1960-1982 WEBSTER AVENUE

BRONX, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: C203075

Prepared for:

Webster Avenue Housing Development Fund Corporation
505 Eighth Avenue, 5th Floor, New York, NY 10018

Prepared by:

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Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date

DECEMBER 2016

CERTIFICATION STATEMENT

I, Edyta Korczynska, certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375 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).

Edyta Korczynska P.E.

12/05/2016 DATE

Warning: It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

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Acronym	Definition
°C	Degrees Celsius
°F	Degrees Fahrenheit
%D	Percent Difference
%RSD	Percent Relative Standard Deviation
ACGH	American Conference Of Governmental And Industrial Hygienists
AOCs	Areas Of Concern
ANSI	American National Standards Institute
APP	Accident Prevention Plan
APR	Air Purifying Respirator
ASP	Analytical Services Protocol
ASTM	American Society For Testing And Materials
ACBM	Asbestos Containing Building Material
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
BOA	Brownfield Opportunity Area
BZ	Breathing Zone
C&D	Construction and Demolition
CAMP	Community Air Monitoring Plan
COC	Chemicals of Concern
CPP	Citizen Participation Plan
CQAP	Construction Quality Assurance Plan
CPR	Cardio Pulmonary Resuscitation
CRQLs	Contract Required Quantitation Limits
CRZ	Contamination Reduction Zone
DCE	Dichloroethene
DMM	Division of Materials Management
DO	Dissolved Oxygen
DQO	Data Quality Objectives
DT	DT Consulting Services, Inc.
DUP	Duplicate
DUSR	Data Usability Summary Report
EC	Engineering Control
ECL	Environmental Conservation Law
EDD	Electronic Data Deliverable
ELAP	Environmental Laboratory Accreditation Program
ERM	Environmental Resources Management
EZ	Exclusion Zone
FB	Field Blank

FER	Final Engineering Report
FEV	Forced Expiratory Volume
ftbg	Feet below grade
FTL	Field Team Leader
FVC	Forced Vital Capacity
FWRIA	Fish and Wildlife Resources Impact Analysis
GC/MS	Gas Chromatograph/Mass Spectrophotometer
GPR	Ground Penetrating Radar
GW	Ground Water
GQS	Groundwater Quality Standard
HASP	Health And Safety Plan
HAZWOPER	Hazardous Waste Operations And Emergency Response
HDPE	High Density Polyethylene
HSO	Health And Safety Officer
ICP	USEPA Method 6010a
LBP	Lead-Based Paint
LIMs	Laboratory Information Management
LNAPL	Light non-aqueous phase liquid
MS/MSD	Matrix Spike/Matrix Spike Duplicate
MSDSs	Material Safety Data Sheets
MW	Monitoring Well
NIOSH	National Institute For Occupational Safety And Health
NYCDOB	New York City Department of Buildings
NYSDEC	New York State Dept. Of Environmental Conservation
NYSDOH	New York State Department Of Health
OSHA	Occupational Safety And Health Administration
OV	Organic Vapor
OVA	Organic Vapor Analyzer
PAH	Polycyclic Aromatic Hydrocarbon
PARCC	Precision, Accuracy, Representativeness, Completeness And Comparability
PCB	Polychlorinated Biphenyls
PCE	Tetrachloroethene
PGWSCO	Protection of Groundwater Soil Cleanup Objective
Phase I	Phase I Environmental Site Assessment
Phase II	Phase II Environmental Site Assessment
PLC	Programmable Logic Controller
PM	Project Manager
PPE	Personal Protection Equipment
PID/FID	Photoionization Detector And Flameionization Detector
QA/QC	Quality Assurance/Quality Control
QAO	Quality Assurance Officer

QAPP	Quality Assurance Project Plan
QHHEA	Qualitative Human Health Exposure Assessment
RAOs	Remedial Action Objectives
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation And Recovery Act
REC	Recognized Environmental Condition
RI	Remedial Investigation
RIR	Remedial Investigation Report
ROD	Record of Decision
RPD	Relative Percent Difference
RRSCO	Restricted Residential Soil Cleanup Objective
RSD	Relative Standard Deviation
SAP	Sampling And Analysis Plan
SCBA	Self-Contained Breathing Apparatus
SCGs	Standards, Criteria and Guidance
SDG	Sample Delivery Group
SHSC	Site Health And Safety Coordinator
SMP	Site Management Plan
SOPs	Standard Operating Procedures
SPDES	State Pollution Discharge Elimination System
SPLP	Synthetic Precipitation Leaching Procedure
SSDS	Sub-Slab Depressurization System
SWPPP	Stormwater Pollution Prevention Plan
SVOCs	Semi-Volatile Organic Compounds
SZ	Support Zone
TAL	Target Analyte List
TCE	Trichloroethene
TCL	Target Compound List
TCLP	Toxicity Characteristics Leaching Procedure
TICs	Tentatively Identified Compounds
TLV	Threshold Limit Values
TOGS	Technical and Operational Guidance Series
TPHVE	Total Phase High Vacuum Extraction
TSCA	Toxic Substance Control Act
TVOCs	Total Volatile Organic Compounds
TWA	Time Weighted Averages
US	United States
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank

UUSCOs	Unrestricted Use Soil Cleanup Objectives
VCP	Voluntary Cleanup Program
VOA	Volatile Organic Analysis
VOCs	Volatile Organic Compounds

ES EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the Site, as well as the inspections, monitoring, maintenance and reporting activities required by this Site Management Plan:

Site Identification: C203075 1960-1982 Webster Avenue

Institutional Controls:	1. The property may be used for restricted residential use;
	2. The site remedy requires that an environmental easement be placed on the property to (1) implement, maintain and monitor the Engineering Controls; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the site to restricted residential uses only (4) prohibit the use of the groundwater underlying the property without treatment rendering it safe for intended use.
	3. All ECs must be inspected at a frequency and in a manner defined in the SMP.
Engineering Controls:	1. Cover system
	2.Vapor Barrier
	3. Sub-Slab Depressurization System (SSDS)

Inspections:	Frequency
1. Site-wide inspection	Annually or after a severe weather conditions
2. Soil Cover	Annually
3. SSDS	Weekly and Quarterly

Site Identification: C203075_1960-1982 Webster Avenue

Monitoring:	
1. Indoor Air	One-time during heating season (dependent on analytical results) when the 4275 Park Avenue building is completed
2. SSDS exhaust	One-time after start-up Site-specific VOCs via EPA Method TO-15
3. SSDS Pressure Field	One-time prior to building occupancy (dependent on results illustrating SSDS has influence across entire building slab).
Maintenance:	
1. SSDS maintenance	As needed
Reporting:	
2. Periodic Review Report	Annually

Further descriptions of the above requirements are provided in detail in the latter sections of this Site Management Plan.

1.0 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the 1960-1982 Webster Avenue site located in Bronx, New York (hereinafter referred to as the "Site"). See Figure 1-1"Site Location Map. The Site is currently in the New York State (NYS) Brownfield Cleanup Program (BCP), Site No. C203075 which is administered by New York State Department of Environmental Conservation (NYSDEC).

Webster Avenue Housing Development Fund Corporation entered into a Brownfield Cleanup Agreement (BCA), in November 2014 with the NYSDEC to remediate the site. A figure showing the site location and boundaries of this site is provided in Figure 1-2 "Figure of Site and Site Boundaries" and Appendix A "Metes and Bounds". As shown in Figure 1-2, there are two parcels, 411 East 178th Street and 4275 Park Avenue, which comprise the BCP Site. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement provided in Appendix B.

After completion of the remedial work, some contamination was left at this site, which is hereafter referred to as "remaining contamination". Institutional and Engineering Controls (ICs and ECs) have been incorporated into the site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Bronx County Clerk, requires compliance with this SMP and all ECs and ICs placed on the site.

This SMP was prepared to manage remaining contamination at the site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. 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.

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 (Site # C203075) for the site, and thereby subject to applicable penalties.

All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the site is provided in Appendix C of this SMP.

This SMP was prepared by ERM Consulting & Engineering, Inc. (ERM), on behalf of Webster Avenue Housing Development Fund Corporation, in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 3, 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the site.

1.2 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shut-down of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the site conditions. 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.

1.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC's DER – 10 for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the BCA, 6NYCRR Part 375 and/or Environmental Conservation Law.
- 7-day advance notice of any field activity associated with the remedial program.
- 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, 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 ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting 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/Remedial Party has been provided with a copy of the Brownfield Cleanup Agreement (BCA) , and all approved work plans and reports, including this SMP.

- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

Table 1-1 "Notifications "on the following page includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix C.

Table 1.1: Notifications*

Name	**Contact Information**
Mr. John Grathwol (NYSDEC)	(518) 402-9767 john.grathwol@dec.ny.gov
Jane O'Connell (NYSDEC)	jane.oconnell@dec.ny.gov
Bernadette Anderson (NYSDEC)	bernadette.anderson@dec.ny.gov
Stephanie Selmer (NYSDOH)	(518) 402-7860 beei@health.ny.gov
ERM Melville Office	(631) 756-8900
Project Director: Ernie Rossano (ERM)	(631) 756-8917 ernie.rossano@erm.com
Remedial Engineer/Qualified Environmental Professional: Edyta Korczynska (ERM)	(631) 756-8907 edyta.korczynska@erm.com
Breaking Ground: Zachary Korb	(212) 389-9329 ZKorb@breakingground.org
Breaking Ground: Elissa Winzelberg	(212) 389-9325 EWinzelberg@breakingground.org

* Note: Notifications are subject to change and will be updated as necessary.

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

2.1 Site Location and Description

The site is located in the Bronx County, New York and is identified as Block 3028 and Lot 101 and 102 on the New York City Tax Map. The site is an approximately 1.4 -acre area and is bounded by warehouse and a church building to the north, East 178th Street and beyond by commercial and residential properties to the south, Park Avenue and beyond by MTA Metro North railway lines to the east, and Webster Avenue and beyond by commercial and residential properties to the west. The boundaries of the site are more fully described in Appendix B –Environmental Easement. The owner(s) of the site parcel(s) at the time of issuance of this SMP is Webster Avenue Housing Development Fund Corporation.

2.2 Physical Setting

2.2.1 Land Use

The Site consists of the following: one 12-story building, one 8-story building, parking area and paved area. The Site is currently under construction and is scheduled to be completed in 2018. The Site is zoned residential and commercial and will be utilized for residential and commercial uses.

The properties adjoining the Site and in the neighborhood surrounding the Site primarily include residential and commercial properties. The properties immediately south of the Site include East 178th Street and beyond commercial and residential properties; the properties immediately north of the Site include a warehouse and church building; the properties immediately east of the Site include Park Avenue and beyond MTA Metro North railway lines; and the properties to the west of the Site include Webster Avenue and beyond by commercial and residential properties.

2.2.2 Geology

According to the geologic logs collected from the 7 soil borings advanced on-site, subsurface soil at the Site consists of historic fill, which was primarily comprised of brick, concrete, wood and other debris in a brown silty-sand matrix. The layer of historic fill extends to a depth ranging from ground surface to approximately 5 to 8 feet below grade. Native soil consisting of brown sand is present below the historic fill layer. Based on the geological data collected during the installation of the soil borings, Geologic Cross Sections were prepared. The Cross Sections are A-A' from south to north along the western side of the Site and B-B' along the southern side of the property.

A geologic cross section prior to excavation activities is shown in Figure 2-1 "Geologic Cross Section". Site specific boring logs are provided in Appendix D.

2.2.3 Hydrogeology

Groundwater was encountered at a depth of approximately 15 to 19 feet below grade. Surface topography in the general area of the Site possesses moderate relief with general slope to the south-southeast. While groundwater flow direction at the Site has not been confirmed by ERM or others, based on the proximity of the East River to the south and the Bronx River to the east, it is anticipated that the groundwater flow direction will be to the south or southeast. It is important to note that groundwater flow direction can be influenced locally and regionally by the presence of local wetland features, surface topography, recharge and discharge areas, horizontal and vertical inconsistencies in the types and location of subsurface soils, and proximity to water pumping wells. A generalized groundwater flow map is shown in Figure 2-2 "Groundwater Flow Map".

No groundwater monitoring wells are currently present on Site.

2.3 Investigation and Remedial History

The following narrative provides a remedial history timeline and a brief summary of the available project records to document key investigative and remedial milestones for the Site. Full titles for each of the reports referenced below are provided in Section 8.0 - References.

The Site was investigated in accordance with the scope of work presented in the Remedial Investigation Report (RIR) dated October 2013. The investigation was conducted between December 2012 and September 2013. The RI scope of work consisted of groundwater, soil, and soil vapor sampling. The investigation data was used to evaluate remedial needs for the Site consistent with redevelopment plans.

DT Consulting Services, Inc. (DT) performed the following scope of work in December 2012 and January 2013:

1. Conducted a geophysical survey within the building;
2. Installed 13 soil borings across the northern half of the project Site, and collected 26 soil samples for chemical analysis from the soil borings to evaluate soil quality;
3. Installed 8 groundwater monitoring wells within the northern half of the Site to establish groundwater flow and collected 8 groundwater samples for chemical analysis to evaluate groundwater quality; and
4. Installed 8 soil vapor probes across the northern half of the Site and collected 8 samples for chemical analysis.

To supplement the previous work performed by DT and fill in data gaps (southern and western portion of Site); ERM performed the following scope of work with New York City Office of Environmental Remediation (NYC OER) approval in September 2013:

1. Conducted a Site inspection to identify AOCs and physical obstructions (i.e., underground storage tanks, structures, buildings, etc.);
2. Conducted a geophysical survey of the paved parking lot and grassed area surrounding the building using a T-W6 metal detector and a cart mounted ground-penetrating radar (GPR) unit;

3. Installed 7 soil borings across the southern and northwestern portion of the Site and collected 14 soil samples for chemical analysis from the soil borings to evaluate soil quality;
4. Installed 4 groundwater monitoring wells across the southern and northwestern portion of the Site and collected 4 groundwater samples for chemical analysis to evaluate groundwater quality; and
5. Installed 5 soil vapor probes across the southern and northwestern portion of the Site and collected 5 samples for chemical analysis.

- Soil

Soil/fill samples collected during the RI showed that the detection limits of several VOCs in one deep sample (ERMSB-04) were above Track 1 Unrestricted Use SCOs. Acetone was detected in most soil samples at a maximum concentration of 46 ug/kg. Trace levels of PCE (7 ug/kg) and TCE (14 ug/kg) were detected in one soil boring location. Several pesticides were detected above their respective Unrestricted Use SCOs, but well below their respective Restricted Residential Use SCOs in one shallow soil sample. Six SVOCs were detected in two shallow samples and one deep sample at concentrations exceeding Track 1 Unrestricted Use SCOs. Several metals exceeded Track 1 Unrestricted Use SCOs. Trace levels of PCBs were detected in one shallow soil, well below its Unrestricted Use SCOs. Overall the findings were consistent with observations of historical fill.

A summary of the soil analytical results is presented in Figure 2-3 "Pre-Remedial Soil Sampling Results Exceeding Restricted Residential Soil Cleanup Objectives" and Figure 2-4 "Pre-Remedial Soil Sampling Results Exceeding Unrestricted Residential Soil Cleanup Objectives".

- Groundwater

Groundwater samples collected during the RI showed no detectable concentrations of PCBs. Tetrachloroethene was the only VOC detected in one groundwater sample exceeding Groundwater Quality Standards (GQS). One SVOC, was detected above GQS in two groundwater samples collected in 2012/2013 by DT, but samples collected by

ERM in 2013 showed no detections of SVOCs in groundwater suggesting that the earlier findings are linked with a turbid samples rather than on-Site conditions. Metals were detected above GQS in 11 of the 12 samples. The only pesticide detected above GQS was dieldrin in two samples.

Data collected during both RIs is sufficient to delineate the distribution of contaminants in groundwater at the Site. Figure 2-5 "Pre-Remedial Groundwater Contamination Summary" shows the location and posts the values for groundwater that exceed GQS.

- Soil Vapor

Soil vapor samples collected during both phases of the RI detected concentrations of chlorinated and petroleum-related VOCs. PCE was identified in 10 of the 13 samples at a maximum concentration of 732 µg/m^3. TCE was detected in 7 of the 13 samples collected for soil vapor at a maximum concentration of 407 µg/m^3. 111 TCA concentration was detected in 8 of the 13 vapor samples at maximum concentration of 1,310 µg/m^3. The PCE, 1,1,1,-Trichloroethane and TCE concentrations are above the monitoring level ranges established within the State NYSDOH soil vapor guidance matrix.

Data collected during the RI is sufficient to delineate the distribution of contaminants in soil vapor at the Site. Figure 2-6 "Pre-Remedial Soil Vapor Data" shows the location and posts the values for soil vapor sample with detected concentrations.

Between June 2015 and September 2016, the site was remediated in accordance with the remedy selected by the NYSDEC in the Remedial Acton Work Plan (RAWP) dated February 2015. The factors considered during the selection of the remedy are those listed in 6NYCRR 375-1.8. See Section 2.5 Summary of Remedial Actions for details.

During the RA, two underground storage tanks (USTs) were encountered in the northwest corner of the 4275 Park Avenue parcel. The two USTs were each 550 gallon, single wall, steel, gasoline tanks. Both USTs were observed to be corroded, however, no holes, dents or pitting were observed. The tanks were removed and disposed off-Site. The final size of the excavation was approximately 10 feet by 10 feet by 7 feet deep. Five (5) endpoint (four sidewall samples and one bottom sample) and one (1) waste characterization soil samples were collected on July 16, 2015. See Figure 2-7 "Soil Sampling Location" and Figure 2-8 "Extent of Remedial Excavation Performed". Endpoint sample analytical results were compared to NYSDEC "CP-51 Soil Cleanup Guidance for Fuel Oil Contaminated Soils and Gasoline Contaminated Soils". No exceedances were detected in any of the samples (see Table 2-1 "USTs Endpoint Soil Sampling Results"). USTs were inerted, cut, cleaned and disposed of. USTs were registered with the NYSDEC Petroleum Bulk Storage (PBS) program.

A layer of petroleum impacted soil was encountered at the groundwater elevation at approximately 15-16 ft bgs during excavation of test pits at the 411 East 178 Street parcel. At the direction of NYSDEC additional remedial excavation of petroleum impacted soil was conducted in the elevator pit area (to a depth of 18 ft bgs) and in the 23 ft by 60 ft area to the north of the elevator pit (to a depth of 16 ft bgs). Five (5) confirmatory soil samples were collected from the elevator pit area. Eight (8) confirmatory soil samples were collected from the 23 ft by 60 ft additional remedial excavation. See Figure 2-7 "Soil Sampling Location" and Figure 2-8 "Extent of Remedial Excavation Performed". All samples were analyzed for VOCs, SVOCs, Metals and Pesticides/PCBs. Majority of the compounds were non-detect (see Table 2-2 "Additional Remedial Excavation Confirmatory Soil Sampling"). A demarcation barrier and approved backfill material were installed in the 23 ft by 60 ft area.

2.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the Remedial Action Work Plan dated February 2015 are as follows:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.

- Prevent contact with, or inhalation of, volatiles from contaminated groundwater.

RAOs for Environmental Protection

- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

Surface Water

There are no surface water bodies in the vicinity of the site therefore it was not necessary to establish RAOs for surface water or sediment.

Sediment

- As previously stated, there are no surface water bodies in the vicinity of the site therefore it is not necessary to establish RAOs for surface water or sediment.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

2.5 Summary of Remedial Actions

The site was remediated in accordance with the remedy selected by the NYSDEC in the RAWP dated February 2015. The factors considered during the selection of the remedy are those listed in 6NYCRR 375-1.8. The following are the components of the selected remedy:

1. Preparation of a Community Participation Plan and performance of all required BCP Citizen Participation activities according to an approved Citizen Participation Plan (CPP);

2. Performance of a Community Air Monitoring Program for particulates and volatile organic carbon compounds;

3. Establishment of Track 4 Soil Cleanup Objectives (SCOs);

4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas;

5. Excavation of soil/fill exceeding Track 4 Restricted Residential SCOs. The entire property was excavated to a depth of minimum two feet. The building area at the 4275 Park Avenue parcel was excavated to a depth of approximately six feet for building footings and elevator pit. The building area at the 411 East 178 Street parcel was excavated to a depth of approximately 13 feet for a basement in the proposed buildings. The elevator pit area was excavated to a depth of 18 feet bgs, additional remedial excavation was excavated to a depth of 16 feet bgs (see Section 2.3 for details). The sewage injector area was excavated to a depth of approximately 16 feet bgs. Due to groundwater elevation at approximately 15 feet bgs,

dewatering was required in the elevator pit area, 23 ft by 60 ft additional excavation and sewage injector areas. See Section 4.1.4.7 for further discussion. See Figure 2-8" Extent of Remedial Excavation Performed";

6. Screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a photoionization detector (PID). Appropriate segregation of excavated media on-Site;

7. Removal of one 2,000 gallon, single wall, steel, fuel oil aboveground storage tank (AST) in compliance with applicable local, State and Federal laws and regulations (See Section 4.3.5 for further discussion);

8. Removal of two 550 gallon, single wall, steel, gasoline underground storage tank (UST), excavation of impacted soil, collection of endpoint samples and reporting of petroleum spill (NYSDEC #1504063) in compliance with applicable local, State and Federal laws and regulations (See Section 4.3.4 for further discussion);

9. Transportation and off-Site disposal of all soil/fill material at permitted facilities in accordance with applicable laws and regulations for handling, transport, and disposal, and the RAWP. Sampling and analysis of excavated media were required by disposal facilities (See Section 4.3 for further discussion);

10. Construction and maintenance of a soil cover system to prevent human exposure to remaining contaminated soil/fill. The Site's composite cover system currently consists of clean fill on open areas, asphalt or concrete pavement and concrete building slabs. The soil cover layer is a minimum of two feet thick and consists of clean fill and/or top soil that meet the lower value of PGWSCOs and RRSCOs (see Table 2-3). This is currently an interim cover system. Upon completion of Site development activities, there will also be paved areas, walkways, and driveways. The location and components of the final cover system will be documented in the first Periodic review report (PRR) and any associated figures in this SMP will be revised;

11. Installation of a vapor barrier system beneath the building slab and behind foundation sidewalls below grade. The sub-slab vapor barrier consists of a 46 mil high density polyethylene (HDPE) designed to provide a barrier against water, moisture, and gas. A 60 mil HDPE membrane will be applied to vertical foundation walls;

12. Installation of an active Sub Slab Depressurization System (SSDS) in the building located at the 4275 Park Avenue parcel;

13. Placement of a demarcation layer (i.e., orange geotextile fabric and orange construction fencing) after all excavations were completed.

14. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations;

15. Performance of all activities required for the remedial action, including permitting requirements and pretreatment requirements, in compliance with applicable laws and regulations;

16. Execution and recording of an Environmental Easement to restrict land use and prevent future exposure to any contamination remaining at the site.

17. 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.

2.6 Remaining Contamination

Since contaminated soil and groundwater will remain beneath the Site after the remedy is complete, IC will be required for long term management to protect human health and the environment. Long-term management of IC and residual contamination will be executed under this Site specific SMP.

As identified in the RI, historic fill material is present across much of the Site. This material contained chemicals in concentrations that are in excess of the UUSCOs, as well as the RRSCOs. Therefore, soil below the demarcation layer and below the on-site buildings and parking lot is anticipated to exceed either the RRSCOs or the UUSCOs.

Demarcation layer was placed at the bottom of the excavation except in the area of buildings footprints (see Figure 2-9 “Location of Cover System Types” and Figure 2-10 “Location of Cover System Types – Cross Sections”). As documented in Section 4-5, clean backfill and hard covers is present above the demarcation layer. The clean backfill consists of: 1) organic topsoil, 2) crushed stone and 3) granular mix, Item 4 material (selected by structural engineer as backfill for 23 ft by 60 ft remedial excavation). The topsoil and hard cover was used in the 0-2 foot interval in the parking lot area and in front of the 4275 Park Avenue building entrance. Crushed stone was used for SSDS and stormwater detention systems. The granular mix material was used to backfill the additional remedial excavation.

The demarcation layer was placed in the shallow excavation areas at a depth of approximately 2 feet and in the additional remedial excavation area. No demarcation layer was placed under the building area, as per discussion during kick-off meetings between Mr. John Grathwol, ERM and the Contractors. The area below the building was covered with a 2 and 3 feet thick mat slab and vapor barrier layer placed under the entire building.

Figure 2-11 “Post-Remedial Soil Contamination Above Unrestricted Levels” summarizes the analytical results from all soil samples remaining at the site after completion of Remedial Action that exceed the Track 1 (unrestricted) SCOs.

Figure 2-12 “Post-Remedial Soil Contamination Above Restricted Residential or Protection of Groundwater Levels” summarizes the analytical results of all soil samples remaining at the site after completion of Remedial Action that exceed the RRSCOs or PGWSCOs.

3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1 General

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

This plan provides:

- A description of all IC/ECs on the site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs, such as the implementation of the Excavation Work Plan (EWP) (as provided in Appendix E) 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 IC/ECs required by the site remedy, as determined by the NYSDEC.

3.2 Institutional Controls

A series of ICs is required by the RAWP to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the site to restricted residential, commercial or industrial uses only. Adherence to these ICs on the site is required by the Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The IC boundaries correspond to the Site boundary shown on Figure 1-2 “Figure of Site and Site Boundaries (Pre-Remedial action)”. These ICs are:

- The property may be used for: restricted residential; commercial, or industrial use;
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP.
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH 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.
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;

- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;

- 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 the Environmental Easement.

- The potential for vapor intrusion must be evaluated for any buildings developed at the Site, and any potential impacts that are identified must be monitored or mitigated; and

- Vegetable gardens and farming on the site are prohibited;

- Engineering Controls may not be discontinued without an amendment or extinguishment of the Environmental Easement.

3.3 Engineering Controls

3.3.1 Soil Cover

Exposure to remaining contamination at the site is prevented by a composite cover system placed over the site. This cover system is comprised of one or more of the following: a minimum of 24 inches of clean soil, asphalt pavement, concrete-covered sidewalks, concrete building slabs, and vapor barrier under the concrete building slabs. Figure 2-9 "Location of Cover System Types" and Figure 2-10 "Location of Cover System Types – Cross Sections" present the location of these cover types and applicable demarcation layers. Once redevelopment activities are complete, this figure will be revised to show the final cover system elements. The Excavation Work Plan (EWP) provided in Appendix E outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) prepared for the site and provided in Appendix F and Appendix G, respectively.

The composite cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with this SMP in perpetuity.

3.3.2. Vapor Barrier

At each building a high density polyethylene vapor barrier liner (HPDE) was installed prior to pouring the building's concrete slab. The vapor barrier consists of 46-mil Preprufe 300R. The vapor barrier extends throughout the area occupied by the footprint of the new building and up the accessible subgrade foundation walls according to manufacturer specifications. In addition, the foundation walls were covered with 60-mil HDPE Bituthene 4000. These materials were selected not only for preventing vapor migration but also to act as waterproofing materials due to the high water table. All vapor barrier seams, penetrations, and repairs were sealed according to the manufacturer's recommendations and instructions. Product specifications, cut sheets and installation guidelines are provided in Appendix H. Figure 2-10 "Location of Cover System Types – Cross Sections" depict vapor barrier elevation and cross-sectional view.

The project's Professional Engineer licensed by the State of New York had primary direct responsibility for overseeing the implementation of the vapor barrier.

Procedures for operating and maintaining the vapor barrier system are documented in the Operation and Maintenance Plan (Section 5.0 of this SMP).

3.3.3 Sub-Slab Depressurization System (SSDS)

In addition to the vapor barrier, migration of soil vapor is mitigated with the construction of an active sub-slab depressurization system beneath the 4275 Park Avenue building footprint. The collection layout plan for the SSDS system is provided as Figure 3-1 "Layout of Sub-Slab Depressurization System". Due to installation of the building foundation at approximately 13 feet bgs (groundwater elevation at 15 feet bgs), a SSDS could not be installed under the 411 East 178th Street buildings.

Details of the SSDS are provided in Figure 3-2 “SSDS Detail”. The vapor mitigation system consists of the following elements, which are discussed in further detail below:

- Minimum six (6) inches of ASTM #5 aggregate under the portion of building footprint (see below for further definition of this material);

- Geotextile material placed on top of the aggregate to prevent any sharp edges of aggregate from penetrating the vapor barrier installed above;

- Four (4) sub-slab suction pits (SP) measuring 3 feet by 3 feet by 1 foot deep; and

- Three (3) exhaust stacks (SP-02 and SP-03 share one exhaust stack) consisting of six-inch PVC ABS piping and an in-line radon-type fan (Radonaway RP265).

Aggregate, Sub-Slab and Suction Pit Installation

Prior to pouring the finish 4 inch concrete building slab, a layer of ASTM #5 aggregate was placed under the portion of the 4275 Park Avenue building (See Figure 3-1 “Layout of Sub-Slab Depressurization System”). The crushed aggregate meet the Size #5 specifications as defined in ASTM C-33-90 “Standard Specification for Concrete Aggregates”. This aggregate was between ½-inch and 1 inch in diameter, with approximately 10% passing through a ½-inch sieve. This aggregate provides a highly permeable layer for collection of vapors and is referred to as the gas collection layer. Once in position, the aggregate was rolled to prevent sharp edges from protruding the vapor barrier.

Gas collection layer aggregate was placed around the sub-slab features such as underground utility piping, terminating on either side of the footings and elevator pit. The suction pits are located as shown in Figure 3-1 “Layout of Sub-Slab Depressurization System”. The exhaust piping was run vertically up through the roof.

The design of the suction pits is provided in Figure 3-2 "SSDS Detail". A key component of the suction pit is a six-inch, PVC ABS pipe that terminates in the middle of a void measuring 3 feet by 3 feet by 1 foot deep. Piping was installed with at least ½-inch clearance around the pipe entrance into the box for settlement purposes. A galvanized metal deck was provided on the top of the suction pit to provide support when the concrete building slab is placed.

The area covered by a suction point SP-03 is relatively small and is additionally underlined by a 3 to 4-inch slurry slab. Therefore, the flow requirement for the SP-03 is smaller than for the other three (3) suction pits. To provide the SSDS coverage in the SP-03 area and, at the same time, accommodate for a tight space in the rated shaft the following design modifications were performed: 1) the underground cast iron pipe extending from suction point SP-03 was reduced to three inches 2) SP-02 and SP-03 piping were connected to one (1) 6" cast iron pipe underground and one (1) 6"PVC Type ABS riser pipe aboveground, and 3) one (1) fan was installed on the top of the building to provide suction for both SP-02 and SP-03.

The piping exits the pit horizontally and extends to an adjacent plumbing chase. The horizontal piping was sloped back toward the suction pit (at a minimum slope of 1/8 inch per foot) to allow for any condensation to drain back to the pit. The piping run horizontally to the plumbing chase, and then vertically up to, and exiting through the building roof. An inline fan capable of 334 cubic feet per minute (cfm) at 0 inches water column (w.c.) vacuum and 52 cfm at 2 inches w.c. actively draws VOCs from the subsurface and pulls them toward the suction pits, creating a zone of negative pressure under the section of the building slab and mitigating the migration through the slab into indoor air. This fan is located on the exterior of the building to prevent possible leaks in the exhaust pipe from discharging to the building interior. To prevent entry of subsurface vapors into the building, the exhaust pipes terminate:

1) at least 10 feet above the ground;
2) at least 25 feet from other building or heating, ventilation, and air conditioning (HVAC) intakes;

3) at least 12 inches above the roof; and

4) at least 10 feet laterally from any opening less than 2 feet below the exhaust point.

After completing construction of the system, all components were labeled to identify them as part of a vapor mitigation system. Exposed exhaust pipes are labeled at 10 foot intervals. At the roof exit, a permanent label reads, "Soil gas vent stack; do not place air intake within 25 ft."

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

Procedures for operating and maintaining the SSDS system are documented in the Operation and Maintenance Plan (Section 5.0 of this SMP). Layout of the SSDS is shown in Figure 3-1 "Layout of Sub-Slab Depressurization System".

3.3.4 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when 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 6.4 of NYSDEC DER-10.

4.0 MONITORING AND SAMPLING PLAN

4.1 General

This Monitoring and Sampling Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring and Sampling Plan may only be revised with the approval of the NYSDEC. Details regarding the sampling procedures, data quality usability objectives, analytical methods, etc. for all samples collected as part of site management for the site are included in the Quality Assurance Project Plan provided in Appendix J.

