

**Interim Remedial Measures Report – Part A  
Operable Unit 2  
The Citizens Development Company / Flower Fashion Site  
47 Northern Blvd., Great Neck, New York**

**January 2005**

**Prepared for:**

**Sal Panico  
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**Prepared by:**

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17 Dupont Street  
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January 28, 2005

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

Division of Environmental Remediation – Region 1  
SUNY - Building 40  
Stony Brook, NY 11790

Attention: Jamie Ascher  
Engineering Geologist 2

**Re: Interim Remedial Measures Report – Part A  
Operable Unit 2 - Site #1-30-070  
The Citizens Development Company / Flower Fashion Site  
47 Northern Blvd., Great Neck, New York**

Dear Mr. Ascher:

Enclosed please find our Interim Remedial Measures Report – Part A for the above-referenced Site. This Report summarizes the remedial work completed at the Site to date which includes the additional removal of PCE impacted soil and the injection of the sodium permanganate solution to Site soils and underlying groundwater. We anticipate the submittal of a separate IRM Report - Part B, which will describe the installation and operation of the soil vapor extraction (SVE) system, sometime in March 2005.

Please do not hesitate to call our office if you have any questions regarding this document.

Seal



Date

*January 28, 2005*

Sincerely,

**CA RICH CONSULTANTS, INC.**

*Stephen Osmundsen*  
Stephen Osmundsen, P.E.  
Senior Engineer

*Eric A. Weinstock*  
Eric A. Weinstock  
Associate

Enclosure

cc: Miriam Villani, Esq.  
Sal Panico  
Rosalie Rusinko  
Ian Ushe, NYSDOH  
F. William Schmergel

NT Server\Files\Users\Projects\CDC-FF\IRM\IRM Part A\Cover Letter

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**Operable Unit 2 – Interim Remedial Measures Report – Part A  
The Citizens Development Company / Flower Fashion Site  
47 Northern Blvd., Great Neck, New York  
Site Number: 1-30-070**

**1.0 INTRODUCTION**

The following Interim Remedial Measures (IRM) Report – Part A was prepared by CA RICH Consultants, Inc. (CA RICH) on behalf of The Citizens Development Company (CDC). Operable Unit 1 (OU-1) of this Site was addressed earlier and a Record of Decision (ROD) for OU-1 has been issued. The current phase of work is being addressed under Operable Unit 2 (OU-2). This report summarizes the interim remedial measures completed to date - "Part A" - that has addressed the presence of perchloroethene (a.k.a. PCE or tetrachloroethene) and its degradation products in soil and groundwater beneath the Site.

The following is a detailed summary of previous investigations conducted at this Site by CA RICH and other consultants.

<u>Investigation</u>	<u>Date</u>
Citizens Development Company Final Remedial Investigation / Feasibility Study Report, JR Kolmer + Assoc. (Ref. 1)	February 1998
Record of Decision, Citizens Development Company Work Plan Operable Unit 1, NYSDEC (Ref. 2)	March 1998
Citizens Development Company Remedial Investigation Work Plan Operable Unit 2, JR Kolmer + Assoc. (Ref. 3)	June 1999
Citizens Development Company Operable Unit 2 Remedial Investigation / Feasibility Study Report, JR Kolmer + Assoc. (Ref. 4)	December 2001
Citizens Development Company Supplemental Remedial Investigation Work Plan, JR Kolmer + Assoc. (Ref. 5)	June 2002
Groundwater Quality Data for the Flower Fashion Site, Civil & Environmental Consultants, Inc. (Ref. 6)	October 2002
Annual Report: Groundwater Sample Results The Citizens Development Company / Flower Fashion Site 47 Northern Blvd., Great Neck, New York, CA RICH (Ref. 7)	March 2003
Supplemental Investigation Work Plan The Citizens Development Company / Flower Fashion Site 47 Northern Blvd., Great Neck, New York, CA RICH (Ref. 8)	April 2003

Supplemental Investigation Summary Report  
Operable Unit 2 - Site #1-30-070  
The Citizens Development Company / Flower Fashion Site  
47 Northern Blvd., Great Neck, New York, CA RICH (Ref. 9) March 2004

Operable Unit 2 – Interim Remedial Measures Work Plan  
The Citizens Development Company / Flower Fashion Site  
47 Northern Blvd., Great Neck, New York  
Site Number: 1-30-070 May 2004

## **2.0 BACKGROUND**

The CDC-Flower Fashion Site previously operated as a dry cleaner, a florist and is currently used as a “Cingular” Wireless Services store. During the 1980’s and 1990’s, a series of remediation activities including soil excavation, soil vapor extraction and groundwater pump and treat systems were employed at the Site to address the dry cleaning chemical perchloroethene and its degradation products. Historical plots of the concentration of PCE in the Site groundwater monitoring wells indicate that the levels have generally been decreasing with time. However one of the wells, MW-4, has displayed upward and downward fluctuations in PCE concentrations during recent sampling events (Ref. 9).

The reported detection of PCE during the 2003 annual sampling round (Ref. 7) in upgradient well “MW-1A” and at one of the Site wells “MW-3” is an indication that PCE is entering the Site from an upgradient source. Several active and former dry cleaning facilities exist in close proximity to the CDC/FF Site and include Little Neck Cleaners, DryClean USA and Mayflower Cleaners. Additional detail regarding these facilities is included in Ref. 8.

A soil vapor survey performed during the October 2003 Supplemental Investigation revealed elevated levels of PCE in the soil behind the Cingular store. The purpose of this IRM is to address the elevated levels of PCE in well MW-4 and in the soil gas behind the Cingular store

## **3.0 SUPPLEMENTAL INVESTIGATION SUMMARY**

A Supplemental Investigation (Ref. 8) was performed to evaluate potential upgradient sources of PCE, investigate the potential for a residual source of PCE to exist at the CDC/FF Site, and to implement a program of post-remediation monitoring. This investigation included the following work items:

- Identified and evaluated other potential sources of PCE in the area;
- Inventoried, sampled and analyzed area storm drain sediments for the presence of PCE;
- Performed a soil vapor survey on the CDC/FF Site to identify the existence of a residual source of PCE at the Site;
- Evaluated the capacity of the existing SVE blower;
- Implemented a program of post-remediation groundwater monitoring for the Site; and
- Initiated a program of periodic indoor air sampling.

