NOTE: Figure modified from Figure 4 Dalewood Plaza Indoor Soil Data, Project No. 2346-F dated 03/03/00 from Kroll Associates, Inc., New York, New York.

Project No.: BPG.600.220		FIGURE 6 PCE CONCENTRATIONS (µg/kg) IN INTERIOR POST-REMEDIATION SOIL Dalewood Shopping Plaza 357 North Centro Avenue Hartsdale, New York	FAULKNER & FLYNN ENVIRONMENTAL MANAGEMENT CONSULTANTS
Drawn By / Date: TFL 11/01/12			
Checked By /Date: ND 11/01/12			
Scale: See above			

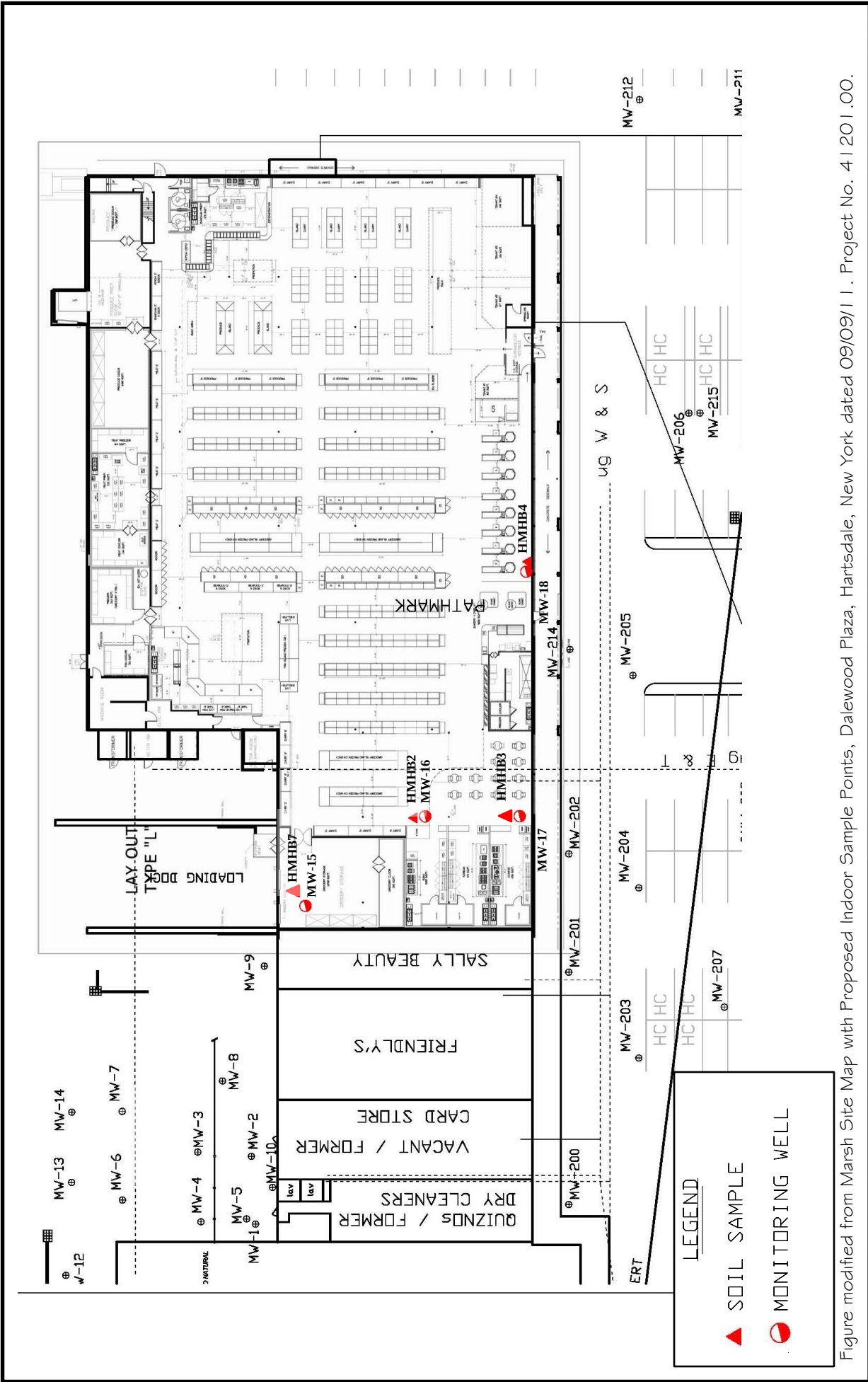


Figure modified from Marsh Site Map with Proposed Indoor Sample Points, Dalewood Plaza, Hartsdale, New York dated 09/09/11. Project No. 41201.00.

Project No.: BPG.600.330

Drawn By / Date: TFL 02/10/14

Checked By / Date: ND 02/10/14

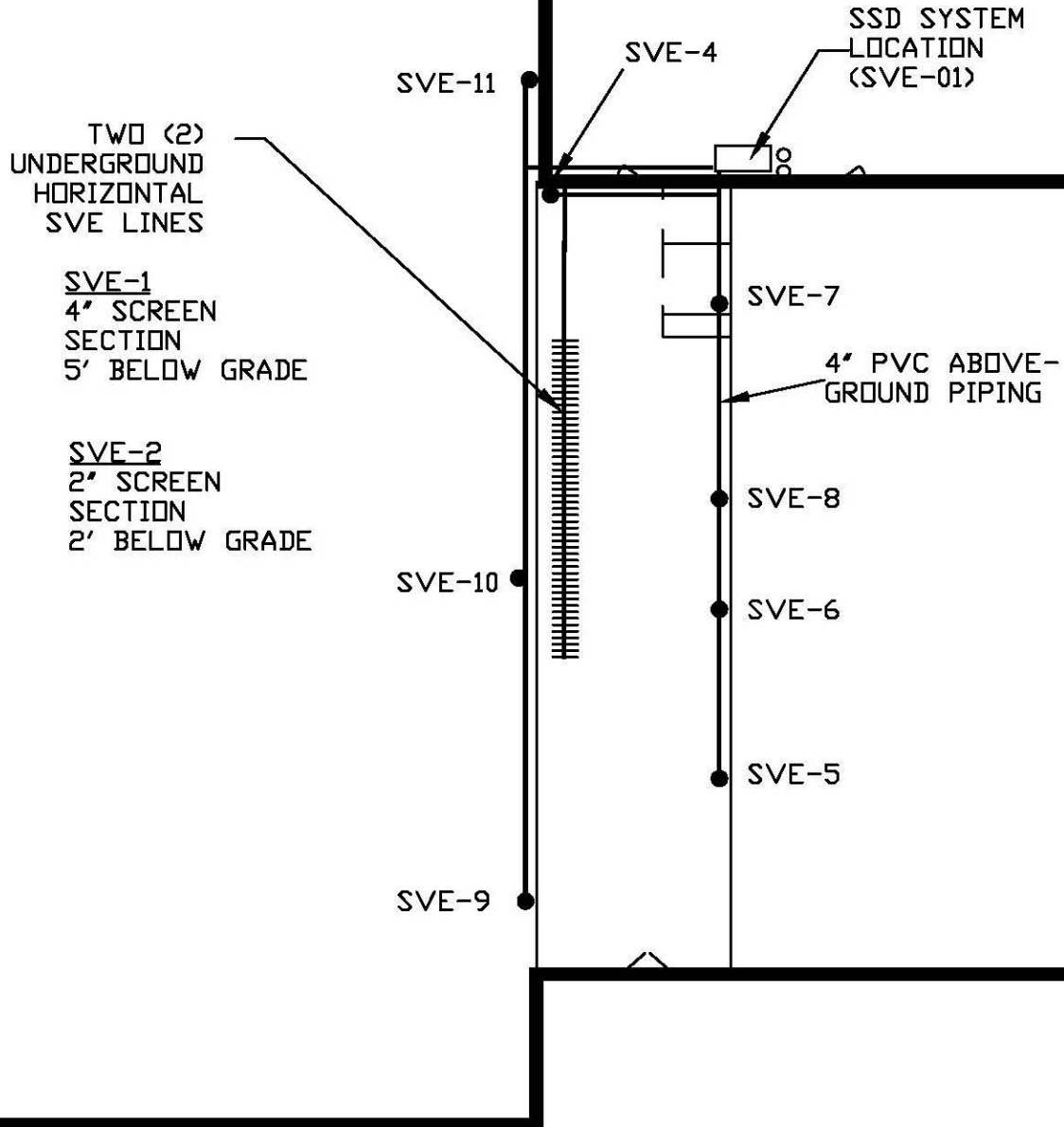
Scale: See above

FIGURE 6B
INTERIOR SOIL SAMPLING LOCATIONS
(TENANT SPACE #371)

Dalewood I Shopping Center
375 N. Central Avenue
Hartsdale, New York

LEGEND

SVE-9 ● SOIL VAPOR EXTRACTION
SAMPLE LOCATION



NOTE: The figure was modified from Kroll Associates, Inc. Figure 4 Floor Plan, Dalewood Plaza, 357 N. Central Avenue, Hartsdale, NY dated 09/09/05, Project No. 81769.06.

Project No.: BPG.600.220

Drawn By / Date: TFL 11/12/12

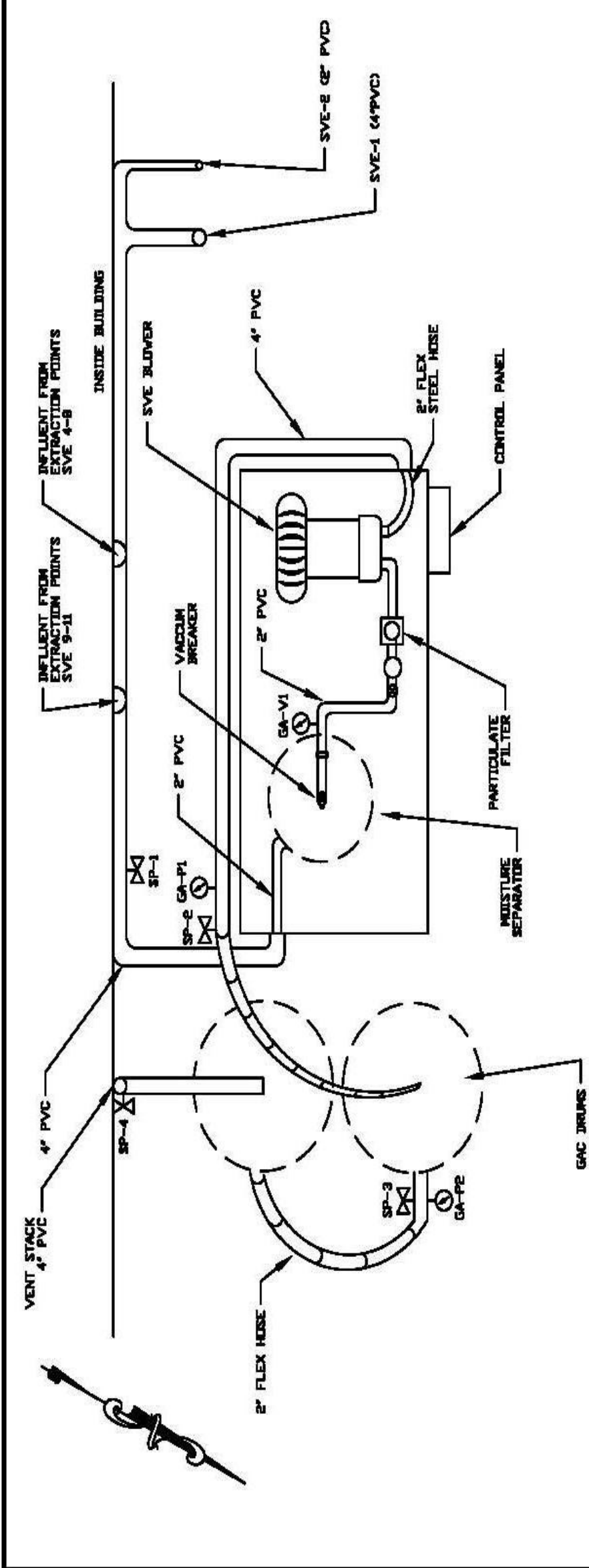
Checked By / Date: ND 11/12/12

Scale: Not to scale

FIGURE 10 LOCATION OF SUB-SLAB DEPRESSURIZATION SYSTEM

Dalewood I Shopping Plaza
357 North Centro Avenue
Hartsdale, New York

FAULKNER & FLYNN
ENVIRONMENTAL MANAGEMENT CONSULTANTS



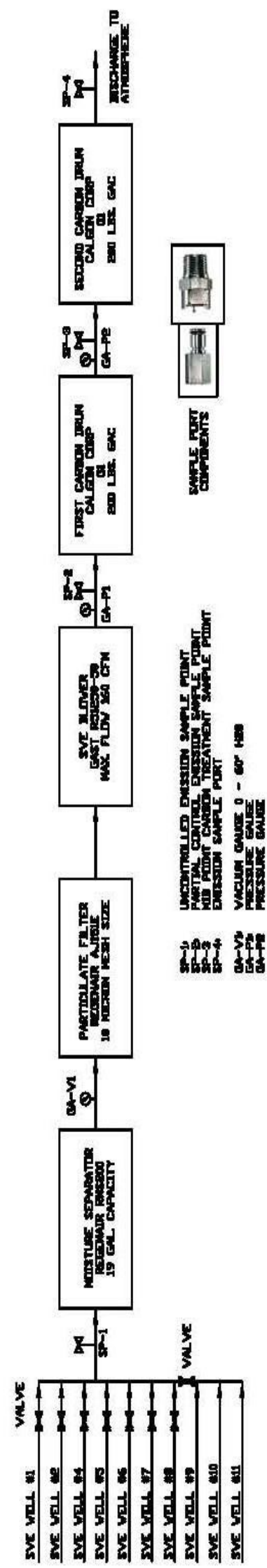
- NOTES:
1. SUB SURFACE
DEPRESSURIZATION
SYSTEM PUMP
SPECIFICATIONS

PUMP: GAST REGENAIR
MODEL R5125Q-50
SINGLE PHASE, 2 HP,
60 HZ
MAX FLOW: 160 CFM
2. CONTROL EQUIPMENT

REGENAIR RMS200
MOISTURE SEPARATOR

2 CARBTROL 200 LB
VAPOR PHASE (OR
BARNEBY SUTCLIFFE OR
EQUIVALENT) GRANULAR
ACTIVATED CARBON
DRUMS
3. STACK HEIGHT IS 17.2'
ABOVE THE GROUND AND
2.2' ABOVE THE ROOF OF
THE BUILDING.

FLOW DIAGRAM



NOTE: Drawing modified from Figure 5 Equipment Plan View, Dalewood Plaza, 357 North Central Avenue, Hartsdale, NY, Project # 81769.06, File Name: Equip Plan.DWG dated 09/09/05.

Project No.: BPG.600.220

Drawn By/ Date: TFL 11/01/12

Checked By / Date: TFL 11/01/12

Scale: None

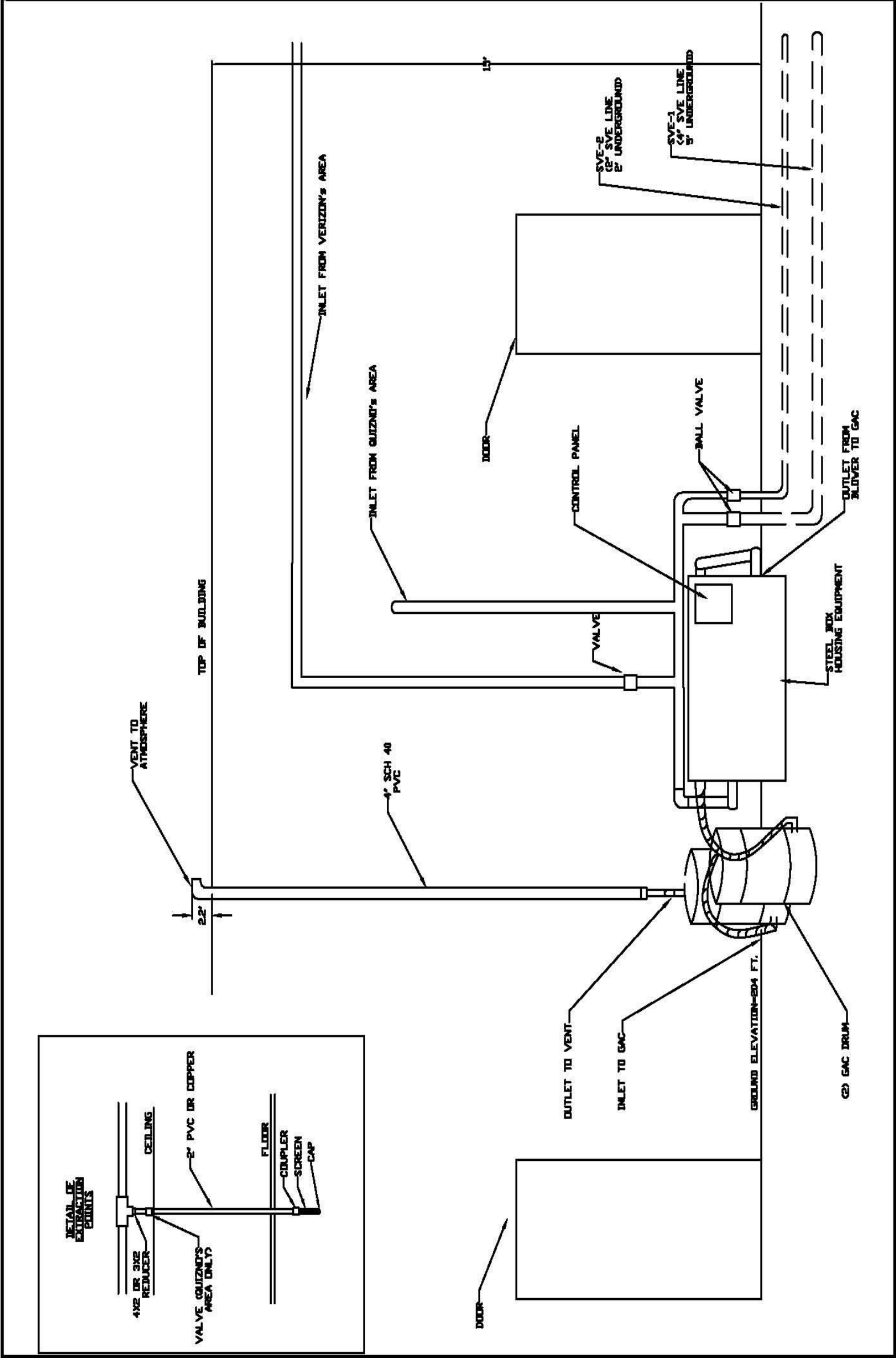
FIGURE 11

SUB-SLAB DEPRESSURIZATION SYSTEM LAYOUT

Dalewood Shopping Plaza

357 North Centro Avenue

Hartsdale, New York



NOTES:

- SUB SURFACE DEPRESSURIZATION SYSTEM PUMP SPECIFICATIONS

PUMP: GAST REGENAIR MODEL R51 25Q-50 SINGLE PHASE, 2 HP, 60 HZ
MAX FLOW: 160 CFM
- CONTROL EQUIPMENT

REGENAIR RMS200 MOISTURE SEPARATOR

2 CARBTROL 200 LB VAPOR PHASE (OR BARNEY SUTCLIFFE OR EQUIVALENT) GRANULAR ACTIVATED CARBON DRUMS

3. STACK HEIGHT IS 17.2' ABOVE THE GROUND AND 2.2' ABOVE THE ROOF OF THE BUILDING.

NOTE: Figure modified from Figure 6 Side Elevation Dalewood Plaza, 357 North Central Avenue, Hartsdale, New York, Project No. 81769.06, File Name: Side Elevation.DWG dated 09/09/05 by Kroll Associates of New York, NY.

Project No.: BPG.600.220

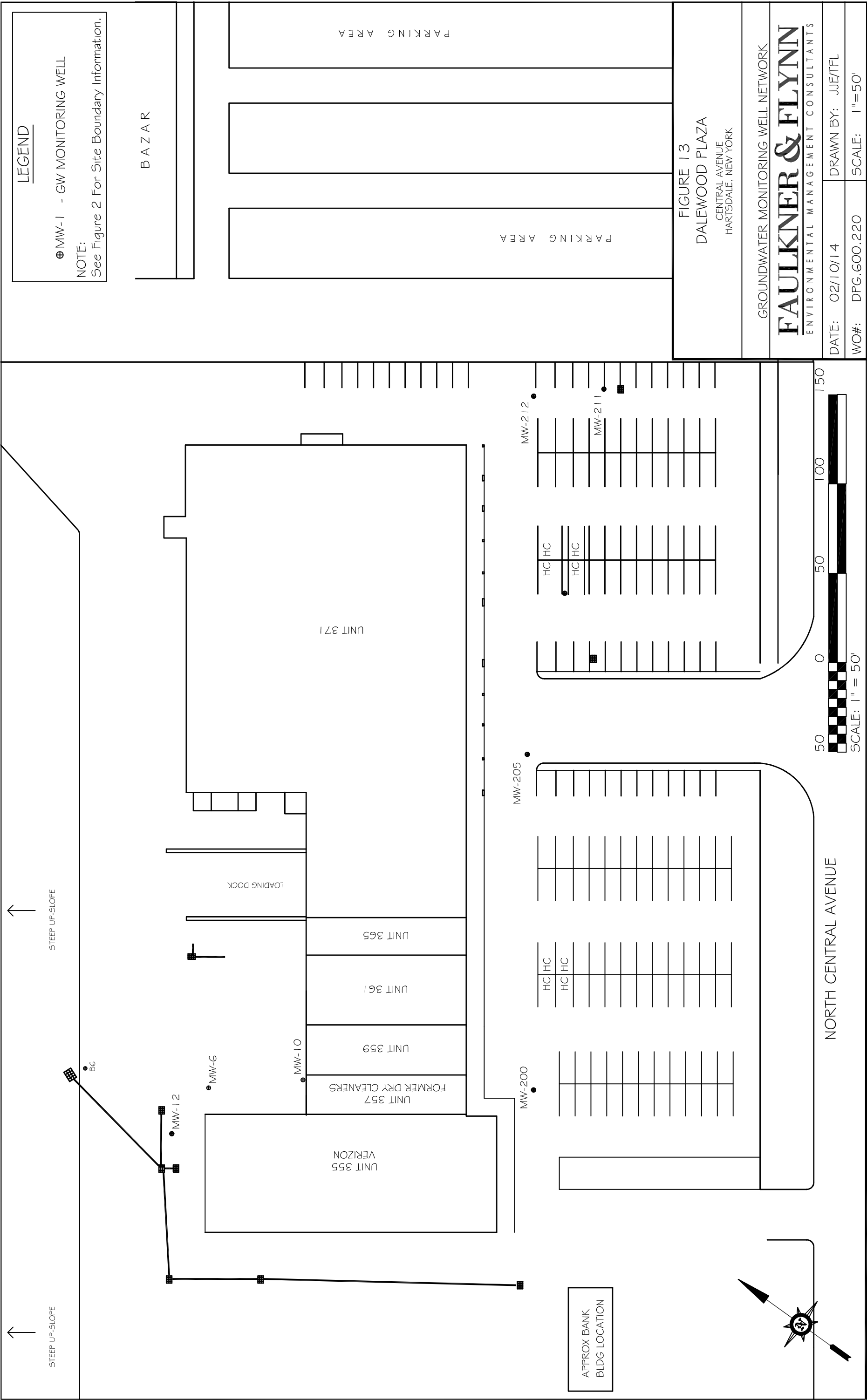
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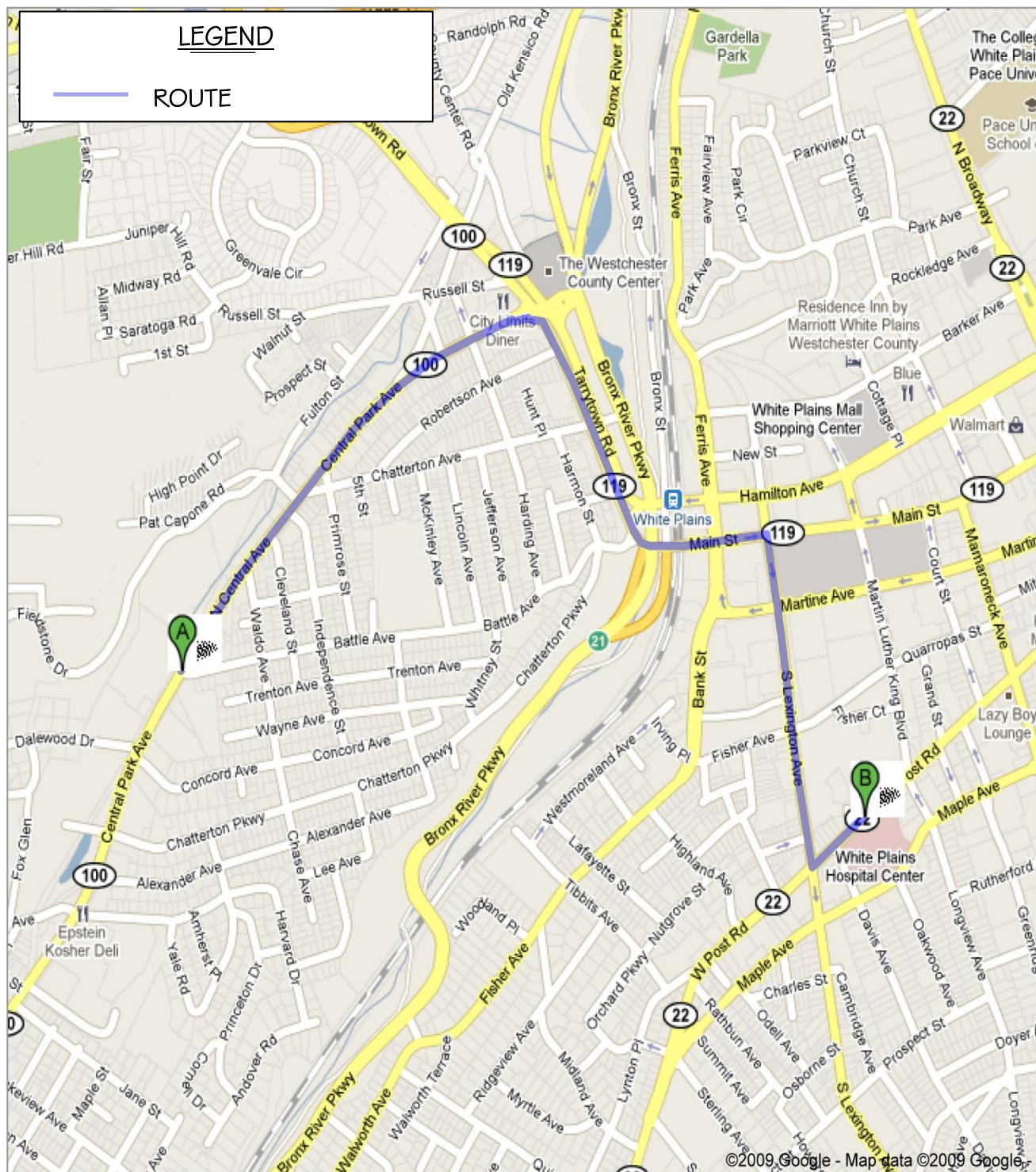
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FIGURE 12
SUB-SLAB DEPRESSURIZATION SYSTEM ELEVATION PLAN

Dalewood Shopping Plaza
357 North Centro Avenue
Hartsdale, New York



NOTE: The figure was modified from Google Maps (<http://maps.google.com/>) street map for directions to 41 E. Post Road, White Plains NY from 367 North Centro Avenue, Hartsdale, NY.