This Monitoring and Sampling Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., ambient air, soil vapor);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance (SCGs);
- 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 and Sampling Plan provides information on:

- Sampling locations, protocol and frequency;
- Information on all designed monitoring systems;
- Analytical sampling program requirements, and;

- Annual inspection and periodic certification.

Reporting requirements are provided in Section 7.0 of this SMP.

Monitoring programs are summarized in Table 4-1 below.

Table 4-1: Monitoring/Inspection Schedule

Monitoring Program	Frequency*	Matrix	Analysis
Site-wide inspection	Annual	Not Applicable	General Site Conditions
Soil Cover	Annual	Not Applicable	Ensure integrity of soil cover system per the SMP requirements
SSDS	Quarterly	Operational	None
SSDS Pressure Field Extension Test	After building and SSDS installation	Operational	Pressure Field
Indoor Air Sampling	After building and SSDS installation during heating season	Indoor and outdoor air	VOCs via EPA Method
SSDS exhaust	One time after start-up	Soil Vapor	VOCs via EPA Method TO-15

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH

4.2 Site – wide Inspection

Site-wide inspections will be performed at a minimum of once per year. Modification to the frequency or duration of the inspections will require approval from the NYSDEC. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in Appendix K – Site Management Forms. 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; and
- Confirm that site records are up to date.

Inspections of all remedial components installed at the site will be conducted. A comprehensive site-wide inspection will be conducted and documented according to the SMP schedule, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether ECs 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; and
- If site records are complete and up to date; and

Reporting requirements are outlined in Section 7.0 of this plan. Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the NYSDEC must be given by noon of the following day. In addition, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the site by a qualified environmental professional, as determined by the NYSDEC. Written confirmation must be provided to the NYSDEC within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

4.3 Cover System Monitoring

A composite cover system consisting of mulch on open areas; asphalt or concrete pavement on walkways, roads, parking lots, and concrete building slabs, covers the entire Site as depicted in Figure 4-1 "Post Excavation and Post Backfill Surface Elevation Data". The soil cover layer is at least two feet thick and consists of clean soil that meets the lower of the RRSCOs and PGWSCOs. The components of the composite cover system are illustrated in Figure 2-9 "Location of Cover System Types" and 2-10 "Location of Cover System Types – Cross Sections". The top two to three inches of mulch cover is of sufficient quality to support vegetation. All slabs and paving systems (building slabs, roadways, walkways, parking lots, etc.) are at least 6-inches thick.

Cover system inspections will be performed by a professional engineer or a qualified environmental professional under the direction of a professional engineer on a regular schedule at a minimum of once a year and following any severe weather or other conditions that could affect the cover. During these inspections, an inspection form will be completed (Appendix K). The form will require sufficient information to ensure the integrity of all the different elements of the cover system described above and should document any soil cover disturbance activities. Any damage to the composite cover will be repaired in kind.

4.4 SSDS Monitoring and Sampling

4.4.1 SSDS Monitoring

Monitoring of the SSDS will be performed on a routine basis, as identified in Table 4-2 SSDS Monitoring Requirements and Schedule (see below). A visual inspection of the complete system will be conducted during each monitoring event. Unscheduled inspections and/or sampling may take place when a suspected failure of the SSDS has been reported or an emergency occurs that is deemed likely to affect the operation of the system. SSDS components to be monitored include, but are not limited to, the components included in Table 4-2 below.

Table 4-2 – SSDS Monitoring Requirements and Schedule

Remedial System Component	Monitoring Parameter	Operating Range	Monitoring Schedule
Vacuum fan	Flow Rate (cubic feet per minute)	Target to be determined after start-up	Annual
Vacuum fan	Applied vacuum (inches water column)	Target to be determined after start-up	Annual
General system piping	Piping Condition	Not Applicable	Quarterly or after severe weather event

A complete list of components to be inspected is provided in the Inspection Checklist, provided in Appendix I - Operations Log for SSDS. If any equipment readings are not within their specified operation range, any equipment is observed to be malfunctioning or the system is not performing within specifications; maintenance and repair, as per the Operation and Maintenance Plan, is required immediately.

4.4.2 SSDS Sampling

Soil vapor sampling will be performed one-time after start-up of the SSDS to confirm air emission controls are not necessary prior to discharge. A set of soil vapor samples will be collected from the three exhaust stack sampling ports. The samples will be collected in accordance with the methodology in the QAPP (Appendix J) and analyzed via USEPA Method TO-15.

Calculations will be performed using the NYSDEC Division of Air Resources 1 (DAR-1) Ambient Air Quality Impact Screening Analysis. This model will use concentrations of all VOCs measured during testing, and the discharge flow rates to calculate annual and short-term impacts, which will be compared to the DAR-1 Annual

Guideline Concentrations, and Short-Term Guideline Concentrations, respectively to confirm air emission controls are not needed.

Further details for this event are described in Section 5.4.3.

4.5 Post-Remediation Media Monitoring and Sampling – Indoor Air

Indoor air sampling will be conducted one time at the 4275 Park Avenue building after the building installation is completed to confirm the effectiveness of the SSDS. The specified SSDS aggregate was not installed under the 24" and 36" slab mat, only under the 4" cover slab at the 4275 Park Avenue building (see Figure 3-1 "Layout of Sub-Slab Depressurization System"). Therefore, two (2) suction pits initially located under the 36"slab mat were relocated under the section of the building where minimum 6 to 12 inches of aggregate and 4" cover slab was installed. The aggregate is an essential part of the SSDS and adequate vacuum response may not be achieved in areas without this material. However, the aggregate could not be installed under the 24" and 36" mat slab as this would compromise the building's structural integrity. NYSDEC approved changes to the SSDS with provisions that indoor air sampling will be conducted after the SSDS is fully installed. See Figure 4-2 "Proposed Location of Indoor Air Sampling".

Samples will be collected during the heating season (approximately November 15 through March 31) for the Site specific VOC list identified in Section 3.3.1. In consultation with the NYSDEC, the results will be compared with published background values and applicable NYSDOH guidance to verify that expansion of the SSDS, or other action, is not necessary.

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

Detailed sample collection and analytical procedures and protocols are provided in Appendix J – Quality Assurance Project Plan.

Deliverables for this sampling event are specified in Section 7.0 – Reporting Requirements.

4.6 **Monitoring and Sampling Protocol**

All sampling activities will be recorded in a field book and associated sampling log as provided in Appendix K - Site Management Forms. Other observations will be noted on the sampling log. The sampling log will serve as the inspection form for the monitoring network. Additional detail regarding monitoring and sampling protocols are provided in the QAPP provided as Appendix J of this document.

5.0 OPERATION AND MAINTENANCE PLAN

5.1 General

This Operation and Maintenance Plan provides a brief description of the measures necessary to operate, monitor and maintain the mechanical components of the remedy selected for the site. This Operation and Maintenance Plan:

- Includes the procedures necessary to allow individuals unfamiliar with the site to operate and maintain the SSDS located at the 4275 Park Avenue building;
- Will be updated periodically to reflect changes in site conditions or the manner in which the SSDS is operated and maintained.

Information on non-mechanical ECs (i.e. soil cover system) is provided in Section 3.0 Engineering and Institutional Control Plan. A copy of this Operation and Maintenance Plan, along with the complete SMP, is to be maintained at the site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of this SMP.

5.2 SSDS Performance Criteria

The following table identifies the target operating requirements for the SSDS:

Table 5-1 – SSDS Performance Criteria

Suction Point	Flow (cfm)	Applied Vacuum (inches w.c.)
SP-01	75-100	0.75-1.0
SP-02 and SP-03	75-100	0.75-1.0
SP-04	75-100	0.75-1.0

These data were selected as they represent the expected SSDS operating conditions. These conditions will be confirmed and possibly adjusted during the indoor air sampling confirming the system effectiveness at that time.

5.3 Operation and Maintenance of SSDS

The following sections provide a description of the operations and maintenance of the SSDS. Cut-sheets for the SSDS are provided in Appendix H. See Figure 3-1 "Layout of Sub-Slab Depressurization System".

5.3.1 System Start-Up and Testing

The manufacturer recommends that prior to start-up the operator:

- Verify all connections are tight and leak-free;
- Insure the RP Series Fan and all ducting is secure and vibration-free.

Once the system is started;

- Checks for leaks;
- Checks all seals;
- Verify system vacuum pressure with manometer;
- Insure vacuum pressure is within normal operating range and less than the maximum recommended operating pressure (see Table 5-1).

The SSDS is not currently in use and will need to undergo system start-up testing. The system testing described above will be conducted initially and if, in the course of the SSDS system lifetime, the system goes down or significant changes are made to the system and the system must be restarted.

5.3.2 Routine System Operation and Maintenance

Routine maintenance and inspection will be conducted to ensure that the SSDS is operating properly until the NYSDEC and the NYSDOH have determined no need for the system. On a quarterly basis, the operator will visit the Site and perform the following activities:

- Confirm that the fans are operating properly by measuring flow and pressure using appropriate gauges;
- Collect measurements of sub-slab vacuum at all suction points (SP-01 through SP-04);
- Collect operating data following the SSDS Operations Log in Appendix I; and
- Inspect fans and ensure their operation.

On an annual basis, the following will be performed:

- Conduct a visual inspection of the complete system;
- Inspect fans for bearing failures or signs of other abnormal operations, and repair or replace, if required;
- Inspect the discharge location of the vent pipes to ensure that no air intake or operable window has been located nearby;
- Determine, through discussions with building management, if any Heating, Ventilation, and Air Conditioning (HVAC) system modifications occurred that might affect the performance of the SSDS;
- Inspect the floor slab and foundation walls for evidence of cracks and/or holes, and repair of cracks and/or holes, if required;
- Inspect the integrity of the riser pipe and repair the riser pipe, if required.

These items are noted on the Site-Wide Inspection Form (Appendix K).

5.3.3 Non-Routine Operation and Maintenance

If non-routine maintenance indicates the fans are not working properly, the SSDS becomes damaged, or if the building's HVAC has undergone modifications that may reduce the effectiveness of the system. The scope of nonroutine maintenance will vary depending upon the situation. In general, the following actions will be taken as part of non-routine maintenance:

- Examine the building for structural or HVAC system changes, or other changes that may affect the performance of the SSDS (e.g., new combustion appliances or deterioration of the concrete floor slab);
- Examine and address the operation of the fans, as well as measure the sub-slab vacuum at monitoring points via a manometer;
- Repair or adjust the SSDS as appropriate. If necessary, the SSDS should be redesigned and restarted (see subsection 5.3.1 for system startup).

5.3.4 SSDS Deactivation

If the owner or responsible party believes system deactivation should be considered or would like to alter the operating parameters of the SSDS (e.g. operate the SSDS beneath a reduced section of the building), a work plan shall be submitted to the NYSDEC and the NYSDOH detailing the proposed testing to be undertaken. Following NYSDEC/NYSDOH approval of the testing plan, the owner or responsible party will implement the plan and forward the results to the NYSDEC/NYSDOH for their evaluation. The system may only be deactivated with NYSDEC and NYSDOH approval. Note: the NYSDEC must be notified prior to any major repair of the SSDS that would require it be taken off-line for a period longer than 48 hours. Furthermore, the repair or decommissioning process will be documented in the subsequent PRR.

5.4 Engineering Control System Performance Monitoring

5.4.1 Monitoring Schedule

An active SSDS has been designed and installed to prevent VOCs in soil gas from entering the building. The principal components of the SSDS consist of:

- a concrete floor slab system;
- suction pits beneath the floor slab;
- pipe running vertically from suction points and then horizontally to the SSDS fans;
- exhaust piping from the SSDS fans to the ambient air at an exhaust point above the roof line;
- sampling/monitoring points at selected locations throughout piping system; and

Monitoring activities for this system will occur during: start-up testing (Section 5.3.1), routine operations (Section 5.3.2), non-routine operations (Section 5.3.3). Each is described in the applicable sections of the SMP. A summary of the associated inspection frequencies is as follows:

Table 5-2: Schedule of Inspections for SSDS

Task	Reporting Frequency*	Performed by:
Start-up Testing	Whenever significant changes are made to the system, and the system must be restarted	Operator
Perform quarterly inspection	Quarterly	Operator
Routine Equipment Maintenance	As specified in Instruction Manual (Appendix H)	Operator

SSDS exhaust sampling	Annually	Operator
Non-Routine Equipment Maintenance	As needed	Operator

The inspection frequency associated with these activities is subject to change with the approval of the NYSDEC. Unscheduled inspections and/or sampling may take place when a suspected failure of the SSDS has been reported or an emergency occurs that is deemed likely to affect the operation of the system. Monitoring deliverables for the SSDS are specified later in this Plan.

5.4.2 General Equipment Monitoring

A visual inspection of the complete system will be conducted during the monitoring events conducted by the operator. SSDS components to be monitored include, but are not limited to, the following:

- SSDS fans;
- general system piping.

A complete list of components to be checked, and measurements to be collected, is provided in the Operations Log, presented in Appendix I. If any equipment readings are not within their typical range, any equipment is observed to be malfunctioning, or the system is not performing within specifications, maintenance and repair as per the O&M Plan are required immediately, and the SSDS restarted.

5.4.3 Sampling Event Protocol –SSDS Exhaust

Grab samples of SSDS exhaust air will be collected with an individually-certified clean Summa® canister. A total of three samples will be collected from the following locations as shown in Figure 4-2 “Proposed Location of the Indoor Air Sampling”:

- SP-01 exhaust sampling port located on the ground floor, above the concrete slab;
- SP-02 and SP-03 exhaust sampling port located on the ground floor, above the concrete slab;
- SP-04 exhaust sampling port located in the building roof (installation of the sampling port on the ground floor was not feasible due to access).

Pertinent data will be recorded in the field notebook and/or data collection forms. This information will include the following items:

- sampler's name;
- date, time and PID reading;
- date and time of sample start and stop;
- Summa® canister serial number;
- initial and final Summa® canister vacuum;
- sample identification, and descriptive location of the sampling area;
- weather conditions including ambient temperature inside and outside the building;
- SSDS operating conditions;
- apparent moisture content of the air being sampled; and
- description of features that may impact the vapor measurements (e.g., storage areas for materials that may contain VOCs, drainage facilities, utility lines, any contamination noted, stains, etc.); and all equipment calibrations performed.

At the conclusion of the sampling, the sampling canisters will be shipped via overnight delivery to an Environmental Laboratory Accreditation Program (ELAP)-certified laboratory. Soil vapor samples will be analyzed for site-specific VOCs (see list in Section 3.3.1.1) using USEPA Method TO-15, with a target detection limit of 1.0 microgram per cubic meter (µg/m3) for all parameters.

All laboratory data will be provided in ASP Category B deliverable format and the data validated. Results will be reported in the first PRR after sampling, and will include: 1) a summary of the sampling activities performed including any required deviations from this SMP, 2) a summary table of all sampling results, 3) sampling logs, 4) photographs of sampling locations, 5) discussion of data validation reports, 6) discussion of Category B laboratory data deliverables, 7) calculations for DAR-1 Ambient Air Quality Impact Screening Analysis, and 8) conclusions regarding the need for emission controls. All data will be submitted to the NYSDEC in the appropriate Electronic Data Deliverable format.

5.5 Maintenance and Performance Monitoring Reporting Requirements

Maintenance reports and any other information generated during regular operations at the Site will be kept on-file at the Site. All reports, forms, and other relevant information generated will be available upon request to the NYSDEC and submitted as part of the PRR.

5.5.1 Routine Maintenance Reports

The Operations Log (Appendix I) will be completed during each routine maintenance event. Checklists/forms will include, but not be limited to the following information:

- date;
- name, company, and position of person(s) conducting maintenance activities;
- maintenance activities conducted;
- any modifications to the system;
- where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and,

- other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

5.5.2 Non-Routine Maintenance Reports

During each non-routine maintenance event, a form will be completed which will include, but not be limited to, the following information:

- date;
- name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- presence of leaks;
- date of leak repair;
- other repairs or adjustments made to the system;
- where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and,
- other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

6.0 PERIODIC ASSESSMENTS/EVALUATIONS

6.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given site and associated remedial systems. Vulnerability assessments provide information so that the site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

This section provides a summary of vulnerability assessments that will be conducted for the site during periodic assessments, and briefly summarizes the vulnerability of the site and/or engineering controls to severe storms/weather events and associated flooding.

- The Site is located at an elevation of approximately 42 feet above mean sea level (AMSL), is generally flat, and slopes slightly to the south. Surface water at the Site drains via overland flow to stormwater detention systems located in the parking lot. The stormwater detention systems were installed in 2015 and 2016 and overflow to New York City sewer system;
- The nearest surface water body is the Harlem River, located approximately 1 mile west of the Site. According to flood zone and National Wetland Inventory (NWI) data, the Site is not located within wetland delineated areas or the 100 or 500-year flood plains. Flood zone and NWI data was obtained from the Federal Emergency Management Agency (FEMA) and U.S. Fish and Wildlife Services, respectively.
- In the event of power outage, the SSDS will be turned back on expeditiously unless there is a reasonable justification otherwise.

6.2 Green Remediation Evaluation

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the SMP provides a summary of any green remediation evaluations to be completed for the site during site management, and as reported in the Periodic Review Report (PRR).

Based on the "Letter Report of Waste Characterization for Site B of the Former Western Beef property" by Ecosystems Strategies, Inc. dated April 30, 2015 (see Appendix L); June 23, 2015 and June 30, 2015 conference calls between NYSDEC, Mountco Construction and ERM, it was agreed that the top 2 feet of soil from the 4285 Park Avenue parcel will be removed and disposed of. Soil below 2 feet could be reused on-site as backfill except soil from the west portion of the building (TP-07 grid in the Excavation Plan) that was excavated and transported to Perth Amboy disposal facility due to elevated concentration of lead. Soil designated for reuse was placed as backfill under the New York City sidewalks.

6.2.1 Timing of Green Remediation Evaluations

For major remedial system components, green remediation evaluations and corresponding modifications will be undertaken as part of a formal Remedial System Optimization (RSO), or at any time that the Project Manager feels appropriate, e.g. during significant maintenance events or in conjunction with storm recovery activities.

Modifications resulting from green remediation evaluations will be routinely implemented and scheduled to occur during planned/routine operation and maintenance activities. Reporting of these modifications will be presented in the PRR.

6.2.2 Frequency of System Checks, Sampling and Other Periodic Activities

Transportation to and from the Site and use of consumables in relation to visiting the Site in order to conduct system checks and or collect samples and shipping samples to a laboratory for analyses have direct and/or inherent energy costs. The schedule and/or means of these periodic activities have been prepared so that these tasks can be accomplished in a manner that does not impact remedy protectiveness but reduces expenditure of energy or resources. This includes utilizing building personnel where possible to perform simple checks of the SSDS operation.

6.2.3 Metrics and Reporting

As discussed in Section 7.0 and as shown in Appendix K – Site Management Forms, information on energy usage, solid waste generation, transportation and shipping, water usage and land use and ecosystems will be recorded to facilitate and document consistent implementation of green remediation during site management and to identify corresponding benefits; a set of metrics has been developed.

6.3 Remedial System Optimization

A Remedial Site Optimization (RSO) study will be conducted any time that the NYSDEC or the remedial party requests in writing that an in-depth evaluation of the remedy is needed. An RSO may be appropriate if any of the following occur:

- The remedial actions have not met or are not expected to meet RAOs in the time frame estimated in the Decision Document;
- The management and operation of the remedial system is exceeding the estimated costs;
- The remedial system is not performing as expected or as designed;
- Previously unidentified source material may be suspected;
- Site conditions change due to development, change of use, etc.;

- There is an anticipated transfer of the site management to another remedial party or agency; and
- A new and applicable remedial technology becomes available.

An RSO will provide a critique of a site's conceptual model, give a summary of past performance, document current cleanup practices, summarize progress made toward the site's cleanup goals, gather additional performance or media specific data and information and provide recommendations for improvements to enhance the ability of the present system to reach RAOs or to provide a basis for changing the remedial strategy.

7.0. REPORTING REQUIREMENTS

7.1 Site Management Reports

All site management inspection, maintenance and monitoring events will be recorded on the appropriate site management forms provided in Appendix K. These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including inspection of the SSDS and soil vapor sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of Table 7-1 and summarized in the Periodic Review Report.

Table 7-1: Schedule of Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Inspection Report	Semiannual/annual
Periodic Review Report	Annually, or as otherwise determined by the Department

* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC.

All interim monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc.);
- Copies of all field forms completed (e.g., 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 NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether contaminant conditions have changed since the last reporting event.

Routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting maintenance activities;

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

Non-routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Description of non-routine activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

Data will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS^{TM} database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html.

7.2 Periodic Review Report

A Periodic Review Report (PRR) will be submitted to the Department beginning sixteen (16) months after the Certificate of Completion (COC) is issued. After submittal of the initial Periodic Review Report, the next PRR shall be submitted annually to the Department or at another frequency as may be required by the Department. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix B - Environmental Easement. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 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 site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted;
- 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 (soil vapor, etc.), 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 in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS^{TM} database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html.

- A site evaluation, which includes the following:

  – The compliance of the remedy with the requirements of the site-specific RAWP, ROD or Decision Document;

  – 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 and Sampling Plan for the media being monitored;

  – Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan; and

  – Trends in contaminant levels in the affected media will be evaluated to determine if the remedy continues to be effective in achieving remedial goals as specified by the Decision Document.

  – The overall performance and effectiveness of the remedy.

- A performance summary for the SSDS at the site during the calendar year, including information such as:

  – The number of days the system operated for the reporting period;

  – A description of breakdowns and/or repairs along with an explanation for any significant downtime;

  – A description of the resolution of performance problems;

- Trends in equipment failure;
- A summary of the performance, effluent and/or effectiveness monitoring; and
- Comments, conclusions, and recommendations based on data evaluation.

7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a Professional Engineer licensed to practice in New York State will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

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

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*
- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*
- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*
- *Use of the site is compliant with the 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 generally accepted engineering practices; and*
- *The information presented in this report is accurate and complete;*
- *The assumptions made in the qualitative exposure assessment remain valid (every five years).*

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 Webster Avenue Housing Development Fund Corporation: I have been authorized and designated by all site owners/remedial parties to sign this certification for the site."

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

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

7.3 Corrective Measures Work 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 Work 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 Work Plan until it has been approved by the NYSDEC.

7.4 Remedial Site Optimization Report

In the event that an RSO is to be performed, upon completion of an RSO, an RSO report must be submitted to the Department for approval. The RSO report will document the research/ investigation and data gathering that was conducted, evaluate the results and facts obtained, present a revised conceptual site model and present recommendations. RSO recommendations are to be implemented upon approval from the NYSDEC. Additional work plans, design documents, HASPs etc., may still be required to implement the recommendations, based upon the actions that need to be taken. A final engineering report and update to the SMP may also be required.

The RSO report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located, Site Control and the NYSDOH Bureau of Environmental Exposure Investigation.

8.0 REFERENCES

ERM 2013 “Remedial Investigation Report, 1960-1982 Webster Avenue”, NYSDEC BCP Number: C203075, ERM Project Numbers 0295737 and 0325306, October 2013.

ERM 2015 “Remedial Action Work Plan, 1960-1982 Webster Avenue”, NYSDEC BCP Number: C203075, ERM Project Numbers 0295737 and 0325306, February 2015.

ERM 2016 “Final Engineering Report, 1960-1982 Webster Avenue”, NYSDEC BCP Number: C203075, ERM Project Number 0295737 and 0325306, December 2016.

6NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.

NYSDEC DER-10 – “Technical Guidance for Site Investigation and Remediation”.

NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).

Tables

Table 2-1
UST Endpoint Soil Sampling Results
Webster Ave Brownfield Project No. C203075
Bronx, New York

CONSTITUENT		NY SCO - Restricted Residential w/CP-51 (10/10) (6 NYCRR 375-6)	NY CP-51 Tables 2 - Gasoline Contamination	NY CP-51 Table 3 - Fuel Oli Contaminated	UST1 - B1	UST1 - E1	UST1 - N1	UST1 - S1	UST1 - W1
					7/16/2015	7/16/2015	7/16/2015	7/16/2015	7/16/2015
VOCs (ug/kg)									
Benzene	ug/kg	2/20/1913	2/29/1900	2/29/1900	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.16)	ND (0.16)
n-Butylbenzene	ug/kg	10/14/2173	11/7/1932	11/7/1932	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.18)
sec-Butylbenzene	ug/kg	10/14/2173	2/11/1930	2/11/1930	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)
tert-Butylbenzene	ug/kg	10/14/2173	2/25/1916	2/25/1916	ND (0.26)	ND (0.26)	ND (0.26)	ND (0.26)	ND (0.26)
Ethylbenzene	ug/kg	4/1/2012	9/26/1902	9/26/1902	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Isopropylbenzene	ug/kg		4/18/1906	4/18/1906	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.13)
p-Isopropyltoluene	ug/kg		5/18/1927	5/18/1927	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.18)
Methyl Tert Butyl Ether	ug/kg	10/14/2173	7/18/1902	-	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)
Naphthalene	ug/kg	10/14/2173	11/7/1932	11/7/1932	ND (0.24)	ND (0.24)	ND (0.23)	ND (0.23)	ND (0.23)
n-Propylbenzene	ug/kg	10/14/2173	9/4/1910	9/4/1910	ND (0.29)	ND (0.29)	ND (0.28)	ND (0.28)	ND (0.28)
Toluene	ug/kg	10/14/2173	11/30/1901	11/30/1901	0.64 J	0.85 J	0.30 J	0.49 J	0.47 J
1,2,4-Trimethylbenzene	ug/kg	5/14/2042	11/8/1909	11/8/1909	ND (0.25)	ND (0.25)	ND (0.24)	ND (0.25)	ND (0.24)
1,3,5-Trimethylbenzene	ug/kg	5/14/2042	12/30/1922	12/30/1922	ND (0.24)	ND (0.24)	ND (0.23)	ND (0.24)	ND (0.23)
m,p-Xylene	ug/kg	10/14/2173	9/16/1900	9/16/1900	ND (0.44)	ND (0.44)	ND (0.43)	ND (0.44)	ND (0.43)
o-Xylene	ug/kg	10/14/2173	9/16/1900	9/16/1900	ND (0.34)	ND (0.34)	ND (0.34)	ND (0.34)	ND (0.33)
SVOCs (ug/kg)									
Acenaphthene	ug/kg	10/14/2173	-	10/3/1954	ND (8.3)	ND (7.2)	ND (6.9)	ND (7.3)	ND (7.1)
Acenaphthylene	ug/kg	10/14/2173	-	10/14/2173	ND (6.2)	ND (5.3)	ND (5.1)	ND (5.5)	ND (5.3)
Anthracene	ug/kg	10/14/2173	-	10/14/2173	ND (9.2)	ND (7.9)	ND (7.6)	ND (8.1)	ND (7.8)
Benzo(a)anthracene	ug/kg	9/26/1902	-	9/26/1902	ND (7.9)	ND (6.8)	ND (6.6)	ND (7.0)	ND (6.8)
Benzo(a)pyrene	ug/kg	9/26/1902	-	9/26/1902	ND (9.9)	ND (8.5)	ND (8.2)	ND (8.7)	ND (8.4)
Benzo(b)fluoranthene	ug/kg	9/26/1902	-	9/26/1902	ND (8.1)	ND (7.0)	ND (6.7)	ND (7.1)	14.4 J
Benzo(g,h,i)perylene	ug/kg	10/14/2173	-	10/14/2173	ND (14)	ND (12)	ND (11)	ND (12)	ND (12)
Benzo(k)fluoranthene	ug/kg	9/4/1910	-	3/10/1902	ND (13)	ND (11)	ND (11)	ND (11)	ND (11)
Chrysene	ug/kg	9/4/1910	-	9/26/1902	ND (10)	ND (8.7)	ND (8.4)	ND (8.9)	ND (8.6)
Dibenzo(a,h)anthracene	ug/kg	11/25/1900	-	11/25/1900	ND (9.9)	ND (8.5)	ND (8.2)	ND (8.7)	ND (8.4)
Fluoranthene	ug/kg	10/14/2173	-	10/14/2173	ND (14)	ND (12)	ND (12)	ND (13)	14.7 J
Fluorene	ug/kg	10/14/2173	-	2/18/1982	ND (31)	ND (27)	ND (26)	ND (27)	ND (27)
Indeno(1,2,3-cd)pyrene	ug/kg	5/14/1901	-	5/14/1901	ND (13)	ND (11)	ND (11)	ND (11)	ND (11)
Naphthalene	ug/kg	10/14/2173	11/7/1932	11/7/1932	ND (6.1)	ND (5.2)	ND (5.0)	ND (5.4)	ND (5.2)
Phenanthrene	ug/kg	10/14/2173	-	10/14/2173	ND (8.7)	ND (7.5)	ND (7.2)	ND (7.7)	ND (7.5)
Pyrene	ug/kg	10/14/2173	-	10/14/2173	ND (9.2)	ND (8.0)	ND (7.7)	ND (8.2)	14.1 J
General Chemistry									
Solids, Percent	%	-	-	-	3/20/1900	4/1/1900	4/3/1900	3/29/1900	4/2/1900

