

**FORMER DARBY DRUGS DISTRIBUTION CENTER
OPERABLE UNIT 2
SITE No. C130140**

**80-100 Banks Avenue
ROCKVILLE CENTRE, NEW YORK**

**REMEDIAL INVESTIGATION
REPORT**

JANUARY 2015

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TABLE OF CONTENTS
Remedial Investigation Report
Former Darby Drugs Distribution Center - OU2

1.0	INTRODUCTION	1
1.1	Project Background	1
1.2	Site Location and Description	2
1.3	Summary of Previous Investigations	2
1.3.1	<i>Phase I Environmental Site Assessment (ESI, March 2002)</i>	2
1.3.2	<i>Prelim. Soils and Foundation Investigation Report (MTA, August 2003)</i>	2
1.3.3	<i>Phase II Environmental Investigation (ESI, November 2003)</i>	3
1.3.4	<i>Remedial Investigation Report (PWGC, September 2004)</i>	3
2.0	REMEDIAL INVESTIGATION	5
2.1	Field Investigation	5
2.2	Soil Sampling	5
2.2.1	<i>Soil Borings</i>	5
2.3	Monitoring Well Installation	5
2.3.1	<i>Groundwater Sampling</i>	6
2.4	Laboratory Analysis	7
2.4.1	<i>Analytical Results - Groundwater Samples</i>	7
2.4.2	<i>Data Usability Summary Report</i>	8
3.0	HYDROGEOLOGIC ASSESSMENT AND PHYSICAL SETTING	9
3.1	Site Topography	9
3.2	Surrounding Land Use	9
3.3	Regional Geology / Hydrogeology	9
3.4	Site Geology / Hydrogeology	10
4.0	NATURE AND EXTENT OF CONTAMINATION	11
4.1	Identification of Source Areas	11
4.2	Groundwater Impacts	11
4.3	Site Conceptual Model	11
5.0	QUALITATIVE EXPOSURE ASSESSMENT	13
5.1	Contaminant Areas	13
5.2	Contaminant Release and Transport Mechanism	13
5.3	Point of Exposure, Route of Exposure and Potentially Exposed Populations	13
6.0	CONCLUSIONS AND RECOMENDATIONS	15
7.0	REFERENCES	17

TABLE OF CONTENTS
Remedial Investigation Report
Former Darby Drugs Distribution Center - OU2

TABLES

Table 1	Ground Water Elevation Summary
Table 2	Laboratory Results – Groundwater Samples, Volatile Organic Compounds (11/17/11)
Table 3	Laboratory Results – Groundwater Samples, Volatile Organic Compounds (10/18/13)
Table 4	Laboratory Results – Groundwater Samples, Volatile Organic Compounds (3/26/14)
Table 5	Laboratory Results – Groundwater Samples, Volatile Organic Compounds (10/29/14)
Table 6	Parameters Detected Above Ambient Groundwater Standards

FIGURES

Figure 1	Site Location Map
Figure 2	Site Plan with Proposed Building
Figure 3	Soil Boring / Monitoring Well Locations
Figure 4	Groundwater Elevation Map (11/17/11)
Figure 5	Groundwater Elevation Map (3/26/14)
Figure 6	Posted Groundwater Results above AWQS (11/17/11)
Figure 7	Posted Groundwater Results above AWQS (10/18/13)
Figure 8	Posted Groundwater Results above AWQS (3/26/14)
Figure 9	Posted Groundwater Results above AWQS (10/29/14)

APPENDICES

Appendix A	Soil Boring Logs
Appendix B	Well Construction Logs
Appendix C	Laboratory Reports (Digital Copy)

LIST OF ACRONYMS

Acronym	Definition
AOC	Area of Concern
BCP	Brownfields Cleanup Program
BCA	Brownfield Site Cleanup Agreement
ESA	Environmental Site Assessment
EBC	Environmental Business Consultants
IRM	Interim Remedial Measure Work Plan
NYCDEP	New York City Department of Environmental Protection
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PID	Photo-Ionization Detector
RI	Remedial Investigation
RIWR	Remedial Investigation Work Plan
SVOC	Semi-Volatile Organic Compound
UST	Underground Storage Tank
VOC	Volatile Organic Compound

REPORT CERTIFICAION

I, Charles Sosik certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Remedial Investigation 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 modifications.



Charles B. Sosik, P.G., P.H.G.

Date: 1-27-15

1.0 INTRODUCTION

1.1 Project Background

This Supplemental Remedial Investigation Report (RIR) was prepared on behalf of Darby Group Companies for the off-site investigation related to the Former Darby Drugs Distribution Center located at 80-100 Banks Avenue in the Village of Rockville Centre, Nassau County, New York (**Figure 1**).

The chlorinated solvent, tetrachloroethylene (PCE), was first identified on the property, during a Phase II investigation performed in November 2003 as part of the due diligence by a potential purchaser of the property. The PCE is believed to have been released between 1972 and 1978 when a textile company leased the southern parcel (80 Banks Avenue) of the property. The contract vendee to purchase the property (Chase Partners) applied for and was accepted into the New York State Brownfield Clean-up Program (BCP) as a volunteer. Chase Partners entered into a Brownfield Clean-up Agreement (BCA) with the New York Department of Environmental Conservation (NYSDEC) on June 29, 2005. The property has since been purchased by Avalon Bay Communities (Avalon) of Melville, NY.

Chase Partners submitted a Draft Remedial Investigation (RI) Report and an Interim Remedial Measure (IRM) Work Plan for on-site contamination in September 2004. The IRM Work Plan was formally approved for implementation by the NYSDEC on May 12, 2006. Under the Brownfields Program a volunteer is not required to investigate or remediate contamination which has left the boundaries of the property. The Draft RI Report for investigation of on-site contamination indicated that a groundwater plume was leaving the property in a southerly direction.

The remediation of on-site source contamination was completed under a modified Brownfield Cleanup Agreement between Chase Partners, Avalon and the NYSDEC. The Certificate of Completion was signed on December 19, 2011. Site management and groundwater treatment is ongoing.

Although Darby Group did not cause the release of contaminants and did not own the property when the release occurred, Darby Group executed an Order on Consent with the NYSDEC on April 9, 2007 to investigate and potentially remediate contamination in groundwater which had migrated off-site. This phase of the project is identified as Operable Unit 2 (OU2).

The purpose of this RI was to collect data of sufficient quality and quantity to characterize the nature and extent of chlorinated solvent contamination in off-site groundwater and to complete a qualitative exposure assessment for occupants of adjacent commercial buildings and the surrounding community and to evaluate alternatives to remediate the contamination.

The field work portion of the RI was initially conducted by EBC from August 2011 through March 2014.

1.2 Site Location and Description

The subject property is located at 80-100 Banks Avenue, Village of Rockville Centre, Town of Hempstead, Nassau County, New York (**Figure 1**). The site is situated at the northwest intersection of Nassau Street and Banks Avenue (**Figure 2**). The property comprises a total area of 7.1 acres, and is identified as Lots 27 and 30, Block 539, Section 38 on the Nassau County Tax Maps. The site is currently improved with two new apartment buildings which were constructed and placed in service by Avalon Bay Communities.

The elevation of the property is approximately 10 feet above the National Geodetic Vertical Datum (NGVD) feet. Based on measurements made at the Site as part of the Remedial Investigation, the depth to groundwater beneath the site is approximately 6 feet below existing grade.

The area surrounding the Site includes a municipal bus garage to the south, a tennis facility to the east, a municipal park to the west and an apartment complex to the north.

1.3 Summary of Previous Investigations

The NYSDEC performed a subsurface investigation at the Site and surrounding area. This work was part of a general Site Characterization and consisted of two Phases as follows:

- Phase I Environmental Site Assessment, EcolSciences, Inc. March 2002
- Preliminary Soils and Foundation Report Melick-Tully and Associates August 2003
- Phase II Environmental Investigation, EcolSciences, Inc. January 2004
- Remedial Investigation Report (PWGC- September, 2004)

1.3.1 Phase I Environmental Site Assessment, ESI (March - 2002)

A Phase I Environmental Site Assessment (Phase I) was conducted by EcolSciences, Inc. (ESI) in March, 2002 to determine if there were any recognized environmental conditions associated with the subject site.

The document search identified records from the Nassau County Department of Health (NCDH) detailing the proper removal of four heating oil underground storage tanks (USTs). In addition, during the site reconnaissance, ESI identified an electrical panel along the western wall of the southern warehouse area containing circuit breakers with faded labels for Awell pumps@ and Adry cleaning still unit@. There was no record or information of a dry cleaning operation at the site. ESI recommended a test boring program beneath the concrete floor to assess potential impacts from possible former dry cleaning operations at the site, and soil samples in the vicinity of the heating oil tanks to verify the findings of the NCDH.

1.3.2 Preliminary Soils and Foundation Investigation Report (MTA - August 2003)

Melick-Tully and Associates (MTA) performed a number of borings on the subject property as part of a geotechnical analysis of site conditions to assist in the design of the proposed residential

buildings. The investigation initially consisted of six soil borings with a recommendation that monitoring wells be installed for the basement design. A total of six monitoring wells were installed between January and May, 2003.

The MTA borings revealed that the geology beneath the site consists of 1 to 4 feet of sand fill material. Beneath the fill material is an orange-tan sand with gravel to a depth varying from 12 to 16 feet below grade. Beneath the sand and gravel unit is a black silty clay, which was determined to be 9 feet thick. The clay unit is underlain by sand to at least 31 feet below grade, the depth at which the borings were terminated.

MTA reported that the depth to water at the site varies between 5 to 9 feet below grade depending upon surface elevation. The water table was determined to exist within the sand unit situated above the black silty clay unit. Groundwater flow was determined to vary from a westerly to a southerly direction as you move west to east across the site.

1.3.3 Phase II Environmental Investigation (ESI - January 2004)

The Phase II investigation was completed by ESI in January, 2004. ESI identified a total of seven areas of concern (AOC) as part of their scope of work. In addition to the former heating oil tanks and the former potential dry cleaning still unit, other AOCs were identified as a result of further field observation and a geophysical survey performed as part of the Phase II investigation. A total of nineteen borings were advanced during the investigation with thirty-one soil samples submitted for analysis. Eleven groundwater samples were analyzed including five from the soil borings and six from the pre-existing monitoring wells installed by MTA. The results of the Phase II Investigation identified significant concentrations of PCE in soil and groundwater beneath the southwest corner of the building. Concentrations exceeding the pure product solubility of PCE were found at some locations just above the clay surface, indicating that DNAPL is present above the clay. Soil samples collected in the vicinity of the former fuel oil tanks did not indicate that a release had occurred at either location.

1.3.4 Remedial Investigation Report (PWGC- September, 2004)

A Remedial Investigation (RI) was performed by P.W. Grosser Consulting, Inc. (PWGC) during March 15 - March 26, 2004 to: collect data of sufficient quality and quantity to adequately characterize the nature and extent of contamination at the site, evaluate contaminant migration, characterize the potential exposure to human health and the environment and select the most appropriate remedial technology.

Summary of the Nature and Extent of Contamination

The results of the RI confirmed the findings of the previous investigations and support a release scenario of liquid phase PCE beneath the floor near the western wall of the south building. From here, PCE as a DNAPL, migrated along the clay surface to a low point approximately 50 feet east of the release point. There is sufficient evidence to indicate that DNAPL remains in this area of the building. A competent clay layer, approximately 9 feet thick, was documented throughout the site. The report concluded that the presence of the clay limited the vertical migration of PCE in the soil column to a maximum depth of 18 feet below the surface. The clay surface was deepest in borings beneath the building and shallowest in borings at the property boundaries, effectively preventing further lateral migration of mobile DNAPL.

The Draft RI Report concluded that shallow soil contamination, above the guidance value of 1,400

µg/kg, is limited to an area approximately 40 feet by 60 feet. Contamination at the clay surface was reported to be more extensive, covering an area roughly 180 feet by 160 feet.

The report noted that significant PCE contamination in soil was also found at the clay surface outside of the building in the north end of the west parking area. The location is in the general vicinity of a suspected leaching structure. The Report suggested that the structure, if present, may have received process water from the building contaminated with volatile organic compounds (VOCs).

The report concluded that the presence of DNAPL and high PCE concentrations in soil were acting as a continuing source of contamination to the shallow groundwater, and that a shallow groundwater plume of chlorinated VOCs (CVOCs), primarily PCE, is emanating from the source area beneath the southwestern portion of the south building. PCE concentrations in the source area were reported at or above the pure product solubility, providing further evidence of DNAPL in this area. The report concluded that the plume is migrating south in the direction of groundwater flow, toward the Long Island Bus Depot. PCE concentrations at the south property line were reported at 28,000 µg/L.

A supplemental investigation completed by PWGC at the site in August and September of 2008 (PWGC SIR Report 1/09) identified dissolved PCE contamination in a permeable sand zone beneath the clay layer at a depth of 30-50 feet below the surface. The report also identified elevated PCE concentrations in soil gas at the south property line. The off-site investigation of the dissolved CVOC plume beneath the clay and CVOCs in soil gas, will be addressed in this off-site RI work plan.

Summary of the Exposure Assessment

According to the Draft RI Report, based on the historic use of the property, the release probably occurred sometime during the period of 1972 to 1978 when the 80 Banks Avenue property was occupied by a textile company. Potential receptors for a dissolved CVOC plume leaving the site would include the Rockville Centre Wellfield located on the west side of Mill River in Lister Park, and downgradient commercial and residential properties via vapor intrusion. The wellfield is not expected to be at risk of impact, since the wells are screened within the Magothy Aquifer and the plume appears to be confined to the upper 15 feet of the water column by a local clay layer. Furthermore, water quality data for the wells compiled by the Nassau County Department of Health do not indicate impact from an on-going source of contamination. With respect to vapor impacts, there are few developed properties between 80-100 Banks Avenue and Mill River, where the plume would be expected to discharge. Developed properties include the MTA bus depot on Nassau Street and the Hampton Suites Hotel located on the north side of Sunrise Highway. If the plume fails to discharge to Mill River and continues south, it will encounter a residential area south of S. Village Avenue, approximately 1,750 feet from the site.

The assessment of CVOCs in soil gas off-site will be performed as part of this investigation work plan. Soil vapor intrusion evaluations, if necessary, will be performed on structures within the area of the shallow off-site plume as determined by the New York State Department of Health.

2.0 REMEDIAL INVESTIGATION

2.1 Field Investigation

The field work portion of the Supplemental RI was conducted by EBC from August 2011 through March 2014. The field investigation consisted of environmental sampling, field observations and measurements to determine:

- Local geologic/hydrogeologic conditions
- Offsite migration and extent of contaminants from the site to surrounding areas

The field effort included the installation of 5 soil borings and 14 monitoring wells. Drilling services were provided by Eastern Environmental Services (Eastern) of Manorville, NY. Laboratory services were provided by York Analytical Laboratories (NYSDOH No. 10854) of Stratford Connecticut.

2.2 Soil Sampling

2.2.1 Soil Borings

Five soil borings (B1-B5) were advanced to determine the bottom of the shallow transmissive zone and, if possible, the thickness of a confining layer, if present. All borings were advanced using a track mounted probe drilling machine and the dual tube sampling method. These borings were placed in three locations (**Figure 3**) within the study area as follows: B1-B2 in the central area of the south MTA property line, B3, B5 in the northwest corner of the MTA property and B4 located at the western edge of the parking area in Morgan Days Park.

For each location, soil samples were collected continuously in 5-foot intervals from grade to the final depth using a Geoprobe™ 6620DT, probe drilling machine. None of the soil borings could be advanced beyond a depth of 20 feet due to “heaving” conditions which forced sediment into the sampler upon releasing the retractable tip which opens the sampling tube to the formation. The Geoprobe™ system uses a direct push hydraulic percussion system to drive and retrieve core samplers. Soil samples were retrieved using a 1.5-inch diameter, 5-foot long dual-tube sampler with disposable acetate liners.

Each soil sample recovered from the soil borings was characterized by an experienced environmental professional and field screened for the presence of VOCs using a photo-ionization detector (PID). Field observations and PID readings were recorded for each boring in a soil boring log (see **Appendix A**).