A summary of the Supplemental Investigation is presented below.

- There appeared to be additional sources of PCE in the general area of the Site as observed in upgradient groundwater monitoring wells, on-site storm drain sediment samples and the results of the neighborhood survey. However, these sources did not appear, and in fact, as noted below, are not solely responsible for the concentrations of PCE currently being observed in monitoring well MW-4.
- The results of the soil gas survey indicated the presence of PCE in shallow soil gas at elevated levels beneath the basement foundation of the subject building and in the yard area behind the Cingular building. Specifically, the highest reported detection of PCE was observed in shallow soil gas collected from the outside area at the northwest corner of the Site ("SVP-5"). The results of the soil vapor survey indicated that there was residual PCE in the soil beneath the CDC/FF building and in the area of the former dry well behind the building.
- Currently, the existing Fantech™ low pressure SVE blower exhausts extracted soil vapor at a rate of approximately 150 cfm. Due to the extensive length of the perforated subsurface drain line which is connected to the existing system, it was determined during a vacuum pilot test that increasing the size of the SVE blower will not increase the subsurface vacuum or radius of influence of the present soil vapor extraction system. However, the current system appears to be effectively controlling the vapors and addressing the indoor air quality of the Cingular store.
- The groundwater sampling results of December 2003 and June 2004 identified the presence of PCE in both upgradient and downgradient monitoring points on the Site. The highest reported concentration was observed at well MW-4 at a concentration of 544 ug/l. Based upon a recent groundwater elevation contour map, there appears to be a connection with elevated PCE concentrations in soil gas sample below area SVP-5 and monitoring well MW-4.
- The results of the indoor air sampling for PCE did not identify the presence of PCE in the air at concentrations exceeding the New York State Department of Health action level of 100 ug/m<sup>3</sup> during the December 2003 or June 2004 sampling rounds.

#### **4.0 INTERIM REMEDIAL MEASURES (IRM)**

The remnant PCE vapors detected below the rear of the Site and the continued detection of PCE in monitoring well MW-4 were addressed through a combination of additional on-site soil excavation & disposal, as well as, the performance of a focused permanganate injection program. A shallow Soil Vapor Extraction (SVE) collection system was placed into the excavation as a contingency. The operation of the SVE system will be coupled with continued indoor air and groundwater quality monitoring.

Permanganate is a strong oxidizer that has a long history of application for the control of odors at wastewater treatment plants. The application of permanganate directly to subsurface soils and groundwater has been proven successful for the remediation of PCE.

#### 4.1 Pre-Installation Soil Boring and Analysis

One Geoprobe™ soil boring "IRM-PDA-1a" was placed in the rear of the building with soil samples collected at selected depths for permanganate demand analysis. These samples were forwarded to the Carus Chemical Company for testing to determine the natural oxidant demand of the native soil at the Site. Soil samples were collected at 0 to 2 feet, 12 to 14 feet, 25 to 27 feet and 35 to 37 feet. Based on the test data, the natural oxidant demand (NOD) of the soil was determined to be low. A copy of the Carus Chemical Company (Carus) report, which recommended the application of sodium permanganate, is attached as Appendix A.

The sample collected from the 0 to 2 foot depth contained a black and odorous layer in the lower portion of the sampler. The upper and relatively clean soil from this sample was sent to Carus for NOD analysis and the lower, discolored and odorous soil was sent to American Analytical for analysis of volatile organic compounds (VOCs). The results of the VOC analysis revealed an extremely elevated reading of 860,000 ug/kg of PCE. A copy of the laboratory results are included as Appendix B. Apparently, the previous consultants that worked on this Site missed a zone of soil in the eastern portion of the rear yard that was grossly contaminated with PCE. A second boring "IRM-PDB-1b" was also installed on that date to confirm the information observed in the initial boring.

On July 29, 2004, CA RICH installed a series of shallow soil borings, designated IRM-PDB-2 through 10, in the rear of the Site to delineate the area containing the discolored and odorous soil. This area, which is illustrated in Figure 1, was used to define the area for a targeted soil excavation and disposal effort discussed below.

#### 4.2 Additional Excavation & Disposal of PCE Impacted Soil

##### Excavation

On August 17 and 18, 2004, the pavement covering the eastern half of the rear yard was removed. On August 23<sup>rd</sup> approximately 77 tons of PCE contaminated soil was excavated from the rear of the building. The soil was temporarily staged on plastic sheeting in the parking lot behind the Site and then transported as a hazardous waste to Stablex in Quebec, Canada. Copies of the waste disposal manifests are included as Appendix C.

During the performance of this excavation, a series of former subsurface asphalt layers were encountered. The shallowest of these layers was encountered at approximately  $\frac{3}{4}$  of a foot below grade. A second layer was encountered at approximately 2 feet below grade. The soils exhibiting the highest laboratory VOC readings and PCE odors were encountered above this 2-foot deep asphalt layer and were removed during the excavation. A third asphalt layer was encountered during the installation of the permanganate injection points at a depth of approximately 5 feet below grade.

##### August 26, 2004 - Excavation End-Point Soil Samples

A series of nine excavation end-point soil samples were collected from the bottom of the excavation and sidewalls. The sidewall samples were collected as a composite of the soil along the bottom of the excavation wall and below the first asphalt layer discussed above. The samples were analyzed by Accredited Laboratories for total VOCs using EPA Method 8260. These results, which are summarized on Table 1 and Figure 2, ranged in concentration from 53 ug/kg to 27,000 ug/kg. A "DUSR" for this data is included as Appendix D.