Table 2-2

Additional Remedial Excavation Confirmatory Soil Sampling Results

Webster Ave Brownfield Project No. C203075

Bronx, New York

CONSTITUENT		NY SCO - Unrestricted Use (6 NYCRR 375-6)	NY SCO - Restricted Residential w/CP-51 (10/10) (6 NYCRR 375-6)	EP-NW-1	EP-EW-1	EP-SW-1	EP-WW-1	EP-B-1	DUP1-042516	AE WW-1	AE EW-1	AE WW-1	AE EW-1	AE SW-1	AE B-1	AE B-2	AE WW-2	AE EW-2	AE NW-1
				4/25/2016	4/25/2016	4/25/2016	4/25/2016	4/25/2016	4/25/2016	5/2/2016	5/2/2016	5/2/2016	5/2/2016	5/2/2016	5/2/2016	5/3/2016	5/3/2016	5/3/2016	5/3/2016
VOCs (ug/kg)																			
Acetone	ug/kg	50	100000	ND (130)	ND (130)	ND (2.6)	ND (2.6)	ND (130)	ND (2.8)	ND (130)	ND (140)	ND (130)	ND (140)	ND (130)	ND (2.6)	ND (130)	ND (140)	ND (140)	ND (130)
Benzene	ug/kg	60	4800	ND (7.5)	ND (7.5)	ND (0.15)	ND (0.15)	ND (7.4)	ND (0.17)	ND (7.9)	ND (8.0)	ND (7.9)	ND (8.0)	ND (7.7)	ND (0.15)	ND (7.6)	ND (8.1)	ND (8.2)	ND (7.8)
Bromochloromethane	ug/kg	-	-	ND (17)	ND (18)	ND (0.36)	ND (0.36)	ND (17)	ND (0.38)	ND (18)	ND (19)	ND (18)	ND (19)	ND (18)	ND (0.36)	ND (18)	ND (19)	ND (19)	ND (18)
Bromodichloromethane	ug/kg	-	-	ND (8.8)	ND (8.8)	ND (0.18)	ND (0.18)	ND (8.7)	ND (0.19)	ND (9.3)	ND (9.4)	ND (9.3)	ND (9.4)	ND (9.0)	ND (0.18)	ND (8.9)	ND (9.6)	ND (9.6)	ND (9.1)
Bromoform	ug/kg	-	-	ND (13)	ND (13)	ND (0.27)	ND (0.27)	ND (13)	ND (0.29)	ND (14)	ND (14)	ND (14)	ND (14)	ND (14)	ND (0.27)	ND (14)	ND (14)	ND (15)	ND (14)
Bromomethane	ug/kg	-	-	ND (21)	ND (21)	ND (0.42)	ND (0.42)	ND (20)	ND (0.45)	ND (22)	ND (22)	ND (22)	ND (22)	ND (21)	ND (0.42)	ND (21)	ND (22)	ND (23)	ND (21)
2-Butanone (MEK)	ug/kg	120	100000	ND (110)	ND (110)	ND (2.2)	ND (2.2)	ND (110)	ND (2.4)	ND (110)	ND (120)	ND (110)	ND (120)	ND (110)	ND (2.2)	ND (110)	ND (120)	ND (120)	ND (110)
Carbon disulfide	ug/kg	-		ND (13)	ND (13)	ND (0.27)	ND (0.26)	ND (13)	ND (0.28)	ND (14)	ND (14)	ND (14)	ND (14)	ND (13)	ND (0.26)	ND (13)	ND (14)	ND (14)	ND (13)
Carbon tetrachloride	ug/kg	760	2400	ND (13)	ND (13)	ND (0.27)	ND (0.27)	ND (13)	ND (0.29)	ND (14)	ND (14)	ND (14)	ND (14)	ND (13)	ND (0.27)	ND (13)	ND (14)	ND (14)	ND (13)
Chlorobenzene	ug/kg	1100	100000	ND (8.7)	ND (8.8)	ND (0.18)	ND (0.18)	ND (8.7)	ND (0.19)	ND (9.3)	ND (9.4)	ND (9.3)	ND (9.4)	ND (8.9)	ND (0.18)	ND (8.9)	ND (9.5)	ND (9.6)	ND (9.1)
Chloroethane	ug/kg	-		ND (27)	ND (27)	ND (0.56)	ND (0.55)	ND (27)	ND (0.60)	ND (29)	ND (29)	ND (29)	ND (29)	ND (28)	ND (0.56)	ND (28)	ND (29)	ND (30)	ND (28)
Chloroform	ug/kg	370	49000	ND (8.4)	ND (8.5)	ND (0.17)	ND (0.17)	ND (8.3)	ND (0.18)	ND (8.9)	ND (9.0)	ND (8.9)	ND (9.0)	ND (8.6)	ND (0.17)	ND (8.5)	ND (9.1)	ND (9.2)	ND (8.7)
Chloromethane	ug/kg	-	-	ND (15)	ND (15)	ND (0.31)	ND (0.30)	ND (15)	ND (0.33)	ND (16)	ND (16)	ND (16)	ND (16)	ND (15)	ND (0.30)	ND (15)	ND (16)	ND (16)	ND (15)
Cyclohexane	ug/kg	-	-	ND (18)	ND (18)	ND (0.37)	ND (0.36)	ND (18)	ND (0.39)	ND (19)	ND (19)	ND (19)	ND (19)	ND (18)	ND (0.36)	ND (18)	ND (19)	ND (20)	ND (19)
1,2-Dibromo-3-chloropropane	ug/kg	-	-	ND (31)	ND (31)	ND (0.63)	ND (0.63)	ND (30)	ND (0.68)	ND (32)	ND (33)	ND (32)	ND (33)	ND (31)	ND (0.63)	ND (31)	ND (33)	ND (34)	ND (32)
Dibromochloromethane	ug/kg	-		ND (12)	ND (12)	ND (0.24)	ND (0.24)	ND (11)	ND (0.25)	ND (12)	ND (12)	ND (12)	ND (12)	ND (12)	ND (0.24)	ND (12)	ND (13)	ND (13)	ND (12)
1,2-Dibromoethane	ug/kg	-	-	ND (7.4)	ND (7.4)	ND (0.15)	ND (0.15)	ND (7.3)	ND (0.16)	ND (7.8)	ND (7.9)	ND (7.8)	ND (7.9)	ND (7.6)	ND (0.15)	ND (7.5)	ND (8.0)	ND (8.1)	ND (7.7)
1,2-Dichlorobenzene	ug/kg	1100	100000	ND (6.9)	ND (6.9)	ND (0.14)	ND (0.14)	ND (6.8)	ND (0.15)	ND (7.3)	ND (7.4)	ND (7.3)	ND (7.4)	ND (7.0)	ND (0.14)	ND (7.0)	ND (7.5)	ND (7.5)	ND (7.1)
1,3-Dichlorobenzene	ug/kg	2400	49000	ND (8.9)	ND (8.9)	ND (0.18)	ND (0.18)	ND (8.8)	ND (0.19)	ND (9.4)	ND (9.5)	ND (9.4)	ND (9.5)	ND (9.1)	ND (0.18)	ND (9.0)	ND (9.6)	ND (9.7)	ND (9.2)
1,4-Dichlorobenzene	ug/kg	1800	13000	ND (13)	ND (13)	ND (0.26)	ND (0.26)	ND (13)	ND (0.28)	ND (13)	ND (14)	ND (13)	ND (14)	ND (13)	ND (0.26)	ND (13)	ND (14)	ND (14)	ND (13)
Dichlorodifluoromethane	ug/kg	-	-	ND (20)	ND (20)	ND (0.42)	ND (0.42)	ND (20)	ND (0.45)	ND (22)	ND (22)	ND (22)	ND (22)	ND (21)	ND (0.42)	ND (21)	ND (22)	ND (22)	ND (21)
1,1-Dichloroethane	ug/kg	270	26000	ND (8.0)	ND (8.0)	ND (0.16)	ND (0.16)	ND (7.9)	ND (0.17)	ND (8.4)	ND (8.5)	ND (8.4)	ND (8.5)	ND (8.1)	ND (0.16)	ND (8.1)	ND (8.6)	ND (8.7)	ND (8.3)
1,2-Dichloroethane	ug/kg	20	3100	ND (7.6)	ND (7.6)	ND (0.16)	ND (0.15)	ND (7.5)	ND (0.17)	ND (8.0)	ND (8.1)	ND (8.0)	ND (8.1)	ND (7.7)	ND (0.15)	ND (7.7)	ND (8.2)	ND (8.3)	ND (7.8)
1,1-Dichloroethene	ug/kg	330	100000	ND (33)	ND (34)	ND (0.69)	ND (0.68)	ND (33)	ND (0.73)	ND (35)	ND (36)	ND (35)	ND (36)	ND (34)	ND (0.68)	ND (34)	ND (36)	ND (37)	ND (35)
cis-1,2-Dichloroethene	ug/kg	250	100000	ND (44)	ND (44)	ND (0.91)	ND (0.90)	ND (44)	ND (0.97)	ND (47)	ND (47)	ND (47)	ND (47)	ND (45)	ND (0.90)	ND (45)	ND (48)	ND (48)	ND (46)
trans-1,2-Dichloroethene	ug/kg	190	100000	ND (34)	ND (34)	ND (0.69)	ND (0.68)	ND (33)	ND (0.74)	ND (35)	ND (36)	ND (35)	ND (36)	ND (34)	ND (0.69)	ND (34)	ND (36)	ND (37)	ND (35)
1,2-Dichloropropane	ug/kg	-		ND (13)	ND (14)	ND (0.28)	ND (0.27)	ND (13)	ND (0.30)	ND (14)	ND (14)	ND (14)	ND (14)	ND (14)	ND (0.27)	ND (14)	ND (15)	ND (15)	ND (14)
cis-1,3-Dichloropropene	ug/kg	-	-	ND (6.7)	ND (6.7)	ND (0.14)	ND (0.14)	ND (6.6)	ND (0.15)	ND (7.0)	ND (7.1)	ND (7.0)	ND (7.1)	ND (6.8)	ND (0.14)	ND (6.8)	ND (7.2)	ND (7.3)	ND (6.9)
trans-1,3-Dichloropropene	ug/kg	-	-	ND (10)	ND (10)	ND (0.21)	ND (0.20)	ND (9.9)	ND (0.22)	ND (11)	ND (11)	ND (11)	ND (11)	ND (10)	ND (0.20)	ND (10)	ND (11)	ND (11)	ND (10)
Ethylbenzene	ug/kg	1000	41000	ND (9.2)	ND (9.2)	ND (0.19)	ND (0.19)	ND (9.1)	ND (0.20)	ND (9.7)	ND (9.8)	ND (9.7)	ND (9.8)	ND (9.4)	ND (0.19)	ND (9.3)	ND (10)	ND (10)	ND (9.5)
Freon 113	ug/kg	-		ND (25)	ND (25)	ND (0.52)	ND (0.52)	ND (25)	ND (0.56)	ND (27)	ND (27)	ND (27)	ND (27)	ND (26)	ND (0.52)	ND (26)	ND (27)	ND (28)	ND (26)
2-Hexanone	ug/kg	-	-	ND (76)	ND (76)	ND (1.6)	ND (1.5)	ND (75)	ND (1.7)	ND (80)	ND (81)	ND (80)	ND (81)	ND (77)	ND (1.5)	ND (77)	ND (82)	ND (83)	ND (78)
Isopropylbenzene	ug/kg	-		ND (6.0)	ND (6.0)	ND (0.12)	ND (0.12)	ND (5.9)	ND (0.13)	ND (6.3)	ND (6.4)	ND (6.3)	ND (6.4)	ND (6.1)	ND (0.12)	ND (6.1)	ND (6.5)	ND (6.6)	ND (6.2)
Methyl Acetate	ug/kg	-	-	ND (49)	ND (49)	ND (1.0)	ND (0.99)	ND (48)	ND (1.1)	ND (51)	ND (52)	ND (51)	ND (52)	ND (50)	ND (0.99)	ND (49)	ND (53)	ND (53)	ND (50)
Methylcyclohexane	ug/kg	-	-	ND (13)	ND (13)	ND (0.26)	ND (0.26)	ND (13)	ND (0.28)	ND (14)	ND (14)	ND (14)	ND (14)	ND (13)	ND (0.26)	ND (13)	ND (14)	ND (14)	ND (13)
Methyl Tert Butyl Ether	ug/kg	930	100000	ND (8.6)	ND (8.7)	ND (0.18)	ND (0.18)	ND (8.6)	ND (0.19)	ND (9.1)	ND (9.2)	ND (9.1)	ND (9.2)	ND (8.8)	ND (0.18)	ND (8.8)	ND (9.4)	ND (9.5)	ND (9.0)
4-Methyl-2-pentanone(MIBK)	ug/kg	-		ND (26)	ND (26)	ND (0.53)	ND (0.53)	ND (26)	ND (0.57)	ND (27)	ND (28)	ND (27)	ND (28)	ND (26)	ND (0.53)	ND (26)	ND (28)	ND (28)	ND (27)
Methylene chloride	ug/kg	50	100000	ND (55)	ND (56)	ND (1.1)	1.2 J	ND (55)	ND (1.2)	ND (59)	ND (59)	ND (59)	ND (59)	ND (57)	5.0 BJ	ND (56)	ND (60)	ND (61)	ND (58)
Styrene	ug/kg	-		ND (10)	ND (10)	ND (0.21)	ND (0.21)	ND (9.9)	ND (0.22)	ND (11)	ND (11)	ND (11)	ND (11)	ND (10)	ND (0.21)	ND (10)	ND (11)	ND (11)	ND (10)
1,1,2,2-Tetrachloroethane	ug/kg	-		ND (9.9)	ND (9.9)	ND (0.20)	ND (0.20)	ND (9.8)	ND (0.22)	ND (10)	ND (11)	ND (10)	ND (11)	ND (10)	ND (0.20)	ND (10)	ND (11)	ND (11)	ND (10)
Tetrachloroethene	ug/kg	1300	19000	ND (17)	ND (17)	ND (0.35)	ND (0.35)	ND (17)	ND (0.37)	ND (18)	ND (18)	ND (18)	ND (18)	ND (17)	ND (0.35)	ND (17)	ND (18)	ND (19)	ND (18)
Toluene	ug/kg	700	100000	ND (12)	ND (12)	ND (0.24)	ND (0.24)	ND (12)	ND (0.26)	ND (12)	ND (13)	ND (12)	ND (13)	ND (12)	ND (0.24)	ND (12)	ND (13)	ND (13)	ND (12)
1,2,3-Trichlorobenzene	ug/kg	-		ND (9.9)	ND (10)	ND (0.20)	ND (0.20)	ND (9.8)	ND (0.22)	ND (11)	ND (11)	ND (11)	ND (11)	ND (10)	ND (0.20)	ND (10)	ND (11)	ND (11)	ND (10)
1,2,4-Trichlorobenzene	ug/kg	-		ND (9.5)	ND (9.6)	ND (0.20)	ND (0.19)	ND (9.4)	ND (0.21)	ND (10)	ND (10)	ND (10)	ND (10)	ND (9.8)	ND (0.20)	ND (9.7)	ND (10)	ND (10)	ND (9.9)
1,1,1-Trichloroethane	ug/kg	680	100000	ND (8.4)	ND (8.5)	ND (0.17)	ND (0.17)	ND (8.3)	ND (0.18)	ND (8.9)	ND (9.0)	ND (8.9)	ND (9.0)	ND (8.6)	ND (0.17)	ND (8.5)	ND (9.1)	ND (9.2)	ND (8.7)
1,1,2-Trichloroethane	ug/kg	-	-	ND (8.3)	ND (8.3)	ND (0.17)	ND (0.17)	ND (8.2)	ND (0.18)	ND (8.8)	ND (8.9)	ND (8.8)	ND (8.9)	ND (8.5)	ND (0.17)	ND (8.4)	ND (9.0)	ND (9.1)	ND (8.6)
Trichloroethene	ug/kg	470	21000	ND (8.3)	ND (8.3)	ND (0.17)	ND (0.17)	ND (8.2)	ND (0.18)	ND (8.8)	ND (8.9)	ND (8.8)	ND (8.9)	ND (8.5)	ND (0.17)	ND (8.4)	ND (9.0)	ND (9.1)	ND (8.6)
Trichlorofluoromethane	ug/kg	-	-	ND (14)	ND (14)	ND (0.29)	ND (0.29)	ND (14)	ND (0.31)	ND (15)	ND (15)	ND (15)	ND (15)	ND (14)	ND (0.29)	ND (14)	ND (15)	ND (15)	ND (15)
Vinyl chloride	ug/kg	20	900	ND (11)	ND (11)	ND (0.23)	ND (0.23)	ND (11)	ND (0.24)	ND (12)	ND (12)	ND (12)	ND (12)	ND (11)	ND (0.23)	ND (11)	ND (12)	ND (12)	ND (12)
m,p-Xylene	ug/kg	260	100000	ND (20)	ND (20)	ND (0.41)	ND (0.41)	ND (20)	ND (0.44)	ND (21)	ND (21)	ND (21)	ND (21)	ND (20)	ND (0.41)	ND (20)	ND (22)	ND (22)	ND (21)
o-Xylene	ug/kg	260	100000	ND (15)	ND (16)	ND (0.32)	ND (0.32)	ND (15)	ND (0.34)	ND (16)	ND (17)	ND (16)	ND (17)	ND (16)	ND (0.32)	ND (16)	ND (17)	ND (17)	ND (16)
Xylene (total)	ug/kg	260	100000	ND (15)	ND (16)	ND (0.32)	ND (0.32)	ND (15)	ND (0.34)	ND (16)	ND (17)	ND (16)	ND (17)	ND (16)	ND (0.32)	ND (16)	ND (17)	ND (17)	ND (16)
SVOCs (ug/kg)																			
2-Chlorophenol	ug/kg	-		ND (25)	ND (24)	ND (25)	ND (24)	ND (25)	ND (25)	ND (47)	ND (120)	ND (47)	ND (120)	ND (26)	ND (25)	ND (26)	ND (26)	ND (48)	ND (50)
4-Chloro-3-methyl phenol	ug/kg	-	-	ND (31)	ND (30)	ND (31)	ND (30)	ND (31)	ND (31)	ND (62)	ND (160)	ND (62)	ND (160)	ND (31)	ND (30)	ND (32)	ND (32)	ND (63)	ND (66)
2,4-Dichlorophenol	ug/kg	-		ND (27)	ND (26)	ND (28)	ND (26)	ND (27)	ND (28)	ND (67)	ND (170)	ND (67)	ND (170)	ND (28)	ND (27)	ND (28)	ND (28)	ND (68)	ND (72)
2,4-Dimethylphenol	ug/kg	-	-	ND (62)	ND (60)	ND (63)	ND (60)	ND (62)	ND (63)	ND (160)	ND (430)	ND (160)	ND (430)	ND (64)	ND (61)	ND (65)	ND (64)	ND (170)	ND (180)
2,4-Dinitrophenol	ug/kg	-		ND (150)	ND (140)	ND (150)	ND (140)	ND (150)	ND (150)	ND (270)	ND (700)	ND (270)	ND (700)	ND (150)	ND (150)	ND (160)	ND (150)	ND (280)	ND (290)
4,6-Dinitro-o-cresol	ug/kg	-	-	ND (65)	ND (63)	ND (66)	ND (62)	ND (65)	ND (65)	ND (100)	ND (260)	ND (100)	ND (260)	ND (66)	ND (64)	ND (67)	ND (67)	ND (100)	ND (110)

Table 2-2
Additional Remedial Excavation Confirmatory Soil Sampling Results
Webster Ave Brownfield Project No. C203075
Bronx, New York

CONSTITUENT		NY SCO - Unrestricted Use (6 NYCRR 375-6)	NY SCO - Restricted Residential w/CP-51 (10/10) (6 NYCRR 375-6)	EP-NW-1	EP-EW-1	EP-SW-1	EP-WW-1	EP-B-1	DUP1-042516	AE WW-1	AE EW-1	AE WW-1	AE EW-1	AE SW-1	AE B-1	AE B-2	AE WW-2	AE EW-2	AE NW-1
				4/25/2016	4/25/2016	4/25/2016	4/25/2016	4/25/2016	4/25/2016	5/2/2016	5/2/2016	5/2/2016	5/2/2016	5/2/2016	5/2/2016	5/3/2016	5/3/2016	5/3/2016	5/3/2016
2-Methylphenol	ug/kg	330	100000	ND (49)	ND (48)	ND (50)	ND (48)	ND (49)	ND (50)	ND (77)	ND (200)	ND (77)	ND (200)	ND (51)	ND (49)	ND (52)	ND (51)	ND (79)	ND (83)
3&4-Methylphenol	ug/kg	-	-	ND (32)	ND (31)	ND (33)	ND (31)	ND (33)	ND (33)	ND (77)	ND (200)	ND (77)	ND (200)	ND (33)	ND (32)	ND (34)	ND (34)	ND (79)	ND (83)
2-Nitrophenol	ug/kg	-		ND (31)	ND (30)	ND (32)	ND (30)	ND (31)	ND (32)	ND (59)	ND (150)	ND (59)	ND (150)	ND (32)	ND (31)	ND (33)	ND (32)	ND (61)	ND (64)
4-Nitrophenol	ug/kg	-		ND (58)	ND (56)	ND (59)	ND (56)	ND (58)	ND (59)	ND (190)	ND (490)	ND (190)	ND (490)	ND (59)	ND (57)	ND (60)	ND (60)	ND (190)	ND (200)
Pentachlorophenol	ug/kg	800	6700	ND (83)	ND (80)	ND (84)	ND (80)	ND (83)	ND (84)	ND (58)	ND (150)	ND (58)	ND (150)	ND (85)	ND (82)	ND (87)	ND (86)	ND (59)	ND (63)
Phenol	ug/kg	330	100000	ND (25)	ND (25)	ND (26)	ND (25)	ND (25)	ND (26)	ND (53)	ND (140)	ND (53)	ND (140)	ND (26)	ND (25)	ND (27)	ND (26)	ND (54)	ND (57)
2,3,4,6-Tetrachlorophenol	ug/kg	-	-	ND (32)	ND (31)	ND (32)	ND (31)	ND (32)	ND (32)	ND (89)	ND (230)	ND (89)	ND (230)	ND (33)	ND (32)	ND (33)	ND (33)	ND (91)	ND (96)
2,4,5-Trichlorophenol	ug/kg	-		ND (31)	ND (30)	ND (31)	ND (30)	ND (31)	ND (31)	ND (98)	ND (250)	ND (98)	ND (250)	ND (31)	ND (30)	ND (32)	ND (32)	ND (100)	ND (110)
2,4,6-Trichlorophenol	ug/kg	-		ND (27)	ND (27)	ND (28)	ND (26)	ND (27)	ND (28)	ND (75)	ND (190)	ND (75)	ND (190)	ND (28)	ND (27)	ND (29)	ND (28)	ND (77)	ND (81)
Acenaphthene	ug/kg	20000	100000	ND (32)	ND (31)	ND (32)	ND (31)	ND (32)	ND (32)	ND (13)	ND (33)	ND (13)	ND (33)	ND (33)	ND (32)	ND (33)	ND (33)	ND (13)	ND (14)
Acenaphthylene	ug/kg	100000	100000	ND (3.6)	ND (3.5)	ND (3.6)	ND (3.4)	ND (3.6)	ND (3.6)	ND (9.4)	ND (24)	ND (9.4)	ND (24)	ND (3.7)	ND (3.5)	ND (3.7)	ND (3.7)	ND (9.6)	ND (10)
Acetophenone	ug/kg	-	-	ND (5.8)	ND (5.6)	ND (5.9)	ND (5.6)	ND (5.8)	ND (5.9)	ND (35)	ND (90)	ND (35)	ND (90)	ND (5.9)	ND (5.7)	ND (6.0)	ND (6.0)	ND (36)	ND (37)
Anthracene	ug/kg	100000	100000	ND (2.9)	ND (2.8)	ND (3.0)	ND (2.8)	ND (2.9)	ND (3.0)	ND (30)	ND (77)	ND (30)	ND (77)	ND (3.0)	ND (2.9)	ND (3.1)	ND (3.0)	ND (30)	ND (32)
Atrazine	ug/kg	-	-	ND (14)	ND (14)	ND (14)	ND (13)	ND (14)	ND (14)	ND (22)	ND (57)	ND (22)	ND (57)	ND (14)	ND (14)	ND (15)	ND (14)	ND (22)	ND (24)
Benzo(a)anthracene	ug/kg	1000	1000	ND (6.6)	ND (6.4)	ND (6.7)	ND (6.3)	ND (6.6)	ND (6.6)	ND (11)	ND (27)	ND (11)	ND (27)	ND (6.7)	ND (6.5)	20.7 J	ND (6.8)	ND (11)	ND (11)
Benzo(a)pyrene	ug/kg	1000	1000	ND (7.2)	ND (7.0)	ND (7.3)	ND (7.0)	ND (7.2)	ND (7.3)	ND (17)	ND (43)	ND (17)	ND (43)	ND (7.4)	ND (7.1)	ND (7.6)	ND (7.5)	ND (17)	ND (18)
Benzo(b)fluoranthene	ug/kg	1000	1000	ND (7.0)	ND (6.8)	ND (7.1)	ND (6.8)	ND (7.0)	ND (7.1)	ND (14)	ND (37)	ND (14)	ND (37)	ND (7.2)	ND (6.9)	17.5 J	ND (7.2)	ND (15)	ND (15)
Benzo(g,h,i)perylene	ug/kg	100000	100000	ND (10)	ND (9.9)	ND (10)	ND (9.8)	ND (10)	ND (10)	ND (18)	ND (47)	ND (18)	ND (47)	ND (10)	ND (10)	ND (11)	ND (11)	ND (19)	ND (20)
Benzo(k)fluoranthene	ug/kg	800	3900	ND (7.6)	ND (7.3)	ND (7.7)	ND (7.3)	ND (7.6)	ND (7.7)	ND (19)	ND (50)	ND (19)	ND (50)	ND (7.8)	ND (7.5)	ND (7.9)	ND (7.8)	ND (20)	ND (21)
4-Bromophenyl phenyl ether	ug/kg	-	-	ND (7.7)	ND (7.5)	ND (7.9)	ND (7.5)	ND (7.8)	ND (7.8)	ND (31)	ND (81)	ND (31)	ND (81)	ND (7.9)	ND (7.6)	ND (8.1)	ND (8.0)	ND (32)	ND (34)
Butyl benzyl phthalate	ug/kg	-		ND (18)	ND (18)	ND (19)	ND (18)	ND (18)	ND (19)	ND (39)	ND (100)	ND (39)	ND (100)	ND (19)	ND (18)	ND (19)	ND (19)	ND (40)	ND (42)
1,1'-Biphenyl	ug/kg	-		ND (6.3)	ND (6.1)	ND (6.4)	ND (6.1)	ND (6.3)	ND (6.4)	ND (19)	ND (50)	ND (19)	ND (50)	ND (6.4)	ND (6.2)	ND (6.6)	ND (6.5)	ND (20)	ND (21)
Benzaldehyde	ug/kg	-	-	ND (8.5)	ND (8.2)	ND (8.6)	ND (8.2)	ND (8.5)	ND (8.6)	ND (17)	ND (43)	ND (17)	ND (43)	ND (8.7)	ND (8.4)	ND (8.9)	ND (8.8)	ND (17)	ND (18)
2-Chloronaphthalene	ug/kg	-	-	ND (4.9)	ND (4.7)	ND (4.9)	ND (4.7)	ND (4.9)	ND (4.9)	ND (13)	ND (33)	ND (13)	ND (33)	ND (5.0)	ND (4.8)	ND (5.1)	ND (5.0)	ND (13)	ND (14)
4-Chloroaniline	ug/kg	-		ND (9.0)	ND (8.7)	ND (9.1)	ND (8.7)	ND (9.0)	ND (9.1)	ND (19)	ND (50)	ND (19)	ND (50)	ND (9.2)	ND (8.9)	ND (9.4)	ND (9.3)	ND (20)	ND (21)
Carbazole	ug/kg	-	-	ND (3.8)	ND (3.7)	ND (3.8)	ND (3.6)	ND (3.8)	ND (3.8)	ND (13)	ND (34)	ND (13)	ND (34)	ND (3.9)	ND (3.7)	ND (3.9)	ND (3.9)	ND (14)	ND (14)
Caprolactam	ug/kg	-	-	ND (22)	ND (21)	ND (22)	ND (21)	ND (22)	ND (22)	ND (50)	ND (130)	ND (50)	ND (130)	ND (22)	ND (22)	ND (23)	ND (23)	ND (51)	ND (54)
Chrysene	ug/kg	1000	3900	ND (5.5)	ND (5.3)	ND (5.6)	ND (5.3)	ND (5.5)	ND (5.5)	ND (17)	ND (45)	ND (17)	ND (45)	ND (5.6)	ND (5.4)	16.0 J	ND (5.6)	ND (18)	ND (19)
bis(2-Chloroethoxy)methane	ug/kg	-	-	ND (7.7)	ND (7.5)	ND (7.8)	ND (7.5)	ND (7.7)	ND (7.8)	ND (14)	ND (37)	ND (14)	ND (37)	ND (7.9)	ND (7.6)	ND (8.1)	ND (8.0)	ND (15)	ND (16)
bis(2-Chloroethyl)ether	ug/kg	-	-	ND (14)	ND (14)	ND (14)	ND (14)	ND (14)	ND (14)	ND (39)	ND (100)	ND (39)	ND (100)	ND (15)	ND (14)	ND (15)	ND (15)	ND (40)	ND (42)
bis(2-Chloroisopropyl)ether	ug/kg	-	-	ND (7.8)	ND (7.5)	ND (7.9)	ND (7.5)	ND (7.8)	ND (7.9)	ND (27)	ND (69)	ND (27)	ND (69)	ND (8.0)	ND (7.7)	ND (8.1)	ND (8.0)	ND (27)	ND (29)
4-Chlorophenyl phenyl ether	ug/kg	-	-	ND (6.4)	ND (6.2)	ND (6.5)	ND (6.2)	ND (6.4)	ND (6.5)	ND (18)	ND (47)	ND (18)	ND (47)	ND (6.5)	ND (6.3)	ND (6.7)	ND (6.6)	ND (19)	ND (20)
2,4-Dinitrotoluene	ug/kg	-	-	ND (6.4)	ND (6.2)	ND (6.5)	ND (6.2)	ND (6.4)	ND (6.5)	ND (25)	ND (64)	ND (25)	ND (64)	ND (6.5)	ND (6.3)	ND (6.7)	ND (6.6)	ND (25)	ND (27)
2,6-Dinitrotoluene	ug/kg	-		ND (8.8)	ND (8.5)	ND (8.9)	ND (8.5)	ND (8.8)	ND (8.9)	ND (21)	ND (54)	ND (21)	ND (54)	ND (9.0)	ND (8.7)	ND (9.2)	ND (9.0)	ND (21)	ND (23)
3,3'-Dichlorobenzidine	ug/kg	-	-	ND (22)	ND (22)	ND (23)	ND (21)	ND (22)	ND (23)	ND (92)	ND (240)	ND (92)	ND (240)	ND (23)	ND (22)	ND (23)	ND (23)	ND (94)	ND (99)
1,4-Dioxane	ug/kg	100	13000	ND (23)	ND (22)	ND (23)	ND (22)	ND (23)	ND (23)	ND (29)	ND (74)	ND (29)	ND (74)	ND (24)	ND (23)	ND (24)	ND (24)	ND (29)	ND (31)
Dibenzo(a,h)anthracene	ug/kg	330	330	ND (12)	ND (12)	ND (12)	ND (12)	ND (12)	ND (12)	ND (26)	ND (67)	ND (26)	ND (67)	ND (12)	ND (12)	ND (13)	ND (13)	ND (26)	ND (28)
Dibenzofuran	ug/kg	7000	59000	ND (4.7)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.7)	ND (4.8)	ND (12)	ND (32)	ND (12)	ND (32)	ND (4.8)	ND (4.7)	ND (4.9)	ND (4.9)	ND (13)	ND (13)
Di-n-butyl phthalate	ug/kg	-		ND (4.0)	ND (3.9)	ND (4.1)	ND (3.9)	ND (4.0)	ND (4.1)	ND (43)	ND (110)	ND (43)	ND (110)	ND (4.1)	ND (4.0)	ND (4.2)	ND (4.1)	ND (44)	ND (46)
Di-n-octyl phthalate	ug/kg	-		ND (4.6)	ND (4.4)	ND (4.7)	ND (4.4)	ND (4.6)	ND (4.6)	ND (44)	ND (110)	ND (44)	ND (110)	ND (4.7)	ND (4.5)	ND (4.8)	ND (4.7)	ND (45)	ND (47)
Diethyl phthalate	ug/kg	-		ND (4.3)	ND (4.2)	ND (4.4)	ND (4.2)	ND (4.3)	ND (4.4)	ND (15)	ND (40)	ND (15)	ND (40)	ND (4.4)	ND (4.3)	ND (4.5)	ND (4.5)	ND (16)	ND (17)
Dimethyl phthalate	ug/kg	-		ND (4.9)	ND (4.7)	ND (4.9)	ND (4.7)	ND (4.9)	ND (4.9)	ND (14)	ND (36)	ND (14)	ND (36)	ND (5.0)	ND (4.8)	ND (5.1)	ND (5.0)	ND (14)	ND (15)
bis(2-Ethylhexyl)phthalate	ug/kg	-		ND (12)	ND (11)	ND (12)	ND (11)	ND (12)	ND (12)	ND (15)	ND (39)	ND (15)	ND (39)	ND (12)	ND (12)	ND (12)	ND (12)	ND (15)	ND (16)
Fluoranthene	ug/kg	100000	100000	ND (4.1)	20.6 J	ND (4.2)	ND (4.0)	ND (4.2)	ND (4.2)	ND (32)	165 J	ND (32)	165 J	ND (4.3)	ND (4.1)	19.1 J	ND (4.3)	ND (32)	ND (34)
Fluorene	ug/kg	30000	100000	ND (4.0)	ND (3.9)	ND (4.1)	ND (3.9)	ND (4.0)	ND (4.1)	ND (27)	ND (70)	ND (27)	ND (70)	ND (4.1)	ND (4.0)	ND (4.2)	ND (4.2)	ND (28)	ND (29)
Hexachlorobenzene	ug/kg	330	1200	ND (6.7)	ND (6.5)	ND (6.8)	ND (6.5)	ND (6.7)	ND (6.8)	ND (17)	ND (45)	ND (17)	ND (45)	ND (6.9)	ND (6.6)	ND (7.0)	ND (6.9)	ND (18)	ND (19)
Hexachlorobutadiene	ug/kg	-	-	ND (9.0)	ND (8.7)	ND (9.1)	ND (8.7)	ND (9.0)	ND (9.1)	ND (27)	ND (69)	ND (27)	ND (69)	ND (9.2)	ND (8.9)	ND (9.4)	ND (9.3)	ND (27)	ND (29)
Hexachlorocyclopentadiene	ug/kg	-		ND (54)	ND (52)	ND (55)	ND (52)	ND (54)	ND (55)	ND (41)	ND (110)	ND (41)	ND (110)	ND (55)	ND (53)	ND (56)	ND (56)	ND (42)	ND (44)
Hexachloroethane	ug/kg	-	-	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (52)	ND (130)	ND (52)	ND (130)	ND (11)	ND (11)	ND (12)	ND (11)	ND (53)	ND (56)
Indeno(1,2,3-cd)pyrene	ug/kg	500	500	ND (18)	ND (17)	ND (18)	ND (17)	ND (18)	ND (18)	ND (23)	ND (59)	ND (23)	ND (59)	ND (18)	ND (17)	ND (18)	ND (18)	ND (23)	ND (25)
Isophorone	ug/kg	-		ND (6.4)	ND (6.2)	ND (6.4)	ND (6.1)	ND (6.4)	ND (6.4)	ND (15)	ND (39)	ND (15)	ND (39)	ND (6.5)	ND (6.3)	ND (6.6)	ND (6.6)	ND (15)	ND (16)
2-Methylnaphthalene	ug/kg	-		ND (6.4)	ND (6.2)	ND (6.4)	ND (6.1)	ND (6.4)	ND (6.4)	ND (56)	ND (140)	ND (56)	ND (140)	ND (6.5)	ND (6.3)	ND (6.6)	ND (6.6)	ND (57)	ND (60)
2-Nitroaniline	ug/kg	-		ND (7.7)	ND (7.5)	ND (7.8)	ND (7.5)	ND (7.7)	ND (7.8)	ND (50)	ND (130)	ND (50)	ND (130)	ND (7.9)	ND (7.6)	ND (8.1)	ND (8.0)	ND (51)	ND (53)
3-Nitroaniline	ug/kg	-		ND (9.6)	ND (9.4)	ND (9.8)	ND (9.3)	ND (9.7)	ND (9.8)	ND (24)	ND (62)	ND (24)	ND (62)	ND (9.9)	ND (9.5)	ND (10)	ND (10)	ND (25)	ND (26)
4-Nitroaniline	ug/kg	-	-	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (27)	ND (70)	ND (27)	ND (70)	ND (12)	ND (11)	ND (12)	ND (12)	ND (28)	ND (29)
Naphthalene	ug/kg	12000	100000	ND (5.4)	ND (5.3)	ND (5.5)	ND (5.3)	ND (5.4)	ND (5.5)	ND (28)	ND (72)	ND (28)	ND (72)	ND (5.6)	ND (5.4)	ND (5.7)	ND (5.6)	ND (28)	ND (30)
Nitrobenzene	ug/kg	-	15000	ND (11)	ND (10)	ND (11)	ND (10)	ND (11)	ND (11)	ND (30)	ND (77)	ND (30)	ND (77)	ND (11)	ND (11)	ND (11)	ND (11)	ND (31)	ND (32)
N-Nitroso-di-n-propylamine	ug/kg	-	-	ND (10)	ND (9.8)	ND (10)	ND (9.7)	ND (10)	ND (10)	ND (31)	ND (81)	ND (31)	ND (81)	ND (10)	ND (10)	ND (11)	ND (10)	ND (32)	ND (34)
N-Nitrosodiphenylamine	ug/kg	-		ND (18)	ND (17)	ND (18)	ND (17)	ND (18)	ND (18)	ND (39)	ND (100)	ND (39)	ND (100)	ND (18)	ND (18)	ND (19)	ND (18)	ND (40)	ND (42)
Phenanthrene	ug/kg	100000	100000	ND (3.8)	ND (3.7)	ND (3.8)	ND (3.6)	ND (3.8)	ND (3.8)	ND (16)	ND (42)	ND (16)	ND (42)	ND (3.9)	ND (3.7)	ND (3.9)	ND (3.9)	ND (17)	ND (18)
Pyrene	ug/kg	100000	100000	ND (4.2)	20.3 J	ND (4.3)	ND (4.1)	ND (4.3)	ND (4.3)	49.1 J	374	49.1 J	374	ND (4.4)	ND (4.2)	37.2	ND (4.4)	ND (12)	ND (13)
1,2,4,5-Tetrachlorobenzene	ug/kg	-	-	ND (8.2)	ND (7.9)	ND (8.3)	ND (7.9)	ND (8.2)	ND (8.3)	ND (15)	ND (40)	ND (15)	ND (40)	ND (8.4)	ND (8.0)	ND (8.5)	ND (8.4)	ND (16)	ND (16)