Since the residual soil contamination did not extend beyond the property boundaries, the collection of soil samples for laboratory analysis related to source definition was not included in this RI.

2.3 Monitoring Well Installation

Monitoring wells MW4 through MW8 on the MTA property were installed on August 11, 2011 during the initial mobilization. Wells MW1 and MW2 located on the western edge of the parking area on Morgan Days Park and MW3 located in the northwest corner of the MTA property were installed on November 11, 2011 during a second mobilization.

Monitoring wells MW9 through MW 14 were installed, as requested by the DEC, in October 2013. The locations included two wells on the MTA property just south of Nassau Street (MW9-10) and four wells along the east side of parking lot at Morgan Days Park near the Former Darby Site property line.

Due to the presence of a 3 foot thickness of silty-clay, clayey-silt material at approximately 10 feet below the surface at the B4 soil boring, MW-1 and MW-2 were installed to a depth of 10 feet below surface grade. MW-5 was installed to a depth of 11 feet below surface due to refusal at this location. Wells MW3 and MW6 through MW8 were installed to a total depth of 15 feet below surface grade.

MW-1 and MW-2 were constructed of ten feet of 1-inch diameter 0.010 inch slotted pvc well screen. MW 4, 6, 7 and 8 were constructed of five feet of 1-inch diameter pvc casing and ten feet of 0.010 inch slotted pvc well screen. MW-5 was constructed of six feet of 1-inch diameter pvc casing and five feet of 0.010 inch slotted pvc well screen.

Wells MW9 through MW 14 were installed, as requested by the DEC, in October 2013. The locations included two wells on the MTA property just south of Nassau Street (MW9-10) and four wells along the east side of parking lot at Morgan Days Park near the Former Darby Site property line. The wells were constructed of ten feet of 1-inch diameter 0.010 inch slotted pvc well screen and five feet of 1-inch diameter pvc casing.

A 1 foot hydrated bentonite pellet surface seal was installed at each well location with the exception of wells MW1, MW2 and MW5 in which the seal could not be placed due to the length of the screened section. Each well was completed with a locking well cap and a 5-inch bolt-down manhole cover. Monitoring well construction logs are provided in **Appendix B**.

EBC surveyed the wells on November 20, 2013 to determine relative casing elevation to the nearest 0.01 ft. Depth to groundwater measurements were made on November 17, 2011 and March 26, 2014, March 26, 2014. Survey readings and depth to water measurements are provided in **Table 1**. Well locations are shown on **Figure 3**. Groundwater elevation maps are provided in **Figures 4 and 5**.

2.3.1 Groundwater Sampling

Groundwater samples were collected on during four sampling events as follows: November 17, 2011, October 18, 2013, March 26, 2014 and October 29, 2014. Groundwater samples were obtained using a peristaltic pump with ¼ inch polyethylene tubing and laboratory supplied glassware. The polyethylene tubing and silicon pump tubing were replaced between sampling locations. Collected soil and groundwater samples were retained in laboratory supplied glassware, sealed in individual, labeled zip-lock bags and stored in a cooler with water ice. Samples were transported back to the EBC office at the end of the day and shipped under chain-of-custody documentation to the analytical laboratory by a laboratory dispatched courier. All samples were analyzed for volatile organic compounds (VOCs) by EPA method 8260. Analytical services were provided by York Analytical Laboratories (NYSDOH No. 10854) of Stratford Connecticut.

Groundwater samples were analyzed for volatile organic compounds (VOCs) via EPA Method 8260. Groundwater results were compared to New York State Ambient Water Quality Standards and Guidance Values (6 NYCRR Part 703) as presented in the Technical & Operational Guidance Series

(TOGS) 1.1.1 (1998). Analytical data for the groundwater samples are summarized in **Table 2** through **6**. Copies of the laboratory analytical reports are provided in **Appendix C**.

2.4 Laboratory Analysis

Data tables summarizing the laboratory results are provided in **Tables 2** through **5** and copies of the laboratory reports (with chains-of-custody) are included in digital format in **Appendix C**. Groundwater results were compared to NYSDEC Division of Water, Technical & Operational Guidance Series 1.1.1, Ambient Water Quality Standards and Guidance Values (AWQS), June 1998. **Table 6** contains a list of parameters detected above ambient groundwater standards and the range in detections.

2.4.1 Analytical Results – Groundwater Samples

The analytical results from the November 2011 sampling round identified a single chlorinated VOC, cis-1,2-Dichloroethene (cis-DCE) at a concentration of 5.3 ug/L, slightly above the groundwater standard at a single well location (MW1). Petroleum VOCs were also reported slightly above standards in MW7, located at the rear of the municipal bus garage.

Results from the October 2013 sampling round identified seven chlorinated VOCs: 1,1-Dichloroethane (DCA), chloroethane, cis-1,2-Dichloroethene (cis-DCE), trans-1,2-Dichloroethene (trans-DCE), tetrachloroethene (PCE), trichloroethene (TCE), and Vinyl Chloride above groundwater standards in one or more monitoring wells. DCA, trans-1,2 DCE and chloroethane were each reported above their respective standards in 1 of 8 wells. Cis-DCE was reported above its standard in 6 of 8 locations at concentrations ranging from 45 µg/L in MW14 to 2,500 µg/L in MW11. PCE above the standard was reported in 5 of the 8 well locations and ranged in concentration from 250 µg/L in MW1 to 4,300 µg/L in MW11. TCE was reported above its standard in 6 of 8 monitoring wells ranging in concentration from 7.6 µg/L in MW2 to 2,700 µg/L in MW11. VC was reported above its standard in 3 of 8 locations at concentrations ranging from 13 µg/L in MW1 to 130 µg/L in MW11.

Results from the March 2014 sampling round identified five chlorinated VOCs: cis-DCE, trans-DCE, PCE, TCE and Vinyl Chloride above standards. Cis-DCE was the most frequently detected compound, reported in 5 of 6 locations at concentrations ranging from 8.3 µg/L in MW1 to 880 µg/L in MW11. PCE was reported above standards in 4 of 6 locations and ranged from 340 µg/L in MW12 to 15,000 µg/L in MW11. Trans-1,2 DCE was reported above standards in 1 of 6 locations at a concentration of 16 µg/L. VC was reported above standards in 3 of 6 locations ranging from 3.8 µg/L in MW12 to 30 µg/L in MW11. TCE was reported above standards in 4 of 6 locations ranging from 29 µg/L in MW14 to 1,500 µg/L in MW11.

Results from the October 2014 sampling round identified five chlorinated VOCs: cis-DCE, trans-DCE, PCE, TCE and Vinyl Chloride above standards. Cis-DCE was the most frequently detected compound, reported in 6 of 14 locations at concentrations ranging from 7.8 µg/L in MW1 to 1,300 µg/L in MW14. PCE was reported above standards in 4 of 14 locations and ranged from 190 µg/L in MW12 to 4,400 µg/L in MW11. Trans-1,2 DCE was reported above standards in 2 of 14 locations ranging from 6.6 µg/L in MW14 to 7.2 µg/L in MW11. TCE was reported above standards in 4 of 14 locations ranging from 23 µg/L in MW13 to 770 µg/L in MW11. VC was reported above standards in 5 of 14 locations ranging from 4.3 µg/L in MW13 to 70 µg/L in MW14.

Groundwater sampling results reported above groundwater standards are posted on **Figures 6-9**.

2.4.2 Data Usability Summary Report

Data validation services have been requested from Alpha Geoscience of Clifton Park, NY, and will be submitted to the NYSDEC upon receipt.

3.0 HYDROGEOLOGIC ASSESSMENT AND PHYSICAL SETTING

3.1 Site Topography

The topography of the site and surrounding area was reviewed from the USGS 7.5 minute series topographic map for the area. The elevation of the OU2 off-site investigation area is approximately 10 feet above mean sea level and slopes gradually to the west toward Smith Pond.

3.2 Surrounding Land Use

The area surrounding the Site is mixed residential-commercial within the Village of Rockville Centre. The adjacent land uses include a one-story building formerly or currently occupied by a church and a municipal bus garage to the south, a tennis facility and office buildings to the east, an apartment complex to the north, and Morgan Day's Park and Smith Pond to the west.

3.3 Regional Geology / Hydrogeology

From the onsite RI Report (P.W. Grosser Consulting, 9/2004)

The hydrogeologic setting of Long Island is well documented and consists of impermeable bedrock composed of schist and gneiss, that is overlain by a series of unconsolidated glacial deposits. The thickness of these deposits range from zero in northern Queens where the bedrock is exposed to more than 2,000 feet in the southern part of Nassau and Suffolk Counties. The glacial advance is marked by two terminal moraines which form an east-west trending line of deposits with a maximum altitude of 400 feet. A gently sloping outwash plain composed of well-sorted and permeable sand and gravel, extends south of the moraine to the shore, with a slope of approximately 20ft/mi (Cohen and others).

The lowest unit in the sequence is the Raritan formation which overlies an erosional bedrock surface composed of granite, diorite, gneiss and schist (Lubke, 1964). The Raritan formation includes the Lloyd Sand Member which consists of sands and gravels of moderate permeability forming the Lloyd Aquifer and the Raritan Clay Member, which consists of a very low permeable clay known as the Raritan Confining unit. The Raritan is overlain by the Magothy formation, which consists of up to 1,000 feet of highly stratified layers of sand, gravel, silt and clay, which dip gently to the southeast. The Magothy formation is the principal aquifer for Long Island, and is the main source of water for public supply (Kilburn and Krulikas, 1987). The saturated thickness of the Magothy Aquifer in the vicinity of the site is 600 feet with an estimated hydraulic conductivity of 56 ft/day (McClymonds and Franke, 1972).

Along the south shore of Long Island, the Magothy is confined by a 150 foot thick low permeability sequence of clay, silty clay and fine sand known as the Gardiners Clay. Although the Gardiners Clay has been mapped north of Sunrise Highway in the Rockville Center area (Doriski, 1981), the clay is shown to be absent along the Hempstead Lake - Mill River corridor. As such, it is not known if the Magothy Aquifer is confined by the Gardiners Clay in the immediate vicinity of the site.

In this area of Nassau County, the Upper Glacial Aquifer overlies either the Magothy Aquifer, or the Gardiners Clay, if present. The upper glacial deposits consist mainly of stratified beds of fine to coarse sand and gravel but also contain beds of silt and clay (Kilburn and Krulikas, 1987). The Upper Glacial Aquifer contains the water table in most of the area. The estimated hydraulic conductivity of the Upper Glacial Aquifer is 270 ft/day (McClymonds and Franke, 1972).

The site is situated some distance south of a regional groundwater divide located along the terminal moraine, where groundwater flows to the north, west and south. Located south of the divide, groundwater in the vicinity of the site generally flows in a southwesterly direction toward the Mill River and the Great South Bay.

3.4 Site Geology / Hydrogeology

The lithologic description of the sediments from soil borings advanced during this investigation identifies the materials as fine to coarse sand and silt. The depth to groundwater ranged from approximately 3 to 7 feet below land surface (bls).

Groundwater elevation data, obtained on two occasions; November 17, 2011 and March 26, 2014, were used to prepare contour maps of the water table surface (see **Figures 4 and 5**). As shown, groundwater flow is generally to the south.

The horizontal hydraulic conductivity across the site, as determined from rising head tests performed during the onsite Remedial Investigation completed in 2004, ranged from 0.077 to 0.51 feet per day with a mean value of 0.242.

Using the high end of the hydraulic conductivity range, a measured water table gradient of 0.01 ft/ft and an average porosity of 25 percent, yields an average groundwater seepage velocity of 0.02 ft per day.

4.0 NATURE AND EXTENT OF CONTAMINATION

4.1 Identification of Source Areas

Source areas were located beneath the southwest corner of the former 80 Banks building and in an outdoor leaching pool in the parking area west of the building. Impacted soil in these areas was in direct contact with the groundwater. These sources have been removed under remedial actions performed at the Site under an approved Interim Remedial Measure Work Plan and Remedial Action Work Plan.

No other source areas were identified during this RI.

4.2 Groundwater Impacts

Chlorinated compounds were reported in the wells along the east side of Morgan Days Park (MW12-MW14) during the October 2013, March 2014 and October 2014 sampling rounds. CVOC detections have also been reported in MW1 and MW2 located along the western edge of the Morgan Days Park parking lot. MW11 which is located on the southeastern edge of the park entrance and directly downgradient from the former source areas at the Darby Site has shown the highest offsite CVOC concentrations. This area represents a hotspot and the center of the off-site plume. Total CVOC concentrations in this well ranged from 5,882 ug/L to 17,426 ug/L.

4.3 Site Conceptual Model

Although the date(s) and circumstances surrounding the release of PCE at the site are not known, it is assumed that the release occurred while a textile company identified as Downen-Zeir Knits occupied the 80 Banks Avenue building from 1972 to 1978. Based on the results of the onsite RI (PWGC 2004) and the results of the remedial work as documented in the Final Engineering Report (PWGC 2011), the residual contaminant source was located beneath the southwest corner of the former 80 Banks building. A second source was identified in an outdoor leaching pool in the parking area west of the building. Impacted soil in these areas was in direct contact with the groundwater creating a dissolved plume that migrated with groundwater flow in a south-southwest direction.

Estimates of the hydraulic conductivity of the shallow saturated media, ranged from 0.077 to 0.51 ft per day. Using the measured hydraulic conductivity range, a measured water table gradient of 0.01 ft/ft and an average porosity of 25 percent, yields an average groundwater seepage velocity of 0.003 ft per day to 0.02 ft/day. Assuming a low organic carbon content of the soil (0.0001) gives a PCE retardation factor of 1.3 and a PCE transport velocity of 0.002 to 0.015 ft per day. Using these values the PCE plume would have traveled only 26.28 to 229.95 feet from the source during the estimated 36-42 year transport time. In this case the toe of the plume would not extend south of Nassau Street and onto the bus garage property.

The higher plume velocity calculation matches up well with observed PCE hotspot near MW11 which is approximately 225 feet from the former onsite source area. Although the plume when first investigated was still attached to the source area forming a continuous zone of impacted groundwater to the terminus point, it is likely that remediation of the source area and operation of

the onsite groundwater extraction and treatment system has resulted in a small detached remnant plume. Further migration of this plume would be minimal due to the low transport velocities.

The presence of a competent clay layer at 11 to 18 feet below the surface has limited the vertical extent of soil contamination to this depth. On-going monitoring of onsite wells has shown only minor impact in the intermediate zone and no impact to the deeper zone.

5.0 QUALITATIVE EXPOSURE ASSESSMENT

The objective of the qualitative exposure assessment is to identify potential receptors to the contaminants of concern (COC) that are present at, or migrating from, the site. The identification of exposure pathways describes the route that the COC takes to travel from the source to the receptor. An identified pathway indicates that the potential for exposure exists; it does not imply that exposures actually occur. An exposure pathway has five elements; a contaminant source, release and transport mechanisms, point of exposure, route of exposure and a receptor population.

The potential exposure pathways identified below, represent both current and future exposure scenarios.

5.1 Contaminant Source

The source of CVOCs detected in groundwater offsite is related to releases of PCE which occurred on the property and which remained in the form of a DNAPL in shallow soil beneath the south western corner of the property. These sources have been removed under remedial actions performed at the Site under an approved Interim Remedial Measure Work Plan and Remedial Action Work Plan.

5.2 Contaminant Release and Transport Mechanism

CVOCs formerly present in onsite soil at and below the water table transferred to the dissolved phase through dissolution. Due to the low permeability of the soils and the physical properties of PCE which retard its movement in groundwater, transport proceeded at an extremely slow rate. This low transport has limited plume migration to approximately 225 feet from the former source area (115 ft from the property line). Further migration of the plume would be severely limited by the low transport velocity and the removal of the source.

5.3 Point of Exposure, Route of Exposure and Potentially Exposed Populations

Potential On-Site Exposures: Onsite exposures were previously identified and addressed under the OUI Remedial Investigation Report and Remedial Action Work Plan.