Project No.: BPG.600.220

Drawn By / Date: TFL 11/01/12

Checked By / Date: ND 11/02/12

Scale: Not to scale

Note: 1.8 miles, approx. 5 mins.

FIGURE 14 ROUTE FROM SITE TO HOSPITAL

Dalewood Shopping Plaza
357 North Centro Avenue
Hartsdale, New York

FAULKNER & FLYNN
ENVIRONMENTAL MANAGEMENT CONSULTANTS

Appendices

Appendix A

Excavation Work Plan

EXCAVATION WORK PLAN

A-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining soil contamination, the site owner or their representative will notify the Department. Currently, this notification will be made to:

New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Technical Support
625 Broadway
Albany, NY 12233-70201

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact the Engineering Control;
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work; and
- A summary of the applicable components of this EWP.

Simple excavations may only require compliance with a portion of the EWP. For example, excavation of a small volume of soil from above the water table that is directly loaded for off-site disposal would not require the stockpiling or fluids management provisions of this template;

- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's Health and Safety Plan, in electronic format, if it differs from the HASP provided in Appendix D of this document;
- Identification of disposal facilities for potential waste streams; and

- Identification of sources of any anticipated backfill, along with all required chemical testing results if the backfill is not from a virgin source (see Section A-10).

A-2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based soil screening will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material. Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work. Soil will be segregated based on previous environmental data and screening results into material that requires off-site disposal, material that requires testing, material that can be returned to the subsurface, and material that can be used as cover soil.

A-3 STOCKPILE METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points. Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced. Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC.

A-4 MATERIALS EXCAVATION AND LOAD OUT

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material. The owner of the property and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan. The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site. Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and DOT requirements (and all other applicable transportation requirements).

Depending on the nature of the excavation plan, truck decontamination station will be required on-site. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be cleaned before leaving the site until the activities performed under this section are complete.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of soil tracking. The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed, as needed, to maintain a clean condition with respect to site-derived materials.

A-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded. Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used. All trucks will be cleaned prior to leaving the site. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

All trucks loaded with site materials will exit the vicinity of the Site using only approved commercial truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport; (g) community input, where necessary. Trucks will be prohibited from stopping and idling in the neighborhood adjacent to the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development. Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

A-6 MATERIALS DISPOSAL OFF-SITE

Unless in compliance with Section A-7, all soil and other solid waste generated during an excavation project and removed from the Soil Management Area will be treated as contaminated and regulated material, and will be transported and disposed in accordance with all local, State (including 6 NYCRR Part 360) and applicable Federal regulations. If disposal of soil from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of soil from the Soil Management Area will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate (i.e. hazardous waste disposal facility, solid waste landfill, C/D recycling facility, etc.). Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance notifications, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soil taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6 NYCRR Part 360-1.2. Material that does not meet Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6 NYCRR Part 360-16 Registration Facility).

A-7 MATERIALS REUSE ON-SITE

Notification to the NYSDEC of any proposed activity within the Soil Management Area that will disturb the soil cover system will provide all details for methods and means to be followed if excavated soil is proposed for on-site reuse. 'Reuse on-site' means reuse on-site of soil that originates from the Soil Management Area which does not leave the site during the excavation. The proposed scope of work will include:

- o Sampling (methods and analytical consistent with DER-10, Section 5.4(e)10 and Table 5.4 (e)10)
- o Chemical limits for on-site reuse
- o Stockpile segregation scheme for on-site reuse

- o Size of stockpiles, location (figure)

Chemical criteria for on-site commercial reuse of soil are provided in Part 375.6.8(b). Chemical criteria for on-site re-use have been approved by NYSDEC, and are listed in Table 1. The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site soil, including historic fill and contaminated soil, that is acceptable for re-use on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Any demolition material proposed for reuse on-site will be sampled for asbestos and other hazardous constituents, and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval.

A-8 FLUIDS MANAGEMENT

All liquids to be removed from the site, including excavation dewatering and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, but will be managed off-site.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a storm water drain) will be performed under a SPDES permit.

A-9 COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the Site Management Plan. If the type of cover system changes from that which exists prior to the proposed excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the 'Remaining Contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in any updates to the Site Management Plan.

A-10 BACKFILL FROM OFF-SITE SOURCES

During the project planning phase, the selected construction contractor must provide details of the size, location and time period for stockpiling, and precautions to be taken to minimize dust and soil run-off.

Imported backfill material will be from a certified clean source (virgin quarry or current analytical analyses confirming appropriate for beneficial re-use). Contractor must provide a proper certification that soil is free of contaminants, from a specified virgin source, and provide laboratory data verifying compliance with all NYSDEC standards/screening levels prior to importing. Imported fill should be sampled and analyzed in accordance with DER-10, Section 5.4(e) 10 and Table 5.4(e) 10. The fill material will not exceed the allowable constituent concentrations which are provided in DER-10, Appendix 5, which are listed in Table 2 of this Excavation Work Plan. All backfill proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the site. Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6 NYCRR 375-6.7(d), and based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria in accordance with applicable standards. Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

A-11 STORMWATER POLLUTION PREVENTION

Prior to any large site re-development (i.e. greater than 1 acre), a Stormwater Pollution Prevention Plan (SPPP) must be developed and provided to NYSDEC. A summary of the SPPP that conforms to the requirements of NYSDEC Division of Water guidelines and NYS

regulations will be prepared if and when required based on the proposed project characteristics. At a minimum the SPPP must address the following:

- Barriers and hay bale checks will be installed and inspected once a week and after every storm event in excess of one (1”) inch. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.
- Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.
- All undercutting or erosion of the silt fence to anchor shall be repaired immediately with appropriate backfill materials.
- Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.
- Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters
- Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

A-12 CONTINGENCY PLAN

Prior to any excavation within the Soil Management Area, the following Contingency Procedures will be implemented. The following contingency procedures to be followed upon discovery of an unknown source of contamination that may require remediation (such as unknown USTs, stained soil, drums, etc.), and the procedures for suspending excavation work, transferring any fluids, and reporting the event to the NYSDEC spill hotline. The contingency procedures include the following:

- 1) If an underground tank or other previously unidentified contaminant source is found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

- 2) Sampling will be performed on the material, groundwater and surrounding soils, etc., as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed consistent with the concern identified and include as appropriate (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs).
- 3) Identification of unknown or unexpected condition will be promptly communicated by telephone to the Owner and NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC Spills Hotline. These findings will be also included in the periodic reports prepared pursuant to Section 5 of the SMP.

A-13 COMMUNITY AIR MONITORING PLAN (CAMP)

The Generic Community Air Monitoring Plan as specified in Appendix 1A of DER-10 will be followed, as necessary (see Appendix D of the Site Management Plan). All air monitoring readings will be recorded in a logbook and will be available for review by the NYSDEC and NYSDOH. As specified in Appendix 1A of DER-10, the Generic Community Air Monitoring Plan procedures include:

- Details of the perimeter air monitoring program;
- Action levels to be used;
- Methods for air monitoring ;
- Analytes measured and instrumentation to be used;
- A figure of the location(s) of all air monitoring instrumentation. A figure showing specific locations must be presented for monitoring stations based on generally prevailing wind conditions, with a note that the exact locations to be monitored on a given day will be established based on the daily wind direction. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations.
- Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

A-14 CONSTRUCTION CONTROL PLAN

Prior to any excavation within the Soil Management Area the following Construction Control Procedures will be discussed with the contractor and will be implemented as necessary, in accordance with the directions of the qualified environmental professional. If dust or odors are identified at the site boundary, or if environmental related complaints are received, work will be halted and the source of the complaint will be identified and corrected. Work will not resume until all sources of complaint have been abated. NYSDEC and NYSDOH will be notified of any environmental related complaints and how the matter was rectified. Implementation of all applicable controls, including the halt of work, is the responsibility of the qualified environmental professional, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-site dust, odor or noise nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using suppression materials to cover exposed soils. If dust, odor or noise nuisances develop and cannot be otherwise controlled, additional means to eliminate these conditions are discussed in the following subsections.

DUST AND ODOR CONTROL MEASURES

- Dust suppression may be achieved through the use of a dedicated on-site water spray system for excavation within the Soil Management Area wetting and stockpiles.
- Dust suppression for small excavations may consist of the use of water misting applications.
- Gravel may be used on roadways to provide a clean and dust-free road surface.
- On-site roads within the Soil Management Area may be limited in total area to minimize the area required for water sprinkling.
- The stockpiling, covering and containment of soil and crushed stone may be performed to prevent exposure to the environment, soil runoff and dust generation.

- Vehicles and equipment should be decontaminated prior to leaving the Site, as necessary, to prevent the dispersion of soil outside of the designated work area and ensure that site pavement and adjacent roadways are free from soil and debris generated from their site work.
- Other appropriate means may be employed to reduce dust and odor depending on the scope of work and site conditions during the construction.

NOISE CONTROL MEASURES

- Noise controls will be incorporated to ensure compliance with local noise control ordinances, as necessary based on the site activities.
- Noise controls may be achieved with site control barriers.
- Noise reduction equipment and operating practices (e.g. no truck idling).
- Alternative work practices will be implemented depending on the scope of work and site conditions during any construction, if necessary to further control noise.

PEDESTRIAN SAFETY AND SITE SECURITY MEASURES

As necessary depending on the type of work being conducted, measures for protection of the public and all on-site personnel will be implemented at all times, including but not limited to:

- Traffic control and signage, physical construction barriers and temporary fencing surrounding the work area as necessary to complete the work safely and in accordance with local, county, state, federal and OSHA requirements.
- Security fencing and barricades may include perimeter lighting (if necessary) to protect the public at all times.
- When work is performed in the parking lot, Site work will take into account that the Site is a parking lot in an active shopping center, and the staging and work space is limited. Consideration should be given with regards to staging equipment, maintain traffic control, and establish stockpile, loading, and decontamination, etc. areas.

- Alternative work practices may be implemented depending on the scope of work and site conditions during any construction, if necessary to conform to the site safety and security procedures.

EROSION CONTROL MEASURES

For major excavation work, erosion control measures will be implemented to prevent run-off and erosion of soil into the sewer catch basins in the vicinity of the work area. During the course any work, erosion control measures may consist of:

- The installation of protective measures on the storm sewer catch basins.
- Stockpiled soil and crushed stone placed on and securely covered with polyethylene sheeting with erosion controls at the end of each workday.
- Compliance with County and Town erosion control, grading protection and restoration requirements.
- Minimizing storm water runoff into any open excavation(s).
- Alternative work practices will be implemented depending on the scope of work and site conditions during any construction, if necessary to comply with erosion control requirements.

EQUIPMENT AND VEHICLE DECONTAMINATION MEASURES

At a minimum, the work area, and all areas around the excavation will be swept at the end of each work day. Additional sweeping and/or washing will be conducted, as needed, to minimize dust and airborne emissions. Additional decontamination procedures may include:

- Daily sweeping and collecting any soil deposited outside of the Site or on the adjacent roadway.
- The Contractor will carefully coordinate and manage their work to direct, stage and/or load all equipment, trucks and vehicles appropriately to prevent, at all times, contamination to the environment from contaminated soils and groundwater encountered and removed from the subsurface.

TABLE 1

Table 5.4(e)4 Reuse of Soil [for Paragraph 5.4(e)4]		
Soil on the Site Meets:	Reuse on the Site:	Off-site Export & Reuse:
Unrestricted Soil SCGs	Without restrictions	Without restrictions
Meets the Applicable Use-based and Groundwater Protection SCG and where Appropriate Protection of Ecological Resources Soil SCGs for a Site w/ an IC & SMP.	In the soil cover/cap or as backfill within the area of the site subject to the IC.	Not Allowed, unless going to a site with IC subject to a 6 NYCRR Part 360 Beneficial Use Determination (BUD).
Meets Site-Specific Background Soil Levels.	Without restrictions. (Does not apply to sites in the BCP.)	Not Allowed, unless going to a site with IC subject to a 6 NYCRR Part 360 BUD.
Site-specific cleanup goals for subsurface soil	Placement below the soil cover/cap within the area of the site subject to the IC.	Not Allowed, unless going to a site with IC subject to a 6 NYCRR Part 360 BUD.

TABLE 2

**Allowable Constituent Levels for Imported Fill or Soil
(DER-10 Subdivision 5.4(e))**

Metals					
Constituent	Unrestricted Use	Restricted Use	Restricted Residential Use	Commercial or Industrial Use	If Ecological Resources are Present
Arsenic	13	16	16	16	13
Barium	350	350	400	400	433
Beryllium	7.2	14	47	47	10
Cadmium	2.5	2.5	4.3	7.5	4
Chromium, Hexavalent ₁	1 ₃	19	19	19	1 ₃
Chromium, Trivalent ₁	30	36	180	1500	41
Copper	50	270	270	270	50
Cyanide	27	27	27	27	NS
Lead	63	400	400	450	63
Manganese	1600	2000	2000	2000	1600
Mercury (total)	0.18	0.73	0.73	0.73	0.18
Nickel	30	130	130	130	30
Selenium	3.9	4	4	4	3.9
Silver	2	8.3	8.3	8.3	2
Zinc	109	2200	2480	2480	109
PCBs/Pesticides					
2,4,5-TP Acid (Silvex)	3.8	3.8	3.8	3.8	NS
4,4'-DDE	0.0033 ₃	1.8	8.9	17	0.0033 ₃
4,4'-DDT	0.0033 ₃	1.7	7.9	47	0.0033 ₃
4,4'-DDD	0.0033 ₃	2.6	13	14	0.0033 ₃
Aldrin	0.005	0.019	0.097	0.19	0.14
Alpha-BHC	0.02	0.02	0.02	0.02	0.04 ₄
Beta-BHC	0.036	0.072	0.09	0.09	0.6
Chlordane (alpha)	0.094	0.91	2.9	2.9	1.3
Delta-BHC	0.04	0.25	0.25	0.25	0.04 ₄
Dibenzofuran	7	14	59	210	NS
Dieldrin	0.005	0.039	0.1	0.1	0.006
Endosulfan I	2.4 ₂	4.8	24	102	NS
Endosulfan II	2.4 ₂	4.8	24	102	NS
Endosulfan sulfate	2.4 ₂	4.8	24	200	NS
Endrin	0.014	0.06	0.06	0.06	0.014
Heptachlor	0.042	0.38	0.38	0.38	0.14
Lindane	0.1	0.1	0.1	0.1	6
Polychlorinated biphenyls	0.1	1	1	1	1

Constituent	Unrestricted Use	Restricted Use	Restricted Residential Use	Commercial or Industrial Use	If Ecological Resources are Present
Phenanthrene	100	100	100	500	NS
Phenol	0.33 ₃	0.33 ₃	0.33 ₃	0.33 ₃	30
Pyrene	100	100	100	500	NS
Semi-volatile Organic Compounds					
Acenaphthene	20	98	98	98	20
Acenaphthylene	100	100	100	107	NS
Anthracene	100	100	100	500	NS
Benzo(a)anthracene	1	1	1	1	NS
Benzo(a)pyrene	1	1	1	1	2.6
Benzo(b)fluoranthene	1	1	1	1.7	NS
Benzo(g,h,i)perylene	100	100	100	500	NS
Benzo(k)fluoranthene	0.8	1	1.7	1.7	NS
Chrysene	1	1	1	1	NS
Dibenz(a,h)anthracene	0.33 ₃	0.33 ₃	0.33 ₃	0.56	NS
Fluoranthene	100	100	100	500	NS
Fluorene	30	100	100	386	30
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.5	5.6	NS
m-Cresol(s)	0.33 ₃	0.33 ₃	0.33 ₃	0.33 ₃	NS
Naphthalene	12	12	12	12	NS
o-Cresol(s)	0.33 ₃	0.33 ₃	0.33 ₃	0.33 ₃	NS
p-Cresol(s)	0.33	0.33	0.33	0.33	NS
Volatile Organic Compounds					
1,1,1-Trichloroethane	0.68	0.68	0.68	0.68	NS
1,1-Dichloroethane	0.27	0.27	0.27	0.27	NS
1,1-Dichloroethene	0.33	0.33	0.33	0.33	NS
1,2-Dichlorobenzene	1.1	1.1	1.1	1.1	NS
1,2-Dichloroethane	0.02	0.02	0.02	0.02	10
1,2-Dichloroethene(cis)	0.25	0.25	0.25	0.25	NS
1,2-Dichloroethene(trans)	0.19	0.19	0.19	0.19	NS
1,3-Dichlorobenzene	2.4	2.4	2.4	2.4	NS
1,4-Dichlorobenzene	1.8	1.8	1.8	1.8	20
1,4-Dioxane	0.1 ₃	0.1 ₃	0.1 ₃	0.1 ₃	0.1
Acetone	0.05	0.05	0.05	0.05	2.2
Benzene	0.06	0.06	0.06	0.06	70
Butylbenzene	12	12	12	12	NS
Carbon tetrachloride	0.76	0.76	0.76	0.76	NS
Chlorobenzene	1.1	1.1	1.1	1.1	40
Chloroform	0.37	0.37	0.37	0.37	12
Ethylbenzene	1	1	1	1	NS
Hexachlorobenzene	0.33 ₃	0.33 ₃	1.2	3.2	NS
Methyl ethyl ketone	0.12	0.12	0.12	0.12	100
Methyl tert-butyl ether	0.93	0.93	0.93	0.93	NS
Methylene chloride	0.05	0.05	0.05	0.05	12

Volatile Organic Compounds (continued)					
Constituent	Unrestricted Use	Restricted Use	Restricted Residential Use	Commercial or Industrial Use	If Ecological Resources are Present
Propylbenzene-n	3.9	3.9	3.9	3.9	NS
Sec-Butylbenzene	11	11	11	11	NS
Tert-Butylbenzene	5.9	5.9	5.9	5.9	NS
Tetrachloroethene	1.3	1.3	1.3	1.3	2
Toluene	0.7	0.7	0.7	0.7	36
Trichloroethene	0.47	0.47	0.47	0.47	2
Trimethylbenzene-1,2,4	3.6	3.6	3.6	3.6	NS
Trimethylbenzene-1,3,5	8.4	8.4	8.4	8.4	NS
Vinyl chloride	0.02	0.02	0.02	0.02	NS
Xylene (mixed)	0.26	1.6	1.6	1.6	0.26

Appendix B

Site and Soil Management Area

Metes and Bounds

And

Property Survey Plan



Lehr Land Surveyors Land Surveying & Planning

Suite 6
116 Salina Street
Liverpool, New York 13088
315-451-3333
FAX: 315-451-3392
EMAIL: LehrSurveyors@aol.com

13-J-138
Remediation Legal Description
Central Park and Dalewood Drive
Hartsdale, Westchester County, NY

February 11, 2014
Sheet 1 of 2

RE: Dalewood Shopping Center

ALL THAT TRACT OR PARCEL OF LAND situate in the Town of Greenburgh, County of Westchester and State of New York and being more particularly described as follows:

BEGINNING at the most southeasterly corner of land owned by Centro Heritage SPE 6 LLC as recorded in the Westchester County Clerk's Office as Control No.471000699 and the northwesterly road boundary of Central Park Avenue (various widths):

thence S 44° 57' 33" W., along said road boundary a distance of **230.35 feet** to a point;

thence N 44° 53' 03" W., a distance of **79.96 feet** to a point;

thence S 45° 06' 57" W., a distance of **260.88 feet** to a point;

thence N 45° 02' 27" W., a distance of **74.06 feet** to a point;

thence S 44° 57' 33" W., a distance of **155.92 feet** to a point;

thence N 45° 02' 27" W., a distance of **43.32 feet** to a point;

thence N 17° 57' 20" E., a distance of **35.07 feet** to a point;

thence N 45° 02' 27" W., a distance of **185.00 feet** to a point on a curve;

thence on a curve to the right having a **radius** of **3313.00 feet** a arc distance of **82.36 feet** to a point of tangency;

thence N 44° 57' 33" E., a distance of **385.51 feet** to a point;

thence N 11° 30' 33" E., a distance of **177.16 feet** to a point;

thence S 45° 02' 27" E., a distance of **497.66 feet** to the point of beginning.

Containing 214,830 square feet or 4.932 acres of land more or less.

The hereinbefore described parcel of land is subject to any and all easements and/or rights-of-ways of record.

Appendix C

Deed Restriction

The Office of the Westchester County Clerk: This page is part of the instrument; the County Clerk will rely on the information provided on this page for purposes of indexing this instrument. To the best of submitter's knowledge, the information contained on this Recording and Endorsement Cover Page is consistent with the information contained in the attached document.



553073399DLR0028

Westchester County Recording & Endorsement Page

Submitter Information

Name: FIDELITY NATIONAL TITLE INSURANCE COMPAN' Phone: 212-471-3757
Address 1: 485 Lexington Avenue Fax: 212-481-5996
Address 2: 18th Floor Email: FNTRECORDINGS@FNF.COM
City/State/Zip: New York NY 10017 Reference for Submitter: 37437-AC-W

Document Details

Control Number: **553073399** Document Type: **Declaration (DLR)**
Package ID: 2015110300230001003 Document Page Count: **6** Total Page Count: **8**

Parties

☐ Additional Parties on Continuation page

1st PARTY

2nd PARTY

1: BRIXMOR SPE 6 LLC - Other 1: BRIXMOR SPE 6 LLC - Other
2: 2:

Property

☒ Additional Properties on Continuation page

Street Address: 353-371 N CENTRAL AVE Tax Designation: 8.150-96-3
City/Town: GREENBURGH Village:

Cross- References

☐ Additional Cross-Refs on Continuation page

1: 2: 3: 4:

Supporting Documents

Recording Fees

Statutory Recording Fee: \$40.00
Page Fee: \$35.00
Cross-Reference Fee: \$0.00
Mortgage Affidavit Filing Fee: \$0.00
RP-5217 Filing Fee: \$0.00
TP-584 Filing Fee: \$0.00
Total Recording Fees Paid: **\$75.00**

Transfer Taxes

Consideration: \$0.00
Transfer Tax: \$0.00
Mansion Tax: \$0.00
Transfer Tax Number:

Mortgage Taxes

Document Date:
Mortgage Amount:

Basic: \$0.00
Westchester: \$0.00
Additional: \$0.00
MTA: \$0.00
Special: \$0.00
Yonkers: \$0.00
Total Mortgage Tax: **\$0.00**

Dwelling Type: Exempt: ☐
Serial #:

RECORDED IN THE OFFICE OF THE WESTCHESTER COUNTY CLERK



Recorded: 11/20/2015 at 11:54 AM
Control Number: **553073399**
Witness my hand and official seal

Timothy C. Idoni

Timothy C. Idoni
Westchester County Clerk

Record and Return To

☐ Pick-up at County Clerk's office

FIDELITY NATIONAL TITLE INSURANCE COMPANY
485 Lexington Avenue
18th Floor
New York, NY 10017
Attn: KAT LAM

The Office of the Westchester County Clerk: This page is part of the instrument; the County Clerk will rely on the information provided on this page for purposes of indexing this instrument. To the best of submitter's knowledge, the information contained on this Recording and Endorsement Cover Page is consistent with the information contained in the attached document.

553073399DLR0028

Westchester County Recording & Endorsement Page

Document Details

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Package ID: 2015110300230001003	Document Page Count: 6 Total Page Count: 8

Properties Addendum

353-371 N CENTRAL AVE 10530	GREENBURGH	27 8271 15
353-371 N CENTRAL AVE 10530	GREENBURGH	27 8271 16
353-371 N CENTRAL AVE 10530	GREENBURGH	27 8271 17

DECLARATION of COVENANTS and RESTRICTIONS

THIS COVENANT is made the 13th day of October 2015, by Brixmor SPE 6 LLC, a Delaware limited liability company having an office for the transaction of business at c/o Brixmor Property Group, 450 Lexington Avenue, 13th Floor, New York, New York, 10117.

WHEREAS, a portion of Dalewood I Shopping Plaza is the subject of a Voluntary Cleanup Agreement executed by Heritage SPE, LLC as part of the New York State Department of Environmental Conservation's (the "Department's") Voluntary Cleanup Program, namely a portion of that parcel of real property located on North Central Avenue in the Hamlet of Hartsdale, Town of Greenburgh, County of Westchester, State of New York, which is part of lands conveyed by Heritage SPE, LLC to Brixmor SPE 6 LLC (f/k/a Centro Heritage SPE 6 LLC) by deed dated December 1, 2006 and recorded in the Westchester County Clerk's Office in Instrument No. 471000699, and being more particularly described in Appendix "A," attached to this declaration and made a part hereof, and hereinafter referred to as "the Property"; and

WHEREAS, the Department approved a remedy to eliminate or mitigate all significant threats to the environment presented by the contamination disposed at the Property and such remedy requires that the Property be subject to restrictive covenants (the "Remedy").