September 9, 2004 - End-Point Samples

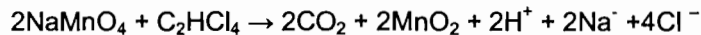
In order to confirm the results from August 26<sup>th</sup> sampling data, the excavation remained opened; and on September 9, 2004 three of the excavation end-point soil sample locations were resampled. The samples were delivered to EcoTest Laboratories and analyzed for the same parameters performed earlier. An additional sample was collected at approximately one foot below each of the three locations. As shown on Table 2 and Figure 3, the samples collected at the bottom and sidewalls of the excavation again contained elevated concentrations of PCE, confirming the earlier data reported by Accredited Laboratories. A "DUSR" for this data is included as Appendix D.

The reported concentrations were, however, lower than those collected August 26<sup>th</sup> indicating that the PCE in the soil is amenable to evaporation and that soil vapor extraction would be an effective alternative for remediation of the shallower soils at the Site. The deeper soil samples contained PCE at concentrations above the NYSDEC-TAGM #4046 Cleanup Objective. Based on these results, in-situ treatment using permanganate injection was selected for the remediation of the deeper soil containing PCE, as well as, the underlying groundwater.

The excavation was the backfilled with clean fill material and covered with new concrete pavement. A layer of orange plastic barrier fence was placed at the bottom of the excavation as a marker. The clean backfill was tested and confirmed to be free of VOCs before placement at the Site. These test results are included as Appendix E.

4.3 Permanganate Injection System

Permanganate is a strong oxidizer that has a long history of application for the control of odors at wastewater treatment plants. The application of permanganate directly to subsurface soils and groundwater has been proven successful for the remediation of PCE. Once in contact with PCE, the permanganate converts the contaminant to harmless by-products as shown below:



(Permanganate + Perchloroethene → Carbon Dioxide Gas + Manganese Dioxide + Hydrogen ions + Sodium ions + Chlorine ions)

On October 13 and 14, a total of 27 permanganate injection points were installed at the locations shown on Figure 4 using the Geoprobe™ probing system. Each of the injection points consists of a 1-inch diameter, flush-threaded, schedule 40 PVC pipe with 0.030-inch slots (30 slot) screens. The two outer rows of injection points were installed with the slotted section set from two to five feet below grade. The middle row of injection points was installed with the slotted section set from 7 to 12 feet below grade. One deep injection point, screened from 35 to 45 feet, was also installed. An existing on-site remediation well was also used in the permanganate injection system.

Monitoring well MW-4 was equipped with a 2-3/4 inch diameter submersible pump capable of achieving a pumping rate of approximately 15 gallons per minute (gpm). During the injection program, a pumping rate of only 4 gpm could be maintained without dewatering the well. A utility trench for electric power and a discharge line was installed from the well head of MW-4 to the rear yard of the Site where a permanganate mixing tank was located. The discharge line from the submersible pump was connected to the top of a mixing tank. The 27 injection points were connected to header lines in four groups of points as shown in Figure 4. Each of the header lines were connected to a discharge port at the bottom of the tank such that the water pumped from well MW-4 was used to fill the tank, prepare a permanganate solution and then discharge the solution to the groups of points.



Bulk sodium permanganate was purchased in 55-gallon drums and at a concentration of 40% from the Carus Chemical Company. Using the mixing tank, 50-gallon doses of 5% sodium permanganate were prepared by mixing 5 gallons of 40% sodium permanganate with 45 gallons of well water from MW-4. The solution was applied from the mixing tank to the groups of injection points and allowed to saturate the subsurface soils. This process was performed from October 21 to November 5, 2004. All 27 points were treated as described below.

<u>Date</u>	<u>Injection Zones</u>	<u>Amount Applied</u>
Oct. 21	north, south, middle, deep point & rec. well.	50 gallons x 4 = 200 gallons
Oct. 22	north, south, middle, deep point & rec. well.	50 gallons x 4 = 200 gallons
Oct. 25	north, south, middle, deep point & rec. well.	50 gallons x 4 = 200 gallons
Oct. 26	north, south, middle, deep point & rec. well.	50 gallons x 4 = 200 gallons
Oct. 27	north, south, middle, deep point & rec. well.	50 gallons x 4 = 200 gallons
Oct. 28	north, south, & middle. deep point.	50 gallons x 3 = 150 gallons 30 gallons
Oct. 29	north, south, & middle. deep point.	50 gallons x 3 = 150 gallons 30 gallons
Nov. 5	deep point.	<u>30 gallons</u>
<b>Estimated Total:</b>		<b>1,390 gallons</b>

After the permanganate solution was applied to the injection points, valves on the mixing tank were adjusted to allow the water pumped from well MW-4 to flow directly to the header lines of the injection points. Once the permanganate solution percolated downward and reached the water table, it flowed with the underlying groundwater toward well MW-4. Well MW-4 was used to pump the underlying groundwater, capture the injected solution and discharge it to the mixing tank for re-circulation through the injection points.

The discharge from well MW-4 was checked for residual permanganate on a daily basis using a colorimeter. The goal of the injection program was to sustain a pinkish coloration in the discharge of well MW-4. Neither a pink coloration, nor a colorimeter reading, was observed in the well water from MW-4 during the injection program.

The concentration of PCE in the discharge from well MW-4 was also monitored prior to start up of the injection program and on a weekly basis thereafter using an ELAP approved laboratory and EPA methods 8021 or 8260. These results are plotted below and a copy of the laboratory data is included as Appendix F.

<u>Date</u>	<u>PCE in ug/l</u>
10/21/04	670
10/26/04	520
10/29/04	400
11/05/04	610
11/12/04	840

The data initially indicates a decrease in PCE concentration, but then increased during the later portion of the program. Apparently, the permanganate was consumed quickly by the PCE in the groundwater. Additional injections of permanganate to the "deep" injection point will continue during the Winter of 2005.