Table 2-2

Additional Remedial Excavation Confirmatory Soil Sampling Results

Webster Ave Brownfield Project No. C203075

Bronx, New York

CONSTITUENT		NY SCO - Unrestricted Use (6 NYCRR 375-6)	NY SCO - Restricted Residential w/CP-51 (10/10) (6 NYCRR 375-6)	EP-NW-1	EP-EW-1	EP-SW-1	EP-WW-1	EP-B-1	DUP1-042516	AE WW-1	AE EW-1	AE WW-1	AE EW-1	AE SW-1	AE B-1	AE B-2	AE WW-2	AE EW-2	AE NW-1
				4/25/2016	4/25/2016	4/25/2016	4/25/2016	4/25/2016	4/25/2016	5/2/2016	5/2/2016	5/2/2016	5/2/2016	5/2/2016	5/2/2016	5/3/2016	5/3/2016	5/3/2016	5/3/2016
Pesticides/Herbicides (ug/kg)																			
Aldrin	ug/kg	5	97	ND (0.56)	ND (0.60)	ND (0.62)	ND (0.56)	ND (0.57)	ND (0.61)	1.3 [a]	1.1 [a]	1.3 [a]	1.1 [a]	ND (0.61)	ND (0.58)	1.4 [b]	ND (0.63)	0.80 [a]	1.0 [a]
alpha-BHC	ug/kg	20	480	ND (0.42)	ND (0.45)	ND (0.46)	ND (0.42)	ND (0.43)	ND (0.45)	ND (0.44)	ND (0.48)	ND (0.44)	ND (0.48)	ND (0.45)	ND (0.43)	ND (0.47)	ND (0.47)	ND (0.43)	ND (0.46)
beta-BHC	ug/kg	36	360	ND (0.39)	ND (0.42)	ND (0.43)	ND (0.39)	ND (0.40)	ND (0.42)	7.4	1.0 [a]	7.4	1.0 [a]	1.2	ND (0.40)	1.5 [a]	ND (0.44)	ND (0.39)	ND (0.43)
delta-BHC	ug/kg	40	100000	ND (0.25)	ND (0.27)	ND (0.27)	ND (0.25)	ND (0.25)	ND (0.27)	ND (0.26)	ND (0.29)	ND (0.26)	ND (0.29)	ND (0.27)	ND (0.25)	ND (0.28)	ND (0.28)	ND (0.25)	ND (0.27)
gamma-BHC (Lindane)	ug/kg	100	1300	ND (0.29)	ND (0.31)	ND (0.32)	ND (0.29)	ND (0.29)	ND (0.31)	ND (0.30)	ND (0.33)	ND (0.30)	ND (0.33)	ND (0.31)	ND (0.29)	ND (0.32)	ND (0.32)	ND (0.29)	ND (0.31)
alpha-Chlordane	ug/kg	94	4200	ND (0.33)	ND (0.36)	ND (0.37)	ND (0.34)	ND (0.34)	ND (0.36)	ND (0.35)	ND (0.39)	ND (0.35)	ND (0.39)	ND (0.36)	ND (0.34)	ND (0.38)	2.8	ND (0.34)	ND (0.37)
gamma-Chlordane	ug/kg	-		ND (0.48)	ND (0.51)	ND (0.53)	ND (0.48)	ND (0.49)	ND (0.52)	ND (0.50)	ND (0.55)	ND (0.50)	ND (0.55)	ND (0.52)	ND (0.49)	ND (0.54)	1.8	ND (0.49)	ND (0.53)
Dieldrin	ug/kg	5	200	ND (0.49)	ND (0.53)	ND (0.54)	ND (0.50)	ND (0.50)	ND (0.53)	ND (0.52)	ND (0.57)	ND (0.52)	ND (0.57)	ND (0.53)	ND (0.51)	ND (0.56)	0.93 [a]	ND (0.50)	ND (0.54)
4,4'-DDD	ug/kg	3.3	13000	ND (0.23)	ND (0.25)	ND (0.26)	ND (0.23)	ND (0.24)	ND (0.25)	0.93 [a]	ND (0.27)	0.93 [a]	ND (0.27)	ND (0.25)	ND (0.24)	ND (0.26)	ND (0.26)	ND (0.24)	ND (0.26)
4,4'-DDE	ug/kg	3.3	8900	ND (0.21)	ND (0.22)	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.23)	ND (0.22)	ND (0.24)	ND (0.22)	ND (0.24)	ND (0.23)	ND (0.22)	ND (0.24)	ND (0.24)	ND (0.21)	ND (0.23)
4,4'-DDT	ug/kg	3.3	7900	ND (0.24)	ND (0.26)	ND (0.27)	ND (0.24)	ND (0.25)	ND (0.26)	ND (0.25)	ND (0.28)	ND (0.25)	ND (0.28)	ND (0.26)	ND (0.25)	ND (0.27)	ND (0.27)	ND (0.24)	ND (0.26)
Endrin	ug/kg	14	11000	ND (0.22)	ND (0.24)	ND (0.25)	ND (0.22)	ND (0.23)	ND (0.24)	ND (0.23)	ND (0.26)	ND (0.23)	ND (0.26)	ND (0.24)	ND (0.23)	ND (0.25)	2.5	ND (0.23)	ND (0.24)
Endosulfan sulfate	ug/kg	2400	24000	ND (0.36)	ND (0.38)	ND (0.39)	ND (0.36)	ND (0.37)	ND (0.39)	0.8	1.4	0.8	1.4	ND (0.39)	ND (0.37)	ND (0.40)	ND (0.40)	ND (0.36)	ND (0.39)
Endrin aldehyde	ug/kg	-	-	ND (0.47)	ND (0.50)	ND (0.52)	ND (0.47)	ND (0.48)	ND (0.51)	ND (0.49)	ND (0.54)	ND (0.49)	ND (0.54)	ND (0.50)	ND (0.48)	ND (0.53)	ND (0.53)	ND (0.47)	ND (0.51)
Endosulfan-I	ug/kg	2400	24000	ND (0.21)	ND (0.22)	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.22)	ND (0.24)	ND (0.22)	ND (0.24)	ND (0.22)	ND (0.21)	ND (0.23)	2.5 [a]	ND (0.21)	ND (0.23)
Endosulfan-II	ug/kg	2400	24000	ND (0.59)	ND (0.64)	ND (0.66)	ND (0.60)	ND (0.61)	ND (0.64)	ND (0.62)	ND (0.69)	ND (0.62)	ND (0.69)	ND (0.64)	ND (0.61)	ND (0.67)	0.78 [a]	ND (0.60)	ND (0.65)
Heptachlor	ug/kg	42	2100	ND (0.52)	ND (0.56)	ND (0.57)	ND (0.52)	ND (0.53)	ND (0.56)	ND (0.54)	ND (0.60)	ND (0.54)	ND (0.60)	ND (0.56)	ND (0.53)	ND (0.58)	ND (0.58)	ND (0.52)	ND (0.57)
Heptachlor epoxide	ug/kg	-		ND (0.26)	ND (0.28)	ND (0.29)	ND (0.26)	ND (0.27)	ND (0.28)	ND (0.27)	ND (0.30)	ND (0.27)	ND (0.30)	ND (0.28)	ND (0.27)	ND (0.29)	ND (0.29)	ND (0.26)	ND (0.28)
Methoxychlor	ug/kg	-		ND (0.35)	ND (0.38)	ND (0.39)	ND (0.35)	ND (0.36)	ND (0.38)	ND (0.37)	ND (0.40)	ND (0.37)	ND (0.40)	ND (0.38)	ND (0.36)	ND (0.40)	ND (0.40)	ND (0.35)	ND (0.38)
Endrin ketone	ug/kg	-	-	ND (0.33)	ND (0.35)	ND (0.36)	ND (0.33)	ND (0.34)	ND (0.36)	ND (0.35)	ND (0.38)	ND (0.35)	ND (0.38)	ND (0.36)	ND (0.34)	ND (0.37)	ND (0.37)	ND (0.34)	ND (0.36)
Toxaphene	ug/kg	-	-	ND (11)	ND (12)	ND (12)	ND (11)	ND (11)	ND (12)	ND (11)	ND (13)	ND (11)	ND (13)	ND (12)	ND (11)	ND (12)	ND (12)	ND (11)	ND (12)
PCBs (ug/kg)																			
Aroclor 1016	ug/kg	100	1000	ND (16)	ND (17)	ND (17)	ND (16)	ND (16)	ND (17)	ND (16)	ND (18)	ND (16)	ND (18)	ND (17)	ND (16)	ND (18)	ND (18)	ND (16)	ND (17)
Aroclor 1221	ug/kg	100	1000	ND (15)	ND (17)	ND (17)	ND (15)	ND (16)	ND (17)	ND (16)	ND (18)	ND (16)	ND (18)	ND (17)	ND (16)	ND (17)	ND (17)	ND (16)	ND (17)
Aroclor 1232	ug/kg	100	1000	ND (12)	ND (13)	ND (14)	ND (12)	ND (13)	ND (14)	ND (13)	ND (14)	ND (13)	ND (14)	ND (13)	ND (13)	ND (14)	ND (14)	ND (13)	ND (14)
Aroclor 1242	ug/kg	100	1000	ND (11)	ND (12)	ND (12)	ND (11)	ND (11)	ND (13)	ND (12)	ND (13)	ND (12)	ND (13)	ND (12)	ND (11)	ND (13)	ND (13)	ND (11)	ND (12)
Aroclor 1248	ug/kg	100	1000	ND (20)	ND (21)	ND (22)	ND (20)	ND (20)	ND (22)	ND (21)	ND (23)	ND (21)	ND (23)	ND (21)	ND (20)	ND (22)	ND (22)	ND (20)	ND (22)
Aroclor 1254	ug/kg	100	1000	ND (16)	ND (17)	ND (17)	ND (16)	ND (16)	ND (18)	ND (16)	ND (18)	ND (16)	ND (18)	ND (17)	ND (16)	ND (18)	ND (18)	ND (16)	ND (17)
Aroclor 1260	ug/kg	100	1000	ND (13)	ND (14)	ND (15)	ND (13)	ND (14)	ND (15)	ND (14)	ND (15)	ND (14)	ND (15)	ND (14)	ND (14)	ND (15)	ND (15)	ND (14)	ND (15)
Aroclor 1268	ug/kg	100	1000	ND (11)	ND (12)	ND (12)	ND (11)	ND (11)	ND (13)	ND (12)	ND (13)	ND (12)	ND (13)	ND (12)	ND (11)	ND (13)	ND (13)	ND (11)	ND (12)
Aroclor 1262	ug/kg	100	1000	ND (21)	ND (23)	ND (23)	ND (21)	ND (22)	ND (24)	ND (22)	ND (25)	ND (22)	ND (25)	ND (23)	ND (22)	ND (24)	ND (24)	ND (22)	ND (23)
Metals (mg/kg)																			
Aluminum	mg/kg	-		3520	5600	5170	4030	3080	4060	3710	9570	3710	9570	7960	3370	11400	19800	6230	11800
Antimony	mg/kg	-		<2.0	<2.1	<2.1	<2.0	<2.0	<2.2	<2.0	<2.3	<2.0	<2.3	<2.1	<2.1	<2.1	<2.2	<2.1	<2.1
Arsenic	mg/kg	13	16	<2.0	<2.1	<2.1	<2.0	<2.0	<2.2	<2.0	<2.3	<2.0	<2.3	<2.1	<2.1	2.4	<2.2	<2.1	<2.1
Barium	mg/kg	350	400	<20	24	<21	<20	<20	<22	20.1	26.2	20.1	26.2	54	<21	65.4	41.4	35.3	58.3
Beryllium	mg/kg	7.2	72	<0.20	<0.21	0.24	0.2	<0.20	<0.22	<0.20	0.37	<0.20	0.37	<0.43 [c]	<0.21	<0.43 [c]	0.41	<0.21	0.48
Cadmium	mg/kg	2.5	4.3	<0.50	<0.52	<0.52	<0.50	<0.50	<0.54	<0.51	<0.57	<0.51	<0.57	<0.53	<0.54	<0.54	<0.55	<0.53	<0.53
Calcium	mg/kg	-		24000	17000	35100	53100	38300	54200	2780	14700	2780	14700	5120	37000	6610	5010	2260	4590
Chromium	mg/kg	-	-	10.5	19.6	11.5	8.8	9.9	12.9	9.5	39.7	9.5	39.7	20.1	8.8	47.1	14.5	17.1	28.7
Cobalt	mg/kg	-		<5.0	5.5	<5.2	<5.0	<5.0	<5.4	<5.1	10.4	<5.1	10.4	8.9	<5.4	12.6	10	6.5	9.9
Copper	mg/kg	50	270	8.9	17.4	11.9	8.6	8.9	14.7	10.3	23	10.3	23	28.4	9.6	42.8	9.9	22.8	32.7
Iron	mg/kg	-		6460	11400	9760	6610	6830	11800	5910	14700	5910	14700	16100	5760	19800	23800	10700	17400
Lead	mg/kg	63	400	2.4	4.1	3.4	2.5	<2.0	3.9	3.2	7.4	3.2	7.4	3.6	2.5	9.4	7.7	3.5	6.4
Magnesium	mg/kg	-	-	16000	12200	23400	32500	23000	33100	2760	10700	2760	10700	6590	24700	9300	15800	3470	6500
Manganese	mg/kg	1600	2000	61.9	91.4	82.3	70.1	66.5	97.2	46.4	78.5	46.4	78.5	173	56	206	267	100	145
Mercury	mg/kg	0.18	0.81	<0.031	<0.032	<0.034	<0.030	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.032	<0.035
Nickel	mg/kg	30	310	7.8	16.1	12.8	8.7	7.2	10.6	8.4	27.6	8.4	27.6	23.8	7.2	**41.2**	23.2	18.1	25.8
Potassium	mg/kg	-	-	<990	1120	<1000	<1000	<1000	<1100	<1000	1310	<1000	1310	2660	<1100	3440	1630	1680	1850
Selenium	mg/kg	3.9	180	<2.0	<2.1	<2.1	<2.0	<2.0	<2.2	<2.0	2.7	<2.0	2.7	<2.1	<2.1	<2.1	<2.2	<2.1	<2.1
Silver	mg/kg	2	180	<0.50	0.83	0.67	<0.50	<0.50	0.59	<0.51	0.84	<0.51	0.84	<1.1 [c]	<0.54	<1.1 [c]	1.3	0.73	1.1
Sodium	mg/kg	-	-	<990	<1000	<1000	<1000	<1000	<1100	<1000	<1100	<1000	<1100	<1100	<1100	<1100	<1100	<1100	<1100
Thallium	mg/kg	-		<0.99	<1.0	<1.0	<1.0	<1.0	<1.1	<1.0	<1.1	<1.0	<1.1	<2.1 [c]	<1.1	<2.1 [c]	<1.1	<1.1	<1.1
Vanadium	mg/kg	-		15	23.2	15.5	12.3	13.8	21.4	13.4	32.5	13.4	32.5	33.6	9.9	47	82.7	26.7	42.1
Zinc	mg/kg	109	10000	18.2	23.9	22.7	15.9	16.3	20.1	14.2	40.9	14.2	40.9	36.9	14.6	75.8	38.9	28.8	63.9

Table 2-3
Soil Cleanup Objectives - 6NYCRR Part 375
Webster Avenue Brownfield Project No.C203075
Bronx, New York

Constituents	CAS Number	Protection of Public Health for Restricted Residential Use (ppm)	Protection of Groundwater (ppm)
Metals			
Arsenic	7440-38-2	16	16
Barium	7440-39-3	400	820
Beryllium	7440-41-7	72	47
Cadmium	7440-43-9	4.3	7.5
Chromium, hexavalent	18540-29-9	110	19
Chromium, trivalent	16065-83-1	180	NS
Copper	7440-50-8	270	1,720
Total Cyanide		27	40
Lead	7439-92-1	400	450
Manganese	7439-96-5	2,000	2,000
Total Mercury		0.81	0.73
Nickel	7440-02-0	310	130
Selenium	7782-49-2	180	4
Silver	7440-22-4	180	8.3
Zinc	7440-66-6	10,000	2,480
PCBs/Pesticides			
2,4,5-TP Acid (Silvex)	93-72-1	100	3.8
4,4'-DDE	72-55-9	8.9	17
4,4'-DDT	50-29-3	7.9	136
4,4'-DDD	72-54-8	13	14
Aldrin	309-00-2	0.097	0.19
alpha-BHC	319-84-6	0.48	0.02
beta-BHC	319-85-7	0.36	0.09
Chlordane (alpha)	5103-71-9	4.2	2.9
delta-BHC	319-86-8	100	0.25
Dibenzofuran	132-64-9	59	210
Dieldrin	60-57-1	0.2	0.1
Endosulfan I	959-98-8	24	102
Endosulfan II	33213-65-9	24	102
Endosulfan sulfate	1031-07-8	24	1,000
Endrin	72-20-8	11	0.06
Heptachlor	76-44-8	2.1	0.38
Lindane	58-89-9	1.3	0.1
Polychlorinated biphenyls	1336-36-3	1	3.2

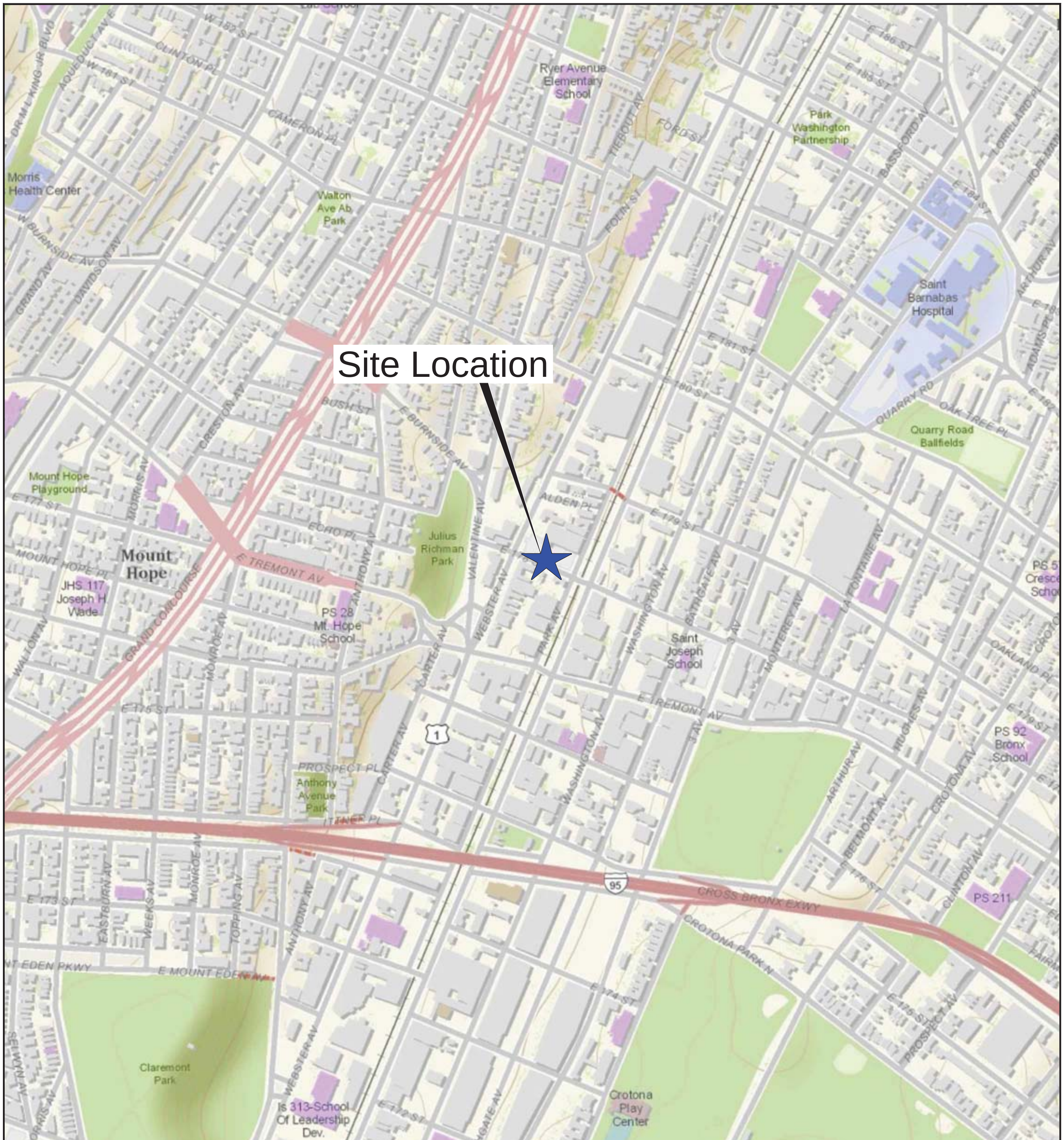
Table 2-3
Soil Cleanup Objectives - 6NYCRR Part 375
Webster Avenue Brownfield Project No.C203075
Bronx, New York

Constituents	CAS Number	Protection of Public Health for Restricted Residential Use (ppm)	Protection of Groundwater (ppm)
Semivolatiles			
Acenaphthene	83-32-9	100	98
Acenapthylene	208-96-8	100	107
Anthracene	120-12-7	100	1,000
Benz(a)anthracene	56-55-3	1	1
Benzo(a)pyrene	50-32-8	1	22
Benzo(b)fluoranthene	205-99-2	1	1.7
Benzo(g,h,i)perylene	191-24-2	100	1,000
Benzo(k)fluoranthene	207-08-9	3.9	1.7
Chrysene	218-01-9	3.9	1
Dibenz(a,h)anthracene	53-70-3	0.33	1,000
Fluoranthene	206-44-0	100	1,000
Fluorene	86-73-7	100	386
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	8.2
m-Cresol	108-39-4	100	0.33
Naphthalene	91-20-3	100	12
o-Cresol	95-48-7	100	0.33
p-Cresol	106-44-5	100	0.33
Pentachlorophenol	87-86-5	6.7	0.8
Phenanthrene	85-01-8	100	1,000
Phenol	108-95-2	100	0.33
Pyrene	129-00-0	100	1,000
Volatiles			
1,1,1-Trichloroethane	71-55-6	100	0.68
1,1-Dichloroethane	75-34-3	26	0.27
1,1-Dichloroethene	75-35-4	100	0.33
1,2-Dichlorobenzene	95-50-1	100	1.1
1,2-Dichloroethane	107-06-2	3.1	0.02
cis-1,2-Dichloroethene	156-59-2	100	0.25
trans-1,2-Dichloroethene	156-60-5	100	0.19
1,3-Dichlorobenzene	541-73-1	49	2.4
1,4-Dichlorobenzene	106-46-7	13	1.8
1,4-Dioxane	123-91-1	13	0.1
Acetone	67-64-1	100	0.05
Benzene	71-43-2	4.8	0.06
Butylbenzene	104-51-8	100	12
Carbon tetrachloride	56-23-5	2.4	0.76
Chlorobenzene	108-90-7	100	1.1
Chloroform	67-66-3	49	0.37
Ethylbenzene	100-41-4	41	1
Hexachlorobenzene	118-74-1	1.2	3.2
Methyl ethyl ketone	78-93-3	100	0.12
Methyl tert-butyl ether	1634-04-4	100	0.93
Methylene chloride	75-09-2	100	0.05
n-Propylbenzene	103-65-1	100	3.9

Table 2-3
Soil Cleanup Objectives - 6NYCRR Part 375
Webster Avenue Brownfield Project No.C203075
Bronx, New York

Constituents	CAS Number	Protection of Public Health for Restricted Residential Use (ppm)	Protection of Groundwater (ppm)
sec-Butylbenzene	135-98-8	100	11
tert-Butylbenzene	98-06-6	100	5.9
Tetrachloroethene	127-18-4	19	1.3
Toluene	108-88-3	100	0.7
Trichloroethene	79-01-6	21	0.47
1,2,4-Trimethylbenzene	95-63-6	52	3.6
1,3,5- Trimethylbenzene	108-67-8	52	8.4
Vinyl chloride	75-01-4	0.9	0.02
Xylene (mixed)	1330-20-7	100	1.6

Figures



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GRAPHIC SCALE IN FEET

Notes: Base Map - ESRI ArcMap Topo

TITLE Site Location Map 1960-1982 Webster Avenue Bronx, NY 10457				
PREPARED FOR Webster Ave Housing Development Fund Corporaton				
ERM Environmental Resources Management				FIGURE 1-1
DRAWN BY EMF	SCALE AS SHOWN	DATE 07/08/16	JOB NO. 0295737	

C:\Users\edyta.korczynska\Desktop\New folder (7)\2016 SMP\2016-03 - Webster Ave - Site Location Map.dwg (07/12/2016 - 2:38pm Melville)

Legend

Site Boundary and Tax Outline

0 50 100

GRAPHIC SCALE IN FEET

TITLE				
Site Boundary Map 1960-1982 Webster Avenue Bronx, NY 10457				
PREPARED FOR Webster Ave Housing Development Fund Corporation				
Environmental Resources Management				FIGURE 1-2
DRAWN BY EMF	SCALE GRAPHIC	DATE 06/06/16	JOB NO. 0295737	

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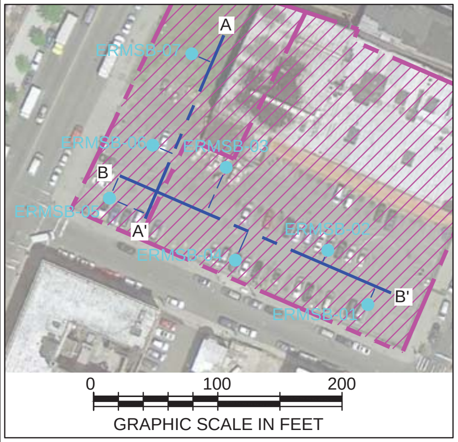
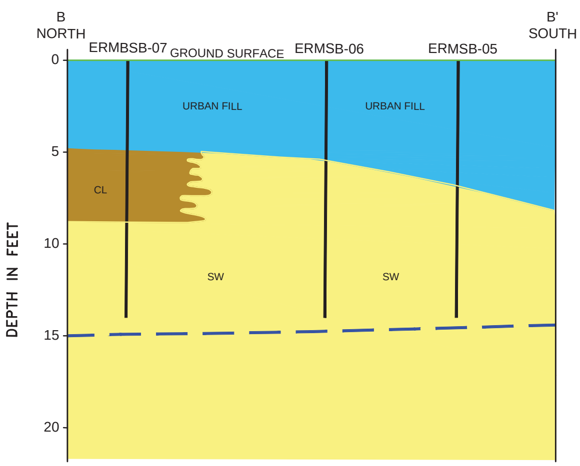
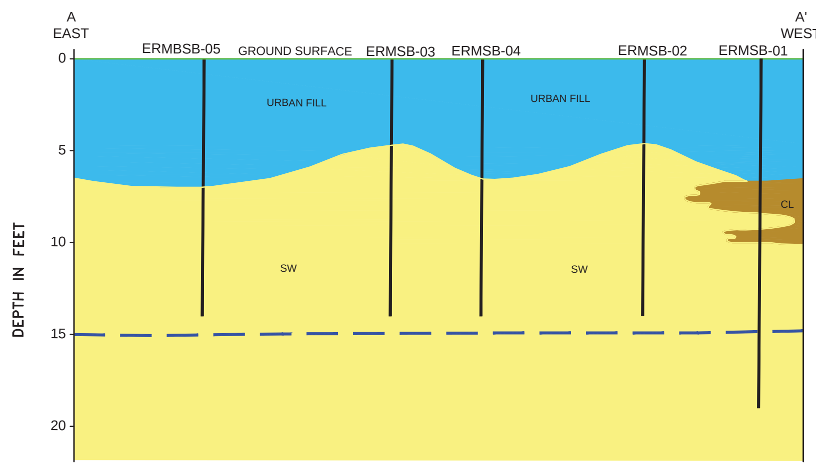