NOW, THEREFORE, Brixmor SPE 6, LLC, for itself and its successors and/or assigns, covenants that:

First, the Property subject to this Declaration of Covenants and Restrictions is as shown on a map attached to this declaration as Appendix "B" and made a part hereof.

Second, unless prior written approval by the Department or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens, hereinafter referred to as "the Relevant Agency," is first obtained, where contamination remains at the Property subject to the provisions of the Department-approved Site Management Plan ("SMP"), there shall be no construction, use or occupancy of the Property that results in the disturbance or excavation of the Property which threatens the integrity of the engineering controls or which results in unacceptable human exposure to contaminated soils. The SMP may be obtained from the New York State Department of Environmental Conservation, Division of

Conservation, Division of Environmental Remediation, Site Control Section, 625
Broadway, Albany, NY 12233.

Third, the owner of the Property shall not disturb, remove, or otherwise interfere with the installation, use, operation, and maintenance of engineering controls required for the Remedy, which are described in the SMP, unless in each instance the owner first obtains a written waiver of such prohibition from the Department or Relevant Agency.

Fourth, the owner of the Property shall prohibit the Property from ever being used for purposes other than for Commercial or Industrial use without the express written waiver of such prohibition by the Department or Relevant Agency.

Fifth, the owner of the Property shall prohibit the use of the groundwater underlying the Property without treatment rendering it safe for drinking water or industrial purposes, as appropriate, unless the user first obtains permission to do so from the Department or Relevant Agency.

Sixth, the owner of the Property shall prohibit the use of the Property for agriculture or vegetable gardens.

Seventh, the owner of the Property shall provide a periodic certification, prepared and submitted by a professional engineer or environmental professional acceptable to the Department or Relevant Agency, which will certify that the institutional and engineering controls put in place are unchanged from the previous certification, comply with the SMP, and have not been impaired.

Eighth, the owner of the Property shall continue in full force and effect any institutional and engineering controls required for the Remedy and maintain such controls, unless the owner first obtains permission to discontinue such controls from the Department or Relevant Agency, in compliance with the approved SMP, which is incorporated and made enforceable hereto, subject to modifications as approved by the Department or Relevant Agency.

Ninth, this Declaration is and shall be deemed a covenant that shall run with the land and shall be binding upon all future owners of the Property, and shall provide that the owner and its successors and assigns consent to enforcement by the Department or Relevant Agency of the prohibitions and restrictions that the Voluntary Cleanup Agreement requires to be recorded, and hereby covenant not to contest the authority of the Department or Relevant Agency to seek enforcement.

Tenth, any deed of conveyance of the Property, or any portion thereof, shall recite, unless the Department or Relevant Agency has consented to the termination of

such covenants and restrictions, that the said conveyance is subject to this Declaration of Covenants and Restrictions.

IN WITNESS WHEREOF, the undersigned has executed this instrument the day written below.

By: Brixmor SPE 6 LLC

Print Name: _____

Steven Siegel
Executive Vice President

Title: _____

Date: 10/13/15

STATE OF NEW YORK)

s.s.: COUNTY OF New York

On the 13th day of October, in the year 2015, before me, the undersigned, personally appeared Steven Siegel, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

FELICIA A. DI PAOLA
Notary Public, State of New York
No. 01DI4809848
Qualified in Dutchess County
Commission Expires May 31, 2018

Felicia A. Di Paola
Notary Public State of New York



Lehr Land Surveyors
Land Surveying & Planning

Suite 6
116 Salina Street
Liverpool, New York 13088
315-451-3333
FAX: 315-451-3392
EMAIL: LehrSurveyors@aol.com

13-J-138
Remediation Legal Description
Central Park and Dalewood Drive
Hartsdale, Westchester County, NY

February 11, 2014
Sheet 1 of 2

RE: Dalewood Shopping Center

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thence N 45° 02' 27" W., a distance of **185.00 feet** to a point on a curve;

thence on a curve to the right having a **radius of 3313.00 feet** a arc distance of **82.36 feet** to a point of tangency;

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Remediation Legal Description
13-J-138
Sheet 2 of 2

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Containing 214,830 square feet or 4.932 acres of land more or less.

The hereinbefore described parcel of land is subject to any and all easements and/or rights-of-ways of record.

SURVEYOR'S CERTIFICATE

- To (Name of Plaintiff) (if known), (Name of Defendant, if known), (Name of Plaintiff, if known), (Name of others as recognized with the client);
- This is to certify that this map or plat and the survey on which it is based were made in accordance with the 1917 American Standard Field Requirements for ALTA/ACSM Land Title Surveys fully established and accepted by ALTA and NSPS; and includes Items 1, 2, 4, 6B, 7(a)(ii)(b), & 8, 10(b), 11, 16, 17 and 18 of Appendix A thereto.
- The field work was completed on November 13, 2013
- Date of Plot or Map, November 14, 2013
- Douglas R. Law
Registration No. 04-2223
- 
- RECORD LEGAL DESCRIPTION**
(from commitment)

RECORD LEGAL DESCRIPTION
(from commitment)

Douglas R. Leth
Registration No. A9222

All land, certain lots, places or parcel of land, situated, lying and being partly in the Town of Greenburg, and partly in the County of White Pine, in the State of Nevada, Western Slope and State of New York, bounded and described as follows:

BEGINNING at a point on the Northwestern side of Central Park Avenue, Section 1, 200.27 feet from the corner formed by the intersection of the Northwestern side of Central Park Avenue and the Northern side of Baldwood Drive:

RUNNING North 17 degrees 57 minutes 20 seconds East, 35.07 feet;

THENCE North 45 degrees 02 minutes 27 seconds West, 185 feet to a corner;

THENCE Northwesternly on a curve to the left having a radius of 3313 feet, a distance of 82.36 feet;

THENCE North 44 degrees 57 minutes 33 seconds East, 305.51 feet;

THENCE North 11 degrees 30 minutes 33 seconds East, 171.16 feet to a corner;

THENCE South 45 degrees 02 minutes 27 seconds East, 497.66 feet to the Northwestern side of Central Park Avenue.

THENCE along the Northwestern side of Central Park Avenue, South 44 degrees 57 minutes 33 seconds East, 333.33 feet and Northwesternly on a curve to the left having a radius of 2913 feet, a distance of 113.63 feet to the point or place of BEGINNING.

Being the same tract of land as described in a Title Report prepared by Fidelity National Title Insurance Company, Commitment No.11-7406-4-2529-W, dated April 2011, at \$700.00.

Hartsdale, Westchester, New York

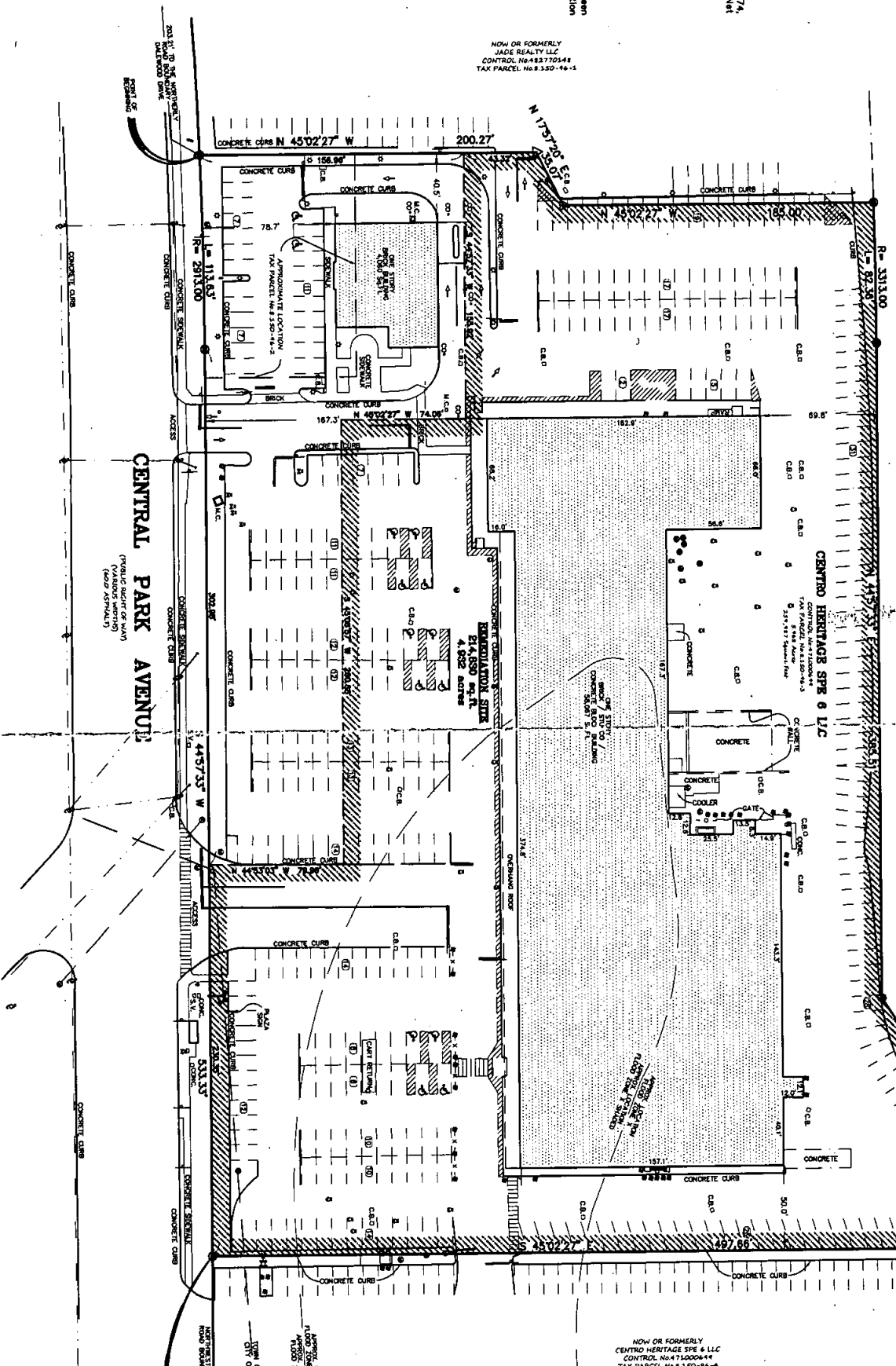
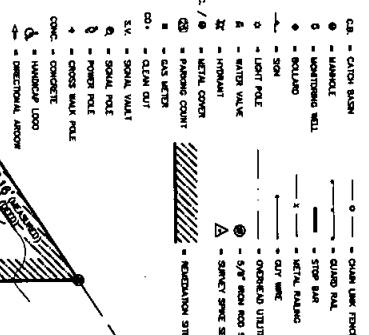
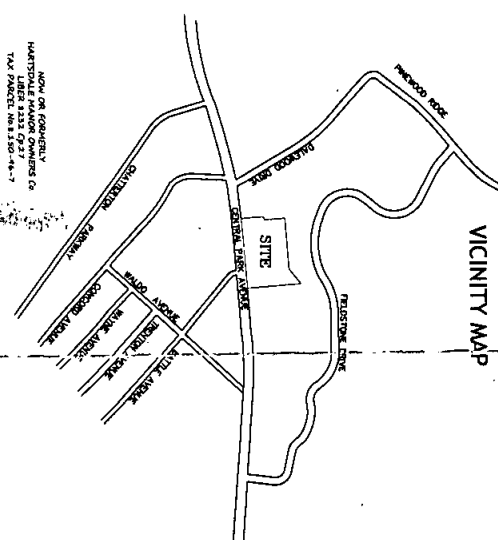
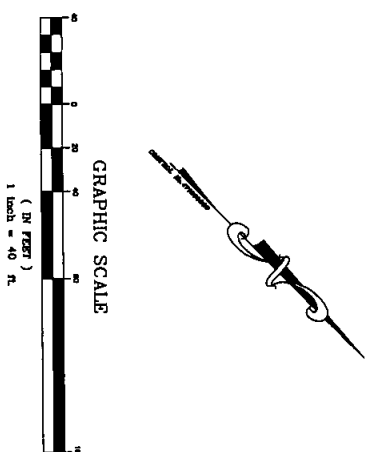
LIST OF POSSIBLE ENCROACHMENTS

The following list of encroachments is only the opinion of this surveyor and should not be interpreted as complete listing.

3

5.968 Acres
259,987 Square Feet

LEGEND OF SYMBOLS



No.	REVISIONS	Date
1	CLIENT COMMENTS	11/17/13
2	CLIENT COMMENTS	11/12/13
3	REDEMPTION SITE (NO FIELD VISIT)	02/26/14
4	CLIENT COMMENTS (NO FIELD VISIT)	06/02/14
5	CLIENT COMMENTS (NO FIELD VISIT)	07/07/14

COORDINATED BY:
SMITH-ROBERTS
NATIONAL CORPORATION

100 NE 5th Street
OKLAHOMA CITY, OK 73104
T 800.411.2010

LEHR
LAND SURVEYORS

1100 SHAWAN AVENUE, SUITE #
LINDENHURST, NEW YORK 11758
PHONE: 516-451-1333
FAX: 516-451-1338
DRAWN BY: KDH

ALTA/ACSM LAND TITLE SURVEY

**Dalewood Shopping Center
Parcel I
Central Park & Dalewood Drive
Hartsdale, Westchester, New York**

Appendix D

Health & Safety Plan

(HASP)

And

Community Air Monitoring Plan

(CAMP)

December 2013

HEALTH & SAFETY PLAN

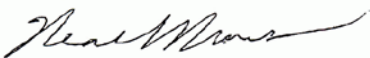
SITE MANAGEMENT PLAN Soil Excavation

Dalewood I Shopping Plaza
371 N. Central Avenue
Hartsdale, NY

VCP SITE V00457-3

Prepared by:
Faulkner & Flynn, Inc.
99 High Street
Boston, MA 02110

Approved by:



Signature

Neal M. Drawas
Printed Name

December 18, 2013

Date

Senior Consultant
Title

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FIGURES

- A - Route To Nearest Hospital
- B - Site Map

APPENDIX

Health & Safety Plan Pre-Entry Briefing and Site Access Record
Air Monitoring Procedure and Log
MSDS SHEETS

SITE AND PROJECT LOCATION AND CONTACT DETAIL

PROJECT NAME: **Site Management Plan**
JOB SITE ADDRESS: **Dalewood I Shopping Plaza**
371 N. Central Avenue, Hartsdale, NY

PROPERTY OWNER: Brixmor SPE 6 LLC
PROPERTY OWNER CONTACT: Daren Moss 646-334-8770

SITE CONTRACTORS

<u>Name</u>	<u>Contact</u>	<u>Telephone #</u>
-------------	----------------	--------------------

SITE CONSULTANT	Faulkner & Flynn, Neal Drawas, (978)443-1833	
-----------------	--	--

SCHEDULE

START DATE: _____

DURATION OF SITE ACTIVITIES: _____ (Approximate)

SITE DESCRIPTION AND FEATURES: *Summarize below. Include principal operations and unusual features (containers, buildings, dikes, power lines, terrain, etc.)*

The property is an active retail shopping center. The main Site structure consists of a 67,500 square foot concrete block building housing multiple tenants. A parking area is located in the front (east) of the facility and a driveway and vehicle unloading area located in the rear (west) of the facility. The Site is bordered on the east by N. Central Avenue where driveway access is provided into the parking area in two locations. The Site is bordered to the north and south by other retail shopping centers. The Site is bordered to the west by a residential apartment complex. Underground utilities include electrical, telephone, water, sewer, and natural gas.

A Voluntary Cleanup Program (VCP) application was completed and submitted to the New York State Department of Environmental Conservation (NYSDEC) for the subject Site in March 2001. The VCP application was submitted based on information obtained in previous investigations completed at the Site. The Site has been characterized during a comprehensive investigation completed between February 2003 and February 2005. Impacts at the Site are related to a former dry cleaner operation within tenant unit number 357.

A "Site Management Plan" (SMP) was finalized by Faulkner & Flynn, Inc. in December 2012 which described the future remedial activities, operations and maintenance for engineering and institutional controls, and monitoring plans for groundwater and sub slab vapor. The SMP defines a Soil Management Area (see Figure 2) which establishes guidelines for management of impacted soil during site activities which breach the cover system at the Site and expose potentially impacted soil. The cover system at the Site consists of the existing Site building (with concrete floor).

This Health & Safety Plan is intended for use by Brixmor's Construction Contractor during subsurface work activities associated with any activities associated with the breach of the soil cover system within the Soil Management Area for potential worker exposures to hazardous materials resulting from dry cleaning related compounds which have been released to the environment.

This Health & Safety Plan is not intended for use regarding general construction practices, throughout the general construction project, or as an alternative to applicable regulations (OSHA, USEPA, etc). This Health & Safety Plan will supplement other safety plans which Brixmor has in place for worker protection, emergency response, basic first aid, and other Site safety details. If information provided within this Health & Safety Plan conflicts with other Site plans, Marsh should be contacted immediately for clarification and/or review of the condition.

OBJECTIVES

Completion of Site Management Plan (SMP) to remedy a condition consisting of VOC impacted groundwater and soil located in the front (east) side of the Site, the rear (west) side of the retail building, and beneath the retail building. Groundwater is anticipated to be present at approximately six (6) feet below grade. The SMP consists of managing engineering controls (SSDS O&M and periodic groundwater monitoring and institutional controls (maintenance of the non-engineered cap, on-site groundwater use restriction, non-residential site use). Completion of interior building renovations, breaching the soil covers system and/or excavation of soil within the Soil Management Area.

SCOPE OF WORK

1. Sawcut concrete floor and remove concrete slab
2. Excavate soil within the Soil Management Area
3. Conduct Volatile Organic Constituent (VOC) Air Monitoring within work zone during intrusive activities
4. Excavation of soil and backfill with certified clean soil
5. Install 8 mil vapor membrane and new concrete to match the existing grade

EMERGENCY CONTACT INFORMATION:

	Phone No.	Non-Emergency
Fire Department	911	(914) 949-2325 (Hartsdale Fire Dept.)
Police Department	911	
Medical	911	(914) 681-0600 (White Plains Hospital)
Underground Utility One Call	811 / 800-962-7962	Dig Safely New York
Town of Greenburgh	(914) 993-1592	
United Water	(914) 637-5309	
ConEdison – Gas Emergency	(718) 319-2340	
Eastern Locating	(718) 416-2832	

APPARENT SITE HAZARD LEVEL:

☐ Serious ☐ Moderate ☒ Low ☐ None ☐ Unknown

SURROUNDING POPULATION:

☒ Residential ☐ Industrial ☐ Rural
☐ Urban ☒ Commercial ☐ Other

WASTE TYPES:

☒ Liquid ☒ Solid ☐ Sludge ☒ Vapor ☐ Unknown ☐ Other

WASTE CHARACTERISTICS: *(check as many as applicable)*

☐ Corrosive ☐ Flammable ☐ Radioactive
☐ Toxic ☒ Volatile ☐ Unknown
☐ Inert ☐ Reactive ☐ Other

PRINCIPAL DISPOSAL PRACTICES AND METHODS:

Waste (excess) soil will be sampled for potential VOC impacts prior to shipment off-site or re-use on-site. Purged groundwater from sampling or excavation dewatering will be temporarily containerized in DOT rated drums or bulk storage tanks for off-site disposal. Spent granulated activated carbon drums associated with the SSDS will be sent off-site for recycling.

HAZARDOUS MATERIAL SUMMARY:

Material Safety Data Sheets (MSDSs) and a chemical hazard summary for each compound or chemical listed below are attached in the Appendix section of this plan. The listed chemicals have been identified at the Site during previous investigations.

Chemicals:

Tetrachloroethylene
Vinyl chloride

Trichloroethylene
cis-1,2 Dichloroethylene

HAZARDS OF CONCERN:

☐ Heat Stress ☒ Noise ☐ Explosion
☐ Flammable ☐ Oxygen Deficient ☐ Combustible
☐ Biological ☐ Inorganic Chemicals ☐ Radiological
☒ Organic Chemical ☒ Other - Physical Hazards – Equipment Use

FIRE / EXPLOSION POTENTIAL:

☐ High ☐ Medium ☒ Low ☐ Unknown

OVERALL HAZARD EVALUATION:

☐ High ☐ Medium ☒ Low ☐ Unknown

JUSTIFICATION:

Hazards include: the potential release of dry cleaning related compounds to the environment; worker exposure to contaminated soil or vapors. Exposure of field personnel to on-site contaminants shall not exceed OSHA limits and will be maintained as low as reasonably achievable.

Physical and air emission hazards due to operation of equipment will also be present. This condition will be monitored with appropriate practices and metering devices.

The work area will be located within an enclosed shopping center building. Access by the public will not be allowed into the building; therefore potential exposures will be limited to on-site workers.

FIELD ACTIVITIES COVERED UNDER THIS PLAN:

		TYPE	LEVEL OF PROTECTION	
			Primary	Contingency
1.	Sawcutting concrete floor	Non-Intrusive	A B C <u>D</u>	A B <u>C</u> D
2.	Soil excavation	Intrusive	A B C <u>D</u>	A B <u>C</u> D
3.	Backfill	Non-intrusive	A B C <u>D</u>	A B <u>C</u> D
4.	Air Monitoring	Non-intrusive	A B C <u>D</u>	A B <u>C</u> D

PERSONNEL PROTECTIVE EQUIPMENT (PPE)

- Sawcutting concrete floor & Other Non-Intrusive Site Work:

All operations required for equipment staging and preparation will be performed in Level D PPE. Level D will consist of the following:

- Hard hat and safety glasses
- Routine work clothing (i.e., coveralls)
- Disposable work gloves
- Safety shoes

- Soil excavation

The removal of contaminated soils will be performed in Level D PPE. Level D will consist of the following:

- ☐ Hard hat and safety glasses
- ☐ Routine work clothing
- ☐ Disposable work gloves
- ☐ Safety shoes

If determined to be necessary, Level C will consist of the following:

- ☐ Disposable Tyvek coveralls over routine work clothing
- ☐ Disposable latex / PVC outer gloves
- ☐ Safety shoes / latex outer boots
- ☐ Full face or half face (w/safety glasses) air purifying respirator equipped with Organic Vapor / Acid gas / toxic particulate filter Cartridges or canisters.

KEY PERSONNEL

General: The Project Manager will identify responsible staff members to supervise the administration of the project and the site specific health and safety procedures.

<u>RESPONSIBILITY</u>	<u>NAME</u>	<u>TASK</u>
Project Manager	_____	Oversee & coordinate all technical aspects of the project.
Safety Manager	_____	Review project scope of work and assure that all staff understand and comply with the safety plan. Enforce all aspects of the safety plan and identify new hazards.

SAFETY BRIEFING

A site safety briefing will be held on-site prior to initiating operations. Staff members and contractors will attend this briefing. Immediately after the discovery of real or potential hazards which were not anticipated, a safety briefing will be held. Prior to any new or non-scheduled operation, a safety briefing will be held.

The safety briefing will present the following information:

- ☐ The hazards workers face and personnel responsibility
- ☐ The hazard monitoring techniques to be used
- ☐ Personnel protective equipment requirements
- ☐ Personnel protective equipment use.
- ☐ Decontamination procedures prior to exiting the work area
- ☐ Personnel activity restrictions within work area – smoking, eating, cell phones
- ☐ Safe operation procedures for equipment

- Response to injuries, property damage / fires

WORK ZONES

During all project operations, a series of work zones will be established. These zones include a "Hot Zone" or area of work where contamination is possible, a "Decontamination Zone" where personnel and equipment will be decontaminated after work evolutions, and a "Cool Zone" or staging area where clean equipment can be staged and site workers can rest.

SAFETY TRAINING / MEDICAL SURVEILLANCE

All employees must have training applicable to their job assignments prior to beginning site work. At a minimum all workers must have the minimum training as required by applicable OSHA regulations.

GENERAL SITE SAFETY REQUIREMENTS

- All persons entering and / or working in the exclusion zone on the Site shall read, sign and become familiar with this Health & Safety Plan. The master copy will be available on-site through the site safety manager.
- No staff member or subcontractor may be allowed in the exclusion zone on the Site without the prior knowledge and consent of the site safety manager.
- All contractor or subcontractor personnel shall bring to the attention of the site safety manager or project manager any unsafe condition or practice associated with the site activities that they are unable to correct themselves.
- There will be no smoking, eating, chewing gum, or drinking in the exclusion area.
- Hands shall be thoroughly cleaned prior to smoking, eating or other activities outside the exclusion zone.
- On-site workers must avoid unnecessary contamination (i.e., walking through known or suspected "hot" zones or contaminated puddles, kneeling or sitting on the ground, leaning against potentially contaminated equipment, etc).
- All accidents and/or injuries shall be immediately reported to the Safety Manager.

MONITORING EQUIPMENT

General: NYSDEC and NYSDOH Community Air Monitoring Plan (CAMP) procedures will be followed during initial soil excavation activities. Site personnel will monitor the ambient air for total organic vapor concentrations using a portable Photoionization Detector (PID) during on-site operations. The Safety Manager will establish an air monitoring frequency based on type of operations being performed. Work zone monitoring will include field VOC testing and will be performed utilizing a Photoionization Detector (PID) with an electron volt range able to detect VOCs (Volatile Organic Compounds).

All monitoring equipment will be operated, maintained and calibrated according to the manufacturers' equipment operations manual.

MONITORING CONTINGENCIES

1. Any consistent "continuous reading" (greater than 5 ppm for 15 minutes) in the breathing zone of:

Any detectable odor through 500 ppm (parts per million) of VOCs will require site workers to don Level C protective equipment or leave the work area. Level C protective equipment will consist of the following:

- Hard hat
 - Disposable Tyvek coveralls over routine work clothing
 - Disposable latex / vinyl gloves
 - Safety shoes
 - Full face or half face air purifying respirator equipped with Organic Vapor / Acid gas / toxic particulate filter cartridges or canisters.
2. Any consistent "continuous reading" detection for more than 15 minutes in the breathing zone of: ***500 ppm or greater of VOCs*** will require site workers to egress from the site. The Safety Manager will be notified and will then determine the need for additional PPE, additional air monitoring and/or change in work procedures.