#### 4.4 Soil Vapor Extraction (SVE) System

During the backfilling of the August 2004 excavation, three horizontally-oriented SVE lines were installed. The lines were constructed of 2-inch diameter schedule 40 PVC pipe and 0.020-inch slotted (20 slot) SVE screens. These lines were buried approximately one foot below grade and are illustrated in Figure 5. A more detailed discussion of the SVE system pilot test, installation and operation will be presented in the IRM Report "Part B" expected to be submitted in early Spring 2005.

## 5.0 SUMMARY

This IRM Report Part A summarizes the general history of the CDC-FF Site and outlines the remedial efforts that included the identification of PCE contamination in the subsurface soils at the Site, additional soil excavation and removal, a program that injected a sodium permanganate solution to subsurface soils and groundwater and the on-going injection of sodium permanganate on a twice a month basis to the deep injection point.

These remedial activities will be supplemented by the installation and operation of an SVE system designed to capture residual PCE vapors in the shallow soil horizon. It is anticipated that this system will be operational in February 2005. An IRM Report - Part B will be prepared to document this work and will be submitted in early Spring. The schedule of the indoor air and groundwater quality monitoring will continue in June 2005 as scheduled in the Supplemental Investigation Work Plan.

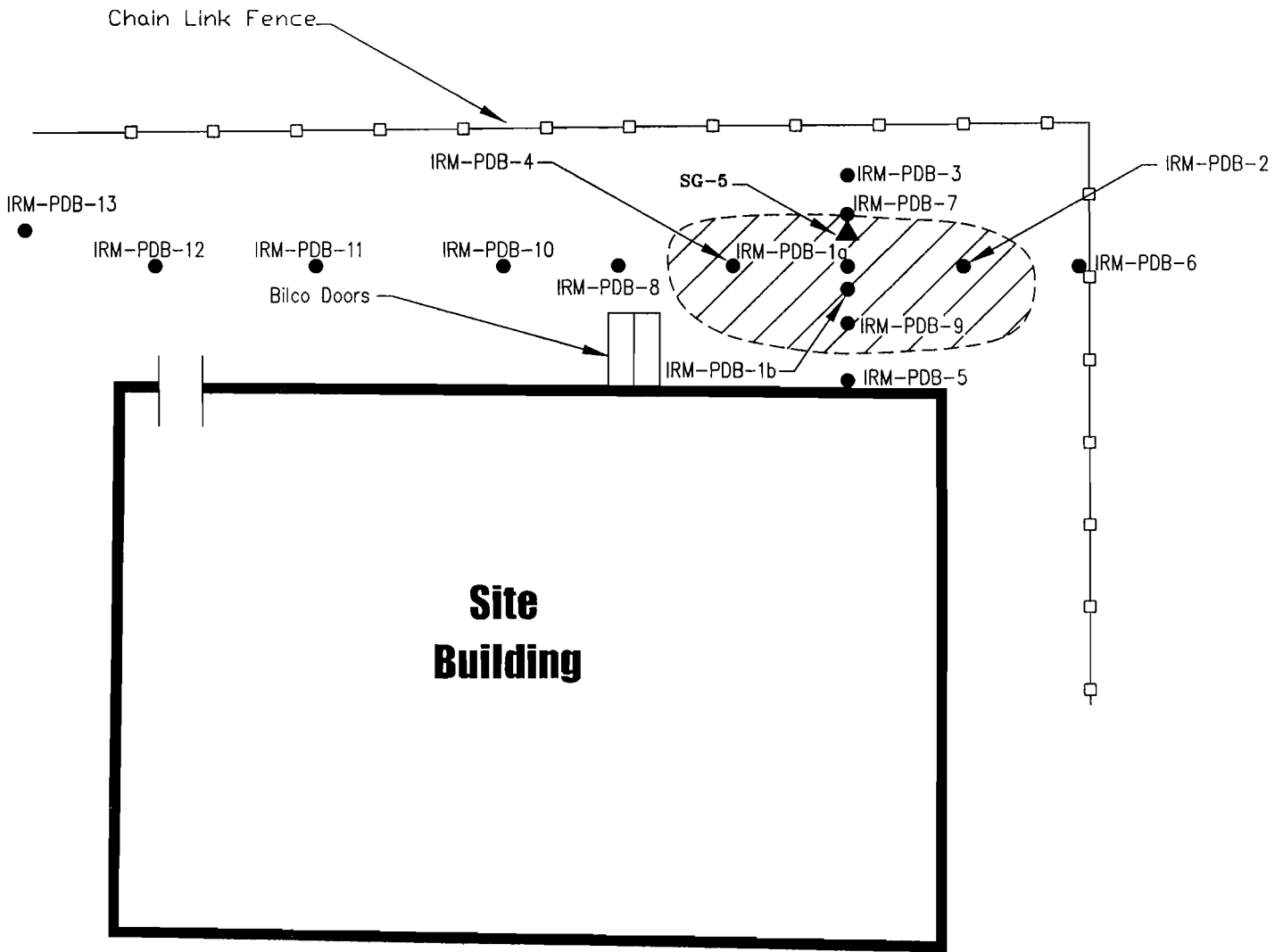
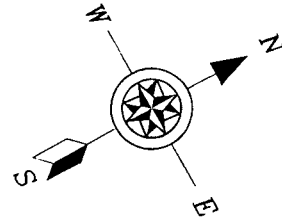
## **6.0 REFERENCES**

1. Citizens Development Company Final Remedial Investigation / Feasibility Study Report, JR Kolmer + Assoc. (February 1998)
2. Record of Decision, Citizens Development Company Work Plan Operable Unit 1, NYSDEC (March 1998)
3. Citizens Development Company Remedial Investigation Work Plan Operable Unit 2, JR Kolmer + Assoc. (June 1999)
4. Citizens Development Company Operable Unit 2 Remedial Investigation/Feasibility Study Report, JR Kolmer + Assoc. (December 2001)
5. Citizens Development Company Supplemental Remedial Investigation Work Plan, JR Kolmer + Assoc. (June 2002)
6. Groundwater Quality Data for the Flower Fashion Site Civil & Environmental Consultants, Inc. (October 2002)
7. Annual Report: Groundwater Sample Results The Citizens Development Company / Flower Fashion Site 47 Northern Blvd., Great Neck, New York, CA RICH (March 2003)
8. Supplemental Investigation Work Plan The Citizens Development Company / Flower Fashion Site 47 Northern Blvd., Great Neck, New York (April 2003)
9. Supplemental Investigation Summary Report Operable Unit 2 - Site #1-30-070 The Citizens Development Company / Flower Fashion Site, 47 Northern Blvd., Great Neck, New York, CA RICH (March 2004)