0 50 100

GRAPHIC SCALE IN FEET

VERTICAL EXAGGERATION = 7.4X

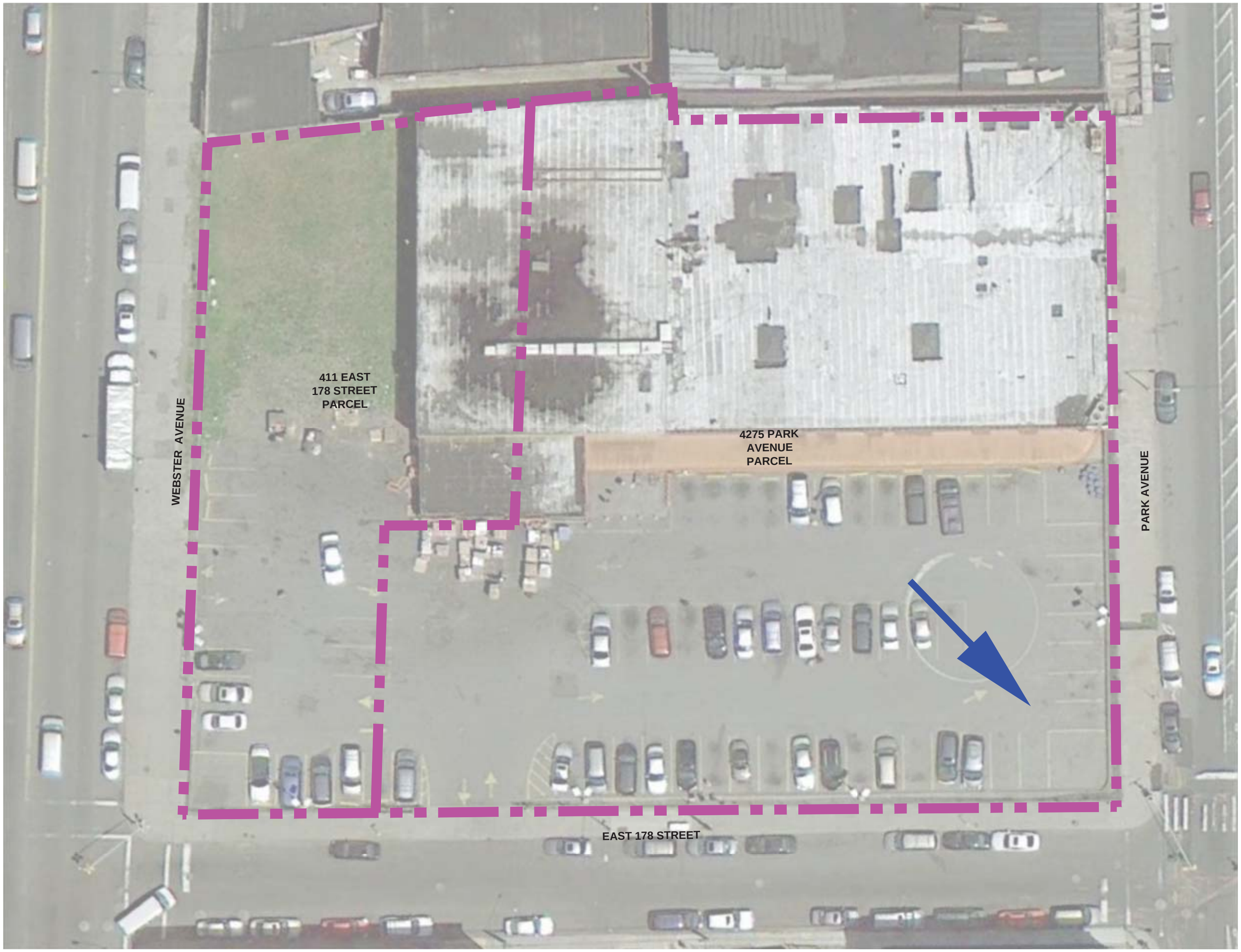
Legend

- CL - Poorly - Graded Sand, Gravelly Sands, Little or no Fine
- Urban Fill
- SW - Well - Graded Sands, Little or no Fines
- Groundwater Elevation

TITLE	Geologic Cross Sections A-A' and B-B' 1960-1982 Webster Avenue Bronx, NY 10457
PREPARED FOR	Webster Avenue Housing Development Fund Corporation
Environmental Resources Management	FIGURE 2-1

DRAWN BY	SCALE	DATE	JOB NO.
EMF	GRAPHIC	07/08/16	0261877

C:\Users\edyta.korczynska\Desktop\New folder\2016-08 - Mountco - Geologic Cross Sections.dwg (07/22/2016 - 8:07am Melville)



Legend

Groundwater Flow Direction

Property Boundary and tax outline

0 30 60

GRAPHIC SCALE IN FEET

TITLE

Groundwater Flow Map
1960-1982 Webster Avenue
Bronx, NY 10457

PREPARED FOR

Webster Ave Housing Development Fund Corporation

Environmental Resources Management

DRAWN BY	SCALE	DATE	JOB NO.	FIGURE
EMF	GRAPHIC	07/08/16	0295737	2-2

C:\Users\edyta.korczynska\Desktop\New folder\2016-06- Webster Ave - Groundwater Flow Map.dwg (07/22/2016 - 8:11am Melville)

ERMSB-07		Restricted Residential Use	14.00 09/17/13
Constituent	Units	SCO	
Benzo(a)anthracene	(ug/kg)	1000	33 U
Benzo(a)pyrene	(ug/kg)	1000	33 U
Benzo(b)fluoranthene	(ug/kg)	1000	33 U
Chrysene	(ug/kg)	3900	33 U
Indeno(1,2,3-cd)pyrene	(ug/kg)	500	33 U
Barium	(mg/kg)	400	66.2
Chromium	(mg/kg)	36	[38.9]

SB-5		Restricted Residential Use	2.00 09/17/13
Constituent	Units	SCO	
Barium	(mg/kg)	400	[2870]
Copper	(mg/kg)	270	131
Lead	(mg/kg)	400	[3120]

SB-8		Restricted Residential Use	12.00 09/17/13
Constituent	Units	SCO	
Copper	(mg/kg)	270	[418]
Lead	(mg/kg)	400	[726]

ERMSB-06		Restricted Residential Use	14.00 09/17/13
Constituent	Units	SCO	
Chromium	(ug/kg)	36	[46.4]

Legend

- Soil Boring Location
- Property Boundary & Proposed Tax Outline
- U — Not Detected
- 12.00 — Sample Depth

mg/kg - Milligrams per Kilogram
ug/kg - Micrograms per Liter

0 50 100
GRAPHIC SCALE IN FEET

TITLE
Pre-Remedial Soil Sampling Results Exceeding Restricted Residential SCO
1960-1982 Webster Avenue
Bronx, NY 10457

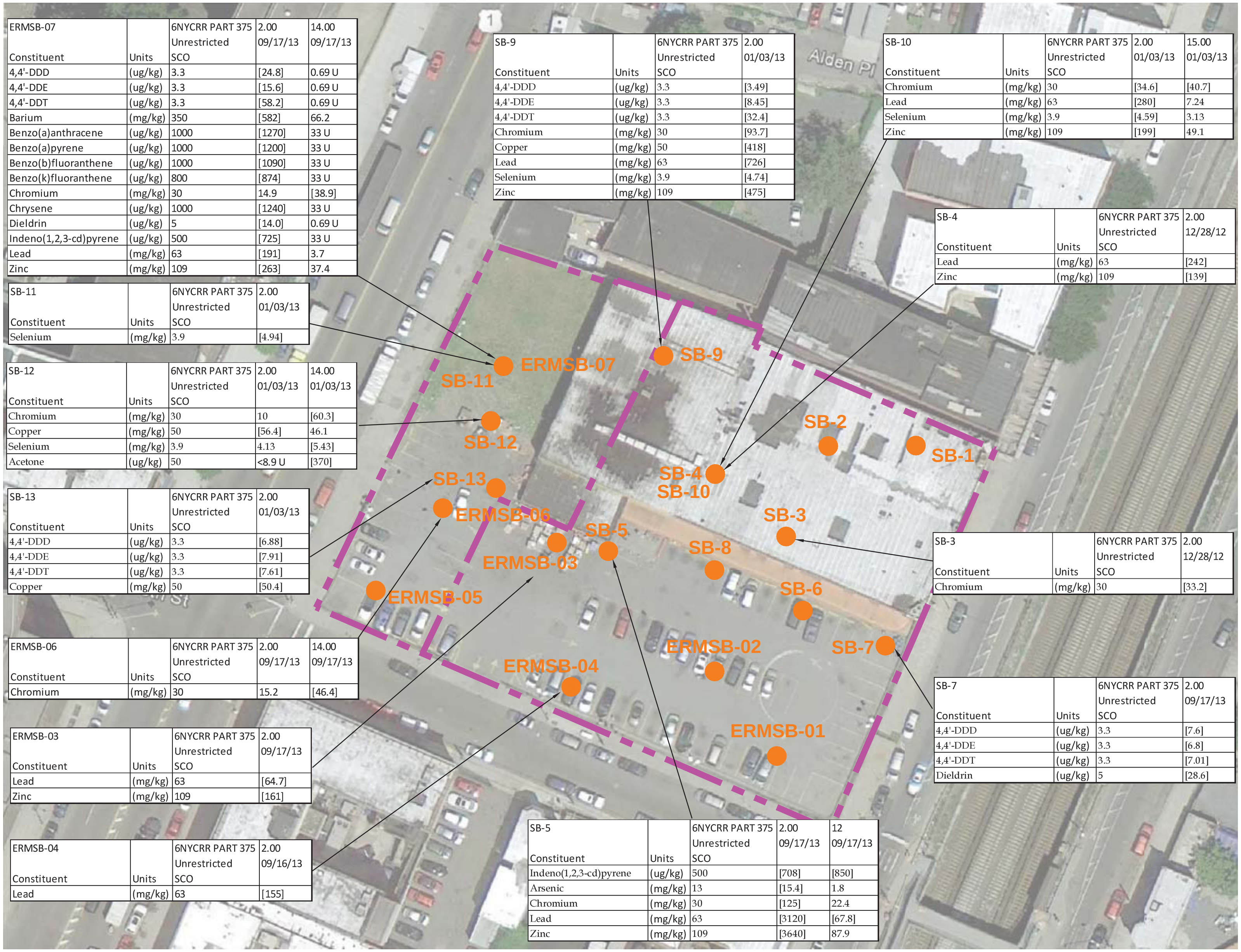
PREPARED FOR
Webster Ave Housing Development Fund Corporation

ERM Environmental Resources Management

FIGURE 2-3

DRAWN BY	SCALE	DATE	JOB NO.
EMF	GRAPHIC	07/25/16	0295737

R:\Scout\Projects\Mountco - Webster Ave, Bronx NYC\CAD\2016 SMP\2016-06 - Webster Ave - Pre-Remedial Soil Sampling Results Exceeding RRSCO.dwg (07/26/2016 - 7:46am Melville)



ERMSB-07 Constituent	Units	6NYCRR PART 375 Unrestricted SCO	2.00 09/17/13	14.00 09/17/13
4,4'-DDD	(ug/kg)	3.3	[24.8]	0.69 U
4,4'-DDE	(ug/kg)	3.3	[15.6]	0.69 U
4,4'-DDT	(ug/kg)	3.3	[58.2]	0.69 U
Barium	(mg/kg)	350	[582]	66.2
Benzo(a)anthracene	(ug/kg)	1000	[1270]	33 U
Benzo(a)pyrene	(ug/kg)	1000	[1200]	33 U
Benzo(b)fluoranthene	(ug/kg)	1000	[1090]	33 U
Benzo(k)fluoranthene	(ug/kg)	800	[874]	33 U
Chromium	(mg/kg)	30	14.9	[38.9]
Chrysene	(ug/kg)	1000	[1240]	33 U
Dieldrin	(ug/kg)	5	[14.0]	0.69 U
Indeno(1,2,3-cd)pyrene	(ug/kg)	500	[725]	33 U
Lead	(mg/kg)	63	[191]	3.7
Zinc	(mg/kg)	109	[263]	37.4

SB-11 Constituent	Units	6NYCRR PART 375 Unrestricted SCO	2.00 01/03/13
Selenium	(mg/kg)	3.9	[4.94]

SB-12 Constituent	Units	6NYCRR PART 375 Unrestricted SCO	2.00 01/03/13	14.00 01/03/13
Chromium	(mg/kg)	30	10	[60.3]
Copper	(mg/kg)	50	[56.4]	46.1
Selenium	(mg/kg)	3.9	4.13	[5.43]
Acetone	(ug/kg)	50	<8.9 U	[370]

SB-13 Constituent	Units	6NYCRR PART 375 Unrestricted SCO	2.00 01/03/13
4,4'-DDD	(ug/kg)	3.3	[6.88]
4,4'-DDE	(ug/kg)	3.3	[7.91]
4,4'-DDT	(ug/kg)	3.3	[7.61]
Copper	(mg/kg)	50	[50.4]

ERMSB-06 Constituent	Units	6NYCRR PART 375 Unrestricted SCO	2.00 09/17/13	14.00 09/17/13
Chromium	(mg/kg)	30	15.2	[46.4]

ERMSB-03 Constituent	Units	6NYCRR PART 375 Unrestricted SCO	2.00 09/17/13
Lead	(mg/kg)	63	[64.7]
Zinc	(mg/kg)	109	[161]

ERMSB-04 Constituent	Units	6NYCRR PART 375 Unrestricted SCO	2.00 09/16/13
Lead	(mg/kg)	63	[155]

SB-9 Constituent	Units	6NYCRR PART 375 Unrestricted SCO	2.00 01/03/13
4,4'-DDD	(ug/kg)	3.3	[3.49]
4,4'-DDE	(ug/kg)	3.3	[8.45]
4,4'-DDT	(ug/kg)	3.3	[32.4]
Chromium	(mg/kg)	30	[93.7]
Copper	(mg/kg)	50	[418]
Lead	(mg/kg)	63	[726]
Selenium	(mg/kg)	3.9	[4.74]
Zinc	(mg/kg)	109	[475]

SB-10 Constituent	Units	6NYCRR PART 375 Unrestricted SCO	2.00 01/03/13	15.00 01/03/13
Chromium	(mg/kg)	30	[34.6]	[40.7]
Lead	(mg/kg)	63	[280]	7.24
Selenium	(mg/kg)	3.9	[4.59]	3.13
Zinc	(mg/kg)	109	[199]	49.1

SB-4 Constituent	Units	6NYCRR PART 375 Unrestricted SCO	2.00 12/28/12
Lead	(mg/kg)	63	[242]
Zinc	(mg/kg)	109	[139]

SB-3 Constituent	Units	6NYCRR PART 375 Unrestricted SCO	2.00 12/28/12
Chromium	(mg/kg)	30	[33.2]

SB-7 Constituent	Units	6NYCRR PART 375 Unrestricted SCO	2.00 09/17/13
4,4'-DDD	(ug/kg)	3.3	[7.6]
4,4'-DDE	(ug/kg)	3.3	[6.8]
4,4'-DDT	(ug/kg)	3.3	[7.01]
Dieldrin	(ug/kg)	5	[28.6]

SB-5 Constituent	Units	6NYCRR PART 375 Unrestricted SCO	2.00 09/17/13	12 09/17/13
Indeno(1,2,3-cd)pyrene	(ug/kg)	500	[708]	[850]
Arsenic	(mg/kg)	13	[15.4]	1.8
Chromium	(mg/kg)	30	[125]	22.4
Lead	(mg/kg)	63	[3120]	[67.8]
Zinc	(mg/kg)	109	[3640]	87.9

Legend

- Soil Boring Location
- Property Boundary & Proposed Tax Outline
- U — Not Detected
- 2.00 — Sample Depth

mg/kg - Milligrams per Kilogram
ug/kg - Micrograms per Kilogram

0 50 100
GRAPHIC SCALE IN FEET

TITLE
Pre-Remedial Soil Sampling Results Exceeding Unrestricted SCO
1960-1982 Webster Avenue
Bronx, NY 10457

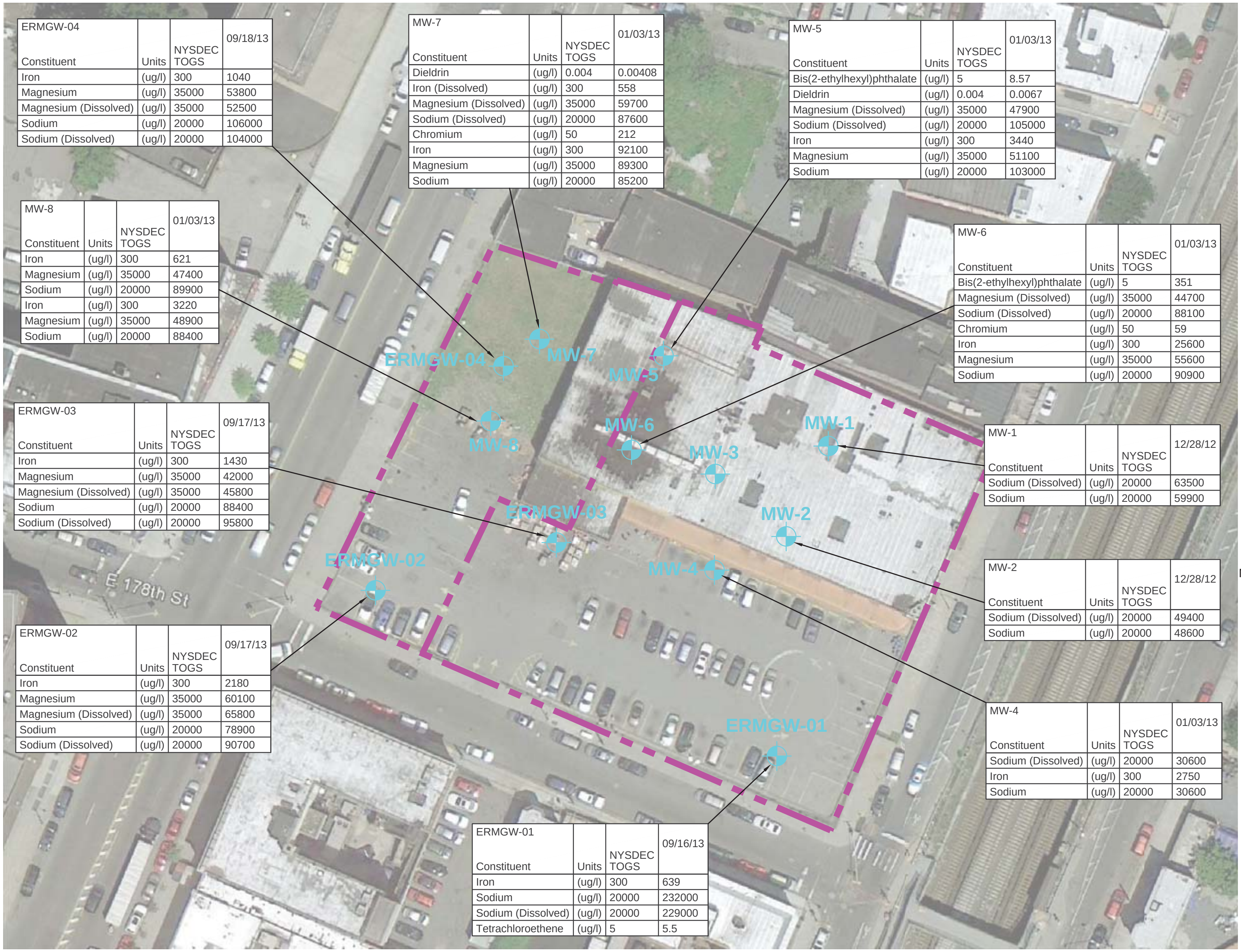
PREPARED FOR
Webster Ave Housing Development Fund Corporation

Environmental Resources Management

FIGURE
2-4

DRAWN BY	SCALE	DATE	JOB NO.
EMF	GRAPHIC	07/25/16	0295737

R:\Scout\Projects\Mountco - Webster Ave, Bronx NYC\CAD\2016 SMP\2016-06- Webster Ave - Pre-Remedial Soil Sampling Results Exceeding UR SCO - v02.dwg (07/26/2016 - 7:45am Melville)



ERMGW-04 Constituent	Units	NYSDEC TOGS	09/18/13
Iron	(ug/l)	300	1040
Magnesium	(ug/l)	35000	53800
Magnesium (Dissolved)	(ug/l)	35000	52500
Sodium	(ug/l)	20000	106000
Sodium (Dissolved)	(ug/l)	20000	104000

MW-7 Constituent	Units	NYSDEC TOGS	01/03/13
Dieldrin	(ug/l)	0.004	0.00408
Iron (Dissolved)	(ug/l)	300	558
Magnesium (Dissolved)	(ug/l)	35000	59700
Sodium (Dissolved)	(ug/l)	20000	87600
Chromium	(ug/l)	50	212
Iron	(ug/l)	300	92100
Magnesium	(ug/l)	35000	89300
Sodium	(ug/l)	20000	85200

MW-5 Constituent	Units	NYSDEC TOGS	01/03/13
Bis(2-ethylhexyl)phthalate	(ug/l)	5	8.57
Dieldrin	(ug/l)	0.004	0.0067
Magnesium (Dissolved)	(ug/l)	35000	47900
Sodium (Dissolved)	(ug/l)	20000	105000
Iron	(ug/l)	300	3440
Magnesium	(ug/l)	35000	51100
Sodium	(ug/l)	20000	103000

MW-8 Constituent	Units	NYSDEC TOGS	01/03/13
Iron	(ug/l)	300	621
Magnesium	(ug/l)	35000	47400
Sodium	(ug/l)	20000	89900
Iron	(ug/l)	300	3220
Magnesium	(ug/l)	35000	48900
Sodium	(ug/l)	20000	88400

MW-6 Constituent	Units	NYSDEC TOGS	01/03/13
Bis(2-ethylhexyl)phthalate	(ug/l)	5	351
Magnesium (Dissolved)	(ug/l)	35000	44700
Sodium (Dissolved)	(ug/l)	20000	88100
Chromium	(ug/l)	50	59
Iron	(ug/l)	300	25600
Magnesium	(ug/l)	35000	55600
Sodium	(ug/l)	20000	90900

ERMGW-03 Constituent	Units	NYSDEC TOGS	09/17/13
Iron	(ug/l)	300	1430
Magnesium	(ug/l)	35000	42000
Magnesium (Dissolved)	(ug/l)	35000	45800
Sodium	(ug/l)	20000	88400
Sodium (Dissolved)	(ug/l)	20000	95800

MW-1 Constituent	Units	NYSDEC TOGS	12/28/12
Sodium (Dissolved)	(ug/l)	20000	63500
Sodium	(ug/l)	20000	59900

MW-2 Constituent	Units	NYSDEC TOGS	12/28/12
Sodium (Dissolved)	(ug/l)	20000	49400
Sodium	(ug/l)	20000	48600

ERMGW-02 Constituent	Units	NYSDEC TOGS	09/17/13
Iron	(ug/l)	300	2180
Magnesium	(ug/l)	35000	60100
Magnesium (Dissolved)	(ug/l)	35000	65800
Sodium	(ug/l)	20000	78900
Sodium (Dissolved)	(ug/l)	20000	90700

MW-4 Constituent	Units	NYSDEC TOGS	01/03/13
Sodium (Dissolved)	(ug/l)	20000	30600
Iron	(ug/l)	300	2750
Sodium	(ug/l)	20000	30600

ERMGW-01 Constituent	Units	NYSDEC TOGS	09/16/13
Iron	(ug/l)	300	639
Sodium	(ug/l)	20000	232000
Sodium (Dissolved)	(ug/l)	20000	229000
Tetrachloroethene	(ug/l)	5	5.5

Legend

Groundwater Sample Location

Property Boundary & Proposed Tax Outline

ug/l — micrograms per liter

NYSDEC TOGS — Division of Water Technical & Operational Guidance Series (1.1.1) Ambient Water Quality Standards & Guidance Values

0 50 100

GRAPHIC SCALE IN FEET

TITLE

Pre-Remedial Groundwater Contamination Summary
1960-1982 Webster Avenue
Bronx, NY 10457

PREPARED FOR

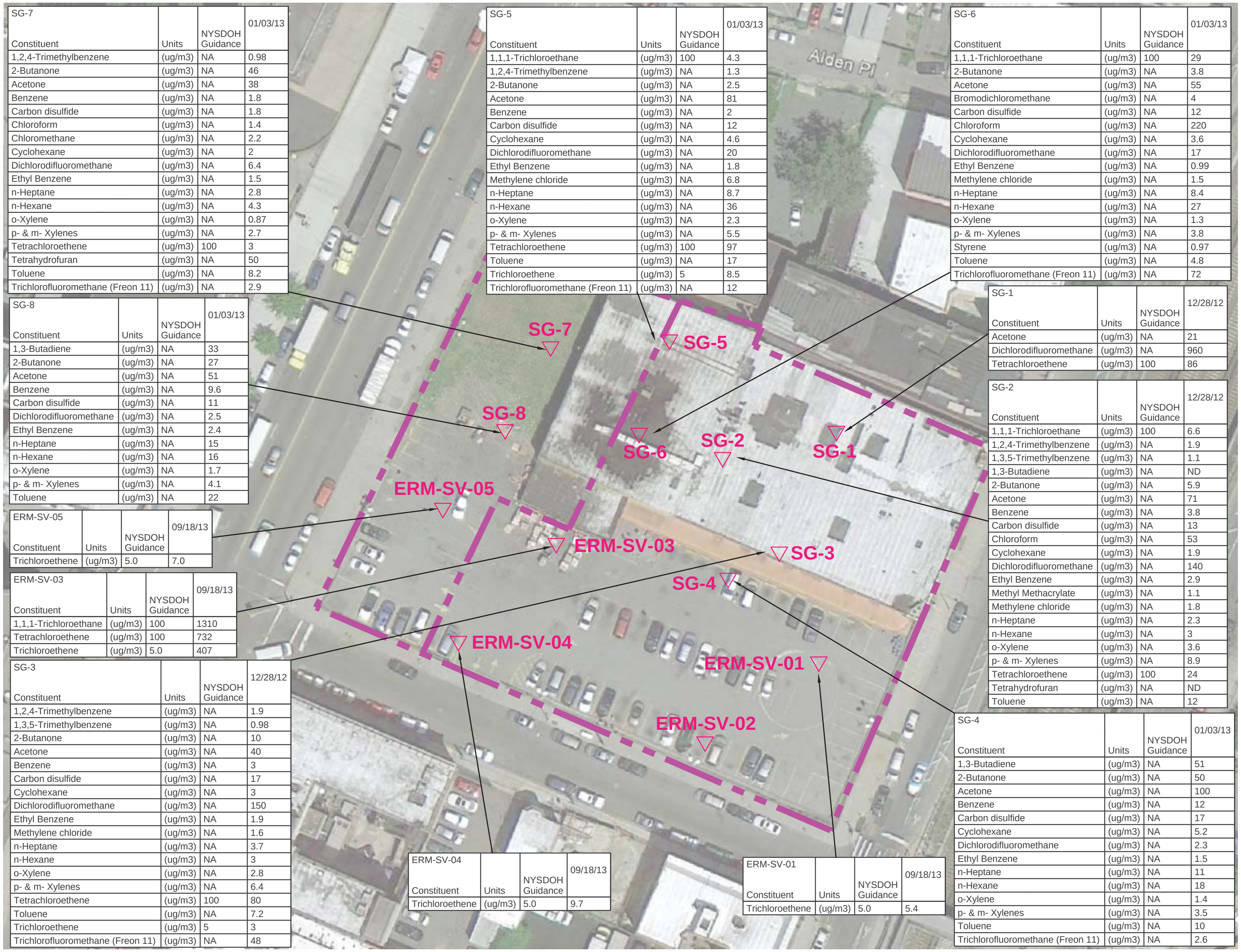
Webster Avenue Housing Development and Fund Corporation

ERM Environmental Resources Management

FIGURE 2-5

DRAWN BY	SCALE	DATE	JOB NO.
EMF	GRAPHIC	07/08/16	0261877

C:\Users\edyta.korczynska\Desktop\New folder\2016-08 - Mountco - GW Exceedances.dwg (07/22/2016 - 8:28am Melville)



SG-7 Constituent	Units	NYSDOH Guidance	01/03/13
1,2,4-Trimethylbenzene	(ug/m3)	NA	0.98
2-Butanone	(ug/m3)	NA	46
Acetone	(ug/m3)	NA	38
Benzene	(ug/m3)	NA	1.8
Carbon disulfide	(ug/m3)	NA	1.8
Chloroform	(ug/m3)	NA	1.4
Chloromethane	(ug/m3)	NA	2.2
Cyclohexane	(ug/m3)	NA	2
Dichlorodifluoromethane	(ug/m3)	NA	6.4
Ethyl Benzene	(ug/m3)	NA	1.5
n-Heptane	(ug/m3)	NA	2.8
n-Hexane	(ug/m3)	NA	4.3
o-Xylene	(ug/m3)	NA	0.87
p- & m- Xylenes	(ug/m3)	NA	2.7
Tetrachloroethene	(ug/m3)	100	3
Tetrahydrofuran	(ug/m3)	NA	50
Toluene	(ug/m3)	NA	8.2
Trichlorofluoromethane (Freon 11)	(ug/m3)	NA	2.9

SG-5 Constituent	Units	NYSDOH Guidance	01/03/13
1,1,1-Trichloroethane	(ug/m3)	100	4.3
1,2,4-Trimethylbenzene	(ug/m3)	NA	1.3
2-Butanone	(ug/m3)	NA	2.5
Acetone	(ug/m3)	NA	81
Benzene	(ug/m3)	NA	2
Carbon disulfide	(ug/m3)	NA	12
Cyclohexane	(ug/m3)	NA	4.6
Dichlorodifluoromethane	(ug/m3)	NA	20
Ethyl Benzene	(ug/m3)	NA	1.8
Methylene chloride	(ug/m3)	NA	6.8
n-Heptane	(ug/m3)	NA	8.7
n-Hexane	(ug/m3)	NA	36
o-Xylene	(ug/m3)	NA	2.3
p- & m- Xylenes	(ug/m3)	NA	5.5
Tetrachloroethene	(ug/m3)	100	97
Toluene	(ug/m3)	NA	17
Trichloroethene	(ug/m3)	5	8.5
Trichlorofluoromethane (Freon 11)	(ug/m3)	NA	12

SG-6 Constituent	Units	NYSDOH Guidance	01/03/13
1,1,1-Trichloroethane	(ug/m3)	100	29
2-Butanone	(ug/m3)	NA	3.8
Acetone	(ug/m3)	NA	55
Bromodichloromethane	(ug/m3)	NA	4
Carbon disulfide	(ug/m3)	NA	12
Chloroform	(ug/m3)	NA	220
Cyclohexane	(ug/m3)	NA	3.6
Dichlorodifluoromethane	(ug/m3)	NA	17
Ethyl Benzene	(ug/m3)	NA	0.99
Methylene chloride	(ug/m3)	NA	1.5
n-Heptane	(ug/m3)	NA	8.4
n-Hexane	(ug/m3)	NA	27
o-Xylene	(ug/m3)	NA	1.3
p- & m- Xylenes	(ug/m3)	NA	3.8
Styrene	(ug/m3)	NA	0.97
Toluene	(ug/m3)	NA	4.8
Trichlorofluoromethane (Freon 11)	(ug/m3)	NA	72

SG-8 Constituent	Units	NYSDOH Guidance	01/03/13
1,3-Butadiene	(ug/m3)	NA	33
2-Butanone	(ug/m3)	NA	27
Acetone	(ug/m3)	NA	51
Benzene	(ug/m3)	NA	9.6
Carbon disulfide	(ug/m3)	NA	11
Dichlorodifluoromethane	(ug/m3)	NA	2.5
Ethyl Benzene	(ug/m3)	NA	2.4
n-Heptane	(ug/m3)	NA	15
n-Hexane	(ug/m3)	NA	16
o-Xylene	(ug/m3)	NA	1.7
p- & m- Xylenes	(ug/m3)	NA	4.1
Toluene	(ug/m3)	NA	22

SG-1 Constituent	Units	NYSDOH Guidance	12/28/12
Acetone	(ug/m3)	NA	21
Dichlorodifluoromethane	(ug/m3)	NA	960
Tetrachloroethene	(ug/m3)	100	86

SG-2 Constituent	Units	NYSDOH Guidance	12/28/12
1,1,1-Trichloroethane	(ug/m3)	100	6.6
1,2,4-Trimethylbenzene	(ug/m3)	NA	1.9
1,3,5-Trimethylbenzene	(ug/m3)	NA	1.1
1,3-Butadiene	(ug/m3)	NA	ND
2-Butanone	(ug/m3)	NA	5.9
Acetone	(ug/m3)	NA	71
Benzene	(ug/m3)	NA	3.8
Carbon disulfide	(ug/m3)	NA	13
Chloroform	(ug/m3)	NA	53
Cyclohexane	(ug/m3)	NA	1.9
Dichlorodifluoromethane	(ug/m3)	NA	140
Ethyl Benzene	(ug/m3)	NA	2.9
Methyl Methacrylate	(ug/m3)	NA	1.1
Methylene chloride	(ug/m3)	NA	1.8
n-Heptane	(ug/m3)	NA	2.3
n-Hexane	(ug/m3)	NA	3
o-Xylene	(ug/m3)	NA	3.6
p- & m- Xylenes	(ug/m3)	NA	8.9
Tetrachloroethene	(ug/m3)	100	24
Tetrahydrofuran	(ug/m3)	NA	ND
Toluene	(ug/m3)	NA	12

ERM-SV-05 Constituent	Units	NYSDOH Guidance	09/18/13
Trichloroethene	(ug/m3)	5.0	7.0

