# Former Austin Avenue Landfill Site

WESTCHESTER COUNTY, NEW YORK

# Site Management Plan

**NYSDEC Site Number: C3-60-066** 

### **Prepared for:**

Austin Avenue Brownfield Redevelopment, LLC.

1 Ridge Hill
Yonkers, New York

### **Prepared by:**

S&W Redevelopment of North America, LLC 430 East Genesee Street, Suite 401, Syracuse, New York (315) 422-4949

### **Revised by:**

GHD Consulting Services Inc. 1 Remington Park Drive, Cazenovia, New York (315) 679-5800

### **Revisions to Final Approved Site Management Plan:**

Revision #	Submitted Date	Summary of Revision	DEC Approval Date
1	April 2019	Updates for Post-Remediation Groundwater	
		Monitoring Program Modifications	

MAY 2011 REVISED: APRIL 2015 REVISION #1: APRIL 2019

# **CERTIFICATION STATEMENT**

I, DAMIAN J. VANETTI, certify that I am currently a NYS registered Professional Engineer and that this Site Management Plan 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).

signature and P.E. Stamp

NYS Professional Engineer #068011-1

Date: April 29, 2019

# TABLE OF CONTENTS

CERTIFICATION STATEMENT	II
TABLE OF CONTENTS	III
LIST OF TABLES	VI
LIST OF FIGURES	VII
LIST OF APPENDICES	VIII
1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM.	2 -
1.1 INTRODUCTION	2 -
1.1.1 General 1.1.2 Purpose 1.1.3 Revisions	3 -
1.2 SITE BACKGROUND	4 -
1.2.1 Site Location and Description 1.2.2 Site History 1.2.3 Geologic Conditions	5 -
1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS	8 -
1.4 SUMMARY OF REMEDIAL ACTIONS	10 -
1.4.1 Removal of Contaminated Materials from the Site 1.4.2 Site-Related Treatment Systems 1.4.3 Remaining Contamination	12 -
2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN	13 -
2.1 INTRODUCTION	13 -
2.1.1 General	

2.2 ENGINEERING CONTROLS	14 -
2.2.1 Engineering Control Systems	14 -
2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems	
2.3 INSTITUTIONAL CONTROLS	16 -
2.3.1 Soil Management Plan	18 -
2.3.2 Soil Vapor Intrusion Evaluation	
2.4 INSPECTIONS AND NOTIFICATIONS	20 -
2.4.1 Inspections	20 -
2.4.2 Notifications	
2.5 CONTINGENCY PLAN	22 -
2.5.1 Emergency Telephone Numbers	22 -
2.5.2 Map and Directions to Nearest Health Facility	
2.5.3 Response Procedures	24 -
3.0 SITE MONITORING PLAN	25 -
3.1 INTRODUCTION	25 -
3.1.1 General	25 -
3.1.2 Purpose and Schedule	
3.2 SOIL COVER SYSTEM MONITORING	26 -
3.3 MEDIA MONITORING PROGRAM	27 -
3 3 1 Groundwater Monitoring	- 27 -

3.4 SITE-WIDE INSPECTION	29 -
3.5 MONITORING QUALITY ASSURANCE/QUALITY CONTROL	30 -
3.6 MONITORING REPORTING REQUIREMENTS	31 -
4.0 OPERATION AND MAINTENANCE PLAN	33 -
4.1 INTRODUCTION	33 -
5.0 INSPECTIONS, REPORTING, AND CERTIFICATIONS	34 -
5.1 SITE INSPECTIONS	34 -
5.1.1 Inspection Frequency	34 -
5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports	34 -
5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports	34 -
5.2 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS	35 -
5.3 PERIODIC REVIEW REPORT	36 -
5.4 CORRECTIVE MEASURES PLAN	38 -

## LIST OF TABLES

- 1 Remedial Investigation Soil Contamination Summary
- 2A Remedial Investigation Groundwater Contamination Summary VOCs
- 2B Groundwater Contamination Summary SVOCs
- 2C Groundwater Contamination Summary Metals
- 2D Groundwater Contamination Summary PCBs
- 3 Soil Cleanup Objectives for the Site Use, On-Site Soil Re-Use, and Imported Fill
- 4 Emergency Contact Numbers
- 5 Other Contact Numbers
- 6 Monitoring/Inspection Schedule
- 7 Schedule of Monitoring/Inspection Reports

## **LIST OF FIGURES**

- 1 Site Location Map
- 2 Site Layout and Property Boundaries
- 3 Groundwater Contamination Summary
- 4 Remedial Investigation Soil Contamination Summary
- 5 Remedial Investigation Explosive Gas Results
- 6 Groundwater Elevation and Flow (June 2018)
- 7 Map Showing Route from the Site to the Hospital
- 8 Groundwater Monitoring Well Network

## **LIST OF APPENDICES**

- A Environmental Easement
- B Metes and Bounds
- C EC As-Built Drawings
- D Soil Management Plan
- E Health and Safety Plan and Community Air Monitoring Plan (Sample Documents)
- F Monitoring Well Boring and Construction Logs
- G Groundwater Monitoring Well Sampling Log Form
- H Site-Wide Inspection Form
- I Quality Assurance Project Plan

## SITE MANAGEMENT PLAN

# 1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

### 1.1 INTRODUCTION

This document is required as an element of the remedial program at the Former Austin Avenue Landfill Site (hereinafter referred to as the "Site") under the New York State (NYS) Brownfield Cleanup Program (BCP) administered by the New York State Department of Environmental Conservation (NYSDEC). The Site was remediated in accordance with Brownfield Cleanup Agreement (BCA) Index # A3-0542-0306, Site # C3-60-066, which was executed on March 2004.

### 1.1.1 General

Austin Avenue Brownfield Redevelopment, LLC., ("Austin Avenue, LLC") entered into a BCA with the NYSDEC, as the Remedial Party, to investigate and remediate an approximately 18.26-acre property located in the city of Yonkers, Westchester County, New York. The full 18.26-acres of the tax parcel were investigated and approximately 14.1-acres of the property were remediated to a Track 4 Restricted Residential use, which represents the area of the BCP Site. Figures showing the Site location and boundaries of this approximately 14.1-acre Site are provided in Figures 1 and 2, respectively. The boundaries of the Site are more fully described in the metes and bounds Site description that is part of the Environmental Easement, which is included as Appendix A.

After completion of the remedial work described in the Remedial Action Work Plan, some contamination was left in the subsurface at this Site, which is hereafter referred to as 'remaining contamination." This Site Management Plan (SMP) was prepared to manage remaining contamination at the Site until the Environmental

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

This SMP was prepared by S&W Redevelopment of North America, LLC. (SWRNA), on behalf of Austin Avenue, LLC., in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated June 2010, and the guidelines provided by NYSDEC. GHD Consulting Services Inc. (GHD) revised this SMP in April 2019 to address NYSDEC-approved modifications to the post-remediation groundwater monitoring program. This SMP addresses the means for implementing the Institutional Controls (ICs) and Engineering Controls (ECs) that are required by the Environmental Easement for the Site.

### 1.1.2 Purpose

The Site contains contamination left after completion of the remedial action. Engineering Controls (ECs) have been incorporated into the Site remedy to control exposure to remaining contamination during the use of the Site to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Westchester County Clerk, will require compliance with this SMP, and all ECs and ICs placed on the Site. The ICs place restrictions on Site use, and mandate operation, maintenance, monitoring, and reporting measures for all ECs and ICs. This SMP specifies the methods necessary to ensure compliance with all ECs and ICs required by the Environmental Easement for contamination that remains at the Site. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required to manage remaining contamination at the Site after completion of the Remedial Action, including: (1) implementation and management of all Engineering and Institutional Controls; (2) media monitoring; (3) operation and maintenance of all treatment, collection, containment, or recovery systems; (4) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports; and (5) defining criteria for termination of treatment system operations.

To address these needs, this SMP includes three plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; and (3) an Operation and Maintenance Plan for implementation of remedial collection, containment, treatment, and recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual for complex systems).

This plan also includes a description of Periodic Review Reports for the periodic submittal of data, information, recommendations, and certifications to NYSDEC.

It is important to note that:

- This SMP details the Site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the environmental easement, which is grounds for revocation of the Certificate of Completion (COC);
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375, and the BCA (Index # A3-0542-0306, Site # C3-60-066) for the Site, and thereby subject to applicable penalties.

### 1.1.3 Revisions

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

### 1.2 SITE BACKGROUND

### 1.2.1 Site Location and Description

The Site is located in the City of Yonkers, County of Westchester, New York and was located within the tax parcel identified as Block 3244 and Lot 1 on Section 3 of the Yonkers Tax Map #3 3244 1 Section 3 at the time of the COC issuance on June 10, 2015. After issuance of the COC, the Site was subdivided into three tax parcels, to accommodate future development and establish designated parkland, which are identified as:

- Parcel 3-3244-1 Approximately 9.89 acres of land reportedly owned/operated by the City of Yonkers, New York and designated as parkland
- Parcel 3-3244-4 Approximately 3.24 acres of land reportedly owned/operated by Morris Westchester Retail Associates, LLC
- Parcel 3-3244-7 Approximately 5.13 acres of land reportedly owned/operated by Morris Westchester Junior Retail Associates, LLC.

Austin Avenue Brownfield Redevelopment, LLC remains the Remedial Party of the entirety of the BCP Site even though it was subdivided into three separate tax parcels with differing ownership.

The Site is an approximately 14.1-acre area bounded by Austin Avenue to the north, Home Depot back parking lot to the south, Sprain Brook and Sprain Road to the east, and an unimproved road and similar vacant land (Lot 4 – Austin Avenue and Prior Place BCP Site #C360116) to the west (see Figure 2). The boundaries of the Site are more fully described in Appendix B – Metes and Bounds.

### 1.2.2 Site History

The Site was historically used by the City of Yonkers for the disposal of municipal incinerator ash from the 1960s to 1979. Since 1979, the Site had been idle, and had become overgrown with a natural vegetative cover.

A number of previous Site investigations have been conducted at the Site to characterize the nature of the waste material, and the impacts it may have had on local groundwater and surface water quality. The following sections summarize the scope, and findings of four previous investigations conducted within the BCP Site boundary.

### 1976 Site Study

In 1976, the Site was investigated by Geraghty & Miller, Inc. (G&M) as part of a larger study of Sites in Westchester County. G&M utilized five (5) temporary well points (W-1 through W-5) to measure groundwater elevations and collect groundwater samples, and collected water samples from Sprain Brook. The investigation results were presented in a report dated June 1977. The section of the report that concerned the Site indicated that groundwater impacts from the Site were evidenced by elevated levels of iron, manganese, chloride and nitrate (Figure 3). Although the report suggested that low levels of organic compounds might be present, there was no quantitative evidence to

support that suggestion; laboratory analysis indicated that if organic compounds were present, they were at concentrations below detection limits. In addition, the overall findings and conclusions of the report stated that "Evidence of disposal of hazardous chemical wastes was not found at any Site inspected".

Groundwater beneath the Site was determined by G&M to flow to the east, eventually discharging to Sprain Brook. Samples collected from Sprain Brook showed no significant impact to surface water quality with respect to the constituents detected in the ground water (iron, manganese, chloride and nitrate).

The G&M report concluded that impact from the Site on groundwater and surface water quality was "not significant".

### 1995 Groundwater/ Surface Water Study

In 1995, Leggette, Brashears, & Graham, Inc. (LB&G) investigated surface water and groundwater quality at the Site. The investigation included a review of previously collected data, installation of four (4) overburden monitoring wells, installation of three (3) bedrock groundwater monitoring wells, collection of groundwater samples from the monitoring wells, and collection of surface water samples from Sprain Brook.

Groundwater samples taken from the overburden and bedrock monitoring wells did not contain polychlorinated biphenyls (PCBs) or volatile organic compounds (VOCs) at concentrations in excess of laboratory detection limits. Elevated levels of some naturally-occurring metals were detected in the groundwater samples, specifically iron, manganese and some trace metals (Figure 3). Surface water samples from Sprain Brook showed no evidence of significant Site-related contamination. Overall, these findings are similar to those of the 1976 study.

The 1995 investigation of the bedrock groundwater confirmed the absence of VOCs and PCBs in groundwater in the fill overburden and bedrock. The conclusion of this investigation was that the impacts to groundwater described in the 1977 Geraghty and Miller study was of a benign nature with respect to groundwater quality.

Semi-annual monitoring of the previously described overburden and bedrock groundwater monitoring wells was conducted in January 1998, July 1998, February 1999, and September 1999. In addition, four (4) locations along the southern perimeter of the Site were screened for combustible gases during each sampling event. The data from these four sampling events indicated similar results to those seen in earlier sampling events.

### 2000 Ash Fill & Methane Gas Study

In September 2000, an investigation was conducted to further characterize the chemical composition of the ash at the Site, and to define the potential for methane generation in the central portion of the Site. Eight (8) ash fill samples were collected from the Site for the purpose of waste characterization. The samples were numbered HA-1 through HA-8, and their locations are shown on Figure 4. The ash samples were collected from 0.5 and 2 feet below grade (bg) except for sample HA-6, which was collected from the face of a road cut, located off-Site between the Stew Leonard's parking lot and the Site. Laboratory analysis results for the on-site samples are summarized in Table 1.

In addition, twenty-four (24) locations were monitored for the presence of methane gas, using a portable combustible gas indicator (CGI). The sampling locations and results are shown on Figure 5. The monitoring was conducted by driving a steel rod to 3 feet bg to create a pilot hole, inserting a perforated screen and tubing into the pilot hole, and connecting the tubing to the CGI to obtain a reading.

Key findings of the 2000 study were that:

- 1. The ash fill that currently exists at the Site was not a hazardous waste, based on analysis for total and leachable (Toxicity Characteristic Leaching Procedure [TCLP]) priority pollutant metals, and TCLP analysis for polycyclic aromatic hydrocarbons (PAHs). Although several leachable metals were detected by TCLP analysis, including cadmium, chromium, copper, lead, nickel, and zinc, their concentrations were well below applicable TCLP toxicity limits for hazardous waste.
- 2. Methane generation is not a significant problem in the former ash Site. Two (2) of twenty-four (24) sample locations had methane levels above 50 percent lower explosive limit (LEL) and the remaining twenty-two (22) sample locations had methane levels below 8 percent LEL (see Figure 5).

### 2006-2007 Remedial Investigation

A Remedial Investigation (RI) was completed by S&W Redevelopment of North America, LLC (SWRNA) in 2006 and 2007 to further characterize location and extent of contamination at the Site. Fill material was shown to not be a likely significant source of groundwater contamination. Groundwater contamination was determined to be minor and was attributed to excessive turbidity of sample water rather than groundwater quality. Explosive gases were not detected in any of the explosive gas monitoring wells tested in

March 2007 and June 2007. The overall conclusion of the RI was that contamination at the Austin Avenue Landfill is minor and appears to be of a localized extent.

### **Summary of Previous Investigations**

The findings of previous investigations summarized above, and others, identified measurable, but minor, groundwater impacts with respect to inorganic constituents, including iron, manganese, chloride, and nitrate, and little or no evidence of methane gas. These findings are consistent with inorganic material typical of an ash Site. The leachate produced by ash Sites usually lacks soluble organic compounds, and the absence of putrescible waste material limits the formation of methane gas. This means that the impacts from an ash Site, if any, are best measured in terms of the inorganic parameters present in the ash.

### **1.2.3 Geologic Conditions**

### Lithology

The depth to bedrock varies from zero feet below ground surface (bgs) in the northwestern portion of the Site to more than 40 feet bgs in the center of the Site, and is approximately 20 feet bgs east of the fill area near Sprain Brook.

The general soil stratigraphy for most of the Site includes manmade fill in the form of incinerator ash, and other debris. The fill has a thickness of up to 40 feet in some locations, based on RI soil borings. Native soil consisting of layered sand and silt is present near Sprain Brook, east of the fill area.

### Hydrogeology

The depth to groundwater in the monitoring wells at the Site, as measured during the RI, ranges from approximately 4 to 38 feet bgs. Groundwater flow at the Site is towards the east (towards Sprain Brook). A groundwater flow figure is shown in Figure 6.

### 1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS

A Remedial Investigation (RI) was performed to characterize the nature and extent of contamination at the Site. The results of the RI are described in detail in the following report: *Remedial Investigation Report, Brownfield Cleanup Program, Austin Avenue Landfill Brownfield Site, Yonkers, New York* (SWRNA, August 2007).

Generally, the RI determined that contamination was not a significant issue at the Site. This determination was based on analytical data of three media: fill, groundwater, and explosive gas. Fill data indicated that fill is confined to the Site. It contains leachable metals that may potentially dissolve in groundwater. The data indicate, however, that the metals are not mobile in groundwater and that the fill material does not have a significance influence over local water quality. Groundwater data detected only one pesticide, and one PCB above TOGS GA groundwater quality guidance values in any of the collected samples. These detections, found in an upgradient well during the first sampling event, were determined to be due to elevated turbidity values as they were not detected in a subsequent sampling event that utilized low-flow sampling methods. The same is true for metals that were detected in the first round of sampling. Explosive gas data did not indicate explosive gas detections at levels that exceeded the lower explosive limit during any sampling event.

In general, the RI determined that contamination at the Austin Avenue Site was minor and appeared to be of a localized extent. The contaminants of potential concern (COPCs) include various metal analytes in the fill material. The potential contamination is associated with ash fill material that has been historically deposited at the Site. The area requiring remediation was determined to be limited to the extent of ash fill. The proposed remedy included installing a minimum of 2 feet of clean soil cover material.

Below is a summary of Site conditions when the RI was performed in 2007:

### Soil

The Site is a former ash debris Site. Toxicity characteristic leaching procedure (TCLP) analytical testing of soil/fill samples during the RI indicated that the fill is non-hazardous. Analysis during the RI indicated that Site soil fill samples contain several metals above the Restricted Residential Soil Cleanup Objectives (SCOs).

### Site-Related Groundwater

Two (2) rounds of groundwater sampling were conducted during the RI. Based on the analytical results of these samples, it was determined that there are no COPCs for Site groundwater. No volatile or semi-volatile organic compounds were detected above class GA groundwater quality standards in either of the sampling events. One pesticide (dieldrin), and one PCB (Aroclor 1260) were detected above Class GA standards in the

samples taken from an upgradient groundwater monitoring well (SWRMW-1) during the first RI sampling event. The second sampling event verified that these detections were due to elevated sample turbidity – all pesticides and PCBs were below standards in the second groundwater sampling event. Metals were also affected by sample turbidity during the first sampling event, based on a comparison with results of the second sampling event in which turbidity was much lower. The results of the second sampling event identified iron, magnesium, manganese, and sodium (all natural elements) at concentrations that exceeded groundwater quality standards. However, these exceedances occurred in samples taken from upgradient, and downgradient monitoring wells. A summary of the RI groundwater sample analytical results is included in Figure 3 and Tables 2A thru 2D.

### Site-Related Soil Vapor Intrusion

Based on RI and previous investigation findings, fill at the Site is not generating potentially explosive levels of methane gas. A previous explosive gas survey indicated that explosive gas (methane) levels were below the lower explosive limit (LEL) (i.e., less than 100% of the LEL) at all twenty-four (24) monitoring points that were sampled. Furthermore, only two (2) of the twenty-four (24) monitoring points had levels greater than one half (50%) of the LEL. During the RI, no detectable explosive gas levels were recorded in gas monitoring wells installed along the property boundaries. A summary of the explosive gas readings is included in Figure 5.

### 1.4 SUMMARY OF REMEDIAL ACTIONS

The Site was remediated in accordance with the NYSDEC-approved Remedial Work Plan dated May 2010, and the NYSDEC-approved Remedial Design dated July 2010.

The following is a summary of the Remedial Actions performed at the Site:

- Construction and maintenance of a soil cover system consisting of a
  minimum of 24 inches of imported clean soil fill that meets the criteria for
  Track 4 Restricted Residential Use in order to prevent human exposure to
  contaminated soil/fill remaining at the Site;
- 2. Execution and recording of an Environmental Easement to restrict land use and prevent future exposure to contamination remaining at the Site.

- 3. End use restrictions at the Site limited to Restricted Residential, Commercial, or Industrial uses, subject to local zoning, unless there is an expressed written waiver from an appropriate New York State Department;
- 4. Groundwater use restrictions at the Site, unless it is treated prior to use, and written consent is granted by the NYSDEC and NYSDOH;
- 5. Development and implementation of a Site Management Plan for long term management of remaining contamination as required by the Environmental Easement, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting; and
- 6. Periodic certification of the institutional and engineering controls listed above.

Remedial activities were completed at the Site in February 2011.

### 1.4.1 Removal of Contaminated Materials from the Site

A list of the soil cleanup objectives (SCOs) for the primary contaminants of concern (COCs) and applicable land use for the Site is provided in Table 3.

During the remedial activities, there were areas of the Site fill that were regraded to accommodate the final Site grading. Regrading was primarily completed on the southern and northeastern slopes. No Site material was excavated for off-Site disposal.

During regrading of soil materials on the southern end of the Site, nine (9) abandoned tanks and nine (9) abandoned drums were unearthed. The drums and tanks were given a visual inspection, as well as being screened with a photoionization detector (PID) to identify potential contamination within or adjacent to them. As a result of visual observations and PID testing, two (2) drums (one 55-gallon and one 30-gallon), and one (1) tank were determined to contain residual materials that could potentially be contaminated. The two (2) drums and one (1) tank were characterized, the residual materials containerized and transported off-Site for proper disposal at a permitted facility. The other drums and tanks were empty and had no evidence of potential contamination.

### 1.4.2 Site-Related Treatment Systems

No long-term treatment systems were installed as part of the Site remedy. However, as discussed in the Remedial Work Plan, any new buildings constructed on-Site will have: 1) a passive ventilation system built into the foundation/slab design to mitigate potential explosive gas and/or soil vapor intrusion, and 2) additional sampling and evaluation of soil vapor, indoor air, and sub-slab vapor will be conducted prior to occupancy, in accordance with NYSDOH guidance, to determine if the passive ventilation system is adequate and whether additional, if any, measures need to be taken. This SMP will be revised to include a description of the mitigation system installed in any new buildings constructed on-Site in the future and the appropriate operations, maintenance, inspection and reporting requirements for the system.

### 1.4.3 Remaining Contamination

A demarcation layer was placed on-Site below the soil cover to identify the boundary between potentially contaminated soil left in place, and the soil cover system. The demarcation layer consists of a non-woven geotextile fabric. The demarcation layer is located at a minimum depth of 2 feet below the final soil cover ground surface across the BCP Site. The as-builts included in Appendix C show the depth, in feet below ground surface, and aerial extent of the demarcation layer. Areas below the demarcation layer potentially contain material that exceeds Restricted Residential SCOs.

# 2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

### 2.1 INTRODUCTION

### 2.1.1 General

Since remaining impacted soil and soil vapor exists beneath the Site, Engineering Controls and Institutional Controls (EC/ICs) are required to protect human health and the environment. This Engineering and Institutional Control Plan describes the procedures for the implementation and management of all EC/ICs at the Site. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

### 2.1.2 Purpose

This plan provides:

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

### 2.2 ENGINEERING CONTROLS

### **2.2.1 Engineering Control Systems**

### 2.2.1.1 Soil Cover System

Exposure to remaining contamination in soil/fill at the Site is prevented by a soil cover system placed over the Site. This cover system is comprised of a minimum of 24 inches of clean soil underlain by a geotextile demarcation layer. As-built drawings of the soil cover locations are included in Appendix C. The Soil Management Plan that appears in Appendix D outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed.

The soil cover system for the Site will need to meet the following criteria:

- The Grantor, or its successors in title, must maintain the cover system of
  either two feet of fill (that meets the criteria in accordance with 6 NYCRR
  Part 375-3.6(e)(4)(iii)), or an alternative barrier layer approved by the
  NYSDEC (i.e. concrete, asphalt, or buildings);
- Any on-Site soil that is used to create the soil cover system will meet the Restricted Residential use SCOs identified in 6NYCRR Part 375-6.8(b) for protection of human health; and
- Any off-Site soil that is used for the soil cover system will meet the lower of the SCOs for restricted residential use, or the protection of groundwater as identified in 6NYCRR Part 375-6.8(b).

The maintenance of the soil cover system includes the following requirements, which apply to development of the Site, and future activities at the Site that may disturb the soil cover system and/or underlying soils:

 Any proposed soil excavation on the Site below the barrier layer requires prior notification, and prior approval by NYSDEC in accordance with the Site Management Plan approved by NYSDEC for the Site. The excavated soil

- must be managed, characterized, and properly disposed of in accordance with applicable NYSDEC regulations and directives; and
- Any area of soil excavation below the barrier layer that is to be returned to vegetated soil (i.e., not concrete, asphalt or buildings) must be backfilled with a minimum of two (2) feet of fill in accordance with 6 NYCRR Part 375-3.8(e)(4)(iii).

Procedures for inspecting and maintaining the soil cover system are documented in the Operation and Maintenance Plan included in Section 4 of this SMP. Procedures for monitoring the system are included in the Monitoring Plan (Section 3 of this SMP). The Monitoring Plan also addresses severe condition inspections in the event that a severe condition, which may affect controls at the Site, occurs.

### 2.2.1.2 Soil Vapor Mitigation System

There are currently no buildings constructed on-Site. However, as discussed in the Remedial Work Plan, any new buildings constructed on-Site will have: 1) a passive ventilation system built into the foundation/slab design to mitigate potential explosive gas and/or soil vapor intrusion and 2) additional sampling and evaluation of soil vapor, indoor air, and sub-slab vapor will be conducted prior to occupancy, in accordance with NYSDOH guidance, to determine if the passive ventilation system is adequate and whether additional, if any, measures need to be taken.

Procedures for operating and maintaining the soil vapor mitigation system will need to be included in the Operation and Maintenance Plan (Section 4 of this SMP) following construction of on-Site buildings. Procedures for monitoring the system will need to be included in the Monitoring Plan (Section 3 of this SMP) following construction of on-Site buildings. The Monitoring Plan will also need to be updated to addresses severe condition inspections in the event that a severe condition, which may affect controls at the Site, occurs.

### 2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives

identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.6 of NYSDEC DER-10.

### 2.2.2.1 Soil Cover System

The soil cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals until such time NYSDEC confirms in writing that such inspections are no longer warranted.

### 2.2.2.2 Soil Vapor Mitigation System

Any soil vapor mitigation system installed as part of any future buildings constructed on-Site will not be discontinued unless prior written approval is granted by the NYSDEC and NYSDOH. In the event that monitoring data indicates that the soil vapor mitigation system is no longer required, a proposal to discontinue the soil vapor mitigation system will be submitted by the Remedial Party to the NYSDEC and NYSDOH.

### 2.3 INSTITUTIONAL CONTROLS

A series of Institutional Controls are required by the RAWP to: (1) implement, maintain, and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the Site to Track 4 Restricted Residential, Commercial, or Industrial uses only. Adherence to these Institutional Controls on the Site is required by the Environmental Easement, and will be implemented under this Site Management Plan. These Institutional Controls are:

- Prohibition of the Site from ever being used for purposes other than the
  contemplated use without the expressed written waiver of such prohibition by
  the Department, or if at such time the Department no longer exists, any New
  York State Department, Bureau, or other entity replacing the Department;
- Prohibition of the use of the groundwater underlying the Site without treatment rendering it safe for potable or process purposes, as appropriate, unless user first obtains permission to do so from the NYSDOH or

Westchester County Department of Health, or if at such time the Department no longer exists, any New York State Department, Bureau, or other entity replacing the Department;

- Development and implementation of a Site Management Plan (SMP) specifying the use of soil cover systems, and management of soils that may be excavated at the Site during future development;
- The Remedial Party will provide a periodic certification to the NYSDEC, prepared by a professional engineer or such other qualified environmental professional acceptable to the NYSDEC, until the NYSDEC notifies the Remedial Party in writing this certification is no longer needed. This submittal will contain certification that the engineering and institutional controls are still in place, that the NYSDEC is allowed access to the Site, and that nothing has occurred that will impair the ability of the control to protect the public health or the environment, or constitute a violation or failure to comply with the SMP;
- Compliance with the Environmental Easement and this SMP by the Grantor and the Grantor's successors and assigns;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls on the Site must be inspected at a frequency and in a manner defined in the SMP;
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP; and
- Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in this SMP.

Institutional Controls identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement.

The Site has a series of Institutional Controls in the form of Site restrictions.

Adherence to these Institutional Controls is required by the Environmental Easement.

Restrictions that apply to the Site are:

- The Site may only be used for Track 4 Restricted Residential, Commercial, or Industrial use provided that the long-term Engineering and Institutional Controls included in this SMP are employed;
- The Site may not be used for a higher level of use, such as Unrestricted use or Residential use, without amendment of the Environmental Easement, and review and approval by the NYSDEC;
- All future activities on the Site that will disturb remaining contaminated material must be conducted in accordance with this SMP:
- The use of the groundwater underlying the Site is prohibited without treatment rendering it safe for intended use;
- The potential for vapor intrusion must be evaluated for any buildings developed on-Site, and any potential impacts that are identified must be monitored or mitigated;
- Vegetable gardens and farming on the Site are prohibited; and
- The Remedial Party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Site are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow, and will be made by an expert that the NYSDEC finds acceptable.

### 2.3.1 Soil Management Plan

The Site has been remediated for Track 4 Restricted Residential use. Any future intrusive work that will penetrate the soil cover system, or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover

system will be performed in compliance with the Soil Management Plan that is attached as Appendix D to this SMP. Any work conducted pursuant to the Soil Management Plan must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the Site. A sample HASP and CAMP are attached as Appendix E to this SMP that is in current compliance with DER-10, 29 CFR 1910, 29 CFR 1926, and all other applicable Federal, State and local regulations. Based on future changes to State and federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section A-1 of the Soil Management Plan. Any intrusive construction work will be performed in compliance with the Soil Management Plan, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (See Section 5).

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

### 2.3.2 Soil Vapor Intrusion Evaluation

Any new buildings constructed on-Site will have: 1) a passive ventilation system built into the foundation/slab design to mitigate potential explosive gas and/or soil vapor intrusion and 2) additional sampling and evaluation of soil vapor, indoor air, and sub-slab vapor will be conducted prior to occupancy, in accordance with NYSDOH guidance, to determine if the passive ventilation system is adequate and whether additional, if any, measures need to be taken. Prior to conducting an SVI investigation, or installing a mitigation system, a work plan will be developed and submitted to the NYSDEC and NYSDOH for approval. This work plan will be developed in accordance with the most recent NYSDOH "Guidance for Evaluating Vapor Intrusion in the State of New York". Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected,

designed, installed, and maintained based on the SVI evaluation, the NYSDOH guidance, and construction details of the proposed structure.

Preliminary (unvalidated) SVI sampling data, if collected instead of installing an active Soil Vapor Mitigation system, would be collected prior to occupancy of the structure. Sampling data would be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such as mitigation. Validated SVI data will be transmitted to the Remedial Party within 30 days of validation.

SVI sampling results, evaluations, and follow-up actions will also be summarized by the Remedial Party in the next Periodic Review Report.

### 2.4 INSPECTIONS AND NOTIFICATIONS

### 2.4.1 Inspections

Inspections of all remedial components installed at the Site will be conducted at the frequency specified in the SMP Monitoring Plan schedule. A comprehensive Sitewide inspection will be conducted annually by the Remedial Party, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

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

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

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

### 2.4.2 Notifications

Notifications will be submitted by the Remedial Party to the NYSDEC as needed for the following reasons:

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

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

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

### 2.5 CONTINGENCY PLAN

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

### **2.5.1** Emergency Telephone Numbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance the Remedial Party or Remedial Party's representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to GHD Consulting Services Inc. the environmental consultant. These emergency contact lists must be maintained in an easily accessible location at the Site.