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## FIGURES

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**Legend**

- IRM BORING LOCATION
- ▲ SOIL VAPOR POINT

 SOIL EXHIBITING PERCHLOROETHENE ODOR

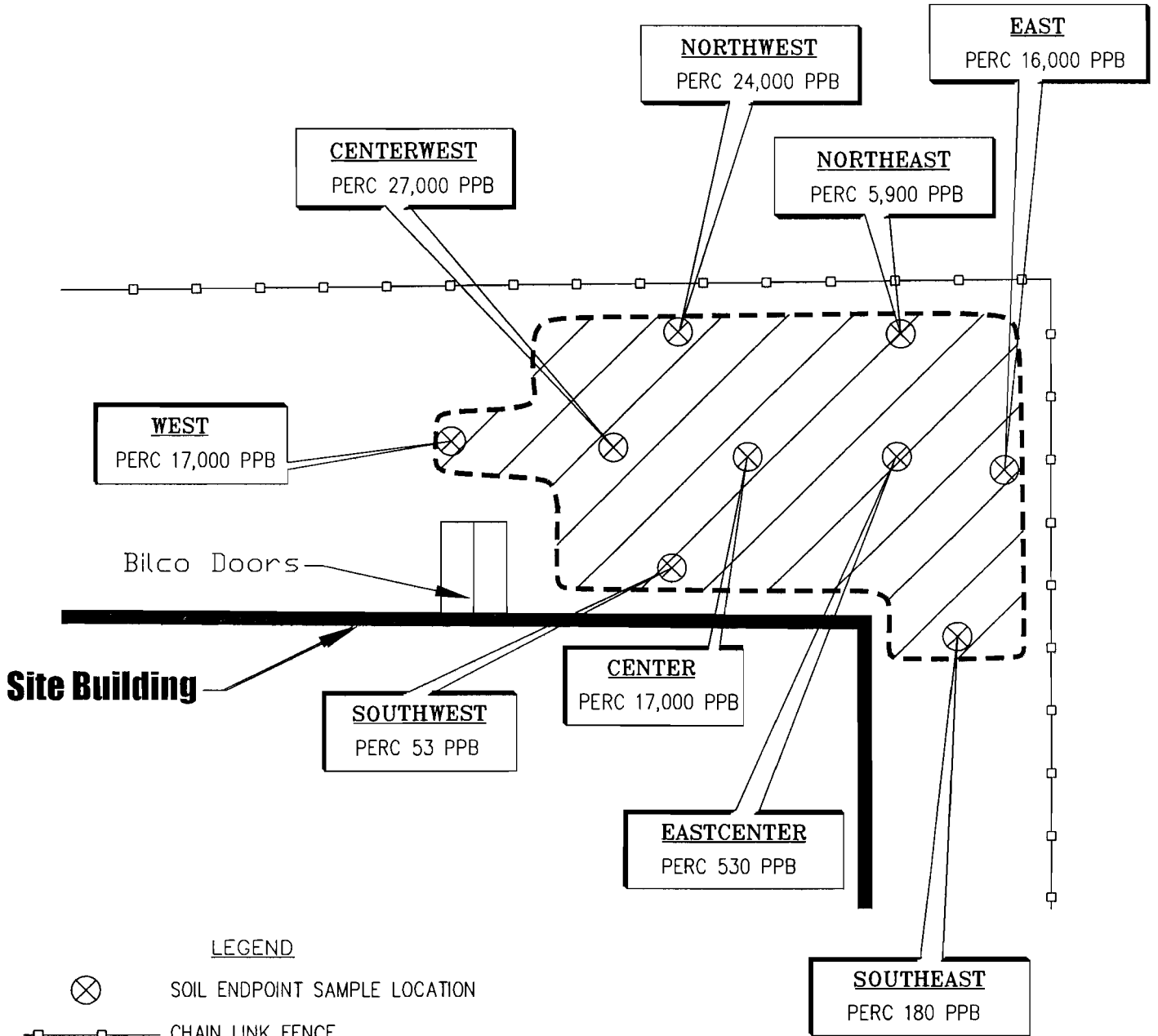
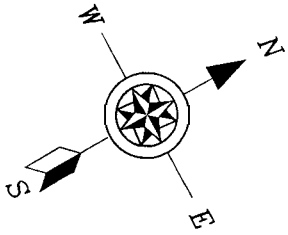


GRAPHIC SCALE IN FEET

**CA RICH CONSULTANTS, INC.**

Certified Ground Water and Environmental Specialists  
17 Dupont Street, Plainview, New York 11803

TITLE: <b>IRM BORING LOCATION MAP</b>		DATE: 1/24/05
FIGURE: 1		SCALE: 1" = 15'
DRAWING NO: 1183-1Z	CDC/FLOWER FASHION 47 NORTHERN BLVD. GREAT NECK, NY 11020	DRAWN BY: S.T.M. APPR. BY: E.A.W.