ERM-SV-03 Constituent	Units	NYSDOH Guidance	09/18/13
1,1,1-Trichloroethane	(ug/m3)	100	1310
Tetrachloroethene	(ug/m3)	100	732
Trichloroethene	(ug/m3)	5.0	407

SG-3 Constituent	Units	NYSDOH Guidance	12/28/12
1,2,4-Trimethylbenzene	(ug/m3)	NA	1.9
1,3,5-Trimethylbenzene	(ug/m3)	NA	0.98
2-Butanone	(ug/m3)	NA	10
Acetone	(ug/m3)	NA	40
Benzene	(ug/m3)	NA	3
Carbon disulfide	(ug/m3)	NA	17
Cyclohexane	(ug/m3)	NA	3
Dichlorodifluoromethane	(ug/m3)	NA	150
Ethyl Benzene	(ug/m3)	NA	1.9
Methylene chloride	(ug/m3)	NA	1.6
n-Heptane	(ug/m3)	NA	3.7
n-Hexane	(ug/m3)	NA	3
o-Xylene	(ug/m3)	NA	2.8
p- & m- Xylenes	(ug/m3)	NA	6.4
Tetrachloroethene	(ug/m3)	100	80
Toluene	(ug/m3)	NA	7.2
Trichloroethene	(ug/m3)	5	3
Trichlorofluoromethane (Freon 11)	(ug/m3)	NA	48

ERM-SV-04 Constituent	Units	NYSDOH Guidance	09/18/13
Trichloroethene	(ug/m3)	5.0	9.7

ERM-SV-01 Constituent	Units	NYSDOH Guidance	09/18/13
Trichloroethene	(ug/m3)	5.0	5.4

SG-4 Constituent	Units	NYSDOH Guidance	01/03/13
1,3-Butadiene	(ug/m3)	NA	51
2-Butanone	(ug/m3)	NA	50
Acetone	(ug/m3)	NA	100
Benzene	(ug/m3)	NA	12
Carbon disulfide	(ug/m3)	NA	17
Cyclohexane	(ug/m3)	NA	5.2
Dichlorodifluoromethane	(ug/m3)	NA	2.3
Ethyl Benzene	(ug/m3)	NA	1.5
n-Heptane	(ug/m3)	NA	11
n-Hexane	(ug/m3)	NA	18
o-Xylene	(ug/m3)	NA	1.4
p- & m- Xylenes	(ug/m3)	NA	3.5
Toluene	(ug/m3)	NA	10
Trichlorofluoromethane (Freon 11)	(ug/m3)	NA	2.6

Legend

Soil Vapor Location

Property Boundary & Proposed Tax Outline

ug/m³ - Micrograms per Cubic Meter

0 50 100

GRAPHIC SCALE IN FEET

TITLE

Pre-Remedial Soil Vapor Data
1960-1982 Webster Avenue
Bronx, NY 10457

PREPARED FOR Webster Avenue Housing Development Fund Corporation

ERM Environmental Resources Management

FIGURE 2-6

DRAWN BY	SCALE	DATE	JOB NO.
EMF	GRAPHIC	07/08/16	02618775

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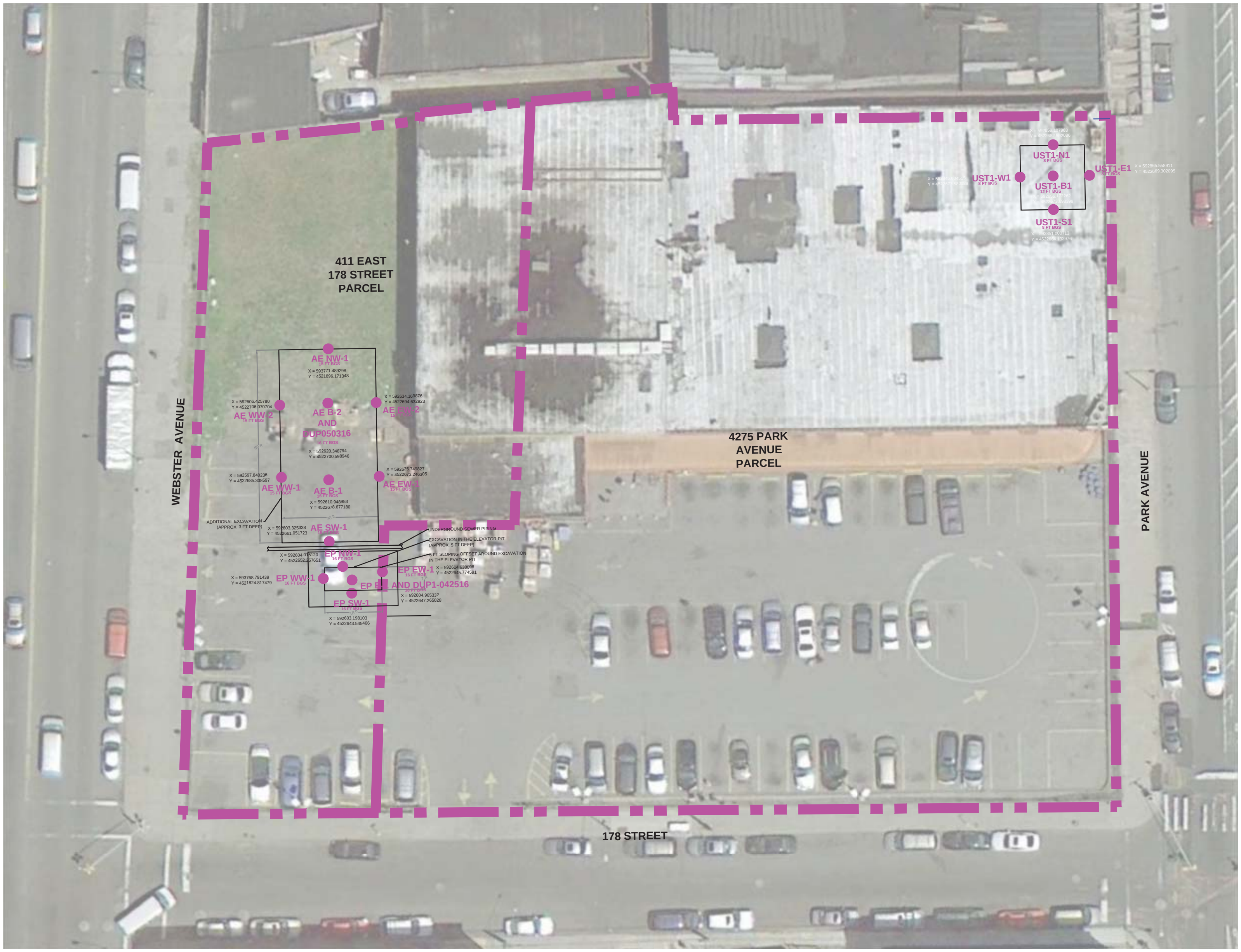


Legend

Property Boundary and tax outline

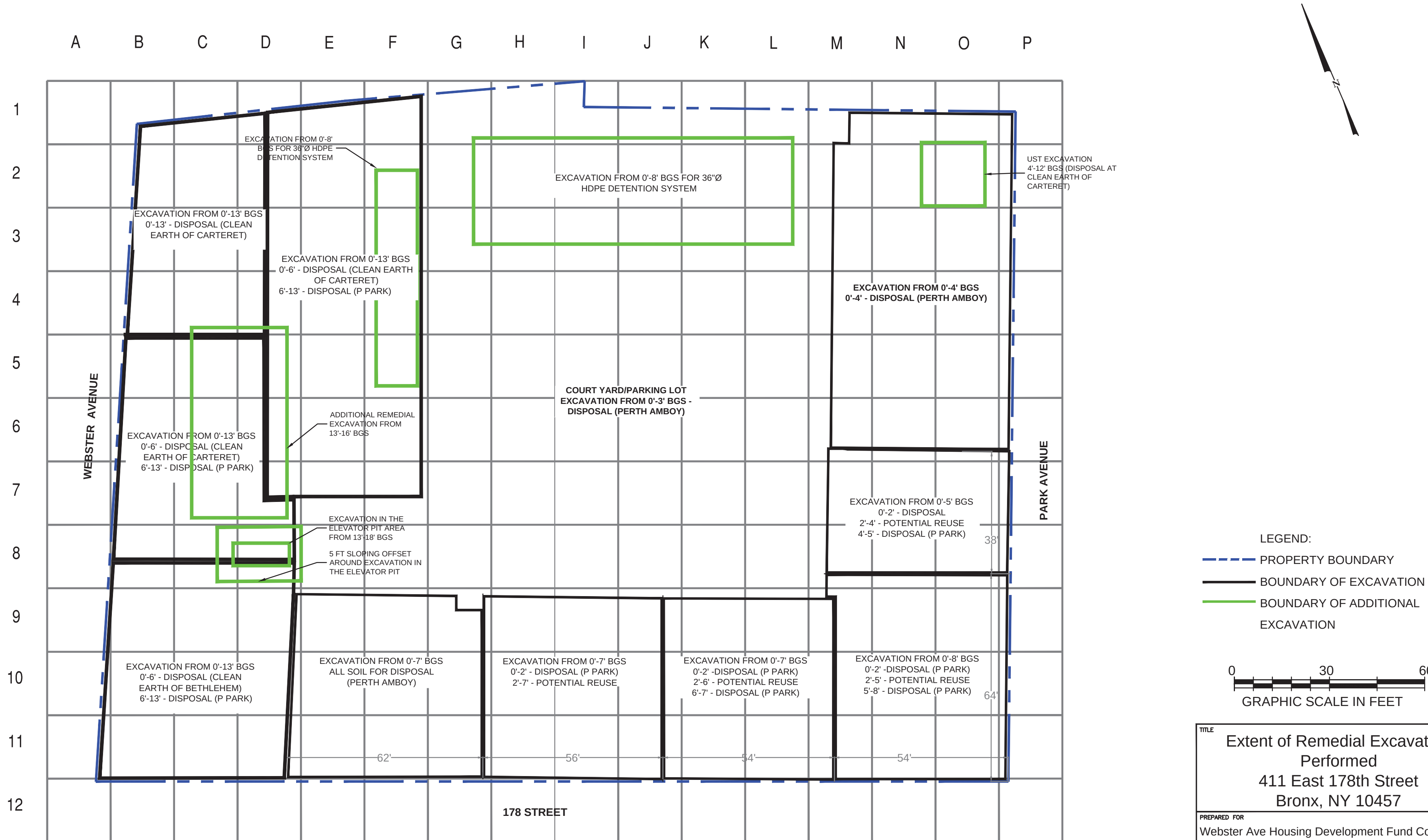
Endpoint/Confirmatory Soil Sample Locations

0 30 60

GRAPHIC SCALE IN FEET

TITLE	Endpoint/Confirmatory Soil Samples Location 1960-1982 Webster Avenue Bronx, NY 10457		
PREPARED FOR	Webster Ave Housing Development Fund Corporation		
ERM Environmental Resources Management			FIGURE 2-7
DRAWN BY EMF	SCALE GRAPHIC	DATE 7/12/16	JOB NO. 0295737

C:\Users\edyta.korczynska\Desktop\New folder\2016-06- Webster Ave - Sampling Location.dwg (07/22/2016 - 8:51am Melville)



SOURCE: COOKFOX ARCHITECTS, LLP, 641 AVENUE OF THE AMERICAS, FLOOR 8, NEW YORK, NY 10011,
DRAWING AND UTILITY PLAN, PROJECT # 13247, DRAWING NO C-100-.06

TITLE

Extent of Remedial Excavation Performed
411 East 178th Street
Bronx, NY 10457

PREPARED FOR

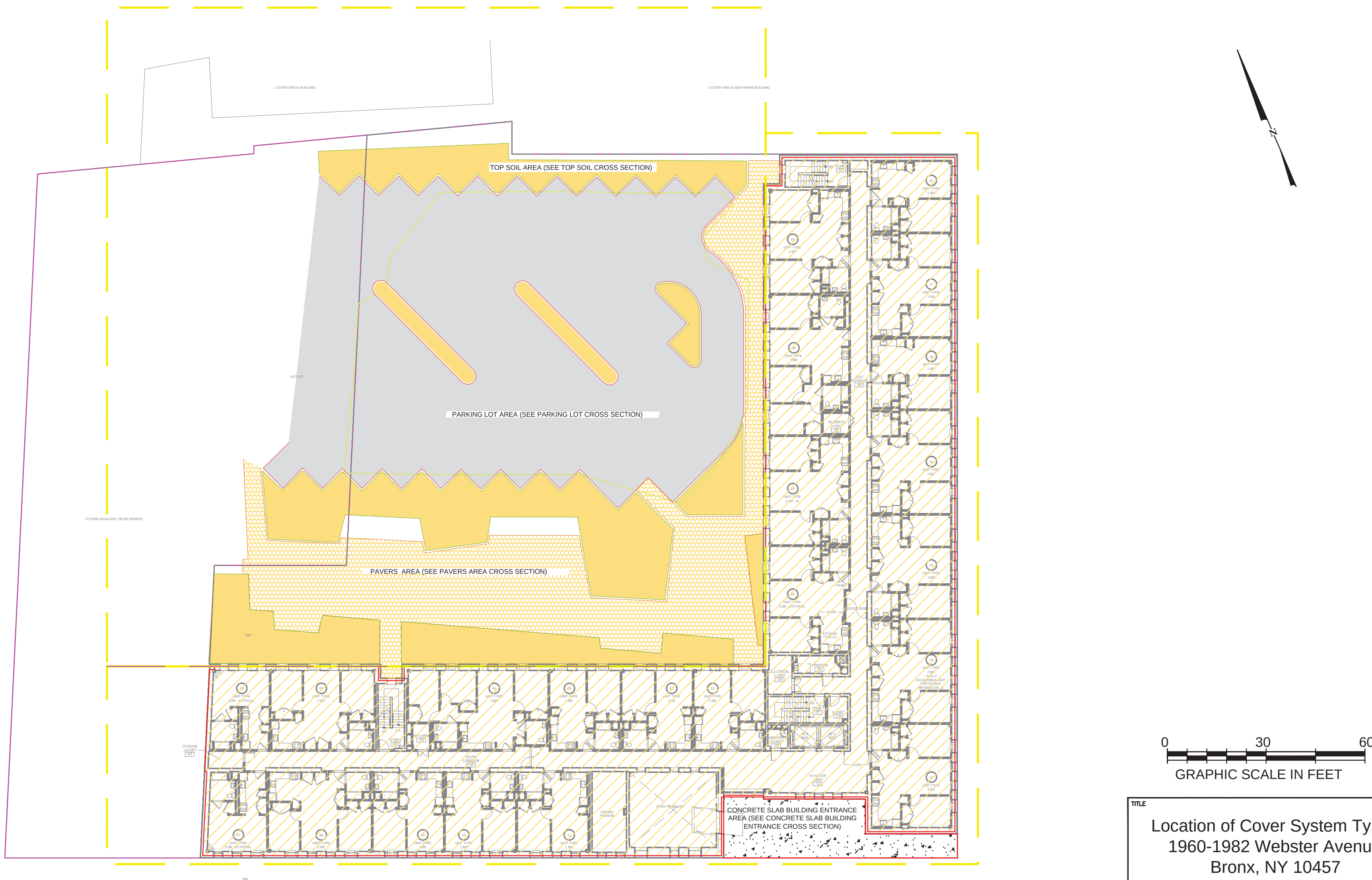
Webster Ave Housing Development Fund Corporation

ERM Environmental Resources Management

FIGURE 2-8

DRAWN BY	SCALE	DATE	JOB NO.
EMF/EK	NONE	7/11/16	0295737

C:\Users\edyta.korczynska\Desktop\New folder\2016-07 - Extent of Remedial Excavation Performed.DWG (07/22/2016 - 9:28am Melville)



SOURCE: COOKFOX ARCHITECTS, LLP, 641 AVENUE OF THE AMERICAS, FLOOR 8, NEW YORK, NY 10011,
DRAWING AND UTILITY PLAN, PROJECT # 13247, DRAWING NO C-100-.06

TITLE

Location of Cover System Types
1960-1982 Webster Avenue
Bronx, NY 10457

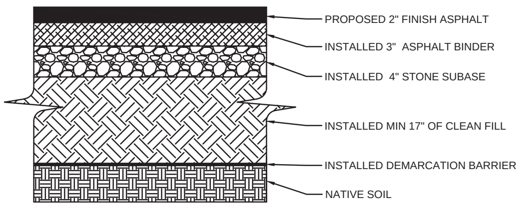
PREPARED FOR

Webster Ave Housing Development Fund Corporation

Environmental Resources Management

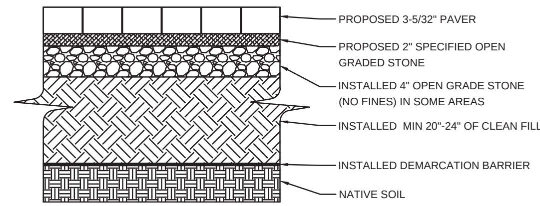
DRAWN BY	SCALE	DATE	JOB NO.	FIGURE
EMF/EK	1:30	7/11/16	0295737	2-9

C:\Users\edyta.korczynska\Desktop\2016-07 - types of cover.DWG (07/22/2016 - 8:46am Melville)



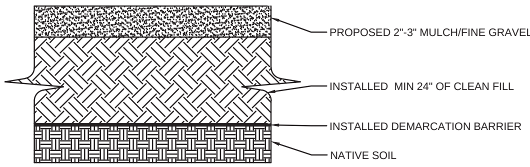
PARKING LOT
CROSS SECTION
N.T.S.

PARKING LOT NOTES:
1. PROPOSED 2" FINISHED ASPHALT WILL BE INSTALLED AT THE END OF THE PROJECT AND IS NOT INCLUDED IN THE 10/15/15 SURVEY



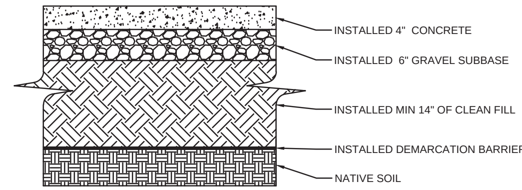
PAVERS AREA
CROSS SECTION
N.T.S.

PAVERS AREA NOTES:
1. PROPOSED 3-5/32" PAVER AND 2" SPECIFIED OPEN GRADED STONE WILL BE INSTALLED AT THE END OF THE PROJECT AND ARE NOT INCLUDED IN THE 10/15/15 SURVEY

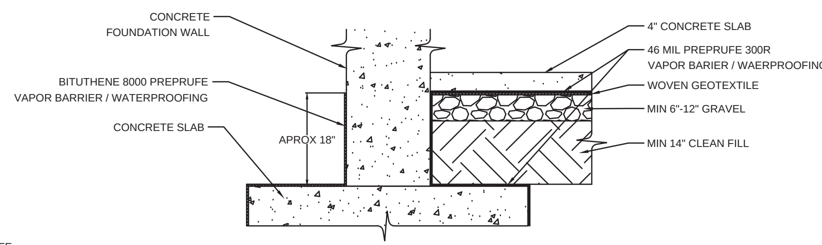


TOP SOIL
CROSS SECTION
N.T.S.

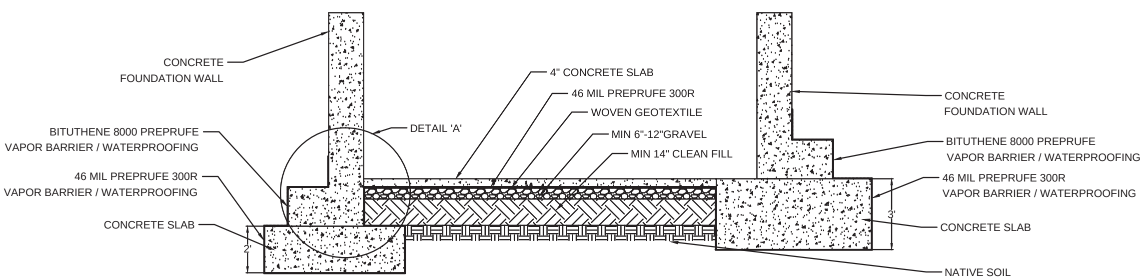
TOP SOIL NOTES:
1. PROPOSED 2"-3" MULCH/FINE GRAVEL WILL BE INSTALLED AT THE END OF THE PROJECT AND IS NOT INCLUDED IN THE 10/15/15 SURVEY



CONCRETE SLAB
BUILDING ENTRANCE
CROSS SECTION
N.T.S.



DETAIL 'A'
N.T.S.



TYPICAL 4275 PARK AVE BUILDING
CROSS SECTION
N.T.S.

TITLE
Location of Cover System Types
Cross Sections
1960-1982 Webster Avenue
Bronx, NY 10457

PREPARED FOR
Webster Ave Housing Development Fund Corporation

ERM Environmental Resources Management

FIGURE
2-10

DRAWN BY	SCALE	DATE	JOB NO.
EK	NONE	7/12/16	0295737

C:\Users\edyta.korczynska\Desktop\New folder\2016-07 - types of cover.DWG (07/22/2016 - 9:41am Melville)

ERMSB-07		6NYCRR PART 375 Unrestricted	14.00
Constituent	Units	SCO	09/17/13
Chromium	(mg/kg)	30	[38.9]

SB-10		6NYCRR PART 375 Unrestricted	15.00
Constituent	Units	SCO	01/03/13
Chromium	(mg/kg)	30	[40.7]

SB-12		6NYCRR PART 375 Unrestricted	14.00
Constituent	Units	SCO	01/03/13
Chromium	(mg/kg)	30	[60.3]
Copper	(mg/kg)	50	[46.1]
Selenium	(mg/kg)	3.9	[5.43]
Acetone	(ug/kg)	50	[370]

ERMSB-06		6NYCRR PART 375 Unrestricted	14.00
Constituent	Units	SCO	09/17/13
Chromium	(mg/kg)	30	[46.4]

SB-5		6NYCRR PART 375 Unrestricted	12.00
Constituent	Units	SCO	09/17/13
Indeno(1,2,3-cd)pyrene	(ug/kg)	500	[850]
Lead	(mg/kg)	63	[67.8]

Legend

- Soil Boring Location
- Property Boundary & Proposed Tax Outline
- U Not Detected
- 14.00 Depth

mg/kg - Milligrams per Kilogram
ug/kg - Micrograms per Kilogram

0 50 100
GRAPHIC SCALE IN FEET

TITLE
Post-Remedial Soil Contamination
Above Unrestricted Levels
1960-1982 Webster Avenue
Bronx, NY 10457

PREPARED FOR
Webster Ave Housing Development Fund Corporation

ERM Environmental Resources Management

DRAWN BY	SCALE	DATE	JOB NO.	FIGURE
EMF	GRAPHIC	07/25/16	0295737	2-11

R:\Scout\Projects\Mountco - Webster Ave, Bronx NYCAD\2016 SMP\2016-06- Webster Ave - Post-Remedial Unrestricted Soil Exceedances.dwg (07/26/2016 - 7:48am Melville)

ERMSB-07		Restricted Residential Use	14.00 09/17/13
Constituent	Units	SCO	
Chromium	(mg/kg)	36	38.9

ERMSB-06		Restricted Residential Use	14.00 09/17/13
Constituent	Units	SCO	
Chromium	(ug/kg)	36	46.4

SB-8		Restricted Residential Use	12.00 09/17/13
Constituent	Units	SCO	
Copper	(mg/kg)	270	418
Lead	(mg/kg)	400	726

N

Legend

Soil Boring Location

Property Boundary & Proposed Tax Outline

U Not Detected

12.00 Depth

mg/kg - Milligrams per Kilogram
ug/kg - Micrograms per Kilogram

0 50 100

GRAPHIC SCALE IN FEET

TITLE

Post-Remedial Soil Contamination Above Restricted Residential or Protection of Groundwater Levels
1960-1982 Webster Avenue
Bronx, NY 10457

PREPARED FOR

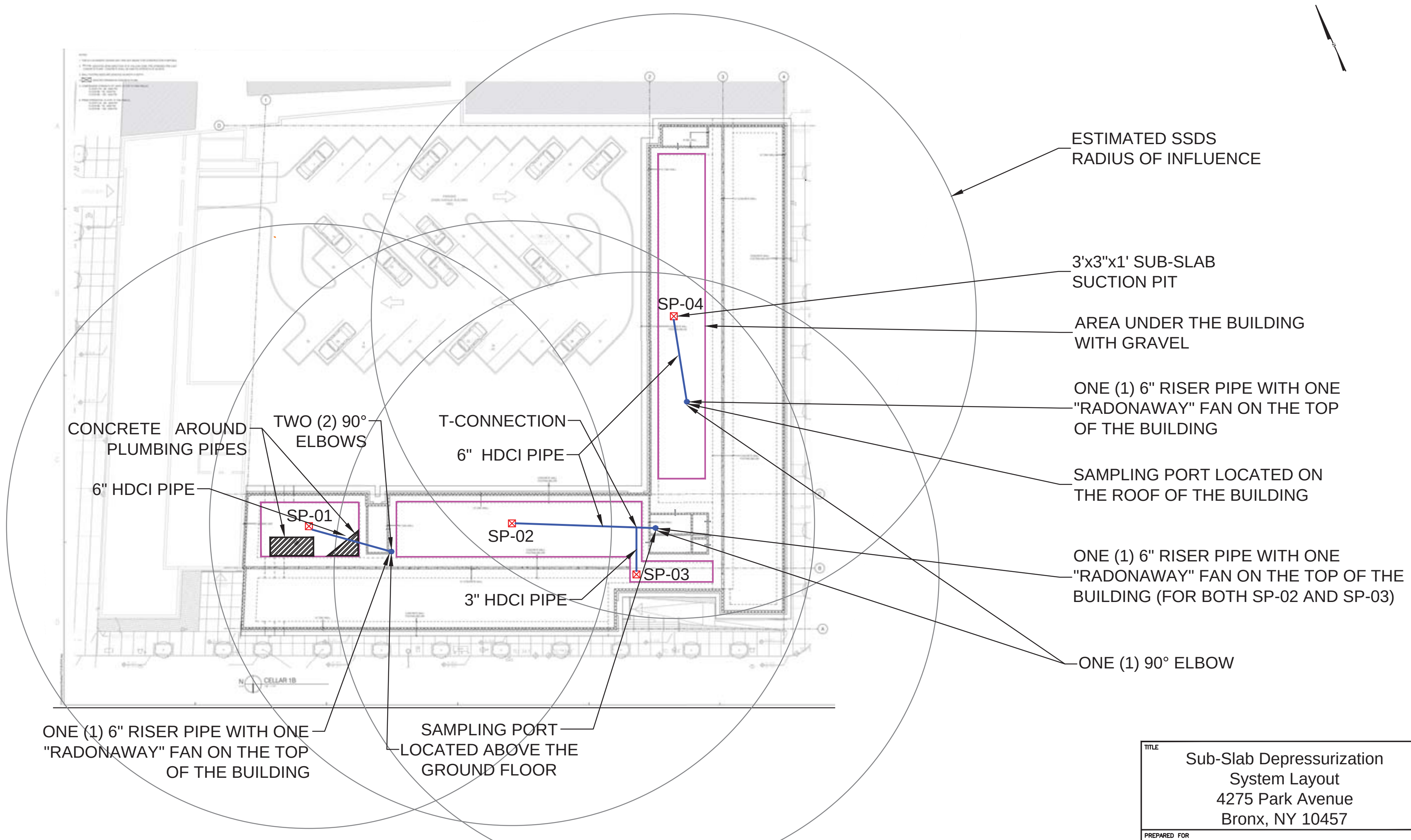
Webster Ave Housing Development Fund Corporation

ERM Environmental Resources Management

FIGURE 2-12

DRAWN BY	SCALE	DATE	JOB NO.
EMF	GRAPHIC	07/25/16	0295737

R:\Scout\Projects\Mountco - Webster Ave, Bronx NYC\CAD\2016 SMP\2016-06 - Webster Ave - Post-remedial Contamination above RR SCO.dwg (07/26/2016 - 7:50am Melville)

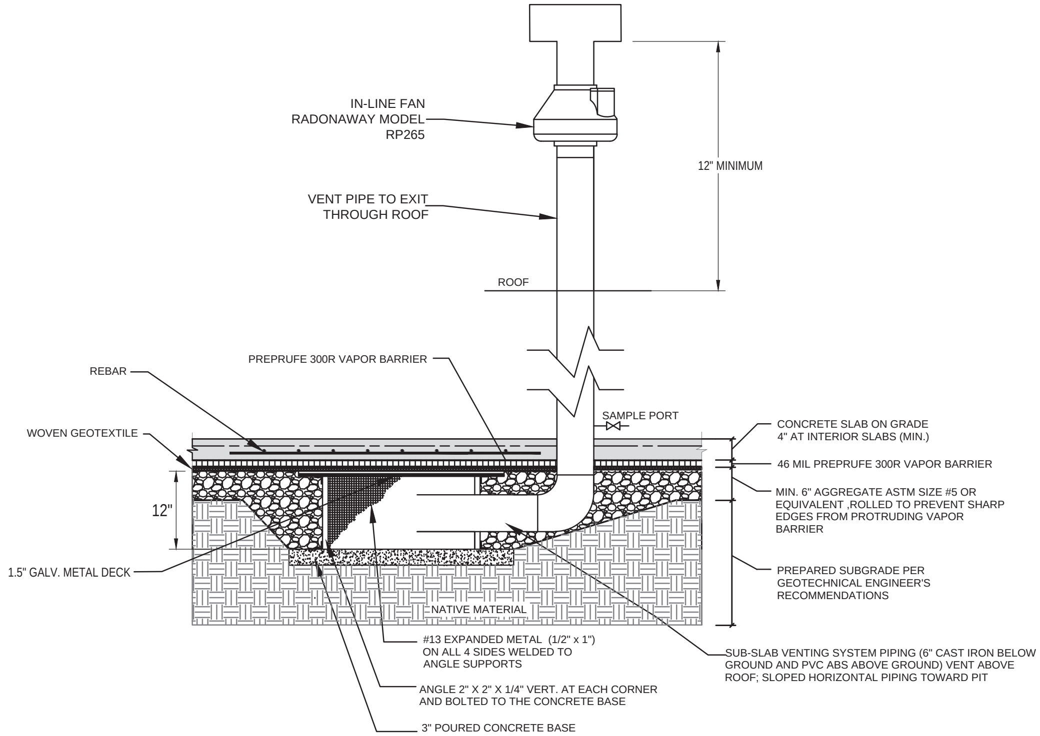


SUB-SLAB DEPRESSURIZATION SYSTEM

SCALE: AS NOTES

TITLE			
Sub-Slab Depressurization System Layout 4275 Park Avenue Bronx, NY 10457			
PREPARED FOR: Webster Ave Housing Development Fund Corporation			
ERM Environmental Resources Management			FIGURE 3-1
DRAWN BY: EK	SCALE: GRAPHIC	DATE: 07/11/16	JOB NO. 0295737

C:\Users\edyta.korczynska\Desktop\New folder\2016-07 - Layout of the SSDS.dwg (07/22/2016 - 9:52am Melville)



SSDS PIT DETAIL
NTS

NOTES
1) SUCTION PIT MEASURES 3' X 3' X 1' DEEP.
2) 6"-12" THICKNESS AGGREGATE LAYER EXTENDS ACROSS PORTION OF THE BUILDING (SEE FIGURE 3-1 LAYOUT OF SUB-SLAB DEPRESSURIZATION SYSTEM).
3) MINIMUM 1/2" CLEARANCE AROUND PIPES ENTRANCE INTO SUCTION PIT IS PROVIDED.
4) SAMPLE PORTS WAS INSTALLED IN THE PIPING FOR EACH VENT PIPE. SAMPLE PORTS INCLUDE 1/4" BALL VALVE AND HOSE BARB.
5) VENT PIPING EXTENDS APPROXIMATELY 1 FOOT INTO SUCTION PIT.
6) THESE PLANS ARE FOR THE VAPOR MITIGATION SYSTEM DESIGN ONLY.
7) 6" AGGREGATE LAYER MEETS SIZE #5 SPECIFICATIONS AS DEFINED IN ASTM C-33-90 "STANDARD SPECIFICATIONS FOR CONCRETE AGGREGATES". THIS AGGREGATE IS BETWEEN 1/2-INCH AND 1 INCH IN DIAMETER.