**Table 4: Emergency Contact Numbers** 

Medical, Fire, and Police:	911	
One Call Center:	(800) 272-4480 (3 day notice required for utility markout)	
Poison Control Center:	(800) 222-1222	
Pollution Toxic Chemical Oil Spills:	(800) 424-8802	
NYSDEC Spills Hotline	(800) 457-7362	

**Table 5: Contact Numbers** 

Austin Avenue Brownfield Redevelopment, LLC (Remedial Party)	Keith Morris – (201) 804-8700	
GHD Consulting Services Inc.	Damian Vanetti – (315) 679-5800	
Morris Westchester Junior Retail Associates, LLC (Owner)	Keith Morris – (201) 804-8700	

Morris Westchester Retail Associates, LLC	
(Owner)	
City of Yonkers – Department of Engineering (Owner)	(914) 377-6106

<sup>\*</sup> Note: Contact numbers subject to change and should be updated as necessary

### 2.5.2 Map and Directions to Nearest Health Facility

Site Location: Austin Avenue, Yonkers, New York

Nearest Hospital Name: St. John's Riverside Hospital – Andrus Pavilion

Hospital Location: 967 N. Broadway, Yonkers, NY 10701

Hospital Telephone: 1-914-964-4444

3. Turn right to merge onto I-87 S

Directions to the Hospital:

Head south on Stew Leonard Dr toward Sprain Rd
 Continue onto Corporate Dr
 387 ft

1.0 mi

4. Take exit 6W for Tuckahoe Rd W toward Yonkers 0.3 mi

5. Merge onto Tuckahoe Rd 0.4 mi

6. Continue onto New York 9A S/Saw Mill River Rd 0.1 mi

7. Turn right at Old Nepperhan Ave 0.1 mi

8. Take the 1st right onto Roberts Ave 0.8 mi

9. Turn right at N Broadway 0.4 mi

Destination will be on the left

Total Distance: 3.4 miles

Total Estimated Time: 9 minutes

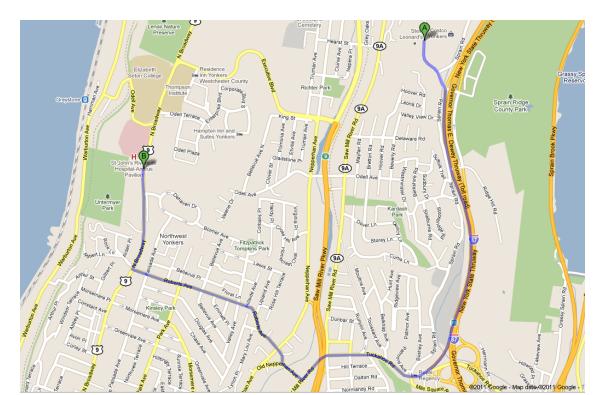


Figure 7: Map Showing Route from the Site to the Hospital:

### 2.5.3 Response Procedures

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan (Table 4). The list will also be posted prominently at the Site and made readily available to all personnel at all times.

### 3.0 SITE MONITORING PLAN

### 3.1 INTRODUCTION

### 3.1.1 General

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

### 3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor, soils);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance, particularly ambient groundwater standards and Part 375 SCOs for soil;
- Assessing achievement of the remedial performance criteria;
- Evaluating Site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.
   To adequately address these issues, this Monitoring Plan provides information on:
- Sampling locations, protocol, and frequency;
- Information on all designed monitoring systems (e.g., well logs);
- Analytical sampling program requirements;
- Reporting requirements;
- Quality Assurance/Quality Control (QA/QC) requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and

• Annual inspection and periodic certification.

Annual monitoring of the performance of the remedy and overall reduction in contamination on-site will be conducted for the first five years. The frequency thereafter will be determined by NYSDEC. Trends in contaminant levels in air, soil, and/or groundwater in the affected areas will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. Monitoring programs are summarized in Table 6 and outlined in detail in Sections 3.2 and 3.3 below.

**Table 6: Monitoring/Inspection Schedule** 

Monitoring Program	Frequency*	Matrix	Analysis
Soil Cover System	Annual – To Correspond with the Periodic Review Report Inspection	Soil	Visual Inspection
Soil Vapor Mitigation System (1)	To Be Determined (1)	Soil Vapor	To Be Determined
Groundwater	Annual	Groundwater	TAL Metals

<sup>\*</sup> The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH

(1) Any future buildings constructed on-Site will have: 1) a passive ventilation system built into the foundation/slab design to mitigate potential explosive gas and/or soil vapor intrusion and 2) additional sampling and evaluation of soil vapor, indoor air, and sub-slab vapor will be conducted prior to occupancy, in accordance with NYSDOH guidance, to determine if the passive ventilation system is adequate and whether additional, if any, measures need to be taken. This SMP will be revised to include a description of the mitigation system installed in any new buildings constructed on-Site in the future and the appropriate operations, maintenance, inspection, and reporting requirements for the system.

### 3.2 SOIL COVER SYSTEM MONITORING

The soil cover system will be inspected once each year (corresponding to the Periodic Review Report certification period inspection) by the Remedial Party, following any Site work that potentially affects the soil cover system, and following any necessary

modifications to the soil cover system that arise from routine maintenance or following Site work. No samples of the cover material are required during the annual monitoring. During Site work or modifications to the soil cover system, soil sampling requirements are outlined in Appendix D (Soil Management Plan).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the Site will be conducted within 5 days of the event to verify the effectiveness of the soil cover system.

### 3.3 MEDIA MONITORING PROGRAM

### 3.3.1 Groundwater Monitoring

Groundwater monitoring will be performed on a periodic basis by the Remedial Party to assess the performance of the remedy. Monitoring wells SWR-MW01, SWR-MW03, SWR-MW04, and SWR-MW05 (Figure 8) will be sampled annually, until NYSDEC determines a decrease in frequency is appropriate. The groundwater samples will be analyzed for target analyte list (TAL) metals.

The network of monitoring wells has been installed to monitor both up-gradient and down-gradient groundwater conditions at the Site. The network of on-Site wells has been designed based on one (1) upgradient well (SWR-MW01) and three (3) downgradient wells (SWR-MW03, SWR-MW04, and SWR-MW05).

Monitoring wells were constructed in each boring using 2 inch diameter PVC well screen and riser. A sand pack was placed around the well screen to a height of 2 feet above the top of screen. Bentonite chips were placed above the sand. The remainder of the annulus was filled with grout and soil cuttings. Monitoring well construction logs are included in Appendix F.

The monitoring wells were installed at the following depths:

- SWR-MW01: approximately 44' bgs
- SWR-MW03: approximately 30' bgs
- SWR-MW04: approximately 16' bgs
- SWR-MW05: approximately 19' bgs

Monitoring wells were screened in Site overburden above the bedrock.

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

Deliverables for the groundwater monitoring program are specified below.

### 3.3.1.1 Sampling Protocol

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

Depth to water and total depth of well measurements will be collected using an electronic water level meter in order to calculate well volumes and groundwater elevations. Field parameters (i.e., temperature, conductivity, salinity, dissolved oxygen, pH, oxidation reduction potential, and turbidity) will be continuously monitored and periodically recorded during purging. Groundwater monitoring wells will be purged and samples will be collected using low flow sampling methodologies (i.e., stainless steel bladder pumps equipped with polyethylene bladders), in order to minimize turbidity. Groundwater samples will be collected once field parameters stabilize for three consecutive readings spaced at approximate 5-minute intervals. Purge water will be discharged to the ground surface in the vicinity of the well from which it came, where it will be allowed to infiltrate.

Groundwater samples must be sent to a NYS ELAP certified laboratory for analysis following proper chain of custody procedures. Laboratory analysis will include, TAL Metals using the current US EPA Method for each analyte.

### 3.3.1.2 Monitoring Well Repairs, Replacement and Decommissioning

If biofouling or silt accumulation occurs in the on-Site and/or off-Site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced (as per the Monitoring Plan), if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

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

### 3.4 SITE-WIDE INSPECTION

Site-wide inspections will be performed on a regular schedule once a year. The purpose of the Site-wide inspections will be to determine that the soil cover Engineering Controls are still in place and operating as intended. The Site-wide inspections should take place generally at the end of the growing season (i.e. in early autumn) to identify any soil cover repairs or maintenance that may be needed and to document the health of soil cover vegetation. Any damage to or potential for damage to (i.e. woody growth and/or burrowing animals) the soil cover engineering control that may allow exposure to the underlying soils will be documented and repairs and/or mitigation measures implemented in a timely manner. NYSDEC approved the allowance for woody growth on the steep side slopes of the Site where mowing would be difficult or impossible to perform. However, if woody growth causes potential exposure concerns (i.e., an uprooted tree exposes the demarcation layer or remaining contamination), the area will be assessed and corrective measures implemented as appropriate. Site-wide inspections will also be performed after all severe weather conditions that may affect Engineering Controls or monitoring devices. During these inspections, an inspection form will be completed (Appendix H). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including Site usage;
- An evaluation of the condition and continued effectiveness of ECs;

- General Site conditions at the time of the inspection;
- The Site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;
- Compliance with permits and schedules included in the Operation and Maintenance Plan; and
- Confirm that Site records are up to date.

## 3.5 MONITORING QUALITY ASSURANCE/QUALITY CONTROL

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan (QAPP) prepared for the Site (Appendix I). Main Components of the QAPP include:

- QA/QC Objectives for Data Measurement;
- Sampling Program:
  - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such;
  - Sample holding times will be in accordance with the NYSDEC ASP requirements; and
  - o Field QC samples (e.g., coded field duplicates and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody;
- Calibration Procedures:
  - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions; and
  - o The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Analytical Procedures;

- Preparation of a Data Usability Summary Report (DUSR), which will present the
  results of data validation, including a summary assessment of laboratory data
  packages, sample preservation and chain of custody procedures, and a summary
  assessment of precision, accuracy, representativeness, comparability, and
  completeness for each analytical method;
- Internal QC and Checks;
- QA Performance and System Audits;
- Preventative Maintenance Procedures and Schedules; and
- Corrective Action Measures.

## 3.6 MONITORING REPORTING REQUIREMENTS

Forms and any other information generated during regular monitoring events and inspections will be kept on file on-Site or at the offices of the Remedial Party if the Site in unoccupied. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC, and (2) submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP.

All monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report. A letter report will also be prepared subsequent to each sampling event. The report (or letter) will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc.);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;

- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDECidentified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether groundwater conditions have changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by NYSDEC. A summary of the monitoring program deliverables are summarized in Table 7 below.

**Table 7: Schedule of Monitoring/Inspection Reports** 

Task	Reporting Frequency*
Groundwater Sampling	Annual Periodic Review Report
Soil Cover System Inspection	Annual Periodic Review Report
Soil Vapor Mitigation System	To Be Determined

<sup>\*</sup> The frequency of events will be conducted as specified until otherwise approved by NYSDEC.

<sup>\*\*</sup> Future buildings may have a soil vapor mitigation system, which will need to be included in future inspections and reports. This SMP will be revised to include a description of the mitigation system installed in any new buildings constructed on-Site in the future and the appropriate operations, maintenance, inspection, and reporting requirements for the system.

## 4.0 OPERATION AND MAINTENANCE PLAN

#### 4.1 INTRODUCTION

There are currently no on-Site buildings. As a result, there are no mechanical components of the remedy that need to be operated or maintained. However, any new buildings constructed on-Site will have: 1) a passive ventilation system built into the foundation/slab design to mitigate potential explosive gas and/or soil vapor intrusion and 2) additional sampling and evaluation of soil vapor, indoor air, and sub-slab vapor will be conducted prior to occupancy, in accordance with NYSDOH guidance, to determine if the passive ventilation system is adequate and whether additional, if any, measures need to be taken. This SMP will be revised to include a description of the mitigation system installed in any new buildings constructed on-Site in the future and the appropriate operations, maintenance, inspection, and reporting requirements for the system. The Operation and Maintenance Plan would need to include:

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

Information on non-mechanical Engineering Controls (i.e. soil cover system) is provided in Section 3 - Engineering and Institutional Control Plan. A copy of this Operation and Maintenance Plan, along with the complete SMP, will be kept at the Site or at the offices of the Remedial Party if the Site in unoccupied. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of the SMP.

## 5.0 INSPECTIONS, REPORTING, AND CERTIFICATIONS

#### 5.1 SITE INSPECTIONS

## **5.1.1 Inspection Frequency**

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 Monitoring Plan and Section 4 Operation and Maintenance Plan of this SMP. At a minimum, a Site-wide inspection will be conducted annually. Inspections of remedial components will also be conducted when a breakdown of any treatment system component has occurred or whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

## **5.1.2** Inspection Forms, Sampling Data, and Maintenance Reports

All inspections and monitoring events will be recorded on the appropriate forms for their respective system which are contained in Appendix H. Additionally, a general Site-wide inspection form will be completed during the Site-wide inspection (see Appendix H). These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including all media sampling data and system maintenance reports, generated for the Site during the reporting period will be provided in electronic format in the Periodic Review Report.

## 5.1.3 Evaluation of Records and Reporting

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

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- Operation and maintenance activities are being conducted properly; and, based on the above items,

• The Site remedy continues to be protective of public health and the environment and is performing as designed in the RAWP and FER.

### 5.2 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS

After the last inspection of the reporting period, a Professional Engineer licensed to practice in New York State will prepare the following certifications:

- No new information has come to the Remedial Party's attention, including
  groundwater monitoring data from wells located at the Site boundary, to indicate
  that the assumptions made in the Qualitative Environmental Assessment (QEA) of
  off-Site contamination are no longer valid; and
- Every five (5) years, that the assumptions in the QEA remain valid.

For each institutional or engineering control identified for the Site, a Professional Engineer licensed to practice in New York State will also certify that all of the following statements are true:

- The inspection of the Site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering control employed at the Site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any Site management plan for this control;
- Access to the Site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the Site, the mechanism remains valid and sufficient for the intended purpose under the document;

- Use of the Site is compliant with the environmental easement;
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the Site remedial program; and
- The information presented in this report is accurate and complete.

The following signed certification will be included in the Periodic Review Report described below.

• I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Remedial Party or Remedial Party's Designated Site Representative] (and if the Site consists of multiple properties): [I have been authorized and designated by all Site owners to sign this certification] for the Site.

## 5.3 PERIODIC REVIEW REPORT

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

- Identification, assessment and certification of all ECs/ICs required by the remedy for the Site;
- Results of the required annual Site inspections and severe condition inspections, if applicable;

- All applicable inspection forms and other records generated for the Site during the reporting period in electronic format;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted.
   These will include a presentation of past data as part of an evaluation of contaminant concentration trends;
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS<sup>TM</sup> database in accordance with the requirements found at this link:
   <a href="http://www.dec.ny.gov/chemical/62440.html">http://www.dec.ny.gov/chemical/62440.html</a>;
- A Site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the Site-specific RAWP, ROD or Decision Document;
  - o The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
  - Any new conclusions or observations regarding Site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
  - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
  - o The overall performance and effectiveness of the remedy.

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

## **5.4 CORRECTIVE MEASURES PLAN**

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by the NYSDEC.







Contour Interval: 10 Feet

Map Taken From: USGS 7.5 Minute Series
Topographic Quadrangles:
Mount Vernon(1966, Photorevised 1979) & Yonkers
(1966, Photorevised 1979)
(www.nysgis.state.ny.us/quads/usgsdrg.htm)



## S&W Redevelopment

of North America, LLC.

Syracuse, New York

DATE: 5/2011 JOB No.: N5024

Former Austin Ave. Landfill Site (BCP #C3-60-066) Site Management Plan Yonkers, Westchester County, New York

> Figure 1 Site Location Map



LEGEND:

Property Boundary (Approximate)

New Subdivided Tax Parcels (Approximate)

> Extent of Lot 1 Geotextile **Demarcation Layer (Approximate)**

SWR-MW01

**Groundwater Monitoring Well** Location and ID (Approximate)

Soil Vapor Well Location and ID (Approximate)

Test Pit Location and ID (Approximate)

229.79 231.40	232.51	232.32
231.40	236.68	
		234.36
235.98		234.95
237.07		239.00
181.01	184.28	184.10
	237.07	237.07

Test Pit Identification	Ground Elevation	Test Pit Identification	Ground Elevation
TP-1	24954	TP-13	133.62
TP-2	239.01	TP-14	193.02
TP-3	231.61	TP-15	138.44
TP-4	237.77	TP-16	134.94
TP-S	234.44	TP-17	143.37
TP-6	230.50	TP-18	140.26
TP-7	231.41	TP-19	142.58
TP-8	152.74	TP-20	139.48
TP-9	155.79	TP-21	138.43
TP-10	157.52	TP-22	252.03
TP-11	14854	TP-23	250.66
TP-12	146,70	Elevations in Feet	

LOT 1 BASE MAP FROM A FIELD SURVEY CONDUCTED BY CONTRACTORS LINE AND GRADE SOUTH, LLC, MAY 11, 2011.

LOT 4 BASE MAP FROM A FIELD SURVEY CONDUCTED BY JOHN MEYER CONSULTING, P.C. JUNE 30, 2011. EXTENT OF ASH FROM EXISTING CONDITIONS, PLATE 1, MORRIS WESTCHESTER CONSTRUCTION COMPANY, L.L.P. HISTORIC AUSTIN AVENUE LANDFILL CLOSURE PLAN, LEGGETTE, BRASHEARS, & GRAHAM ENGINEERING SERVICES, P.C. MARCH 1988. REVISED BY S&W REDEVELOPMENT OF NORTH AMERICA, LLC, MAY 2011. FURTHER REVISED BY GHD CONSULTING ENGINEERS, LLC, DECEMBER 2012.



Morris Westchester Junior Retail Associates, LLC Job Number | 11134282 Lot 1 - Austin Avenue Landfill BCP Site Revised Site Management Plan

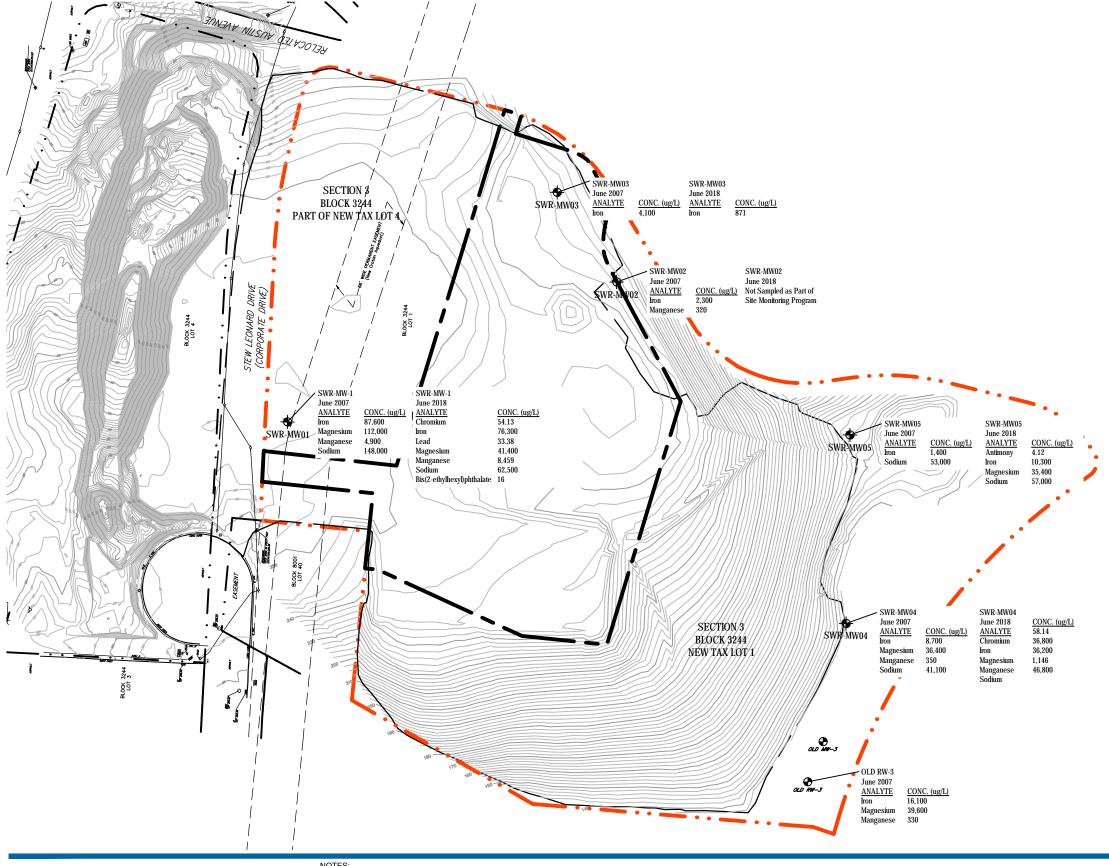
Site Layout and Property Boundaries

Revision A Date 01.29.2019

Figure 2

140'

SCALE 1"=140' AT ORIGINAL SIZE



LEGEND:

Property Boundary (Approximate)

**New Subdivided Tax Parcels** (Approximate)

> Extent of Lot 1 Geotextile **Demarcation Layer (Approximate)**

**Groundwater Monitoring Well** Location and ID (Approximate)

Detected Concentration in ug/L ug/L - micrograms per liter, parts per billion

Only exceedances of the Class GA groundwater standards or guidance values for pre-remediation (June 2007) and the most recent post-remediation (May 2018) groundwater monitoring events are shown here. For a complete summary of analytical results, refer to the tables.

140' SCALE 1"=140' AT ORIGINAL SIZE

- LOT 1 BASE MAP FROM A FIELD SURVEY CONDUCTED BY CONTRACTORS LINE AND GRADE SOUTH, LLC, MAY 11, 2011.
- LOT 4 BASE MAP FROM A FIELD SURVEY CONDUCTED BY JOHN MEYER CONSULTING, P.C. JUNE 30, 2011. EXTENT OF ASH FROM EXISTING CONDITIONS, PLATE 1, MORRIS WESTCHESTER CONSTRUCTION COMPANY, L.L.P. HISTORIC AUSTIN AVENUE LANDFILL CLOSURE PLAN, LEGGETTE, BRASHEARS, & GRAHAM ENGINEERING SERVICES, P.C. MARCH 1988. REVISED BY S&W REDEVELOPMENT OF NORTH AMERICA, LLC, MAY 2011. FURTHER REVISED BY GHD CONSULTING ENGINEERS, LLC, DECEMBER 2012.



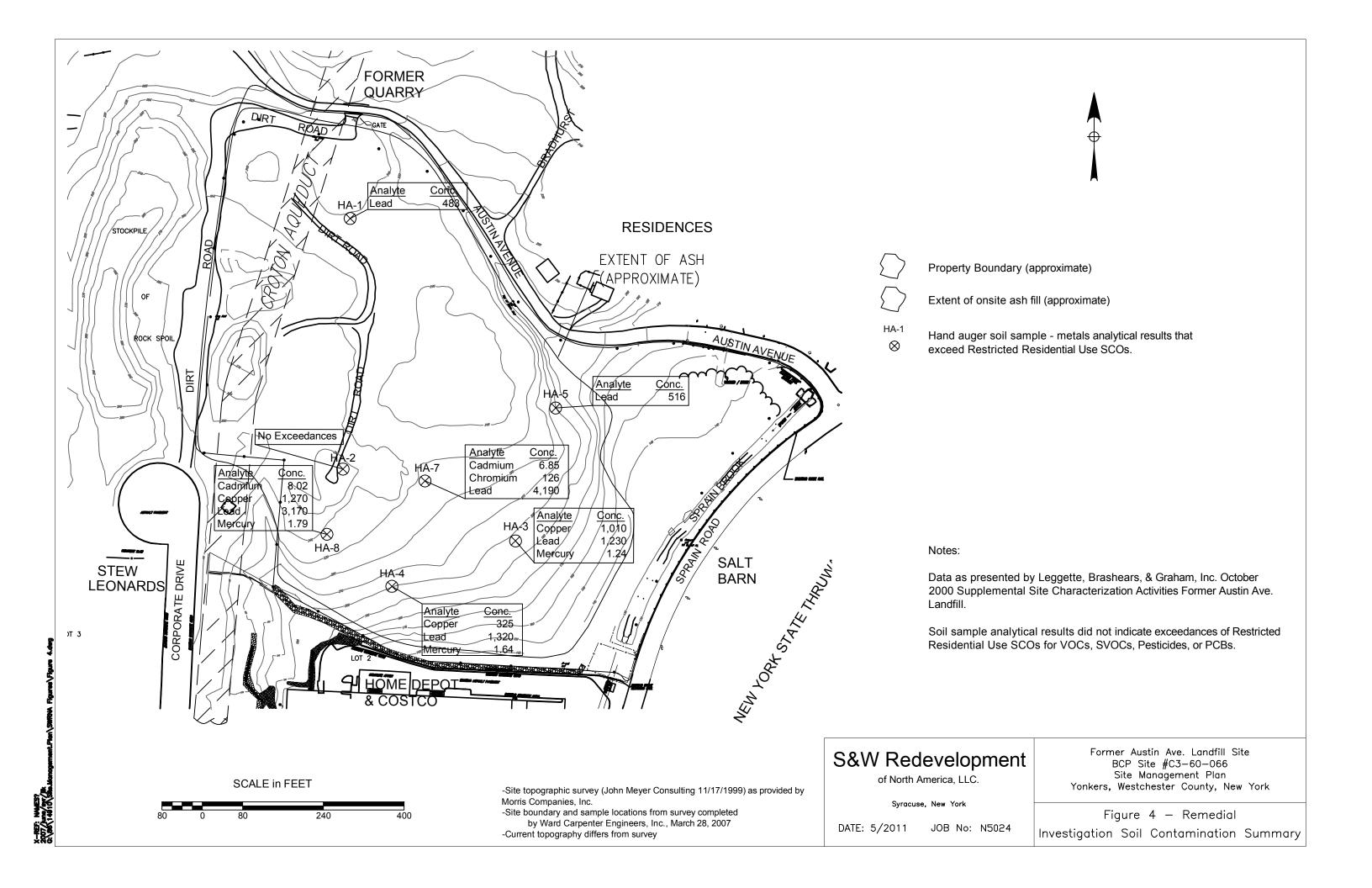
Morris Westchester Junior Retail Associates, LLC Job Number | 11134282 Lot 1 - Austin Avenue Landfill BCP Site Revised Site Management Plan

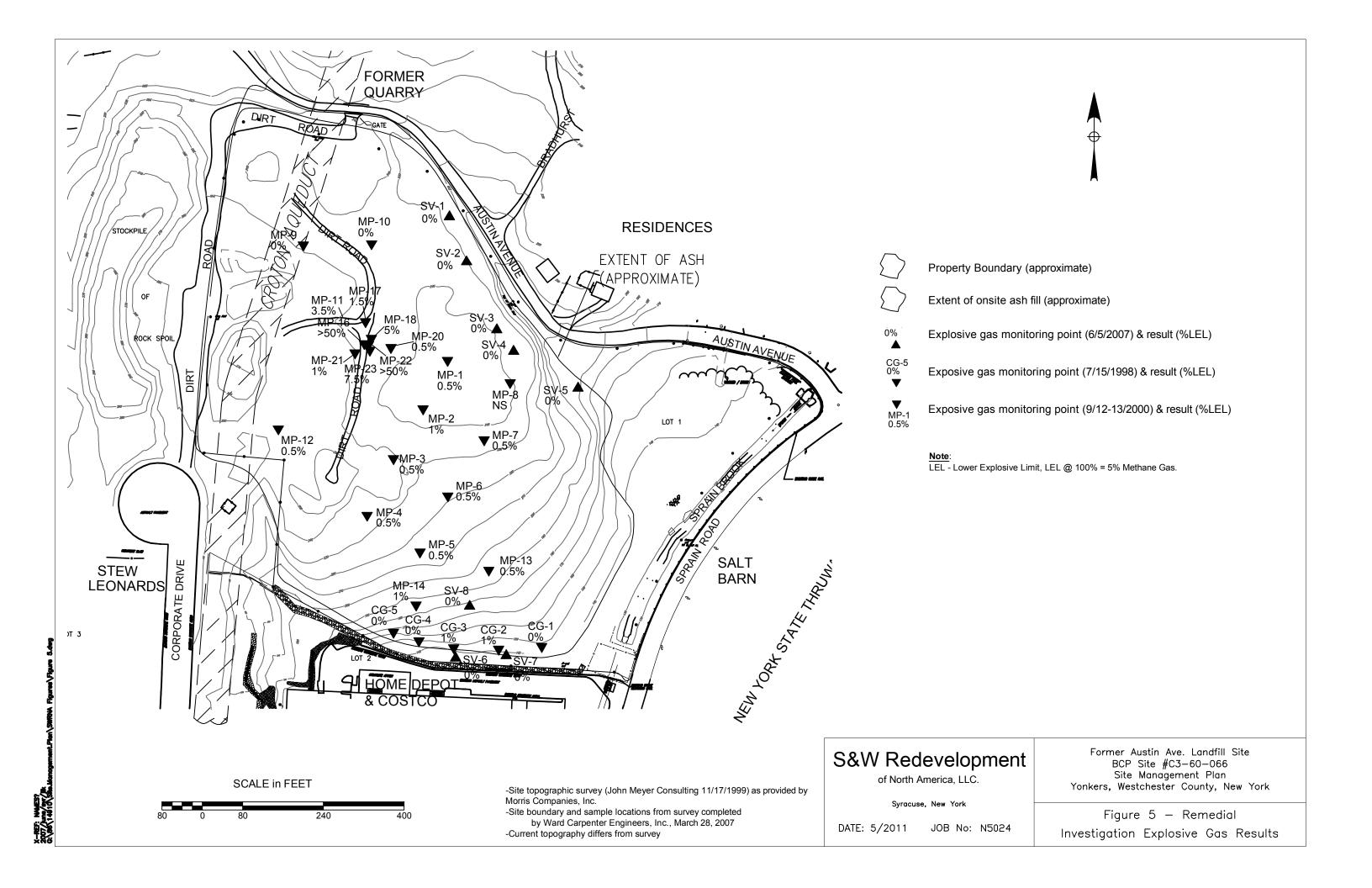
Groundwater Contamination Summary

Revision A

Date 01.29.2019

Figure 3







LEGEND:

Property Boundary (Approximate) **New Subdivided Tax Parcels** (Approximate)

> Extent of Lot 1 Geotextile **Demarcation Layer (Approximate)**

**Groundwater Monitoring Well** Location and ID (Approximate) SWR-MW01

> **Groundwater Elevation (June 2018** Sampling Event)

**Groundwater Elevation Contour** and Presumed Flow (Approximate)

LOT 1 BASE MAP FROM A FIELD SURVEY CONDUCTED BY CONTRACTORS LINE AND GRADE SOUTH, LLC, MAY 11, 2011.

LOT 4 BASE MAP FROM A FIELD SURVEY CONDUCTED BY JOHN MEYER CONSULTING, P.C. JUNE 30, 2011. EXTENT OF ASH FROM EXISTING CONDITIONS, PLATE 1, MORRIS WESTCHESTER CONSTRUCTION COMPANY, L.L.P. HISTORIC AUSTIN AVENUE LANDFILL CLOSURE PLAN, LEGGETTE, BRASHEARS, & GRAHAM ENGINEERING SERVICES, P.C. MARCH 1988. REVISED BY S&W REDEVELOPMENT OF NORTH

AMERICA, LLC, MAY 2011. FURTHER REVISED BY GHD CONSULTING ENGINEERS, LLC, DECEMBER 2012.

Lot 1 - Austin Avenue Landfill BCP Site Revised Site Management Plan **Groundwater Elevation and Flow** (June 2018)

Morris Westchester Junior Retail Associates, LLC Job Number | 11134282 Revision A Date 01.29.2019

Figure 6

SCALE 1"=140' AT ORIGINAL SIZE



Property Boundary (Approximate) **New Subdivided Tax Parcels** (Approximate) Extent of Lot 1 Geotextile **Demarcation Layer (Approximate) Groundwater Monitoring Well** Location and ID (Approximate)

AERIAL PHOTOGRAPHS ARE 6-INCH RESOLUTION AERIAL PHOTOGRAPHS DATED 2016 AND TAKEN FROM THE NYSGIS CLEARINGHOUSE WEBSITE.

MAY 11, 2011.

LOT 4 BASE MAP FROM A FIELD SURVEY CONDUCTED BY CONTRACTORS LINE AND GRADE SOUTH, LLC, MAY 11, 2011.

LOT 4 BASE MAP FROM A FIELD SURVEY CONDUCTED BY JOHN MEYER CONSULTING, P.C. JUNE 30, 2011.

EXTENT OF ASH FROM EXISTING CONDITIONS, PLATE 1, MORRIS WESTCHESTER CONSTRUCTION COMPANY, L.L.P. HISTORIC AUSTIN AVENUE LANDFILL CLOSURE PLAN, LEGGETTE, BRASHEARS, & GRAHAM ENGINEERING SERVICES, P.C. MARCH 1988. REVISED BY S&W REDEVELOPMENT OF NORTH AMERICA, LLC, MAY 2011. FURTHER REVISED BY GHD CONSULTING ENGINEERS, LLC, DECEMBER 2012.



Morris Westchester Junior Retail Associates, LLC Job Number | 11134282 Lot 1 - Austin Avenue Landfill BCP Site

Revised Site Management Plan Groundwater Monitoring Well Network

Revision A

Date 01.29.2019

Figure 8

SCALE 1"=140' AT ORIGINAL SIZE

**TABLES** 

TABLE 1 REMEDIAL INVESTIGATION SOIL CONTAMINATION SUMMARY
Remedial Investigation, Austin Avenue Landfill, Yonkers, NY, BCP Site No. C3-60-066, 2007

Metal Analysis for Near Surface Soil Samples - October 2000.