Potential Off-Site Exposures: Impacted groundwater is limited to an area beneath the Morgan Days Park parking lot and a small property located between the municipal parking lot and the driveway to the Avalon Bay Apartment complex. Since groundwater in this area is not used for any purpose there are no ingestion or dermal exposures. Potential vapor impacts would be limited to the small commercial building located between the municipal parking lot and the Avalon driveway. This building has in the past been occupied by a local church. If the building is currently occupied then the potential exists for vapor intrusion. However this potential has been reduced by the onsite remedial actions. The potentially exposed population in this case would include church workers and to a lesser extent visitors in the building.

Potential Off-Site Environmental Impacts: Impacts to the adjacent Smith Pond from chlorinated solvents was previously investigated under the on-site Remedial Investigation. Samples of the

groundwater and surface water were obtained from three locations along the eastern bank of the pond. No impacts were reported.

6.0 CONCLUSIONS AND RECOMENDATIONS

Subsurface soils at the site include a fine to coarse sands, silts and clay to a depth 20 feet at some locations. Groundwater at the Site is present at a depth of approximately 3-7 feet below surface grade within the native silty-sand and flows in a south-southwesterly direction.

The results of sampling performed during this RI, identified CVOC contamination, consisting mainly of PCE and degradants including TCE, cis-1,2-DCE and vinyl chloride in shallow groundwater. Minimal VOC detections were reported south of Nassau Street including wells 3, 9 and 10 located just south of Nassau Street in front of the bus garage and in wells 4 through 8 located behind the garage. The absence of CVOCs in these wells indicates that the plume has not migrated south of Nassau Street. Plume velocity calculations which, indicate that the plume would not have traveled more than 225 feet from the source during the time it has been in transit, matches well with these observations.

Chlorinated compounds were reported in the wells along the east side of Morgan Days Park (MW12-MW14) during the October 2013, March 2014 and October 2014 sampling rounds. Little change was noted between the October 2013 and March 2014 rounds with total CVOC concentrations ranging from 426 to 675 ug/L during the October round and from 524 to 782 ug/L during the March round. A spike in cis-1,2-DCE concentrations was noted in MW 14 during the October 2014 round with a concentration of 1,300, ug/L.

CVOC detections have also been reported in MW1 and MW2 located along the western edge of the Morgan Days Park parking lot. While initial concentrations were low to non-detect in MW1 and MW2 in 2011, an increase was reported in these wells during the October 2013 sampling round. These levels declined significantly by March 2014 and have stayed low in MW1 while concentrations in MW2 have rebounded to some extent. The fluctuating concentrations are likely related to the shallow nature of the groundwater and its sensitivity to recharge events.

MW11 which is located on the southeastern edge of the park entrance and directly downgradient from the former source areas at the Darby Site has shown the highest offsite CVOC concentrations. This area represents a hotspot and the center of the off-site plume. Total CVOC concentrations in this well were originally reported in October 2013 at 9,667 ug/L, increasing to 17,426 in March 2014 and then dropping to 5,882 ug/L in October 2014. The reduction may be related to the operation of the groundwater treatment system along the southwestern edge of the former Darby property.

Although the plume when first investigated was still attached to the source area forming a continuous zone of impacted groundwater to the terminus point, it is likely that remediation of the source area and operation of the onsite groundwater extraction and treatment system have resulted in a small detached remnant plume. Further migration of this plume would be minimal due to the low transport velocities and absence of a source.

The exposure assessment identified potential exposures to church workers in the building at 51 Nassau Street (assuming the building remains occupied) through vapors off-gassing from impacted groundwater in this area. Due to the limited present and potential future extent of the plume, and the absence of downgradient receptors, there are no other potential exposures.

Potential environmental impacts through the groundwater to surface water discharge are unlikely based on the findings of the on-site RI in which samples of the groundwater were collected beneath the pond in addition to a sample of the pond water as well.

Recommendations include the preparation of an Interim Remedial Measure (IRM) to reduce CVOC concentrations in groundwater in the hotspot area centered around MW11, along the eastern part of the entrance to the municipal park. The IRM would include the injection of chemical oxidants to reduce the CVOC concentrations in this area.

A vapor intrusion study is also recommended for the building located at 51 Nassau Street as it appears that this building has in recent years been placed into service as a Church. The vapor intrusion study would include both subslab and indoor air samples within the building, along with an outdoor sample to assess background conditions. The study should be completed under an approved work plan prepared in accordance with the NYSDOH Guidance for Evaluating Vapor Intrusion in the State of New York (October 2006).

7.0 REFERENCES

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TABLES

TABLE 1
80-100 Banks Avenue, Rockville Centre, New York
Groundwater Elevation Data

Monitoring Well ID	11/17/2011					
	Reading Position 1	Reading Postion 2	Adjusted Reading	Casing Elevation	DTW (ft)	GW ELV (ft)
MW1		7.35	7.12	9.88	3.04	6.84
MW2		6.89	6.66	10.34	4.44	5.90
MW3	6.44	6.68		10.56	5.53	5.03
MW4	5.61	5.82		11.39	5.49	5.90
MW5	5.05			11.95	5.86	6.09
MW6	4.43			12.57	6.16	6.41
MW7	3.87			13.13	6.12	7.01
MW8	3.15			13.85	6.49	7.36

3/26/2014			
Monitoring Well ID	Casing Elevation	DTW (ft)	GW ELV (ft)
MW1	9.92	3.1	6.82
MW2	10.38	4.39	5.99
MW3	10.6	4.66	5.94
MW4	11.43	5.46	5.97
MW5	11.99	-	-
MW6	12.61	6.25	6.36
MW7	13.17	6.18	6.99
MW8	13.17	6.63	6.54
MW9	12.46	6.87	5.59
MW10	11.77	5.89	5.88
MW11	11.12	4.61	6.51
MW12	11.51	4.06	7.45
MW13	11.64	3.71	7.93
MW14	11.95	3.21	8.74

TABLE 2
80 Banks Avenue, Rockville Centre, New York
Groundwater Analytical Results
Volatile Organic Compounds 11/17/11

Compound	NYSDEC Groundwater Standards*	MW1	MW2	MW3	MW4	MW5	MW6	MW7	MW8
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Volatile Organic Compounds by 8260									
1112Tetrachloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND
111 Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND
1122Tetrachloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND
112 Trichloro-122 trifluoroethane	5	ND	ND	ND	ND	ND	ND	ND	ND
112 Trichloroethane	1	ND	ND	ND	ND	ND	ND	ND	ND
1,1 Dichloroethane	4	ND	ND	ND	ND	ND	ND	ND	ND
1,1 Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	5	ND	ND	ND	ND	ND	ND	ND	ND
123-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND
123-Trichloropropane	0.04	ND	ND	ND	ND	ND	ND	ND	ND
124-Trichlorobenzene (v)	5	ND	ND	ND	ND	ND	ND	ND	ND
124-Trimethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND
12 Dibromo 3 chloropropane	0.04	ND	ND	ND	ND	ND	ND	ND	ND
1,2 Dibromoethane	NS	ND	ND	ND	ND	ND	ND	ND	ND
1,2 Dichlorobenzene (v)	3	ND	ND	ND	ND	ND	ND	ND	ND
1,2 Dichloroethane	0.6	ND	ND	ND	ND	ND	ND	ND	ND
1,2 Dichloropropane	1	ND	ND	ND	ND	ND	ND	ND	ND
135-Trimethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND
1,3 Dichlorobenzene (v)	3	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	5	ND	ND	ND	ND	ND	ND	ND	ND
1,4 Dichlorobenzene (v)	3	ND	ND	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	5	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	5	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	5	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	ND	ND	ND	ND	ND	ND	ND	ND
Bromobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	5	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	50*	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	50*	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	5	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND	ND	0.55 J	ND
Chloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	5	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	5	5.3	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropylene	0.4	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	50*	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	5	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	5	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene	5	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	5	ND	ND	ND	ND	ND	ND	5.9 J	ND
Methyl tert-butyl ether (MTBE)	10	0.44 J	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	5	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene(v)	10*	ND	ND	ND	0.51 J,B	ND	ND	5.2	ND
n-Butylbenzene	5	ND	ND	ND	ND	ND	ND	2.4	ND
n-Propylbenzene	5	ND	ND	ND	ND	ND	ND	7.0	ND
o Xylene	5	ND	ND	ND	ND	ND	ND	0.51	ND
m + p Xylene	5	ND	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	5	ND	ND	ND	ND	ND	ND	ND	ND
Sec-Butylbenzene	5	ND	ND	ND	ND	ND	ND	2.2 J	ND
Styrene	5	ND	ND	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	5	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	5	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropylene	0.4 ⁽¹⁾	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	5	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	5	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	2	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes, Total		ND	ND	ND	ND	ND	ND	ND	ND

Notes:

* - NYSDEC Ambient Water Quality Standards and Guidance Values 6/1998

ND - Non-detect

* - Guidance Value

NS - No Standard

J- Estimated Concentration

B- Analyte is found in associated analysis batch blank

Bold - indicates compound detected

Highlighted - indicates exceedance of the NYSDEC Cleanup Objective

⁽¹⁾ Applies to sum of cis and trans 1,3

TABLE 3
80 Banks Avenue,
Rockville Center, New York
Groundwater Analytical Results
Volatile Organic Compounds 10/18/13

Compound	NYSDEC Groundwater Quality Standards µg/L	MW1		MW2		MW9		MW10		MW11		MW12		MW13		MW14		Duplicate MW2	
		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
1,1,1,2-Tetrachloroethane	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
1,1,1-Trichloroethane	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
1,1,2,2-Tetrachloroethane	5	ND	1	ND	0.5	ND	1	ND	0.5	ND	2.5	ND	1	ND	0.5	ND	0.5	ND	0.5
1,1,2-Trichloroethane	1	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
1,1-Dichloroethane	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
1,1-Dichloroethene	5	2	2	ND	1	ND	2	ND	1	9.4	5	ND	2	ND	1	ND	1	ND	1
1,1-Dichloropropene		ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
1,2,3-Trichlorobenzene		ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
1,2,3-Trichloropropane	0.04	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
1,2,4-Trichlorobenzene		ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
1,2,4-Trimethylbenzene	5	ND	2	ND	1	ND	2	1.4	1	ND	5	ND	2	ND	1	ND	1	ND	1
1,2-Dibromo-3-chloropropane	0.04	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
1,2-Dibromoethane		ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
1,2-Dichlorobenzene	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
1,2-Dichloroethane	0.6	ND	1.2	ND	0.6	ND	1.2	ND	0.6	ND	3	ND	1.2	ND	0.6	ND	0.6	ND	0.6
1,2-Dichloropropane	0.94	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
1,3,5-Trimethylbenzene	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
1,3-Dichlorobenzene	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
1,3-Dichloropropane	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
1,4-Dichlorobenzene	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
2,2-Dichloropropane	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
2-Chlorotoluene	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
2-Hexanone (Methyl Butyl Ketone)		ND	10	ND	5	ND	10	ND	5	ND	25	ND	10	ND	5	ND	5	ND	5
2-Isopropyltoluene	5	ND	2	ND	1	4.5	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
4-Chlorotoluene	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
4-Methyl-2-Pentanone		ND	10	ND	5	19	10	ND	5	ND	25	ND	10	ND	5	ND	5	ND	5
Acetone		ND	50	ND	25	ND	50	ND	25	ND	130	ND	50	ND	25	ND	25	ND	25
Acrylonitrile	5	ND	10	ND	5	ND	10	ND	5	ND	25	ND	10	ND	5	ND	5	ND	5
Benzene	1	ND	1.4	ND	0.7	2.2	1.4	ND	0.7	ND	3.5	ND	1.4	ND	0.7	ND	0.7	ND	0.7
Bromobenzene	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Bromochloromethane	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Bromodichloromethane		ND	1	ND	0.5	ND	1	ND	0.5	ND	2.5	ND	1	ND	0.5	ND	0.5	ND	0.5
Bromoform		ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Bromomethane	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Carbon Disulfide	60	ND	10	ND	5	ND	10	ND	5	ND	25	ND	10	ND	5	ND	5	ND	5
Carbon tetrachloride	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Chlorobenzene	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Chloroethane	5	6.8	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Chloroform	7	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Chloromethane	60	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
cis-1,2-Dichloroethene	5	1,100	100	130	10	ND	2	ND	1	2,500	200	170	50	50	5	45	5	160	10
cis-1,3-Dichloropropene		ND	0.8	ND	0.4	ND	0.8	ND	0.4	ND	2	ND	0.8	ND	0.4	ND	0.4	ND	0.4
Dibromochloromethane		ND	1	ND	0.5	ND	1	ND	0.5	ND	2.5	ND	1	ND	0.5	ND	0.5	ND	0.5
Dibromomethane	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Dichlorodifluoromethane	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Ethylbenzene	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Hexachlorobutadiene	0.5	ND	0.8	ND	0.4	ND	0.8	ND	0.4	ND	2	ND	0.8	ND	0.4	ND	0.4	ND	0.4
Isopropylbenzene	5	ND	2	ND	1	25	2	3.9	1	ND	5	ND	2	ND	1	ND	1	ND	1
m&p-Xylenes	5	ND	2	ND	1	2.5	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Methyl Ethyl Ketone (2-Butanone)		ND	10	ND	5	ND	10	ND	5	ND	25	ND	10	ND	5	ND	5	ND	5
Methyl t-butyl ether (MTBE)	10	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Methylene chloride	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Naphthalene	10	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
n-Butylbenzene	5	ND	2	ND	1	7.9	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
n-Propylbenzene	5	ND	2	ND	1	33	2	4.8	1	ND	5	ND	2	ND	1	ND	1	ND	1
o-Xylene	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
p-Isopropyltoluene		ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
sec-Butylbenzene	5	ND	2	ND	1	6.6	2	1.4	1	ND	5	ND	2	ND	1	ND	1	ND	1
Styrene	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
tert-Butylbenzene	5	ND	2	ND	1	3.8	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Tetrachloroethene	5	250	20	3.9	1	ND	2	ND	1	4,300	200	450	50	430	50	350	50	6.1	1
Tetrahydrofuran (THF)		9.8	5	2.8	2.5	ND	5	ND	2.5	ND	13	10	5	ND	2.5	ND	2.5	ND	2.5
Toluene	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Total Xylenes	5	ND	2	ND	1	3	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
trans-1,2-Dichloroethene	5	4.7	2	2.4	1	ND	2	ND	1	28	5	ND	2	ND	1	ND	1	2.5	1
trans-1,3-Dichloropropene	0.4	ND	0.8	ND	0.4	ND	0.8	ND	0.4	ND	2	ND	0.8	ND	0.4	ND	0.4	ND	0.4
trans-1,4-dichloro-2-butene	5	ND	10	ND	5	ND	10	ND	5	ND	25	ND	10	ND	5	ND	5	ND	5
Trichloroethene	5	340	20	7.6	1	ND	2	ND	1	2,700	200	45	2	28	5	30	5	8.9	1
Trichlorofluoromethane	5	ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Trichlorotrifluoroethane		ND	2	ND	1	ND	2	ND	1	ND	5	ND	2	ND	1	ND	1	ND	1
Vinyl Chloride	2	59	2	13	1	ND	2	ND	1	130	5	ND	2	1.2	1	1.1	1	12	1

9667.4

675

509.2

426.1

Notes:

ND - Not detected

Bold/highlighted- Indicated exceedance of the NYSDEC Groundwater Standard

TABLE 4
80 Banks Avenue,
Rockville Center, New York
Groundwater Analytical Results
Volatile Organic Compounds 3/26/14