DECONTAMINATION**Personnel:**

Personnel decontamination will consist of good working practice, maximum use of disposable clothing, personal hygiene and a field decontamination station to be used at the completion of each work evolution. Because the likeliest point of personnel contact with contaminants will be the feet and hands, the field decontamination will involve the following steps:

1. Disposable outer boots will be removed and discarded in a plastic trash bag.
2. Disposable outer gloves will be removed and discarded in a plastic trash bag
3. Disposable coveralls will be removed and disposed of in a plastic trash bag.
4. Inner gloves will be removed and disposed of in a plastic trash bag.

If necessary, a personnel decontamination station will be positioned at a location just outside of the contaminated area and in the clean zone. The components of the decontamination station will consist of:

- Long handle scrub brushes
- Metal wash basins large enough to step into
- Hand pressurized sprayer
- Plastic sheeting
- Plastic tubs or bowls for washing hands
- Plastic trash cans with trash liners
- Table
- First aid kit
- Portable eye wash
- Mild soap solution
- 5 gallon water container
- Class A,B,C fire extinguisher

Equipment:

All equipment shall be decontaminated before leaving the site. Heavy equipment (truck, backhoe, drilling rigs, etc) directly involved in on-site activities shall be adequately cleaned before departing the site. Light equipment (shovels, pails, hand tools) shall be scrubbed with a mild soap and water solution followed by a rinse before being removed from the site. Field decontamination of equipment will be performed by the following steps:

- Physically remove packed dirt and grit with wire brushes
- Steam clean with water / soap solution
- Rinse with high pressure water
- Allow to air dry before departing the site.

CONSTRUCTION DERIVED WASTE

Solid Waste:

All solid waste generated on-site such as disposable coveralls, gloves, soda cans, packing boxes, and general trash will be treated as "non-hazardous". This waste will be disposed of as a municipal trash.

Liquid Waste:

Liquid waste from decontamination rinse water will be collected in drums pending laboratory results.

INJURIES / EMERGENCIES

Injury:

If an injury should occur, the victim shall be removed from potentially contaminated areas if possible, immobilized if necessary, and transported to the local hospital for treatment. If the victim has received a potential spinal injury, they should be immobilized if possible and transported to the local hospital by a trained ambulance "EMS" crew. Minor injuries such as small cuts and lacerations can be treated on-site by qualified first aid trained workers. All potentially contaminated clothing should be removed from an injured worker on-site prior to transport for medical treatment.

Refer to Figure A for Hospital Location maps.

Fire:

In the event of fire, the following steps should be taken:

1. Attempt to extinguish or control fire with a Class A,B,C, fire extinguisher.
2. Notify local fire department
3. Remove vehicles from area
4. Remove flammable materials such as fuels and solvents from area
5. Egress from site to an upwind position
6. Perform personnel count "verification"
7. Wait for fire fighting forces

SITE SPECIFIC PROCEDURES

Any site specific safety features will be determined by the safety manager during each briefing.

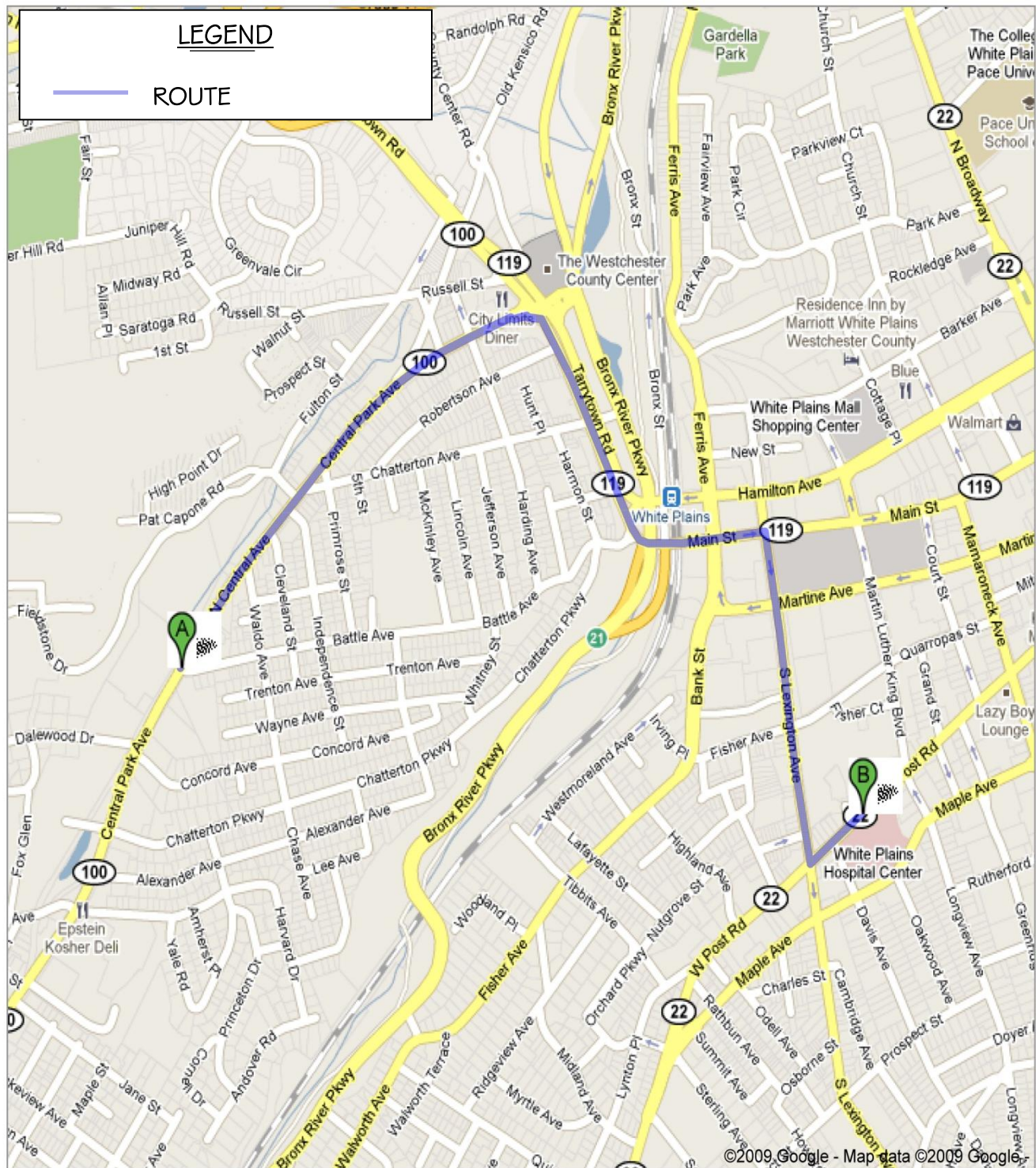
ATTACHED MAPS

Route to nearest hospital (see Figure A)

FIGURE A

Route to Nearest Hospital

NOTE: The figure was modified from Google Maps (<http://maps.google.com/>) street map for directions to 41 E. Post Road, White Plains NY from 367 North Centro Avenue, Hartsdale, NY.



Project No.: BPG.600.220

Drawn By / Date: TFL 11/01/12

Checked By / Date: ND 11/02/12

Scale: Not to scale

Note: 1.8 miles, approx. 5 mins.

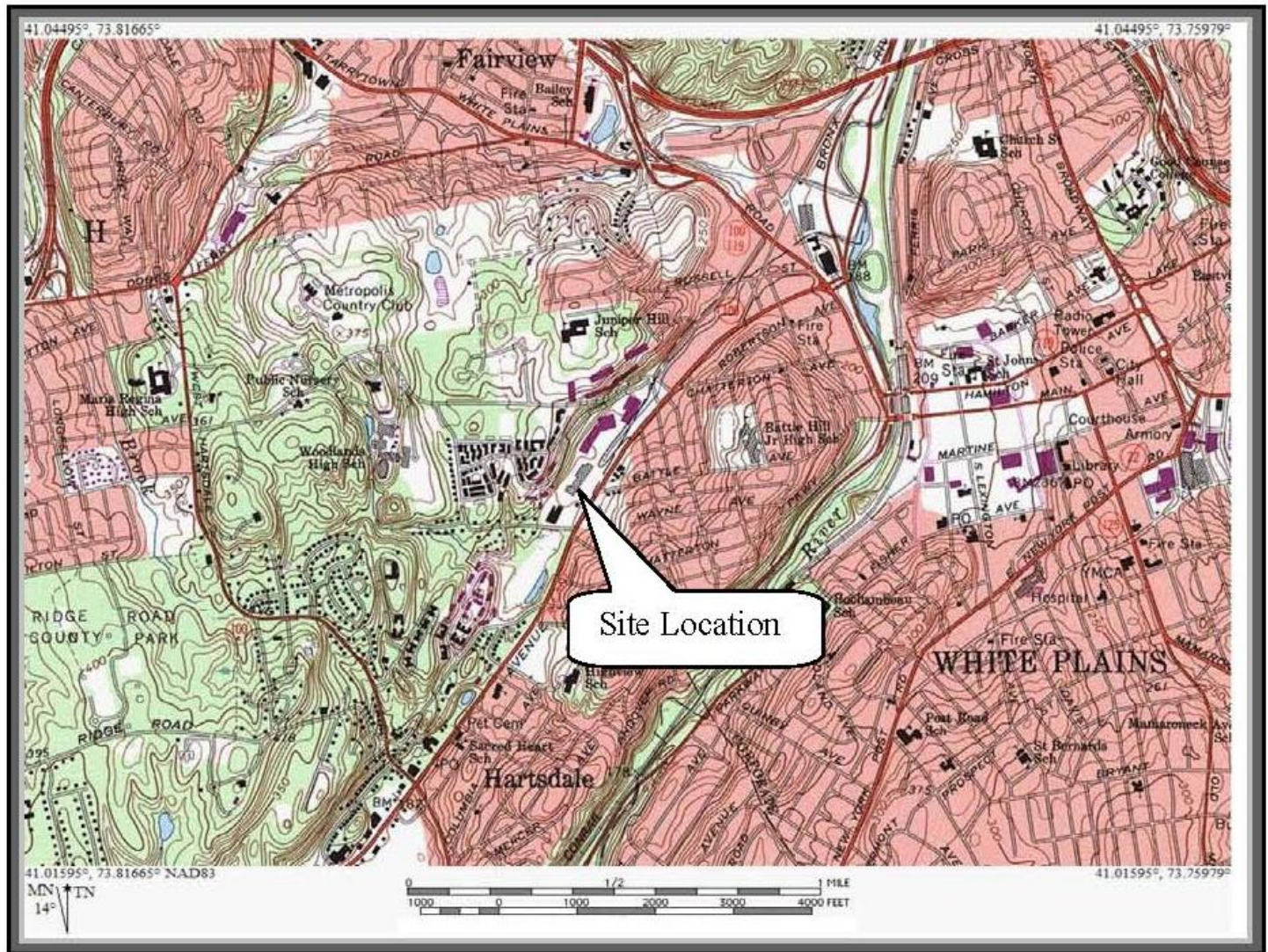
FIGURE A ROUTE FROM SITE TO HOSPITAL

Dalewood I Shopping Plaza
357 North Central Avenue
Hartsdale, New York

FAULKNER & FLYNN
ENVIRONMENTAL MANAGEMENT CONSULTANTS

FIGURE B
SITE LOCATION PLAN

NOTE: The figure was modified from Google Maps (<http://maps.google.com>) aerial photo for 367 North Centro Avenue, Hartsdale, NY.



Project No.: BPG.600.220

Drawn By / Date: TFL 10/23/12

Checked By / Date: ND 10/23/12

Scale: Not to scale

Revised: 12/06/12

FIGURE B SITE LOCATION MAP

Dalewood I Shopping Plaza
357 North Central Avenue
Hartsdale, New York

FAULKNER & FLYNN
ENVIRONMENTAL MANAGEMENT CONSULTANTS

APPENDIX

**HEALTH & SAFETY PLAN
PRE-ENTRY BRIEFING AND
SITE ACCESS RECORD**

Name of Facility: _____

Date: _____

Briefing Conducted by: _____

The following items were discussed at the meeting: (check items discussed.)

- _____ Health & Safety Plan
- _____ Applicable PPE and Field Monitoring Levels
- _____ Personnel Responsibilities
- _____ Site Details / Locations – Equipment, Communications, Figures, etc.
- _____ Emergency Procedures
- _____ Other _____

Personnel Name & Company	Time On Site	Time Departing Site
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		

The briefing report and Site access record should be kept with the Site records.

This Record should be copied as needed and completed for each day of Site work.

Air Monitoring

Photoionization Detector

The purpose is to provide operating procedures for a photoionization detector for field surveying of organic vapors.

Equipment

- Photoionization Detector with 10.2 eV to 11.7 eV lamp.

Procedures

- **Preparation for Use**
 - o Turn the PID on and allow the unit to fully warm up. This is indicated by a ready signal or by stabilization of the indicator needle.
 - o Connect the probe to the meter.
 - o Check the battery level to ensure that the unit is adequately charged. If the unit is not charged, charge according to manufacturer's instructions prior to use.
 - o Calibrate the unit according to manufacturer's instructions at the beginning of each day. Record calibration data on the field log sheet.
- **Operation**
 - o The probe should be held in close proximity to the area being monitored to provide the most accurate reading. If the unit has multiple operating scales, the lowest possible scale range should also be selected. In environments where levels of volatile organics are unknown, initially use the 0-20 ppm scale and then change to higher scale, if appropriate.
 - o Do not allow the probe intake to directly contact soil or liquid materials. This will disrupt the air flow to the UV light source and may contaminate the probe.
 - o After completion of monitoring, the meter should be turned off, cleaned and repacked.

Special Notes

During projects requiring repeated use of the meter for more than one day, calibration will be performed in the field daily using a standard calibration gas in accordance with manufacturer's instructions.

A PID will not detect methane, ammonia or other natural gases.

Documentation

Readings will be recorded on an appropriate field log sheet for the work being performed. A sample field log sheet is attached.

A record of the most recent calibration should be included on all log sheets.

Marsh

Photoionization Detector
Data Tabulation and Calculation Log
 (values in parts per million)

Job Number	_____	Location	_____
Date Sampled	_____	Date Analyzed	_____
Collected by	_____	Analyzed by	_____

[illegible]

Calibration:_____



[Division of Facilities Services](#)

DOD Hazardous Material Information (ANSI Format) For Cornell University Convenience Only

TETRACHLOROETHYLENE

Section 1 - Product and Company Identification	Section 9 - Physical & Chemical Properties
Section 2 - Composition/Information on Ingredients	Section 10 - Stability & Reactivity Data
Section 3 - Hazards Identification Including Emergency Overview	Section 11 - Toxicological Information
Section 4 - First Aid Measures	Section 12 - Ecological Information
Section 5 - Fire Fighting Measures	Section 13 - Disposal Considerations
Section 6 - Accidental Release Measures	Section 14 - MSDS Transport Information
Section 7 - Handling and Storage	Section 15 - Regulatory Information
Section 8 - Exposure Controls & Personal Protection	Section 16 - Other Information

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Cornell University does not in any way warrant or imply the applicability, viability or use of this information to any person or for use in any situation.

Section 1 - Product and Company Identification TETRACHLOROETHYLENE

Product Identification: TETRACHLOROETHYLENE

Date of MSDS: 04/06/1989 **Technical Review Date:** 03/03/1993

FSC: 6750 **NIIN:** 01-308-9381

Submitter: D DG

Status Code: C

MFN: 01

Article: N

Kit Part: N

Manufacturer's Information

Manufacturer's Name: MALLINCKRODT INC. SCIENCE PRODUCTS DIVISION
Post Office Box: M
Manufacturer's Address1: PARIS BYPASS
Manufacturer's Address2: PARIS, KY 40361
Manufacturer's Country: US
General Information Telephone: 314-982-5000/606-987-7000
Emergency Telephone: 314-982-5000
Emergency Telephone: 314-982-5000
MSDS Preparer's Name: N/P
Proprietary: N
Reviewed: Y
Published: Y
CAGE: 62910
Special Project Code: N

Item Description

Item Name: TETRACHLOROETHYLENE,PHOTOGRAPHIC
Item Manager: S9G
Specification Number: NK
Type/Grade/Class: NK
Unit of Issue: BT **Quantitative Expression:** NK
Unit of Issue Quantity: 4 KG
Type of Container: BOTTLE

Contractor Information

Contractor's Name: MALLINCKRODT INC., SCIENCE PRODUCTS DIV
Post Office Box: M
Contractor's Address1: UNKNOWN
Contractor's Address2: PARIS, KY 40361-0315
Contractor's Telephone: 314-982-5000
Contractor's CAGE: 1BF21

Contractor Information

Contractor's Name: MALLINCKRODT SPECIALTY CHEMICALS CO
Contractor's Address1: 222 RED SCHOOL LANE
Contractor's Address2: PHILLIPSBURG, NJ 08865
Contractor's Telephone: 908-859-2151
Contractor's CAGE: 62910

Section 2 - Composition/Information on Ingredients
TETRACHLOROETHYLENE

Ingredient Name: PERCHLOROETHYLENE (TETRACHLOROETHYLENE) (SARA III)
Ingredient CAS Number: 127-18-4 **Ingredient CAS Code:** M
RTECS Number: KX3850000 **RTECS Code:** M
=WT: =WT Code:

=Volume: =Volume Code:
>WT: >WT Code:
>Volume: >Volume Code:
<WT: <WT Code:
<Volume: <Volume Code:
% Low WT: % Low WT Code:
% High WT: % High WT Code:
% Low Volume: % Low Volume Code:
% High Volume: % High Volume Code:
% Text: 100
% Environmental Weight:
Other REC Limits: NONE RECOMMENDED
OSHA PEL: 100 PPM OSHA PEL Code: M
OSHA STEL: OSHA STEL Code:
ACGIH TLV: 25PPM/100,A3 STEL;94 ACGIH TLV Code: M
ACGIH STEL: N/P ACGIH STEL Code:
EPA Reporting Quantity: 100 LBS
DOT Reporting Quantity: 100 LBS
Ozone Depleting Chemical: N

Section 3 - Hazards Identification, Including Emergency Overview TETRACHLOROETHYLENE

Health Hazards Acute & Chronic: ACUTE: EYE, SKIN AND RESPIRATORY TRACT IRRITATION, CENTRAL NERVOUS SYSTEM EFFECTS. HARMFUL IF SWALLOWED. CHRONIC: MAY CAUSE LIVER DAMAGE. SUSPECTED CARCINOGEN BY NTP.

Signs & Symptoms of Overexposure:

EYES: IRRITATION. SKIN: IRRITATION. INHALATION: RESPIRATORY TRACT IRRITATION, HEADACHE, DIZZINESS. INGESTION: GASTROINTESTINAL IRRITATION, NAUSEA, HEADACHE, DIZZINESS.

Medical Conditions Aggravated by Exposure:

INDIVIDUALS WITH A HISTORY OF EYE, SKIN AND RESPIRATORY DISORDERS MAY BE AT INCREASED RISK FROM EXPOSURE.

LD50 LC50 Mixture: LD 50 ORAL RAT IS UNKNOWN

Route of Entry Indicators:

Inhalation: YES

Skin: YES

Ingestion: NO

Carcenogenicity Indicators

NTP: YES

IARC: NO

OSHA: NO

Carcinogenicity Explanation: TETRACHLOROETHYLENE IS A SUSPECTED CARCINOGEN BY NTP.

Section 4 - First Aid Measures

TETRACHLOROETHYLENE

First Aid:

EYES: FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEE DOCTOR. SKIN: WASH WITH SOAP AND WATER WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. SEE DOCTOR. INHALATION: REMOVE VICTIM TO FRESH AIR. GIVE OXYGEN/CPR IF NEEDED. SEE DOCTOR. INGESTION: GIVE 2 GLASSES OF WATER OR MILK. INDUCE VOMITING. SEE DOCTOR. NOTHING BY MOUTH IF UNCONSCIOUS.

Section 5 - Fire Fighting Measures

TETRACHLOROETHYLENE

Fire Fighting Procedures:

WEAR FIRE FIGHTING PROTECTIVE EQUIPMENT AND A FULL FACED SELF CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER SPRAY.

Unusual Fire or Explosion Hazard:

COMBUSTION OR HEAT OF FIRE MAY PRODUCE HAZARDOUS DECOMPOSITION PRODUCTS SUCH AS PHOSGENE (HIGHLY TOXIC) AND HYDROGEN CHLORIDE (CORROSIVE).

Extinguishing Media:

NON-FLAMMABLE. USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

Flash Point: **Flash Point Text:** NOT APPLICABLE

Autoignition Temperature:

Autoignition Temperature Text: N/R

Lower Limit(s): N/R

Upper Limit(s): N/R

Section 6 - Accidental Release Measures

TETRACHLOROETHYLENE

Spill Release Procedures:

REMOVE PERSONNEL. VENTILATE AREA. WEAR PROTECTIVE CLOTHING AND EQUIPMENT. ABSORB IN INERT MATERIAL AND PLACE IN APPROPRIATE DISPOSAL CONTAINER AND COVER. DO NOT FLUSH TO SEWER.

Section 7 - Handling and Storage

TETRACHLOROETHYLENE

Handling and Storage Precautions:**Other Precautions:**

Section 8 - Exposure Controls & Personal Protection

TETRACHLOROETHYLENE

Respiratory Protection:

NONE NORMALLY REQUIRED WITH ADEQUATE VENTILATION. NIOSH/MSHA-APPROVED

RESPIRATOR OR SCBA AS APPROPRIATE FOR EXPOSURE OF CONCERN.

Ventilation:

MECHANICAL (GENERAL) VENTILATION OR LOCAL EXHAUST VENTILATION TO KEEP EXPOSURE LEVELS BELOW PEL.

Protective Gloves:

RUBBER GLOVES.

Eye Protection: CHEMICAL SAFETY GOGGLES.

Other Protective Equipment: PROTECTIVE CLOTHING AS REQUIRED TO MINIMIZE EXPOSURE FROM PROLONGED OR REPEATED CONTACT. EYE BATH AND SAFETY SHOWER.

Work Hygienic Practices: WASH THOROUGHLY AFTER HANDLING AND BEFORE EATING. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.

Supplemental Health & Safety Information: NONE.

Section 9 - Physical & Chemical Properties
TETRACHLOROETHYLENE

HCC: T4

NRC/State License Number: N/R

Net Property Weight for Ammo: N/R

Boiling Point: Boiling Point Text: 246F,119C

Melting/Freezing Point: Melting/Freezing Text: -8F,-22C

Decomposition Point: Decomposition Text: UNKNOWN

Vapor Pressure: 16 Vapor Density: 5.83

Percent Volatile Organic Content:

Specific Gravity: 1.63

Volatile Organic Content Pounds per Gallon:

pH: N/K

Volatile Organic Content Grams per Liter:

Viscosity: UNKNOWN

Evaporation Weight and Reference: 0.27 (CCL4 = 1)

Solubility in Water: NEGLIGIBLE

Appearance and Odor: CLEAR, COLORLESS LIQUID. ETHEREAL ODOR.

Percent Volatiles by Volume: N/K

Corrosion Rate: UNKNOWN

Section 10 - Stability & Reactivity Data
TETRACHLOROETHYLENE

Stability Indicator: YES

Materials to Avoid:

STRONG OXIDIZING AGENTS, STRONG ALKALIES, ESPECIALLY NAOH, KOH, FINELY DIVIDED METALS, ESPECIALLY ZINC.

Stability Condition to Avoid:

HIGH HEAT, OPEN FLAMES.

Hazardous Decomposition Products:

CARBON MONOXIDE, CARBON DIOXIDE, INCOMPLETELY BURNED CARBON PRODUCTS.

Hazardous Polymerization Indicator: NO

Conditions to Avoid Polymerization:

NOT APPLICABLE

Section 11 - Toxicological Information
TETRACHLOROETHYLENE

None Listed

Section 12 - Ecological Information
TETRACHLOROETHYLENE

Ecological Information:
N/P

Section 13 - Disposal Considerations
TETRACHLOROETHYLENE

Waste Disposal Methods:
CONTACT YOUR LOCAL ENVIRONMENTAL OFFICER. DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS. MANUFACTURER RECOMMENDS BURNING IN AN APPROVED INCINERATOR WITH APPROPRIATE SCRUBBERS.