Wetai Analysis for Nea	ar ourrage con t	bampics cotos	C: 2000.						
	Unrestricted	Restricted							
	Use	Residential							
Parameter (mg/kg)	SCOs	SCOs	HA-1	HA-2	HA-3	HA-4	HA-5	HA-7	HA-8
antimony			U	U	U	U	U	U	U
arsenic	13	16	5.29	4.47	7.44	4.22	4.6	2.87	1.55
beryllium	7.2	72	U	U	U	U	U	U	U
cadmium	2.5	4.3	0.66	U	3.25 *	3.27 *	0.89	6.85 *	8.02 *
chromium	1	110	20.4 *	4.97 *	44.1 *	32.5 *	21.2 *	126 *	53.6 *
copper	50	270	149 *	41.9	1010 *	325 *	63.6 *	210 *	1270 *
lead	63	400	483 *	76.3 *	1230 *	1320 *	516 *	4190 *	3170 *
nickel	30	310	80 *	13	61 *	42.4 *	23.1	90.3 *	110 *
selenium	3.9	180	2.19	U	U	U	2.93	U	U
silver	2	180	1.56	U	4.31 *	U	U	4.41 *	13.8 *
thallium			U	U	U	U	U	U	U
zinc	109	10,000	287 *	139 *	1050 *	1230 *	370 *	1480 *	2760 *
mercury	0.18	0.81	0.506 *	0.439 *	1.237 *	1.636 *	0.661 *	0.373 *	1.791 *

Data as presented by Leggette, Brashears, & Graham, Inc. October 2000 - Supplemental Site Characterization Activities Former Austin Avenue Landfill.

Fill Sample Analytical Results - Pesticides

FIII Sample Analytica	i Results - Pesti	cides					
	Unrestricted	Restricted	TP-01B	TP-06	TP-07	TP-17	TP-23
Parameter (mg/kg)	Use	Residential	12/19/2006	12/19/2006	12/19/2006	12/20/2006	12/20/2006
	SCOs	SCOs	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
alpha-BHC		0.48	U	U	0.0012 J	0.0048 J	U
beta-BHC	0.04	0.36	U	0.0015 J	U	UJ	U
delta-BHC		100	U	0.0024 J	U	UJ	U
gamma-BHC (Lindane)	0.1	1.3	U	U	U	UJ	U
Heptachlor	0.042	2.1	U	0.0079	0.0055	0.005 J	U
Aldrin	0.005	0.097	U	0.0025 J	U	UJ	U
Heptachlor epoxide			U	0.0037 J	0.00091 J	0.0096 J	U
Endosulfan I	2.4	24	U	U	U	UJ	U
Dieldrin	0.005	0.2	U	0.0086* J	0.0052* J	0.023* J	0.0011 J
4 4'-DDE	0.0033	8.9	0.0016 J	U	U	0.0071* J	0.012* J
Endrin	0.014	11	U	U	0.003 J	UJ	0.0035 J
Endosulfan II	2.4	24	U	0.018 J	U	UJ	U
4 4'-DDD	0.0033	13	U	U	U	UJ	0.0048* J
Endosulfan sulfate	2.4	24	U	U	U	UJ	U
4 4'-DDT	0.0033	7.9	U	0.12* J	0.056*	0.1* J	0.016*
Methoxychlor			U	U	U	UJ	U
alpha-Chlordane	0.094	4.2	U	U	U	0.043 J	U
gamma-Chlordane			U	U	U	0.051 J	U
Toxaphene			U	U	U	UJ	0.19
Endrin aldehyde			U	U	0.068 J	0.02 J	0.0045
Endrin ketone			0.0015 J	U	U	UJ	0.006 J

Fill Sample Analytical Results - PCBs

Fili Sample Analytica	Results - PCDS	1					
	Unrestricted	Restricted	TP-01B	TP-06	TP-07	TP-17	TP-23
Parameter (mg/kg)	Use	Residential	12/19/2006	12/19/2006	12/19/2006	12/20/2006	12/20/2006
	SCOs	SCOs	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Aroclor 1016			U	U	U	U	U
Aroclor 1221			U	U	U	U	U
Aroclor 1232	0.1	1	U	U	U	U	U
Aroclor 1242			U	U	U	U	U
Aroclor 1248	(total Aroclors)	(total Aroclors)	U	U	U	0.023 M	U
Aroclor 1254			0.0078 JM	U	U	0.22 M	U
Aroclor 1260			U	0.05 M	0.25* M	0.086 M	0.027 M

SOIL SAMPLES TAKEN PRIOR TO REMEDIAL ACTIVITIES WHICH INCLUDES THE PLACEMENT OF A SOIL ENGINEERING CONTROL

SCOs - 6NYCRR Part 375-6.8(b) Final Soil Cleanup Objectives  $\label{eq:compound} J \ \ \text{Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)}.$ 

Bold highlighted cell Exceeds applicable Restricted Residential Use Soil Cleanup Objectives (SCOs)

U Analyte was not detected at or above the reporting limit.

M - Manually integrated calculation

<sup>\*</sup> Indicates exceeds applicable Unrestricted Use SCOs

#### TABLE 2A REMEDIAL INVESTIGATION GROUNDWATER CONTAMINATION SUMMARY

Groundwater VOCs Analytical Data. Brownfield Remedial Investigation, Austin Avenue Landfill, Yonkers, NY, BCP Site No. C3-60-066, 2007

Sample ID	TOGS*	SWRM	W-1	SWRM	IW-2	S	WRMW	<i>l</i> -3	SWRI	/IW-4	SWRM	W-5	RW-03
Date Sampled		3/14/2007	6/5/2007	3/14/2007	6/5/2007	3/14/200	7	6/5/2007	3/14/2007	6/6/2007	3/14/2007	6/6/2007	6/6/2007
Parameter	(ug/L)	(ug/	L)	(ug/	L)		(ug/L)	1	(ug/	'L)	(ug/	L)	(ug/L)
Chloromethane	, , ,	U	U	U	U		U	U	U	U	U	U	U
Vinyl chloride	2	U	U	U	U		U	U	U	U	U	U	U
Bromomethane	5	U	U	U	U		U	U	U	U	U	U	U
Chloroethane	5	U	U	U	U		U	U	U	U	U	U	U
1 1-Dichloroethene	5	U	U	U	U		U	U	U	U	U	U	U
Carbon disulfide	60	1.3 J	U	U	U		U	U	U	U	U	U	U
Acetone	50	U	U	U	U		U	U	U	U	U	U	U
Methylene chloride	5	U	U	U	U		U	U	U	U	U	U	U
trans-1 2-Dichloroethene	5	U	U	U	U		U	U	U	U	U	U	U
Methyl-tert-butyl-ether (MTBE)	10(G)	U	U	U	U		U	U	U	U	U	U	U
1 1-Dichloroethane	5	U	U	U	U	1.6	J	U	U	U	U	U	U
cis-1 2-Dichloroethene	5	U	U	U	U		U	U	U	U	U	U	U
2-Butanone (MEK)	50	U	U	U	U		U	U	U	U	U	U	U
Chloroform `	7	U	U	U	U		U	U	U	U	U	U	U
1 1 1-Trichloroethane	5	U	U	U	U		U	U	U	U	U	U	U
Carbon tetrachloride	5	U	U	U	U		U	U	U	U	U	U	U
Benzene	1	U	U	U	U		U	U	U	U	U	U	U
1 2-Dichloroethane	0.6	U	U	U	U		U	U	U	U	U	U	U
Trichloroethene	5	U	U	U	U		U	U	U	U	U	U	U
1 2-Dichloropropane	1	U	U	U	U		U	U	U	U	U	U	U
Bromodichloromethane	50	U	U	U	U		U	U	U	U	U	U	U
cis-1 3-Dichloropropene	0.4	U	U	U	U		U	U	U	U	U	U	U
4-Methyl-2-pentanone (MIBK)		U	U	U	U		U	U	U	U	U	U	U
Toluene	5	U	U	U	U		U	U	U	U	U	U	U
trans-1 3-Dichloropropene	0.4	U	U	U	U		U	U	U	U	U	U	U
1 1 2-Trichloroethane	1	U	U	U	U		U	U	U	U	U	U	U
Tetrachloroethene	5	U	U	U	U		U	U	U	U	U	U	U
2-Hexanone	50	U	U	U	U		U	U	U	U	U	U	U
Dibromochloromethane	50	U	U	U	U		U	U	U	U	U	U	U
Chlorobenzene	5	U	U	U	U		U	U	U	U	U	U	U
Ethylbenzene	5	U	U	U	U		U	U	U	U	U	U	U
Styrene	5	U	U	U	U		U	U	U	U	U	U	U
Bromoform	50	U	U	U	U		U	U	U	U	U	U	U
1 1 2 2-Tetrachloroethane	5	U	Ū	Ü	Ū		U	U	Ū	Ū	Ü	Ū	U
Xylenes (total)	5	U	U	U	U		U	U	U	U	U	U	U
Total VOCs		1.3	0	0	2.1	1.6		1.5	0	2	0	0	1.4

<sup>\*</sup>Groundwater standards from Technical and Operational Guidance Series (TOGS) Class GA ambient water quality standards - New York State Department of Environmental Conservation

Bold Highlighted Cell - Exceeds applicable NYSDEC TOGS Class GA Standard

All concentrations in parts per billion (ppb)

<sup>(</sup>G) Signifies a NYSDEC guidance value where a standard has not been established.

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero.

The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the sample.



Analyte	Class GA				SWR	MW-1		
(ug/L)	Standards	3/14/2007	6/5/200	7	11/17/2016	5/23/2017	11/15/2017	6/4/2018
SVOCs by EPA Method 8270D								., .,
1 2 4-Trichlorobenzene	5	ι	, <b>!</b>	U	-	-	i -	-
1,2,4,5-Tetrachlorobenzene		-	-		NS	U	U	U
1 2-Dichlorobenzene	3	Ų		U	-	-	!	-
1 3-Dichlorobenzene 1 4-Dichlorobenzene	3	Ų		U	-	-	i	-
2 2-oxybis (1-chloropropane)	3	l L		U	-	-	1	-
2,3,4,6-Tetrachlorophenol		-	' i .	0	NS	- U	l u	- U
2 4 5-Trichlorophenol		Į.	, !	U	NS	Ü	Ü	Ü
2 4 6-Trichlorophenol		l	ı !	U	NS	U	U	U
2 4-Dichlorophenol	1	U		U	NS	U	į U	U
2 4-Dimethylphenol	50(G)	Ų		U	NS	U	U	U
2 4-Dinitrophenol	10(G)	l.		U	NS	U	U	U
2 4-Dinitrotoluene 2 6-Dinitrotoluene	5(G) 5	l l		U	NS NS	U	i u	U
2-Chloronaphthalene	10(G)	l		U	NS NS	U	U	U
2-Chlorophenol	10(0)	ì		Ü	NS	Ü	I ŭ	Ü
2-Methylnaphthalene		i	ii	U	NS	Ü	Ü	Ü
2-Methylphenol		i		U	-	-		-
2-Nitroaniline	5	ι		U	NS	U	U	U
2-Nitrophenol		l		U	NS	U	U	U
3 3-Dichlorobenzidine	5(G)	Ų		U	NS	U	j u	U
3-Nitroaniline	5	ι	'i	U	NS	U	U	U
4 6-Dinitro-o-cresol 4 6-Dinitro-2-methylphenol		- (	i -	U	- NS	- U	-	U
4-Bromophenyl phenyl ether		l l		U	NS NS	U	i u	- U
4-Chloro-3-methylphenol		ĺ		U	INO.			_
4-Chloroaniline	5	ĺ		υĺ	NS	U	i u	U
4-Chlorophenyl phenyl ether	-	i		Ü	NS	Ü	Ü	Ü
4-Methylphenol		i		Ū	NS	Ū	5.4	Ū
4-Nitroaniline	5(G)	ι	ı !	U	NS	U	i -	U
4-Nitrophenol		ι		U		U	-	U
Acenaphthene	20(G)	ι		U	NS	U	U	U
Acenaphthylene		ι	J :	U	NS	U	U	U
Acetophenone	50(0)	٠.			NS	U	Į U	U
Anthracene Atrazine	50(G)	ι	' !	U	NS NS	U	i u	U
Benzaldehyde		_	1 [		NS NS	U		U U
Benzo(a)anthracene	0.002(G)	٠ ر	ı İ	U	NS	i u	0.03 J	İ Ü
Benzo(a)pyrene	ND	i		U	NS	Ü	U.03 U	Ü
Benzo(b)fluoranthene	0.002(G)	i		Ü	NS	Ü	0.02 J	Ü
Benzo(ghi)perylene	(-,	i		U	NS	Ü	U	U
Benzo(k)fluoranthene	0.002(G)	i		Ū	NS	Ū	Ü	Ū
Biphenyl		-	i -		NS	U	U	U
Benzyl alcohol		U		U	-	-	-	-
Bis(2-chloroethoxy)methane	5	Ų		U	NS	U	U	U
Bis(2-chloroethyl)ether	1	ι	! !	U	NS	U	U	U
Bis(2-chloroisopropyl)ether	5	-	1 -	!	NS	U.	U	U
Bis(2-ethylhexyl)phthalate Butyl benzyl phthalate	50(G)	3.2 c		U	NS NS	2.5 J U	U	<b>16</b>
Caprolactam	30(G)	,	' i	U	NS	Ü		U
Carbazole		٠ ر	1	U	NS	Ü	! 0	Ü
Chrysene	0.002(G)	i		U	NS	Ü	Ü	Ū
Dibenzo(a h)anthracene	1 '	Ü		Ū	NS	Ü	Ü	Ü
Dibenzofuran		ι		U	NS	U	υ	U
Diethyl phthalate	50(G)	ι		U	NS	U	U	U
Dimethyl phthalate	50(G)	Ų		U	NS	U	U	U
Di-n-butyl phthalate	E0(C)	Ų		U	NS NS	U	U	U
Di-n-octyl phthalate Fluoranthene	50(G) 50(G)	l L		U	NS NS	U U	! U	U
Fluoranthene	50(G) 50(G)	l		U	NS NS	U	iü	U
Hexachlorobenzene	0.04	i		U	NS NS	U	Ü	Ü
Hexachlorobutadiene	0.5	i		U	NS	Ü	! 0	Ü
Hexachlorocyclopentadiene	5	i		Ü	NS	Ü	Ü	-
Hexachloroethane	5	Ü		U	NS	Ü	Ü	U
Indeno(1 2 3-cd)pyrene	0.002(G)	ι		U	NS	U	U	U
Isophorone	50(G)	Ų		U	NS	U	U	U
Naphthalene	10	ι	1	U	NS	U	Į U	U
NDPA/DPA Nitrobangana	0.4	· .	. ! -		NS		U	U
Nitrobenzene	0.4	Ų		U	NS NS	U	l u	U
n-Nitroso-di-n-propylamine n-Nitrosodiphenylamine	50(G)	l l		U	ON -	U -	i.	U -
p-Chloro-m-cresol	55(G)	۱ . ۱	`	J	NS	- U	- U	- U
Pentachlorophenol		·	1	U	NS	U	! ü	U
Phenanthrene	50(G)	i		J	NS	Ü	0.02 J	0.11
Phenol		-	1 -		NS	U	U	U
Pyrene	50(G)	ι		U	NS	U	U	0.11
Total SVOCs		3.2	0.72		NS	2.5	5.47	16.22

\*Class GA Groundwater standards taken from Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA ambient water quality standards or guidance values. New York State Department of Environmental Conservation, June 1998 and subsequent addenda

(G) Signifies a NYSDEC guidance value where a standard has not been established.

U - The compound was not detected above the laboratory detection limit.

J - Indicates an estimated value detected between the laboratory detection limit and laboratory reporting limit.
( - ) - Indicates analyte was not analyzed for ND - Non-Detect

NS - Not Sampled during monitoring round. SWRMW-2 not part of ongoing monitoring.

Bold Thick Outlined Cell indicates an exceedance of applicable NYSDEC Class GA Standard or Guidance Value



Analyte	Analyte Class GA SI		SWF	RMW-2			
(ug/L)	Standards	3/14/2007	6/5/2007	11/17/2016	5/23/2017	11/15/2017	6/4/2018
SVOCs by EPA Method 8270D		0,1-1,2001	0,0,200.	11/11/2010	0/20/2011	11,10,2011	0/-1/2010
1 2 4-Trichlorobenzene	5	U	U	-	-	! -	-
1,2,4,5-Tetrachlorobenzene		-	! -	NS	NS	NS	NS
1 2-Dichlorobenzene	3	U	U	-	i -	i -	-
1 3-Dichlorobenzene	3	U	U	-	-	-	-
1 4-Dichlorobenzene	3	U	U	-	-	-	-
2 2-oxybis (1-chloropropane)		U	U	-	-	-	-
2,3,4,6-Tetrachlorophenol		-	i -	NS	NS	NS	NS
2 4 5-Trichlorophenol		U	U	NS	NS	NS	NS
2 4 6-Trichlorophenol		U	U	NS	NS	NS	NS
2 4-Dichlorophenol	1 50(G)	U	i n		NS	NS NS	NS
2 4-Dimethylphenol 2 4-Dinitrophenol	10(G)	U	U	NS NS	NS NS	NS NS	NS NS
2 4-Dinitrophenoi 2 4-Dinitrotoluene		U	i u		NS NS	l NS	NS NS
2 6-Dinitrotoluene	5(G) 5	U	Ü	NS NS	NS NS	NS NS	NS NS
2-Chloronaphthalene	10(G)	Ü	Ü	NS	NS	NS	NS
2-Chlorophenol	10(G)	Ü	i ü	NS NS	I NS	I NS	NS
2-Methylnaphthalene		U	i ü	NS	l NS	NS	NS
2-Methylphenol		Ü	Ü	-	-	-	-
2-Nitroaniline	5	Ü	Ü	NS	NS	NS	NS
2-Nitrophenol	-	Ü	i ŭ		l NS	l NS	NS
3 3-Dichlorobenzidine	5(G)	Ü	i ŭ	NS	NS	NS	NS
3-Nitroaniline	5	Ü	Ü	NS	NS	NS	NS
4 6-Dinitro-o-cresol		-	! - <u> </u>	-	! -	-	NS
4 6-Dinitro-2-methylphenol	I	U	i u	NS	NS	NS	NS
4-Bromophenyl phenyl ether	1	U	U	NS	NS	NS	NS
4-Chloro-3-methylphenol	I	U	U	-	-	-	-
4-Chloroaniline	5	U	U	NS	NS	NS	NS
4-Chlorophenyl phenyl ether		U	i u	NS	NS	NS	NS
4-Methylphenol		U	U	NS	NS	NS	NS
4-Nitroaniline	5(G)	U	U	NS	NS	NS	NS
4-Nitrophenol		U	U	NS	NS	NS	NS
Acenaphthene	20(G)	U	U	NS	NS	NS	NS
Acenaphthylene		U	U	NS	NS	NS	NS
Acetophenone		-	-	NS	NS	NS	NS
Anthracene	50(G)	U	U	NS	NS	NS	NS
Atrazine		-	i -	NS	NS	NS	NS
Benzaldehyde		-	-	NS	NS	NS	NS
Benzo(a)anthracene	0.002(G)	U	U	NS	NS	NS	NS
Benzo(a)pyrene	ND	U	U	NS	NS	NS	NS
Benzo(b)fluoranthen€	0.002(G)	U	U	NS	NS	NS	NS
Benzo(ghi)perylene		U	U	NS	NS	NS	NS
Benzo(k)fluoranthene	0.002(G)	U	U	NS	NS	NS	NS
Biphenyl		-	-	NS	NS	NS	NS
Benzyl alcohol		U	U	-	i .t.	i .t.	
Bis(2-chloroethoxy)methane	5	U	U	NS	NS	NS	NS
Bis(2-chloroethyl)ether	1	U	U	140	NS	NS	NS
Bis(2-chloroisopropyl)ether	_	-	I ,*	NS	NS	NS	NS
Bis(2-ethylhexyl)phthalate	5	U	2.6 J	NS	NS	NS	NS
Butyl benzyl phthalate	50(G)	U	U	NS	NS	NS	NS
Caprolactam				NS	NS NS	l NS	NS
Carbazole	0.000(0)	U	U	NS	NS	NS	NS
Chrysene Dibenzo(a h)anthracene	0.002(G)	U	i u	NS NS	NS Ne	NS NS	NS NS
Dibenzo(a n)anthracene Dibenzofuran	I	U			NS NS	NS NS	NS NS
Diethyl phthalate	50(G)	U	U U	NS NS	NS NS	NS NS	NS NS
Dimethyl phthalate	50(G) 50(G)	U	U	NS NS	NS NS	NS NS	NS NS
Di-n-butyl phthalate	55(6)	U	2.3 J	NS NS	NS NS	l NS	NS NS
Di-n-octyl phthalate	50(G)	U	2.3 J	NS NS	NS NS	NS NS	NS NS
Fluoranthene	50(G)	U	U	NS NS	NS NS	NS NS	NS NS
Fluorene	50(G)	Ü	i ü	NS NS	I NS	I NS	NS
Hexachlorobenzene	0.04	Ü	i ŭ	NS	i NS	i NS	NS NS
Hexachlorobutadiene	0.5	Ü	ŭ	NS	NS	NS	NS
Hexachlorocyclopentadiene	5	Ü	Ü	NS	NS	NS	NS
Hexachloroethane	5	Ü	i ü	NS	NS NS	l NS	NS
Indeno(1 2 3-cd)pyrene	0.002(G)	Ü	Ü	NS	NS	NS	NS
Isophorone	50(G)	Ü	Ü	NS	NS	NS	NS
Naphthalene	10	U	U	NS	NS	NS	NS
NDPA/DPA	ĺ	-	-	NS	NS	NS	NS
Nitrobenzene	0.4	U	U	NS	NS	NS	NS
n-Nitroso-di-n-propylamine	ĺ	U	U	NS	NS	NS	NS
n-Nitrosodiphenylamine	50(G)	U	U	-	! -	! -	-
p-Chloro-m-cresol	1	-	i -	NS	NS	NS	NS
Pentachlorophenol	I	U	U	NS	NS	NS	NS
Phenanthrene	50(G)	U	U	NS	NS	NS	NS
Phenol		-	-	NS	NS	NS	NS
Pyrene	50(G)	U	U	NS	NS	NS	NS
Total SVOCs		ND	4.9	NS	NS	NS	NS

\*Class GA Groundwater standards taken from Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA ambient water quality standards or guidance values. New York State Department of Environmental Conservation, June 1998 and subsequent addenda

(G) Signifies a NYSDEC guidance value where a standard has not been established.

U - The compound was not detected above the laboratory detection limit.

J - Indicates an estimated value detected between the laboratory detection limit and laboratory reporting limit.
(-) - Indicates analyte was not analyzed for ND - Non-Detect
NS - Not Sampled during monitoring round. SWRMW-2 not part of ongoing monitoring.

Bold Thick Outlined Cell indicates an exceedance of applicable NYSDEC Class GA Standard or Guidance Value



	01 01		SWRMW-3					
Analyte (ug/L)	Class GA Standards	3/14/2007	6/5/2007	11/17/2016	5/23/2017	11/15/2017	6/4/2018	
SVOCs by EPA Method 8270D		3/14/2007	0/3/2007	11/11/2010	3/23/2011	11/15/2017	0/4/2010	
1 2 4-Trichlorobenzene	5	U	U	-	-	-	-	
1,2,4,5-Tetrachlorobenzene 1 2-Dichlorobenzene	2			NS	U	U	U	
1 3-Dichlorobenzene	3	U I	U U	-	_		-	
1 4-Dichlorobenzene	3	Ü	U		! -	! [ !	-	
2 2-oxybis (1-chloropropane)		U	U	-	ļ -	- i	-	
2,3,4,6-Tetrachlorophenol		-	-	NS	U	U	U	
2 4 5-Trichlorophenol		U	U	NS NS	U U	Ü	U U	
2 4 6-Trichlorophenol 2 4-Dichlorophenol	1	U . U	U	NS NS	U	U	U	
2 4-Dimethylphenol	50(G)	Ü	Ü	NS	Ü	Ü	Ü	
2 4-Dinitrophenol	10(G)	U	U	NS	U	U	U	
2 4-Dinitrotoluene	5(G)	U	U		U		U	
2 6-Dinitrotoluene 2-Chloronaphthalene	5 10(G)	U U	U U	NS NS	U U	U U	U U	
2-Chlorophenol	10(G)	u i	U	NS NS	i ü	Ü	U	
2-Methylnaphthalene		Ü	Ü	NS	i ü		Ü	
2-Methylphenol		U	U	-	i -	-	-	
2-Nitroaniline	5	U	U	NS	U	U	U	
2-Nitrophenol	F(C)	U U	U U	NS NS		U	U U	
3 3-Dichlorobenzidine 3-Nitroaniline	5(G) 5	U	U	NS NS	U	U	U	
4 6-Dinitro-o-cresol	_	-	-	-	-	- "	Ü	
4 6-Dinitro-2-methylphenol		υl	U	NS	U		-	
4-Bromophenyl phenyl ether		U	U	NS	U	U	U	
4-Chloro-3-methylphenol 4-Chloroaniline	5	U i	U	NS	i -	i - ui	- U	
4-Chlorophenyl phenyl ether	5	U	U	NS NS	U U	U	U	
4-Methylphenol		Ü	Ü	NS NS	Ü	Ü.	Ü	
4-Nitroaniline	5(G)	Ü	Ū	NS	Ū	Ü	Ū	
4-Nitrophenol		U	U	NS	U	U	U	
Acenaphthene	20(G)	U	U	NS	U	U	U	
Acetaphanana		U	U	NS	U	U	U	
Acetophenone Anthracene	50(G)	- U	- U	NS NS	i U	U I	U U	
Atrazine	30(3)	-	-	NS	Ü	υi	Ü	
Benzaldehyde		-	-	NS	Ü	U	Ü	
Benzo(a)anthracene	0.002(G)	U	U	NS	U	U	U	
Benzo(a)pyrene	ND	U	U	NS	U	U	U	
Benzo(shi)nondone	0.002(G)	U	U	NS	U	U	U	
Benzo(ghi)perylene Benzo(k)fluoranthene	0.002(G)	U I	U U	NS NS	U U	U U	U U	
Biphenyl	0.002(0)	- "	-	NS	Ü	Ŭ	Ü	
Benzyl alcohol		U	U	-	-	-	-	
Bis(2-chloroethoxy)methane	5	U	U	NS	U	U	U	
Bis(2-chloroethyl)ether	1	U	U	NS	U	U	U	
Bis(2-chloroisopropyl)ether Bis(2-ethylhexyl)phthalate	5	- U	- U	NS NS	1.2 J	U U	U U	
Butyl benzyl phthalate	50(G)	U	U	NS NS	i '.2 J	Ü	U	
Caprolactam	(-/	- 1	-	NS	i ü		Ü	
Carbazole		U	U	NS	Ü	U	U	
Chrysene	0.002(G)	U	U	NS	U	U	U	
Dibenzo(a h)anthracene Dibenzofuran		U U	U U	NS NS	U	U U	U U	
Diethyl phthalate	50(G)	U	U	NS		U	U	
Dimethyl phthalate	50(G)	Ü	Ü	NS	Ü	Ü	Ü	
Di-n-butyl phthalate		υl	Ü	NS	İ u	U	U	
Di-n-octyl phthalate	50(G)	U	U	NS	U	U	U	
Fluoranthene	50(G)	U	U	NS	U	U	U	
Fluorene Hexachlorobenzene	50(G) 0.04	U U	U	NS NS	U	U U	U U	
Hexachlorobutadiene	0.5	U	U	NS NS	U	Ü	Ü	
Hexachlorocyclopentadiene	5	Ü	Ū	NS	Ū	Ü	Ū	
Hexachloroethane	5	U	U	NS	U	U	U	
Indeno(1 2 3-cd)pyrene	0.002(G)	U	U	NS	U	U	U	
Isophorone Naphthalene	50(G) 10	U	U	NS	U	U	U	
NDPA/DPA	10	U .	U -	NS NS	U -	U I	U U	
Nitrobenzene	0.4	- U	- U	NS NS	- U	- U İ	U	
n-Nitroso-di-n-propylamine		U	U	NS	Ü	ŭ	Ü	
n-Nitrosodiphenylamine	50(G)	U	U	-	-	! - !	-	
p-Chloro-m-cresol		- j	-	NS	U	U	U	
Pentachlorophenol Phenanthrene	50(0)	U	U	NS NS	U	U	U	
Phenol Phenol	50(G)	-	-	NS NS	i U	-	U	
Pyrene	50(G)	- U	- U	NS NS	Ü	Ü	Ü	
Total SVOCs	` '	ND	ND	NS	1.2	ND	ND	

\*Class GA Groundwater standards taken from Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA ambient water quality standards or guidance values, New York State Department of Environmental Conservation, June 1998 and subsequent addenda

(G) Signifies a NYSDEC guidance value where a standard has not been established.

U - The compound was not detected above the laboratory detection

J - Indicates an estimated value detected between the laboratory detection limit and laboratory reporting limit.
( - ) - Indicates analyte was not analyzed for ND - Non-Detect
NS - Not Sampled during monitoring round. SWR

Bold Thick Outlined Cell indicates an exceedance of applicable NYSDEC Class GA Standard or Guidance Value



Analyte	Class GA						SWR	MW-4	V-4			
(ug/L)	Standards	3/14/20	007	6/6/20	007	11/17/		5/23/2017	11/15/2	2017	6/4/20	18
SVOCs by EPA Method 8270D												
1 2 4-Trichlorobenzene	5		U		U	-		-	-	ļ	-	
1,2,4,5-Tetrachlorobenzene	_	-		-		!	U	U		U		U
1 2-Dichlorobenzene	3		U		U	-		-	-		-	
1 3-Dichlorobenzene 1 4-Dichlorobenzene	3		U		U	· -		-	-	i	-	
2 2-oxybis (1-chloropropane)	3		U		u	· -		-	· -	:	-	
2,3,4,6-Tetrachlorophenol		_	٠	_	U	-	U	- U		U	-	U
2 4 5-Trichlorophenol			U		U		Ü	Ü		Ü		Ü
2 4 6-Trichlorophenol			Ū		Ü		Ū	Ū		Ū		Ū
2 4-Dichlorophenol	1		U		U	i	U	U	i	υį		U
2 4-Dimethylphenol	50(G)		U		U		U	U		U		U
2 4-Dinitrophenol	10(G)		U		U		U	U		U		U
2 4-Dinitrotoluene	5(G)		U		U		U	U		U		U
2 6-Dinitrotoluene	5		U		U		U	U		U		U
2-Chloronaphthalene	10(G)		U		U	i	U	U	i	U		U
2-Chlorophenol			U		U		U	U		U		U
2-Methylnaphthalene			U		U		U	U		U		U
2-Methylphenol 2-Nitroaniline	5		U		U	1 -	U	- U	1 -	U	-	U
2-Nitrophenol	3		Ü		U	i	U	Ü		U		U
3 3-Dichlorobenzidine	5(G)		Ü		Ü		Ü	Ü		Ü		Ü
3-Nitroaniline	5	1	Ü		U		Ü	Ü		Ü		Ü
4 6-Dinitro-o-cresol		-		-	-	-	-	-	-	- i		Ü
4 6-Dinitro-2-methylphenol	l	1	U		U	l	U	U	l	U	-	
4-Bromophenyl phenyl ether			U		U	i	U	U	i	U		U
4-Chloro-3-methylphenol			U		U	-		-	-	į	-	
4-Chloroaniline	5		U		U		U	U		U		U
4-Chlorophenyl phenyl ether			U		U	l	U	U	l	U		U
4-Methylphenol			U		U		U	U		U		U
4-Nitroaniline	5(G)		U		U		U	U		U		U
4-Nitrophenol	20(0)		U		U		U	U		U		U
Acenaphthene Acenaphthylene	20(G)		U		U	ļ	U	U U	ļ	U		U
Acetophenone			U		U	ĺ	U	U	ĺ	U		U
Anthracene	50(G)	-	U	-	U		U	i U	1	U		U
Atrazine	30(0)	_	Ŭ	_	Ü		Ü	Ü		υi		Ü
Benzaldehyde		_		_			Ü	Ü		Ü		Ü
Benzo(a)anthracene	0.002(G)		U		U		U	U		U		U
Benzo(a)pyrene	ND		U		U	i	U	U	i	U		U
Benzo(b)fluoranthene	0.002(G)		U		U		U	U		U		U
Benzo(ghi)perylene			U		U		U	U		U		U
Benzo(k)fluoranthene	0.002(G)		U		U		U	U		U		U
Biphenyl		-	j	-	j	İ	U	U	İ	U		U
Benzyl alcohol			U		U	-		-	-	:	-	
Bis(2-chloroethoxy)methane	5		U		U		U	U		U		U
Bis(2-chloroethyl)ether	1		U		U		U	U		U		U
Bis(2-chloroisopropyl)ether Bis(2-ethylhexyl)phthalate	5	-	1	-		l	U	U	١	U		U
Butyl benzyl phthalate	50(G)		U		U U	i	U U	U U	1.9	J		U
Caprolactam	50(G)		U		U		U	U		U		U
Carbazole		-	U	-	U		Ü	Ü		Ü		Ü
Chrysene	0.002(G)		Ü		Ü		Ü	Ü		Ü		Ü
Dibenzo(a h)anthracene			Ű		Ü		Ü	Ü		Ü		Ü
Dibenzofuran			Ū		Ü	i	Ū	Ū	i	Ū		Ū
Diethyl phthalate	50(G)	1	U		U	i	U	U		U		U
Dimethyl phthalate	50(G)	1	U		U		U	U		U		U
Di-n-butyl phthalate		1	U		U	!	U	U	!	U		U
Di-n-octyl phthalate	50(G)	1	U		U		U	U		U		U
Fluoranthene	50(G)	1	U		U		U	U		U		U
Fluorene Hexachlorobenzene	50(G) 0.04	1	U		U		U	U		U		U
	0.04		U		U		U	U		U		
Hexachlorobutadiene Hexachlorocyclopentadiene	0.5 5		U		U	ļ	U	U		U		U
Hexachloroethane	5	1	U		U	i	U	Ü	i	Ü		U
Indeno(1 2 3-cd)pyrene	0.002(G)	1	Ü		U		Ü	Ü		Ü		Ü
Isophorone	50(G)		Ü		Ü		Ü	Ü		Ü		Ü
Naphthalene	10	1	Ŭ		Ü		Ü	Ü		υj		Ü
NDPA/DPA	İ	-	ĺ	-			U	- U	-			U
Nitrobenzene	0.4		U		U		U	U		υİ		U
n-Nitroso-di-n-propylamine	İ	1	U		U		U	U		U		U
n-Nitrosodiphenylamine	50(G)	1	U		U	-		-	-	ļ	-	
p-Chloro-m-cresol	İ	-	j	-		l	U	U	l	U		U
Pentachlorophenol			U		U	i	U	U	i	U		U
Phenanthrene	50(G)	1	U		U		U	U		U		U
Phenol	50(0)					!	U	U	!	U		U
Pyrene Total SVOCa	50(G)	- N:D	U	N'D	U	1.5	U	U	4.0	U	N.D.	U
Total SVOCs	l	ND		ND		ND		ND	1.9		ND	

\*Class GA Groundwater standards taken from Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA ambient water quality standards or guidance values, New York State Department of Environmental Conservation, June 1998 and subsequent addenda

(G) Signifies a NYSDEC guidance value where a standard has not been established.