TITLE
SSDS Detail
1960-1982 Webster Avenue
Bronx, NY 10457

PREPARED FOR
Webster Avenue Development Fund Corporation

ERM Environmental Resources Management

FIGURE
3-2

DRAWN BY	SCALE	DATE	JOB NO.
EMF	NTS	7/22/16	0295737

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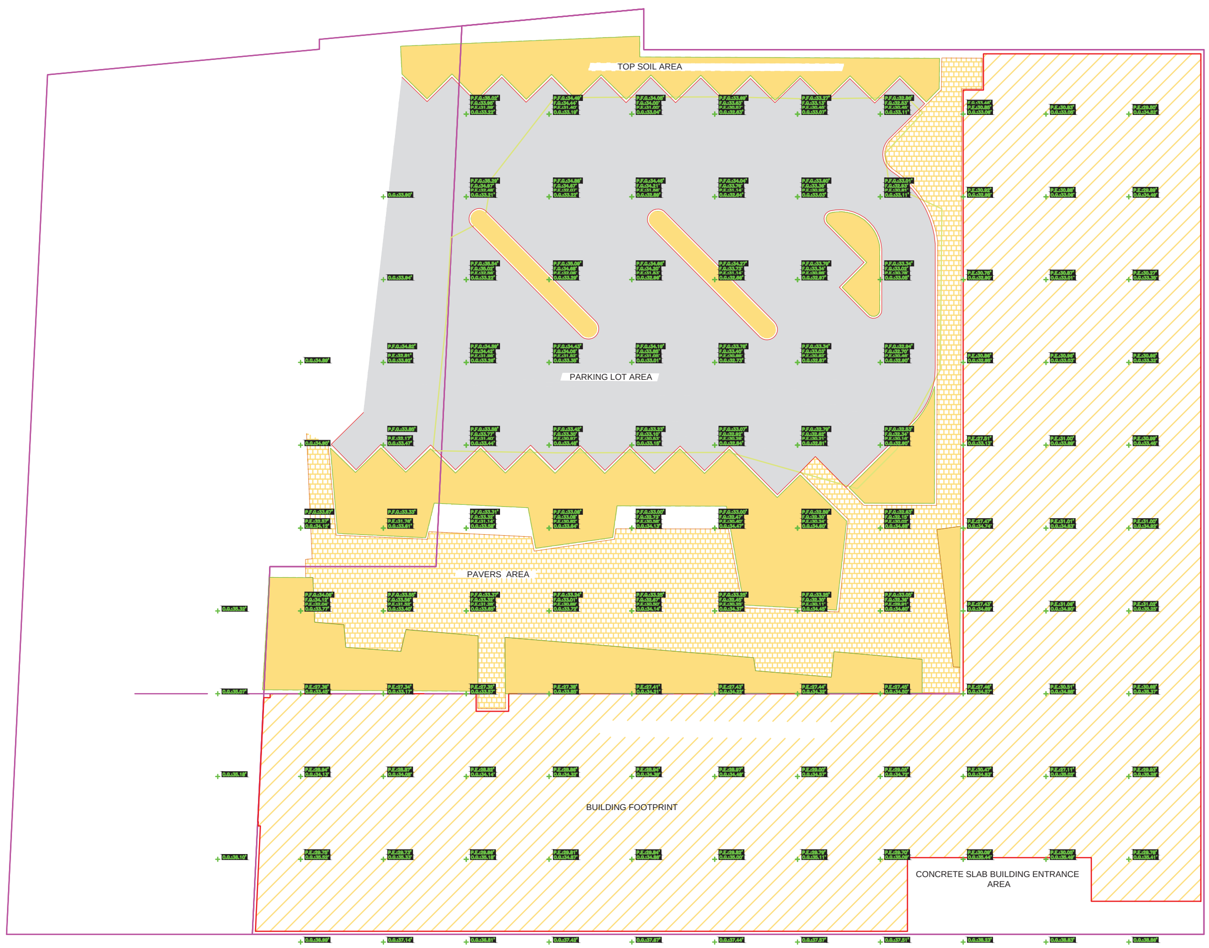


Legend:

——	Property boundary and tax outline
P.F.G.	Proposed finished grade elevation
F.G.	Finished grade elevation (10/15/15)
P.E.	Post excavation elevation (multiple dates)
O.G.	Original ground elevation (6/9/15)

0 30 60
GRAPHIC SCALE IN FEET

TITLE
Post Excavation and Post Backfill Surface Elevation Data 1960-1982 Webster Avenue Bronx, NY 10457

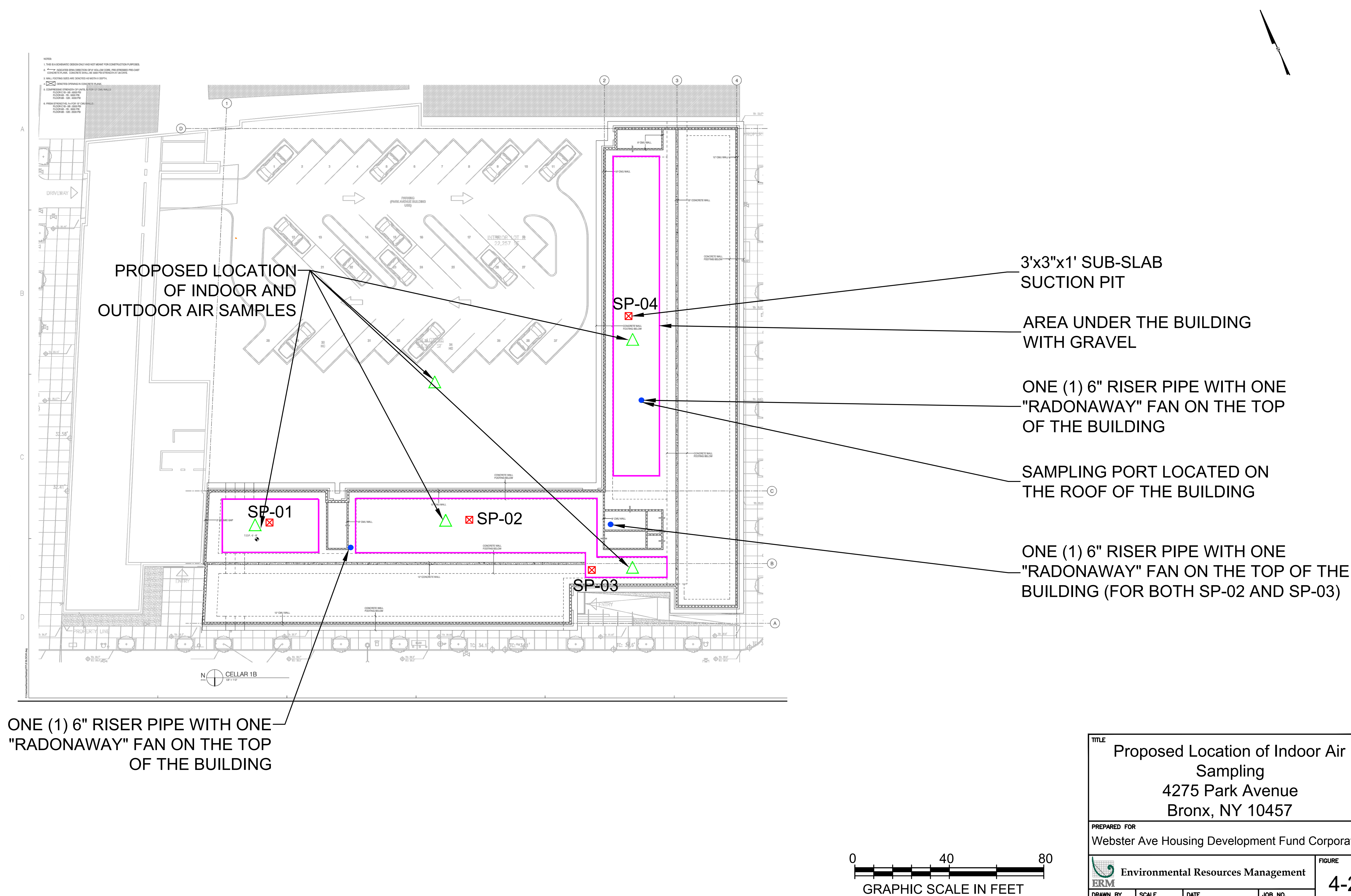
PREPARED FOR
Webster Ave Housing Development Fund Corporation

Environmental Resources Management

DRAWN BY	SCALE	DATE	JOB NO.	FIGURE
EMF/EK	1:30	7/11/16	0295737	4-1

SOURCE: TERRY BERGENDORFF COLLINS "SPOT GRADE SKETCH FOR WEBSTER AVENUE HOUSING DEVELOPMENT FUND CORPORATION" DATED 1/4/2016.

C:\Users\edyta.korczynska\Desktop\New folder\2016-07 - Webster Ave - Post Excavation and Post Backfill Surface Elevation.DWG (07/22/2016 - 11:48am Melville)



TITLE
Proposed Location of Indoor Air Sampling
4275 Park Avenue
Bronx, NY 10457

PREPARED FOR
Webster Ave Housing Development Fund Corporation

Environmental Resources Management

FIGURE 4-2

DRAWN BY	SCALE	DATE	JOB NO.
EK	GRAPHIC	07/11/16	0295737

R:\Scout\Projects\Mountco - Webster Ave, Bronx NY\CAD\2016 SMP\2016-07 - Indoor Air Sampling.dwg (12/07/2016 - 10:59am Melville)

Appendix A

Metes and Bounds

SCHEDULE "A" PROPERTY DESCRIPTION

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE BOROUGH AND COUNTY OF BRONX, CITY AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE CORNER FORMED BY THE INTERSECTION OF THE EASTERLY SIDE OF WEBSTER AVENUE AND THE NORTHERLY SIDE OF EAST 178TH STREET;

RUNNING THENCE NORTHERLY ALONG THE EASTERLY SIDE OF WEBSTER AVENUE ON A LINE FORMING ON ITS EASTERLY SIDE AN ANGLE WITH THE SAID NORTHERLY SIDE OF EAST 178TH STREET, 87°15'48.8", 207.90 FEET;

THENCE EASTERLY ON A LINE FORMING ON ITS SOUTHERLY SIDE, AN ANGLE WITH THE LAST MENTIONED COURSE OF 98°06'11.2", 65.93 FEET;

THENCE NORTHERLY ON A LINE FORMING ON ITS WESTERLY SIDE, AN ANGLE WITH THE LAST MENTIONED COURSE OF 95°22'00", 2.40 FEET;

THENCE EASTERLY ON A LINE FORMING ON ITS SOUTHERLY SIDE, AN ANGLE WITH THE LAST MENTIONED COURSE OF 95°22'00", 34.52 FEET;

THENCE SOUTHERLY ON A LINE FORMING ON ITS WESTERLY SIDE, AN ANGLE WITH THE LAST MENTIONED COURSE OF 81°53'48.8", 130.77 FEET;

THENCE WESTERLY ON A LINE FORMING ON ITS NORTHERLY SIDE, AN ANGLE WITH THE LAST MENTIONED COURSE OF 92°44'11.2", 40.10 FEET;

THENCE SOUTHERLY ON A LINE FORMING ON ITS EASTERLY SIDE, AN ANGLE WITH THE LAST MENTIONED COURSE OF 92°44'11.2", 88.93 FEET TO A POINT ON THE NORTHERLY SIDE OF EAST 178TH STREET;

THENCE RUNNING WESTERLY ALONG THE NORTHERLY SIDE, OF EAST 178TH STREET ON A LINE FORMING ON ITS NORTHERLY SIDE AN ANGLE WITH THE LAST MENTIONED COURSE OF 92°44'11.2", 59.34 FEET TO THE POINT AND PLACE OF BEGINNING.

Appendix B

Environmental Easement

NYC DEPARTMENT OF FINANCE
OFFICE OF THE CITY REGISTER

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2016102801283002002E77EF

RECORDING AND ENDORSEMENT COVER PAGE

Document ID: **2016102801283002** Document Date: 10-12-2016 Preparation Date: 11-01-2016
Document Type: EASEMENT
Document Page Count: 10

PRESENTER:
NATIONAL REAL ESTATE SERVICES INC. ACR-8050
222 BLOOMINGDALE ROAD
SUITE 306
WHITE PLAINS, NY 10605
914-686-5600
JKAMNA@ALLNYT.COM

RETURN TO:
SARAH C. HETZER, PARALEGAL
CANNON HEYMAN & WEISS, LLP
54 STATE STREET, 5TH FLOOR
ALBANY, NY 12207

PROPERTY DATA

Borough	Block	Lot		Unit	Address
BRONX	3028	55	Entire Lot		4275 PARK AVENUE

Property Type: APARTMENT BUILDING

CROSS REFERENCE DATA

CRFN_______ *or* DocumentID________ *or* _______ Year_____ Reel____ Page_____ *or* File Number__________

PARTIES

GRANTOR/SELLER:
WEBSTER AVENUE HOUSING DEVELOPMENT FUND CORPORATI
505 8TH AVENUE, 5TH FLOOR
NEW YORK , NY 10018

☒ Additional Parties Listed on Continuation Page

GRANTEE/BUYER:
PEOPLE OF THE STATE OF NEW YORK
COMMISSIONER OF THE DEPARTMENT OF
ENVIRONMENTAL CO, 625 BROADWAY
ALBANY , NY 12233

FEES AND TAXES

Mortgage :

Mortgage Amount:	$	0.00
Taxable Mortgage Amount:	$	0.00
Exemption:		
TAXES: County (Basic):	$	0.00
City (Additional):	$	0.00
Spec (Additional):	$	0.00
TASF:	$	0.00
MTA:	$	0.00
NYCTA:	$	0.00
Additional MRT:	$	0.00
TOTAL:	$	0.00
Recording Fee:	$	87.00
Affidavit Fee:	$	0.00

Filing Fee:	$	100.00
NYC Real Property Transfer Tax:	$	0.00
NYS Real Estate Transfer Tax:	$	0.00

NYC DEPARTMENT OF FINANCE
OFFICE OF THE CITY REGISTER

2016102801283002002C756F

RECORDING AND ENDORSEMENT COVER PAGE (CONTINUATION)

Document ID: 2016102801283002 Document Date: 10-12-2016 Preparation Date: 11-01-2016
Document Type: EASEMENT

PARTIES

GRANTOR/SELLER:
WEBSTER AVENUE AFFORDABLE LLC
505 8TH AVENUE, 5TH FLOOR
NEW YORK , NY 10018

16 pp 2.
ADR-8059

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 12th day of October, 2018 between Owner(s) Webster Avenue Housing Development Fund Corporation, (the "Grantor Fee Owner") having an office at 505 8th Avenue, 5th Floor, New York, New York 10018, County of New York, State of New York, and Webster Avenue Affordable LLC, (the "Grantor Beneficial Owner"), having an office at 505 8th Avenue, 5th Floor, New York, New York 10018, County of New York, State of New York (collectively, 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 4275 Park Avenue in the City of New York, County of Bronx and State of New York, known and designated on the tax map of the New York City Department of Finance as tax map parcel number: Block 3028 Lot 55 (formerly p/o Lot 48, being the same as that property conveyed to Grantor by deed dated January 15, 2014 and recorded in the City Register of the City of New York as CRFN # 2014000034695. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.995 +/- acres, and is hereinafter more fully described in the Land Title Survey dated June 16, 2016 prepared by Terry Bergendorff Collins, L.L.S., which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A;

WHEREAS, Grantor Beneficial Owner, is the owner of the beneficial interest in the Controlled Property, as conveyed to Grantor Beneficial Owner by means of a Declaration of Interest and Nominee Agreement dated December 30, 2014 and recorded in the City Register of the City of New York as CRFN # 2015000059238; 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: C203075-01-15 as amended May 13, 2016, 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. Purposes. 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. Institutional and Engineering Controls. 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 New York City Department of Health and Mental Hygiene 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 by 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. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may, upon notice to Grantor, enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. 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. Notice. 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: C203075
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.

7. 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.

8. Amendment. Any amendment to this Environmental Easement may only be executed by 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.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by 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.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

Remainder of Page Intentionally Left Blank

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

Webster Avenue Housing Development Fund Corporation:

By: ______________________

Print Name: David Beer

Title: Vice President Date: 9/30/2016

Grantor Fee Owner's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF New York)

On the 30th day of September, in the year 20 16, before me, the undersigned, personally appeared David Beer, 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

SAMELYS LOPEZ
Notary Public - State of New York
NO. 01LO6296634
Qualified in Bronx County
My Commission Expires 2/3/2018

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

Webster Avenue Affordable LLC:

By: ______________________

Print Name: David Beer

Title: Vice President Date: 9/30/2016

Grantor Beneficial Owner's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF New York)

On the 30th day of September, in the year 2016, before me, the undersigned, personally appeared David Beer, 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

SAMELYS LOPEZ
Notary Public - State of New York
NO. 01LO6296634
Qualified in Bronx County
My Commission Expires 2/3/2018

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)
) ss:
COUNTY OF ALBANY)

On the 12th day of October, in the year 2016 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, 2018

SCHEDULE "A" PROPERTY DESCRIPTION

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE BOROUGH AND COUNTY OF BRONX, CITY AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A CORNER FORMED BY THE INTERSECTION OF THE WESTERLY SIDE OF PARK AVENUE AND THE NORTHERLY SIDE OF EAST 178TH STREET;

RUNNING THENCE WESTERLY ALONG THE NORTHERLY SIDE OF EAST 178TH STREET ON A LINE FORMING ON ITS NORTHERLY SIDE AN ANGLE WITH THE SAID WESTERLY SIDE OF PARK AVENUE, 90°00'00", 229.82 FEET;

THENCE NORTHERLY ON A LINE FORMING ON ITS EASTERLY SIDE AN ANGLE WITH THE LAST MENTIONED COURSE OF 87°15'48.8", 88.93 FEET;

THENCE EASTERLY ON A LINE FORMING ON ITS SOUTHERLY SIDE AN ANGLE WITH THE LAST MENTIONED COURSE OF 92°44'11.2", 40.10 FEET;

THENCE NORTHERLY ON A LINE FORMING ON ITS WESTERLY SIDE AN ANGLE WITH THE LAST MENTIONED COURSE OF 92°44'11.2", 130.77 FEET;

THENCE EASTERLY ON A LINE FORMING ON ITS SOUTHERLY SIDE AN ANGLE WITH THE LAST MENTIONED COURSE OF 98°06'11.2", 44.17 FEET;

THENCE SOUTHERLY ON A LINE FORMING ON ITS WESTERLY SIDE AN ANGLE WITH THE LAST MENTIONED COURSE OF 84°38'00", 9.87 FEET;

THENCE EASTERLY ON A LINE FORMING ON ITS NORTHERLY SIDE AN ANGLE WITH THE LAST MENTIONED COURSE OF 90°00'00", 135.25 FEET TO A POINT ON THE WESTERLY SIDE OF PARK AVENUE;

THENCE SOUTHERLY ALONG THE WESTERLY SIDE OF PARK AVENUE ON A LINE FORMING ON ITS WESTERLY SIDE AN ANGLE WITH THE LAST MENTIONED COURSE OF 90°00'00", 213.72 FEET TO THE POINT AND PLACE OF BEGINNING.

NYC DEPARTMENT OF FINANCE
OFFICE OF THE CITY REGISTER

2016102801283002002150EF

REAL PROPERTY TRANSFER TAX COVER PAGE **PAGE 1 OF 1**

Document ID: 2016102801283002 Document Date: 10-12-2016 Preparation Date: 11-01-2016
Document Type: EASEMENT

PARTIES

FIRST GRANTOR/SELLER:	**FIRST GRANTEE/BUYER:**
WEBSTER AVENUE HOUSING DEVELOPMENT FUND CORPORATI 505 8TH AVENUE, 5TH FLOOR NEW YORK , NY 10018	PEOPLE OF THE STATE OF NEW YORK COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL CO, 625 BROADWAY ALBANY , NY 12233

ASSOCIATED TAX FORM ID: 201610280037410101

RPTT SUPPORTING DOCUMENTS SUBMITTED:

Page Count

NYC DEPARTMENT OF FINANCE
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2016102801283001003EE7AA

Document ID: 2016102801283001 Document Date: 10-12-2016 Preparation Date: 11-01-2016
Document Type: EASEMENT
Document Page Count: 10

PRESENTER:
NATIONAL REAL ESTATE SERVICES INC. ACR-8050
222 BLOOMINGDALE ROAD
SUITE 306
WHITE PLAINS, NY 10605
914-686-5600
JKAMNA@ALLNYT.COM

RETURN TO:
SARAH C. HETZER, PARALEGAL
CANNON HEYMAN & WEISS, LLP
54 STATE STREET, 5TH FLOOR
ALBANY, NY 12207

PROPERTY DATA

Borough	Block	Lot		Unit	Address
BRONX	3028	3	Entire Lot		1973 WEBSTER AVENUE

Property Type: NON-RESIDENTIAL VACANT LAND

CROSS REFERENCE DATA

CRFN_______ *or* DocumentID________ *or* _______ Year_____ Reel____ Page_____ *or* File Number__________

PARTIES

GRANTOR/SELLER:
WEBSTER AVENUE SUPPORTIVE HOUSING DEVELOPMENT FUND
505 EIGHTH AVENUE, 5TH FLOOR
NEW YORK , NY 10018

x Additional Parties Listed on Continuation Page

GRANTEE/BUYER:
PEOPLE OF THE STATE OF NEW YORK
COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL CO, 625 BROADWAY
ALBANY , NY 12233

FEES AND TAXES

Mortgage :

Mortgage Amount:	$	0.00
Taxable Mortgage Amount:	$	0.00
Exemption:		
TAXES: County (Basic):	$	0.00
City (Additional):	$	0.00
Spec (Additional):	$	0.00
TASF:	$	0.00
MTA:	$	0.00
NYCTA:	$	0.00
Additional MRT:	$	0.00
TOTAL:	$	0.00
Recording Fee:	$	87.00
Affidavit Fee:	$	0.00

Filing Fee:	$	100.00
NYC Real Property Transfer Tax:	$	0.00
NYS Real Estate Transfer Tax:	$	0.00

Document ID: 2016102801283001 Document Date: 10-12-2016 Preparation Date: 11-01-2016
Document Type: EASEMENT

PARTIES

GRANTOR/SELLER:
WEBSTER AVENUE SUPPORTIVE LLC
505 8TH AVENUE 5TH FLOOR
NEW YORK , NY 10018

1

10pp

KCR-3053

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 12th day of October, 2016 between Owner(s) Webster Avenue Supportive Housing Development Fund Corporation, (the "Grantor Fee Owner") having an office at 505 8th Avenue, 5th Floor, New York, New York 10018, County of New York, State of New York, and Webster Avenue Supportive LLC, (the "Grantor Beneficial Owner"), having an office at 505 8th Avenue, 5th Floor, New York, New York 10018, County of New York, State of New York (collectively, 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 1973 Webster Avenue in the City of New York, County of Bronx and State of New York, known and designated on the tax map of the New York City Department of Finance as tax map parcel number: Block 3028 Lot 3 (formerly Lots 1, 6, 7, 8 and 75, being the same as that property conveyed to Grantor by deed dated November 18, 2015 and recorded in the City Register of the City of New York as CRFN # 2015000429452. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.405 +/- acres, and is hereinafter more fully described in the Land Title Survey dated June 16, 2016 prepared by Terry Bergendorff Collins, L.L.S., which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A;

WHEREAS, Grantor Beneficial Owner, is the owner of the beneficial interest in the Controlled Property, as conveyed to Grantor Beneficial Owner by means of a Declaration of Interest and Nominee Agreement dated November 18, 2015 and recorded in the City Register of the City of New York as CRFN # 2015000429453; 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: C203075-01-15 as amended May 13, 2016, 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. Purposes. 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. Institutional and Engineering Controls. 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 New York City Department of Health and Mental Hygiene 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 by 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. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may, upon notice to Grantor, enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. 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. Notice. 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: C203075
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.

7. 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.

8. Amendment. Any amendment to this Environmental Easement may only be executed by 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.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by 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.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

Remainder of Page Intentionally Left Blank

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

Webster Avenue Supportive Housing Development Fund Corporation:

By: ______________________

Print Name: David Beer

Title: Vice President Date: 9/30/2016

Grantor Fee Owner's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF New York)

On the 30th day of September in the year 20 16, before me, the undersigned, personally appeared David Beer, 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

SAMELYS LOPEZ
Notary Public - State of New York
NO. 01LO6296634
Qualified in Bronx County
My Commission Expires 2/3/2018

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

Webster Avenue Supportive LLC:

By: ______________________

Print Name: David Beer

Title: Vice President Date: 9/30/2016

Grantor Beneficial Owner's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF New York)

On the 30th day of September, in the year 20 16, before me, the undersigned, personally appeared David Beer, 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

SAMELYS LOPEZ
Notary Public - State of New York
NO. 01LO6296634
Qualified in Bronx County
My Commission Expires 2/3/2018

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)
) ss:
COUNTY OF ALBANY)

On the 12th day of October, in the year 2016, 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, 2018

SCHEDULE "A" PROPERTY DESCRIPTION

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE BOROUGH AND COUNTY OF BRONX, CITY AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE CORNER FORMED BY THE INTERSECTION OF THE EASTERLY SIDE OF WEBSTER AVENUE AND THE NORTHERLY SIDE OF EAST 178TH STREET;

RUNNING THENCE NORTHERLY ALONG THE EASTERLY SIDE OF WEBSTER AVENUE ON A LINE FORMING ON ITS EASTERLY SIDE AN ANGLE WITH THE SAID NORTHERLY SIDE OF EAST 178TH STREET, 87°15'48.8", 207.90 FEET;

THENCE EASTERLY ON A LINE FORMING ON ITS SOUTHERLY SIDE, AN ANGLE WITH THE LAST MENTIONED COURSE OF 98°06'11.2", 65.93 FEET;

THENCE NORTHERLY ON A LINE FORMING ON ITS WESTERLY SIDE, AN ANGLE WITH THE LAST MENTIONED COURSE OF 95°22'00", 2.40 FEET;

THENCE EASTERLY ON A LINE FORMING ON ITS SOUTHERLY SIDE, AN ANGLE WITH THE LAST MENTIONED COURSE OF 95°22'00", 34.52 FEET;

THENCE SOUTHERLY ON A LINE FORMING ON ITS WESTERLY SIDE, AN ANGLE WITH THE LAST MENTIONED COURSE OF 81°53'48.8", 130.77 FEET;

THENCE WESTERLY ON A LINE FORMING ON ITS NORTHERLY SIDE, AN ANGLE WITH THE LAST MENTIONED COURSE OF 92°44'11.2", 40.10 FEET;

THENCE SOUTHERLY ON A LINE FORMING ON ITS EASTERLY SIDE, AN ANGLE WITH THE LAST MENTIONED COURSE OF 92°44'11.2", 88.93 FEET TO A POINT ON THE NORTHERLY SIDE OF EAST 178TH STREET;

THENCE RUNNING WESTERLY ALONG THE NORTHERLY SIDE, OF EAST 178TH STREET ON A LINE FORMING ON ITS NORTHERLY SIDE AN ANGLE WITH THE LAST MENTIONED COURSE OF 92°44'11.2", 59.34 FEET TO THE POINT AND PLACE OF BEGINNING.

NYC DEPARTMENT OF FINANCE
OFFICE OF THE CITY REGISTER

2016102801283001003 1C0AA

REAL PROPERTY TRANSFER TAX COVER PAGE **PAGE 1 OF 1**

Document ID: 2016102801283001 Document Date: 10-12-2016 Preparation Date: 11-01-2016
Document Type: EASEMENT

PARTIES

FIRST GRANTOR/SELLER:
WEBSTER AVENUE SUPPORTIVE HOUSING DEVELOPMENT FUND
505 EIGHTH AVENUE, 5TH FLOOR
NEW YORK , NY 10018

FIRST GRANTEE/BUYER:
PEOPLE OF THE STATE OF NEW YORK
COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL CO, 625 BROADWAY
ALBANY , NY 12233

ASSOCIATED TAX FORM ID: 2016102800346101 01

RPTT SUPPORTING DOCUMENTS SUBMITTED:

Page Count

Appendix C

Site Contact List

LIST OF SITE CONTACTS

Name	Contact Information
Mr. John Grathwol (NYSDEC)	(518) 402-9767 john.grathwol@dec.ny.gov
Jane O'Connell (NYSDEC)	jane.oconnell@dec.ny.gov
Bernadette Anderson (NYSDEC)	bernadette.anderson@dec.ny.gov
Stephanie Selmer (NYSDOH)	(518) 402-7860 beei@health.ny.gov
ERM Melville Office	(631) 756-8900
Project Director: Ernie Rossano (ERM)	(631) 756-8917 ernie.rossano@erm.com
Remedial Engineer/Qualified Environmental Professional: Edyta Korczynska (ERM)	(631) 756-8907 edyta.korczynska@erm.com
Breaking Ground: Zachary Korb	(212) 389-9329 ZKorb@breakingground.org
Breaking Ground: Elissa Winzelberg	(212) 389-9325 EWinzelberg@breakingground.org

Appendix D

Soil Boring Logs

ERM NE

105 Maxess Road, Suite 316, Melville, NY 11747

BORING LOG

ERM

Boring Number: ERMSB-01

Project Name & Location: Mountco 1960-1982 Webster Ave, Bronx N	Project Number: 0217830	Date & Time Started: 9/16/2013 10:50	Date & Time Completed: 9/16/2013 11:10
Drilling Company: Ephase II, LLC	Foreman: Steve	Sampler(s): Brice Lynch	Sampler Hammer: / Drop:
Drilling Equipment: Geoprobe 6100DT	Method: Direct Push	Elevation & Datum:	Completion Depth: / Rock Depth:
Bit Size(s):	Core Barrel(s):	Geologist(s): Brice Lynch	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/ PID (ppm)	Fluoro- scope	USCS/ MUNSELL COLOR CHART	SOIL DESCRIPTION
	LOCATION:					SURFACE DESCRIPTION:
0	ERMSB-01 (0-2)	Hand cleared	0.0		Black, dark brown	Pavement, RCA and urban fill
5		5' - 9'	0.0		Dark and light brown	Urban fill with RCA (5' - 7') Brown clay layer from (7' - 9')
10	ERMSB-01 (12-14)	10' - 14'	0.0		Light brown	Brown clay layer from (10' - 11') Medium to fine grained sand with pebbles (11' - 14')
15		15' -19'	0.0		Light brown	Fine grained sand with pebbles and clay
20						

Page 1 of 1 Signature: Brice Lynch Date: 9/20/2013

ERM

ERM NE

105 Maxess Road, Suite 316, Melville, NY 11747

BORING LOG

Boring Number ERMSB-02

Project Name & Location: Mountco 1960-1982 Webster Ave, Bronx N	Project Number: 0217830	Date & Time Started: 9/16/2013 13:30	Date & Time Completed: 9/16/2013 13:55
Drilling Company: Ephase II, LLC	Foreman: Steve	Sampler(s): Brice Lynch	Sampler Hammer: / Drop:
Drilling Equipment: Geoprobe 6100DT	Method: Direct Push	Elevation & Datum:	Completion Depth: / Rock Depth:
Bit Size(s):	Core Barrel(s):	Geologist(s): Brice Lynch	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (teet)	FID/ PID (ppm)	Fluoro-scope	USCS/ MUNSELL COLOR CHART	SOIL DESCRIPTION
	LOCATION:					SURFACE DESCRIPTION:
0	ERMSB-02 (0-2)	Hand cleared	0.0		Grey, black	Pavement, RCA and urban fill
5		5' - 8'	0.0		Brown, Dary Grey	Pebbles, coarse to fine grained sand
10	ERMSB-02 (11-13)	10' - 14'	0.0		Grey, Light Tan	Medium to fine grained sands with pebbles
15						
20						

Page 1 of 1 Signature: Brice Lynch Date: 9/20/2013

ERM

ERM NE

105 Maxess Road, Suite 316, Melville, NY 11747

BORING LOG

Boring Number
ERMSB-03

Project Name & Location		Project Number	Date & Time Started: 9/17/2013 8:30 Date & Time Completed: 9/17/2013 9:00
Mountco	1960-1982 Webster Ave, Bronx I	0217830	
Drilling Company: Ephase II, LLC		Foreman: Steve	Sampler(s): Brice Lynch; Sampler Hammer: ; Drop:
Drilling Equipment: Geoprobe 6100DT		Method: Direct Push	Elevation & Datum: ; Completion Depth: ; Rock Depth:
Bit Size(s):		Core Barrel(s):	Geologist(s): Brice Lynch