Section 14 - MSDS Transport Information
TETRACHLOROETHYLENE

Transport Information:
N/P

Section 15 - Regulatory Information
TETRACHLOROETHYLENE

SARA Title III Information:
N/P

Federal Regulatory Information:
N/P

State Regulatory Information:
N/P

Section 16 - Other Information
TETRACHLOROETHYLENE

Other Information:
N/P

Department of Transportation Information

DOT Proper Shipping Name: TETRACHLOROETHYLENE

DOT PSN Code: NYB

Symbols:

DOT PSN Modifier:

Hazard Class: 6.1

UN ID Number: UN1897

DOT Packaging Group: III

Label: KEEP AWAY FROM FOOD

Special Provision(s): N36,T1

Packaging Exception: 153

Non Bulk Packaging: 203
Bulk Packaging: 241
Maximum Quantity in Passenger Area: 60 L
Maximum Quantity in Cargo Area: 220 L
Stow in Vessel Requirements: A
Requirements Water/Sp/Other: 40

IMO Detail Information

IMO Proper Shipping Name: TETRACHLOROETHYLENE
IMO PSN Code: OJV
IMO PSN Modifier: P
IMDG Page Number: 6264
UN Number: 1897
UN Hazard Class: 6.1
IMO Packaging Group: III
Subsidiary Risk Label: -
EMS Number: 6.1-02
Medical First Aid Guide Number: 340

IATA Detail Information

IATA Proper Shipping Name: TETRACHLOROETHYLENE
IATA PSN Code: XOW
IATA PSN Modifier:
IATA UN Id Number: 1897
IATA UN Class: 6.1
Subsidiary Risk Class:
UN Packaging Group: III
IATA Label: TOXIC
Packaging Note for Passengers: 605
Maximum Quantity for Passengers: 60L
Packaging Note for Cargo: 612
Maximum Quantity for Cargo: 220L
Exceptions:

AFI Detail Information

AFI Proper Shipping Name: TETRACHLOROETHYLENE
AFI Symbols:
AFI PSN Code: XOW
AFI PSN Modifier:
AFI UN Id Number: UN1897
AFI Hazard Class: 6.1
AFI Packing Group: III
AFI Label:
Special Provisions: P5, N36
Back Pack Reference: A10.5

HAZCOM Label Information

Product Identification: TETRACHLOROETHYLENE
CAGE: 62910
Assigned Individual: N
Company Name: MALLINCKRODT SPECIALTY CHEMICALS CO
Company PO Box:
Company Street Address1: 222 RED SCHOOL LANE
Company Street Address2: PHILLIPSBURG, NJ 08865 US
Health Emergency Telephone: 314-982-5000

Label Required Indicator: Y
Date Label Reviewed: 03/03/1993
Status Code: C
Manufacturer's Label Number: N/R
Date of Label: 03/03/1993
Year Procured: N/K
Organization Code: F
Chronic Hazard Indicator: Y
Eye Protection Indicator: YES
Skin Protection Indicator: YES
Respiratory Protection Indicator: N/P
Signal Word: WARNING
Health Hazard: Moderate
Contact Hazard: Slight
Fire Hazard: None
Reactivity Hazard: None

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[Division of Facilities Services](#)

DOD Hazardous Material Information (ANSI Format) For Cornell University Convenience Only

TRICHLOROETHYLENE

Section 1 - Product and Company Identification	Section 9 - Physical & Chemical Properties
Section 2 - Composition/Information on Ingredients	Section 10 - Stability & Reactivity Data
Section 3 - Hazards Identification Including Emergency Overview	Section 11 - Toxicological Information
Section 4 - First Aid Measures	Section 12 - Ecological Information
Section 5 - Fire Fighting Measures	Section 13 - Disposal Considerations
Section 6 - Accidental Release Measures	Section 14 - MSDS Transport Information
Section 7 - Handling and Storage	Section 15 - Regulatory Information
Section 8 - Exposure Controls & Personal Protection	Section 16 - Other Information

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Section 1 - Product and Company Identification

TRICHLOROETHYLENE

Product Identification: TRICHLOROETHYLENE

Date of MSDS: 01/01/1985 **Technical Review Date:** 01/10/1983

FSC: 6810 **NIIN:** 00-285-4318

Submitter: D DG

Status Code: C

MFN: 01

Article: N

Kit Part: N

Manufacturer's Information

Manufacturer's Name: J.T.BAKER CHEM. CO,CHEM COMMOD AGY,INC-DIST
Manufacturer's Address1: 222 RED SCHOOL LANE
Manufacturer's Address2: PHILLIPSBURG, NJ 08865-2219
Manufacturer's Country: US
General Information Telephone: 201-859-2151
Emergency Telephone: 201-859-2151
Emergency Telephone: 201-859-2151
MSDS Preparer's Name: N/P
Proprietary: N
Reviewed: Y
Published: Y
CAGE: KO749
Special Project Code: N

Item Description

Item Name: TRICHLOROETHYLENE,ACS
Item Manager: S9G
Specification Number: O-C-265
Type/Grade/Class: NK
Unit of Issue: GL
Unit of Issue Quantity: 6
Type of Container: BOTTLE

Contractor Information

Contractor's Name: J.T.BAKER CHEM. (CHEM COMMODITIES-DIST)
Contractor's Address1: 222 RED SCHOOL LANE
Contractor's Address2: PHILLIPSBURG, NJ 08865-2219
Contractor's Telephone: 201-859-2151
Contractor's CAGE: KO749

Contractor Information

Contractor's Name: MALLINCKRODT BAKER, INC. (FORMERLY J.T. BAKER INC)
Contractor's Address1: 222 RED SCHOOL LANE
Contractor's Address2: PHILLIPSBURG, NJ 08865-2219
Contractor's Telephone: 800-582-2537
Contractor's CAGE: 70829

Section 2 - Composition/Information on Ingredients TRICHLOROETHYLENE

Ingredient Name: TRICHLOROETHYLENE (SARA III)
Ingredient CAS Number: 79-01-6 **Ingredient CAS Code:** M
RTECS Number: KX4550000 **RTECS Code:** M
=WT: =WT Code:
=Volume: =Volume Code:
>WT: >WT Code:

>Volume: >Volume Code:
<WT: <WT Code:
<Volume: <Volume Code:
% Low WT: % Low WT Code:
% High WT: % High WT Code:
% Low Volume: % Low Volume Code:
% High Volume: % High Volume Code:
% Text: 100
% Enviromental Weight:
Other REC Limits: N/P
OSHA PEL: 100 PPM/100 STEL OSHA PEL Code: M
OSHA STEL: OSHA STEL Code:
ACGIH TLV: 50 PPM/100,A5STEL;93 ACGIH TLV Code: M
ACGIH STEL: N/P ACGIH STEL Code:
EPA Reporting Quantity: 100 LBS
DOT Reporting Quantity: 100 LBS
Ozone Depleting Chemical: N

Section 3 - Hazards Identification, Including Emergency Overview

TRICHLOROETHYLENE

Health Hazards Acute & Chronic: N/P

Signs & Symptoms of Overexposure:

VAPOR HARMFUL,DIZZY,DROWSY,HIGH CONCENTRATIONS OF HALOCARBONS CAN CAUSE ASPHYXIATION,EVEN DEATH

Medical Conditions Aggravated by Exposure:

N/P

LD50 LC50 Mixture: N/P

Route of Entry Indicators:

Inhalation: N/P

Skin: N/P

Ingestion: N/P

Carcenogenicity Indicators

NTP: N/P

IARC: N/P

OSHA: N/P

Carcinogenicity Explanation: N/P

Section 4 - First Aid Measures

TRICHLOROETHYLENE

First Aid:

INHALED:REMOVE TO FRESH AIR.GIVE CPR/OXYGEN IF NECESSARY.KEEP PATIENT WARM & QUIET.MAINTAIN NORMAL BODY TEMP.EYE CONTACT:FLUSH WITH WATER 15

MIN.SKIN:FLUSH W.WATER.REMOVE CONTAMINATED CLOTHES.SAFEST T O DESTROY LEATHER THAT IS CONTAMINATED.

Section 5 - Fire Fighting Measures

TRICHLOROETHYLENE

Fire Fighting Procedures:

WEAR SELF-CNTND BRTHG APP IN FIRE.COOL CONTAINERS WITH WATER

Unusual Fire or Explosion Hazard:

HYDROGEN CHLORIDE-GAS,PHOSGENE,OTHER TOXIC CPDS MAY BE GENERATED IF INVOLVED IN FIRE.

Extinguishing Media:

PRESENC IN FIRE DOES NOT HINDER USE OF ANY ST ANDARD MEDIUM.

Flash Point: Flash Point Text: N/A

Autoignition Temperature:

Autoignition Temperature Text: N/A

Lower Limit(s): N/A

Upper Limit(s): N/A

Section 6 - Accidental Release Measures

TRICHLOROETHYLENE

Spill Release Procedures:

DIKE LARGE SPILLS FOR LATER DISPOSAL.SMALL SPILLS.RECOVER OR ABSORB & RECOVER INTO WASTE CONTAINERS.FLUSH RESIDUES WITH WATER.DO NOT FLUSH TO SEWERS OR WATER WAYS.

Section 7 - Handling and Storage

TRICHLOROETHYLENE

Handling and Storage Precautions:

Other Precautions:

Section 8 - Exposure Controls & Personal Protection

TRICHLOROETHYLENE

Respiratory Protection:

NONE REQUIRED WITH ADEQUATE VENTILATION.

Ventilation:

MECHANICAL ADEQUATE TO MAINTAIN EXPOSURE BELOW TLV.

Protective Gloves:

RUBBER

Eye Protection: CHEM SAFETY GOGGLES.

Other Protective Equipment: N/P

Work Hygienic Practices: N/P

Supplemental Health & Safety Information: N/P

Section 9 - Physical & Chemical Properties

TRICHLOROETHYLENE

HCC: T4**NRC/State License Number:****Net Property Weight for Ammo:****Boiling Point: Boiling Point Text:** 187-189F**Melting/Freezing Point: Melting/Freezing Text:** N/A**Decomposition Point: Decomposition Text:** N/A**Vapor Pressure:** N/A **Vapor Density:** 4.5**Percent Volatile Organic Content:****Specific Gravity:** 1.46**Volatile Organic Content Pounds per Gallon:****pH:** N/P**Volatile Organic Content Grams per Liter:****Viscosity:** N/P**Evaporation Weight and Reference:** 0.001 MAX**Solubility in Water:** NEGLIGIBLE**Appearance and Odor:** COLORLESS,CHLOROFORM-LIKE ODOR.**Percent Volatiles by Volume:** N/A**Corrosion Rate:** N/P

Section 10 - Stability & Reactivity Data
TRICHLOROETHYLENE

Stability Indicator: YES**Materials to Avoid:**

AVOID STRONG OXIDIZERS

Stability Condition to Avoid:

N/P

Hazardous Decomposition Products:

HYDROGEN CHLORIDE,PHOSGENE,OTHER HIGHLY TOXIC COMPOUNDS.

Hazardous Polymerization Indicator: NO**Conditions to Avoid Polymerization:**N/P

Section 11 - Toxicological Information
TRICHLOROETHYLENE

Toxicological Information:N/P

Section 12 - Ecological Information
TRICHLOROETHYLENE

Ecological Information:N/P

Section 13 - Disposal Considerations
TRICHLOROETHYLENE

Waste Disposal Methods:

DISPOSAL IN ACCORDANCE WITH FEDERAL,STATE AND LOCAL REGULATIONS.

Section 14 - MSDS Transport Information
TRICHLOROETHYLENE

Transport Information:N/P

Section 15 - Regulatory Information
TRICHLOROETHYLENE

SARA Title III Information:

N/P

Federal Regulatory Information:

N/P

State Regulatory Information:N/P

Section 16 - Other Information
TRICHLOROETHYLENE

Other Information:

N/P

HMIS Transportation Information**Product Identification:** TRICHLOROETHYLENE**Transportation ID Number:** 66350**Responsible Party CAGE:** KO749**Date MSDS Prepared:** 01/01/1985**Date MSDS Reviewed:** 07/31/1991**MFN:** 07/31/1991**Submitter:** D DG**Status Code:** C**Container Information****Unit of Issue:** GL**Container Quantity:** 6**Type of Container:** BOTTLE**Net Unit Weight:****Article without MSDS:** N**Technical Entry NOS Shipping Number:****Radioactivity:****Form:****Net Explosive Weight:****Coast Guard Ammunition Code:****Magnetism:** N/P**AF MMAC Code:****DOD Exemption Number:****Limited Quantity Indicator:****Multiple Kit Number:** 0**Kit Indicator:** N**Kit Part Indicator:** N

Review Indicator: Y

Additional Data:

Department of Transportation Information

DOT Proper Shipping Name: TRICHLOROETHYLENE

DOT PSN Code: OQK

Symbols:

DOT PSN Modifier:

Hazard Class: 6.1

UN ID Number: UN1710

DOT Packaging Group: III

Label: KEEP AWAY FROM FOOD

Special Provision(s): N36,T1

Packaging Exception: 153

Non Bulk Packaging: 203

Bulk Packaging: 241

Maximum Quantity in Passenger Area: 60 L

Maximum Quantity in Cargo Area: 220 L

Stow in Vessel Requirements: A

Requirements Water/Sp/Other: 40

IMO Detail Information

IMO Proper Shipping Name: TRICHLOROETHYLENE

IMO PSN Code: OVL

IMO PSN Modifier: P

IMDG Page Number: 6273

UN Number: 1710

UN Hazard Class: 6.1

IMO Packaging Group: III

Subsidiary Risk Label: -

EMS Number: 6.1-02

Medical First Aid Guide Number: 340

IATA Detail Information

IATA Proper Shipping Name: TRICHLOROETHYLENE

IATA PSN Code: YMD

IATA PSN Modifier:

IATA UN Id Number: 1710

IATA UN Class: 6.1

Subsidiary Risk Class:

UN Packaging Group: III

IATA Label: TOXIC

Packaging Note for Passengers: 605

Maximum Quantity for Passengers: 60L

Packaging Note for Cargo: 612

Maximum Quantity for Cargo: 220L

Exceptions:

AFI Detail Information

AFI Proper Shipping Name: TRICHLOROETHYLENE

AFI Symbols:

AFI PSN Code: YMD

AFI PSN Modifier:

AFI UN Id Number: UN1710

AFI Hazard Class: 6.1

AFI Packing Group: III

AFI Label:

Special Provisions: P5, N36

Back Pack Reference: A10.5

HAZCOM Label Information

Product Identification: TRICHLOROETHYLENE

CAGE: KO749

Assigned Individual: Y

Company Name: J.T.BAKER CHEM. (CHEM COMMODITIES-DIST)

Company PO Box:

Company Street Address1: 222 RED SCHOOL LANE

Company Street Address2: PHILLIPSBURG, NJ 08865-2219 US

Health Emergency Telephone: 201-859-2151

Label Required Indicator: Y

Date Label Reviewed: 12/16/1998

Status Code: C

Manufacturer's Label Number:

Date of Label: 12/16/1998

Year Procured: N/K

Organization Code: F

Chronic Hazard Indicator: N/P

Eye Protection Indicator: N/P

Skin Protection Indicator: N/P

Respiratory Protection Indicator: N/P

Signal Word: N/P

Health Hazard:

Contact Hazard:

Fire Hazard:

Reactivity Hazard:

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Linde Gas LLC (216) 642-6600
P.O. Box 94737
Cleveland, Ohio 44101
www.us.lindegas.com

MATERIAL
SAFETY
DATA SHEET

No. 155

PRODUCT NAME Vinyl Chloride	CAS # 75-01-4
TRADE NAME AND SYNONYMS Vinyl chloride, inhibited (D.O.T.)	DOT I.D. No.: UN 1086; RQ 1.0 (0.454)
CHEMICAL NAME AND SYNONYMS Vinyl Chloride, Chloroethylene; Chloroethene	DOT Hazard Class: Division 2.1
ISSUE DATES AND REVISIONS Revised january 1995	Formula C ₂ H ₃ Cl or CH ₂ CHCl
	Chemical Family: Halogenated Alkene

HEALTH HAZARD DATA

TIME WEIGHTED AVERAGE EXPOSURE LIMIT TWA = 5 molar ppm with an A1 Carcinogen Rating (ACGIH 1994-1995). AI is a confirmed human carcinogen. OSHA 1993. 1910.1017, 8 Hr. TWA = 1 Molar PPM (Continued on Page 4)
SYMPTOMS OF EXPOSURE Inhaling high concentrations causes mild symptoms of drowsiness, blurred vision, staggering gate and tingling and numbness in the extremities. Liquid vinyl chloride may cause severe irritation or burns on skin or eye contact.
TOXICOLOGICAL PROPERTIES Several workers who handled and used vinyl chloride developed a rare form of liver cancer. IARC, NTP and OSHA all list vinyl chloride as a carcinogen. Persons in ill health where such illness would be aggravated by exposure to vinyl chloride should not be allowed to work with or handle this product.
RECOMMENDED FIRST AID TREATMENT PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO VINYL CHLORIDE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS AND BE COGNIZANT OF EXTREME FIRE AND EXPLOSION HAZARD. Inhalation: Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given assisted respiration and supplemental oxygen. Further treatment should be symptomatic and supportive. (Continued on Page 4)

Information contained in this material safety data sheet is offered without charge for use by technically qualified personnel at their discretion and risk. All statements, technical information and recommendations contained herein are based on tests and data which we believe to be reliable, but the accuracy or completeness thereof is not guaranteed and no warranty of any kind is made with respect thereto. This information is not intended as a license to operate under or a recommendation to practice or infringe any patent of this Company or others covering any process, composition of matter or use.
Since the Company shall have no control of the use of the product described herein, the Company assumes no liability for loss or damage incurred from the proper or improper use of such product.

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES

Vinyl chloride polymerizes on exposure to sunlight, heat or in the presence of oxygen or air. The addition of phenol or hydroquinone inhibits the polymerization. It is flammable in air.

PHYSICAL DATA

BOILING POINT 7.3°F (-13.7°C)	LIQUID DENSITY AT BOILING POINT 60.6 lb/ft³ (971 kg/m³)
VAPOR PRESSURE @ 70°F (21.1°C) = 52 psia (360 kPa)	GAS DENSITY AT 70°F, 1 atm @ 77°F (25°C) = .164 lb/ft³ (2.63 kg/m³)
SOLUBILITY IN WATER Slightly Soluble	FREEZING POINT -244.8°F (-153.8°C)
EVAPORATION RATE N/A (Gas)	SPECIFIC GRAVITY (AIR=1) @ 77°F (25°C) = 2.22
APPEARANCE AND ODOR Colorless gas with a pleasant, sweet odor	

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) -108°F (CC)	AUTO IGNITION TEMPERATURE 882°F (472°C)	FLAMMABLE LIMITS % BY VOLUME (See Page 4) LEL 3.6 UEL 33
EXTINGUISHING MEDIA Water, dry chemical, carbon dioxide		ELECTRICAL CLASSIFICATION Class 1, Group Not Specified
SPECIAL FIRE FIGHTING PROCEDURES Attempt to stop the flow of vinyl chloride. Use water spray to cool surrounding containers.		
UNUSUAL FIRE AND EXPLOSION HAZARDS Vinyl chloride vapors are heavier than air and may travel a considerable distance to a source of ignition. Should fire be extinguished and flow of gas continue, increase ventilation to prevent formation of flammable mixtures in low areas or pockets.		

REACTIVITY DATA

STABILITY Unstable		CONDITIONS TO AVOID None
Stable	X	
INCOMPATIBILITY (Materials to avoid) Oxidizers		
HAZARDOUS DECOMPOSITION PRODUCTS None		
HAZARDOUS POLYMERIZATION May Occur	X	CONDITIONS TO AVOID It is inhibited with phenol or hydroquinone to prevent polymerization.
Will Not Occur		

SPILL OR LEAK PROCEDURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Evacuate all personnel from affected area. Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is in container or container valve, contact your closest supplier location or call the emergency telephone number listed herein.

WASTE DISPOSAL METHOD

Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place to your supplier. For emergency disposal assistance, contact your closest supplier location or call the emergency telephone number listed herein.

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) Positive pressure air line with mask or self-contained breathing apparatus should be available for emergency use.		
VENTILATION Hood with forced ventilation	LOCAL EXHAUST To prevent accumulation above the TWA	SPECIAL N/A
	MECHANICAL (Gen.) In accordance with electrical codes	OTHER N/A
PROTECTIVE GLOVES Most materials except natural rubber		
EYE PROTECTION Safety goggles or glasses		
OTHER PROTECTIVE EQUIPMENT Safety shoes, safety shower, eyewash "fountain," transparent face shield		

SPECIAL PRECAUTIONS*

SPECIAL LABELING INFORMATION DOT Shipping Name: Vinyl chloride, inhibited DOT Shipping Label: Flammable Gas			I.D. No.: DOT Hazard Class:	UN 1086; RQ 1.0(0.454) Division 2.1
SPECIAL HANDLING RECOMMENDATIONS Use only in well-ventilated areas. Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connectinn cylinder to lower pressure (<150 psiq) piping or systems. Do not heat cylinder by any means to increase tne discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. For additional handling recommendations, consult Compressed Gas Association's Pamphlets I P-1 and P-10.				
SPECIAL STORAGE RECOMMENDATIONS Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of noncombustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125F (52C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders beins stored for excessive periods of time. Post "No Smoking or Open Flames" signs in the storage or use area. There should be no sources of ignition in the storage or use area. For additional storage recommendations, consult Compressed Gas Association's Pamphlet P-1 and P-10.				
SPECIAL PACKAGING RECOMMENDATIONS Most metals except copper and its alloys may be used with vinyl chloride. Copper and its alloys could form explosive acetylides by reacting with the acetylene impurity in the product. Teflon® is the preferred gasketing material.				
OTHER RECOMMENDATIONS OR PRECAUTIONS Earth-ground and bond all lines and equipment associated with the vinyl chloride system. Electrical equipment should be non-sparking or explosion proof. Compressed gas cylinders should not be refilled except by qualified producers of compressed gases. Shipment of a compressed gas cylinder which has not been filled by the owner or with his (written) consent is a violation of federal Law (49CFR).				

(Continued on Page 4)

*Various Government Agencies (i.e. Department of Transportation, Occupational Safety and Health Administration, Food and Drug Administration and others) may have specific regulations concerning the transportation, handling, storage or use of this product which will not be reflected in this data sheet. The customer should review these regulations to ensure that he is in full compliance.

HEALTH HAZARD DATA

TWA DATA: (continued)

(<5 Molar PPM averaged over any period not exceeding 15 minutes) with the prohibition of any personal direct contact with vinyl chloride liquid and it is classified as a cancer suspect agent.

RECOMMENDED FIRST AID TREATMENT: (Continued)

Eye Contact: PERSONS WITH POTENTIAL EXPOSURE TO VINYL CHLORIDE SHOULD NOT WEAR CONTACT LENSES.

Flush contaminated eye(s) with copious quantities of water. Part eyelids with fingers to assure complete flushing. Continue for minimum of 15 minutes. An eye specialist should be summoned promptly.

Skin Contact: Flush affected areas with copious quantities of water. Remove affected clothing as rapidly as possible. A physician should see the patient. Follow the water flush with a soap and water wash.

SPECIAL PRECAUTIONS

OTHER RECOMMENDATIONS OR PRECAUTIONS: (Continued)

Always secure cylinders in an upright position before transporting them. Never transport cylinders in trunks of vehicles, enclosed vans, truck cabs or in passenger compartments. Transport cylinders secured in open flatbed or in open pick-up type vehicles.

Vinyl chloride is a toxic chemical and it is subject to the reporting requirements of SARA, Title III, Section 313.



[Division of Facilities Services](#)

DOD Hazardous Material Information (ANSI Format) For Cornell University Convenience Only

0-659 CIS 1,2-DICHLOROETHENE

Section 1 - Product and Company Identification	Section 9 - Physical & Chemical Properties
Section 2 - Composition/Information on Ingredients	Section 10 - Stability & Reactivity Data
Section 3 - Hazards Identification Including Emergency Overview	Section 11 - Toxicological Information
Section 4 - First Aid Measures	Section 12 - Ecological Information
Section 5 - Fire Fighting Measures	Section 13 - Disposal Considerations
Section 6 - Accidental Release Measures	Section 14 - MSDS Transport Information
Section 7 - Handling and Storage	Section 15 - Regulatory Information
Section 8 - Exposure Controls & Personal Protection	Section 16 - Other Information

The information in this document is compiled from information maintained by the United States Department of Defense (DOD). Anyone using this information is solely responsible for the accuracy and applicability of this information to a particular use or situation.

Cornell University does not in any way warrant or imply the applicability, viability or use of this information to any person or for use in any situation.

Section 1 - Product and Company Identification 0-659 CIS 1,2-DICHLOROETHENE

Product Identification: 0-659 CIS 1,2-DICHLOROETHENE

Date of MSDS: 06/02/1992 **Technical Review Date:** 12/06/1994

FSC: 6550 **NIIN:** LIIN: 00F037480

Submitter: F BT

Status Code: C

MFN: 01

Article: N

Kit Part: N

Manufacturer's Information

Manufacturer's Name: CHEM SERVICE INC
Post Office Box: 3108
Manufacturer's Address1: 660 TOWER LN
Manufacturer's Address2: WEST CHESTER, PA 19381-3108
Manufacturer's Country: US
General Information Telephone: 215-692-3026/800-452-9994
Emergency Telephone: 215-692-3026/800-452-9994
Emergency Telephone: 215-692-3026/800-452-9994
MSDS Preparer's Name: N/P
Proprietary: N
Reviewed: Y
Published: Y
CAGE: 84898
Special Project Code: N

Preparer Information

Preparer's Name: CHEM SERVICE INC
Post Office Box: 3108
Preparer's Address1: N/K
Preparer's Address2: WEST CHESTER, PA 19381
Preparer's CAGE: 84898
Assigned Individual: N

Contractor Information

Contractor's Name: CHEM SERVICE INC
Post Office Box: 3108
Contractor's Address1: N/K
Contractor's Address2: WEST CHESTER, PA 19381
Contractor's Telephone: 215-692-3026
Contractor's CAGE: 84898

Contractor Information

Contractor's Name: CHEM SERVICE, INC
Post Office Box: 599
Contractor's Address1: 660 TOWER LN
Contractor's Address2: WEST CHESTER, PA 19301-9650
Contractor's Telephone: 610-692-3026
Contractor's CAGE: 8Y898

Section 2 - Composition/Information on Ingredients
0-659 CIS 1,2-DICHLOROETHENE

Ingredient Name: DICHLOROETHENE
Ingredient CAS Number: 156-59-2 **Ingredient CAS Code:** M
RTECS Number: KV9420000 **RTECS Code:** M
=WT: =WT Code:

=Volume: =Volume Code:
>WT: >WT Code:
>Volume: >Volume Code:
<WT: <WT Code:
<Volume: <Volume Code:
% Low WT: % Low WT Code:
% High WT: % High WT Code:
% Low Volume: % Low Volume Code:
% High Volume: % High Volume Code:
% Text: N/K
% Environmental Weight:
Other REC Limits: N/K
OSHA PEL: N/K OSHA PEL Code: M
OSHA STEL: OSHA STEL Code:
ACGIH TLV: N/K ACGIH TLV Code: M
ACGIH STEL: N/P ACGIH STEL Code:
EPA Reporting Quantity:
DOT Reporting Quantity:
Ozone Depleting Chemical: N

Section 3 - Hazards Identification, Including Emergency Overview

0-659 CIS 1,2-DICHLOROETHENE

Health Hazards Acute & Chronic: SKIN: MAY BE HARMFUL IF ABSORBED. CAN CAUSE IRRITATION. INHALATION: MAY BE HARMFUL. DUST &/VAPORS CAN CAUSE RESPIRATORY TRACT IRRITATION. CAN BE IRRITATING TO MUCOUS MEMBRANCES. INGESTION: MAY BE HARM FUL. EYES: IRRITATION. EXPOSURE CAN CAUSE LIVER DAMAGE. NARCOTIC AT HIGH CONCENTRATIONS.