U - The compound was not detected above the laboratory detection limit.

J - Indicates an estimated value detected between the laboratory detection limit and laboratory reporting limit.

( - ) - Indicates analyte was not analyzed for ND - Non-Detect

NS - Not Sampled during monitoring round. SWRMW-2 not part of ongoing monitoring.

Bold Thick Outlined Cell indicates an exceedance of applicable NYSDEC Class GA Standard or Guidance Value



Analyte (class GA Standards 3/14/2007 6/6/2007 11/17/2016 5/23/2017 SVOCs by EPA Method 8270D 1 2 4-Trichlorobenzene 5 U U U U U 1 1	11/15/2017   -   -   -   -	6/4/2018 - J U
SVOCs by EPA Method 8270D   1 2 4-Trichlorobenzene	-	-
1.2.4.5-Trichlorobenzene 5 U U 1,2.4.5-Tetrachlorobenzene - U U - 12-Dichlorobenzene 3 U U U	- - -	- J -
1 2-Dichlorobenzene 3 U U	 - -	J . U
	-	-
1 3-Dichlorobenzene 3 U U	-	
	i -	-
14-Dichlorobenzene 3 U U		-
2 2-oxybis (1-chloropropane)		
	j l	
	نَ اِ رُ	
	j i	
	J	
	<b>,</b> ! ι	
2 4-Dinitrotoluene 5(G) U U U U	JΙ	J U
	Jį ι	
2-Chloronaphthalene 10(G) U U U		
	J	
2-Methylnaphthalene         U   U   U   U   U   U   U   U   U   U	J .	J U
	, !	. י
	j į	
	j i	
	, J	
4 6-Dinitro-o-cresol	ļ -	Ü
	Jĺι	J .
	J	J L
4-Chloro-3-methylphenol U U	-	-
	J	
	, <u> </u>	
	' i	
	)	
	JI ι Ji ι	
	j i	
	ن اِ رَ	
Anthracene 50(G) U U U	j i	
	J	Jİυ
	J	
	JΙ	
	J I	
	J	
	J	
	, i	
	Jį ι	υį
Benzyl alcohol	,i - ι	U
	úi ί	
	, i	
	<u> </u>	
	ن اِ رَ	
	Ji i	
Carbazole U U U U	J	
	J	
	J L	
	νį .	
	! i	
	j¦ ι	
	)	
	; !	
	ji i	
	ji	
Hexachlorobutadiene 0.5 U U U		
	j l	
Hexachloroethane 5 U U U	JΙ	J U
	Jį ι	
	J	
	J	
NDPA/DPA -   -   U   -	. !	U
	, i	
n-Nitroso-di-n-propylamine U U U U n-Nitrosodiphenylamine 50(G) U U	J	J U
	,	U
	)	
	í! ì	
	íi ì	
	j i	
Total SVOCs ND ND ND ND	ND	ND

\*Class GA Groundwater standards taken from Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA ambient water quality standards or guidance values, New York State Department of Environmental Conservation, June 1998 and subsequent addenda

(G) Signifies a NYSDEC guidance value where a standard has not been established.

U - The compound was not detected above the laboratory detection limit.

J - Indicates an estimated value detected between the laboratory detection limit and laboratory reporting limit.

( - ) - Indicates analyte was not analyzed for ND - Non-Detect

NS - Not Sampled during monitoring round. SWRMW-2 not part of ongoing monitoring.

Bold Thick Outlined Cell indicates an exceedance of applicable NYSDEC Class GA Standard or Guidance Value



					DUDI	ICATE			
Analyte (ug/L)	Class GA Standards	11/17/2	016	5/23/2		11/15/2	0017	6/4/20	110
SVOCs by EPA Method 8270D	Otal radii do	(SWRM		(SWRM		(SWRM		(SWRM	
1 2 4-Trichlorobenzene	5	-	,	-	,	-	,	-	,
1,2,4,5-Tetrachlorobenzene			U		U		U		U
1 2-Dichlorobenzene 1 3-Dichlorobenzene	3	_	ļ	-		-		-	
1 4-Dichlorobenzene	3	_	ļ					-	
2 2-oxybis (1-chloropropane)	-	_	j	-		-		-	
2,3,4,6-Tetrachlorophenol			U		U		U		U
2 4 5-Trichlorophenol			U		U	ĺ	U		U
2 4 6-Trichlorophenol 2 4-Dichlorophenol	1		U U		U		U		U U
2 4-Dimethylphenol	50(G)		U		U		Ü		U
2 4-Dinitrophenol	10(G)		Ü		Ü		Ū		Ū
2 4-Dinitrotoluene	5(G)		U		U		U		U
2 6-Dinitrotoluene 2-Chloronaphthalene	5		U U		U U		U		U
2-Chlorophenol	10(G)		ıı i		II.	ĺ	II.		U
2-Methylnaphthalene			Ü		Ü		Ü		Ü
2-Methylphenol		-	i	-		-		-	
2-Nitroaniline	5		U		U	ĺ	U		U
2-Nitrophenol 3 3-Dichlorobenzidine	5(G)		U		U		U		U
3-Nitroaniline	5		Ü		U		Ü		Ü
4 6-Dinitro-o-cresol		-		-		-			U
4 6-Dinitro-2-methylphenol			U		U	-		-	
4-Bromophenyl phenyl ether			U		U		U		U
4-Chloro-3-methylphenol 4-Chloroaniline	5	-	υİ	_	U	_	U	-	U
4-Chlorophenyl phenyl ether	Ŭ		Ü		Ü		Ü		Ü
4-Methylphenol			U		U	2.8	J		U
4-Nitroaniline	5(G)		U		U		U		U
4-Nitrophenol Acenaphthene	20(G)		U		U		U		U
Acenaphthylene	20(G)		U		U		U		U
Acetophenone			ŭ		Ü		Ü		Ü
Anthracene	50(G)		U		U		U		U
Atrazine Benzaldehyde			U		U		U		U
Benzo(a)anthracene	0.002(G)		υİ		U		U		U
Benzo(a)pyrene	0.002(G) ND		U		U		U		U
Benzo(b)fluoranthene	0.002(G)		Ü		Ü		Ü		Ü
Benzo(ghi)perylene			U		U		U		U
Benzo(k)fluoranthene	0.002(G)		U		U		U		U
Biphenyl			U		U		U		U
Benzyl alcohol Bis(2-chloroethoxy)methane	5	-	U	_	U	-	U	-	U
Bis(2-chloroethyl)ether	1		Ü		Ü		Ü		Ü
Bis(2-chloroisopropyl)ether			U		U		U		U
Bis(2-ethylhexyl)phthalate	5		U	1.0	J		U		U
Butyl benzyl phthalate Caprolactam	50(G)		U		U		U		U
Carbazole			U		U		U		U
Chrysene	0.002(G)		Ü		Ü		Ü		Ü
Dibenzo(a h)anthracene			U		U		U		U
Dibenzofuran	50(G)		U		U		U		U
Diethyl phthalate Dimethyl phthalate	50(G) 50(G)		U		U		U		U
Di-n-butyl phthalate	00(0)		ŭ		Ü		Ü		Ü
Di-n-octyl phthalate	50(G)		U		U		U		U
Fluoranthene	50(G)		U		U		U		U
Fluorene Hexachlorobenzene	50(G) 0.04		U		U		U		U
Hexachlorobutadiene	0.04		U		U		U		U
Hexachlorocyclopentadiene	5		Ŭ		Ü		Ü		Ü
Hexachloroethane	5		U		U		U		U
Indeno(1 2 3-cd)pyrene	0.002(G)		U		U		U		U
Isophorone Naphthalene	50(G) 10		U U		U		U		U U
NDPA/DPA	10		U	-	U		U		U
Nitrobenzene	0.4		Ü		Ü	j	Ü		Ü
n-Nitroso-di-n-propylamine			U		U		U		U
n-Nitrosodiphenylamine	50(G)	-	!	-		-		-	
p-Chloro-m-cresol Pentachlorophenol			U		U	Ĭ	U		U
Phenanthrene	50(G)		Ü		U		U		U
Phenol			U		U		U		U
Pyrene Total SVOCs	50(G)	.:0	U		U		U		U
Total SVOCs		ND		1.0		2.8		ND	

\*Class GA Groundwater standards taken from Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA ambient water quality standards or guidance values. New York State Department of Environmental Conservation, June 1998 and subsequent addenda

(G) Signifies a NYSDEC guidance value where a standard has not been established.

U - The compound was not detected above the laboratory detection

J - Indicates an estimated value detected between the laboratory detection limit and laboratory reporting limit.

oeecuon imit and aboratory reporting limit.

(-) - Indicates analyte was not analyzed for
ND - Non-Detect
NS - Not Sampled during monitoring round. SWRMW-2 not part of ongoing monitoring.

Bold Thick Outlined Cell indicates an exceedance of applicable NYSDEC Class GA Standard or Guidance Value



							SWRMW-1						$\neg$
Analyte	Class GA Standards	3/14/2007		6/5/2	2007		11/17/2016	5/23/201	7	11/14/20	17	6/4/201	8
(ug/L)	Standards	Total	Total		Dissolve	d	Total	Total		Total		Total	
Metals by EPA Methods 6020A and 7470A								`					
Aluminum		437,000	870	J	130	J	NS	1,260	j	33	i	13,600	
Antimony	3	U		U		U	NS	0.69	J		U		U
Arsenic	25	21 J		U		U	NS	1.51	į	1.11		3.85	
Barium	1,000	5,900	500		480		NS	67.49		304.7	i	410.5	
Beryllium	3	9.7 J		U		U	NS		U		U		U
Cadmium	5	29 J		U		U	NS	0.21	ļ		U	0.88	
Calcium		298,000	302,000		312,000	ĺ	NS	62,200	į	197,000	i	204,000	
Chromium	50	950	2.9	J	1.5	J	NS	3.32	i	1.95		54.13	
Cobalt		290		U		U	NS	4.04	i	2.15		22.25	
Copper	200	990	3.2	J		U	NS	11.52	į	0.59	J	96.06	
Iron	300	877,000	87,600		83,800		NS	2,760		45,700		76,300	
Lead	25	820 J		U	•	U	NS	5.21			U	33.38	
Magnesium	35,000 (G)	258,000	112,000		114,000		NS	9,370		40,300		41,400	
Manganese	300	10,900	4,900		5,000		NS	1,974		3,132		8,459	
Mercury	0.7	0.6 J		U		U	NS		U	0.1	J		U
Nickel	100	590	2.9	J	2.8	J	NS	10.94	i	2.17	1	56.1	
Potassium		403,000	153,000		152,000		NS	11,300		46,100		40,800	
Selenium	10	U		U		U	NS		U		U		U
Silver	50	U		U		U	NS		U		U	1.61	
Sodium	20,000	153,000	148,000		148,000		NS	6,550		116,000		62,500	
Thallium	0.5	U		U		U	NS	Ì	U		U		U
Vanadium		1,200	2.8	J	0.94	J	NS	3.82	J	1.69	J	42.73	
Zinc	2,000	2,500		U		U	NS	20.74			U	169.6	

\*Class GA Groundwater standards taken from Technical and Operational Guidance Series (TOGS)

- 1.1.1 Class GA ambient water quality standards or guidance values, New York State Department of Environmental Conservation, June 1998 and subsequent addenda
- (G) Signifies a NYSDEC guidance value where a standard has not been established.
- U The compound was not detected above the laboratory detection limit.
- J Indicates an estimated value detected between the laboratory detection limit and laboratory reporting limit.
- ( ) Indicates analyte was not analyzed for
- ND Non-Detect
- NS Not Sampled during monitoring round. SWRMW-2 not part of on-going monitoring.

Bold Thick Outlined Cell indicates an exceedance of applicable NYSDEC Class GA Standard or Guidance Value



							SWRMW-2			
Analyte	Class GA	3/14/2007		6/5/2	2007	- !	11/17/2016	5/23/2017	11/14/2017	6/4/2018
(ug/L)	Standards	Total	Total		Dissolve	ed	Total	Total	Total	Total
Metals by EPA Methods 6020A and 7470A						;   			  - 	
Aluminum		154,000	740	J	500	U	NS	NS	NS	NS
Antimony	3	U		U		U	NS	NS	NS	NS
Arsenic	25	44 J		U		U	NS	NS	NS	NS
Barium	1,000	2,200	100		120	ļ	NS	NS	NS	NS
Beryllium	3	6.2 J		U		U	NS	NS	NS	NS
Cadmium	5	11 J		U		U	NS	NS	NS	NS
Calcium		40,400	25,500		38,800	į	NS	NS	NS	NS
Chromium	50	460	2.1	J		U	NS	NS	NS	NS
Cobalt		130	2	J		U	NS	NS	NS	NS
Copper	200	790	4.5	J		U	NS	NS	NS	NS
Iron	300	320,000	2,300		570		NS	NS	NS	NS
Lead	25	2,400 J	16			U	NS	NS	NS	NS
Magnesium	35,000 (G)	52,500	9,500		14,300	ļ	NS	NS	NS	NS
Manganese	300	7,000	320		340		NS	NS	NS	NS
Mercury	0.7	0.81 J		U		U	NS	NS	NS	NS
Nickel	100	290	1.7	J		U	NS	NS	NS	NS
Potassium		29,100	7,200		9,000	į	NS	NS	NS	NS
Selenium	10	U		U		U	NS	NS	NS	NS
Silver	50	3.9 J		U		U	NS	NS	NS	NS
Sodium	20,000	22,900	14,800		16,300	ļ	NS	NS	NS	NS
Thallium	0.5	U		U		U	NS	NS	NS	NS
Vanadium		420	1.6	J		U	NS	NS	NS	NS
Zinc	2,000	2,700	22	J		U	NS	NS	i NS	NS

\*Class GA Groundwater standards taken from Technical and Operational Guidance Series (TOGS)

1.1.1 Class GA ambient water quality standards or guidance values, New York State Department of Environmental Conservation, June 1998 and subsequent addenda

(G) Signifies a NYSDEC guidance value where a standard has not been established.

U - The compound was not detected above the laboratory detection limit.

J - Indicates an estimated value detected between the laboratory detection limit and laboratory reporting limit.

( - ) - Indicates analyte was not analyzed for

ND - Non-Detect

NS - Not Sampled during monitoring round. SWRMW-2 not part of on-going monitoring.

Bold Thick Outlined Cell indicates an exceedance of applicable NYSDEC Class GA Standard or Guidance Value



							SWRMW-3						
Analyte	Class GA Standards	3/14/2007		6/5/2	007	:	11/17/2016	5/23/20	17	11/15/20	)17	6/4/201	18
(ug/L)	Standards	Total	Total		Dissolve	ed	Total	Total		Total		Total	
Metals by EPA Methods 6020A and 7470A								   					
Aluminum		206,000	2,400	J	500	U	NS	751		430		154	
Antimony	3	U		U		U	NS	i	U		U		U
Arsenic	25	90		U		U	NS	0.75		0.21	J		U
Barium	1,000	1,800	48		28	į	NS	45.17		43.95		44.58	
Beryllium	3	5.5 J		U		U	NS	ļ	U		U		U
Cadmium	5	10 J		U		U	NS	ļ	U		U		U
Calcium		55,300	17,900		18,400	ļ	NS	20,500		22,700		22,200	
Chromium	50	620	6.5	J	10	U	NS	3.18		1.94		1.04	
Cobalt		190	4.1	J	2.5	J	NS	1.09		1.5		0.87	
Copper	200	460	6.6	J		U	NS	2.21		1.87		1.46	
Iron	300	353,000	4,100			U	NS	2,880		1,080		871	
Lead	25	460 J	6.9	J		U	NS	4.04		1.04			U
Magnesium	35,000 (G)	107,000	7,000		6,100	!	NS	7,290		7,910		7,950	
Manganese	300	3,500	170		400		NS	20.32		32.39		21.97	
Mercury	0.7	0.24 J		U		U	NS	İ	U		U		U
Nickel	100	560	7	J		U	NS	4.26		4.02		2.58	
Potassium		78,700	4,500		4,100	i	NS	6,140		6,030		5,740	
Selenium	10	U		U		U	NS	!	U		U		U
Silver	50	U		U		U	NS	!	U		U		U
Sodium	20,000	24,600	8,800		8,500	ļ	NS	18,100		17,200		17,100	
Thallium	0.5	U		U		U	NS	į	U		U		U
Vanadium		500	5.3			U	NS	2.55	J		U		U
Zinc	2,000	990	11	J		U	NS	i	U	4.99	J		U

<sup>\*</sup>Class GA Groundwater standards taken from Technical and Operational Guidance Series (TOGS)

- (G) Signifies a NYSDEC guidance value where a standard has not been established.
- U The compound was not detected above the laboratory detection limit.
- J Indicates an estimated value detected between the laboratory detection limit and laboratory reporting limit.
- ( ) Indicates analyte was not analyzed for
- ND Non-Detect

NS - Not Sampled during monitoring round. SWRMW-2 not part of on-going monitoring.

Bold Thick Outlined Cell indicates an exceedance of applicable NYSDEC Class GA Standard or Guidance Value

<sup>1.1.1</sup> Class GA ambient water quality standards or guidance values, New York State Department of Environmental Conservation, June 1998 and subsequent addenda



								SWRMW-4							
Analyte	Class GA Standards	3/14/20	07		6/6/2	2007		11/17/20	16	5/23/20	17	11/15/20	17	6/4/201	18
(ug/L)	Standards	Total		Total		Dissolv	ed	Total		Total		Total		Total	<u> </u>
Metals by EPA Methods 6020A and 7470A										   		   			
Aluminum		101,000		5,000	J		U	7,430		i I 1,990		810		19,200	
Antimony	3		U		U		U	! 	U	0.56	J	0.46	J	· ·	U
Arsenic	25		U		U		U	0.8		0.44	J	0.29	J	1.2	
Barium	1,000	1,000		90		44		153.7		41.78		90.7		248.7	
Beryllium	3	3.3	J		U		U	0.2	J	<u> </u>	U		U		U
Cadmium	5	4.8	J		U		U	0.1	J	0.11	J		U	0.69	
Calcium		99,100		77,400		79,900		154,000		164,000		160,000		72,900	
Chromium	50	280		13			U	21.2		5.79		2.75		58.14	
Cobalt		120		11			U	10.4		3.33		1.5		27.16	
Copper	200	460		28		3	J	40.2		12.77		7.54		98.51	
Iron	300	188,000		8,700		57	J	14,400		3,850		1,530		36,800	
Lead	25	62	J	4.4	J		U	4.5		1.21		0.58	J	12.69	
Magnesium	35,000 (G)	81,000		36,400		34,800		49,900		58,700		58,400		36,200	
Manganese	300	2,400		350		19		352.6		264.7		90.25		1,146	
Mercury	0.7		UJ		U		U	ĺ	U	Ī	U	<u> </u>	U		U
Nickel	100	250		14		3.2	J	24.4		14.59		6.7		62.8	
Potassium		51,300		19,000		19,200		13,000		18,800		19,400		20,800	
Selenium	10		U		U		U	 	U	!	U	 	U		U
Silver	50		U		U		U	l i	U	ļ	U	<u> </u>	U		U
Sodium	20,000	59,400		41,100		45,700		74,200		35,900		49,800		46,800	
Thallium	0.5		U		U		U		U		U		U		U
Vanadium		280		13			U	22.2		6.04		2.71	J	55.08	
Zinc	2,000	360		19	J		U	50		9.57	J	3.95	J	104.3	

\*Class GA Groundwater standards taken from Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA ambient water quality standards or guidance values, New York State Department of Environmental Conservation, June 1998 and subsequent addenda

- (G) Signifies a NYSDEC guidance value where a standard has not been established.
- U The compound was not detected above the laboratory detection limit.
- J Indicates an estimated value detected between the laboratory detection limit and laboratory reporting limit.
- ( ) Indicates analyte was not analyzed for ND Non-Detect
- NS Not Sampled during monitoring round. SWRMW-2 not part of on-going monitoring.

Bold Thick Outlined Cell indicates an exceedance of applicable NYSDEC Class GA Standard or Guidance Value



							SWRMV	V-5						
Analyte	Class GA	3/14/2007	l !	6/6/	2007		11/17/20	)16	5/23/20	17	11/15/20	17	6/4/201	18
(ug/L)	Standards	Total	Total		Dissolv	/ed	Total		Total		Total		Total	I
Metals by EPA Methods 6020A and 7470A			<u> </u> 				   				   			
Aluminum		211,000	950	J		U	1,220		226		2,000	ļ	6,070	
Antimony	3	U	i	U		U	i	U	0.82	J		U	4.12	
Arsenic	25	U	i	U		U	0.2	J	; i	U	0.39	J		U
Barium	1,000	1,700	77		71		118.5		78.38		130.1		146.8	
Beryllium	3	5.6 J		U		U	 	U	  -	U	  -	U		U
Cadmium	5	8.9 J		U		U	ļ	U		U	ļ	U		U
Calcium		63,100	51,300		53,600		108,000		67,400		106,000		76,600	
Chromium	50	740	3.2	J		U	5.2		0.84	J	7.97		23.01	
Cobalt		210	2.1	J		U	1.9		0.78		2.71		6.56	
Copper	200	860	4.5	J	_	U	6.5		1.94		9.24		26.79	
Iron	300	337,000	1,400		]	U	1,880		360		3,110		10,300	
Lead	25	64 J	! !	U	•	U	0.5	J	] 	U	0.85	J	2.7	
Magnesium	35,000 (G)	138,000	24,700		24,900		40,700		28,200		41,800		35,400	
Manganese	300	5,800	180		180		39		12.76		59.2		160.2	
Mercury	0.7	UJ	Ì	U		U	j	U	j	U	Î	U		U
Nickel	100	540	3.4	J		U	4.4		1.35	J	6.27		15.26	
Potassium		88,000	18,100		18,000		30,200		20,300		29,800		22,700	
Selenium	10	U	!	U		U	!	U	 	U	! !	U		U
Silver	50	U		U		U	ļ	U	l i	U	ļ	U		U
Sodium	20,000	63,400	53,000		54,000		62,800		58,800		59,300		57,000	
Thallium	0.5	U	!	U		U	!	U		U	!	U		U
Vanadium		520	1.7	J		U	3	J	İ	U	5.22		14.87	
Zinc	2,000	490	;	U		U	6	J	<b>¦</b>	U	6.63	J	16.08	

\*Class GA Groundwater standards taken from Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA ambient water quality standards or guidance values, New York State Department of Environmental Conservation, June 1998 and subsequent addenda

- (G) Signifies a NYSDEC guidance value where a standard has not been established.
- U The compound was not detected above the laboratory detection limit.
- J Indicates an estimated value detected between the laboratory detection limit and laboratory reporting limit.
- ( ) Indicates analyte was not analyzed for ND Non-Detect
- NS Not Sampled during monitoring round. SWRMW-2 not part of on-going monitoring.

Bold Thick Outlined Cell indicates an exceedance of applicable NYSDEC Class GA Standard or Guidance Value



Table 2C
Groundwater Contamination Summary - Metals

					DUPL	ICATE			
Analyte	Class GA Standards	11/17/20	016	5/23/20	17	11/15/20	)17	6/4/201	18
(ug/L)	Standards	Total		Total		Total		Total	
Metals by EPA Methods 6020A and 7470A		(SWRMV	V-4)	(SWRMV	V-3)	(SWRMV	V-1)	(SWRMV	V-3)
Aluminum		7,160		806		37.1		212	
Antimony	3		U	0.92	J		U		U
Arsenic	25	0.6		0.83		1.27			U
Barium	1,000	150.4		47.07		314.5		44.11	
Beryllium	3	0.2	J		U		U		U
Cadmium	5	0.1	J		U		U		U
Calcium		148,000		20,600		206,000		21,400	
Chromium	50	20.1		2.9		2.03		1.21	
Cobalt		9.9		1.12		2.21		1.02	
Copper	200	39.5		2.04			U	1.59	
Iron	300	13,400		2,820		48,200		890	
Lead	25	4.4		3.94			U		U
Magnesium	35,000 (G)	48,700		7,340		41,600		7,560	
Manganese	300	341.8		20.19		3,271		22.82	
Mercury	0.7		U	Ĭ	U		U		U
Nickel	100	24.7		3.95		1.97	J	2.86	
Potassium		12,700		6,100		48,100		5,490	
Selenium	10		U	 	U		U		U
Silver	50		U	 	U		U		U
Sodium	20,000	73,300		17,900		120,000		16,600	
Thallium	0.5	0.2	J	Ī	U		U		U
Vanadium		20.3		2.64	J	1.58	J		U
Zinc	2,000	47.3		3.67	J		U		U

\*Class GA Groundwater standards taken from Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA ambient water quality standards or guidance values, New York State Department of Environmental Conservation, June 1998 and subsequent addenda

- (G) Signifies a NYSDEC guidance value where a standard has not been established.
- U The compound was not detected above the laboratory detection limit.
- J Indicates an estimated value detected between the laboratory detection limit and laboratory reporting limit.
- ( ) Indicates analyte was not analyzed for
- ND Non-Detect
- NS Not Sampled during monitoring round. SWRMW-2 not part of on-going monitoring.

Bold Thick Outlined Cell indicates an exceedance of applicable NYSDEC Class GA Standard or Guidance Value



Analyte	Class GA			SWR	MW-1					SWR	MW-2					SWF	RMW-3		
(ug/L)	Standards	3/14/2007	6/5/2007	11/17/2016	5/23/2017	11/14/2017	6/4/2018	3/14/2007	6/5/2007	11/17/2016	5/23/2017	11/15/2017	6/4/2018	3/14/2007	6/5/2007	11/17/2016	5/23/2017	11/15/2017	6/4/2018
PCBs by EPA Method 8082A				<u> </u>		<u> </u>						<u>;</u> [				<u> </u>			
Aroclor 1016		U	U	İ	U	Ū	U	U	U	j -	-	j -	-	U	U	İ	U	¦ U¦	U
Aroclor 1221		U	U	i	U	U	U	U	U	-	-	-	-	U	U	İ	U	υ	U
Aroclor 1232		U	U	! !	U	U	U	U	U	-	-	-	-	U	U	! !	U	U	U
Aroclor 1242		U	U		U	· υ	U	U	U	-	-	-	-	U	U		U	į U į	U
Aroclor 1248		U	l u		l u	0.053 J	U	U	U	1 -	_	_	-	U	U	1	U	0.042 J	U
Aroclor 1254		U	U	i	U	U	U	U	U	i -	-	-	-	U	U	i	U	υ	U
Aroclor 1260		0.76	U	; !	U	U	U	U	U	-	-	-	-	U	U	; !	U	U	U
Aroclor 1262		-	-	 	U	·U	U	-	-	-	-	-	-	_	-	!	U	υ	U
Aroclor 1268		-	_	ļ	U	ļ u	U	-	-	ļ -	_	_	-	_	-	ļ	U	U	U
Total PCBs	0.09	0.76	ND	NS	ND	0.053	ND	ND	ND	NS	NS	NS	NS	ND	ND	NS	ND	0.042	ND

Analyte	Class GA			SWR	MW-4					SWF	MW-5				DUP	LICATE	
(ug/L)	Standards	3/14/2007	6/6/2007	11/17/2016	5/23/2017	11/17/2017	6/4/2018	3/14/2007	6/6/2007	11/17/2016	5/23/2017	11/15/2017	6/4/2018	11/17/2016	5/23/2017	11/15/2017	6/4/2018
PCBs by EPA				!		] 				!				(SWRMW-4)	(SWRMW-3)	(SWRMW-1)	(SWRMW-3)
Method 8082A		!		!	1	ĺ				1	l '	ĺ		( ,			
Aroclor 1016		U	U	ļ U	U	U	U	U	U	ļ U	U	U	U	U	ļ u	ļ u	U
Aroclor 1221		Ul	U	l U	U	l Ul	U	U	U	I U	l U	l Ul	U	U	l U	I U	l U
Aroclor 1232		U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Aroclor 1242		U	U	U	U	ļυ	U	U	U	U	U	U	U	U	U	U	U
Aroclor 1248		U	U	U	U	U	U	U	U	U	U	0.05 J	U	U	U	0.056 J	U
Aroclor 1254		U	U	U	U	U	U	U	U	U	U	U	U	U	ļ u	ļ u	U
Aroclor 1260		U	U	į U	U	j U	U	U	U	į U	U	j U j	U	U	į U	į U	U
Aroclor 1262		-	-	U	U	U	U	-	-	U	U	U	U	U	U	U	U
Aroclor 1268		-	-	U	U	U	U	-	-	U	U	U	U	U	U	U	U
Total PCBs	0.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.05	ND	ND	ND	0.056	ND

<sup>\*</sup>Class GA Groundwater standards taken from Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA ambient water quality standards or guidance values, New York State Department of Environmental Conservation, June 1998 and subsequent addenda

<sup>(</sup>G) Signifies a NYSDEC guidance value where a standard has not been established.

U - The compound was not detected above the laboratory detection limit.

J - Indicates an estimated value detected between the laboratory detection limit and laboratory reporting limit.

<sup>( - ) -</sup> Indicates analyte was not analyzed for

ND - Non-Detect

NS - Not Sampled during monitoring round. SWRMW-2 not part of on-going monitoring.

Bold Thick Outlined Cell indicates an exceedance of applicable NYSDEC Class GA Standard or Guidance Value

All concentrations reported in micrograms per liter (ug/L) - parts per billion (ppb)

TABLE 3 SOIL CLEANUP OBJECTIVES FOR THE SITE USE, ON-SITE SOIL RE-USE, AND IMPORTED FILL (Page 2 of 2) Site Management Plan, Former Austin Avenue Landfill Site, Yonkers, Westchester County, NY, BCP Site No. C3-60-066.