Compound	NYSDEC Groundwater Quality Standards µg/L	MW1		MW2		MW3		MW11		MW12		MW13		MW14	
		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
1,1,1,2-Tetrachloroethane	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
1,1,1-Trichloroethane	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5
1,1,2,2-Tetrachloroethane	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
1,1,2-Trichloroethane	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
1,1-Dichloroethane	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5
1,1-Dichloroethene	5	<1.0	1	<1.0	1	<1.0	1	3.3	1	<1.0	1	<1.0	1	<1.0	1
1,1-Dichloropropene		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
1,2,3-Trichlorobenzene		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
1,2,3-Trichloropropane	0.04	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
1,2,4-Trichlorobenzene		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
1,2,4-Trimethylbenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
1,2-Dibromo-3-chloropropane	0.04	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
1,2-Dibromoethane		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
1,2-Dichlorobenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
1,2-Dichloroethane	0.6	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
1,2-Dichloropropane	0.94	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
1,3,5-Trimethylbenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
1,3-Dichlorobenzene	5	<5.0	5	<3.0	3	<3.0	3	<3.0	3	<5.0	5	<3.0	3	<3.0	3
1,3-Dichloropropane	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
1,4-Dichlorobenzene	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5
2,2-Dichloropropane	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
2-Chlorotoluene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
2-Hexanone (Methyl Butyl Ketone)		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
2-Isopropyltoluene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
4-Chlorotoluene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
4-Methyl-2-Pentanone		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Acetone		<5.0	5	<5.0	5	<5.0	5	<5.0	5	5.1	5	<5.0	5	6.8	5
Acrylonitrile	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5
Benzene	1	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5
Bromobenzene	5	<0.70	0.7	<0.70	0.7	<0.70	0.7	<0.70	0.7	<0.70	0.7	<0.70	0.7	<0.70	0.7
Bromochloromethane	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Bromodichloromethane		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Bromoform		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Bromomethane	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5
Carbon Disulfide	60	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5
Carbon tetrachloride	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Chlorobenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Chloroethane	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5
Chloroform	7	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5
Chloromethane	60	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5
cis-1,2-Dichloroethene	5	8.3	1	18	1	<1.0	1	880	500	87	25	38	10	40	5
cis-1,3-Dichloropropene		<0.40	0.4	<0.40	0.4	<0.40	0.4	<0.40	0.4	<0.40	0.4	<0.40	0.4	<0.40	0.4
Dibromochloromethane		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Dibromomethane	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Dichlorodifluoromethane	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Ethylbenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	2.1	1	<1.0	1
Hexachlorobutadiene	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5
Isopropylbenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
m&p-Xylenes	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	20	1	55	1	<1.0	1
Methyl Ethyl Ketone (2-Butanone)		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Methyl t-butyl ether (MTBE)	10	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Methylene chloride	5	<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3
Naphthalene	10	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
n-Butylbenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
n-Propylbenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
o-Xylene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	24	1	40	10	<1.0	1
p-Isopropyltoluene		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
sec-Butylbenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Styrene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
tert-Butylbenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Tetrachloroethene	5	3	1	1.3	1	<1.0	1	15000	500	340	25	600	250	530	100
Tetrahydrofuran (THF)		<5.0	5	<5.0	5	<5.0	5	<5.0	5	9.8	5	16	5	11	5
Toluene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
trans-1,2-Dichloroethene	5	<5.0	5	<5.0	5	<5.0	5	16	5	<5.0	5	<5.0	5	<5.0	5
trans-1,3-Dichloropropene	0.4	<0.40	0.4	<0.40	0.4	<0.40	0.4	<0.40	0.4	<0.40	0.4	<0.40	0.4	<0.40	0.4
trans-1,4-dichloro-2-butene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Trichloroethene	5	3.2	1	<1.0	1	<1.0	1	1500	500	35	25	30	1	29	5
Trichlorofluoromethane	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Trichlorotrifluoroethane		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Vinyl Chloride	2	1.2	1	7.6	1	<1.0	1	30	1	3.8	1	1.6	1	1	1

Notes:

ND - Not detected

Bold/highlighted- Indicated exceedance of the NYSDEC Groundwater Standard

TABLE 5
80 Banks Avenue,
Rockville Center, New York
Groundwater Analytical Results
Volatile Organic Compounds 10/29/14

Compound	NYSDEC Groundwater Quality Standards µg/L	MW1		MW2		MW3		MW4		MW6		MW7		MW8		MW9		MW10		MW11		MW12		MW13		MW14	
		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
1,1,1,2-Tetrachloroethane	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
1,1,1-Trichloroethane	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<100	100	<25	25	<25	25	<100	100
1,1,2,2-Tetrachloroethane	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
1,1,2-Trichloroethane	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
1,1-Dichloroethane	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<100	100	<25	25	<25	25	<100	100
1,1-Dichloroethane	5	<1.0	1	0.32	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
1,1-Dichloropropene		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
1,2,3-Trichlorobenzene		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
1,2,3-Trichloropropane	0.04	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
1,2,4-Trichlorobenzene		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
1,2,4-Trimethylbenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	0.24	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
1,2-Dibromo-3-chloropropane	0.04	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
1,2-Dibromoethane		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
1,2-Dichlorobenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
1,2-Dichloroethane	0.6	<0.60	0.6	<0.60	0.6	<0.60	0.6	<0.60	0.6	<0.60	0.6	<0.60	0.6	<0.60	0.6	<0.60	0.6	<0.60	0.6	<12	12	<3.0	3	<3.0	3	<12	12
1,2-Dichloropropane	0.94	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
1,3,5-Trimethylbenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
1,3-Dichlorobenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
1,3-Dichloropropane	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
1,4-Dichlorobenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
2,2-Dichloropropane	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
2-Chlorotoluene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
2-Hexanone (Methyl Butyl Ketone)		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
2-Isopropyltoluene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	0.51	1	<1.0	1	0.85	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
4-Chlorotoluene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
4-Methyl-2-Pentanone		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
Acetone		<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<100	100	<25	25	<25	25	<100	100
Acrylonitrile	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<100	100	<25	25	<25	25	<100	100
Benzene	1	<0.70	0.7	<0.70	0.7	<0.70	0.7	<0.70	0.7	<0.70	0.7	<0.70	0.7	<0.70	0.7	<0.70	0.7	<0.70	0.7	<14	14	<3.5	3.5	<3.5	3.5	<14	14
Bromobenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
Bromochloromethane	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
Bromodichloromethane		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
Bromofom		<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<100	100	<25	25	<25	25	<100	100
Bromomethane	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<100	100	<25	25	<25	25	<100	100
Carbon Disulfide	60	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
Carbon tetrachloride	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
Chlorobenzene	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	0.41	5	<5.0	5	<5.0	5	<5.0	5	<100	100	<25	25	<25	25	<100	100
Chloroethane	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<100	100	<25	25	<25	25	<100	100
Chloroform	7	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<100	100	<25	25	<25	25	<100	100
Chloromethane	60	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	0.49	5	<5.0	5	0.28	5	<100	100	<25	25	1.1	25	<100	100
cis-1,2-Dichloroethane	5	7.8	1	110	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	690	100	78	5	45	5	1300	50
cis-1,3-Dichloropropene		<0.40	0.4	<0.40	0.4	<0.40	0.4	<0.40	0.4	<0.40	0.4	<0.40	0.4	<0.40	0.4	<0.40	0.4	<0.40	0.4	<8.0	8	<2.0	2	<2.0	2	<8.0	8
Dibromochloromethane		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
Dibromomethane	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
Dichlorodifluoromethane	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
Ethylbenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
Hexachlorobutadiene	0.5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
Isopropylbenzene	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	1.6	1	<1.0	1	1.8	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
m&p-Xylenes	5	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
Methyl Ethyl Ketone (2-Butanone)		<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<20	20	<5.0	5	<5.0	5	<20	20
Methyl t-butyl ether (MTBE)	10	<1.0	1	0.21</																							

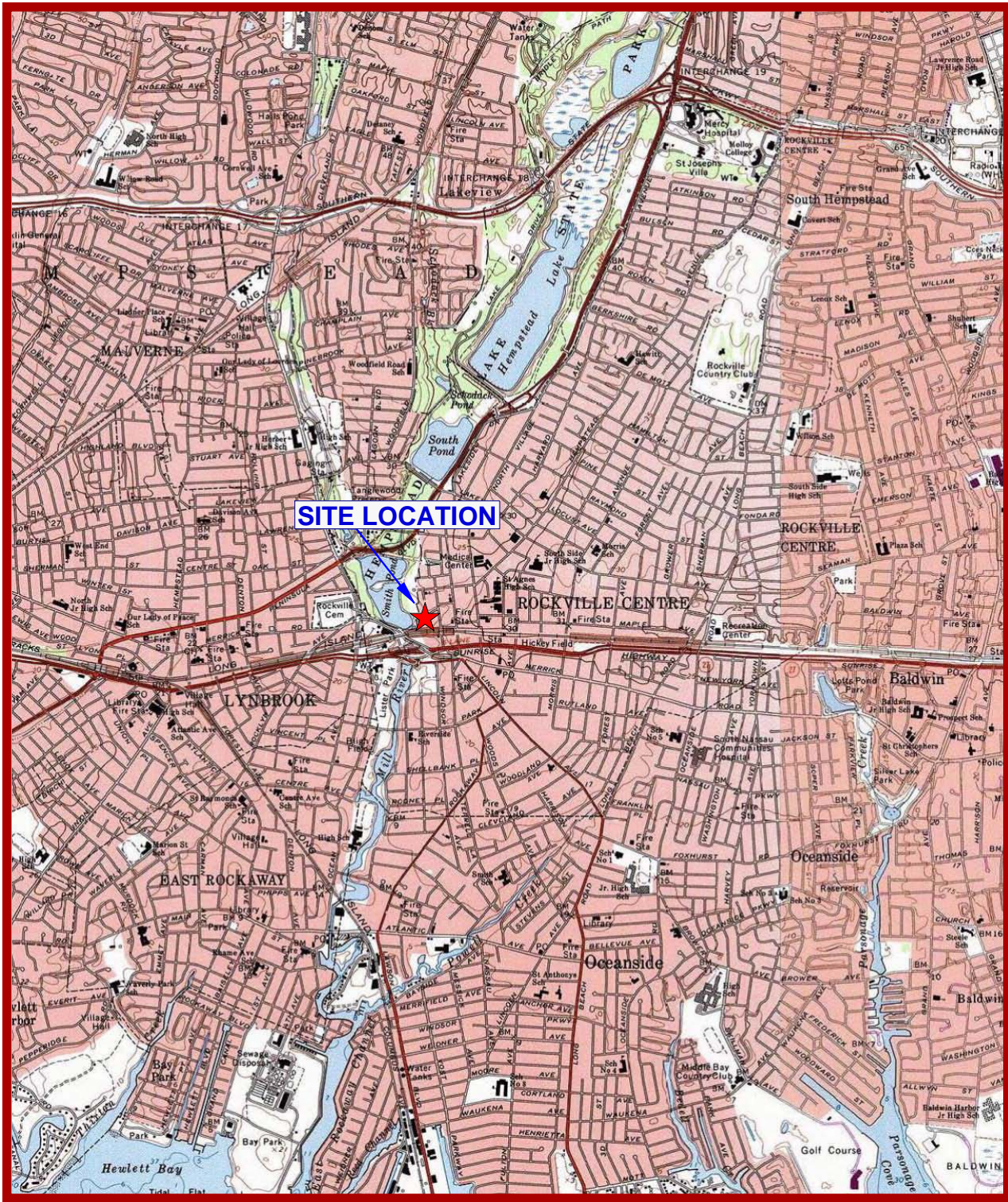
TABLE 6
80 Banks Avenue
Rockville Center, NY
Parameters Detected Above Ambient Water Quality Standards

VOCs

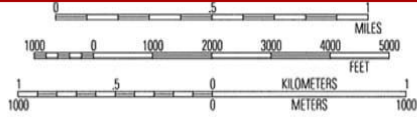
COMPOUND	Range in Detections	MW1		MW1		MW1		MW2		MW2		MW7		MW9	
		11/17/2011	10/18/2013	3/26/2014	10/29/2014	10/18/2013	3/26/2014	10/29/2014	11/17/2011	10/18/2013					
<i>Sample Results in (µg/L)</i>															
1,1-Dichloroethane	9.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	2.2	-	-	-	-	-	-	-	-	-	-	-	-	2.2	-
Chloroethane	6.8	-	6.8	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	5.3-2,500	5.3	1,100	8.3	7.9	130	18	110	-	-	-	-	-	-	-
Isopropylbenzene	5.9-25	-	-	-	-	-	-	-	-	-	5.9	25	-	-	-
m&p-Xylenes	20-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylenes	24-40	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Butylbenzene	7.9	-	-	-	-	-	-	-	-	-	-	-	-	7.9	-
n-Propylbenzene	7.0-33	-	-	-	-	-	-	-	-	-	7.0	33	-	-	-
sec-Butylbenzene	6.6	-	-	-	-	-	-	-	-	-	-	-	-	6.6	-
Tetrachloroethene	250-15,000	-	250	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	7.2-28	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	7.6-2,700	-	340	-	-	7.6	-	-	-	-	-	-	-	-	-
Vinyl Chloride	3.8-130	-	59	-	-	13	7.6	42	-	-	-	-	-	-	-

COMPOUND	Range in Detections	MW11		MW11		MW12		MW12		MW13		MW13		MW14		MW14	
		10/18/2013	3/26/2014	10/29/2014	10/18/2013	3/26/2014	10/29/2014	3/26/2014	10/18/2013	10/29/2014	10/18/2013	3/26/2014	10/29/2014				
<i>Sample Results in (µg/L)</i>																	
1,1-Dichloroethane	9.4	9.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	5.3-2,500	2,500	880	690	170	880	78	38	50	45	45	40	1300	-	-	-	
Isopropylbenzene	5.9-25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m&p-Xylenes	20-50	-	-	-	-	20	-	50	-	-	-	-	-	-	-	-	-
o-Xylenes	24-40	-	-	-	-	24	-	40	-	-	-	-	-	-	-	-	-
n-Butylbenzene	7.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	7.0-33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sec-Butylbenzene	6.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	250-15,000	4,300	15,000	4,400	450	340	190	600	430	330	350	530	670	-	-	-	
trans-1,2-Dichloroethene	7.2-28	28	16	7.2	-	-	-	-	-	-	-	-	6.6	-	-	-	
Trichloroethene	7.6-2,700	2,700	1500	770	45	35	26	30	28	23	30	29	350	-	-	-	
Vinyl Chloride	3.8-130	130	30	22	-	3.8	5.2	-	-	4.3	-	-	70	-	-	-	

FIGURES




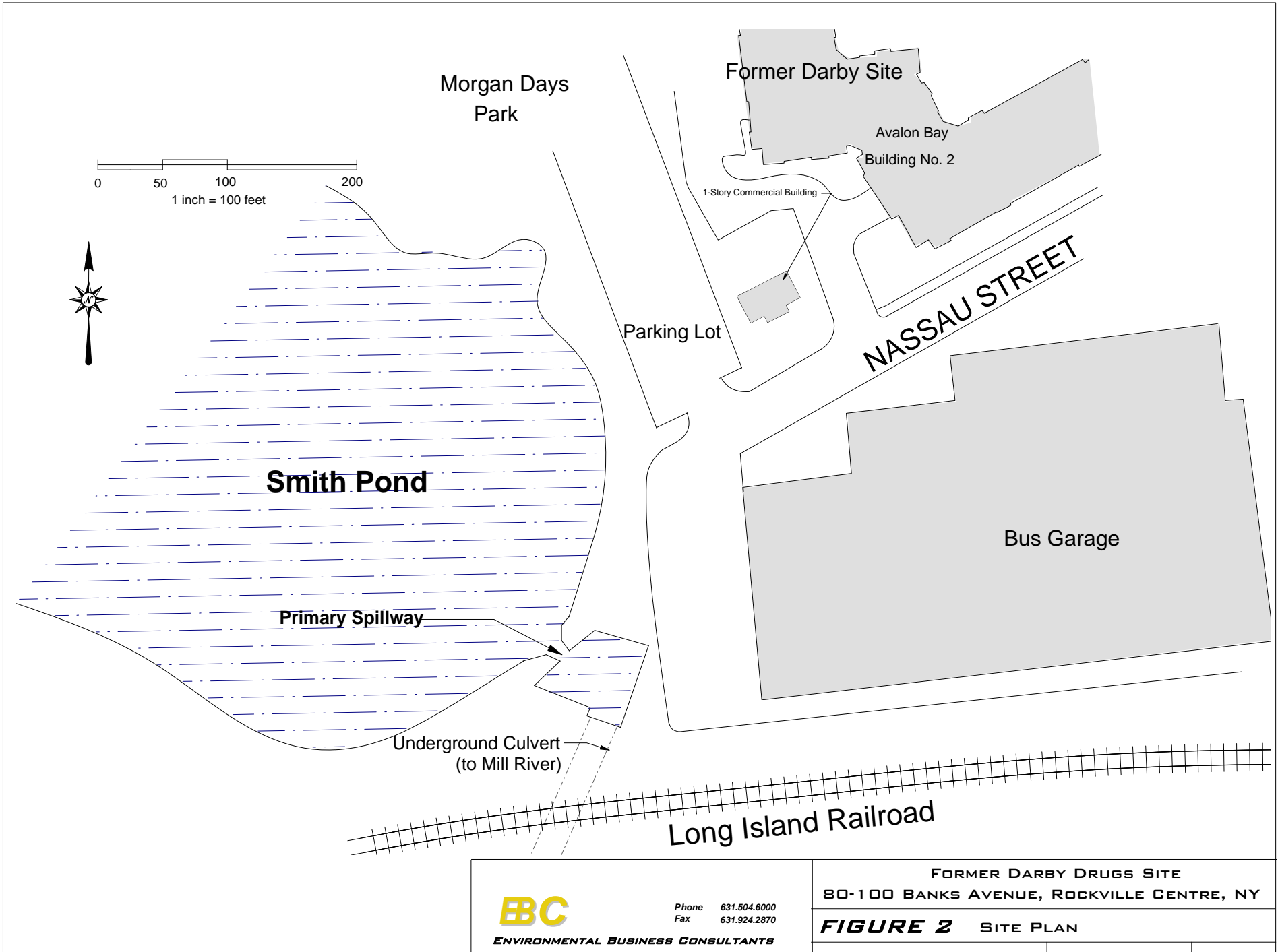
SITE LOCATION



North Arrow
 131°
 02/13/08

Source: USGS Lynbrook Quadrangle, 1969, Contour Interval = 5 feet

 ENVIRONMENTAL BUSINESS CONSULTANTS	1808 Middle Country Road Ridge, NY 11961	FORMER DARBY WAREHOUSE ROCKVILLE CENTRE, NY SITE LOCATION MAP
	Phone 631.504.6000 Fax 631.924.2870	FIGURE 1