Signs & Symptoms of Overexposure:
IRRITATION, NARCOTIC.

Medical Conditions Aggravated by Exposure:
N/K

LD50 LC50 Mixture: N/P

Route of Entry Indicators:
Inhalation: YES
Skin: YES
Ingestion: YES

Carcenogenicity Indicators
NTP: NO
IARC: NO
OSHA: NO

Carcinogenicity Explanation: NONE

Section 4 - First Aid Measures

0-659 CIS 1,2-DICHLOROETHENE

First Aid:

EYES: FLUSH CONTINUOUSLY W/WATER FOR 15-20 MINS. SKIN: FLUSH W/WATER FOR 15-20 MINS. IF NOT BURNED, WASH W/SOAP & WATER TO CLEANSE. INHALATION: REMOVE TO FRESH AIR. GIVE CPR/OXYGEN IF NEEDED & CONTINUE LIFE SUPPORT UNTIL MEDICAL ASSISTANCE ARRIVES. INGESTION: RINSE MOUTH OUT W/WATER, IF CONSCIOUS. OBTAIN MEDICAL ATTENTION IN ALL CASES.

Section 5 - Fire Fighting Measures
0-659 CIS 1,2-DICHLOROETHENE

Fire Fighting Procedures:

N/K

Unusual Fire or Explosion Hazard:

FLAMMABLE CHEMICAL. VAPORS MAY TRAVEL CONSIDERABLE DISTANCE TO IGNITION SOURCE & FLASH BACK. DECOMPOSITION PRODUCTS ARE CORROSIVE.

Extinguishing Media:

CO₂, DRY CHEMICAL POWDER/SPRAY.

Flash Point: Flash Point Text: 42.8F

Autoignition Temperature:

Autoignition Temperature Text: N/A

Lower Limit(s): N/K

Upper Limit(s): N/K

Section 6 - Accidental Release Measures
0-659 CIS 1,2-DICHLOROETHENE

Spill Release Procedures:

EVACUATE AREA. WEAR APPROPRIATE OSHA REGULATED EQUIPMENT. VENTILATE AREA. ABSORB ON VERMICULITE/SIMILAR MATERIAL. SWEEP UP & PLACE IN APPROPRIATE CONTAINER/HOLD FOR DISPOSAL. WASH CONTAMINATED SURFACES TO REMOVE ANY RESIDUES.

Section 7 - Handling and Storage
0-659 CIS 1,2-DICHLOROETHENE

Handling and Storage Precautions:**Other Precautions:**

Section 8 - Exposure Controls & Personal Protection
0-659 CIS 1,2-DICHLOROETHENE

Respiratory Protection:

WEAR APPROPRIATE OSHA/MSHA APPROVED SAFETY EQUIPMENT.

Ventilation:

CHEMICAL SHOULD BE HANDLED ONLY IN A HOOD.

Protective Gloves:

N/K

Eye Protection: EYE SHIELDS

Other Protective Equipment: N/K

Work Hygienic Practices: N/K

Supplemental Health & Safety Information: N/K

Section 9 - Physical & Chemical Properties

0-659 CIS 1,2-DICHLOROETHENE

HCC:

NRC/State License Number:

Net Property Weight for Ammo:

Boiling Point: Boiling Point Text: 140F

Melting/Freezing Point: Melting/Freezing Text: -112F

Decomposition Point: Decomposition Text: N/K

Vapor Pressure: N/K **Vapor Density:** N/K

Percent Volatile Organic Content:

Specific Gravity: N/K

Volatile Organic Content Pounds per Gallon:

pH: N/K

Volatile Organic Content Grams per Liter:

Viscosity: N/P

Evaporation Weight and Reference: N/K

Solubility in Water: INSOLUBLE

Appearance and Odor: COLORLESS LIQUID

Percent Volatiles by Volume: N/K

Corrosion Rate: N/K

Section 10 - Stability & Reactivity Data

0-659 CIS 1,2-DICHLOROETHENE

Stability Indicator: YES

Materials to Avoid:

STRONG OXIDIZING AGENTS, MAGNESIUM, ALUMINUM.

Stability Condition to Avoid:

MOISTURE, AIR, LIGHT, HEAT & OTHER IGNITION SOURCES.

Hazardous Decomposition Products:

TOXIC FUMES

Hazardous Polymerization Indicator: NO

Conditions to Avoid Polymerization:

N/K

Section 11 - Toxicological Information

0-659 CIS 1,2-DICHLOROETHENE

Toxicological Information:

N/P

Section 12 - Ecological Information

0-659 CIS 1,2-DICHLOROETHENE

Ecological Information:

N/P

Section 13 - Disposal Considerations
0-659 CIS 1,2-DICHLOROETHENE

Waste Disposal Methods:

BURN IN A CHEMICAL INCINERATOR EQUIPPED W/AN AFTERBURNER & SCRUBBER
IAW/FEDERAL, STATE & LOCAL REGULATIONS.

Section 14 - MSDS Transport Information
0-659 CIS 1,2-DICHLOROETHENE

Transport Information:

N/P

Section 15 - Regulatory Information
0-659 CIS 1,2-DICHLOROETHENE

SARA Title III Information:

N/P

Federal Regulatory Information:

N/P

State Regulatory Information:

N/P

Section 16 - Other Information
0-659 CIS 1,2-DICHLOROETHENE

Other Information:

N/P

HAZCOM Label Information

Product Identification: 0-659 CIS 1,2-DICHLOROETHENE

CAGE: 84898

Assigned Individual: N

Company Name: CHEM SERVICE INC

Company PO Box: 3108

Company Street Address1: N/K

Company Street Address2: WEST CHESTER, PA 19381 US

Health Emergency Telephone: 215-692-3026/800-452-9994

Label Required Indicator: Y

Date Label Reviewed: 12/16/1998

Status Code: C

Manufacturer's Label Number:

Date of Label: 12/16/1998

Year Procured: N/K

Organization Code: G

Chronic Hazard Indicator: N/P

Eye Protection Indicator: N/P

Skin Protection Indicator: N/P

Respiratory Protection Indicator: N/P

Signal Word: N/P

Health Hazard:

Contact Hazard:

Fire Hazard:

Reactivity Hazard:

8/8/2002 4:23:10 PM

December 2013

Community Air Monitoring Plan

Dalewood I Shopping Plaza

371 N. Central Avenue

Hartsdale, NY

VCP SITE V00457-3

Prepared by:

Faulkner & Flynn, Inc.

99 High Street

Boston, MA 02110

Environmental Professional Approval



Signature

NEAL M. DRAWAS

Printed Name

December 18, 2013

Date

SENIOR CONSULTANT

Title

Community Air Monitoring Plan **(In accordance with DER-10, Appendix 1)**

Overview

Prior to any construction work within the Soil Management Area, a Community Air Monitoring Plan (CAMP) will be prepared to provide real-time monitoring for volatile organic compounds (VOCs) and particulates (dust) at the downwind perimeter of each work area. The CAMP is not intended for use in establishing action levels for worker respiratory protection, but it is to provide a measure of protection for the downwind community (that is nearby off-site receptors including residences and businesses and on-site workers not directly involved with the proposed work activities) from potential airborne contaminant releases as a direct result of any supplemental investigative or remedial work activities. The action levels specified within the CAP may require increased monitoring, corrective actions to abate emissions, and/or temporary work shutdown. Additionally, the CAMP will help to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below is sufficient to cover any proposed work at the Dalewood I Shopping Center. Specific requirements will be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a project specific CAMP or supplement may be required depending upon the nature of the proposed construction activities and the proximity of potentially exposed individuals. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures, and these requirements will be determined in consultation with NYSDOH.

Reliance on the CAMP will not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area may be necessary.

Continuous monitoring will be included for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. Periodic monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. Depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells in close proximity to an on-site tenant's air intake or entrance doorway.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) may be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

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

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

3. If the organic vapor level is greater than 25 ppm at the perimeter of the work area, activities will be shutdown.

4. All 15-minute readings must be recorded and be available for NYSDEC and NYSDOH to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m³) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques should be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed the background by more than 150 mcg/m³ and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, the downwind PM-10 particulate levels exceed the background by more than 150 mcg/m³, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m³ of the background level and in preventing visible dust migration.

3. All readings must be recorded and be available for NYSDEC and NYSDOH and the Westchester County Health personnel to review.

Appendix E

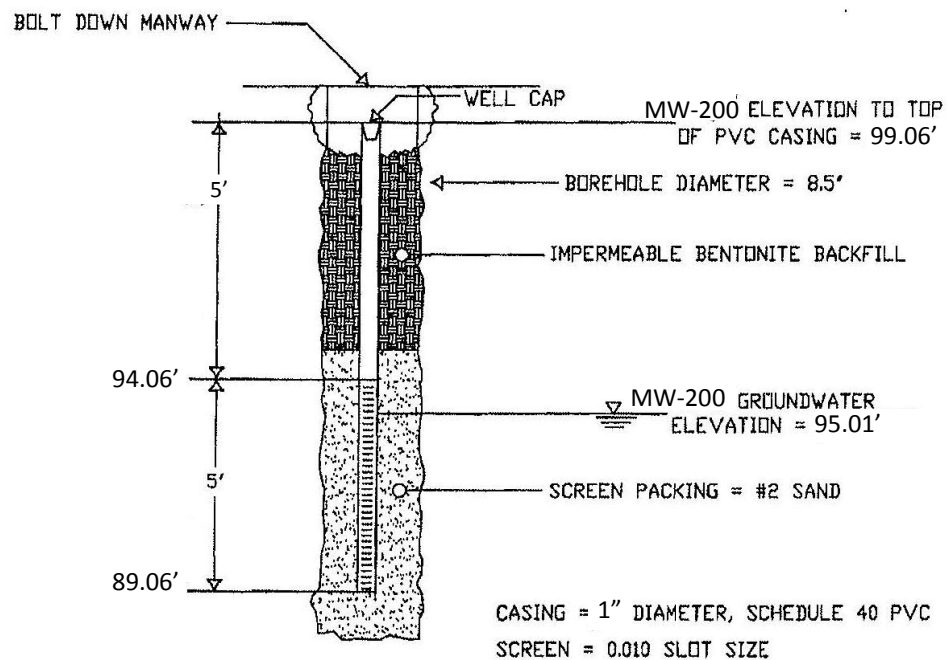
**Monitoring Well Boring and
Construction Logs**

Boring:	MW-212		
Project: 2346F	Client: Kroll--Dalewood, 357 N. Central Ave., Hartsdale, NY		
Started:	4/8/2003		
Completed:	4/8/2003		
Rig:	Geoprobe		
Operator:	Carl Lurix		
Screen (ft.):	5'		
Riser (ft.):	10'		
Screen Interval:	5'-15'		
Filter Pack:	#2 Sand		
Annular Seal:	Bentonite		
Well Head:	6" manway		
Interval (Feet)	Sample Description		PID
0-4'	Macro cored direct pushed through 3" asphalt and concrete layer. moist, medium to fine brown SAND, some silt, and gravel. Recovery-		0
4-8'	moist, medium to fine grey SAND, some silt, little gravel. Recovery-75%. Wet at 8'.		0
Sample Method:	Other Comments		
Macro Core	A 1" diameter PVC well was set at approximately 10' below grade. The well was finished at grade with a 6" traffic-rated curb box and an 18" x 18" concrete pad. Note: NR = No Response		

Boring:	MW-211		
Project: 2346F	Client: Kroll--Dalewood, 357 N. Central Ave., Hartsdale, NY		
Started:	4/8/2003		
Completed:	4/8/2003		
Rig:	Geoprobe		
Operator:	Carl Lurix		
Screen (ft.):	5'		
Riser (ft.):	10'		
Screen Interval:	5'-15'		
Filter Pack:	#2 Sand		
Annular Seal:	Bentonite		
Well Head:	6" manway		
Interval (Feet)	Sample Description	PID	
0-4'	Macro cored direct through 3" of asphalt and a concrete layer. moist, medium to fine grey SAND, some silt, and gravel. Recovery-75%	0	
4-8'	moist, medium to fine grey SAND, some silt. Recovery-30%. Wet at 8'.	0	
Sample Method:	Other Comments		
Macro Core	A 1" diameter PVC well was set at approximately 10' below grade. The well was finished at grade with a 6" traffic-rated curb box and an 18" x 18" concrete pad. Note: NR = No Response		

Boring:	MW-205		
Project: 2346F	Client: Kroll--Dalewood, 357 N. Central Ave., Hartsdale, NY		
Started:	2/19/2003		
Completed:	2/19/2003		
Rig:	Geoprobe		
Operator:	Izzy		
Inspector:	Maureen Kerrigan		
Screen (ft.):	5'		
Riser (ft.):	5'		
Screen Interval:	5'-10'		
Filter Pack:	#2 Sand		
Annular Seal:	Bentonite		
Well Head:	6" manway		
Interval (Feet)	Sample Description		PID
2-6'	moist, medium to fine brown SAND, little gravel, slight petroleum odor. Recovery-25%.		2.1
6-10'	medium to fine brown SAND, little gravel. Wet at 8'. Recovery-75%		0.8
10-12'	wet, medium to fine brown SAND, little gravel, some silt. Recovery-75%.		27.9
Sample Method:	Other Comments		
Macro Core	A 1" diameter PVC well was set at approximately 12'5" below grade. The well was finished at grade with a 6" traffic-rated curb box and an 18" x 18" concrete pad. Note: NR = No response.		

MONITORING WELL INSTALLATION DETAIL

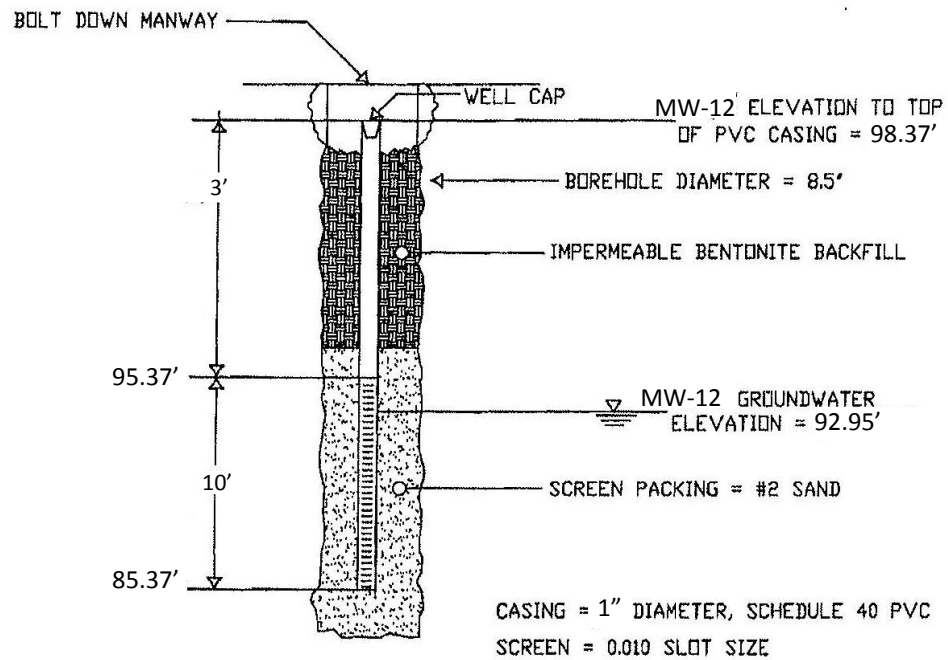


SITE: DALEWOOD PLAZA
HARTSDALE, NEW YORK

WELL
IDENTIFICATION: MW-200

INSTALLATION DATE: MARCH 8, 2001

MONITORING WELL INSTALLATION DETAIL

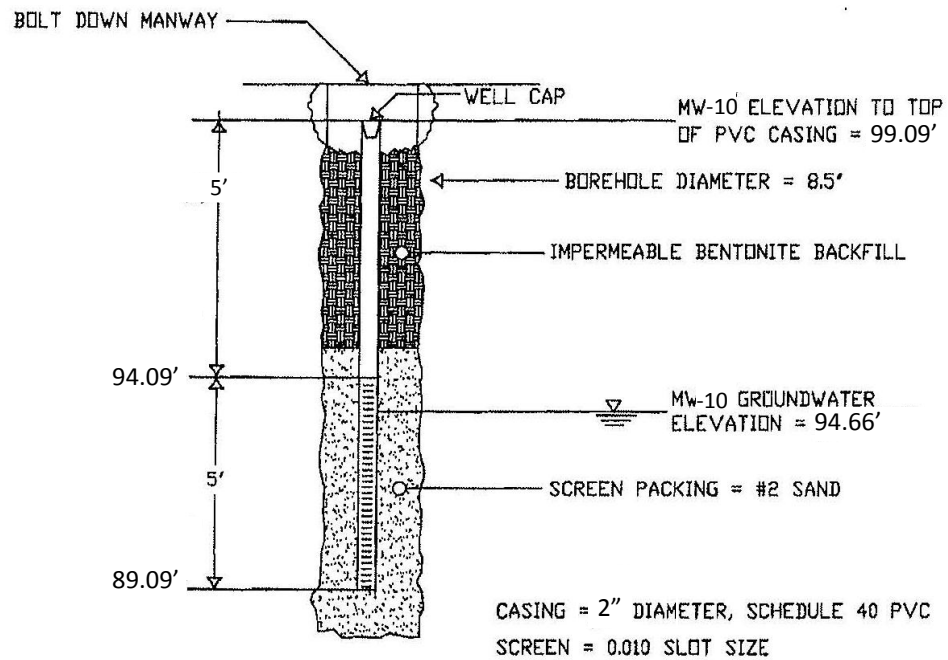


SITE: DALEWOOD PLAZA
HARTSDALE, NEW YORK

WELL
IDENTIFICATION: MW-12

INSTALLATION DATE: JULY 19, 2010

MONITORING WELL INSTALLATION DETAIL

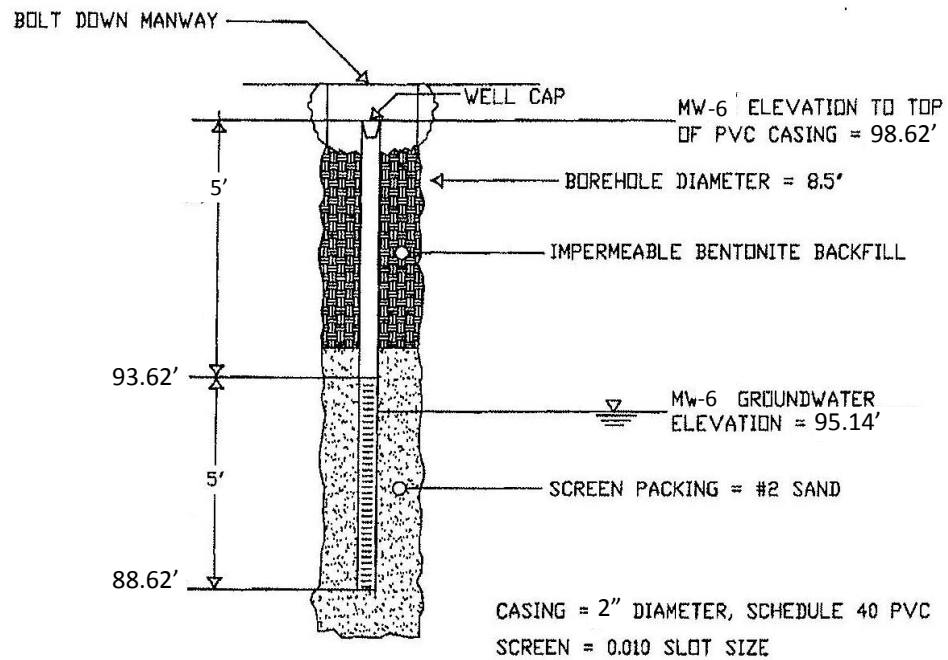


SITE: DALEWOOD PLAZA
HARTSDALE, NEW YORK

WELL
IDENTIFICATION: MW-10

INSTALLATION DATE: MARCH 9, 2001

MONITORING WELL INSTALLATION DETAIL



SITE: DALEWOOD PLAZA
HARTSDALE, NEW YORK

WELL
IDENTIFICATION: MW-6

INSTALLATION DATE: NOVEMBER 1, 2000

Appendix F

Groundwater Monitoring Well

Sampling Log Form

GROUNDWATER MONITORING
Dalewood I Plaza, Hartsdale, NY

Date: _____

Personnel: _____

Well	DIA	DTW	DTB	Purge Start Time	Purge Volume	Sample Date	Sample Time	NOTE / Well Condition
MW-6								
MW-10								
MW-12								
MW-200								
MW-205								
MW-211								
MW-212								

Weather Conditions:

Appendix G

Groundwater Sampling Plan

GROUNDWATER SAMPLING PLAN

Statement of Purpose

The purpose of low flow (low stress) sampling is to collect groundwater samples that are representative of groundwater quality under natural flow conditions. In particular, the presence and concentration of dissolved organic and inorganic pollutants as well as the pollutants associated with mobile particulates are most accurately revealed through low flow sampling. Historic sample collection techniques often cause stress on an aquifer causing changes in the water chemistry and an inaccurate or incomplete analysis of site conditions. Low flow sampling techniques minimize stress on the aquifer by utilizing low pumping rates that result in minimal water level drawdown.

Low Flow Approach

This guidance presents a generalized approach to low flow sampling. Typically, screen lengths are limited to 10 feet and the pump intake is located at the midpoint of the saturated screen length. The location of the pump intake should be adjusted if strata of higher permeability or areas of higher concentrations of pollutants can be identified. When possible, pump intakes should be located at least 2 feet above the bottom of the well in order to minimize the possibility of mobilizing sediment from the bottom of the well. Dedicated sampling equipment insures that samples are collected from the same location within the well during each sampling event.

Sampling Procedures

1. Measure static water level in the well
2. Purge the well utilizing a peristaltic pump and starting at the lowest speed and increasing the speed until discharge occurs. Monitor drawdown. If water is drawn down greater than 0.3 feet, the system should be operated intermittently so that drawdown does not exceed 0.3 feet.
3. The pump discharges through a flow-through cell where a YSI 600XI (or equal) is used to measure water quality parameters during pumping. Measurements should include: turbidity, DO, specific conductance, temperature, pH, and ORP/Eh.
4. Purging is complete when field parameters have stabilized. The parameters are stabilized when three consecutive readings taken at 3 to 5 minute intervals, are within the following limits:
 - Turbidity (10% for values greater than 1 NTU)
 - DO (10%)
 - Specific conductance (3%)
 - Temperature (3%)
 - pH (+0.1 units)
 - ORP/Eh (+ millivolts)
5. Water samples should be collected before it passes through the Flow-through-cell. VOCs should be collected first into appropriately preserved vials.
6. The equipment will be decontaminated between sampling locations to prevent cross-contamination.

7. An equipment blank will be collected consisting of distilled water that has been used as a final equipment rinse in the decontamination process.
8. Groundwater samples are placed into clean collection containers and maintained in an iced cooler. Chain of custody documentation is established and the samples are transported to a state certified laboratory for analysis on the day of sample collection
9. The output of the YSI 600XL datalogger is downloaded to a PC, tabulated and graphed.

Chain of Custody

A Chain Of Custody (COC) program must be followed during sample handling activities from the field through laboratory operations. This program is designed to assure that each sample is accounted for at all times. Field data sheets, chain of custody records, and sample labels must also be completed by the appropriate sampling and laboratory personnel for each sample. The objective of the sample custody identification and control system is to assure, to the extent practicable, that:

- all samples are uniquely identified
- the correct samples are analyzed for the correct parameters and are traceable through their records
- important sample characteristics are preserved
- samples are protected from loss or damage
- any processing of samples (e.g., filtration, preservation) is documented
- a defensible forensic record of sample integrity is established
- client confidentiality is maintained

Standard Chain of Custody Protocol

Prepare labels for each sample that includes identification, date and time of collection, sample parameters to be analyzed, any preservatives added, and the name of the sample collector. Record the date and time of sampling, sample locations, sample bottle identification, sample matrix (soil, water, etc.), type of sample (grab/composite), and specific instructions on the Chain of Custody forms.

Holding Times and Preservation

Sample holding times are specified for the initiation of chemical analyses, usually beginning at the time of sample collection. Unless the proper sample bottle preparation and sample preservation are taken in the field, sample composition can be altered by contamination, degradation, biological transformation, chemical interactions, and other factors during the time between sample collection and analysis. Steps taken to maintain the in situ characteristics required for analysis may include refrigeration of samples at 4 degrees C, freezing, pH adjustment, and chemical fixation. Samples are preserved according to the protocol established for the specific analytical method and for the specific regulatory requirements selected to obtain the desired data.

Unless specified in a site specific sampling plan, the standard policy for the preservation of environmental samples includes maintaining the samples at a temperature no greater than 4

degrees Celsius until they are transferred to the laboratory.

Decontamination of Sampling Equipment

Where possible and allowed, sampling equipment will be dedicated to each sampling location and pre-cleaned prior to a sampling episode, thus eliminating the need for field decontamination of sampling equipment. When this is not possible, field decontamination of equipment must occur prior to collection of each set of samples.

In general, decontamination should allow for adequate cleaning of the sampling tools for the contaminants found at any given site. Different chemicals or mixtures of chemicals will require the use of different cleaning methods or compounds.

The following steps will be used, as a minimum:

1. Wash equipment with a non phosphate detergent solution (e.g., Alconox) and a brush.
2. Rinse with tap water (potable).
3. Rinse thoroughly with deionized water.
4. For water samples, rinse the equipment two to three times with the media being sampled before collecting a sample.
5. Repeat this procedure for each location.