	Brownfield Soil Cleanup Objectives
Analyte	Track 4 Restricted Residential
SVOCs by EPA Method 8270D	
Pyridine	
N-Nitrosodimethylamine	100
Phenol Aniline	100
2-Chlorophenol	
Bis(2-Chloroethyl)ether	
1,3-Dichlorobenzene 1,4-Dichlorobenzene	
Benzyl alcohol	
1,2-Dichlorobenzene	100
2-Methylphenol Bis(2-chloroisopropyl)ether	100
Hexachloroethane	
3/4-Methylphenol	100
N-Nitroso-di-n-propylamine Nitrobenzene	
Isophorone	
2-Nitrophenol	
2,4-Dimethylphenol Benzoic acid	
bis(2-chloroethoxy)methane	
2,4-Dichlorophenol	
1,2,4-Trichlorobenzene	
Naphthalene 4-Chloroaniline	100
Hexachlorobutadiene	
4-Chloro-3-methylphenol	
2-Methylnaphthalene	
Hexachlorocyclopentadiene 2,4,6-Trichlorophenol	
2,4,5-Trichlorophenol	
2-Chloronaphthalene	
2-Nitroaniline	
Dimethyl phthalate Acenaphthylene	100
2,6-Dinitrotoluene	
3-Nitroaniline	400
Acenaphthene 2,4-Dinitrophenol	100
Dibenzofuran	59
4-Nitrophenol	
2,4-Dinitrotoluene Fluorene	100
Diethyl phthalate	100
4-chlorophenyl phenyl ether	
4-Nitroaniline	
4,6-Dinitro-2-methylphenol N-Nitrosodiphenylamine	
Azobenzene	
4-Bromophenyl Phenyl ether	
Hexachlorobenzene Pentachlorophenol	6.7
Phenanthrene	100
Anthracene	100
Carbazole	
Di-n-butyl phthalate Fluoranthene	100
Pyrene	100
Benzidine	
Butyl benzyl phthalate	4
Benzo(a)anthracene Chrysene	1 3.9
3,3'-Dichlorobenzidine	0.5
Bis(2-Ethylhexyl)phthalate	
Di-n-octyl phthalate	4
Benzo(b)fluoranthene Benzo(k)fluoranthene	1 3.9
Benzo(a)pyrene	1
Indeno(1,2,3-cd)pyrene	0.5
Dibenzo(a,h)anthracene Benzo(g,h,i)perylene	0.33 100

Analysia	Brownfield Soil Cleanup Objectives
Analyte	Track 4 Restricted Residential
Pesticides by EPA Method 8081B	
alpha-BHC	0.48
gamma-BHC	
beta-BHC	0.36
delta-BHC	100
Heptachlor	2.1
Aldrin	0.097
Heptachlor Epoxide	
gamma-Chlordane	
alpha-Chlordane	4.2
4,4'-DDE	8.9
Endosulfan I	24
2,4'-DDD	0.0
Dieldrin	0.2
Endrin 4,4'-DDD	11 13
Endosulfan II	13
4,4'-DDT	7.9
Endrin Aldehyde	7.9
Methoxychlor	
Endosulfan Sulfate	24
Endrin Ketone	
Chlordane	
Toxaphene	
PCBs by EPA Method 8082A	
Aroclor-1016	
Aroclor-1260	
Aroclor 1221	
Aroclor 1232	
Aroclor 1242	
Aroclor 1248	
Aroclor 1254	
Total PCBs	1
Metals by EPA Method RCRA 23	
Aluminum	
Mercury	0.81
Antimony	40
Arsenic	16
Barium	400
Beryllium Cadmium	72 4.3
Calcium	4.3
Chromium	110
Cobalt	110
Copper	270
Iron	210
Lead	400
Magnesium	100
Manganese	2,000
Nickel	310
Potassium	
Selenium	180
Silver	180
Sodium	
Thallium	
Vanadium	
Zinc	10,000

Restricted Residential Use Soil Cleanup Objectives from 6 NYCRR Subpart 375-6, Remedial Program Soil Cleanup Objectives (SCOs), December 2006. Values are mg/kg (ppm)

#### TABLE 3 SOIL CLEANUP OBJECTIVES FOR THE SITE USE, ON-SITE SOIL RE-USE, AND IMPORTED FILL

(Page 1 of 2) Site Management Plan, Former Austin Avenue Landfill Site, Yonkers, Westchester County, NY, BCP Site No. C3-60-066.

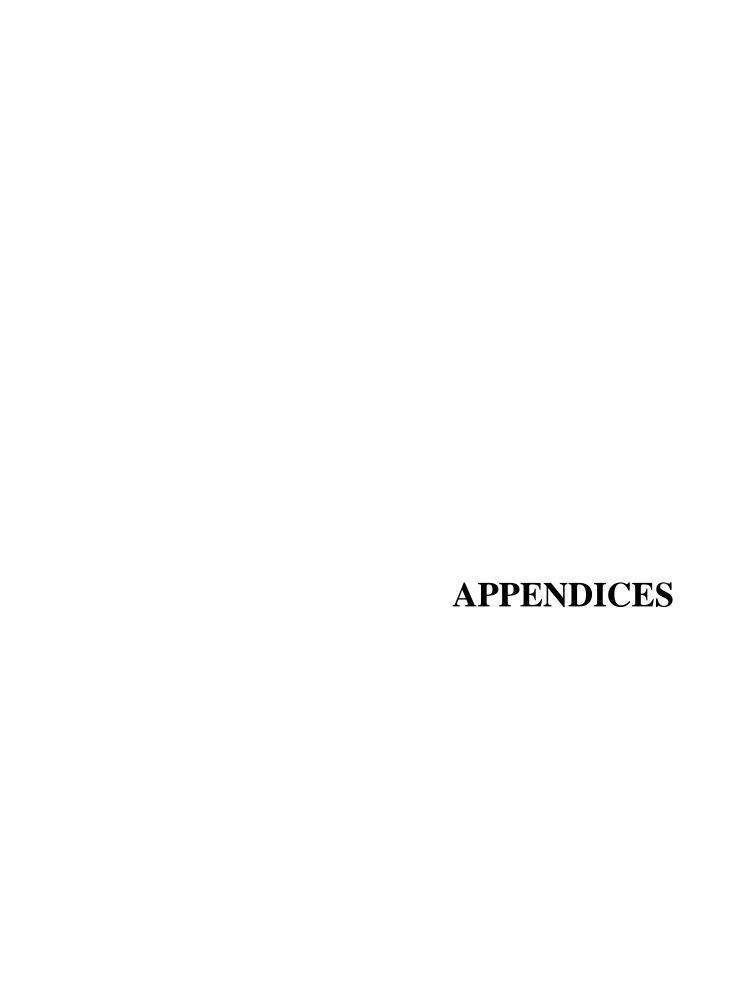
Analyse	Brownfield Soil Cleanup Objectives
Analyte	Track 4 Restricted Residential
VOCs by EPA Method 8260B	
Dichlorodifluoromethane	
Chlorodifluoromethane	
Chloromethane	
Vinyl chloride	0.9
Bromomethane	0.0
Chloroethane	
Trichlorofluoromethane	
Acetone	100
1,1-Dichloroethylene	100
1,1,2-Trichloro-1,2,2-trifluoroethane	
Methylene Chloride	100
Carbon disulfide	
Methyl-tert-Butyl Ether	100
trans-1,2-Dichloroethylene	100
1,1-Dichloroethane	26
Vinyl acetate	
Methyl Ethyl Ketone (2-Butanone)	100
cis-1,2-Dichloroethylene	100
2,2-Dichloropropane	
Bromochloromethane	
Chloroform	49
1,1,1-Trichloroethane	100
1,2-Dichloroethane	3.1
1,1-Dichloropropylene	
Carbon Tetrachloride	2.4
Benzene	4.8
Trichloroethylene	21
1,2-Dichloropropane	
Dibromomethane	
Bromodichloromethane	
2-Chloroethyl Vinyl Ether	
Methyl Isobutyl Ketone	
cis-1,3-Dichloropropylene	
Toluene	100
trans-1,3-Dichloropropylene	
1,1,2-Trichloroethane	
Methyl Butyl Ketone (2-Hexanone)	

Analyte	Brownfield Soil Cleanup Objectives
	Track 4 Restricted Residential
VOCs by EPA Method 8260B	
1,3-Dichloropropane	
Dibromochloromethane	
Tetrachloroethylene	19
1,2-Dibromoethane	
Chlorobenzene	100
1,1,1,2-Tetrachloroethane	
Ethylbenzene	41
m,p-Xylenes	100
Styrene	
o-Xylene	100
Bromoform	
1,1,2,2-Tetrachloroethane	
Isopropylbenzene (Cumene)	
1,2,3-Trichloropropane	
Bromobenzene	
n-Propylbenzene	100
2-Chlorotoluene	
4-Ethyltoluene	
4-Chlorotoluene	
1,3,5-Trimethylbenzene	52
tert-Butylbenzene	100
1,2,4-Trimethylbenzene	52
sec-Butylbenzene	100
1,3-Dichlorobenzene	49
4-Isopropyltoluene	
1,4-Dichlorobenzene	13
1,2-Dichlorobenzene	100
1,4-Diethylbenzene	
n-Butylbenzene	100
1,2-Dibromo-3-chloropropane	
1,2,4,5-Tetramethylbenzene	
1,2,4-Trichlorobenzene	
Naphthalene	
Hexachlorobutadiene	
1,2,3-Trichlorobenzene	
Acrylonitrile	
1,4-Dioxane	13

Methyl Butyl Ketone (2-Hexanone)

Restricted Residential Use Soil Cleanup Objectives from 6 NYCRR Subpart 375-6, Remedial Program Soil Cleanup Objectives (SCOs), December 2006.

Values are mg/kg (ppm)



# Appendix A Environmental Easement

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



#### \*550653029EAS001Z\*

Westchester County Reco	rding & Endorsement Page Prepared: 4/22/2015 3:12:27 PM
Submitter I	nformation
Name: DMR Address 1: 445 Hamilton Avenue Address 2: Suite 1206 City/State/Zip: White Plains NY 10601	Phone: 914-298-3014  Fax: 913-683-1210  Email: drothman@harrisbeach.com  Reference for Submitter: Austin Ave
Documer	
•	
	Type: Easement (EAS)  Page Count: 9 Total Page Count: 10
Parti	
1st PARTY	2nd PARTY
1: COUNTY OF WESTCHESTER INDUSTRIAL DEVELOPMEN - Other 2:	NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL C - Other     :
Prop	
Street Address: 323 SPRAIN ROAD	Tax Designation: 3-3244-1
City/Town: YONKERS	Village:
Cross- Re	
1: 2:	3: 4: —
Supporting I  1: TP-584  2: Yonkers Local	Documents
Recording Fees	Mortgage Taxes
Statutory Recording Fee: \$40.00	Document Date:
Page Fee: \$50.00	Mortgage Amount: \$0.00
Cross-Reference Fee: \$0.00	
Mortgage Affidavit Filing Fee: \$0.00	Basic: \$0.00
RP-5217 Filing Fee: \$0.00	Westchester: \$0.00
TP-584 Filing Fee: \$5.00	Additional: \$0.00
Total Recording Fees Paid: \$95.00	MTA: \$0.00
Transfer Taxes	Special: \$0.00
Onwaldandlan	Yonkers: \$0.00
Transfer Tax: \$0.00	Total Mortgage Tax: \$0.00
Mansion Tax: \$0.00	Dwelling Type: Exempt:
Transfer Tax Number:	Serial #:
	Record and Return To
	☐ Pick-up at County Clerk's office
en en en en en en en en en en en en en e	
WATTO LINDON WILLOWS	David Rothman
MESTCHESTER COUNTY CLERK	Harris Beach PLLC
SOIS APR 22 A 4. ST	445 Hamilton Ave, Suite 1206 White Plains, NY 10601
됐는 그는 사람이 없고 그러워 가는 사람이 되었다.	
SECEINED	



# Office of the Westchester County Clerk



\*20150306000150010011\*

# Payment Cover Page

**Submitter Information** 

Name:

DMR

Address 1:

445 Hamilton Avenue

Address 2: City/State/Zip:

Suite 1206

White Plains NY 10601

Phone:

914-298-3014

Fax:

913-683-1210

Email:

drothman@harrisbeach.com

Reference for Submitter: Austin Ave

**Control Number** 

550653029

**Document Type** 

Easement (EAS)

**Payment Due** Fees \$95.00

**Transfer Tax** \$0.00

**Mortgage Tax** 

\$0.00

Total \$95.00

Total Due:

\$95.00

**Payment Details** 

Fees

CHECK # 1247 (Check, Uncertified)

PENDING

\$95.00

**Total Amount:** 

\$95.00

RECEIVED

# WESTCHESTER COUNTY MUNICIPAL REAL ESTATE TRANSFER TAX RECEIPT APR 22 A 4: 57

MT. VERNO	)N		PEEKSKILL	WESTCH	ESTER COUNT	XXXXXXX
LOCATIONS O	F PROPERTY TR	ANSFERRED				•
ADDRESS:	323 Sprain Ro	ad		Yonkers	•	1070
	Street			City		Zip
	3 Section			3244 Block		- Iot
NAME OF GRA		County of Westel	ester industrial Deve	lopment Agency		
VAME OF GRA	NTEE(S):	The People of the	State of New York Ac	cting Through DEC		•
DATE OF DELIV	/ERY OF DEED:	12/18	3/2014 (easement)			
CONSIDERATI	on:	\$0.00				
RANSFER TAX	(PAID:	\$0.00				
	ROOF OF PAYM			of proof of payment to ester County Clerk is		
				r of the above-referen		
RANSFER	TAX	in Process				
DATE PAID BLOCK 321		.or <u></u> $\mathcal{Q}$				
REC#	MA		The forman or falcifin	ation of any information	on in this docum	



# REAL PROPERTY TRANSFER TAX RETURN

# FINANCE DEPARTMENT

PURSUANT TO CHAPTER 15 TAXES, ARTICLE V, GENERAL ORDINANCE 8-1973 AS AMENDED BY G.O. 4-1984, G.O. 10-1989, G.O. 3-1998 and G.O. 7-2005

(Grantor:)	County of Westcheste	r Industrial Devel	opment Agency	/		NOTE: FILING OF THIS RETURN DOES NOT
Name CONSTITUTE NOTICE TO THE CITY OF						
	ne Avenue, Room 903	White Plains			10601	YONKERS TO CHANGE THE ADDRESS FOR PROPERTY TAXES. PROPERTY OWNERS
Address	ml - n 1 641 - 64-4	City	-41	State		MUST PROVIDE A WRITTEN NOTICE ADVISING THE CITY OF CORRECT NAME
(Grantee)	The People of the Stat			Johnnissione	er oi	AND MAILING ADDRESS.
625 Broadw	. •	Albany		NY	12233	·
Address	•	City	<del></del>		ate Zip	SEND INFORMATION TO:
(Grantor's	Tohn't assolana One N	outh I orinatan As	White D	loina NIV 10	<b>6</b> 01	
Att'y)	John Loveless, One N	Address	City		State Zip	CITY OF YONKERS
	LATTIE	Address	City	`	stato zip	ROOM 116
(Grantee's Att'y)	Office of General Cou	insel, NYSDEC, 6	525 Broadway,	Albany, NY	12233-5500	40 SOUTH BROADWAY
1 200 37	Name	Address	City	St	ate Zip	YONKERS, N.Y. 10701
	I OCATIO	N OE DDODEDOW	CO ANCERDO	2 <b>1</b> \		FOR DEPARTMENT USE ONLY
		N OF PROPERTY	IRANSFERRI	Δ <b>D</b> ·		FOR DEFARIMENT USE ONLI
Address:	323 Sprain Road	<del></del>	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	
City Tax Map		3 Section	3244 Block	1 Lot		•
					Λ1.4	
DATE OF L	ELIVERY OF DEED TO	GRANIEE: E	sement to Gran	11ee: 12/16/2	V1 <del>4</del>	
the state of the s	300 - 100 -	COMPUTATION O	F TAX			
NOTES:						
						vit showing grounds for exemption.
2. Where	the transfer is by a corpora	ition in liquidation o	or to a corporation	n in exchange	for capital stock	, complete Schedule B on Page 2.
1. Total C	onsideration Paid or Requ	ired to be Paid	0			
2. Allocat	ed Consideration Subject t	to Tax (Schedule A)	0			
·····	e-1.5% of Item 1 or 2 Whi					
	Penalty and Interest	· · · · · · · · · · · · · · · · · · ·	0			
				<del></del>		
5. Total T	ax, Penalty and Interest Du					
			TIFIED CHECK F			
		CITY HALL - ROO	OM 210, 40 SOUT	H BROADWA'	Y, YONKERS, NI	EW YORK 10701
			AFFIDA	VIT OF GRAN	TOR	
I swear (or a	ffirm) that this return inch	utteShe accompan	ying schedules o	r statements, h	as been examin	ed by me, and is to the best of my knowledge ral Ordinance 8-1973 as amended by G.O. 4- Vestchester Industrial Development Agency
and belief, a	true and conjugate retern	made in good faith,	pursuant to Chap	oter 15, Article	e v, of the Gene	rai Ordinance 8-1973 as amended by G.O. 4-
1701, 0.0.	NOTAH SEW	YORK 200129	126 6	5	County of V	Vestchester Industrial Development Agency
Sworn to an	d substitute deforation	day day	of March 201	3	(Name of Grantor)	Vesteriester maastrar Development Agency
$\mathbf{x}$	COMMISSION NO. 0	121.00104		<b>&gt;</b>	(By:	7
Signature of Office	er Administering Oath	-41B			(Signature downer)	paret, officer of corporation, etc.)
I swear (or a	offirm) that this return inch	uding the accompan	AFFIDA ving schedules o	VIT OF GRAI	NTEE ()	ed by me, and is to the best of my knowledge
and belief, a	true and complete return,	made in good faith,	pursuant to Chap	oter 15, Article	e V, of the Gene	ral Ordinance 8-1973 as amended by G.O. 4-
1984, G.O.	10-1989, G.O. 3-1998 and	G.O. 7-2005			The People of	f the State of New York Acting Through
Sworn to an	d subscribed to before me	this do	ay of March 2	015		er of Department of Environmental
					(Name of Grantee)	Conservation



# REAL PROPERTY TRANSFER TAX RETURN

# FINANCE DEPARTMENT

PURSUANT TO CHAPTER 15 TAXES, ARTICLE V, GENERAL ORDINANCE 8-1973 AS AMENDED BY G.O. 4-1984, G.O. 10-1989, G.O. 3-1998 and G.O. 7-2005

			THE RESERVE DESCRIPTION DOES NOT
(Grantor:)	County of Westchester Industrial Development Ag	gency	NOTE: FILING OF THIS RETURN DOES NOT CONSTITUTE NOTICE TO THE CITY OF
148 Marti	ine Avenue, Room 903 White Plains	NY 1060	YONKERS TO CHANGE THE ADDRESS FOR PROPERTY TAXES. PROPERTY OWNERS
Address	City		MUST PROVIDE A WRITTEN NOTICE
(Grantee)	The People of the State of New York Acting Thro	ugh Commissioner of	ADVISING THE CITY OF CORRECT NAME AND MAILING ADDRESS.
,	Department of Environmental Conservation	NIX 100	
625 Broadw	vay Albany City	NY 122 State	SEND INFORMATION TO:
	·		
(Grantor's Att'y)	John Loveless, One North Lexington Avenue, Wh		CITY OF YONKERS
• • • • • • • • • • • • • • • • • • • •	Name Address C	City State 2	ROOM 116
(Grantee's	Office of General Counsel, NYSDEC, 625 Broad	way, Albany, NY 12233	-5500 40 SOUTH BROADWAY
Att'y)			YONKERS, N.Y. 10701
			A TOTAL AND AND AND AND AND AND AND AND AND AND
	LOCATION OF PROPERTY TRANSF	ERRED	FOR DEPARTMENT USE ONLY
Address:	323 Sprain Road		
		244 1	
City Tax Map	Socion	ock Lot	
DATE OF I	DELIVERY OF DEED TO GRANTEE: Easement to	Grantee: 12/18/2014	
	COMPUTATION OF TAX		
NOTES:			
1. If item	n 1 is \$25,000 or less, enter zero in items 3 and 5. If exemp	ption is claimed, attach sign	ed affidavit showing grounds for exemption.
2. Where	e the transfer is by a corporation in liquidation or to a corp	oration in exchange for cap	ital stock, complete Schedule B on Page 2.
1. Total 0	Consideration Paid or Required to be Paid	0	
****	ated Consideration Subject to Tax (Schedule A)	0	
	Oue-1.5% of Item 1 or 2 Whichever is Applicable	0	
	- Penalty and Interest	0	
		0	
5. Total	Tax, Penalty and Interest Due	IECK PAYABLE TO THE C	TV OF VONKERS
	CITY HALL – ROOM 210, 40	SOUTH BROADWAY, YON	KERS, NEW TORK 10/01
	A	FFIDAVIT OF GRANTOR	
I swear (or	affirm) that this return includes the accompanying sched a true and compile the return, made in good faith, pursuant to the companying accompanying schedules a true and compile the companying schedules.	lules or statements, has bee	n examined by me, and is to the best of my knowledge
and belief,	a true and complete return, made in good faith, pursuant t	o Chapter 15, Article V, of	the General Ordinance 8-1973 as amended by G.O. 4-
1984, G.O.	. 10-1989, GOTARY 98 JRI-00, 7-2005		
Sworn to a	and subscription of Marchands of Marchands and Subscription of Mar	ch_2015 Cou	nty of Westchester Industrial Development Agency
	a true and portulated but he had a root faith, pursuant to 10-1989, NOTARY SUBJECT OF 7-2005  and subsequents of paragraphs 041072042 and of March COMMISSION EXPERIES 041072042 and of March COMMISSION NO. 02L0818472	(Name	of Grantor)
(X) N	AN COMMISSION EXPIRES 041675 day of INIAN COMMISSION NO. 021.0618475 April 1847 Day of INIAN COMMISSION NO. 021.0618475 April 1847 Day of INIAN COMMISSION NO. 021.0618475 DAY of INIAN COMMISSION NO. 021.0618475 DAY OF INIAN COMMISSION NO. 021.0618475 DAY OF INIAN COMMISSION NO. 021.0618475 DAY OF INIAN COMMISSION NO. 021.0618475 DAY OF INIAN COMMISSION NO. 021.0618475 DAY OF INIAN COMMISSION NO. 021.061	^ <u>A</u>	ture flowre, power, other of corporation, etc.)
Signature of Off	ficer Administering Oath	(Signa	threshower, the territories of corporations, every
	on Not and the Control of the Contro	FFIDAVIT OF GRANTEE dules or statements, has bee	n examined by me, and is to the best of my knowledge
and belief,	a true and complete return, made in good faith, pursuant to 10-1989, G.O. 3-1998 and G.O. 7-2005	to Chapter 15, Article V, of The	Peoplé of the State of New York Acting Through unissioner of Department of Environmental
Sworn to a	and subscribed to before me this day of M	alcii 2013	e of Grantee) Conservation
		(Nam	of Grance)



# REAL PROPERTY TRANSFER TAX RETURN

FINANCE DEPARTMENT
PURSUANT TO CHAPTER 15 TAXES, ARTICLE V, GENERAL ORDINANCE 8-1973 AS AMENDED
BY G.O. 4-1984, G.O. 10-1989, G.O. 3-1998 and G.O. 7-2005

(Grantor: )	County of Westchester Industrial Development Age	ency	NOTE: FILING OF THIS RETURN DOES NOT
	Name	NY 10601	CONSTITUTE NOTICE TO THE CITY OF YONKERS TO CHANGE THE ADDRESS FOR
148 Marti	ine Avenue, Room 903 White Plains	NY 10001 State Zip	PROPERTY TAXES. PROPERTY OWNERS
	The People of the State of New York Acting Through		MUST PROVIDE A WRITTEN NOTICE ADVISING THE CITY OF CORRECT NAME
(Grantee)	Department of Environmental Conservation	<b>5</b>	AND MAILING ADDRESS.
625 Broadw		NY 12233	
Address	City	State Zip	SEND INFORMATION TO:
(Grantor's Att'y)	John Loveless, One North Lexington Avenue, Whit	e Plains, NY 10601	CITY OF YONKERS
·	Name Address City	State Zip	ROOM 116
(Grantee's	Office of General Counsel, NYSDEC, 625 Broadwa	av. Albany NV 12233-5500	40 SOUTH BROADWAY
Att'y)	Name Address City	· · · · · · · · · · · · · · · · · · ·	YONKERS, N.Y. 10701
			TOO DED A DEMENTE LICE ONLY
	LOCATION OF PROPERTY TRANSFEI	RRED	FOR DEPARTMENT USE ONLY
Address:	323 Sprain Road		
City Tax Map	3 324		
	The state of the s	Grantee: 12/18/2014	र देश भिरतास्य प्राप्त है। स्थान के स्वतास्य के स्वतास्य के स्वतास्य के स्वतास्य के स्वतास्य के स्वतास्य के स्
DATEOFI	SELIVER OF DEED TO GRANTED.		
2. Where	1 is \$25,000 or less, enter zero in items 3 and 5. If exemption the transfer is by a corporation in liquidation or to a corporation of the transfer is by a corporation in liquidation or to a corporation or to a corporation in liquidation or to a corporation or to a corpo	ation in exchange for capital sto	ck, complete Schedule B on Page 2.
1. Total (	Consideration Paid or Required to be Paid	0	
2. Alloca	ted Consideration Subject to Tax (Schedule A)	0	
3. Tax Di	ue-1.5% of Item 1 or 2 Whichever is Applicable	0	
4. Add –	Penalty and Interest	U	
5. Total T	Tax, Penalty and Interest Due	0	
	MAKE CERTIFIED CHEC	CK PAYABLE TO THE CITY OF	YONKERS
	CITY HALL – ROOM 210, 40 SC	OUTH BROADWAY, YONKERS, I	NEW YORK 10701
and belief, a 1984, G.O.	affirm) that this return including the accompanying schedule a true and complete return, made in good faith, pursuant to 0 10-1989, G.O. 3-1998 and G.O. 7-2005  and subscribed to before me this	2015 County of Name of Grantor	Westchester Industrial Development Agency
$\mathbf{X}$	North Control of the Control of Control of the Cont		
Signature of Office	cer Administering Oath	(Signature of own	er, partner, officer of corporation, etc.)
and belief, a	AFF affirm) that this return including the accompanying schedule a true and complete return, made in good faith, pursuant to 0 10-1989, G.O. 3-1998 and G.O. 7-2005	es or statements, has been exam Chapter 15, Article V, of the Ger The People	of the State of New York Acting Through
Sworn to ar	nd subscribed to before me this day of _Marc	ch 2015 Commissio	ner of Department of Environmental
		(Name of Grantee	Olisci valioli

BRADFORD D. BURNS Notary Public, State of New York No. 02BU6173754

Qualified in Albany County Commission Expires Sept. 4, 2015

Signature of Officer Administering Oath

By: Chalan Magaza (Signature of owner, partner, officer of corporation,

#### **SCHEDULE A**

Item ALLOCATION OF CONSIDERATION WHERE THE PROPERTY TRANSFER No. PARTLY WITHIN AND PARTLY WITHOUT THE CITY OF YOU	RED IS SITUATED IKERS					
6. Consideration (Item 1, Page 1)						
7. * Total Assessed Valuations of Property Situated Within and Without the City of Yonkers						
8. Deduct – Assessed Valuations of Property Situated Outside the City of Yonkers	1 1					
9. Assessed Valuation of Property Situated Within the City of Yonkers						
10. Percentage of Total Assessed Valuations of Property Attributable to Property Situated Within the City of Yonkers  (Item 9 ÷ Item 7)						
11. Allocated Consideration Subject to Tax (Item 6 x Item 10)	••••					
(enter as Item 2, Page 1 of Return)						
*NOTE: The assessed valuations to be used are those in effect at the time of transfer of property. In lieu of assessed valuatio used provided that they are applied to the property both within and without the City of Yonkers.	ns, the equalized valuations may be					
SCHEDULE B						
Balance Sheet of Grantor Grantee as of (Check Applicable Box)  NOTE: If the transfer is in liquidation of a corporation, the financial statement of the grantor is required as of the debefore the liquidation.	nte nearest the date of transfer and					
If the transfer is to a corporation in exchange for its capital stock, the financial statement of the grantee is required effective date of the transfer. The balance sheet data required by this schedule may be attached as a separate rider to this schedule or if more space is required.	as of the date immediately after the the the return in lieu of completion of					
ASSETS (Itemize: )	\$					
	)					
Total Assets						
LIABILITIES PLUS CAPITAL (Itemize: )	\$					

This completed return must be filed with the Comptroller of the City of Yonkers.

The tax due thereon must be paid within seven (7) days after delivery of the deed by the grantor to the grantee but before the recording of such deed. A return must be filed by both the grantor and the grantee whether or not a tax is due thereon and although the consideration for the deed is \$25,000 or less

# IMPORTANT:

Penalty of 8% of the tax due for the first month of delay plus interest at the rate of 1% of such tax for each additional month of delay must be added if payment is not made on or before the due date.

TP-584 (4/13)

New York State Department of Taxation and Finance

# Combined Real Estate Transfer Tax Return, Credit Line Mortgage Certificate, and Certification of Exemption from the Payment of Estimated Personal Income Tax

Recording office time stamp

See Form TP-584-1. Ins	tructions for Form TF	P-584, before completing th	is form. Print or type.					
Schedule A - Inform			, , , , , , , , , , , , , , , , , , ,					
Grantor/Transferor		first, middle initial) (  check if mo	ore than one grantor)	- Lagrania de la compania del compania del compania de la compania del compania de la compania del compania de la compania de la compania de la compania de la compania del	Social security number			
☐ Individual	County of Westchester Industrial Development Agency							
☐ Corporation	Mailing address Social securi							
☐ Partnership	Michaelian Office Bldg., Room 903, 148 Martine Ave.							
☐ Estate/Trust	City	State	071101	ZIP code	Federal EIN			
Single member LLC	Yonkers	NY		10710	52-1294265			
Other		e if grantor is a single member	LLC (see instructions)		Single member EIN or SSN			
LI Other	Carigio inciribor a riam	o il giantoi lo a oliigio momboi	LLO (see instructiona)	ni da sa sa sa				
Grantee/Transferee	Name (if individual, last,	first, middle initial) ( check if mo	re than one grantee)		Social security number			
☐ Individual		ugh their Commissioner of t		onservation				
☐ Corporation	Mailing address			· · · · · · · · · · · · · · · · · · ·	Social security number			
☐ Partnership	625 Broadway							
☐ Estate/Trust	City	State		ZIP code	Federal EIN			
☐ Single member LLC	Albany	ŇY		12233-1500	14-6013200			
☑ Other		e if grantee is a single member	LLC (see instructions)		Single member EIN or SSN			
Las Othor								
Location and descriptio	n of property convey	ed		· · · · · · · · · · · · · · · · · · ·				
			<u> </u>	I 🛪 :				
Tax map designation -	SWIS code (six digits)	Street address		City, town, or villa	age County			
Section, block & lot (include dots and dashes)	(Gix digito)							
Sec. 3 Block 3244 Lot 1		323 Sprain Road		Yonkers	Westchester			
Type of property convey	od (abaals analiaabla b	A						
		<del></del>						
1 One- to three-fam		Commercial/Industrial	Date of conveyand	•	centage of real property			
2 Residential coope		Apartment building	en line komen er		veyed which is residential			
3 Residential condo		Office building	month day	L real	property			
4  Vacant land	8	Li Other			(see instructions)			
Condition of conveyanc	A (check all that apply)	f. ☐ Cónvevance which c		Ontion cooler				
		f. Cónveyance which c mere change of iden		. 🗀 Option assigr	nment or surrender			
a.   Conveyance of fee	e interest	ownership or organiz	ration lattach	T i i i i i i i i i i i i i i i i i i i				
la [7] A a monta tatana and a sa a sa		Form TP-584.1, Schedul	e <i>F</i> ) <sup>III</sup>	i.Li Leasenoid as	signment or surrender			
b. Acquisition of a con	= ,		م ينمل بيما المجيد ما	I casabald av				
percentage acquired	d%)	g. Conveyance for which previously paid will be	en credit for tax — n e claimed <i>lattach</i>	.   Leasehold gr	arii			
c.   Transfer of a contr	allina interest (state	Form TP-584.1, Schedu	ile C)	. 🗵 Conveyance	of an occoment			
and the second of the second o	•	ь II о		. Mr Conveyance	or arreasement			
percentage transf	erred%)	h.   Conveyance of cooper		Canvayanaa	fay which avanantian			
d.  Conveyance to co	onerative housing	i.   Syndication	þ	from transfer	for which exemption tax claimed (complete			
corporation	operative nousing	I. L. Syndication	• * * * * * * * * * * * * * * * * * * *	Schedule B, i	Part III)			
		I Convoyance of air ric	ahta ar	Convoyonoo	of proporty portly within			
o II Convoyance num	rant to ovin liquist	j. Conveyance of air rig development rights	jins or q	and partly ou	of property partly within tside the state			
e. Conveyance pursi	orcement of security	k. ☐ Contract assignment			oursuant to divorce or separation			
	TP-584.1, Schedule E)	K. 🖂 Contract assignment			e) Env. Easement			
For recording officer's use			Date received		Transaction number			
			Providencia i Russia de Antonio. Providencia		right to be the block of the print of the con- transfer of the contract of the con-			
	Schedule B., Par Schedule B., Par		`	testi i literazioni di				
	2224.0 27,1 4							

Schedule C - Credit Line Mortgage Certificate (Tax Law, Article 11)	
Complete the following only if the interest being transferred is a fee simple interest.  (we) certify that: (check the appropriate box)	
1. The real property being sold or transferred is not subject to an outstanding credit line mortgage.	
2. The real property being sold or transferred is subject to an outstanding credit line mortgage. However, an exis claimed for the following reason:	cemption from the tax
The transfer of real property is a transfer of a fee simple interest to a person or persons who held a fee s real property (whether as a joint tenant, a tenant in common or otherwise) immediately before the transfer	imple interest in the er.
The transfer of real property is (A) to a person or persons related by blood, marriage or adoption to the of to one or more of the original obligors or (B) to a person or entity where 50% or more of the beneficial in property after the transfer is held by the transferor or such related person or persons (as in the case of a the benefit of a minor or the transfer to a trust for the benefit of the transferor).	terest in such real
The transfer of real property is a transfer to a trustee in bankruptcy, a receiver, assignee, or other officer	of a court.
The maximum principal amount secured by the credit line mortgage is \$3,000,000 or more, and the real or transferred is <b>not</b> principally improved nor will it be improved by a one- to six-family owner-occupied	property being sold residence or dwelling.
Please note: for purposes of determining whether the maximum principal amount secured is \$3,000,000 above, the amounts secured by two or more credit line mortgages may be aggregated under certain circles TSB-M-96(6)-R for more information regarding these aggregation requirements.	
Other (attach detailed explanation).	
The real property being transferred is presently subject to an outstanding credit line mortgage. However, no following reason:  A certificate of discharge of the credit line mortgage is being offered at the time of recording the deed.	tax is due for the
A check has been drawn payable for transmission to the credit line mortgagee or his agent for the balan satisfaction of such mortgage will be recorded as soon as it is available.	ce due, and a
The real property being transferred is subject to an outstanding credit line mortgage recorded in	<del> </del>
ા મહિલુકા મુખ્યત્વે એ કે માને કે કે કે કે મુખ્યત્વે કે માને કે માને માને માને માને માને માને માને માન	n in de van dan gebruik. Billige Base Roed in de v
Signature (both the grantor(s) and grantee(s) must sign)	
The undersigned certify that the above information contained in schedules A, B, and C, including any return, certificant achieves, is to the best of his/her knowledge, true and complete, and authorize the person(s) submitting such for eceive a copy for purposes of recording the deed or other instrument effecting the conveyance.  Grantor signature  Title  Grantoe signature	
Grantor signature Title Grantee signature	Attorney Title

Reminder: Did you complete all of the required information in Schedules A, B, and C? Are you required to complete Schedule D? If you checked e, f, or g in Schedule A, did you complete Form TP-584.1? Have you attached your check(s) made payable to the county clerk where recording will take place or, if the recording is in the New York City boroughs of Manhattan, Bronx, Brooklyn, or Queens, to the **NYC Department of Finance**? If no recording is required, send your check(s), made payable to the **Department of Taxation and Finance**, directly to the NYS Tax Department, RETT Return Processing, PO Box 5045, Albany NY 12205-5045.

# OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this Let day of December, 2014, between Owner(s) The County of Westchester Industrial Development Agency, having an office at Michaelian Office Building, Room 903, 148 Martine Avenue, Yonkers New York 10710, County of Westchester, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 323 Sprain Road in the City of Yonkers, County of Westchester and State of New York, known and designated on the tax map of the County Clerk of Westchester as tax map parcel numbers: Section 3 Block 3244 Lot 1, being the same as that property conveyed to Grantor by deed dated May 3, 1989 and recorded in the Westchester County Clerk's Office in Liber and Page, Liber 9528 Page 268. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 17.4369 +/- acres, and is hereinafter more fully described in the Land Title Survey dated April16, 2011, prepared by Contractor's Line & Grade South, LLC, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation

established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

**NOW THEREFORE**, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: W3-1056-05-03, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement")

- 1. <u>Purposes</u>. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.
- 2. <u>Institutional and Engineering Controls</u>. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.
  - A. (1) The Controlled Property may be used for:

Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

- (2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);
- (3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;
- (4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Westchester County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;
- (5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;
- (6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

- (7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;
- (8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;
- (9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;
- (10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.
- B. The Controlled Property shall not be used for Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.
- C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section Division of Environmental Remediation NYSDEC 625 Broadway Albany, New York 12233 Phone: (518) 402-9553

- D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.
- E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation

# pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

- F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.
- G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:
- (1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).
  - (2) the institutional controls and/or engineering controls employed at such site:
    - (i) are in-place;
- (ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved b the NYSDEC and that all controls are in the Department-approved format; and
- (iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;
- (3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;
- (4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;
- (5 the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;
- (6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and
  - (7) the information presented is accurate and complete.
- 3. <u>Right to Enter and Inspect</u>. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.
- 4. <u>Reserved Grantor's Rights</u>. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:
- A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;
- B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

# 5. Enforcement

- A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.
- B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.
- C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.
- D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.
- 6. <u>Notice</u>. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: C360066

Office of General Counsel

NYSDEC 625 Broadway

Albany New York 12233-5500

With a copy to:

Site Control Section

Division of Environmental Remediation

NYSDEC 625 Broadway Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and

communicating notices and responses to requests for approval.

- Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.
- Amendment. Any amendment to this Environmental Easement may only be executed by 8. the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.
- Extinguishment. This Environmental Easement may be extinguished only by a release by 9. the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.
- Joint Obligation. If there are two or more parties identified as Grantor herein, the 10. obligations imposed by this instrument upon them shall be joint and several.

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

The County of Westchester Industrial Development Agency:

Print Name: JAMes 12. Colembu

Title: Exc. Drech Date: 12/2/14

County: Westchester Site No: C360066 Brownfield Cleanup Agreement Index: W3-1056-05-03

# Grantor's Acknowledgment

STATE OF NEW YORK	)
	) ss
COUNTY OF	)

On the Zwo day of Occurred, in the year 20 4, before me, the undersigned, personally appeared Innes (oleman), personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public - State of New York
YU FLORA WU-BIAGI

NOTARY PUBLIC-STATE OF NEW YORK
No. 01WU6260232

Qualified in Westchester County
My Commission Expires April 23, 20\_1/2

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By:

Robert W. Schick, Director

Division of Environmental Remediation

# Grantee's Acknowledgment

STATE OF NEW YORK	<sub>2</sub> )
• .	) ss:
COUNTY OF ALBANY	)

On the day of lecenter, in the year 2014, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 20 LD

# SCHEDULE "A" PROPERTY DESCRIPTION

(Section 3 Block 3244 Lot 1)

All that certain piece or parcel of land, situate, lying and being in the City of Yonkers, County of Westchester and State of New York, known and designated as Lots P6 and P5 (also known as Block 3244, Lot 1) on a composite map of properties for Westchester Corporate Center prepared by Aristotle Bournazos dated 07/10/1989 last revised 11/02/1992 and being more particularly bounded and described as follows:

BEGINNING at a point along the southeasterly corner of Lot P6, said point being on the division line between Lots P6 and P2;

RUNNING THENCE from said point of beginning the following eighteen (18) courses and distances:

North 86° 36' 36" West a distance of 410.08 feet to a point;

North 61° 30' 37" West a distance of 304.00 feet to a point;

North 05° 02' 23" East a distance of 251.76 feet to a point;

North 84° 57' 37" West a distance of 159.18 feet to a point;

North 02° 40° 00" East a distance of 406.19 feet to a point;

Along a curve to the right having a radius of 730.00 feet and an arc length of 140.32 feet to a point;

North 13° 40' 49" East a distance of 89.22 feet to a point;

Along a curve to the right having a radius of 39.74 feet and an arc length of 62.85 feet to a point;

South 76° 19' 11" East a distance of 245.10 feet to a point;

Along a curve to the right having a radius of 270.00 feet and an arc length of 212.91 feet to a point;

South 31° 08' 20" East a distance of 211.14 feet to a point;

Along a curve to the left having a radius of 195.00 feet and an arc length of 229.58 feet to a point;

North 81° 24' 15" East a distance of 42.45 feet to a point;

Along a curve to the right having a radius of 364.12 feet and an arc length of 140.57 feet to a point;

South 76° 28' 37" East a distance of 123.89 feet to a point;

Along a curve to the right having a radius of 145.00 feet and an arc length of 98.41 feet to a point of reverse curve;

Along a curve to the left having a radius of 675.00 feet and an arc length of 401.63 feet to a point;

South 24° 58' 31" West a distance of 293.49 feet to a point, to the point and place of BEGINNING.

The above-described parcel contains 759,552.90 S.F. (17.4369 Acres) more or less.



# REAL PROPERTY TRANSFER TAX RETURN

#### FINANCE DEPARTMENT

PURSUANT TO CHAPTER 15 TAXES, ARTICLE V, GENERAL ORDINANCE 8-1973 AS AMENDED BY G.O. 4-1984, G.O. 10-1989, G.O. 3-1998 and G.O. 7-2005

County of Westchester Industrial Development Agency NOTE: FILING OF THIS RETURN DOES NOT (Grantor: ) CONSTITUTE NOTICE TO THE CITY OF YONKERS TO CHANGE THE ADDRESS FOR 10601 148 Martine Avenue, Room 903 White Plains NY PROPERTY TAXES, PROPERTY OWNERS MUST PROVIDE A WRITTEN NOTICE ADVISING THE CITY OF CORRECT NAME The People of the State of New York Acting Through Commissioner of (Grantee) AND MAILING ADDRESS. Department of Environmental Conservation 625 Broadway Albany SEND INFORMATION TO: Address (Grantor's John Loveless, One North Lexington Avenue, White Plains, NY 10601 Att'y) CITY OF YONKERS **ROOM 116** (Grantee's Office of General Counsel, NYSDEC, 625 Broadway, Albany, NY 12233-5500 40 SOUTH BROADWAY Att'y) **YONKERS, N.Y. 10701** FOR DEPARTMENT USE ONLY LOCATION OF PROPERTY TRANSFERRED 323 Sprain Road 3244 3 City Tax Man Easement to Grantee: 12/18/2014 DATE OF DELIVERY OF DEED TO GRANTEE: COMPUTATION OF TAX NOTES: If item 1 is \$25,000 or less, enter zero in items 3 and 5. If exemption is claimed, attach signed affidavit showing grounds for exemption. Where the transfer is by a corporation in liquidation or to a corporation in exchange for capital stock, complete Schedule B on Page 2. Total Consideration Paid or Required to be Paid Allocated Consideration Subject to Tax (Schedule A) 0 Tax Due-1.5% of Item 1 or 2 Whichever is Applicable  $\overline{0}$ Add - Penalty and Interest Total Tax, Penalty and Interest Due MAKE CERTIFIED CHECK PAYABLE TO THE CITY OF YONKERS CITY HALL -- ROOM 210, 40 SOUTH BROADWAY, YONKERS, NEW YORK 10701 AFFIDAVIT OF GRANTOR I swear (or affirm) that this return including the accompanying schedules or statements, has been examined by me, and is to the best of my knowledge and belief, a true and complete return, made in good faith, pursuant to Chapter 15, Article V, of the General Ordinance 8-1973 as amended by G.O. 4-1984, G.O. 10-1989, G.O. 3-1998 and G.O. 7-2005 day of March 2015 County of Westchester Industrial Development Agency Sworn to and subscribed to before me this X By: (Signature of owner, partner, officer of corporation, etc.) Signature of Officer Administering Oath INTERNOLISE EXP. AFFIDAVIT OF GRANTEE I swear (or affirm) that this return including the accompanying schedules or statements, has been examined by me, and is to the best of my knowledge and belief, a true and complete return, made in good faith, pursuant to Chapter 15, Article V, of the General Ordinance 8-1973 as amended by G.O. 4-1984, G.O. 10-1989, G.O. 3-1998 and G.O. 7-2005 The People of the State of New York Acting Through Commissioner of Department of Environmental Sworn to and subscribed to before me this day of March 2015 Conservation (Name of Grantee)

& Bully

BRADFORD D. BURNS
Notary Public, State of New York
No. 02BU6173754
Qualified in Albany County
Commission Expires Sept. 4, 2015

X By: Challes Lydich (Signature of owner, partner, officer of compration, etc.)

Signature of Officer Administering Oath

#### **SCHEDULE A**

Item ALLOCATION OF CONSIDERATION WHERE THE PROPERTY TRANSFEI	RRED IS SITUATED							
No. PARTLY WITHIN AND PARTLY WITHOUT THE CITY OF YO								
6. Consideration (Item 1, Page 1)								
7. * Total Assessed Valuations of Property Situated Within and Without the City of Yonkers	7. * Total Assessed Valuations of Property Situated Within and Without the City of Yonkers							
8. Deduct – Assessed Valuations of Property Situated Outside the City of Yonkers								
9. Assessed Valuation of Property Situated Within the City of Yonkers								
10. Percentage of Total Assessed Valuations of Property Attributable to Property Situated Within the City of Yor (Item 9 ÷ Item 7)	ıkers							
11. Allocated Consideration Subject to Tax (Item 6 x Item 10)								
(enter as Item 2, Page 1 of Return)								
*NOTE: The assessed valuations to be used are those in effect at the time of transfer of property. In lieu of assessed valuations used provided that they are applied to the property both within and without the City of Yonkers.	ons, the equalized valuations may be							
SCHEDULE B								
Balance Sheet of Grantor Grantee as of (Check Applicable Box)								
NOTE: If the transfer is in liquidation of a corporation, the financial statement of the grantor is required as of the obefore the liquidation.	late nearest the date of transfer and							
If the transfer is to a corporation in exchange for its capital stock, the financial statement of the grantee is required as of the date immediately after the effective date of the transfer. The balance sheet data required by this schedule may be attached as a separate rider to the return in lieu of completion of this schedule or if more space is required.								
ASSETS (Itemize: )	\$							
Total Assets								
LIABILITIES PLUS CAPITAL (Itemize: )	\$							
Total Liabilities plus Capital	el el							

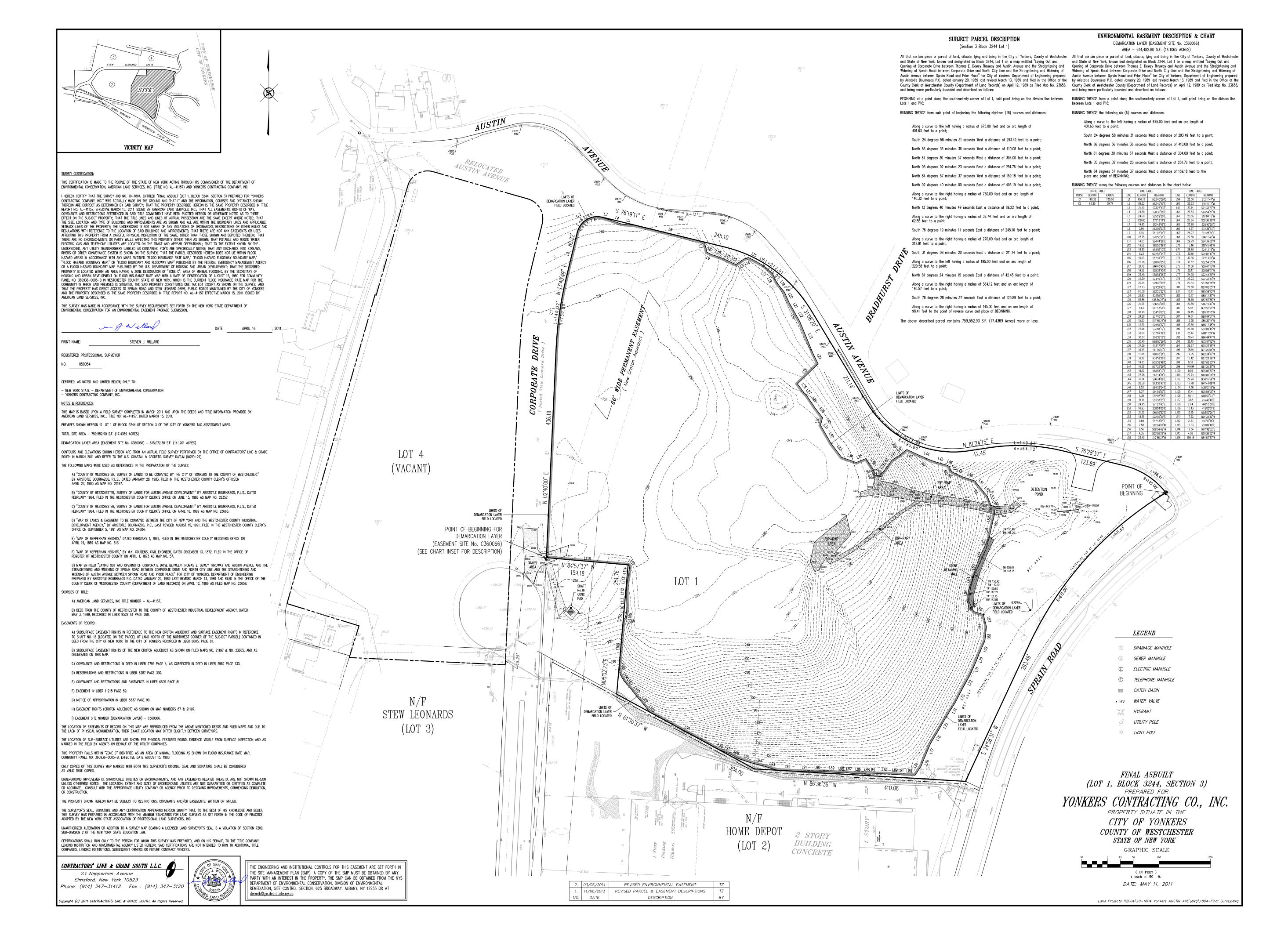
This completed return must be filed with the Comptroller of the City of Yonkers.

The tax due thereon must be paid within seven (7) days after delivery of the deed by the grantor to the grantee but before the recording of such deed. A return must be filed by both the grantor and the grantee whether or not a tax is due thereon and although the consideration for the deed is \$25,000 or less

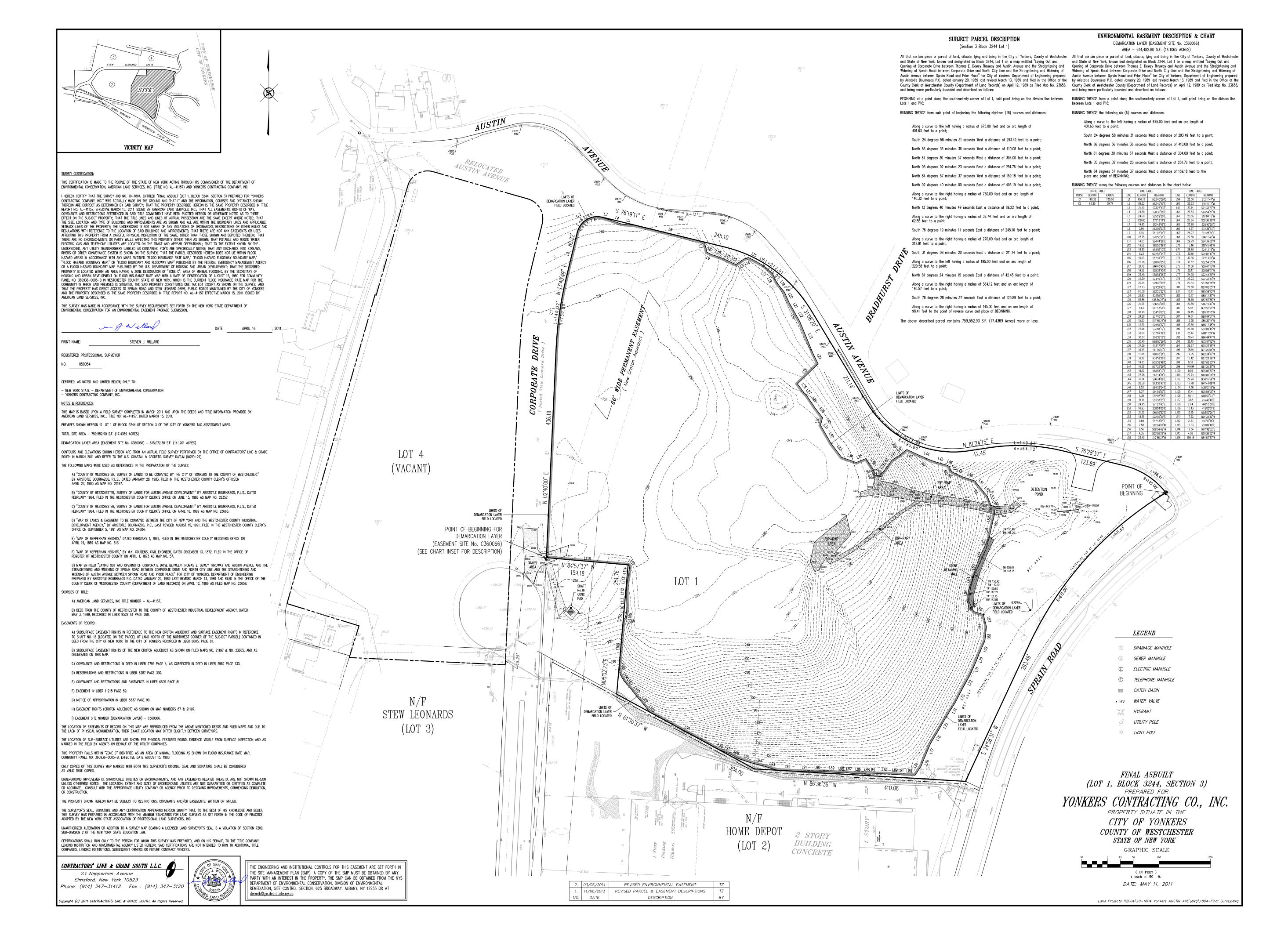
# **IMPORTANT:**

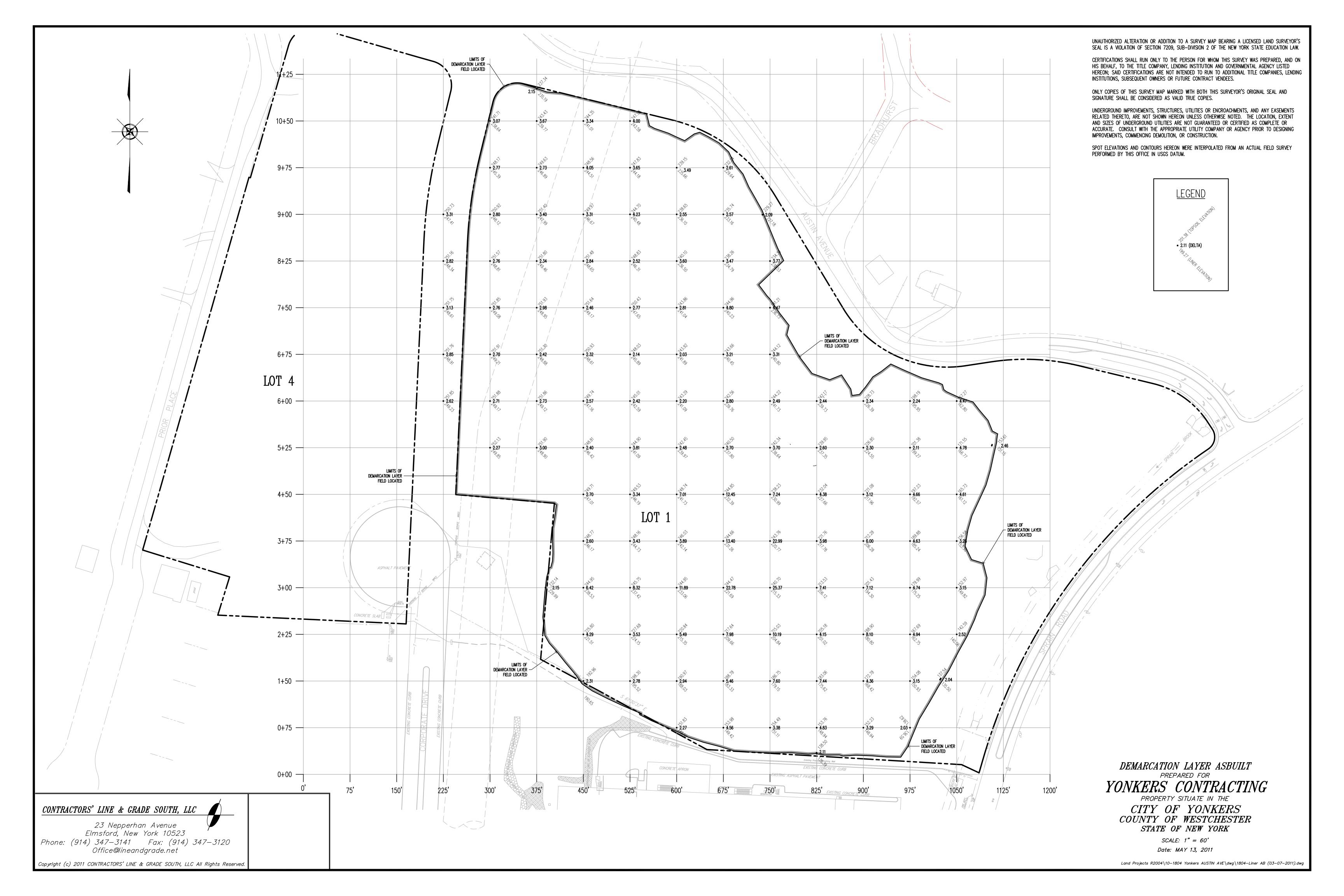
Penalty of 8% of the tax due for the first month of delay plus interest at the rate of 1% of such tax for each additional month of delay must be added if payment is not made on or before the due date.

Appendix B
Metes and Bounds



Appendix C
EC As-Built Drawings





Appendix D
Soil Management Plan

# SOIL MANAGEMENT PLAN

#### 1 NOTIFICATION

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

Mr. Michael Squire, Project Manager

Division of Environmental Remediation

Remedial Bureau C

625 Broadway, 11th Floor

Albany, New York 12233-7014

# This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for Site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this Soil Management Plan;
- A statement that the work will be performed in compliance with this Soil Management Plan, and 29 CFR 1910.120;
- A copy of the contractor's health and safety plan, in electronic format, if it differs from the HASP provided in Appendix E of this Site Management Plan;
- Identification of disposal facilities for potential waste streams; and

 Identification of sources of any anticipated backfill, along with all required chemical testing results.

# 2 SOIL SCREENING METHODS

Site soil that is excavated must be managed, characterized, and properly disposed of in accordance with NYSDEC regulations and directives. Visual, olfactory and instrument-based soil screening will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed regardless of when the invasive work is done, and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-Site disposal, material that requires testing, material that can be returned to the subsurface, and material that can be used as cover soil.

For excavated soil with evidence of contamination (i.e., visual, olfactory, and/or PID indications), soil samples will be collected in accordance with Table 5.4 of NYSDEC's Division of Environmental Remediation *DER-10 Technical Guidance for Site Investigation and Remediation* (June 2010 or latest revision), as indicated below:

Recommended 1	Recommended Number of Soil Samples for Soil Imported To or Exported From a Site as set forth in DER-								
	10 Paragraphs 5.4(e) & 5.4(f)								
Contaminant	Sem	Semivolatiles		Volatiles		Inorganics		Pesticides/PCBs	
Soil Quantity	Grab	Composite	Grab	Composite	Grab	Composite	Grab	Composite	
(yd3)									
0-50	1	1	1	NA	1	1	1	1	
50-100	1	2	2	NA	1	2	1	2	
100-200	1	3	3	NA	1	3	1	3	
200-300	1	4	4	NA	1	4	1	4	
300-400	2	4	4	NA	2	4	2	4	
400-500	2	5	5	NA	2	5	2	5	
500-800	2	6	6	NA	2	6	2	6	
800-1,000	2	7	7	NA	2	7	2	7	
> 1,000		Submit Proposed Sampling Plan							

NA = Not Applicable

For soil with no evidence of contamination (i.e., visual, olfactory, and/or PID indications), the number of required samples may be modified with NYSDEC concurrence, per DER-10 Section 5.4(f)2.

# **3 STOCKPILE METHODS**

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters, and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected, and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week, and after every storm event. Results of inspections will be recorded in a logbook maintained at the Site and available for inspection by NYSDEC.

Stockpiled soil will not be transported off-Site until analytical results are received and evaluated.

# 4 MATERIALS EXCAVATION AND LOAD OUT

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the Site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this Soil Management Plan is posed by utilities or easements on the Site. The locations and clearing of utilities will be the responsibility of the contractor performing the work.

Loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A truck wash will be operated on-Site. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the Site until the activities performed under this section are complete.

Locations where vehicles enter or exit the Site shall be inspected daily for evidence of off-Site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the Site are clean of dirt and other materials derived from the Site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials.

# 5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

If analytical results indicate that concentrations exceed standards for RCRA characteristics, or the soils are determined to be a listed hazardous waste per 6NYCRR Part 371, the material will be considered a hazardous waste, and must be properly disposed off-Site at a permitted facility within 90 days of excavation.

Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks will be washed prior to leaving the Site. Truck wash waters will be collected and disposed of off-Site in an appropriate manner.

All trucks loaded with Site materials will exit the vicinity of the Site using the most appropriate truck routes. This takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-Site queuing of trucks entering the facility; (d) limiting total distance to

major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site.

Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development.

Queuing of trucks will be performed on-Site in order to minimize off-Site disturbance. Off-Site queuing will be prohibited.

# 6 MATERIALS DISPOSAL OFF-SITE

All soil/fill/solid waste excavated and removed from the Site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360), and Federal regulations. If disposal of soil/fill from this Site is proposed for unregulated off-Site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-Site management of materials from this Site will not occur without formal NYSDEC approval.

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

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

#### 7 MATERIALS REUSE ON-SITE

Soil excavated from above the demarcation layer is known to meet or exceed Restricted Residential SCOs, so there is no need for visual, olfactory, PID screening, or testing. This soil may be reused as backfill on-Site either above or below the demarcation layer. Soil excavated from outside the soil cover system area, or from below the demarcation layer, may be reused as backfill material on-Site below the demarcation layer provided it contains no readily observable (visual, olfactory, or having PID readings of 10 ppm above background or greater) evidence of contamination. These soils may be used as backfill above the demarcation layer provided they are tested and identify that they meet Unrestricted Use Soil Cleanup Objectives.

Soil with readily observable evidence of contamination will be analyzed as specified in Section A-2. If analytical results verify that no contaminants are present above NYS Restricted Residential soil cleanup objectives (SCOs) per 6NYCRR Part 375-6.8(b), the soil may be used as backfill on-Site.

Chemical criteria for on-Site reuse of material have been approved by NYSDEC and are listed in Table 2. The qualified environmental professional will ensure that procedures defined for materials reuse in this Soil Management Plan are followed and that unacceptable material does not remain on-Site. Contaminated on-Site material, including historic fill and contaminated soil, that is acceptable for re-use on-Site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Any demolition material proposed for reuse on-Site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-Site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the Site will not be reused on-Site.

# **8 FLUIDS MANAGEMENT**

All liquids to be removed from the Site, including excavation dewatering and groundwater monitoring well purge and development waters, will be handled, transported

and disposed in accordance with applicable local, State, and Federal regulations.

Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the Site, but will be managed off-Site.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

# 9 COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the RWP. The demarcation layer, consisting of black geotextile fabric or equivalent material will be replaced to provide a visual reference to the top of the 'Remaining Contamination Zone', the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this Site Management Plan. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the 'Remaining Contamination Zone'. A figure showing the modified surface will be included in the subsequent Periodic Review Report, and in any updates to the Site Management Plan.

# 10 BACKFILL FROM OFF-SITE SOURCES

Backfill from off-Site sources imported to the Site must meet requirements of 6NYCRR Part 375-6.7(d), and as specified by DER-10 Section 5.4(e).

Soil imported to a Site for use in a soil cap, soil cover, or as backfill will be free of extraneous debris or solid waste; consist of soil or other unregulated material as set forth in 6NYCRR Part 360; and not exceed the allowable constituent levels for imported fill or soil for the use of the Site. The applicable level for Restricted Residential use Sites are the lower of the:

- 1. protection of groundwater standards; or
- 2. protection of public health soil cleanup objectives for the identified use of the Site as set forth in 6NYCRR Part 375 Table 375-6.8(b).

Soil samples from off-Site sources will be collected as indicated on the table presented in Section A-2 of this Soil Management Plan (Table 5.4 of DER-10 Section 5.4(e)) to verify they are suitable for use on-Site.

All materials proposed for import onto the Site will be approved by the qualified environmental professional, and will be in compliance with provisions in this SMP prior to receipt at the Site.

Material from industrial sites, spill sites, other environmental remediation sites, or potentially contaminated sites will not be imported to the Site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are listed in Table 2 of the SMP. Soils that meet 'exempt' fill requirements under 6NYCRR Part 360, but do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC. Solid waste will not be imported onto the Site.