**LEGEND**

- SOIL ENDPOINT SAMPLE LOCATION
- CHAIN LINK FENCE
- SOIL EXCAVATION AREA

INITIAL SAMPLE RESULT: 860,000 PPB

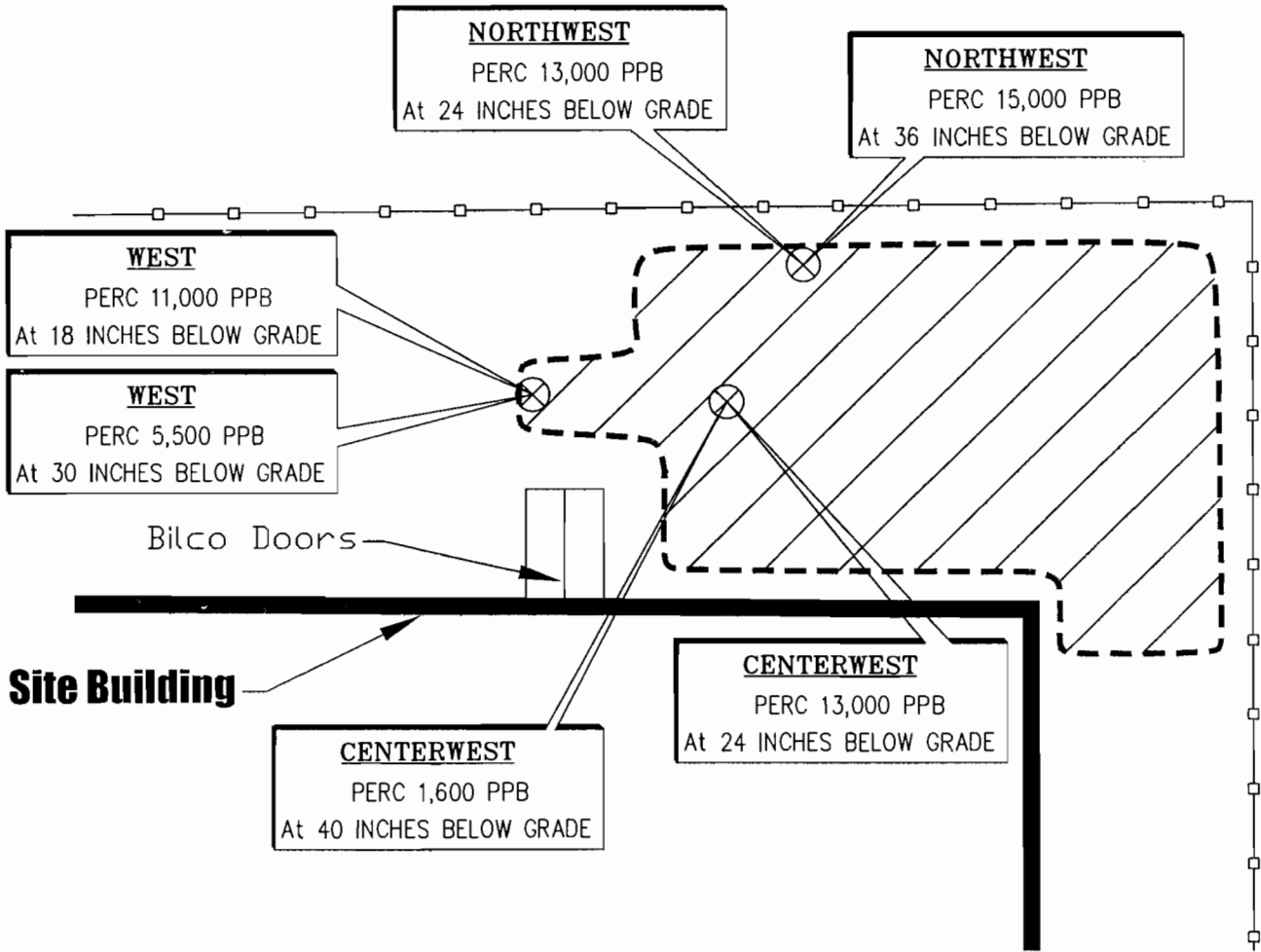
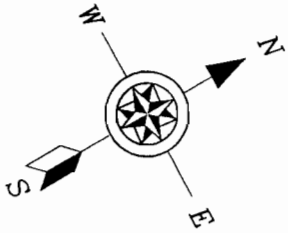
NYSDEC CLEANUP LEVEL: 1,400 PPB

ALL CONCENTRATIONS SHOWN IN PARTS PER BILLION (PPB)



GRAPHIC SCALE IN FEET

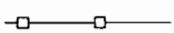
<b>CA RICH CONSULTANTS, INC.</b>	
Certified Groundwater and Environmental Specialists 17 Dupont Street, Plainview, New York 11803	
TITLE:	DATE:
PCE In Soil Endpoint Samples August 26, 2004	1/24/05
FIGURE:	SCALE:
2	As Shown
DRAWING NO:	DRAWN BY:
1183-1AZ.1	S.T.M.
	APPR. BY:
	E.A.W.