Appendix H

Site Wide Inspection Form

**Annual Site Inspection Record
Dalewood I Shopping Center
357 N. Central Avenue, Hartsdale, NY**

Date: _____

Company: _____

Inspector: _____

MONITORING WELL CONDITION	ACCEPTABLE		NOTES- missing cover or bolt, damaged roadbox
MW-6	YES	NO	
MW- 10	YES	NO	
MW-12	YES	NO	
MW-200	YES	NO	
MW-205	YES	NO	
MW-211	YES	NO	
MW-212	YES	NO	

SITE CONDITIONS AND USE									
Tenant Space	Visual Evidence of Unsealed Penetration		NOTES- unsealed holes or cracks in concrete floor, evidence of VOC use	PID READING >Ambient		RESIDENTIAL USE		GROUNDWATER USE	
	YES	NO							
355						YES	NO	YES	NO
357						YES	NO	YES	NO
359				YES	NO	YES	NO	YES	NO
361				YES	NO	YES	NO	YES	NO
365				YES	NO	YES	NO	YES	NO
371				YES	NO	YES	NO	YES	NO
Exterior				YES	NO	YES	NO	YES	NO

Appendix I

Sub Slab Depressurization System Plans and Inspection Forms

Engineers Report

Prepared for : Westchester County Department of Health
Bureau of Environmental Quality
145 Huguenot Street, 7th Floor
New Rochelle, NY 10801

Prepared by: Superior Environmental Robert P. McCarthy, P.E.
135 Burnside Ave, Suite C6 NYS License #069049
East Hartford, CT 06108

Date: August 29, 2005 (Seal/Stamp)

Subject : **Application for a Permit to Construct a Source of Air Emissions
Dalewood I , 357 North Central Avenue, Hartsdale (Greenburgh), NY**

Project Background:

The subject site location entered into the NYSDEC Voluntary Cleanup Program (VCP) and has completed investigations and two Interim Remedial Measures (IRM). The IRMs included excavation of source area soils from below and behind the building area and emergency installation of a sub-slab depressurization system (SSDS). The SSDS was installed to prevent the migration of vapors from the subsurface into the building occupancies. The SSDS includes 10 extraction points, installed through the floor of the building, that are connected to a single regenerative type blower. The blower system and associated air treatment units are more fully described as follows:

Number of Units:	(1) One
Manufacturer:	Gast
Model & Serial No.:	R5125Q-50
Power:	Single phase electric; 2.0 horsepower
Maximum Vacuum & Flow:	60 " H ₂ O, 160 cubic feet per minute

Controls:

Moisture Separator

Number of Units:	(1) One
Manufacturer:	Regenair
Model:	RMS200
Liquid Capacity:	19 gallons

Additional system controls include a liquid level sensor within the moisture separator, particulate filter – (Regenair AJ151E 10 micron), and overheat / thermal protection on the blower motor.

Optional Controls:

One treatment unit will be installed on the system during startup and continue until the carbon within the unit has been consumed.

Granular Activated Carbon

Number of Drums:	(1) One
Manufacturer:	Barnebey Sutcliffe
Model:	MX-200-V
Amount:	170 lbs carbon per drum

Project Description:

In conjunction with sealing potential subsurface vapor entry points, an active sub slab depressurization system (SSDS) is proposed to be operated at the Site. The SSDS will create a negative pressure on the subsurface which prevents the infiltration of sub slab vapors into the building. The SSDS consists of a fan powered vent and piping to draw air from the subsurface. Due to the presence of vapors in the subsurface area, the SSDS also removes vapors and discharges them to the atmosphere. The SSDS will be operated as a precautionary measure pursuant to the New York State Department of Health (NYSDOH) request (See attached April 27, 2005 correspondence). One drum of granular activated carbon will be installed on the system during startup as a precautionary measure. Concentrations are expected to be present at relatively low levels (below requirements for treatment) and continue to diminish over time.

Air Emissions:

The system previously operated on an emergency basis for several months following initial installation in March 2003. Occasional laboratory testing data is available from that operational time period. Sample events occurred in March and May of 2003, however, excavation of subsurface impacted soil was completed following this time period and the data do not likely represent current conditions. The SSDS was operated for a brief period, for testing purposes, on February 5, 2004. Influent data from this date is utilized for subsequent emission calculations in this report.

To estimate potential emissions in pounds per hour, the influent concentration (i.e. uncontrolled emissions) of the system is used.

$$\frac{lb}{hr} = Concentration \left(\frac{ug}{m^3} \right) \times \left(\frac{g}{ug} \right) \times \left(\frac{m^3}{ft^3} \right) \times \left(\frac{lb}{g} \right) \times Flow \left(\frac{ft^3}{min} \right) \times \left(\frac{min}{hr} \right)$$

Constants:

$$1g = 0.0022lbs$$

$$1g = 1000000ug$$

$$1hr = 60min$$

$$1m^3 = 35.3ft^3$$

Sub Slab Depressurization System
Application for Permit to Construct

Facility: Heritage SPE, LLC
357 North Central Avenue
Hartsdale, NY 10530

Equipment: Sub Slab Depressurization System with one exhaust vent

Power Source Electricity

Flow: Max. Design Flow 160 CFM

Sample Date 2/5/04

System					
Sample	Tetrachloroethylene	(127-18-4)	24,000	ug/m ³	(3.55 ppmv)
Concentrations:	Trichloroethylene	(79-01-6)	252	ug/m ³	(0.047 ppmv)
	Cis 1,2 Dichloroethylene	(156-59-2)	1,400	ug/m ³	(0.354 ppmv)
	Vinyl Chloride	(75-01-4)	792	ug/m ³	(0.031 ppmv)

$$\text{Equation} \quad \frac{lb}{hr} = \text{Concentration} \left(\frac{ug}{m^3} \right) \times \left(\frac{g}{ug} \right) \times \left(\frac{m^3}{ft^3} \right) \times \left(\frac{lb}{g} \right) \times \text{Flow} \left(\frac{ft^3}{min} \right) \times \left(\frac{min}{hr} \right)$$

Constants:

$$1g = 0.0022lbs$$

$$1g = 1000000ug$$

$$1hr = 60min$$

$$1m^3 = 35.3 ft^3$$

Estimated Hourly Emissions (lb / hr)	Tetrachloroethylene	0.0144 lb/hr
	Trichloroethylene	0.0002 lb/hr
	Cis 1,2 Dichloroethylene	0.0008 lb/hr
	Vinyl Chloride	0.0005 lb/hr
	Total	0.0158 lb/hr

System operates 24 hours per day, 365 days per year

Estimated Annual Emissions (lb / yr)	Tetrachloroethylene	125.8 lb/yr
	Trichloroethylene	1.32 lb/yr
	Cis 1,2 Dichloroethylene	7.34 lb/yr
	Vinyl Chloride	4.15 lb/yr
	Total	138.60 lb/yr

Air Guide 1

The above data was input to the NYSDEC Air Guide 1 Software Program for comparison to applicable Annual and Short-term Guideline Concentrations (AGCs and SGCs). The result of Air Guide 1 analysis is provided as follows:

	<u>Allowed SGC</u>	<u>Calculated SGC</u>	<u>% of SGC</u>
Tetrachloroethylene	1,000 ug/ m ³	31.83 ug/ m ³	3.18
Trichloroethylene	54,000 ug/ m ³	0.442 ug/ m ³	0.0008
Cis 1,2 Dichloroethylene	N/A	1.769 ug/ m ³	N/A
Vinyl Chloride	180,000 ug/ m ³	1.105 ug/m ³	0.0006

	<u>Allowed AGC</u>	<u>Calculated AGC</u>	<u>% of AGC</u>
Tetrachloroethylene	1.0 ug/ m ³	0.652 ug/ m ³	65.2
Trichloroethylene	0.5 ug/ m ³	0.007 ug/ m ³	1.37
Cis 1,2 Dichloroethylene	1,900 ug/ m ³	0.038 ug/ m ³	0.002
Vinyl Chloride	0.11 ug/ m ³	0.021 ug/m ³	19.54

The Air Guide 1 analysis indicates that the untreated emissions will meet the NYSDEC AGC and SGC emission values.

Air Emissions with Optional Controls:

Following the initial start up period, system emission concentrations are expected to continually decrease. Therefore, one activated carbon unit is proposed to be installed on the system at the beginning of operation and will remain in place until the carbon adsorption capacity is depleted. Based on the February 5, 2004 concentrations and carbon consumption rates provided by the vendor, a single 170 pound carbon unit is estimated to last 67 days.

The carbon usage estimates, provided by Calgon Carbon Corporation, based on a normal working flow rate of 100 CFM are summarized as follows:

		Carbon lbs/day
Tetrachloroethylene	3.55 ppmv	0.87
Trichloroethylene	0.047 ppmv	0.10
Cis 1,2 Dichloroethylene	0.354 ppmv	1.29
Vinyl Chloride	0.031 ppmv	0.26
	Total	2.52

Residence time of the air through the carbon unit was provided by the carbon vendor. Residence time is calculated to be 2.23 seconds at 160 CFM and 3.24 seconds at 110 CFM. A representative of the carbon vendor provided the following statement with respect to residence time requirements "most vapor phase carbon reactions are nearly instantaneous and any contact time over 0.5 seconds is usually adequate".

With the optional control installed, a removal rate of 95% is estimated. The emissions are then calculated as:

Estimated Hourly Emissions (lb / hr)			
	Tetrachloroethylene	7.18E-04	lb/hr
	Trichloroethylene	7.54E-06	lb/hr
	Cis 1,2 Dichloroethylene	4.19E-05	lb/hr
	Vinyl Chloride	2.37E-05	lb/hr
	Total	7.91E-04	lb/hr

System operates 24 hours per day, 365 days per year

Estimated Annual Emissions (lb / yr)			
	Tetrachloroethylene	6.29	lb/yr
	Trichloroethylene	0.07	lb/yr
	Cis 1,2 Dichloroethylene	0.37	lb/yr
	Vinyl Chloride	0.21	lb/yr
	Total	6.93	lb/yr

SITE PLAN
DALEWOOD PLAZA

357 NORTH CENTRAL AVENUE
HARTSDALE, NEW YORK

1. SUB SURFACE DEPRESSURIZATION SYSTEM PUMP SPECIFICATIONS
PUMP: GAST REGENAIR MODEL RS125Q-80
SINGLE PHASE, 2 HP, 60 HZ
MAX FLOW: 160 CFM
2. THE PREVAILING WIND GENERALLY BLOWS FROM WEST TO EAST.
3. THE APPROXIMATE DISTANCES FROM THE STACK TO THE PROPERTY LINE ARE AS FOLLOWS:
NORTHWEST=128'; NORTHEAST=904';
SOUTHEAST=283'; SOUTHWEST=282'.
4. THE NEAREST RECEPTOR IS AN APARTMENT COMPLEX TO THE NORTH OF THE PROPERTY. THE DISTANCE FROM THE STACK TO THE NEAREST BUILDING IN THE APARTMENT COMPLEX IS 250'.

WARNING
IT IS A VIOLATION OF THE NEW YORK STATE LAW FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM ON THESE PLANS, SPECIFICATIONS, PLATES, OR REPORTS IN ANY WAY.

PROJECT NO.: HT1094

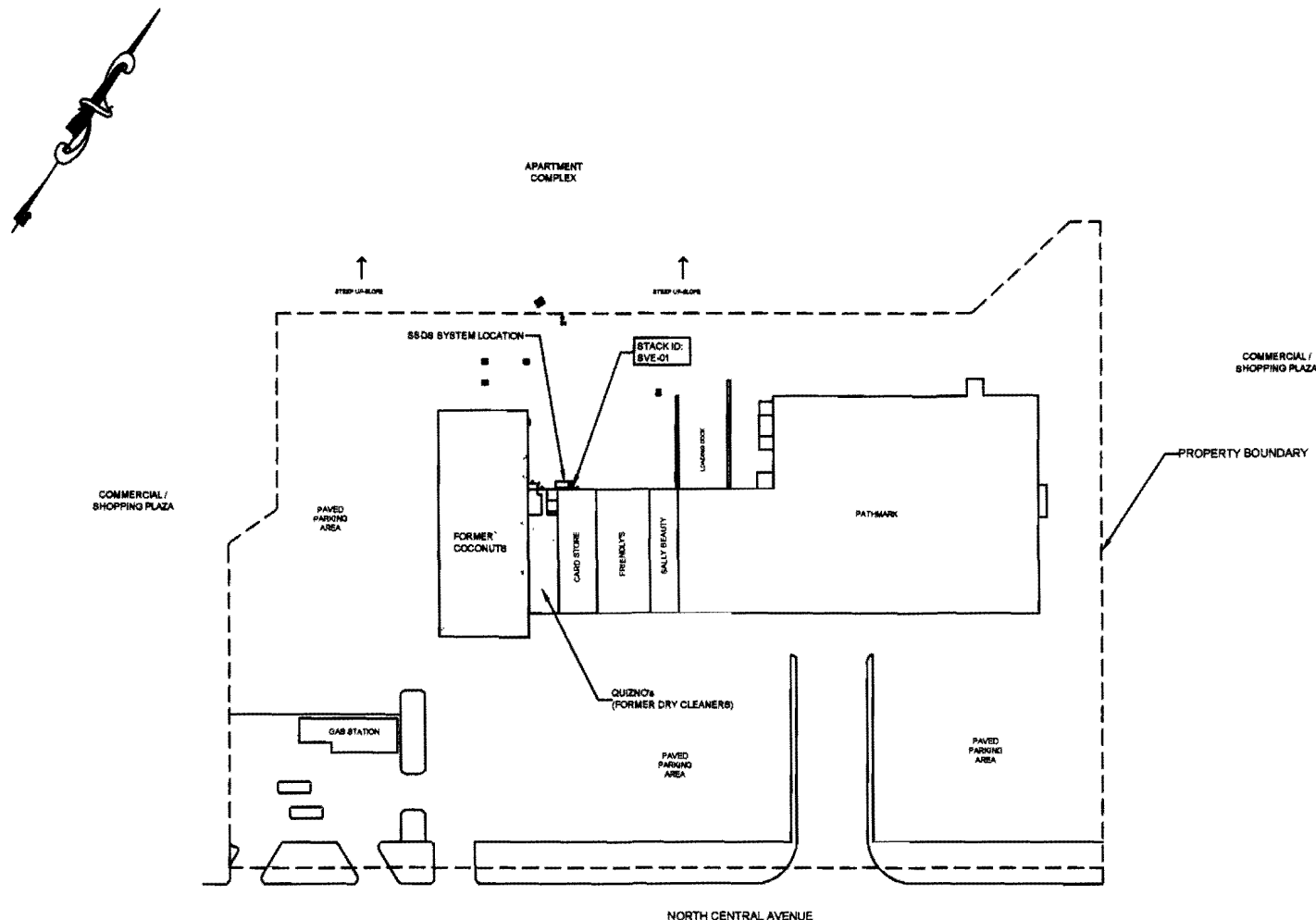
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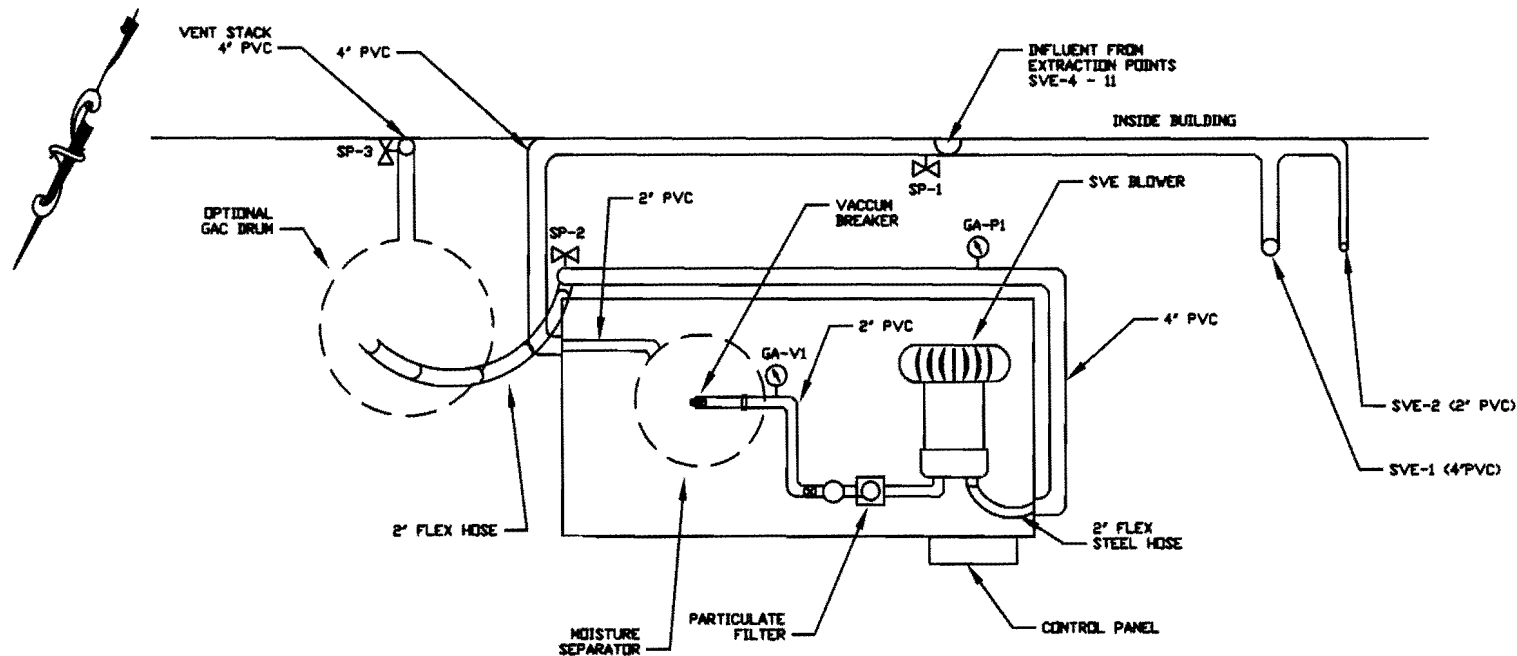
1 OF 4 SHEETS

SCALE: 1"=100'
DATE: 9/9/05
DRAWN BY: RPM
CHECKED BY: PMR

REVISIONS

KROLL ASSOCIATES, INC.
500 THIRD AVENUE, NEW YORK, NEW YORK 10016



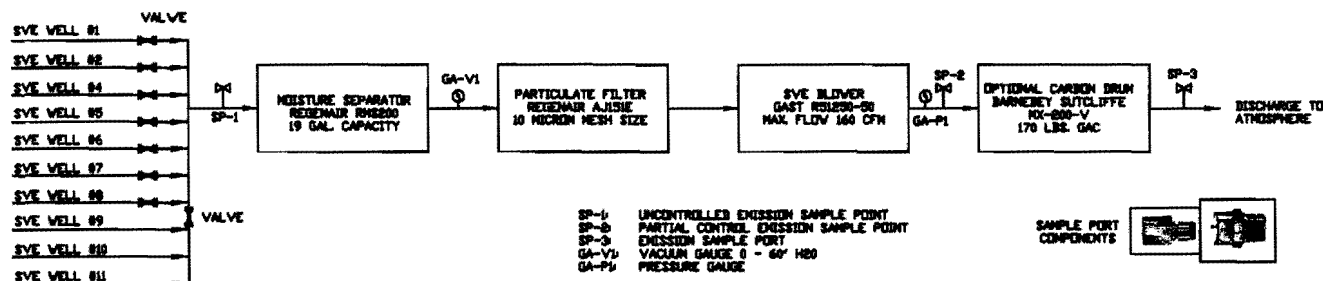


EQUIPMENT PLAN VIEW DALEWOOD PLAZA

357 NORTH CENTRAL AVENUE
HARTSDALE, NEW YORK

1. SUB SLAB DEPRESSURIZATION SYSTEM PUMP SPECIFICATIONS
PUMP: GAST REGENAIR MODEL RS1250-00
SINGLE PHASE, 2 HP, 60 HZ
MAX FLOW: 160 CFM
2. CONTROL EQUIPMENT
REGENAIR RMS200 MOISTURE SEPARATOR
OPTIONAL - 1 BARNHAY BUTCLIFFE
MX-200-V 170 LB VAPOR PHASE
GRANULAR ACTIVATED CARBON DRUMS
3. STACK HEIGHT IS 25' FROM THE GROUND AND 3' ABOVE THE ROOF OF THE BUILDING.

FLOW DIAGRAM



WARNING

IT IS A VIOLATION OF THE NEW YORK STATE LAW FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM ON THESE PLANS, SPECIFICATIONS, PLATES, OR REPORTS IN ANY WAY.

PROJECT NO.: HT1094

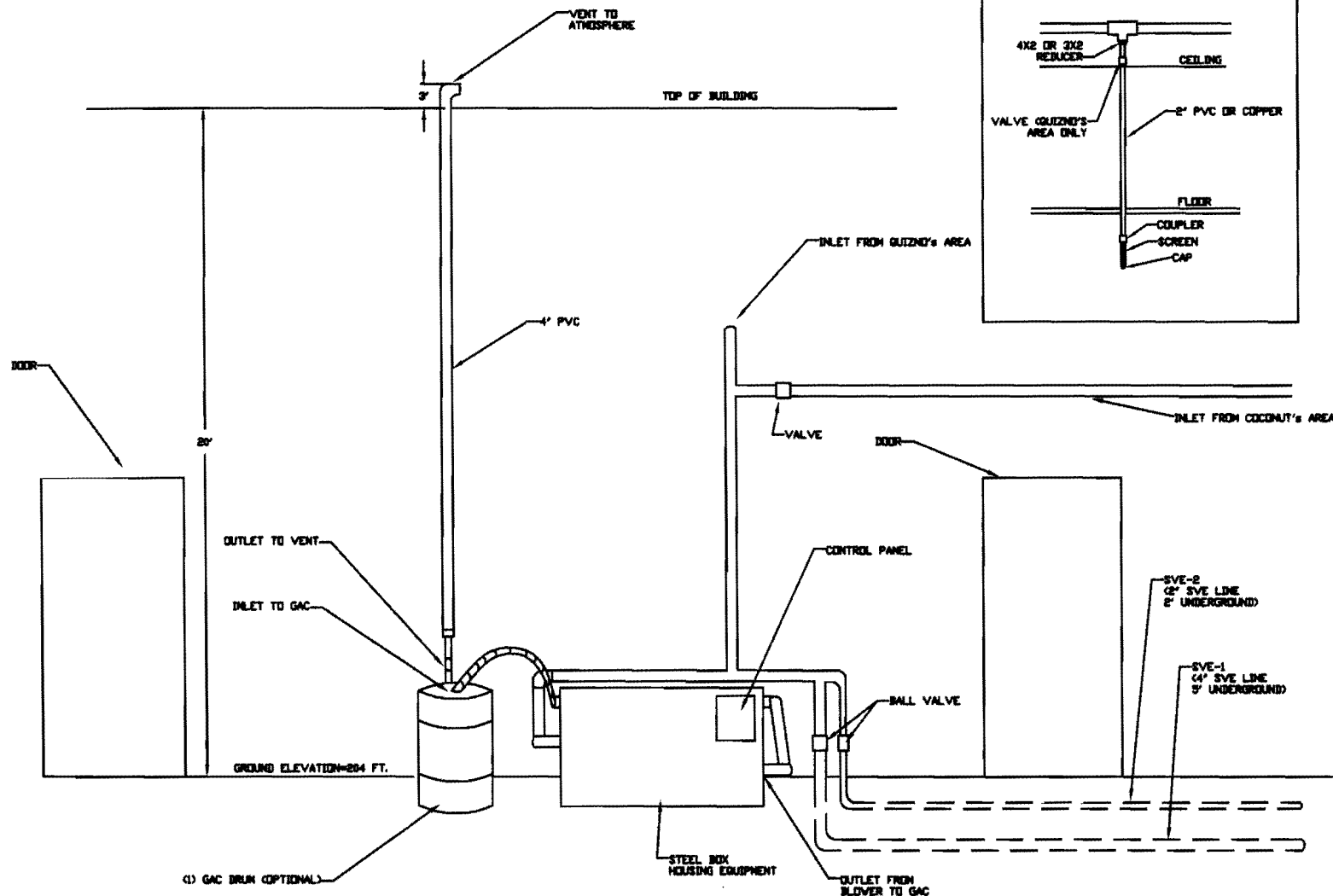
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2 OF 4 SHEETS

SCALE: NTS
DATE: 9/9/05
DRAWN BY: RPM
CHECKED BY: PMR

REVISIONS

KROLL ASSOCIATES, INC.
600 THIRD AVENUE, NEW YORK, NEW YORK 10016



SIDE ELEVATION DALEWOOD PLAZA

357 NORTH CENTRAL AVENUE
HARTSDALE, NEW YORK

1. SUB SURFACE DEPRESSURIZATION SYSTEM PUMP SPECIFICATIONS
PUMP: GAST REGGHAIR MODEL RS1250-50
SINGLE PHASE, 2 HP, 60 HZ
MAX FLOW: 180 GPM
2. CONTROL EQUIPMENT
REGGHAIR RMS200 MOISTURE SEPARATOR
OPTIONAL - 1 BARNESBY BUTLIPPE
MX-200-V 170 LB VAPOR PHASE
GRANULAR ACTIVATED CARBON DRUMS
3. STACK HEIGHT IS 23' ABOVE THE GROUND AND
3' ABOVE THE ROOF OF THE BUILDING.

WARNING

IT IS A VIOLATION OF THE NEW YORK STATE LAW FOR
ANY PERSON, UNLESS HE IS ACTING UNDER THE
DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR
LAND SURVEYOR, TO ALTER AN ITEM ON THESE PLANS,
SPECIFICATIONS, PLATES, OR REPORTS IN ANY WAY.