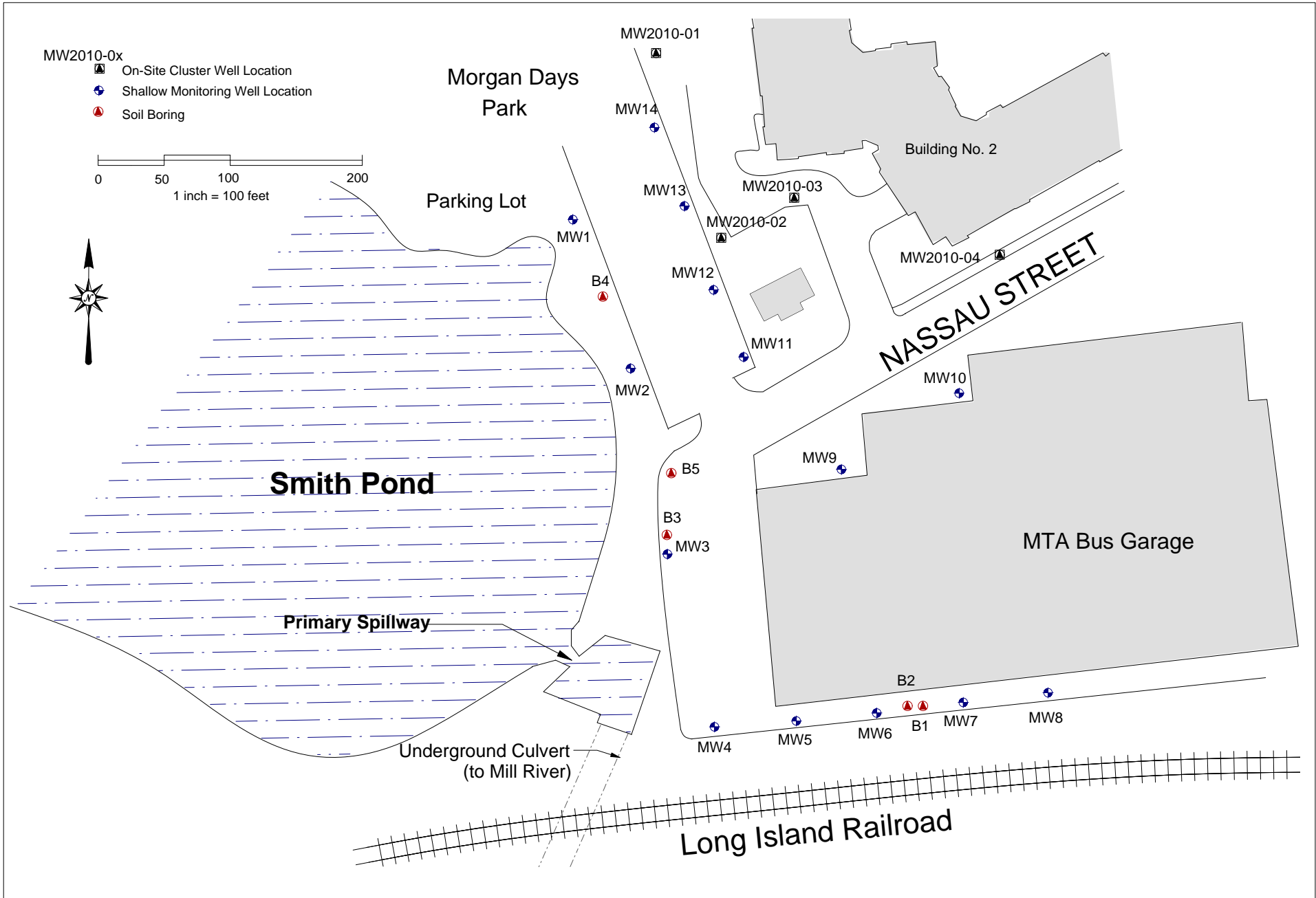



EBC
 ENVIRONMENTAL BUSINESS CONSULTANTS



Phone 631.504.6000
 Fax 631.924.2870

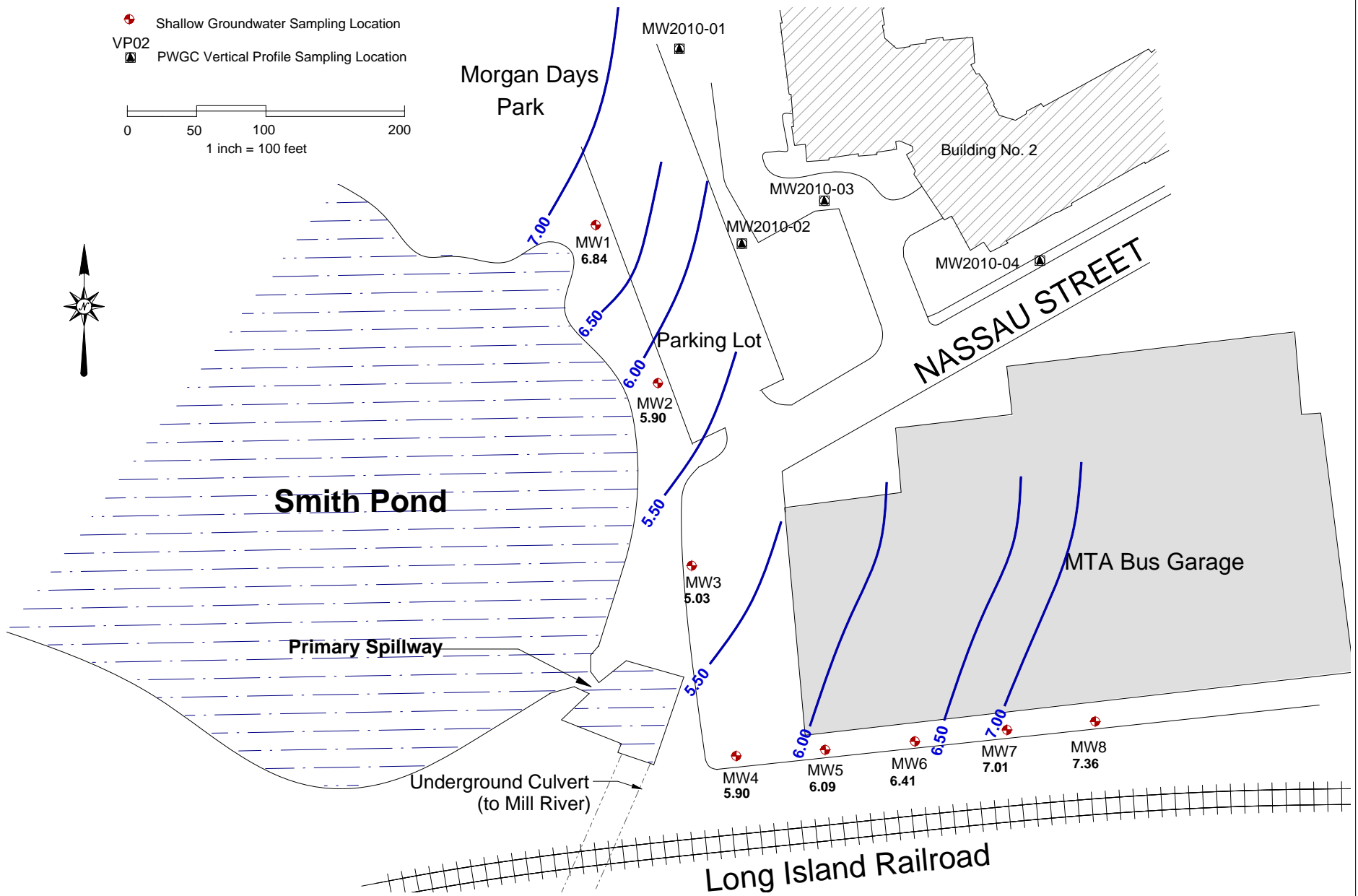
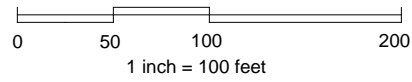
FORMER DARBY DRUGS SITE
 80-100 BANKS AVENUE, ROCKVILLE CENTRE, NY


FIGURE 2 SITE PLAN

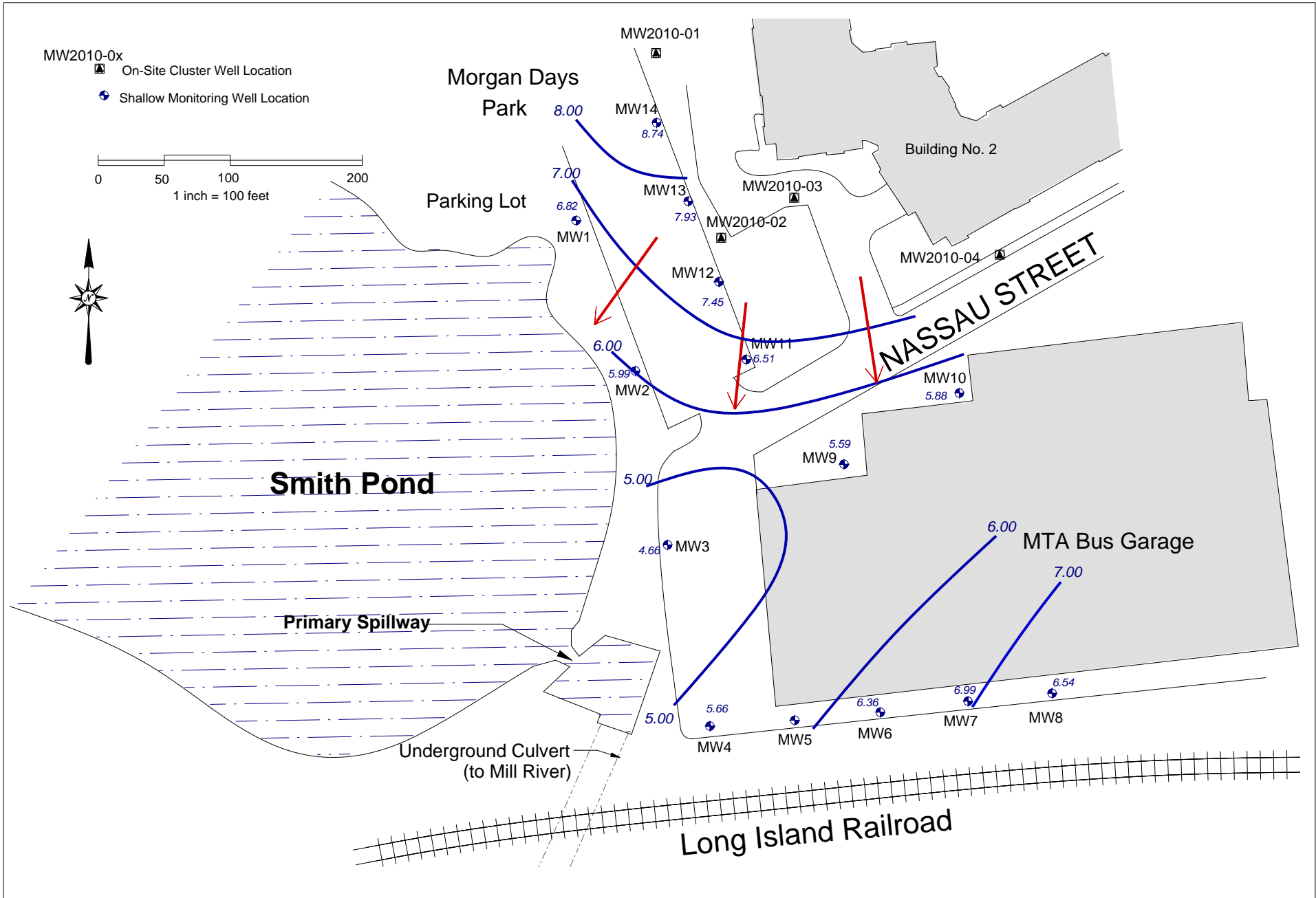



 ENVIRONMENTAL BUSINESS CONSULTANTS	Phone 631.504.6000 Fax 631.924.2870	Figure No. 3	Site Name: FORMER DARBY DRUGS
			Site Address: 80 BANKS AVENUE, ROCKVILLE CENTRE, NY
			Drawing Title: SOIL BORING AND MONITORING WELL LOCATIONS