**LEGEND**



SOIL ENDPOINT SAMPLE LOCATION



CHAIN LINK FENCE



SOIL EXCAVATION AREA

INITIAL SAMPLE RESULT: 860,000 PPB

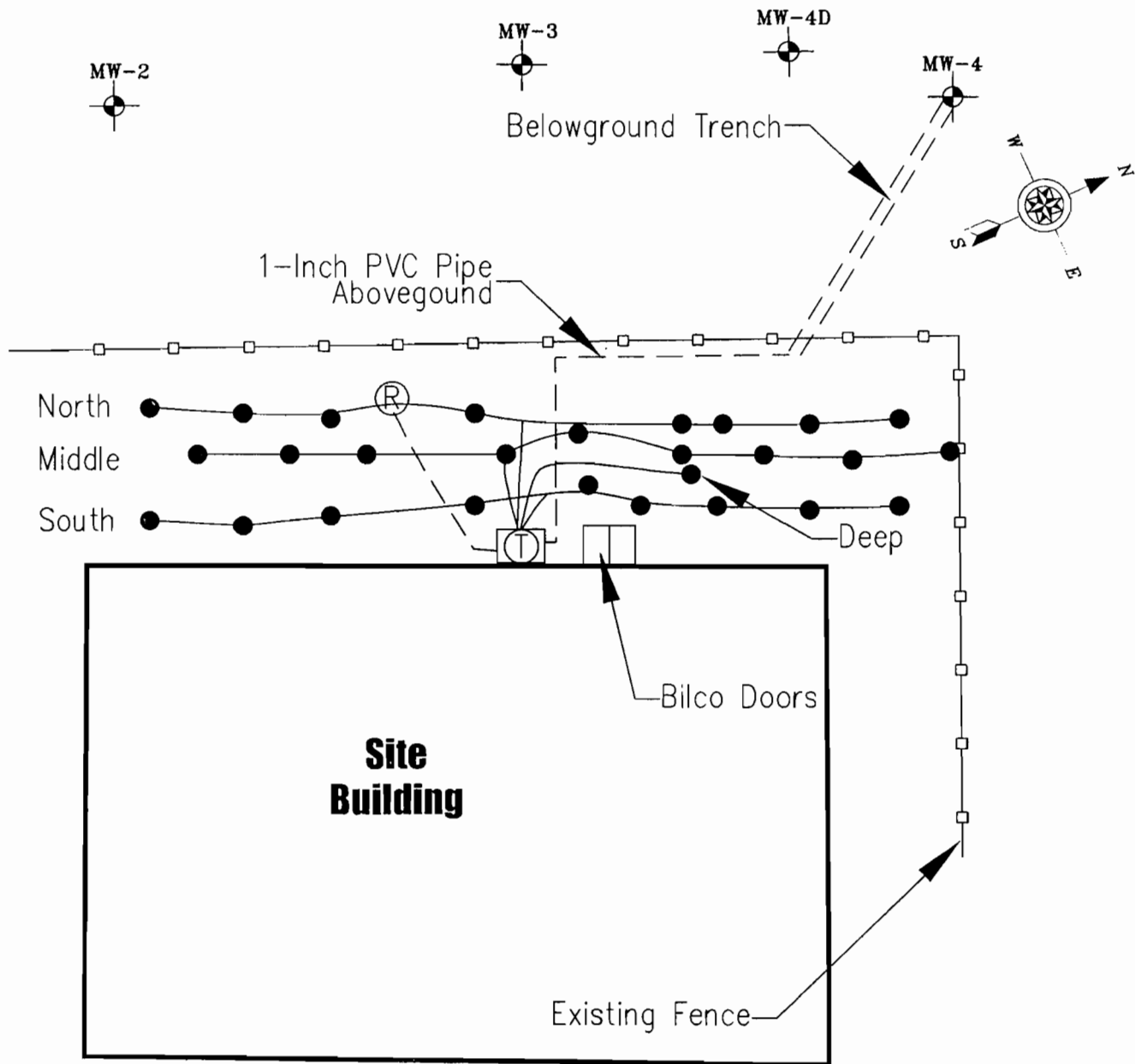
NYSDEC CLEANUP LEVEL: 1,400 PPB





ALL CONCENTRATIONS SHOWN IN PARTS PER BILLION (PPB)

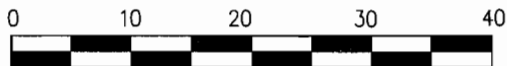


GRAPHIC SCALE IN FEET

<b>CA RICH CONSULTANTS, INC.</b>	
Certified Groundwater and Environmental Specialists 17 Dupont Street, Plainview, New York 11803	
TITLE: PCE In Soil Endpoint Samples September 9, 2004	DATE: 1/24/05
FIGURE: 3	SCALE: As Shown
DRAWING NO: 1183-1AZ.2	DRAWN BY: S.T.M.
CDC/FLOWER FASHION 47 NORTHERN BLVD. GREAT NECK, NY 11020	APPR. BY: E.A.W.



- LEGEND**
-  GROUNDWATER MONITORING WELL
  -  SODIUM PERMANGANATE INJECTION POINT
  -  SODIUM PERMANGANATE DISTRIBUTION TANK
  -  EXISTING RECOVERY WELL



GRAPHIC SCALE IN FEET

<b>CA RICH CONSULTANTS, INC.</b> Certified Groundwater and Environmental Specialists 17 Dupont Street, Plainview, New York 11803	
<b>Stephen J. Osmundsen, P.E.</b> Professional Engineer 513 Centre Island Road, Oyster Bay, New York 11771	
TITLE: SODIUM PERMANGANATE INJECTION POINT LAYOUT	
DATE: 1/24/05	
SCALE: 1" = 16'	
FIGURE: 4	DRAWN BY: S.T.M.
DRAWING NO: 2004-25A.2	APPR. BY: S.J.O.
CDC/FLOWER FASHION 47 NORTHERN BLVD. GREAT NECK, NY 11020	