PROJECT NO.: HT1094

FILE NAME: SIDE ELEVATION.DWG

4 OF 4 SHEETS

SCALE: NTS
DATE: 9/9/05
DRAWN BY: RPM
CHECKED BY: PMR

REVISIONS

KROLL ASSOCIATES, INC.
350 THIRD AVENUE, NEW YORK, NEW YORK 10016

TWO (2)
UNDERGROUND
HORIZONTAL
SVE LINES

SVE-1
4" SCREEN
SECTION
5' BELOW GRADE

SVE-2
2" SCREEN
SECTION
2' BELOW GRADE

SVE-11

SVE-4

SSD SYSTEM
LOCATION
(SVE-01)

SVE-7

4" PVC ABOVE-
GROUND PIPING

SVE-8

SVE-6

SVE-5

SVE-10

SVE-9

FLOOR PLAN

DALEWOOD PLAZA

357 N. CENTRAL AVE.
HARTSDALE, NEW YORK

WARNING

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YORK STATE LAW FOR ANY
PERSON, UNLESS HE IS ACTING
UNDER THE DIRECTION OF A
LICENSED PROFESSIONAL
ENGINEER OR LAND SURVEYOR,
TO ALTER AN ITEM ON THESE
PLANS, SPECIFICATIONS, PLATES
OR REPORTS IN ANY WAY.

SCALE: NTS
DATE: 9/9/05
DRAWN BY: RPM
CHECKED BY:

REVISIONS

PROJECT NO.:

HT1094

FILE NAME:

FLOOR PLAN.DWG



KROLL ASSOCIATES, INC.

900 THIRD AVENUE, NEW YORK, NEW YORK 10022

3 OF 4 SHEETS

CARBOTROL®

ENGINEERED SYSTEMS FOR ENVIRONMENTAL CONTROL

955 CONNECTICUT AVENUE, SUITE 5202
BRIDGEPORT, CT 06607
www.carbtrol.com info@carbtrol.com

FAX: (203) 337-4353

TO: Robert McCarthy
COMPANY: Superior Environmental
REF: White Plains / HT1094.01

FAX NUMBER: 860-434-3134
DATE: 2/17/06 STATE: CT
TOTAL PAGES: 1

MESSAGE:

Thank you for your interest in Carbtrol G-1 Canister for vapor treatment.

Our responses to your questions are shown below. They are based on your contaminant data, a 100cfm flow, and G-1 Canister with 200 lbs virgin carbon.

- 1) Estimated Carbon Usage : 1.32 lbs/day
- 2) Estimated Carbon Bed Life : 152 days
- 3) Required Contact Time : > 1 second
- 4) Actual Contact Time: 4.3 seconds
- 5) Pressure Drop @ 100 cfm : 3.5"wc
- 6) Velocity @ 100 cfm : 32 fpm

Data Sheets for the G-1 Canister are attached.

We look forward to assisting you with your application.

Regards,

FROM: Ken Kikta

CARBOTROL

2/17/06

VAPOR PHASE CARBON USAGE ESTIMATE
Copyright© 1994-1996 CARBTROL® Corporation

12:00 PM

FEB-17-2006 16:00

CARBTROL CORP

203 337 4353 P.02

PROJECT: Superior Env CT White Plains

FLOW IN CFM: 100.00
FLOW IN CFD: 144000.00

PERFORMANCE:

CONTAMINANT	CONC(ppmv)	#CONT /DAY	#CARBON /DAY	#CONT /100,000cf	#CARBON /100,000cf
Tetrachloroethylene	3.55	0.22	0.61	0.15	0.43
Trichloroethylene	0.047	0.00	0.03	0.00	0.02
cis-1,2-Dichloroethylene	0.354	0.01	0.44	0.01	0.30
Vinyl Chloride	0.031	0.00	0.24	0.00	0.17
TOTALS	3.982	0.23	1.32	0.16	0.91

Calculation based on CARBTROL CV carbon having a Carbon Tetrachloride number of: 65.00

$$G-1 \text{ Canister Estimated Bed Life} = 200 \text{ lbs} / 1.32 \text{ lbs/day} = 152 \text{ days}$$

NOTE: Carbon Usage Estimate is based on vapor stream temperature of 77 deg F and Relative Humidity less than 50%.
In particular, adsorption of chlorinated hydrocarbons is adversely affected by elevated humidity.

CARBTROL®

AIR PURIFICATION CANISTERS 140-200 LB. ACTIVATED CARBON

G-1
G-2
G-3



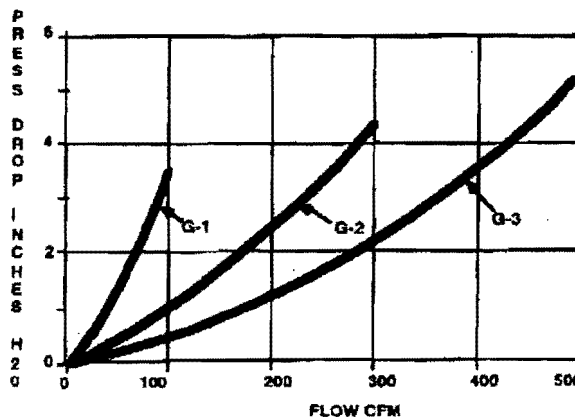
The CARBTROL "G" Canisters
handles flows up to 500 CFM.

FEATURES

- High activity carbon.
- Epoxy lined steel or polyethylene construction.
- Acceptable for transport of hazardous spent carbon.
- Side drain for removal of accumulated condensate.
- Low pressure drop.
- PVC internal piping.
- High temperature (180°F) steel units available.

APPLICATIONS

- Soil vapor remediation
- Air stripper exhausts
- Tank vents
- Exhaust hoods
- Work area purification
- Sewage plant odor control



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AT-116/#1

CARBTROL®
CORPORATION

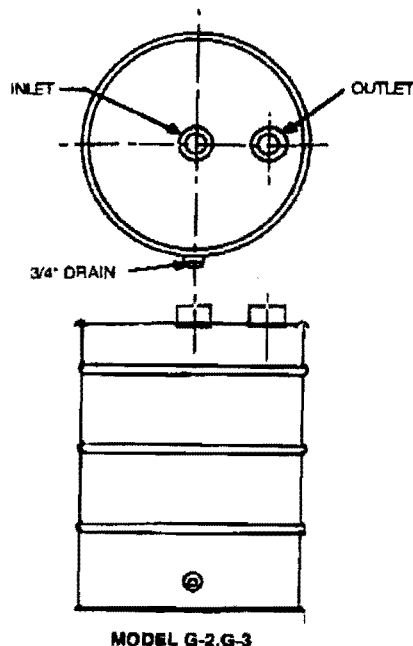
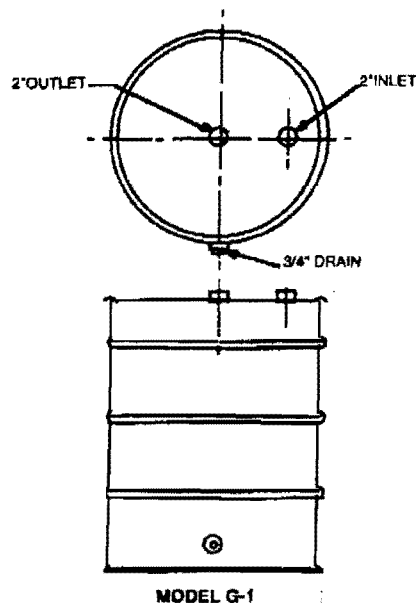
955 Connecticut Ave., Suite 5202
Bridgeport, CT 06607

800-242-1150 Fax: 203-337-4353
www.carbtrol.com info@carbtrol.com

CARBTROL®

AIR PURIFICATION CANISTERS 140-200 LB. ACTIVATED CARBON

G-1
G-2
G-3



SPECIFICATIONS

MODEL	DIAMETER/HEIGHT	CARBON WEIGHT	INLET/OUTLET	MAXIMUM RATED FLOW	APPROXIMATE SHIP WEIGHT
G-1*	24"/36"	200 lbs.	2"/2"	100 CFM	250 lbs.
G-2*	24"/36"	170 lbs.	4"/4"	300 CFM	220 lbs.
G-3P	24"/36"	140 lbs.	6"/6"	500 CFM	190 lbs.
G-3S	24"/34"	140 lbs.	4"/4"	500 CFM	180 lbs.

* Specify: Polyethylene (P) or Epoxy Lined Steel (S)

SAFETY

Certain chemical compounds in the presence of activated carbon may oxidize, decompose or polymerize. This could result in temperature increases sufficient to cause ignition of the activated carbon or adsorbed material. If a compounds reaction with activated carbon is unknown, appropriate tests should be considered.

CARBTROL®
CORPORATION

955 Connecticut Ave., Suite 5202
Bridgeport, CT 06607

800-242-1150 Fax: 203-337-4353
www.carbtrol.com info@carbtrol.com

CARBTROL
CORPORATION

PRODUCT DESCRIPTION

**ACTIVATED CARBON CANISTER
VAPOR PHASE FOR VOC REMOVAL**

Model:	G-1S	G-2S	G-3S
Design Flow (CFM):	100	300	500
Design Features:			
Pressure Drop at Design Flow (in. w.c.):	3.5	4.25	5.0
Carbon Weight (lbs.):	200	170	140
Carbon	Vapor phase activated carbon, 4 X 8 mesh, high activity.		
Canister:	24"Ø X 34" high epoxy lined carbon steel drum. PVC internal piping. Acceptable for transport of hazardous spent carbon.		
Maximum Operating Pressure	10 psi	10 psi	10 psi
Connections:	Inlet and outlet couplings located in lid. 3/4" side bung drain.		
Inlet & Outlet Size:	2" FPT	4" FPT	4" FPT
Shipping Weight (lbs.):	250	220	190
Availability:	2 days		
Drawing Number:	S-1113	S-1114	S-1115

10/4/02
*SP-101

TYPE CV AIR PURIFICATION CARBON

DESCRIPTION

CARBOTROL CV Air Purification Carbon is designed for use in a wide variety of vapor phase treatment applications. It combines high surface area and fine pore structure in a product of exceptional hardness. CV provides superior performance to most standard grade activated carbons. It is particularly effective for the removal of VOC compounds from air discharges.

APPLICATIONS

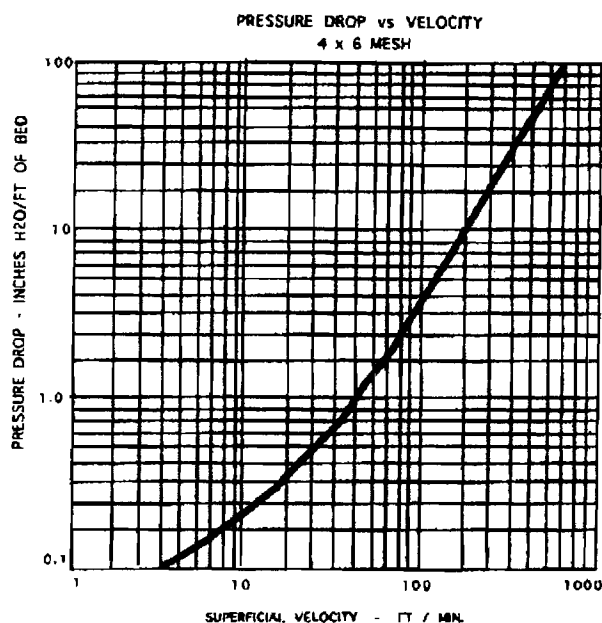
- VOC adsorption
- Soil vapor extraction
- Evaporative emissions
- Air stripper exhausts
- HVAC adsorption filters
- Tank vents
- Clean room air purification

SAFETY

Certain chemical compounds in the presence of activated carbon may oxidize, decompose or polymerize. This could result in temperature increases sufficient to cause ignition of the activated carbon or adsorbed material. If a compounds reaction with activated carbon is unknown, appropriate tests should be considered.

SPECIFICATIONS

TYPE:	Granular
BASE MATERIAL:	Coal
SIZE (US Sieve):	4 x 6
CCL ₄ ACTIVITY (percent):	60-65 (ave.)
APPARENT DENSITY (g/cc):	.40 to .50
MOISTURE (percent):	2
HARDNESS NO.:	90



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AT-9511/#2

CARBOTROL
CORPORATION

955 Connecticut Ave., Suite 5202
Bridgeport, CT 06607

800-242-1150 Fax: 203-337-4353
www.carbtrol.com info@carbtrol.com

TOTAL P.06



Post Office Box 97
Benton Harbor, MI 49023-0097
Ph: 616-926-6171
Fax: 616-925-8288

70-6100/F2-205
AK811 (Rev. G)



INSTALLATION AND OPERATING INSTRUCTIONS FOR GAST HAZARDOUS DUTY REGENAIR BLOWERS

This instruction applies to the following models ONLY: R3105N-50, R4110N-50, R4310P-50, R4P115N-50, R5125Q-50, R5325R-50, R6130Q-50, R6P155Q-50, R6340R-50, R6P355R-50 and R7100R-50.

AUTHORIZED SERVICE FACILITIES

Gast Manufacturing Inc.
2550 Meadowbrook Road
Benton Harbor, MI 49022
TEL: 616-926-6171
FAX: 616-925-8288
www.gastmfg.com

Wainbee Limited
215 boul Brunswick
Pointe Claire, Quebec
Canada H9R 4R7
TEL: 514-697-8810
FAX: 514-697-3070

Gast Manufacturing Inc.
505 Washington Avenue
Carlstadt, NJ 07072
TEL: 201-933-8484
FAX: 201-933-5545
www.gastmfg.com

Wainbee Limited
5789 Coopers Avenue
Mississauga, Ontario
Canada L4Z 3S6
TEL: 905/568-1700
FAX: 905/568-0083
<http://www.wainbee.ca>

Brenner Fiedler & Assoc
13824 Bentley Place
Cerritos, CA 90701
TEL: 800-843-5558
TEL: 310-404-2721
FAX: 310-404-7975
www.brenner-fiedler.com

Japan Machinery Co., Ltd
Central PO Box 1451
Tokyo, 100-91 Japan
TEL: 813 3573 5421
FAX: 813 3571 7865
or: 81-3-3571-7896

Gast Manufacturing Co., Ltd.
Beech House
Knaves Beech Business Centre
Loudwater, High Wycombe
Bucks, England HP10 9SD
TEL: 011-44 1628 532600
FAX: 011-44 1628 532470
<http://www.gastltd.com>

NOTE: General correspondence should be sent to—

Gast Mfg. Inc./A Unit of IDEX Corporation
P O Box 97
Benton Harbor, MI 49023-0097

SAFETY

This is the safety alert symbol: . When you see this symbol, be aware that personal injury or property damage is possible. The hazard is explained in the text following the symbol.

The following is an explanation of the three different types of hazards:

- | | |
|---|--|
|  DANGER | Severe personal injury or death will occur if hazard is ignored. |
|  WARNING | Severe personal injury or death can occur if hazard is ignored. |
|  CAUTION | Minor injury or property damage can occur if hazard is ignored. |

Read the information carefully before operating.

GENERAL INFORMATION

This instruction applies to the following models ONLY: R3105N-50, R4110N-50, R4310P-50, R4P115N-50, R5125Q-50, R5325R-50, R6130Q-50, R6P155Q-50, R6340R-50, R6P355R-50 and R7100R-50. These blowers are intended for use in Soil Vapor Extraction Systems. The blowers are sealed at the factory for very low leakage. They are powered with a U.L. listed electric motor Class 1 Div. 1 Group D for Hazardous Duty locations. Ambient temperature for normal full load operation should not exceed 40°C (105°F). For higher ambient operation, contact the factory.

Gast Manufacturing Incorporated may offer general application guidance; however, suitability of the particular blower and/or accessories is ultimately the responsibility of the user, not the manufacturer of the blower.

INSTALLATION

 **DANGER** Models R5325R-50, R6130Q-50, R6340R-50, R5125Q-50, R6P155Q-50, R6P355R-50 and R7100R-50 use Pilot Duty Thermal Overload Protection. Connecting this protection to the proper control circuitry is mandated by UL674 and NEC501. Failure to do so could/may result in an EXPLOSION. See pages 3 and 4 for recommended wiring schematic for these models.

 **WARNING** Electric shock can result from bad wiring. A qualified person must install all wiring, conforming to all required safety codes. Grounding is necessary.

 **WARNING** This blower is intended for use on soil vapor extraction equipment. Any other use must be approved in writing by Gast Manufacturing, Inc.

Install this blower in any mounting position. Do not block the flow of cooling air over the blower and motor.

PLUMBING

Use the threaded pipe ports for connection only. They will not support the plumbing. Be sure to use the same or larger size pipe to prevent air flow restriction and overheating of the blower. When installing fittings, be sure to use pipe thread sealant. This protects the threads in the blower housing and prevents leakage. Dirt and chips are often found in new plumbing. Do not allow them to enter the blower.

NOISE

Mount the unit on a solid surface that will not increase the sound. This will reduce noise and vibration. We suggest the use of shock mounts or vibration isolation material for mounting.

ROTATION

The Gast Regenair Blower should only rotate clockwise as viewed from the electric motor side. The casting has an arrow showing the correct direction. Confirm the proper rotation by checking air flow at the IN and OUT ports. If needed reverse rotation of three phase motors by changing the position of any two of the power line wires.

OPERATION

 **WARNING** Solid or liquid material exiting the blower or piping can cause eye damage or skin cuts. Keep away from air stream.

 **WARNING** Gast Manufacturing, Incorporated will not knowingly specify, design or build any blower for installation in a hazardous, combustible or explosive location without a motor conforming to the proper NEMA or U.L. standards.

Blowers with standard TEFC motors should never be utilized for soil vapor extraction applications or where local, state and / or Federal codes specify the use of explosion-proof motors (as defined by the National Electric Code, Articles 100,500 c1990).

 **CAUTION** Attach blower to solid surface before starting to prevent injury or damage from unit movement.

Air containing solid particles or liquid must pass through a filter before entering the blower. Blowers must have filters, other accessories and all piping attached before starting. Any foreign material passing through the blower may cause internal damage to the blower.

⚠ CAUTION Outlet piping can burn skin. Guard or limit access. Mark “**CAUTION Hot Surface. Can Cause Burns.**”

Air temperature increases when passing through the blower. When run at duties above 50 in. H₂O, metal pipe may be required for hot exhaust air. The blower must not be operated above the limits for continuous duty. Only models R3105N-50, R4110N-50 and R4310P-50 can be operated continuously with no air flowing through the blower. Other units can only be run at the rating shown on the model number label. Do not close off inlet (for vacuum) to reduce extra air flow. This will cause added heat and motor load. Blower exhaust air in excess of 230°F indicates operation in excess of rating which can cause the blower to fail.

ACCESSORIES

Gast pressure gauge AJ496 and vacuum gauges AJ497 or AE134 show blower duty. The Gast pressure/vacuum relief valve, AG258 will limit the operating duty by admitting or relieving air. It also allows full flow through the blower when the relief valve closes.

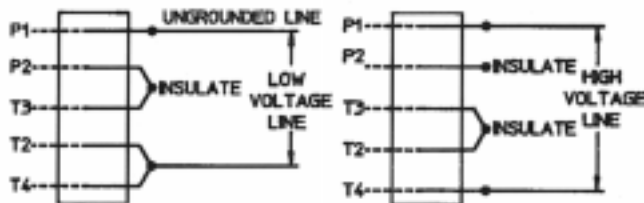
SERVICING

⚠ WARNING To retain their sealed construction they should be serviced by Gast authorized service centers ONLY. These models are sealed at the factory for very low leakage.

⚠ WARNING Turn off electric power before removing blower from service. Be sure rotating parts have stopped. Electric shock or severe cuts can result.

Inlet and exhaust filters attached to the blower may need cleaning or replacement of the elements. Failure to do so will result in more pressure drop, reduced air flow and hotter operation of the blower. The outside of the unit requires cleaning of dust and dirt. The inside of the blower also may need cleaning to remove foreign material coating the impeller and housing. This should be done at a Gast Authorized Service Center. This buildup can cause vibration, failure of the motor to operate or reduced flow.

Motor Wiring Diagram for R4110N-50 & R3105N-50

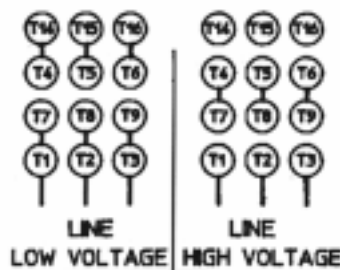


>>* WARNING

This motor is thermally protected and will automatically restart when protector resets. Always disconnect power supply before servicing.

Motor Wiring Diagram for R4310P-50

To reverse rotation, interchange the external connections to any two leads.

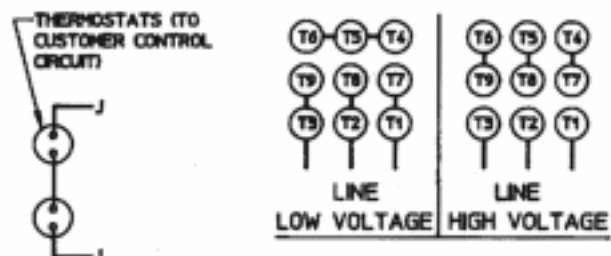


>>* WARNING

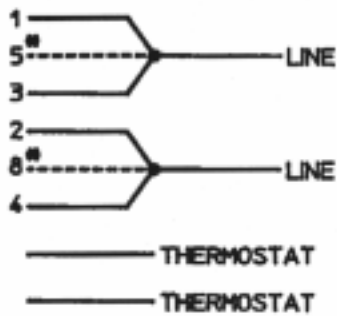
This motor is thermally protected and will automatically restart when protector resets. Always disconnect power supply before servicing.

Motor Wiring Diagram for R5325R-50, R6340R-50, R6P355R-50 & R7100R-50

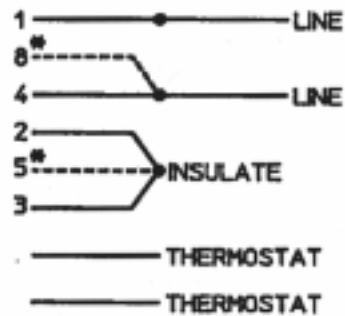
To reverse rotation, interchange the external connections to any two leads.



Motor Wiring Diaphragm for R5125Q-50 & R4P115N-50



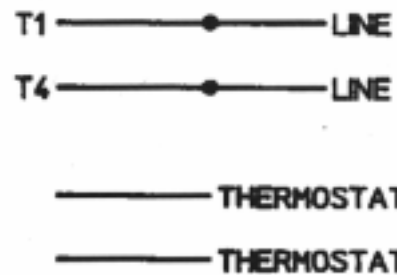
LOW VOLTAGE



HIGH VOLTAGE

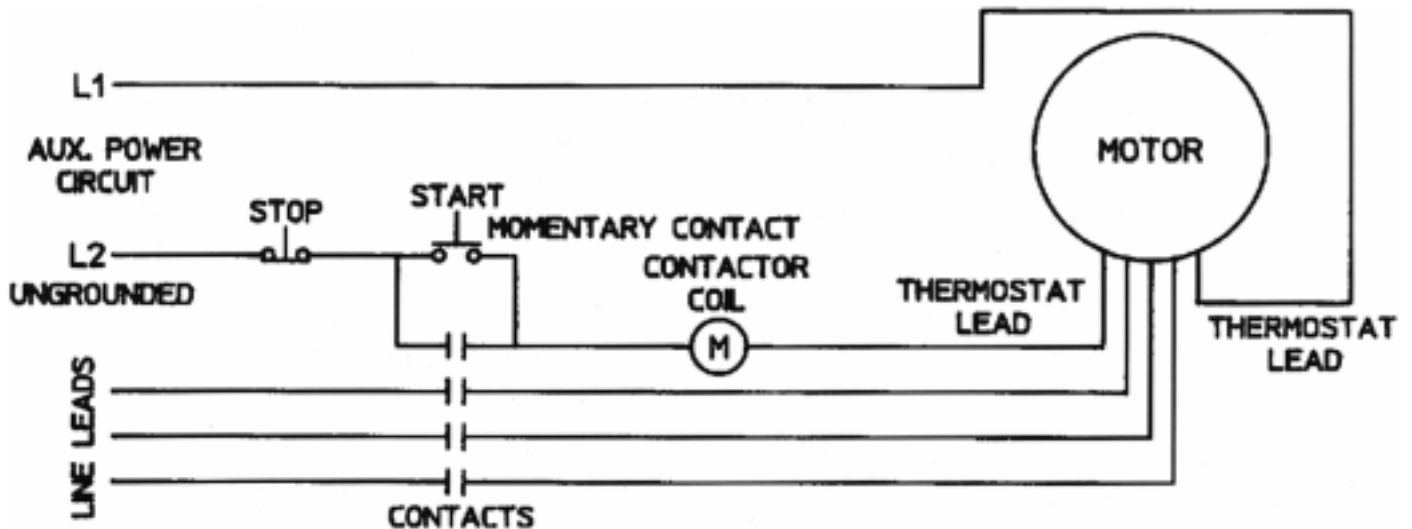
*R5125Q-50 Blowers produced after September 1992 (Serial No. 0992) do not have motor leads 5 & 8.

Motor Wiring Diaphragm for R6130Q-50 & R6P155Q-50



Connect Thermostat to Motor Protection Circuit

Connection for Thermostat Motor Protection



Thermostats to be connected in series with control as shown. Motor furnished with automatic thermostats rated A.C. 115-600V. 720VA circuit shown is for 3 phase motor. Single phase motor has two line leads in the above circuit.

Sub Slab Depressurization O&M Inspection Record
Dalewood I Shopping Center
357 N. Central Avenue, Hartsdale, NY

Date: _____

Vacuum Inches of Water		Pressure Inches Water		PID - ppm			
Knock Out	Influent 1	Effluent 1	Eff Mid	Influent 1*	Effluent 1	Eff Mid	Effluent 2
GA-V1	SP-1	GA-P1 / SP-2	GA-P2 / SP-3	SP-1	SP-2	SP-3	SP-4

* Influent 1 observation point is under vacuum and therefore can be difficult to obtain accurate PID readings

SSDS Inspection

SYSTEM COMPONENT			NOTES
System On	YES	NO	
Unusual Vibration	YES	NO	
Unusual Noise	YES	NO	
System Leaks	YES	NO	
New adjacent air intakes	YES	NO	
PID readings collected	YES	NO	
Vacuum levels taken	YES	NO	
Pressure levels taken	YES	NO	
Water in Moisture Separator Tank	YES	NO	
Inlet particulate filter cleaned	YES	NO	
Control valves adjusted	YES	NO	
Heat system operating	YES	NO	
GAC canisters acceptable	YES	NO	