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

# 11 STORMWATER POLLUTION PREVENTION

A Stormwater Pollution Prevention Plan for the Site will need to be developed as appropriate, based on the planned Site work.

Barriers and hay bale checks will be installed and inspected once a week, and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the Stormwater Pollution Prevention Plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

# 12 CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the Site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive Site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the Periodic Review Report prepared pursuant to Section 5 of the SMP.

#### 13 COMMUNITY AIR MONITORING PLAN

Air monitoring will be conducted during Site work, in accordance with a Community Air Monitoring Plan (CAMP), as required by Appendix A-1 of NYSDEC's DER-10. The CAMP is included in the SMP in Appendix E. The objective of this CAMP is to provide a measure of protection for the downwind community from potential airborne contaminant releases that might arise as a result of work conducted on-Site. The CAMP includes monitoring for volatile organic compounds (VOCs) and particulate matter (e.g. airborne "dust").

The CAMP also specifies methods that must be used to conduct air monitoring, and the specific instruments to be used, as well as action levels for VOCs and dust.

The location of air sampling stations should be based on generally prevailing wind conditions at the Site. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

# 14 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-Site and on-Site, if there are residents or tenants on the property. If nuisance odors are identified at the Site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-Site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c)

using foams to cover exposed odorous soils, or other measures. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (a) direct load-out of soils to trucks for off-Site disposal; (b) use of chemical odorants in spray or misting systems; and, (c) use of staff to monitor odors in surrounding neighborhoods, or other measures as necessary.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

# 15 DUST CONTROL PLAN

A dust suppression plan that addresses dust management during invasive on-Site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved though the use of a dedicated on-Site
  water truck for road wetting. The truck will be equipped with a water cannon
  capable of spraying water directly onto off-road areas including excavations
  and stockpiles;
- Clearing and grubbing of larger Sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production;
- Gravel will be used on roadways to provide a clean and dust-free road surface; and
- On-Site roads will be limited in total area to minimize the area required for water truck sprinkling.

# 16 OTHER NUISANCES

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

# **Appendix E**

Health and Safety Plan and Community Air Monitoring Plan (Sample Documents)

# SITE HEALTH AND SAFETY PLAN

# 1 SITE DESCRIPTION

Date	Date: February 2010 Revised:
	Austin Avenue Landfill,
	Austin Ave & Corporate Drive, Westchester County, NY
Potential Hazards	Metals in soil
Area Affected	Surface and subsurface soil and fill material
Surrounding Population	Mixed commercial/residential
	Approximate 5% to 25% slope
Weather Conditions	Usually partly sunny to overcast, southeast winds

- **ENTRY OBJECTIVES:** The objective of site entry is to excavate, stage, and transport soil/fill material in order to implement engineering controls as a site remedy under the Brownfield Cleanup Program (BCP).
- **ON-SITE ORGANIZATION AND COORDINATION.** The following GHD Consulting Engineers, LLC (GHD) personnel are designated to observe the stated job functions on site. (Note: One person may carry out more than one job function.)

Remediation Program Manager:	Damian J. Vanetti or designee	(315) 679-5838
Field Team Leader:	Ian E. McNamara or designee	(315) 679-5732

**4 ON-SITE CONTROL.** The Yonkers Industrial Development Agency (YIDA) or its designated agent will coordinate access control and security for the work area for each day of on site work. No unauthorized personnel should be within the established work area.

# 5 HAZARD EVALUATION.

**A. Chemical Hazards.** Based on Remedial Investigation (RI) Results, the principal suspected chemical hazard for the site is believed to be associated with metals present in the disposed ash. The primary potential metals are identified.

SUBSTANCE PRIMARY HAZARDS	
Lead	Eye irrit., stomach pain, weakness, insomnia, kidney dis.
Copper	Irrit eyes, nose, metallic taste

**B. Physical Hazards.** Physical hazards for this project relate to mechanical exposure associated with working around heavy equipment and vehicles, noise exposure, and heat or cold stress. Basic safety guidelines for the above noted main physical hazards are included below.

1. Excavation and Backfilling. Site activities will involve excavation and trenching of impacted material. The estimated location of all underground utilities must be determined before digging begins. Necessary clearances must be observed. Appropriate controls will be implemented during excavation to maintain road stability and protect the public.

The standard operating procedure (SOP) for excavation and construction work will follow New York State Department of Labor (NYSDOL), Division of Safety and Health, Industrial Code Rules (Part 23).

**2. Utility Clearances.** Prior to any intrusive activities (e.g. drilling, excavating, probing) New York State Dig Safe shall be contacted to mark underground lines before any work is started.

Personnel directly involved in intrusive work shall determine the minimum distance from marked utilities which work can be conducted with the assistance of the locator line service.

- **3. Heavy Lifting Method.** Personnel conducting work that may require lifting of heavy objects should use the following proper lifting techniques:
  - Feet must be parted, with one foot alongside the object being lifted and one foot behind. When the feet are comfortably spread a more stable lift can occur and the rear foot is in a better position for the upward thrust of the lift.
  - Use the squat position and keep the back straight. A straight back means the spine, back muscles, and organs of the body in correct alignment.
  - To grip the item being lifted, the fingers and the hand are extended around the object being lifted, using the full palm. Fingers have very little power use the strength of the entire hand.
  - The load must be drawn close, and the arms and elbows must be tucked into the side of the body. Holding the arms away from the body increases the strain on the arms and elbows. Keeping the arms tucked in helps keep the body weight centered.

The body must be positioned so that the weight of the body is centered over the feet. This provides a more powerful line of thrust and also ensures better balance. Start the lift with a thrust of the rear foot. Do not twist.

- **4. Slip/Trip/Hit/Fall.** These injuries are the most frequent of all injuries to workers. They occur for a wide variety of reasons, but can be minimized by the following practices:
  - Spot-check the work area to identify hazards;

- Establish and utilize pathways that are most free of slip and trip hazards. Avoid pathways that are more hazardous;
- Beware of trip hazards such as wet floors, slippery floors, and uneven terrain;
- Carry only loads you can see over;
- Keep work areas clean and free of clutter, especially in storage areas and walkways;
- Communicate observed hazards to site personnel.
- 5. Heat Stress. All field personnel engaged in site work shall have completed training to recognize and avoid heat related illness. Proper training and preventive measures will aid in averting loss of worker productivity and serious illness. Heat stress prevention is particularly important because once a person suffers from heat stroke or heat exhaustion, that person may be predisposed to additional heat-related illness. To avoid heat stress, the following steps may be taken:
  - > Adjust work schedules.
  - > Modify work/rest schedules according to monitoring requirements.
  - > Mandate work slowdowns as needed.
  - > Perform work during cooler hours of the day if possible or at night if adequate lighting can be provided.
  - Provide shelter (air conditioned, if possible) or shaded areas to protect personnel during rest periods.
  - Maintain worker's body fluids at normal levels. This is necessary to ensure that the cardiovascular system functions adequately. Daily fluid intake must approximately equal the amount of water lost in sweat, i.e., eight fluid ounces (0.23 liters) of water must be ingested for approximately every eight ounces (0.23 kg) of weight lost. The normal thirst mechanism is not sensitive enough to ensure that enough water will be drunk to replace lost sweat. When heavy sweating occurs, encourage the worker to drink more. The following strategies may be useful:
  - Members of each Work Crew shall be properly trained by each Crew's respective employer to recognize the symptoms of heat-related illnesses.

- **6.** Adverse Weather Conditions. The Field Leader for each Work Crew will be responsible for deciding on the continuation or discontinuation of work for his/her Crew based on current and pending weather conditions. Electrical storms, tornado warnings, and strong winds are examples of conditions that would call for the discontinuation of work and evacuation of the site. Site operations should not be permitted during an electrical storm.
- **7. Vehicle Traffic.** As the scope of work includes the transport and disposal of material, there is a potential to encounter a temporarily high volume of vehicular traffic. Project Work Crews that have the potential to be exposed to vehicle traffic should wear a high visibility safety vest. The excavation Work Crew will provide proper signage, flagging, and barricades to maintain a safe flow of traffic.

POTENTIAL HAZARD	PREVENTATIVE MEASURES
Slip/Trip/Falls	Use three points of contact to mount and dismount equipment. Continuously inspect work areas for slip, trip, & fall hazards. Be aware of surroundings. Practice good housekeeping.
Noise	Wear appropriate hearing protection.
Pinch Points	Keep hands, feet, & clothing away from moving parts/devices.
Utilities	Maintain proper utility clearances. All utilities should be properly located and marked out prior to start of work.
Heavy Lifting	Follow safe lifting practices. Lift items within your capabilities and assigned project role. Ask for assistance if necessary.
Proximity to Heavy Equipment and Vehicles	Maintain adequate distance from trucks/equipment. Obey barriers and/or signage
Heat/Cold Stress	Dress appropriately and follow HASP guidelines
Dangerous Weather Conditions	Consult local weather reports daily, watch for signs of severe weather, etc. Suspend or reduce work during severe weather.
Chemical hazards	Use PID as indicated in HASP. Wear specified PPE. No smoking.
Biological Hazards – Insects, Snakes, Poison Plants, etc.	Wear appropriate PPE and keep necessary first aid supplies readily available. Use insect repellant and snake chaps as needed. Learn to identify poisonous plants.

**PERSONAL PROTECTIVE EQUIPMENT.** Based on evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work areas or tasks:

LOCATION	JOB FUNCTION	LI	EVEL	OF PRO	TE	CTION
Work zone	Site investigation	A	В	C (I	)	Other

Specific protective equipment for each level of protection is as follows:

Level A	Fully-encapsulating suit
	SCBA (disposable coveralls)
Level B	Splash gear (saranax-coated Tyvek suit)
	SCBA or airline respirators
Level C	Splash gear (Tyvek suit)
	Half-face canister respirator
	Safety glasses
	Boots
	Gloves
	Hard hat
Level D	Work boots
	Gloves (latex)
	Hard hat

**Action Levels**. Action levels shall be determined by monitoring of work zone breathing space with a portable photoionization detector (PID) or comparable instrument. Measurement of a sustained concentration above ambient (background) conditions shall initiate action. The following criteria shall be used to determine appropriate action:

VOLATILE ORGANICS IN BREATHING ZONE (SUSTAINED AND ABOVE BACKGROUND)	LEVEL OF RESPIRATORY PROTECTION
0-5 ppm	Level D
5-200 ppm	Level C
200-1000 ppm	Level B - air line
1000+ ppm	Level B - SCBA

% LOWER EXPLOSIVE LIMIT (LEL)	ACTION	
Above 10	Discontinue work and take remedial action	

NO CHANGE TO THE SPECIFIED LEVELS OF PROTECTION SHALL BE MADE WITHOUT THE APPROVAL OF THE SITE SAFETY OFFICER AND THE PROJECT TEAM LEADER.

If the above criteria indicate the need to increase from Level D to a higher level of personal protection, work will be immediately suspended in that particular site area until the required personal protective equipment is made available, or until Level D conditions return.

7 **ON-SITE WORK PLANS.** The following personnel or designated alternate(s) will perform the field investigation.

Field Team Leader: Ian McNamara or designee
Work Party Designated as needed to support
field effort

The work party was briefed on the contents of this plan prior to commencement of work.

**8 COMMUNICATION PROCEDURES.** The Project Manager should remain in communication with the Field Team Leader. A cellular phone will be used in the field.

Continuous horn blast is the emergency signal to indicate that all personnel should leave the Work Zone.

In the event that radio communications are used, the following standard hand signals will be used in case of failure of radio communications:

Hand gripping throat	Out of air; can't breathe
Grip partner's wrist or both hands around waist	Leave area immediately
Hands on top of head	
Thumbs up	
Thumbs down	

# 9 SITE HEALTH AND SAFETY PLAN.

- **A**. The designated Site Safety Officer will be directly responsible for safety recommendations on site. The Field Team Leader will be responsible for carrying out the Site Health and Safety Plan, and for enforcing it on all GHD employees engaged in site work.
- **B.** Emergency Medical Care. St Joseph's Medical Center is located approximately 5 miles southwest of the site at 127 South Broadway. A map to this facility will be available at the field vehicle. Directions are provided below:
  - > Take NYS Thruway from site, and go SOUTH (I-87S)
  - > Get off at Exist 6W towards Yonkers (TUCKAHOE ROAD WEST)
  - > Turn slight RIGHT on TUCKAHOE ROAD
  - > TUCKAHOE ROAD becomes SAW MILL RIVER ROAD (NY 9A)
  - > Turn RIGHT on ASHBURTON AVE (NY 9A)
  - > Turn LEFT on NEPPERHAN AVE (NY 9A)
  - Turn LEFT on US-9/S BROADWAY/ NY-9A
  - Go to 127 S BROADWAY

First aid equipment is available on site at the following locations:

First aid kit Field vehicle

List of emergency phone numbers:

AGENCY/FACILITY	PHONE NUMBER		
Police (Yonkers Police Department)	911 or (914) 377-7900		
Fire	911		
Ambulance	911		
Saint Joseph's Medical Center	(914) 378-7000		

- C. **Environmental Monitoring.** The following environmental monitoring instruments shall be used on site at the specified intervals:
  - MiniRAE photoionization detector (PID). Continuous during installation of soil borings and soil gas monitoring probes.
  - Dust (particulate) monitor. Continuous during excavation and grading of soils and installation of soil borings per Community Air Monitoring Plan (CAMP)
- **D. Emergency Procedures.** The following standard procedures will be used by on-site personnel. The Site Safety Officer shall be notified of any on-site emergencies and be responsible for ensuring that the appropriate procedures are followed:
  - 1. **Personnel Injury in the Work Zone.** Upon notification of an injury in the Work Zone, the designated emergency signal, a continuous horn blast, shall be sounded. A rescue team will enter the Work Zone (if required) to remove the injured person to safety. Appropriate first aid shall be initiated and contact should be made for an ambulance and with the designated medical facility (if required). No persons shall re-enter the Work Zone until the cause of the injury or symptoms is determined.
  - 2. **Fire/Explosion.** Upon notification of a fire or explosion on site, the designated emergency signal, a continuous horn blast, shall be sounded and all site personnel assembled at the decontamination line. The fire department shall be alerted and all personnel moved to a safe distance from the involved area.
  - 3. **Personal Protective Equipment Failure.** If any site worker experiences a failure or alteration of protective equipment that affects the protection factor, that person and his/her buddy shall immediately leave the Work Zone. Re-entry shall not be permitted until the equipment has been repaired or replaced.
  - 4. **Other Equipment Failure.** If any other equipment on site fails to operate properly, the Project Team Leader and Site Safety Officer shall be notified and then determine the effect of this failure on continuing operations on site. If the failure affects the safety of personnel or prevents completion of the Work Plan tasks, all personnel shall leave the Work Zone until the situation is evaluated and appropriate actions taken.

In all situations, when an on-site emergency results in evacuation of the Work Zone, personnel shall not re-enter until:

- a. The conditions resulting in the emergency have been corrected.
- b. The hazards have been reassessed.
- c. The Site Health and Safety Plan has been reviewed.

- d. Site personnel have been briefed on any changes in the Site Health and Safety Plan.
- **E**. **Personal Monitoring.** The following personal monitoring will be in effect on site:

Personal exposure sampling: MiniRAE PID screening, sampling pumps/tubes, or organic vapor monitors.

Medical monitoring: The expected air temperature will be less than 70 degrees F. If it is determined that heat stress monitoring is required (mandatory if over 70 degrees F), the following procedures shall be followed: Monitoring body temperature, body weight, pulse weight.

# COMMUNITY AIR MONITORING PLAN

# 1 - INTRODUCTION

As part of a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) (BCA No. C3-60-066), Austin Avenue Brownfield Redevelopment, LLC (the Volunteer) has completed a Remedial Investigation (RI) at the former Austin Avenue Landfill site, and is prepared to proceed with the Remedial Action component of the BCA. The site located at Corporate Drive and Austin Avenue is proposed to be redeveloped into 100,000 square feet of residential buildings with associated parking and access drives.

This Community Air Monitoring Plan (CAMP) describes the measures that will be undertaken during field work to monitor ambient air at the downwind site perimeter during site activities that disturb soil or fill material.

#### 2 - OBJECTIVES

The objective of this CAMP is to provide a measure of protection for the downwind community from potential airborne contaminant releases that might arise as a result of the planned Remedial Action, which will include the excavation and subsequent backfilling of soil and fill material, to establish a soil cover as an engineering control to mitigate potential exposure. The CAMP also provides a means to measure and properly control airborne dust.

# 3 - METHODS

The CAMP will include monitoring for particulate matter (e.g. airborne "dust") and volatile organic vapors. Readings will be recorded and will be available for State (DEC and DOH) personnel to review, as requested.

# A. PARTICULATE MONITORING

Particulate (e.g. "dust") emissions will be measured continuously at the upwind and downwind property boundaries. Real time monitoring equipment (e.g. MiniRAM or equivalent), with audible alarms and capable of measuring particulate matter less than 10 micrometers in size, will be used.

- If the downwind particulate level is 100 micrograms per cubic meter (ug/m³) greater than background (upwind) for a 15-minute period, then dust suppression techniques will be employed. Work will continue with dust suppression provided that downwind particulate levels do not exceed 150 ug/m³ above upwind levels and provided that no visible dust is migrating from the work area.
- If, after dust suppression techniques, downwind particulate levels are greater than 150 ug/m³ above upwind levels, work will be stopped and a re-evaluation of activities will be initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing downwind particulate concentrations to within 150 ug/m³ of the upwind level and in preventing visible dust migration.

# B. VOLATILE ORGANIC VAPOR MONITORING

Volatile organic vapor emissions will be measured continuously in the work zones. Real time monitoring equipment (e.g. MiniRAE photoionization detector or equivalent) will be used.

- ♦ If ambient air concentrations of total organic vapors exceed 5 parts per million (ppm) above background for a 15 minute average, work activities need to be temporarily halted, and monitoring continued. If the total organic vapors level readily decreases to below 5 ppm over background, work activities can be resumed with continued monitoring.
- ♦ If ambient air concentrations of total organic vapors persist at levels in excess of 5 pmm above background, but less than 25 ppm, work activities need to be halted, the source of the vapors identified, corrective actions taken to abate emissions, and monitoring continued. Work can resume following these steps with continued monitoring, as long as concentrations decrease to levels below 5 ppm.
- ♦ If ambient air concentrations of total organic vapors exceed 25 ppm over background work must be halted.

Appendix F
Monitoring Well Boring and Construction Logs

#### S & W Redevelopment LOG OF BORING SWR MW-1 of North America LLC Syracuse, NY (Page 1 of 2) Austin Avenue Date Started 2/13/07 вмн Yonkers, NY 2:15 Depth of Boring 44 ft bgs' Westchester County 2/16/07 Date Completed Drilling Method Hollow-Stem Augers BCP Site No. C36-00-86 Parratt Wolff Drilling Contractor Drilling Equipment ATV Mounted N5024 Drillers Grassi/Palmer Sampling Method Split Spoon, 1-3/8" Sample Condition Water Levels No Recovery ▼ During Drilling (inches) Recovery Interval ▼ After Completion (mdd) Blow Counts Well: SWR MW-1 Refusal Recovery Depth Depth PID Results ( Sample Sample Flev in in Cover Feet Feet DESCRIPTION 0-0 Frozen, yellow brown, clayey FILL w/ some pebbles Surface 20 Casing 2-0-2 14,10,35,46 0.0 Black to dark gray, clayey-loamy FILL, w/ some pebbles 24 2.4 9,10,10,10 0.0 Black, micaceous, weathered, pebbles of schist, w/ 18 some glass fragments 0.0 6 4-6 2,2,4,3 Dark brown, weathered, sandy, clayey FILL material w/ 18 some pebbles, rock and pieces of glass. 8---8 8 6-8 10,17,14,21 0.0 Dark brown to gray-green, clayey FILL w/ clay-sized, cinder like material & pebbles. 24 10-10 0.0 10-8-10 10,10,13,10 Brown SOIL & Black to Grey, FILL material w/ fibrous 18 cinders, pieces of coal -Casing 12 10-12 5,5,5,5 -Grout 6 Black to dark gray, FILL 12-14 22,2,9,13 0.0 6 Moist, balck to dark gray, clay-sized, FILL 16-1-16 0.0 16 14-16 5.4.4.3 No Recovery 0 18 16-18 4,2,3,3 Dark brown SAND to moist, black coarse, sand & clayey 8 sized FILL w/ some coal, a pieces of glass, trace CLAY 20----20 18-20 2,2,3,2 3.5 Black, coarse, sand-sized, FILL w/ yellowish-brown 10 cinders, glass fragments & paperboard. 22 -- -22 22-20-22 5.4.4.4 1.3 6 Black, coarse FILL w/ trace CLAY, wood, coal & fragments of slate 22-24 4,4,3,2 2.4 24 NOTES: bgs- below ground surface LOG OF BORING SWR MW-1 TOC- top of casing (Page 1 of 2)

#### S & W Redevelopment LOG OF BORING SWR MW-1 of North America LLC Syracuse, NY (Page 2 of 2) Austin Avenue Date Started 2/13/07 Yonkers, NY Time 2:15 Depth of Boring 44 ft bgs' Westchester County 2/16/07 Date Completed Drilling Method Hollow-Stem Augers BCP Site No. C36-00-86 Parratt Wolff Drilling Equipment **Drilling Contractor** : ATV Mounted Drillers Grassi/Palmer Sampling Method N5024 Split Spoon, 1-3/8" Sample Condition Water Levels No Recovery ▼ During Drilling (inches) Sample Interval Recovery PID Results (ppm) Blow Counts Well: SWR MW-1 Refusal Recovery Depth Surf Depth Elev. Feet Feet DESCRIPTION 6 Black, coarse FILL w/ trace CLAY, wood, coal & fragments of slate 26 -- -26 26-24-26 2,3,4,4 4.1 6 Dry, black to gray, FILL w/ cinders & slate fragments 28 -- -28 28-26-28 2,32,34,19 0.0 -Grout Dry, black to dark gray & some brown, stiff FILL material 8 & SILT, w/ coal, brick & glass pieces -Casing 30--30 28-30 10,15,18,20 7 Dry, black, sand-sized FILL w/ bits of coal, brick & glass 32 -- 32 32-30-32 8,7,7,8 0.2 4 Dry, black, sand-sized FILL w/ bits of coal, brick & glass -Bentonite . 34----34 2 34-32-34 7,6,5,6 0.7 Moist, black, mucky FILL 36-- -36 36-34-36 50/1 0.0 V 38--38 36-38 50/2 Not sampled from 36' to Total Depth, hard to drill, no -Sand #0 cuttings coming back up auger, probably hitting rock. -Screen -40 40 38-40 40-42 --42 40-42 -44 42-44 46 48-48 NOTES bgs- below ground surface LOG OF BORING SWR MW-1 TOC- top of casing (Page 2 of 2)

# S & W Redevelopment of North America LLC

Syracuse, NY

# LOG OF BORING SWR MW-2

Interval

Sample

2-4

4-6

6-8

8-10

10-12

14-16

22-24

14-12-14

12

16

Depth

Feet

0.

2- 0-2

(Page 1 of 2)

Austin Avenue Yonkers, NY Westchester County BCP Site No C36-00-86

N5024

Sample

(inches)

Recovery

Depth

in

Feet

Surf

Elev

0

Date Started Time Date Completed

Drillers

**Drilling Contractor** 

DESCRIPTION

: 2/14/07 : 11:00 : 2/16/07 : Parratt Wolff

Grassi/Palmer

Staff
Depth of Boring
Drilling Method

BMH 44 ft bgs'

(mdd)

PID Results (

0.0

0.0

0.0

0.0

0.0

0.0

0.0

Drilling Equipment Sampling Method

Blow Counts

10,5,5,8

4.5.5.5

2,2,2,1

10,17,23,7

16.3.4.1

4,3,1,4

3,3,6,8

4,3,3,3

Hollow-Stem Augers
ATV Mounted
Split Spoon, 1-3/8"

11000	,
	Sample Cond
	N

Sample Condition

No Recovery

Recovery

Refusal

▼ During Drilling▼ After Completion

Water Levels

Well: SWR MW-2

Cover

1	9	K
22	10	
44	10	2
6 - 6	14	2
8 - 8	14	
10 -10	18	
12 12		>

16

14

8

9

8

9

14-1-14

16-16

18---18

20 -- -20

22---22

Frozen, dark brown medium sand-sized FILL, glass fragments

Dark brown, coarse sand-sized FILL, cinders

Dark brown, coarse sand-sized FILL, cinders

FILL, with orange brown cinders
Brown, fine sand-sized FILL with clay
Dark brown, coarse sand-sized FILL, glass

Dark brown to orange, coarse sand-sized FILL, cinders, some glass

Dark brown, coarse sand-sized FILL, some clay-sized

Black, coarse sand-sized FILL, with orange cinders, milky glass fragments, coal fragments

Dark brown to orange, coarse sand-sized FILL, glass

fragments

Moist, black to brown, coarse sand-sized FILL, with bits of charcoal, cinders, green plastic fibers

Wet, black, coarse sand-sized FILL, with bits of charcoal, tire fragments

Brown, coarse sand-sized FILL, some wood fragments, top 3" wet, lower 6" moist

Wet, brown, coarse sand-sized FILL, cinders, glass

Brown, coarse sand-sized FILL, orange-grey cinders

Surface

18—16-18 4,6,4,2 0.0 20—18-20 2,2,6,8 0.0 22—20-22 11,12,6,5 -

6,8,10,10

Casing Grout

24-

bgs- below ground surface TOC- top of casing

LOG OF BORING SWR MW-2

(Page 1 of 2)

#### S & W Redevelopment LOG OF BORING SWR MW-2 of North America LLC Syracuse, NY (Page 2 of 2) Austin Avenue Date Started 2/14/07 вмн Staff Yonkers, NY Time 11:00 Depth of Boring 44 ft bgs' Westchester County Date Completed 2/16/07 Drilling Method Hollow-Stem Augers BCP Site No. C36-00-86 **Drilling Contractor** Parratt Wolff Drilling Equipment ATV Mounted Drillers Sampling Method Grassi/Palmer Split Spoon, 1-3/8" N5024 Sample Condition Water Levels No Recovery ▼ During Drilling (inches) Recovery Interval (mdd) Blow Counts Refusal Well: SWR MW-2 Recovery Depth Depth Surf PID Results ( l aldu Sample Elev. Feet 0 Feet DESCRIPTION -- 24 24 12 Moist, brown, coarse sand-sized FILL, orange-grey 26 -- -26 cinders 26-24-26 4,4,22,10 No Recovery Grout 28 -- -28 28-26-28 6,4,3,1 4 Moist, black, coarse sand-sized FILL Casing 30 -- -30 28-30 5,3,14,7 30 3 Brown, coarse sand-sized FILL, tire bits Bentonite 32----32 32-30-32 4,5,4,4 No Recovery 34 -- - 34 34-32-34 WOH,1,4 12 Moist to wet, black, coarse sand-sized FILL, with ash, bits of coal W 36-- -36 36-34-36 8,10,9,8 Moist, black, coarse sand-sized FILL, cinders 12 38 - -38 36-38 4,4,6,1 -Sand #0 10 Moist, black, coarse sand-sized FILL, ashy, some -Screen V 40-40 40-38-40 3,3,4,4 Black, coarse sand-sized FILL Greenish grey SAND 16 42---42 42-40-42 1,12,10,14 Wet, ROCK, weatherd -44 42-44 1.7.31.50/4 end of boring 46-46 46 48 48 NOTES bgs-below ground surface LOG OF BORING SWR MW-2 TOC- top of casing (Page 2 of 2)

#### S & W Redevelopment LOG OF BORING SWR MW-3 of North America LLC Syracuse, NY (Page 1 of 1) Austin Avenue Date Started 2/20/07 вмн Staff Yonkers, NY Time 11:00 30 ft bgs' Depth of Boring Westchester County Date Completed 2/21/07 Drilling Method Hollow-Stem Augers BCP Site No. C36-00-86 Drilling Contractor Parratt Wolff Drilling Equipment ATV Mounted Sampling Method Drillers Grassi/Palmer N5024 Split Spoon, 1-3/8" Sample Condition Water Levels No Recovery W During Drilling (inches) Sample Interval Recovery (mdd) Counts Refusal Well: SWR MW-3 Recovery Depth Surf. Depth PID Results ( Sample Elev Cover in Blow Feet 0 DESCRIPTION Feet 0-0 0 Medium brown, coarse, sandy, FILL w/ some pebbles Surface 18 0-2 8.7.4.4 0.0 Medium to dark brown, sandy FILL w/ cinders throughout 16 4 2-4 3,4,4,4 0.0 Dark brown, iron-stained, sand-sized FILL w/ cinders 24 throughout 4,8,7,9 0.0 6 4-6 Dark brown to black, fine, sand-sized FILL 18 Bottom 3" concrete -8 21,28,31,34 0.0 -Grout Dark brown to black, coarse, sand-sized FILL w/ cinders 10 throughout Casing 10-10 10-8-10 21,19,18,20 0.0 10 Dark brownish black to gray, sand-sized FILL w/ cinders & pieces of glass 12-12 0.0 12 10-12 6.4.2.2 6 Dark gray, clay-sized FILL w/ cinders, glass & shards 14-14 0.0 14-12-14 2222 Black to dark gray, sandy, FILL w/ pieces of rock, brick & 19 14-16 12,20,16,14 00 18 Black to dark gray, sandy, FILL Bottom 2"- greenish-gray SAND w/ some pebbles Bentonite 16-18 12.28.31.30 1.5 18 Black, sand-sized FILL w/ cinders, abundant glass, tire 14 V fragment & greenish gray sand lenses 20---20 18-20 10,18,12,14 0.5 20 Gray, clay-sized, FILL w/ glass shards, cinders & rubber 10 V 22---22 20-22 2,2,2,2 0.0 Gray, clay-sized FILL, w/ glass & cinders 18 2.8.10.7 0.0 Sand #0 22-24 Wet, grey then reddish-brown, SAND 20 -Screen 26----26 24-26 5,5,10,31 0.0 10 Wet, grey SAND to reddish brown SAND w/ pebbles 28 -- -28 28-26-28 50/14 0.0 Wet, gray, fine grained SAND 18 Bottom 16" wet, grey, garnetiferous, biotite SCHIST 0.0 28-30 30 30 NOTES bgs- below ground surface LOG OF BORING SWR MW-3

(Page 1 of 1)

TOC- top of casing

#### S & W Redevelopment LOG OF BORING SWR MW-4 of North America LLC Syracuse, NY (Page 1 of 1) Austin Avenue Date Started 2/20/07 вмн Staff Yonkers, NY Time Depth of Boring 16 ft bgs' Westchester County Date Completed 2/21/07 Drilling Method Hollow-Stem Augers BCP Site No. C36-00-86 **Drilling Contractor** Parratt Wolff Drilling Equipment ATV Mounted Grassi/Palmer N5024 Drillers Sampling Method Split Spoon, 1-3/8" Sample Condition Water Levels No Recovery ▼ During Drilling Recovery (inches) Recovery Interval ∇ After Completion (mdd) Counts Refusal Well: SWR MW-4 Depth Surf Depth PID Results ( Sample Sample Elev Cover in Blow Feet 0 DESCRIPTION Feet 0-0 0-Frozen, light brown, fine to coarse SAND Surface Casing 24 2-2 0-2 18,12,17,15 0.0 Grout Wet, yellowish brown fine to coarse SAND w/ some Casing 20 10,12,10,11 2-4 0.0 Wet, light brown, medium grained SAND w/ fine SILT & some pebbles -Bentonite 18 V 6--6 4-6 4.2.4.3 0.0 Wet, yellowish, brown, coarse SAND & SILT 18 8--8 8-2,2,2,2 00 6-8 Wet, yellowish, brown, coarse SAND & SILT 14 10-10 8-10 2,4,4,7 0.0 Wet, light brown, fine SAND w/ soem pebbles Sand #0 14 Screen 12-1-12 0.0 12-10-12 10,11,8,12 5 Wet, soupy, brown, SAND w/ some pebbles 14 -- 14 14-12-14 10,10,16,17 0.0 Drilled through to 16', no sample observed 16-16 16-14-16 end of boring 18 20 20 NOTES bgs- below ground surface LOG OF BORING SWR MW-4 TOC- top of casing (Page 1 of 1)