MW-2



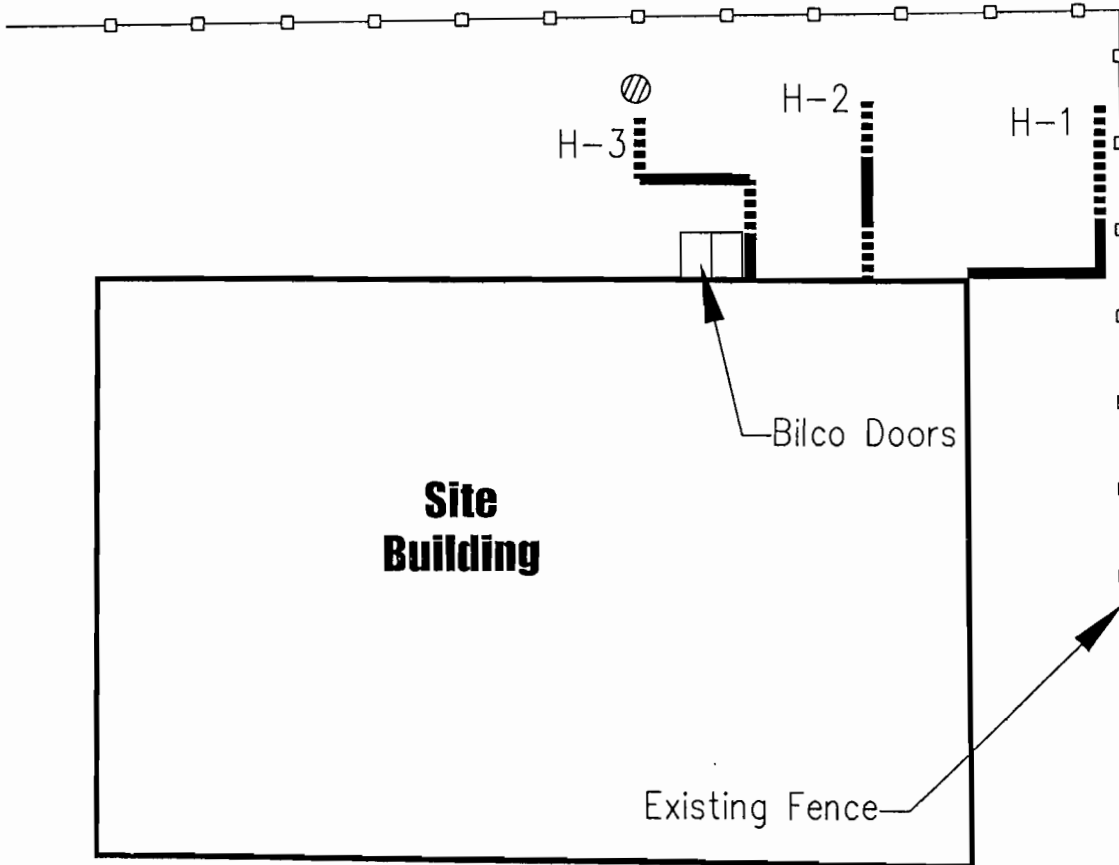
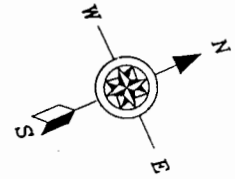
MW-3



MW-4D



MW-4



**LEGEND**



GROUNDWATER MONITORING WELL



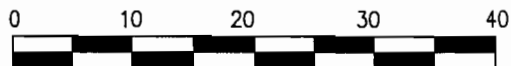
FORMER STORM WATER DRYWELL



2-INCH DIAMETER 20 SLOT PVC PIPE



2-INCH DIAMETER PVC PIPE  
SOIL GAS PROBE



GRAPHIC SCALE IN FEET

**CA RICH CONSULTANTS, INC.**

Certified Groundwater and Environmental Specialists  
17 Dupont Street, Plainview, New York 11803

**Stephen J. Osmundsen, P.E.**

Professional Engineer  
513 Centre Island Road, Oyster Bay, New York 11771

TITLE:

SUBSURFACE PIPING LAYOUT FOR  
SOIL VAPOR EXTRACTION SYSTEM

DATE:

1/24/05

SCALE:

1" = 16'

FIGURE:

5

CDC/FLOWER FASHION  
47 NORTHERN BLVD.  
GREAT NECK, NY 11020

DRAWN BY:

S.T.M.

DRAWING NO:

2004-25A.1

APPR. BY:

S.J.O.

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## **TABLES**

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Table 1

Summary of Soil Excavation Sample Results  
 Citizens Development Corporation / Flower Fashions Site  
 47 Northern Boulevard  
 Great Neck, NY 11021

Sample ID Matrix Date Sampled	Northeast Soil 8/26/2004	Northwest Soil 8/26/2004	Southeast Soil 8/26/2004	Southwest Soil 8/26/2004	East Soil 8/26/2004	West Soil 8/26/2004	Center east Soil 8/26/2004	Center (D) Soil 8/26/2004	Center west Soil 8/26/2004	Center Soil 8/26/2004	FB Soil 8/26/2004	TB Soil 8/26/2004	NYSDEC TAGM #4046 Cleanup Objective
<b>Volatile Organic Compounds (USEPA Method 8260)</b>													
Parameters													
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	60
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	300
Carbon disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,700
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	600
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,700
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,900
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	300
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	400
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5,500
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
4-Methyl-2-pentanone(MIBK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,000
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	600
Tetrachloroethene	5,900	24,000	180	53	16,000	17,000	530	13,000	27,000	17,000	ND	ND	1,400
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,500
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	800
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	700
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200
Xylene (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,200

Notes:

ND = Compounds Found Below the Reporting Limit

**Bold** indicates compound exceeds TAGM cleanup objective

All compounds are reported in ug/kg (micrograms per kilogram)

TB = Trip Blank

FB = Field Blank

(D) = Duplicate

Table 2

Summary of Soil Excavation Sample Results

Citizens Development Corporation / Flower Fashions Site  
47 Northern Boulevard  
Great Neck, NY 11021

Sample ID Matrix Date Sampled	West-2 (18") Soil 9/9/2004	West-2 (30") Soil 9/9/2004	Center West-2 (24") Soil 9/9/2004	Center West-2 (XX) Soil 9/9/2004	Center West-2 (40") Soil 9/9/2004	North West-2 (24") Soil 9/9/2004	North West-2 (36") Soil 9/9/2004	TB Water 9/9/2004	Storm Water Water 9/9/2004	FB Water 9/9/2004	NYSDEC TAGM #4046 Cleanup Objective
<b>Volatle Organic Compounds (USEPA Method 8260)</b>											
<b>Parameters</b>											
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	60
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
Bromofom	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	300
Carbon disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,700
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	600
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,700
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,900
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	300
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	400
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5,500
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,000
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100
4-Methyl-2-pentanone(MIBK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	600
Tetrachloroethene	11,000	5,500	4,800	13,000	1,600	13,000	15,000	ND	43	ND	1,400
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,500
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	800
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	700
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200
Xylene (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,200

Notes:

ND = Compounds Found Below the Reporting Limit

ND indicates compound exceeds TAGM cleanup objective

All compounds are reported in ug/kg (micrograms per kilogram)

TB = Trip Blank

FB = Field Blank

XX = Duplicate of 24" sample