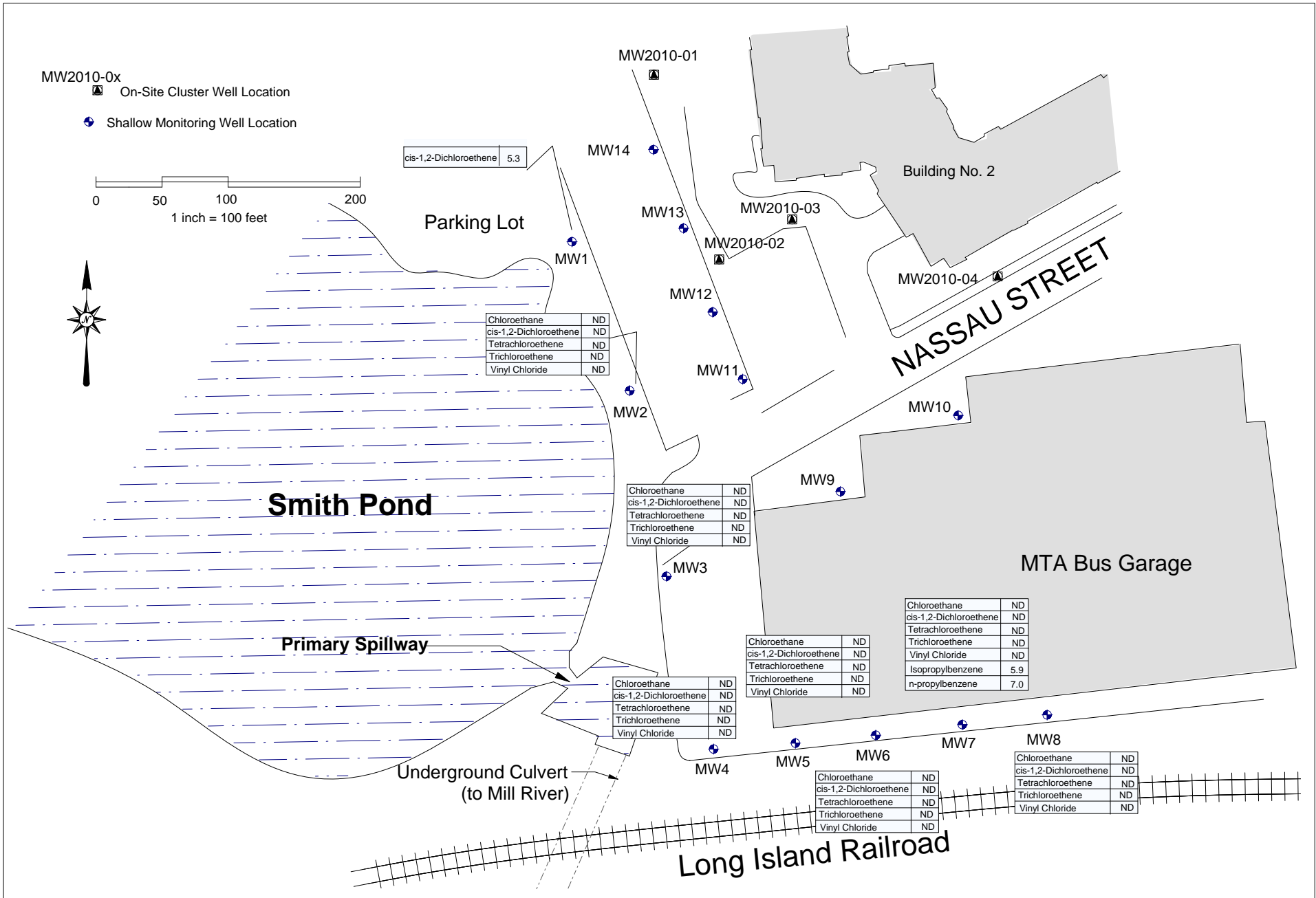
-  Shallow Groundwater Sampling Location
-  VP02 PWGC Vertical Profile Sampling Location

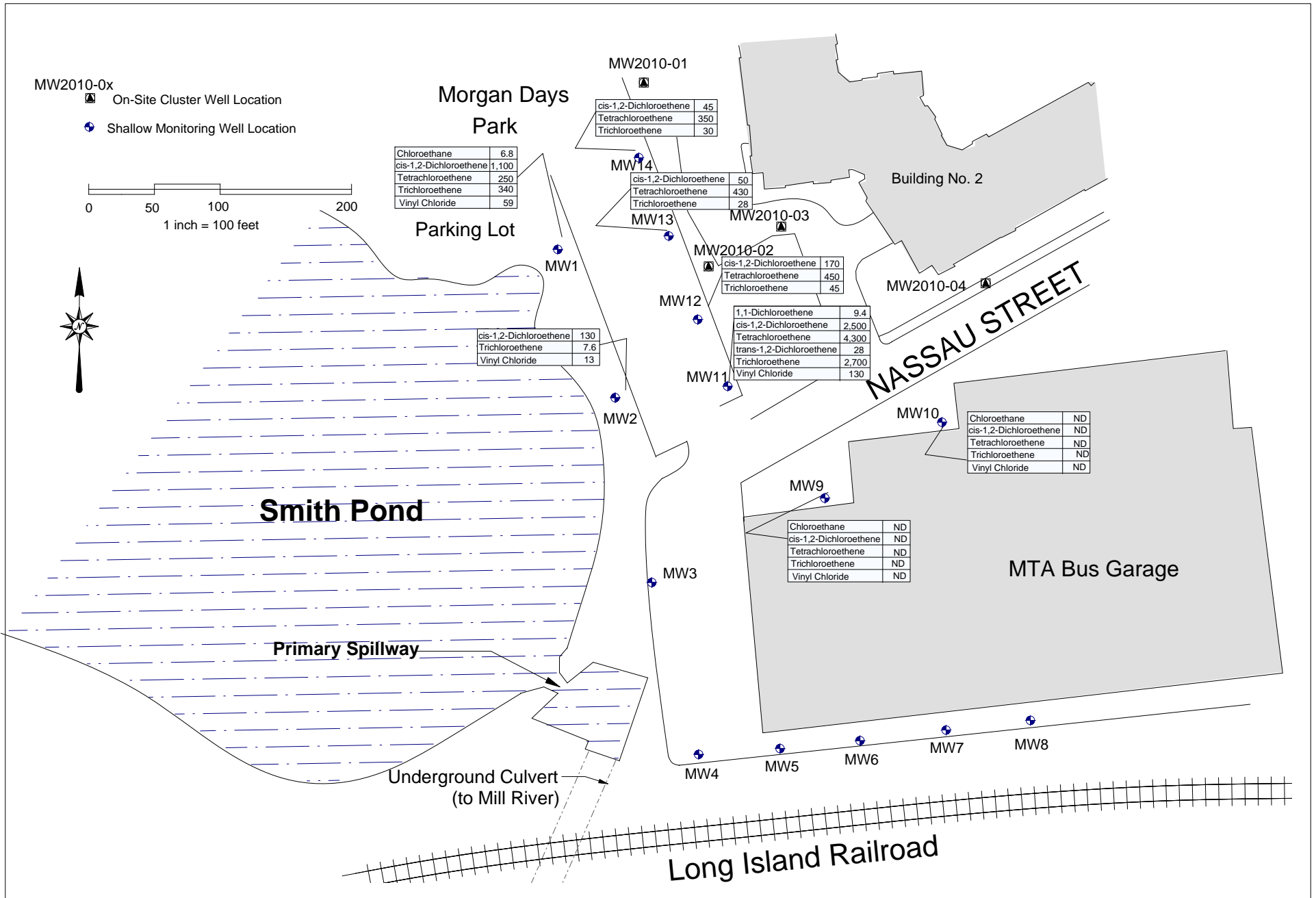


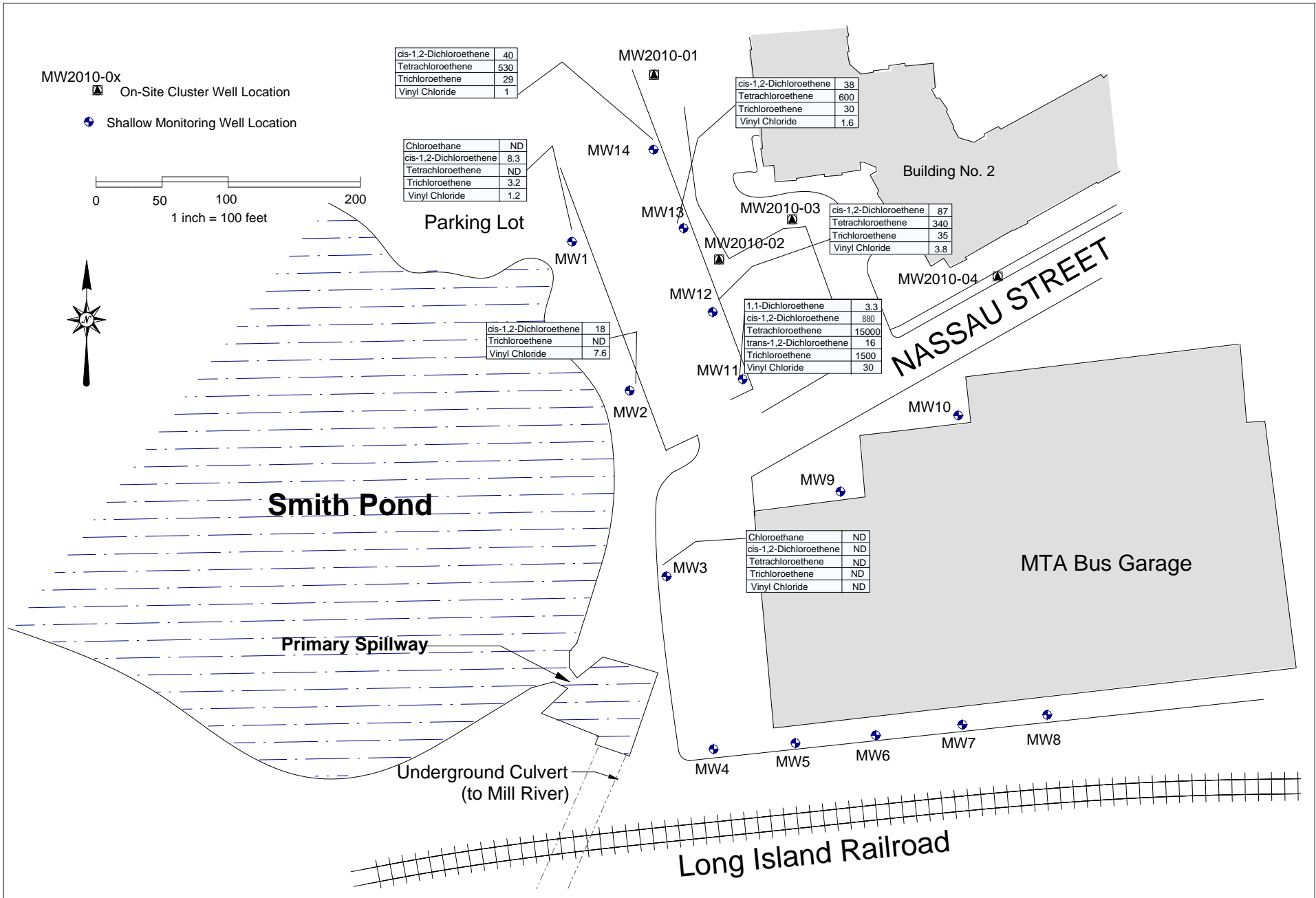
 ENVIRONMENTAL BUSINESS CONSULTANTS	Phone 631.504.6000 Fax 631.924.2870	FORMER DARBY DRUGS SITE 80-100 BANKS AVENUE, ROCKVILLE CENTRE, NY
	FIGURE 4 GROUNDWATER ELEVATION MAP NOVEMBER 17, 2011	

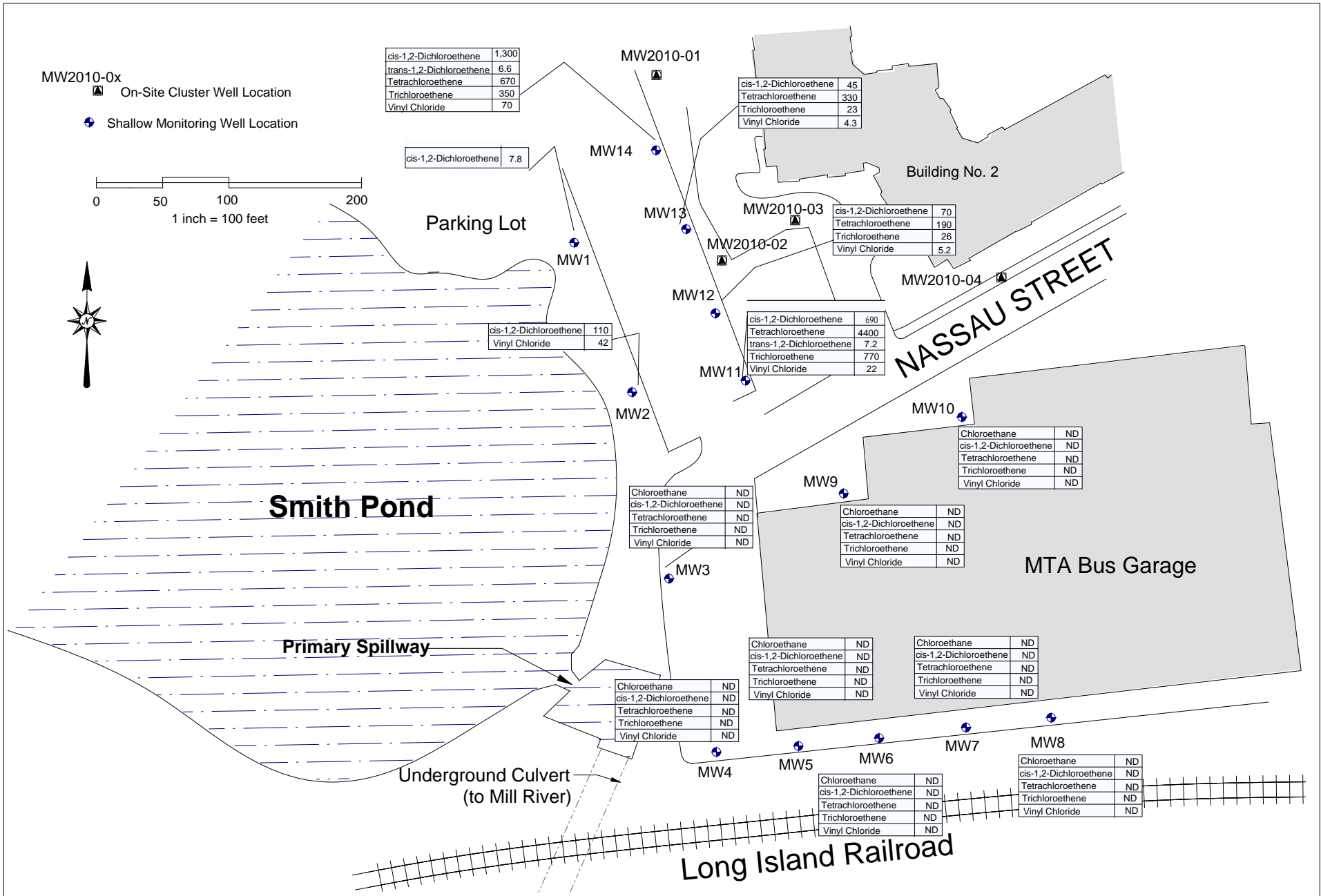


	Phone 631.504.6000 Fax 631.924.2870	Figure No. 5	Site Name: FORMER DARBY DRUGS
		Site Address: 80 BANKS AVENUE, ROCKVILLE CENTRE, NY	
		Drawing Title: GROUNDWATER ELEVATION - MARCH 26, 2014	









APPENDIX – A
Soil Boring Logs

Geologic Boring Log Details



ENVIRONMENTAL BUSINESS CONSULTANTS

B1 Boring Log

Location: Performed between MW6 and MW7.		Depth to Water (ft. from grade.)	Site Elevation Datum
Site Name: DGC	Address: 80 Banks Avenue, Rockville Centre, NY	Date	DTW
		Groundwater depth	
Drilling Company: Eastern Environmental Solutions, Inc.		Method: Dual Tube Geoprobe 6610	
Date Started: 8/11/2011		Date Completed: 8/11/2011	
Completion Depth: 20 Feet		Field Technician Dominick Mosca	
		~9ft	Well Specifications
			None

B1 (NTS)	DEPTH (ft below grade)	SAMPLES			SOIL DESCRIPTION
		Recovery (in.)	Blow per 6 in.	PID (ppm)	
	0				10" - Concrete and and stone. 7" - Dark to light brown sandy fill material. 10" - Light brown sandy material.
	to	27			
	5				12" - Light brown sandy material with little to no gravel. 18" - Grey saturated sandy loam.
	to	30			
	10				10" - Brown saturated sandy material. 13" - Dry black organic material. 3" - White to grey moist sandy gravel mix. 10" - Grey to black silty clay.
	15				12" - Saturated grey sandy clay. 12" - Saturated light grey fine sandy loam. 20" - Saturated light brown sand with gravel. 13" - Saturated brown coarse sand and gravel.
	20				<i>*Note material heaving into sampler cannot continue</i>

Geologic Boring Log Details



ENVIRONMENTAL BUSINESS CONSULTANTS

B2 Boring Log

Location: Performed 1ft away from B1.		Depth to Water (ft. from grade.)	Site Elevation Datum
Site Name: DGC	Address: 80 Banks Avenue, Rockville Centre, NY	Date	DTW
		Groundwater depth	
Drilling Company: Eastern Environmental Solutions, Inc.		Method: Dual Tube Geoprobe 6610	
Date Started: 8/11/2011		Date Completed: 8/11/2011	
Completion Depth: 20 Feet		Field Technician Dominick Mosca	
		~9ft	Well Specifications None