#### S & W Redevelopment LOG OF BORING SWR MW-5 of North America LLC Syracuse, NY (Page 1 of 1) Date Started 2/21/07 Austin Avenue Staff BMH Yonkers, NY Time 10:10 Depth of Boring 19 4 ft bgs Westchester County Date Completed 2/21/07 Drilling Method Hollow-Stem Augers BCP Site No C36-00-86 **Drilling Contractor** Parratt Wolff Drilling Equipment ATV Mounted Sampling Method N5024 Drillers Grassi/Palmer Split Spoon, 1-3/8" Sample Condition Water Levels No Recovery ▼ During Drilling (inches) Interval Recovery (mdd) Counts Well: SWR MW-5 Refusal Recovery Surf Depth Depth PID Results ( Sample Sample Cover Elev in in Blow Feet 0 Feet DESCRIPTION 0-0 0-Dry, orange to dark brown, coarse micaceous, clayey Surface Casing 20 2-1-2 0-2 18,12,10,10 0.0 Moist, brown silty SAND w/ some pebbles, trace schists & quartz 20 -Grout 10,7,6,6 0.0 2-4 -Casing Moist, brown, micaceous SILT & coarse SAND 20 6----4-6 6,8,7,9 0.0 6 Moist, brown, micaceous SILT grading to SAND w/ 13 organic material Bentonite 8-8-7,12,10,8 0.0 - -8 6-8 Moist, greyish green, crumbly, micaceous, SAND 15 Bottom 13"- orangeish brown & greyish green, crumbly, SCHIST V 10-10 8-10 10,10,21,17 0.0 Black, micaceous, weathered, SCHIST w/ garnets & quartz 19 12-12 12-10-12 22,47,28,40 Wet, grey green, medium grained SAND w/ quartz & 8 feldspar grains Sand #0 14-14 14-12-14 38 50/2 0.0 Screen 5 Wet, soupy, brown SAND & weathered, garnetiferous, SCHIST w/ quartz 16-16 16-14-16 50/14 0.0 Drilled through to 20', encountered boulder, no samples 0 18 -- 18 18-16-18 0 18-19 end of boring 20 20 NOTES: bgs- below ground surface LOG OF BORING SWR MW-5 TOC- top of casing (Page 1 of 1)

Appendix G
Groundwater Monitoring Well
Sampling Log Form

# GROUNDWATER FIELD SAMPLING RECORD

S&W Redevelopment of NA, LLC

Site Identification: Sampler(s):		 Date:	Job #		
		 Sample ID:			
Initial Static Water Le Depth t	Vell (Top of PVC): evel (Top of PVC): to LNAPL/DNAPL: hickness (inches):	 Well Volume Calculation:  1 in. casing:  2 in. casing:	ft. of water X .041 = ft. of water X .16 =		
	Centrifugal:Pos. Displ.:	 Field Tests: Sample Temp. pH: ORP:		Turbidity:	mi/L
	Ded. Pump	 Sampling: Time: Sampling Method: Stainless Bailer Teflon Bailer Pos. Disp. Pump Dis. Bailer Ded. Pump. Other	Analyses:	Baseline Routine Other:	
•					
Comments:					

Appendix H
Site-Wide Inspection Form

# SITE INSPECTION FORM

Inspections to be conducted at least annually

INSPECTORS NAME:  COMPANY NAME:  GENERAL SITE CONDITIONS:  Site Access Control Change in Use Unauthorized Activities  ENGINEERING CONTROLS SOIL COVER Soil Cover Condition Vegetative Cover Breach of the Soil Cover Woody Growth Surface Settling Burrowing Animals Sediment/Erosion Controls Surface Frosion Off-site Sediment Transport SOIL VAPOR MITIGATION System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Well Caps in Place Locks in Place and Secure  Identify Photos Taken:  OTHER COMMENTS:	SITE: BCP#	Former Austin Avenue Site (L C3-60-066	OT 1)	WEATHER:		
COMPANY NAME:  GENERAL SITE CONDITIONS: Site Access Control Change in Use Unauthorized Activities  ENGINEERING CONTROLS SOIL COVER Soil Cover Condition Vegetative Cover Breach of the Soil Cover Woody Growth Surface Settling Burrowing Animals Sediment/Erosion Controls Surface Erosion Off-site Sediment Transport  SOIL VAPOR MITIGATION System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WEILS Well Caps In Place Locks In Place Locks In Place and Secure  Identify Groundwater Samples Taken: Identify Groundwater Samples Taken:  OTHER COMMENTS:						
GENERAL SITE CONDITIONS:  Site Access Control Change in Use Unauthorized Activities  ENGINEERING CONTROLS SOIL COVER Soil Cover Condition Vegetative Cover Breach of the Soil Cover Woody Growth Surface Settling Burrowing Animals Sediment/Erosion Controls Surface Erosion Off-site Sediment Transport  SOIL VAPOR MITIGATION System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken: Identify Photos Taken:	INSPEC <sup>-</sup>	TORS NAME:				
Site Access Control Change in Use Unauthorized Activities  ENGINEERING CONTROLS SOIL COVER Soil Cover Condition Vegetative Cover Breach of the Soil Cover Woody Growth Surface Settling Burrowing Animals Sediment/Erosino Controls Surface Erosion Off-site Sediment Transport  SOIL VAPOR MITIGATION System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Photos Taken:  OTHER COMMENTS:	COMPAI	NY NAME:			<u></u>	
Change in Use Unauthorized Activities  ENGINEERING CONTROLS SOIL COVER Soil Cover Condition Vegetative Cover Breach of the Soil Cover Woody Growth Surface Settling Burrowing Animals Sediment/Erosion Controls Surface Erosion Off-site Sediment Transport  SOIL VAPOR MITIGATION System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken: Identify Photos Taken:	GENER/	AL SITE CONDITIONS:				
Unauthorized Activities  ENGINEERING CONTROLS SOIL COVER  Soil Cover Condition Vegetative Cover Breach of the Soil Cover Woody Growth Surface Settling Burrowing Animals Sediment/Erisoin Controls Surface Erosion Off-site Sediment Transport  SOIL VAPOR MITIGATION System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken: Identify Photos Taken:						
ENGINEERING CONTROLS SOIL COVER Soil Cover Condition Vegetative Cover Breach of the Soil Cover Woody Growth Surface Settling Burrowing Animals Sediment/Erosion Controls Surface Erosion Off-site Sediment Transport  SOIL VAPOR MITIGATION System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken: Identify Photos Taken:						
SOIL COVER Soil Cover Condition Vegetative Cover Breach of the Soil Cover Woody Growth Surface Settling Burrowing Animals Sediment/Erosion Controls Surface Erosion Off-site Sediment Transport  SOIL VAPOR MITIGATION System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken: Identify Photos Taken:		Unauthorized Activities				
SOIL COVER Soil Cover Condition Vegetative Cover Breach of the Soil Cover Woody Growth Surface Settling Burrowing Animals Sediment/Erosion Controls Surface Erosion Off-site Sediment Transport  SOIL VAPOR MITIGATION System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken: Identify Photos Taken:	ENGINE	ERING CONTROLS				
Vegetative Cover Breach of the Soil Cover Woody Growth Surface Settling Burrowing Animals Sediment/Erosion Controls Surface Erosion Off-site Sediment Transport  SOIL VAPOR MITIGATION System in Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps in Place Locks in Place and Secure  Identify Groundwater Samples Taken:  Identify Photos Taken:  OTHER COMMENTS:		VER				
Breach of the Soil Cover Woody Growth Surface Settling Burrowing Animals Sediment/Erosion Controls Surface Erosion Off-site Sediment Transport  SOIL VAPOR MITIGATION System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken:  Identify Photos Taken:						
Woody Growth Surface Settling Burrowing Animals Sediment/Erosion Controls Surface Erosion Off-site Sediment Transport  SOIL VAPOR MITIGATION System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps in Place Locks in Place and Secure  Identify Groundwater Samples Taken: Identify Photos Taken:  OTHER COMMENTS:						
Surface Settling Burrowing Animals Sediment/Erosion Controls Surface Erosion Off-site Sediment Transport  SOIL VAPOR MITIGATION System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken: Identify Photos Taken:						
Burrowing Animals Sediment/Erosion Controls Surface Erosion Off-site Sediment Transport  SOIL VAPOR MITIGATION System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken: Identify Photos Taken:						
Surface Erosion Off-site Sediment Transport  SOIL VAPOR MITIGATION System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken: Identify Photos Taken:  OTHER COMMENTS:		Burrowing Animals				
Off-site Sediment Transport  SOIL VAPOR MITIGATION System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken:  Identify Photos Taken:						
SOIL VAPOR MITIGATION System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken: Identify Photos Taken:  OTHER COMMENTS:						
System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken: Identify Photos Taken:  OTHER COMMENTS:		Oir-site Sediment Transport				
System In Place System Operating Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken: Identify Photos Taken:  OTHER COMMENTS:	SOIL VA	POR MITIGATION				
Component Conditions Damaged Equipment  ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken: Identify Photos Taken:  OTHER COMMENTS:		System In Place				
ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken: Identify Photos Taken:  OTHER COMMENTS:						
ENVIRONMENTAL MONITORING GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken:  Identify Photos Taken:  OTHER COMMENTS:						
GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken: Identify Photos Taken:  OTHER COMMENTS:		Damaged Equipment				
GROUNDWATER MONITORING WELLS Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken: Identify Photos Taken:  OTHER COMMENTS:	ENVIRO	NMENTAL MONITORING				
Condition of Monitoring Wells Well Caps In Place Locks In Place and Secure  Identify Groundwater Samples Taken:  Identify Photos Taken:  OTHER COMMENTS:						
Locks In Place and Secure  Identify Groundwater Samples Taken:  Identify Photos Taken:  OTHER COMMENTS:						
Identify Groundwater Samples Taken:  Identify Photos Taken:  OTHER COMMENTS:						
OTHER COMMENTS:		Locks In Place and Secure				
OTHER COMMENTS:						
OTHER COMMENTS:	Identify	Groundwater Samples Taken:				
OTHER COMMENTS:						
	Identify	Photos Taken:				
INSPECTOR SIGNATURE:	OTHER (	COMMENTS:				
INSPECTOR SIGNATURE:						
INSPECTOR SIGNATURE:						
INSPECTOR SIGNATURE:						
INSPECTOR SIGNATURE:						
	INSPEC <sup>-</sup>	TOR SIGNATURE:				

**Appendix I**Quality Assurance Project Plan

# QUALITY ASSURANCE PROJECT PLAN TABLE OF CONTENTS

SECTION 1 – PROJECT DESCRIPTION

SECTION 2 – PROJECT ORGANIZATION

SECTION 3 – QA/QC OBJECTIVES FOR MEASURMENT OF DATA

SECTION 4 – SAMPLING PROCEDURES

SECTION 5 – SAMPLE CUSTODY

SECTION 6 – CALIBRATION PROCEDURES

SECTION 7 – ANALYTICAL PROCEDURES

# LIST OF TABLES

Table

No.

- 4.1 Sample Containerization
- 4.2 Sampling Procedure for Monitoring Wells
- 7.1 Proposed Method Detection Limits and Analytical Methods

# PROJECT DESCRIPTION

The Austin Avenue Landfill was formerly owned and operated by the City of Yonkers, and consists of approximately 18.26-acres containing primarily incinerator ash and bulky waste, including trees, brush, and building debris. The landfill began receiving waste in the 1960's, and continued operation into the 1970s. The landfill had ceased operating by 1979, at which time the City of Yonkers entered into a consent order with the New York State Department of Environmental Conservation (NYSDEC) to properly close the former landfill. The landfill property was transferred to Westchester County in 1979, and was owned by the Westchester County Industrial Development Agency (IDA).

In 2004, the Yonkers Industrial Development Agency (YIDA) completed an application on behalf of the Westchester County IDA, for entry into the New York State Brownfield Cleanup Program (BCP). The Site was transferred to Austin Avenue Brownfield Redevelopment, LLC prior to entry into the BCP. The "site", as defined under the Brownfield Cleanup Agreement (BCA Site No. C360066), consisted of Westchester County, City of Yonkers Tax Parcel Section 3, Block 3244, Lot 1. Since issuance of the BCA and Certificate of Completion, the Site was subdivided into three parcels, to accommodate future development and establish designated parkland, which are identified as:

- Parcel 3-3244-1 Approximately 9.89 acres of land reportedly owned/operated by the City of Yonkers, New York and designated as parkland
- Parcel 3-3244-4 Approximately 3.24 acres of land reportedly owned/operated by Morris Westchester Retail Associates, LLC
- Parcel 3-3244-7 Approximately 5.13 acres of land reportedly owned/operated by Morris Westchester Junior Retail Associates, LLC

Under the BCP, a Brownfield Site Investigation was completed in accordance with NYSDEC's *Technical Guidance for Site Investigation and Remediation* (DER-10), to provide a systematic assessment of environmental conditions on the property. This Quality Assurance Project Plan sets forth the quality assurance measures for performing post-remediation monitoring requirements at the Site.

# PROJECT ORGANIZATION

The organization of the key project management and field sampling teams, and areas of responsibility are shown presented below.

Project Principal	Damian J. Vanetti, P.E.	Provide technical and administrative oversight and	
		guidance throughout the project, assist in securing	
		company resources, participate in technical review of	
		deliverables, and attend key meetings as needed.	
Principal Engineer	Damian J. Vanetti, P.E.	Provide technical guidance and review of reports,	
		analytical data. Will have key involvement in	
		screening and development of remedial alternatives.	
Project Manager	Damian J. Vanetti, P.E.	Responsible for maintaining the day-to-day schedule	
		for completing the fieldwork and deliverables	
		according to program objectives.	
Field Team Leader	Ian E. McNamara	Responsible for coordinating and directing field efforts	
		of GHD staff and subcontractors	

# QA/QC OBJECTIVES FOR MEASUREMENT OF DATA

In cases where NYSDOH ELAP Certification exists for a specific group or category of parameters, the laboratories performing analysis in connection with this project will have appropriate NYSDOH ELAP Certification. For analysis of samples where Analytical Service Protocol (ASP, June 2000) Category B deliverables are required, NYSDOH ELAP CLP certification is required.

Detection limits set by NYSDEC-ASP (June 2000) will be used for all sample analyses unless otherwise noted. If NYSDEC-ASP-dictated detection limits prove insufficient to assess project goals (i.e., comparison to drinking water standards or attainment of ARARs), then ASP Special Analytical Services (SAS) or other appropriate methods will be utilized.

The quality assurance/quality control objectives for all measurement data include completeness, representativeness, comparability, precision and accuracy.

# 3.1 COMPLETENESS

The analyses performed must be appropriate and inclusive. The parameters selected for analysis are chosen to meet the objectives of the study.

Completeness of the analyses will be assessed by comparing the number of parameters intended to be analyzed with the number of parameters successfully determined and validated. Data must meet QC acceptance criteria for 100 percent or more of requested determinations.

#### 3.2 REPRESENTATIVENESS

Samples must be taken of the population and, where appropriate, the population will be characterized statistically to express the degree to which the data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process, or environmental condition.

Non-dedicated sampling devices will be cleaned between sampling points by washing and

rinsing with an alconox and potable water solution, followed by a thorough rinse with potable water. Specific cleaning techniques are described in the Field Sampling Procedure.

The analysis results obtained from the determination of identical parameters in field duplicate samples can be used to further assess the representativeness of the sample data.

#### 3.3 COMPARABILITY

Consistency in the acquisition, preparation, handling and analysis of samples is necessary in order for the results to be compared where appropriate. Additionally, the results obtained from analyses of the samples will be compared with the results obtained in previous studies, if available.

To ensure the comparability of analytical results with those obtained in previous or future testing, all samples will be analyzed by NYSDEC-approved methods. The NYSDEC-ASP mandated holding times for various analyses will be strictly adhered to.

# 3.4 PRECISION AND ACCURACY

The validity of the data produced will be assessed for precision and accuracy. Analytical methods which will be used include gas chromatography/mass spectrometry (GC/MS), gas chromatography (GC), colorimetry, atomic spectroscopy, gravimetric and titrametric techniques. The following outlines the procedures for evaluating precision and accuracy, routine monitoring procedures, and corrective actions to maintain analytical quality control. All data evaluations will be consistent with NYSDEC-ASP procedures. Data will be 100 percent compliant with NYSDEC-ASP requirements.

The requirements of QA/QC are both method specific and matrix dependent. The procedures to be used are described on this basis in Sections 6 and 9. The number of duplicate, spiked and blank samples analyzed will be dependent upon the total number of samples of each matrix to be analyzed, but there will be at least one split per matrix.

Quality assurance audit samples will be prepared and submitted by the laboratory QA manager for each analytical procedure used. The degree of accuracy and the recovery of analyte to be expected for the analysis of QA samples and spiked samples is dependent upon the matrix,

method of analysis, and compound or element being determined. The concentration of the analyte relative to the detection limit is also a major factor in determining the accuracy of the measurement. The lower end of the analytical range for most analyses is generally accepted to be five times the detection limit. At or above this level, the determination and spike recoveries for metals in water samples will be expected to range from 75 to 125 percent. The recovery of organic surrogate compounds and matrix spiking compounds determined by GC/MS will be compared to the guidelines for recovery of individual compounds as established by the United States Environmental Protection Agency Contract Laboratory Program dated 7/85 or as periodically updated.

The quality of results obtained for inorganic ion and demand parameters will be assessed by comparison of QC data with laboratory control charts for each test.

# SAMPLING PROCEDURES

# **4.1 SAMPLING PROGRAM**

The soil sampling program will include the collection of soil samples from split spoon sampling devices retrieve from soil borings. Groundwater samples will be collected from groundwater monitoring wells.

**A. Drilling/Sampling Procedures.** Test borings shall be completed using the hollow stem auger drilling method or rotary drilling method to a depth specified by the GHD geologist.

If a hollow stem auger drilling method is to be utilized for monitoring well completion, the minimum inside diameter of the augers shall be 4-1/4 inches.

Samples of the encountered surface materials shall be collected at a minimum of every 5 feet and/or change in material or at the discretion of the geologist. The sampling method employed shall be ASTM D-1586/Split Barrel Sampling using a standard 2-foot long, 2-inch outside diameter split- spoon sampler with a 140-pound hammer. Upon retrieval of the sampling barrel, the collected sample shall be placed in glass jars and labeled, stored on site (on ice in a cooler if necessary), and transmitted to the appropriate testing laboratory or storage facility. Chain-of-custody procedures will be practiced following Section 15, EPA-600/4-82-029, Handbook for Sampling and Sample Preservation of Water and Waste Waters.

A geologist will be on site during the drilling operations to fully describe each soil sample, following the New York State Soil Description Procedure, and to retain representative portions of each sample.

The drilling contractor will be responsible for obtaining accurate and representative samples, informing the geologist of changes in drilling pressure, keeping a separate general log of soils encountered including blow counts [i.e., the number of blows from a soil sampling drive weight (140 pounds)] required to drive the split-spoon sampler in 6-inch increments and installing monitoring wells to levels directed by the supervising geologist following specifications further outlined in this protocol.

**B.** Monitoring Well Completion. Initial downgradient monitoring wells will be constructed of 10 feet of 0.010-inch slot size PVC well screen and riser casing that will extend from the screened interval to 2 to 3 feet above existing grade. The selection of stainless steel or PVC for supplemental wells will depend on groundwater quality results from the initial wells. Other materials utilized for completion will be washed silica sand (Q-Rock No. 4 or approved equivalent) bentonite grout, Portland cement, and a protective steel locking well casing and cap with locks.

The monitoring well installation method for wells installed within unconsolidated sediments shall be to place the screen and riser assembly into the casing once the screen interval has been selected. At that time, a washed silica sand pack will be placed around the well screen if required to prevent screen plugging. If a sand pack is not warranted, the auger string will be pulled back to allow the native aquifer material to collapse 2 to 3 feet above the top of the screen. Bentonite pellets will then be added to the annulus between the casing and the inside auger to insure proper sealing. Cement/bentonite grout will continue to be added during the extraction of the augers until the entire aquifer thickness has been sufficiently sealed off from horizontal and/or vertical flow above the screened interval. During placement of sand and bentonite pellets, frequent measurements will be made to check the height of the sand pack and thickness of bentonite layers by a weighted drop tape measure.

A vented protective steel casing shall be located over the standpipe extending 2 feet below grade and 2 to 3 feet above grade, secured by a Portland cement seal. The cement seal shall extend laterally at least 1 foot in all directions from the protective casing and shall slope gently away to drain water away from the well. A vented steel cap will be fitted on the protective casing. The cap shall be constructed so it may be secured with a steel lock.

**C. Well Development**. All monitoring wells will be developed or cleared of all fine-grained materials and sediments that have settled in or around the well during installation so that the screen is transmitting representative portions of the groundwater. The development will be by one of two methods, pumping or bailing groundwater from the well until it yields relatively sediment-free water.

A decontaminated pump or bailer will be used and subsequently decontaminated after each use following procedures outlined in the Decontamination Protocol. Pumping or bailing will cease

when the turbidity falls below 50 NTUs or until specific conductivity, pH, and temperature are stable (i.e., consecutive readings are within 10 percent with no overall upward or downward trends in measurements). The decision to stop well development at a turbidity level above 50 NTUs is made only after consultation with the NYSDEC. Well development water will be disposed of on the ground surface at each well location or contained in drums as conditions warrant.

**D. Decontamination.** All drilling equipment and associated tools including augers, drill rods, sampling equipment, wrenches and any other equipment or tools that have come in contact with contaminated materials will be decontaminated before any drilling on site begins, between each well, and prior to removing any equipment from the site. The preferred decontamination procedure will be to use a high pressure steam cleaner to remove soils and volatile organics from the equipment. The water used for this procedure will be contained and shall come from a controlled source, preferably a municipal drinking supply. Representative samples of the contained decontamination water and well development water will be screened in the field to determine the proper method of disposal. Every effort will be made to minimize the generation of contaminated water.

# E. Groundwater Sampling Program.

- 1. **Well Evacuation.** Prior to sampling a monitoring well, the static water level will be recorded and the wells evacuated to assure that the water in the well is truly representative of the groundwater. All well data will be recorded on a field sampling record. Low-flow stainless steel bladder pumps will be used to evacuate wells at a rate that limits draw-down of the wells, to the extent practicable. Groundwater field parameters will be periodically recorded during well evacuation and sampling will occur after parameter stabilization is achieved.
- 2. **Sampling Procedure.** Groundwater samples will be collected using stainless steel bladder pumps equipped with either polyethylene or Teflon bladders. All samples will be removed from a depth corresponding to the approximate mid-point of the well screen to further assure a representative groundwater sample. Before and after sampling, any non-dedicated sampling device will be cleaned inside and out with an alconox and potable water solution, and then rinsed with potable water. Sampling procedures are summarized on Table 4.2.

In addition to water samples collected from the monitoring wells, one type of "blank" will be collected and submitted to the chemical laboratory for analyses. The blank will consist of laboratory provided containers, as follows:

a. **Field (Wash) Blanks.** Field (wash) blanks are analyzed to check the effectiveness of decontamination. Each sample consists of distilled deionized water (prepared by the laboratory) poured through a decontaminated sampling apparatus. It is usually collected as a last step in the decontamination procedure prior to sampling of a monitoring well. The field (wash) blank can be analyzed for all or some of the compounds which the subsequent monitoring well sample is scheduled for.

# F. Soil Vapor Sampling.

Soil vapor samples will be collected in the vadose zone at a target depth of 5 feet, using 1-inch diameter PVC well points. Each well point will be installed in a shallow boring drilled by hand-operated equipment, such as hand auger or percussion hammer drill. Drilling equipment used shall be based on soil conditions, and the method that provides the most practical approach.

After each well point is installed native soil will be packed around the annulus to form a seal at the ground surface. Each designated soil vapor sampling location will be purged of a minimum of three volumes using a low volume pump, and then capped with bee's wax. A ¼-inch inside diameter sampling tube will be inserted through the wax cover to the bottom of each gas well probe. The other end of the soil gas tube will be attached to a regulator, and secured with a clamp. The regulator will then be attached to a 1-liter summa canister.

The regulator will be set to collect a soil vapor sample over a duration of 1 hour, at an approximate flow rate of 13 cubic cm per minute. After 1 hour of sampling the regulator will be disconnected from the summa canister, and the canister valve will be closed.

Each canister will be listed according to a specific sample I.D. on a chain of custody form. Sample canisters will be delivered to the laboratory within 24 hours, and analyzed for VOCs by method TO-15.

# 4.2 SAMPLE PRESERVATION AND SHIPMENT

Since all bottles will contain the necessary preservatives as shown in Table 4.1, they need only be filled. The bottles should be filled to within about 1 inch from the top.

The bottles will be sent from the laboratory in coolers which will be organized on a per site basis. Following sample collection, the bottles should be placed on ice in the shipping cooler. The samples will be cooled to 4°C, but not frozen.

Final packing and shipment of coolers will be performed in accordance with guidelines outlined in the "User's Guide to the CLP".

# SAMPLE CUSTODY

The program for sample custody and sample transfer is in compliance with the NYSDEC-ASP, June 2000. If samples may be needed for legal purposes, chain-of-custody procedures, as defined by <u>NEIC Policies and Procedures</u> (USEPA-330/9-78-001-R, Revised June 1988) will be used. Sample chain-of-custody is initiated by the laboratory with selection and preparation of the sample containers. To reduce the chance for error, the number of personnel handling the samples should be minimized.

# 5.1 FIELD SAMPLE CUSTODY

A chain-of-custody record accompanies the sample from initial sample container selection and preparation at the laboratory, shipment to the field for sample containment and preservation, and return to the laboratory. Two copies of this record follow the samples to the laboratory. The laboratory maintains one file copy and the completed original is returned to the site inspection team. Individual sample containers provided by the laboratory are used for shipping samples. The shipping containers are insulated and chemical or ice water is used to maintain samples at approximately 4°C until samples are returned and in the custody of the laboratory. All sample bottles within each shipping container are individually labeled and controlled. Samples are to be shipped to the laboratory within 24-48 hours of the day of collection.

Each sample shipping container is assigned a unique identification number by the laboratory. This number is recorded on the chain-of-custody record and is marked with indelible ink on the outside of the shipping container. The field sampler will indicate the sample designation/location number in the space provided on the appropriate chain-of-custody form for each sample collected. The shipping container is closed and a seal provided by the laboratory is affixed to the latch. This seal must be broken to open the container, and this indicates possible tampering if the seal is broken before receipt at the laboratory. The laboratory will contact the site investigation team leader and the sample will not be analyzed if tampering is apparent.

# 5.2 LABORATORY SAMPLE CUSTODY

The site investigation team leader or Project Quality Assurance Officer notifies the laboratory of upcoming field sampling activities and the subsequent transfer of samples to the laboratory. This notification will include information concerning the number and type of samples to be shipped as well as the anticipated date of arrival.

The laboratory sample program meets the following criteria:

- A. The laboratory has designated a sample custodian who is responsible for maintaining custody of the samples and for maintaining all associated records documenting that custody.
- B. Upon receipt of the samples, the custodian will check the original chain-of-custody documents and compare them with the labeled contents of each sample container for correctness and traceability. The sample custodian signs the chain-of-custody record and records the date and time received.
- C. Care is exercised to annotate any labeling or descriptive errors. In the event of discrepant documentation, the laboratory will immediately contact the site investigation team leader as part of the corrective action process. A qualitative assessment of each sample container is performed to note any anomalies, such as broken or leaking bottles. This assessment is recorded as part of the incoming chain-of-custody procedure.
- D. The samples are stored in a secured area at a temperature of approximately 4°C until analyses are to commence.
- E. A laboratory chain-of-custody record accompanies the sample or sample fraction through final analysis for control.
- F. A copy of the chain-of-custody form will accompany the laboratory report and will become a permanent part of the project records.

# **5.3 FINAL EVIDENCE FILES**

Final evidence files include all originals of laboratory reports and are maintained under documented control in a secure area.

A sample or an evidence file is under custody if:

- It is in your possession; it is in your view, after being in your possession.
- It was in your possession and you placed it in a secure area.
- It is in a designated secure area.

# **CALIBRATION PROCEDURES**

Instruments and equipment used to gather, generate or measure environmental data will be calibrated with sufficient frequency and in such a manner that accuracy and reproducibility of results are consistent with the appropriate manufacturer's specifications or project specific requirements. The procedures for instrument calibration, calibration verification, and the frequency of calibrations are described in the NYSDEC-CLP. The calibration of instruments used for the determination of metals will be as described in the appropriate CLP standard operating procedures.

Calibration of other instruments required for measurements associated with these analyses will be in accordance with the manufacturer's recommendations and the standard operating procedures of the laboratory.

# ANALYTICAL PROCEDURES

Analytical procedures shall conform to the most recent revision of the NYSDEC-ASP and are summarized on Table 7.1. In the absence of USEPA or NYSDEC guidelines, appropriate procedures shall be submitted for approval by NYSDEC prior to use.

The procedures for the sample preparation and analysis for organic compounds are as specified in the NYSDEC-ASP. Analytical cleanups are mandatory where matrix interferences are noted. No sample shall be diluted any more than 1 to 5. The sample shall be either re-extracted, re-sonicated, re-stream distilled, etc. or be subjected to any one analytical cleanup noted in SW846 or a combination thereof. The analytical laboratory shall expend such effort and discretion to demonstrate good laboratory practice and demonstrate an attempt to best achieve the method detection limit.

#### 7.1 METALS

Water samples will be analyzed for the metals listed in Table 7.1. The detection limits for these metals are as specified in the NYSDEC-ASP, Section D-V. The instrument detection limits will be determined using calibration standards and procedures specified in the NYSDEC-ASP. The detection limits for individual samples may be higher due to the sample matrix. The procedures for these analyses will be as described in the NYSDEC-ASP.

The digestion procedures for water samples are not recommended for samples requiring analysis for mercury, arsenic or selenium. The aliquot of sample analyzed for As and Se will be prepared using the modifications described in USEPA Methods 206.2 CLP-M and 270.2 CLP-M, respectively. Analysis for mercury requires a separate digestion procedure (245.1 CLP-M, or 245.2 CLP-M).

The analyses for metals will be performed by atomic absorption spectroscopy (AAS) or inductively-coupled plasma emission spectroscopy (ICPES), as specified in the ASP with regard to AAS flame analysis.

# 7.2 SITE SPECIFICITY OF ANALYSES

Work plans prepared for remedial investigation waste sites contain recommendations for the chemical parameters to be determined for each site. Thus, some or all of the referenced methods will apply to the analysis of samples collected at the individual waste sites.

# **TABLE 4.1**

# SAMPLE CONTAINERIZATION

ANALYSIS		BOTTLE TYPE	PRESERVATIVE <sup>(1)</sup>	HOLDING TIME <sup>(2)</sup>
Soil				
TAL Metals		Wide mouth, plastic or glass	Nitric Acid	6 months

- All samples will be preserved with ice during collection and shipment.
   From verified time of sample receipt by the analytical laboratory (within 24 to 48 hours of collection).

# TABLE 4.2

# SAMPLING PROCEDURE FOR MONITORING WELLS

- 1. Initial static water level recorded with an electric contact probe accurate to the nearest 0.01 foot.
- 2. Sampling device and electric contact probe decontaminated.
  - Sampling device and probe are rinsed with alconox and potable water.
- 3. Sampling device lowered into well.
  - Stainless steel bladder pump lowered by dedicated polyethylene line and polyethylene tubing.
- 4. Sample taken.
  - Sample is pumped directly from the end of the dedicated polyethylene tubing into the sample bottle and the sample bottle tilted so that aeration and turbulence are minimized.
  - Duplicate sample is collected in a similar manner when appropriate.
- 5. Samples are capped, labeled and placed in laboratory coolers with ice packs or bagged ice.
- 6. All equipment is cleaned with successive rinses of alconox and potable water solution and potable water.
  - · Dedicated line and tubing is disposed of or left in well.
- 7. Equipment/wash blanks are collected when non-dedicated sampling equipment is used.
- 8. Chain-of-custody forms are completed in triplicate.
  - The original and one carbon copy are put into a zip-lock bag and placed into the cooler. The original will be returned following sample analysis.
  - · A second carbon copy is kept on file.
- 9. Cooler is sealed with strapping tape and chain-of-custody seals to assure integrity and to prevent tampering of sample.

# **TABLE 7-1**

# PROPOSED METHOD DETECTION LIMITS AND ANALYTICAL METHODS ASP INORGANICS

Parameter List and Contract-Required Quantitation Limit

# <u>SECTION 1 - ASP INORGANICS</u> Method: NYSDEC-ASP, June 2000

	PARAMETER	CONTRACT-REQUIRED DETECTION LEVEL* (µg/l)
1.	Aluminum	200
2.	Antimony	60
3.	Arsenic	10
4.	Barium	200
5.	Beryllium	5
6.	Cadmium	5
7.	Calcium	5000
8.	Chromium	10
9.	Cobalt	50
10.	Copper	25
11.	Iron	100
12.	Lead	3
13.	Magnesium	5000
14.	Manganese	15
15.	Mercury	0.2
16.	Nickel	40
17.	Potassium	5000
18.	Selenium	5
19.	Silver	10
20.	Sodium	5000
21.	Thallium	10
22.	Vanadium	50
23.	Zinc	20
24.	Cyanide	10

<sup>\*</sup>Matrix: groundwater. For soil matrix, multiply CRDL by 100.