B2 (NTS)	DEPTH (ft below grade)	SAMPLES			SOIL DESCRIPTION
		Recovery (in.)	Blow per 6 in.	PID (ppm)	
	0				12" - Concrete and and stone. 8" - Dark to light brown sandy fill material. 10" - Light brown sandy material.
	to	30		0.0	
	5				
	to	30		0.0	
	10				
	to	34			
	15				
	to	60			
	20				

Geologic Boring Log Details



ENVIRONMENTAL BUSINESS CONSULTANTS

B5 - Boring Log

Location: Performed along the west edge of the MTA Parking Lot, near MW3 location.		Depth to Water (ft. from grade.)	Site Elevation Datum
Site Name: DGC	Address:	Date	DTW
	80-100 Banks Ave, Rockville Centre, NY	Groundwater depth	
Drilling Company: Eastern Environmental Solutions, Inc.	Method: Geoprobe	7 feet	
Date Started: 11/11/2011	Date Completed: 11/11/2011	Well Specifications	
Completion Depth: 20 Feet	Geologist: Kevin Waters	1" well installed 15 feet below grade 10 feet slotted screen 5 feet riser	

MW3 (NTS)	DEPTH (ft below grade)	SAMPLES			SOIL DESCRIPTION
		Recovery (in.)	Blow per 6 in.	PID (ppm)	
	0				
	to	24			24" - Damp, brown coarse-fine sands with silts and some gravel
	5				
	to	4			4" - Saturated concrete
	10				
	to	4			4" - Saturated brown coarse-fine sands
	15				
	to	60			12" - Wet light tan sands 48" - Wet orange brown sands
	20				

Geologic Boring Log Details



ENVIRONMENTAL BUSINESS CONSULTANTS

B4 - Boring Log

Location: Performed in north town parking lot in between MW-1 and MW-2		Depth to Water (ft. from grade.)	Site Elevation Datum
Site Name: DGC	Address: 80-100 Banks Ave, Rockville Centre, NY	Date	DTW
Drilling Company: Eastern Environmental Solutions, Inc.		Groundwater depth	
Method: Geoprobe		6-7 feet	
Date Started: 11/11/2011		Well Specifications	
Date Completed: 11/11/2011			
Completion Depth: 20 Feet		Geologist Kevin Waters	

INV Boring (NTS)	DEPTH (ft below grade)	SAMPLES			SOIL DESCRIPTION
		Recovery (in.)	Blow per 6 in.	PID (ppm)	
	0				
	to	30			30" - Damp, brown coarse-fine sands some pebbles
	5				
	to	25			9" - Wet brown coarse-fine sands some pebbles, Saturated.
	10				16" - Wet brown-grey silty-clay / clayey-silt?
	to	50			18" - Grey silty-clay 32" - Wet light grey-tan coarse-fine sands and pebbles
	15				

*2" Monitoring Well installed 10 feet below grade, 10 feet slotted screen.

APPENDIX – B
Well Construction Logs

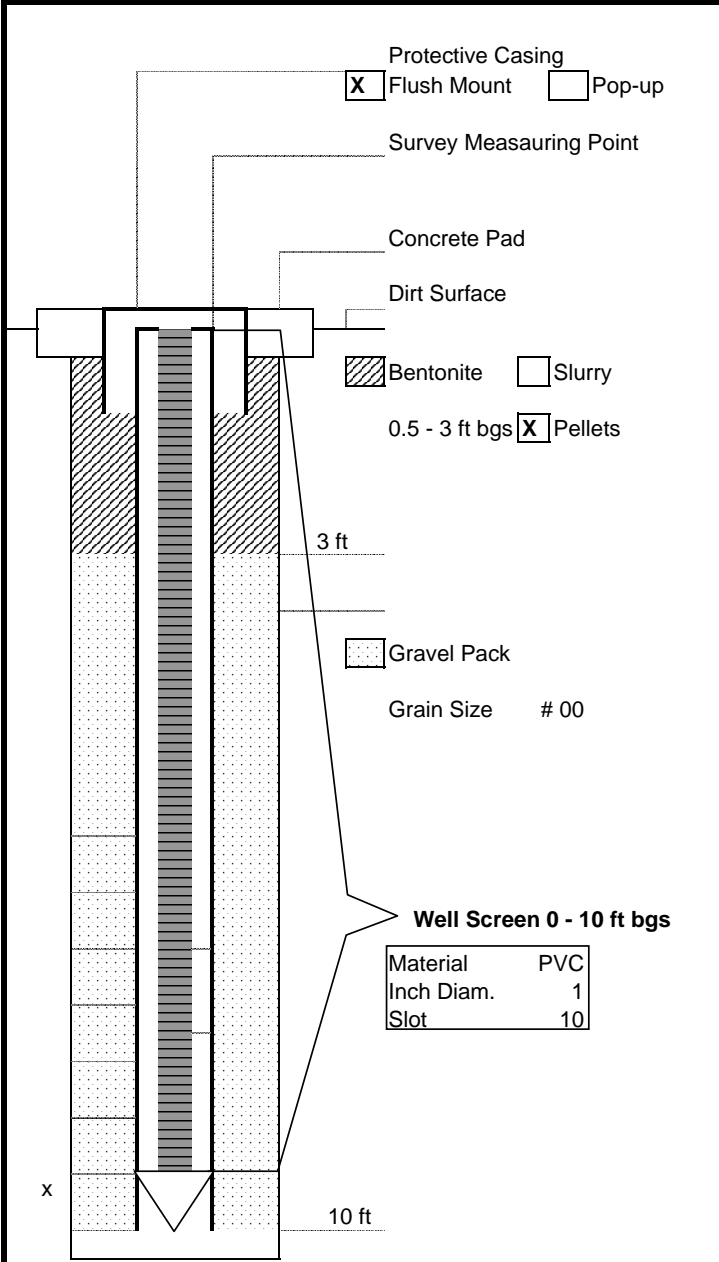


ENVIRONMENTAL BUSINESS CONSULTANTS

GROUNDWATER MONITORING WELL

CONSTRUCTION LOG

MW-1



Note: Drawing is not to scale.
Depths are given in feet below land surface.

Monitoring Well No.: MW-1

Project: Former Darby Drugs Site
80-100 Banks Ave, Rockville Centre, NY

Depth to Groundwater: 5.53 ft Date: 11/17/2011

Installation Depth: 10 ft bgs

Survey Point Elevation: NA

Installation Date: 11/11/2011

Drilling Contractor: Eastern Environmental Solutions, Inc.

Installation Method: Hollow Geoprobe Rods

Water Removed During Development: ~5 gallons

Hydrogeologist: Kevin Waters

Company Name: EBC

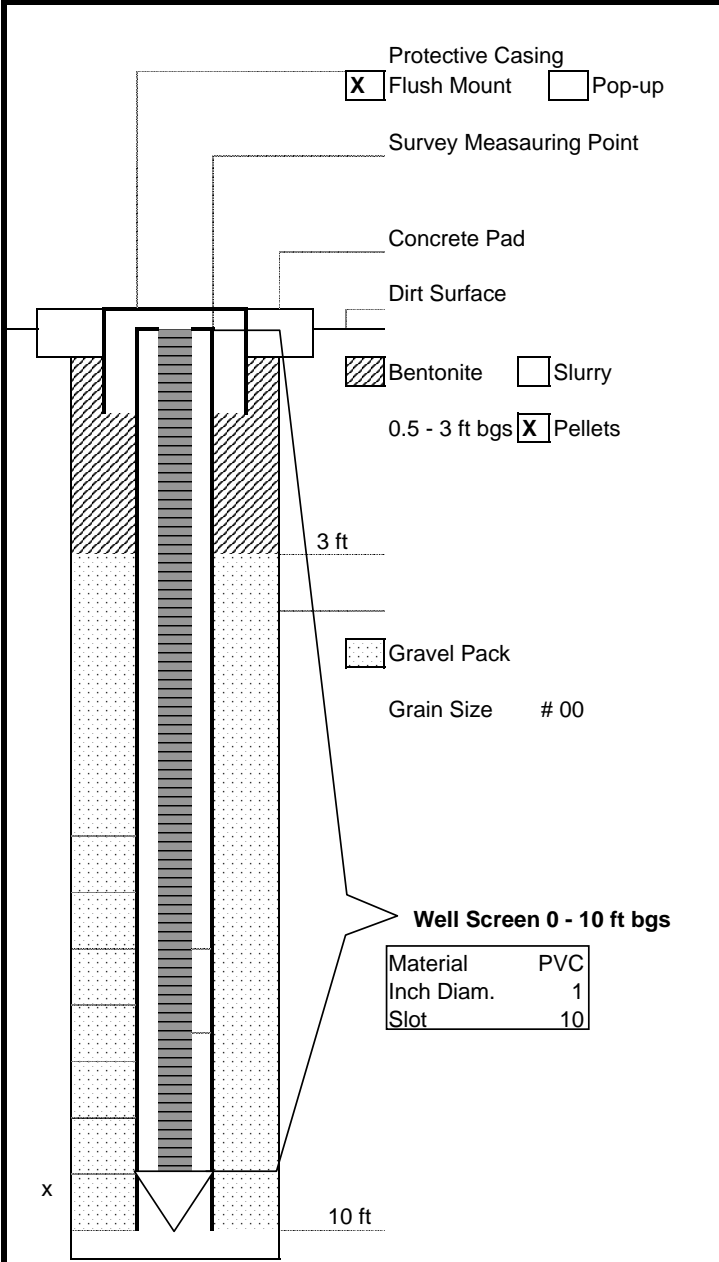


ENVIRONMENTAL BUSINESS CONSULTANTS

GROUNDWATER MONITORING WELL

CONSTRUCTION LOG

MW-2



Note: Drawing is not to scale.
Depths are given in feet below land surface.

Monitoring Well No.: MW-2

Project: Former Darby Drugs Site
80-100 Banks Ave, Rockville Centre, NY

Depth to Groundwater: 4.44 ft Date: 11/17/2011

Installation Depth: 10 ft bgs

Survey Point Elevation: NA

Installation Date: 11/11/2011

Drilling Contractor: Eastern Environmental Solutions, Inc.

Installation Method: Hollow Geoprobe Rods

Water Removed During Development: ~5 gallons

Hydrogeologist: Kevin Waters

Company Name: EBC

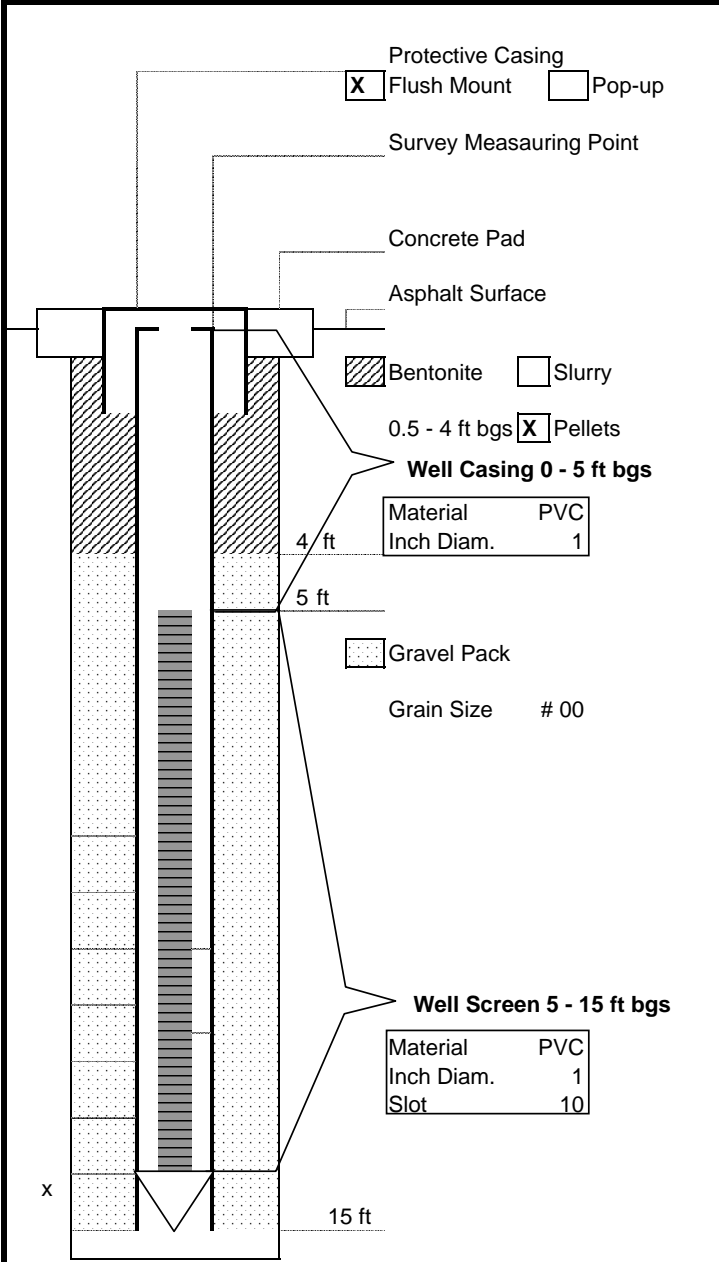


ENVIRONMENTAL BUSINESS CONSULTANTS

GROUNDWATER MONITORING WELL

CONSTRUCTION LOG

MW-3



Note: Drawing is not to scale.
Depths are given in feet below land surface.

Monitoring Well No.: MW-3

Project: Former Darby Drugs Site
80-100 Banks Ave, Rockville Centre, NY

Depth to Groundwater: 5.53 ft Date: 11/17/2011

Installation Depth: 15 ft bgs

Survey Point Elevation: NA

Installation Date: 11/11/2011

Drilling Contractor: Eastern Environmental Solutions, Inc.

Installation Method: Hollow Geoprobe Rods

Water Removed During Development: ~5 gallons

Hydrogeologist: Kevin Waters

Company Name: EBC

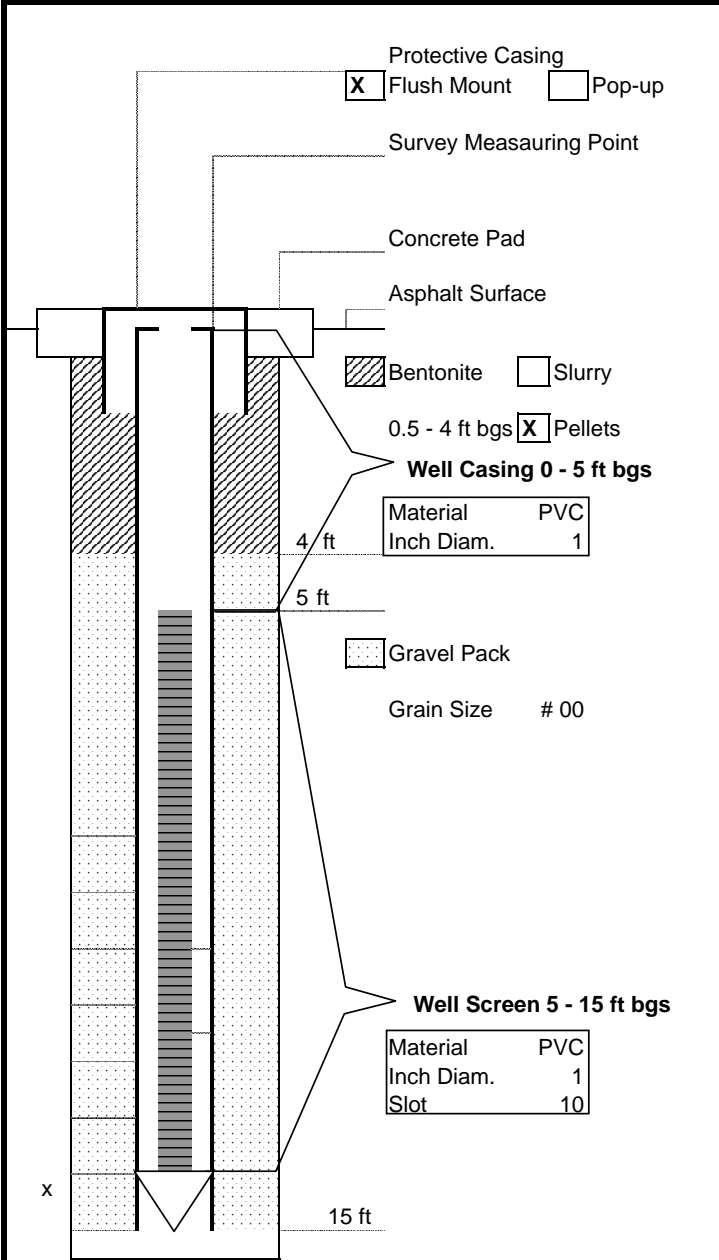


ENVIRONMENTAL BUSINESS CONSULTANTS

GROUNDWATER MONITORING WELL

CONSTRUCTION LOG

MW-4



Monitoring Well No.: MW-4

Project: Former Darby Drugs Site
80-100 Banks Ave, Rockville Centre, NY

Depth to Groundwater: 5.49 ft Date: 11/17/2011

Installation Depth: 15 ft bgs

Survey Point Elevation: NA

Installation Date: 8/11/2011

Drilling Contractor: Eastern Environmental Solutions, Inc.

Installation Method: Hollow Geoprobe Rods

Water Removed During Development: ~5 gallons

Hydrogeologist: Kevin Brussee
Dominik Mosca

Company Name: EBC

Note: Drawing is not to scale.
Depths are given in feet below land surface.

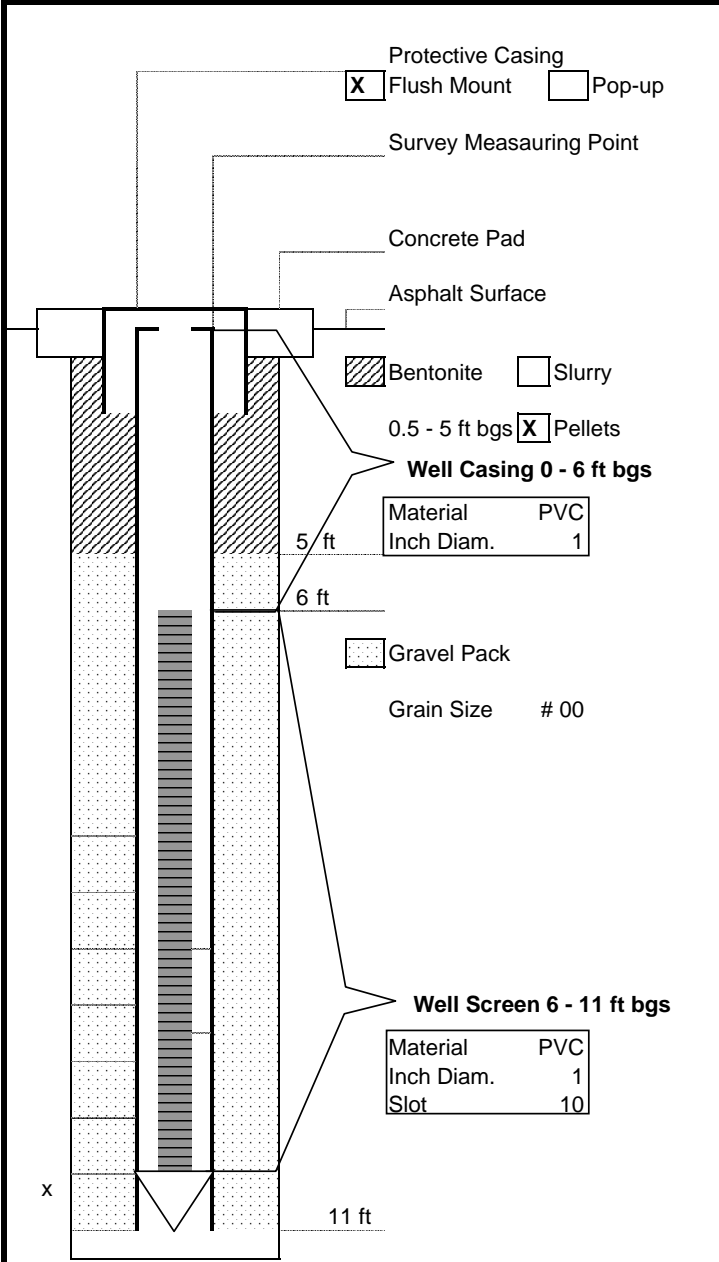


ENVIRONMENTAL BUSINESS CONSULTANTS

GROUNDWATER MONITORING WELL

CONSTRUCTION LOG

MW-5



Monitoring Well No.: MW-5

Project: Former Darby Drugs Site
80-100 Banks Ave, Rockville Centre, NY

Depth to Groundwater: 5.86 ft Date: 11/17/2011

Installation Depth: 15 ft bgs

Survey Point Elevation: NA

Installation Date: 8/11/2011

Drilling Contractor: Eastern Environmental Solutions, Inc.

Installation Method: Hollow Geoprobe Rods

Water Removed During Development: ~5 gallons

Hydrogeologist: Kevin Brussee
Dominik Mosca

Company Name: EBC

Note: Drawing is not to scale.
Depths are given in feet below land surface.

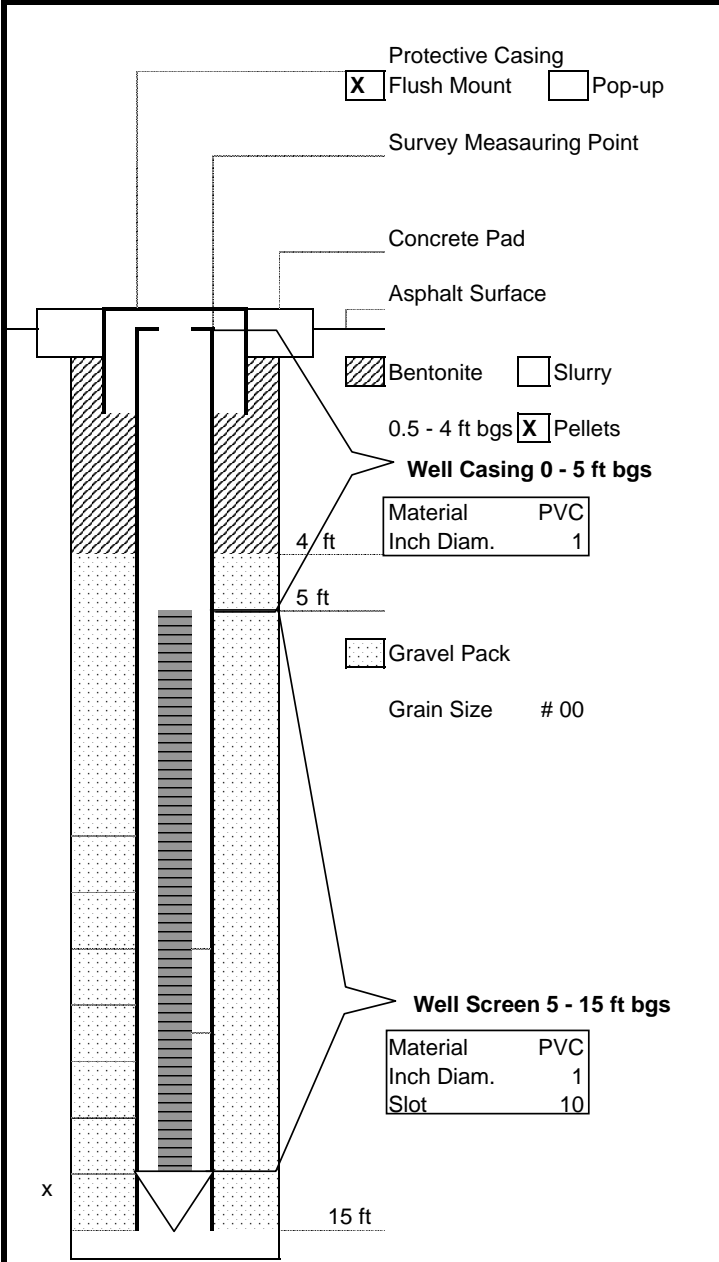


ENVIRONMENTAL BUSINESS CONSULTANTS

GROUNDWATER MONITORING WELL

CONSTRUCTION LOG

MW-6



Monitoring Well No.: MW-6

Project: Former Darby Drugs Site
80-100 Banks Ave, Rockville Centre, NY

Depth to Groundwater: 6.16 ft Date: 11/17/2011

Installation Depth: 15 ft bgs

Survey Point Elevation: NA

Installation Date: 8/11/2011

Drilling Contractor: Eastern Environmental Solutions, Inc.

Installation Method: Hollow Geoprobe Rods

Water Removed During Development: ~5 gallons

Hydrogeologist: Kevin Brussee
Dominik Mosca

Company Name: EBC

Note: Drawing is not to scale.
Depths are given in feet below land surface.

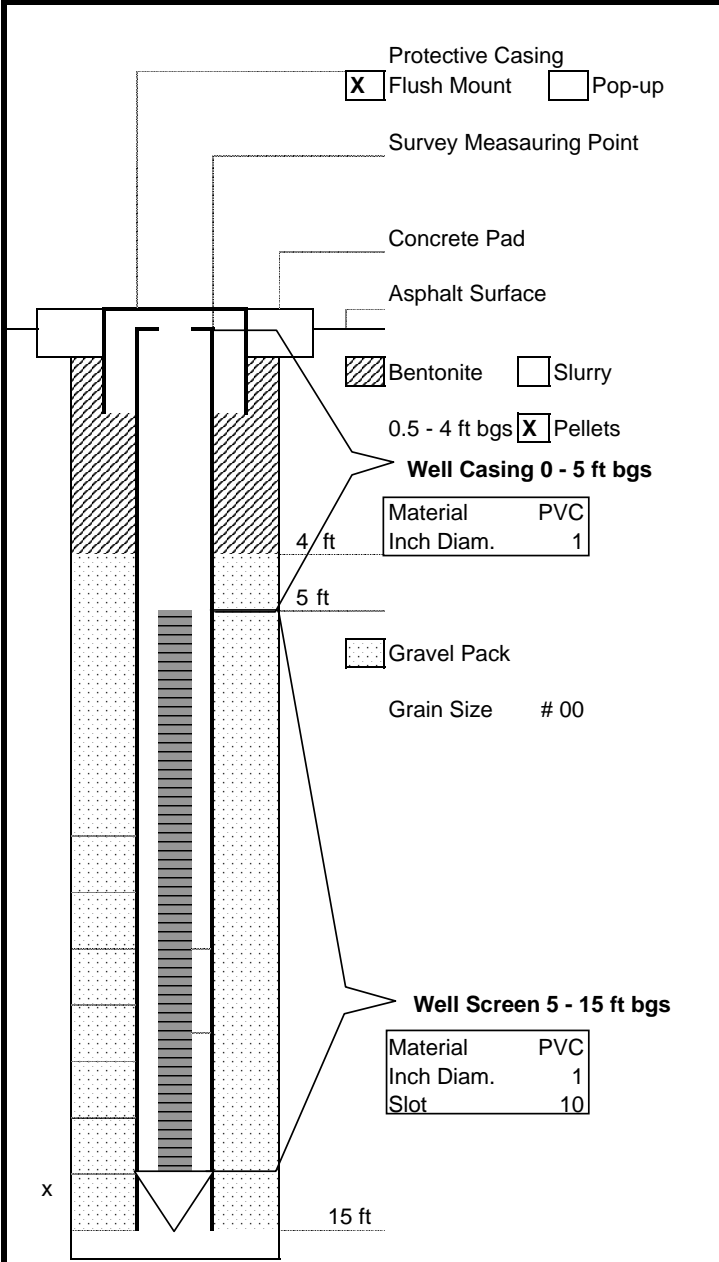


ENVIRONMENTAL BUSINESS CONSULTANTS

GROUNDWATER MONITORING WELL

CONSTRUCTION LOG

MW-7



Note: Drawing is not to scale.
Depths are given in feet below land surface.

Monitoring Well No.: MW-7

Project: Former Darby Drugs Site
80-100 Banks Ave, Rockville Centre, NY

Depth to Groundwater: 6.12 ft Date: 11/17/2011

Installation Depth: 15 ft bgs

Survey Point Elevation: NA

Installation Date: 8/11/2011

Drilling Contractor: Eastern Environmental Solutions, Inc.

Installation Method: Hollow Geoprobe Rods

Water Removed During Development: ~5 gallons

Hydrogeologist: Kevin Brussee
Dominik Mosca

Company Name: EBC

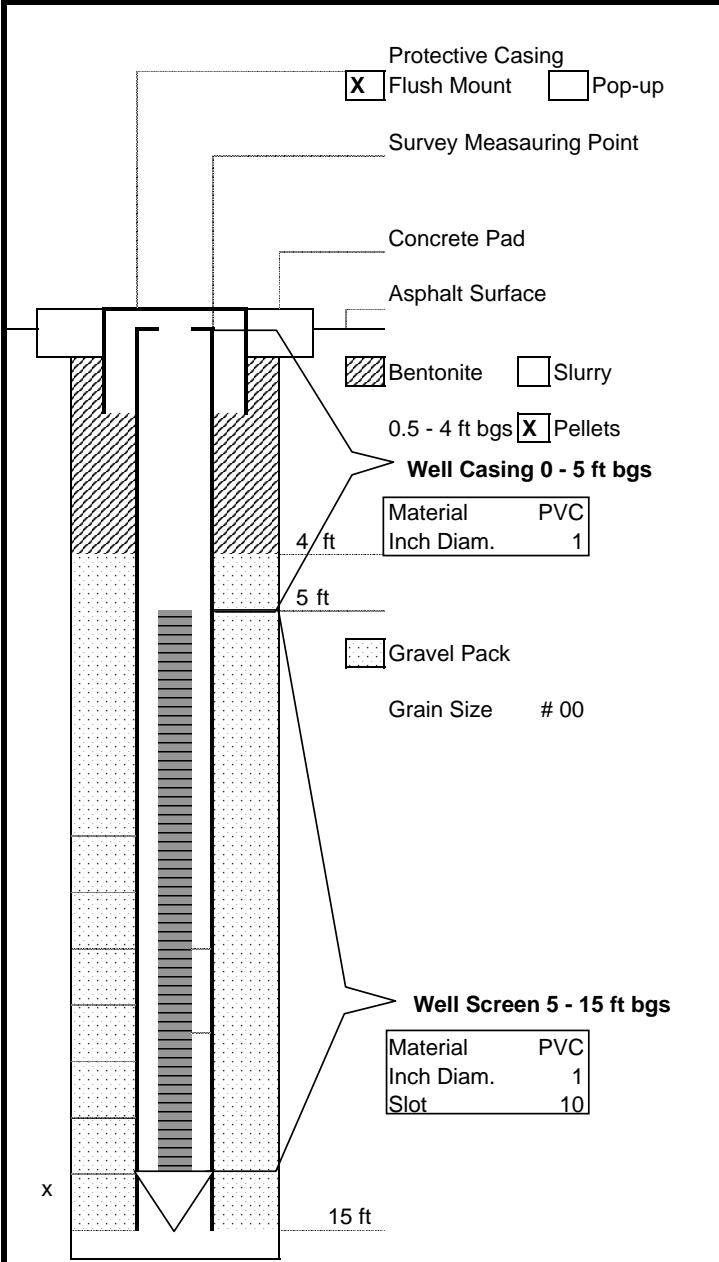


ENVIRONMENTAL BUSINESS CONSULTANTS

GROUNDWATER MONITORING WELL

CONSTRUCTION LOG

MW-8



Note: Drawing is not to scale.
Depths are given in feet below land surface.

Monitoring Well No.: MW-8

Project: Former Darby Drugs Site
80-100 Banks Ave, Rockville Centre, NY

Depth to Groundwater: 6.49 ft Date: 11/17/2011

Installation Depth: 15 ft bgs

Survey Point Elevation: NA

Installation Date: 8/11/2011

Drilling Contractor: Eastern Environmental Solutions, Inc.

Installation Method: Hollow Geoprobe Rods

Water Removed During Development: ~5 gallons

Hydrogeologist: Kevin Brussee
Dominik Mosca

Company Name: EBC

APPENDIX - C
Laboratory Reports
(Digital File on CD)