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/ PID (ppm)	Fluoro-scope	USCS/ MUNSELL COLOR CHART	SOIL DESCRIPTION
	LOCATION:					SURFACE DESCRIPTION:
0	ERMSB-03 (0-2)	Hand cleared	0.0		Dark brown Grey, Light Tan	Pavement, RCA and urban fill
5		5' - 8'	0.0		Grey, brown	Medium to fine grained sands with pebbles
10	ERMSB-03 (12-14)	10' - 14'	25.4		Black, grey stained soil	Medium to fine grained sands with pebbles Stained soil observed with a petroleum odor
15						
20						

Page 1 of 1 Signature: Brice Lynch Date: 9/20/2013

ERM NE

105 Maxess Road, Suite 316, Melville, NY 11747

BORING LOG

Boring Number: ERMSB-04

Project Name & Location: Mountco 1960-1982 Webster Ave, Bronx N	Project Number: 0217830	Date & Time Started: 9/16/2013 14:00 Date & Time Completed: 9/16/2013 14:30	
Drilling Company: Ephase II, LLC	Foreman: Steve	Sampler(s): Brice Lynch	Sampler Hammer: / Drop:
Drilling Equipment: Geoprobe 6100DT	Method: Direct Push	Elevation & Datum:	Completion Depth: / Rock Depth:
Bit Size(s):	Core Barrel(s):	Geologist(s): Brice Lynch	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/ PID (ppm)	Fluoro-scope	USCS/ MUNSELL COLOR CHART	SOIL DESCRIPTION
	LOCATION:					SURFACE DESCRIPTION:
0	ERMSB-04 (0-2)	Hand cleared	0.0		Grey, black	Pavement, RCA and urban fill
5		5' - 7.5'	0.0		Light brown	Urban fill (5' - 7") Medium to fine grained sands with pebbles (7' - 9')
10	ERMSB-04 (12-14)	10' - 14'	0.0		Grey, Light Tan	Medium to fine grained sands with pebbles
15						
20						

Page 1 of 1 Signature: Brice Lynch Date: 9/20/2013

ERM NE

105 Maxess Road, Suite 316, Melville, NY 11747

BORING LOG

Boring Number ERMSB-05

Project Name & Location: Mountco 1960-1982 Webster Ave, Bronx N	Project Number: 0217830	Date & Time Started: 9/17/2013 9:50	
		Date & Time Completed: 9/17/2013 10:10	
Drilling Company: Ephase II, LLC	Foreman: Steve	Sampler(s): Brice Lynch	Sampler Hammer: / Drop:
Drilling Equipment: Geoprobe 6100DT	Method: Direct Push	Elevation & Datum:	Completion Depth: / Rock Depth:
Bit Size(s):	Core Barrel(s):	Geologist(s): Brice Lynch	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/ PID (ppm)	Fluoro-scope	USCS/ MUNSELL COLOR CHART	SOIL DESCRIPTION
	LOCATION:					SURFACE DESCRIPTION:
0	ERMSB-05 (0-2)	Hand cleared	0.0		brick red dark brown	Pavement, RCA and urban fill
5		5' - 8'	0.0		Schist, brick dark brown	Urban fill with wood, pulverized rock and fine grained sands
10	ERMSB-05 (11-13)	10' - 14'	0.0		Grey, Light Tan	Medium to fine grained sands with pebbles
15						
20						

Page 1 of 1 Signature: Brice Lynch Date: 9/20/2013

ERM NE

105 Maxess Road, Suite 316, Melville, NY 11747

BORING LOG

ERM

Boring Number: ERMSB-06

Project Name & Location: Mountco 1960-1982 Webster Ave, Bronx N	Project Number: 0217830	Date & Time Started: 9/17/2013 12:35	Date & Time Completed: 9/17/2013 13:30
Drilling Company: Ephase II, LLC	Foreman: Steve	Sampler(s): Brice Lynch	Sampler Hammer: / Drop:
Drilling Equipment: Geoprobe 6100DT	Method: Direct Push	Elevation & Datum:	Completion Depth: / Rock Depth:
Bit Size(s):	Core Barrel(s):	Geologist(s): Brice Lynch	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (feet)	FID/ PID (ppm)	Fluoro-scope	USCS/ MUNSELL COLOR CHART	SOIL DESCRIPTION
	LOCATION:					SURFACE DESCRIPTION:
0	ERMSB-06 (0-2)	Hand cleared	0.0		Grey	Pavement, RCA and urban fill
5		5' - 9'	0.0		Brown, red, grey	Urban fill with medium to fine grained sand with a lot of pebbles
10	ERMSB-06 (12-14)	10' - 14'	0.0		Grey, white	Medium to fine grained sand with a lot of pebbles
15						
20						

Page 1 of 1 Signature: Brice Lynch Date: 9/20/2013

ERM NE

105 Maxess Road, Suite 316, Melville, NY 11747

BORING LOG

ERM

Boring Number: ERMSB-07

Project Name & Location: Mountco 1960-1982 Webster Ave, Bror	Project Number: 0217830	Date & Time Started: 9/17/2013 14:00	Date & Time Completed: 9/16/2013 14:45
Drilling Company: Ephase II, LLC	Foreman: Steve	Sampler(s): Brice Lynch	Sampler Hammer: / Drop:
Drilling Equipment: Geoprobe 6100DT	Method: Direct Push	Elevation & Datum:	Completion Depth: / Rock Depth:
Bit Size(s):	Core Barrel(s):	Geologist(s): Brice Lynch	

DEPTH (ft below grade)	SAMPLES: Sample Number	Recovery (teet)	FID/ PID (ppm)	Fluoro-scope	USCS/ MUNSELL COLOR CHART	SOIL DESCRIPTION
	LOCATION:					SURFACE DESCRIPTION:
0	ERMSB-07 (0-2)	Hand cleared	0.0		Grey, black	Pavement, RCA and urban fill
5		5' - 9'	0.0		Green, orange brown	Grey clay (5' - 7") Brown clay from (7' - 9')
10	ERMSB-07 (12-14)	10' - 14'	0.0		white, light brown	Very fine grained sand with pebbles and pulverized rock
15						
20						

Page 1 of 1 Signature: Brice Lynch Date: 9/20/2013

ERM | WELL : ERMGW-01

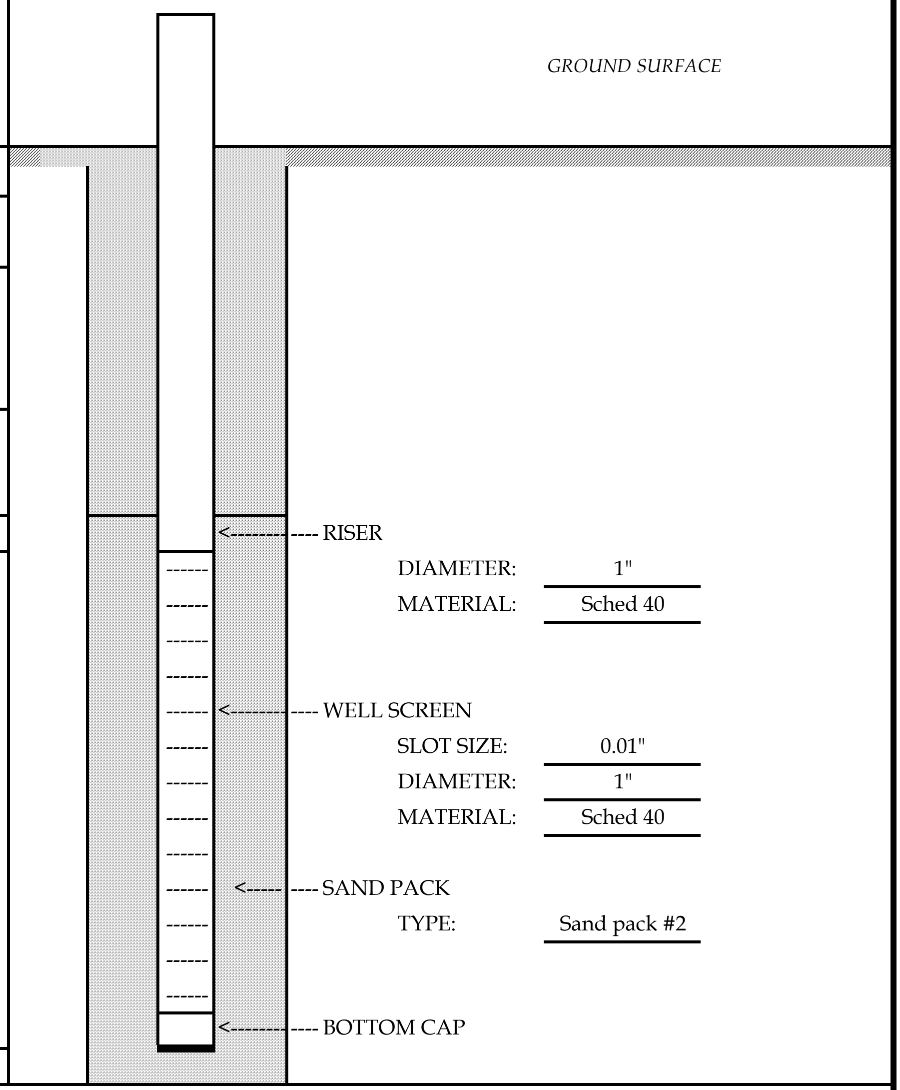
105 Maxess Road, Suite 316, Melville, NY 11747

TEMPORARY MONITORING WELL CONSTRUCTION LOG

Project Name & Location **Mountco Webster Ave**	*Project No.* **0217830**	*Water Level(s)* *(ft below top of PVC casing)*			*Site Elevation Datum (feet)*
Drilling Company Ephase II LLC	*Foreman* Steve	Date	Time	Level (feet)	*Ground Elevation (feet)*
Surveyor					*Top of Protective Steel Cap Elevation (feet)*
Date and Time of Completion 9/16/2013	*Geologist* Brice Lynch				*Top of Riser Pipe Elevation (feet)*

CONSTRUCTION DETAILS

Generalized Soil Description	*Elevation	**Depth
		0.0
		15.0
		20.0



BOTTOM OF BOREHOLE

REMARKS

* Elevation (feet) above mean sea level unless noted

** Depth in feet below ground surface

ERM

WELL : ERMGW-02

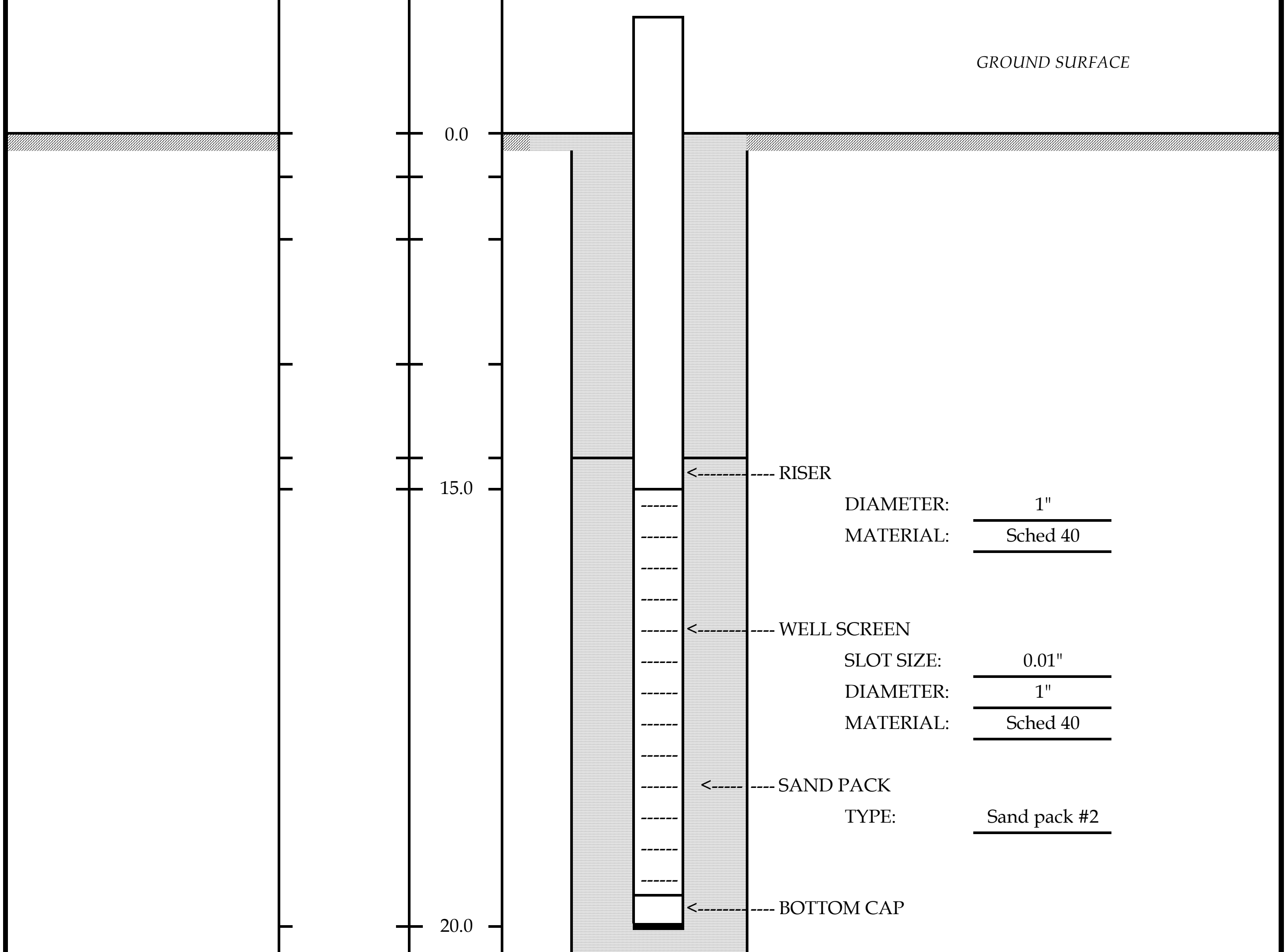
105 Maxess Road, Suite 316, Melville, NY 11747

TEMPORARY MONITORING WELL CONSTRUCTION LOG

Project Name & Location	Project No.	Water Level(s) (ft below top of PVC casing)			Site Elevation Datum (feet)
Mountco Webster Ave	**0217830**				
Drilling Company: Ephase II LLC	Foreman: Steve	Date	Time	Level (feet)	Ground Elevation (feet)
Surveyor					Top of Protective Steel Cap Elevation (feet)
Date and Time of Completion: 9/17/2013	Geologist: Brice Lynch				Top of Riser Pipe Elevation (feet)

CONSTRUCTION DETAILS

Generalized Soil Description | *Elevation | **Depth



RISER
DIAMETER: 1"
MATERIAL: Sched 40

WELL SCREEN
SLOT SIZE: 0.01"
DIAMETER: 1"
MATERIAL: Sched 40

SAND PACK
TYPE: Sand pack #2

BOTTOM CAP

BOTTOM OF BOREHOLE

REMARKS

* Elevation (feet) above mean sea level unless noted

** Depth in feet below ground surface

ERM

105 Maxess Road, Suite 316, Melville, NY 11747

WELL : ERMGW-03

TEMPORARY MONITORING WELL CONSTRUCTION LOG

Project Name & Location **Mountco Webster Ave**	*Project No.* **0217830**	*Water Level(s)* *(ft below top of PVC casing)*			*Site Elevation Datum (feet)*
Drilling Company Ephase II LLC	*Foreman* Steve	Date	Time	Level (feet)	*Ground Elevation (feet)*
Surveyor					*Top of Protective Steel Cap Elevation (feet)*
Date and Time of Completion 9/17/2013	*Geologist* Brice Lynch				*Top of Riser Pipe Elevation (feet)*

CONSTRUCTION DETAILS

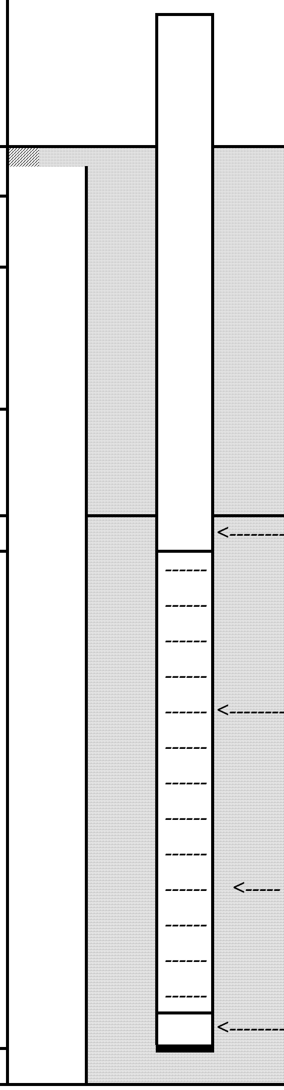
Generalized Soil Description | *Elevation | **Depth

GROUND SURFACE

0.0

15.0

20.0



<---- RISER
DIAMETER: 1"
MATERIAL: Sched 40

<---- WELL SCREEN
SLOT SIZE: 0.01"
DIAMETER: 1"
MATERIAL: Sched 40

<---- SAND PACK
TYPE: Sand pack #2

<---- BOTTOM CAP

BOTTOM OF BOREHOLE

REMARKS

* Elevation (feet) above mean sea level unless noted

** Depth in feet below ground surface

ERM

WELL : ERMGW-04

105 Maxess Road, Suite 316, Melville, NY 11747

TEMPORARY MONITORING WELL CONSTRUCTION LOG

Project Name & Location	**Mountco Webster Ave**
Project No.	**0217830**
Drilling Company	Ephase II LLC
Foreman	Steve
Surveyor	
Date and Time of Completion	9/18/2013
Geologist	Brice Lynch
Site Elevation Datum (feet)	
Ground Elevation (feet)	
Top of Protective Steel Cap Elevation (feet)	
Top of Riser Pipe Elevation (feet)	

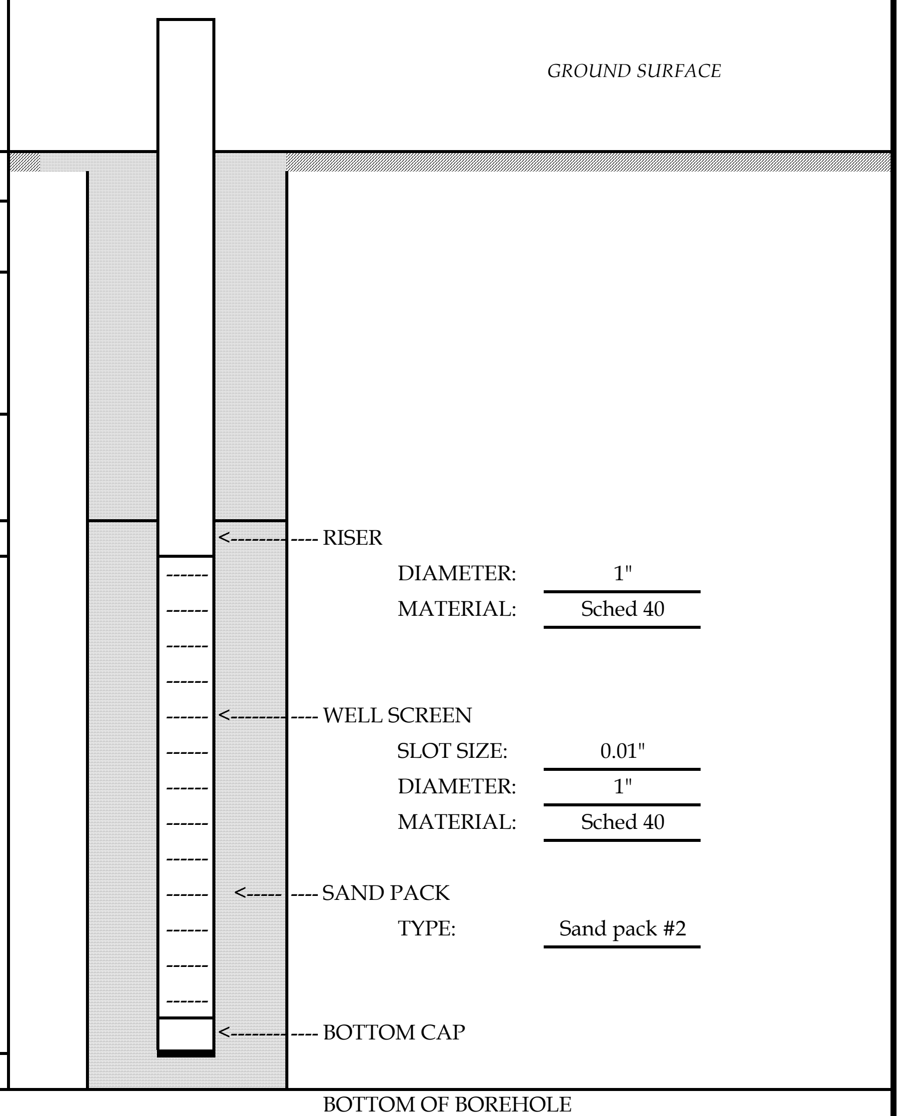
Water Level(s)

(ft below top of PVC casing)

Date	Time	Level (feet)

CONSTRUCTION DETAILS

Generalized Soil Description	*Elevation	**Depth
		0.0
		15.0
		20.0



REMARKS

* Elevation (feet) above mean sea level unless noted

** Depth in feet below ground surface

C:\SFORMS\Table 1b- MW logs.xlsx
rev. 9/96

Appendix E

Excavation Work Plan

E-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 NYSDEC. Table E-1 includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix C.

Table E-1: Notifications*

NYSDEC DER Project Manager – John Grathwol	(518) 402 9767 john.grathwol@dec.ny.gov
NYSDEC Representative - Jane O'Connell	jane.oconnell@dec.ny.gov
NYSDEC Representative - Bernadette Anderson	bernadette.anderson@dec.ny.gov
Site Owner – Elissa Winzelberg	(212) 389-9325 EWinzelberg@breakingground.org
Site Owner – Zachary Korb	(212) 389-9329 ZKorb@breakingground.org
Remedial Engineer (ERM Consulting & Engineering, Inc.) – Edyta Korczynska, P.E.	Edyta.korczynska@erm.com (631) 756-8900

* Note: Notifications are subject to change and will be updated as necessary.

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings 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 to be encountered 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 EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix F of this SMP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

E-2 SOIL SCREENING METHODS

All areas of residual contaminated soils remaining after the completion of the remediation activities have been surveyed by a surveyor licensed to practice in the State of New York. The survey information is shown in Figure X-X.

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed by a qualified environmental professional during all excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed when 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 and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used as cover soil. Further discussion of off-site disposal of materials and on-site reuse is provided in Section E-7 of this Appendix.

E-3 SOIL STAGING METHODS

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

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

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

E-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 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 Remedial Engineer prior to any invasive work. Requests will be filed with Dig Safely New York to facilitate the identification, location, and marking of subsurface utilities. In addition, private utility clearance using ground penetrating radar (GPR) and/or other appropriate technologies will also be conducted. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

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

A truck wash will be operated on-site, as appropriate. 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 Truck wash waters will be collected and disposed of off-site in an appropriate manner.

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.

E-5 MATERIALS TRANSPORT OFF-SITE

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

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

Truck transport routes are as follows:

For Trucks Heading East/North:
Head southwest 0.2 miles on Webster Avenue. Turn left onto East Tremont Avenue. In 0.3 miles, turn right onto 3rd Avenue. In 0.2 miles turn left onto Cross Bronx Expressway Service Road and take the ramp onto I-95 North.

For Trucks Heading West/South:
Head southwest 0.4 miles on Webster Avenue towards East 178th Street Head and turn right onto Ittner Place. Take interstate 95 South/Cross Bronx Expressway ramp to US 1 South/George Washington Bridge. Merge onto I-95 South/US 1 South.

All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. These are the most appropriate routes and take 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.

E-6 MATERIALS DISPOSAL OFF-SITE

All material 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 material 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 pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, 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 Unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

E-7 MATERIALS REUSE ON-SITE

Chemical criteria for on-site reuse of material have been approved by NYSDEC and are identified in Appendix 5 of DER-10 Allowable Constituent Levels for Imported Fill or Soil, specifically for Restricted Residential Use (NYSDEC, 2010). Historic fill material is present across much of the Site. This material contained chemicals in concentrations that are in excess of these criteria. Therefore, soil below the demarcation layer and below the vapor barrier for the Site buildings is anticipated to exceed the criteria for on-Site reuse. Following is a summary of allowable soil reuse at the Site.

Any excavated material above the demarcation layer can be reused at the Site. Material excavated from below the demarcation layer can be reused below the composite cover system (i.e., the soil must be placed below the demarcation layer, or below the vapor barrier). Material excavated from below the demarcation layer or vapor barrier, which is demonstrated to meet the Restricted Residential SCOs listed in Appendix 5 of DER-10, may be reused throughout the site. Otherwise, the soil must be disposed off-Site.

The Remedial Engineer will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for reuse 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.

E-8 FLUIDS MANAGEMENT

All liquids to be removed from the site, including but not limited to, excavation dewatering, decontamination waters 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, and will be managed off-site, unless prior approval is obtained from NYSDEC.

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. Discharge to the NYC sewer system will require a discharge permit from NYCDEP.

E-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 RAWP. The existing cover system is comprised of a minimum of 24 inches of clean soil, asphalt pavement, concrete covered sidewalks and concrete building. The demarcation layer, consisting of orange woven geotextile fabric at the 4275 Park Avenue parcel and orange snow fencing material at the 411 East 178 Street parcel 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 SMP. 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. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in an updated SMP.

E-10 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the Remedial Engineer and will be in compliance with provisions in this SMP prior to receipt at the site. A Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review.

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

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.8(b): Restricted Residential Use Soil Cleanup Objectives. Non-compliant soils will not be imported onto the Site without prior approval by NYSDEC. 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 DER-10 Appendix 5 Allowable Constituent Levels for Imported Fill or Soil Subdivision 5.4(e) Restricted Residential Use (NYSDEC, 2010) and are provided at the end of this section as Table E-1.

Unless otherwise approved in advance by the NYSDEC, sampling must be conducted in accordance with Table E-2 below.

<table>
<tr><th colspan="4">Table B-2</th></tr>
<tr><th colspan="4">Recommended Number of Soil Samples for Soil Imported To or Exported From a Site
(Source DER-10 Table 5.4(e)10)</th></tr>
<tr><th>Contaminant</th><th>VOCs</th><th colspan="2">SVOCs, Inorganics & PCBs/Pesticides</th></tr>
<tr><th>Soil Quantity (cubic yards)</th><th>Discrete Samples</th><th>Composite</th><th>Discrete Samples/Composite</th></tr>
<tr><td>0-50</td><td>1</td><td>1</td><td rowspan="8">3-5 discrete samples from different locations in the fill being provided will comprise a composite sample for analysis</td></tr>
<tr><td>50-100</td><td>2</td><td>1</td></tr>
<tr><td>100-200</td><td>3</td><td>1</td></tr>
<tr><td>200-300</td><td>4</td><td>1</td></tr>
<tr><td>300-400</td><td>4</td><td>2</td></tr>
<tr><td>400-500</td><td>5</td><td>2</td></tr>
<tr><td>500-800</td><td>6</td><td>2</td></tr>
<tr><td>800-1000</td><td>7</td><td>2</td></tr>
<tr><td>>1000</td><td colspan="3">Add an additional 2 VOC and 1 composite for each additional 1000 Cubic yards or consult with DER</td></tr>
</table>

Soils that meet ‘exempt’ fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

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

E-11 STORMWATER POLLUTION PREVENTION

The Stormwater Pollution Prevention Plan (SWPPP) used during the remedial action and site development activities is included in Appendix M for reference. This plan will be followed until completion of development activities, submittal of a Notice of Termination (NOT) to NYSDEC, and NYSDEC acceptance of the NOT. All further earth moving activities will be performed in accordance with applicable federal, state, and local regulation, and all necessary permits will be obtained in advance of such activities. The operation & maintenance of post-construction stormwater practices presented in Section 7.0 of the SWPPP will be performed in perpetuity.

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 the 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 SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

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

E-12 EXCAVATION 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.

E-13 COMMUNITY AIR MONITORING PLAN

During any excavation activity initiated under the SMP, air monitoring will be conducted in accordance with the Community Air Monitoring Plan (CAMP) included as

Appendix G of this SMP. In summary, the CAMP calls for real-time monitoring for VOCs and particulates (i.e., dust) at the downwind perimeter of each designated work area when intrusive activities are in progress at the Site. Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas. Continuous monitoring is required for all ground intrusive activities to the extent practicable (e.g., air monitoring may not be conducted during precipitation events).

Air monitoring locations will be adjusted on a daily or more frequent basis based on actual wind directions, and will consist (at a minimum) of 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.

B-14 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors on-site and off-site. Specific odor control methods to be used on a routine basis will include limiting the area of open excavations and shrouding open excavations with tarps or other covers when necessary. 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 remedial party'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. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

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.

E-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 through 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.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

E-16 OTHER NUISANCES

A plan for rodent control will be developed and utilized by the contractor prior to and during site clearing and site grubbing, and during all remedial work.

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

Appendix F

Health and Safety Plan

HEALTH AND SAFETY PLAN (HASP)

1960-1982 Webster Avenue
Bronx, New York

August 2014

Project Number: 0261877

Prepared for:

Mountco Construction and Development Corp.
700 White Plains Road, Suite 363, Scarsdale, NY

and

Common Ground Community II HDFC
505 Eighth Avenue, 5th Floor, New York, NY

Prepared by:

ERM Consulting & Engineering Inc.
105 Maxess Road, Suite 316
Melville, NY 11747

HEALTH AND SAFETY PLAN (HASP)

Ernie Rossano
Project Director

Karen Pickering
Project Manager

Paulina Gravier
Project Health and Safety Coordinator

Edyta Korczynska
Field Team Leader

Brice Lynch
Site Safety Officer

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LIST OF ATTACHMENTS

1.0 INTRODUCTION

This Construction Health and Safety Plan (CHASP) has been developed by ERM for construction activities at 1960-1982 Webster Avenue in Bronx, New York (the Sites). The procedures set forth in this CHASP are designed to reduce the risk of exposure to chemical substances and physical or other hazards that may be present. The procedures described herein were developed to comply with Occupational Safety and Health Administration (OSHA) Regulations 29 CFR Part 1910.1025.

The recommended health and safety guidelines within this CHASP will be modified if future information changes the activities to be performed or the characterization of the area in which work is to be performed.

1.1 HEALTH AND SAFETY POLICY STATEMENT

ERM considers the health, safety, and well being of its employees to be of unconditional importance. Reflecting that concern, it is the policy of management to support the implementation of the Health and Safety Program. The proper resources (financial and human resources) are provided to ensure operation of a comprehensive program. The following policies will be employed:

- Prevention of occupational illnesses, accidents, resulting personal hardship, and financial loss takes precedence in the conduct of our business. Objectives of the Health and Safety Program include the identification of and the elimination or control of all hazards to personnel, products, equipment, and facilities.

- The active participation and involvement of all levels of management are essential to the success of the program. The Health and Safety Program Manager (HSPM) directs, reviews, and evaluates Health and Safety Program activities. The HSPM reports directly to the President of ERM.

- All levels of supervision are responsible for maintaining safe working conditions, instructing each subordinate in proper health and safety practices, and enforcing health and safety program specifications. In addition, each supervisor is responsible for discussing the specifications of the CHASP with each employee, and verifying that each employee understands/complies with health and safety directives.

- All employees have personal responsibility to conscientiously follow health and safety procedures, and to notify the project manager of potential or existing hazards to worker health or safety, so that they may be corrected prior to initiation or continuation of work.

Safe conduct is a condition of employment. Disregard for company safety rules are a serious infraction, and disciplinary action will be taken as outlined in this Section.

1.2 ERM PROJECT PERSONNEL AND RESPONSIBILITIES

ERM Project Director (PD):
Ernie Rossano
Responsible for all work and conducts ultimate Quality Assurance/Quality Control (QA/QC) overview.

ERM Project Manager (PM):
Karen Pickering
Manages day-to-day activities; reports to PD.

ERM Project Health and Safety Coordinator:
Paulina Gravier
Directs development of CHASP; provides technical advice on health and safety issues.

ERM Site Safety Officer (SSO):
Brice Lynch
Responsible for implementation of CHASP; reports to PD and PM

2.0 *FIELD ACTIVITIES*

2.1 *SITE WORK*

The objective of this CHASP is to identify any hazards that pose a threat to personnel and property. The scope of work covered under this CHASP is comprised of the following tasks:

Demolition and Construction Activities:

The existing 42,400 square foot building on-Site will be demolished and construction will begin on the proposed building.

Soil Excavation:

Areas identified during the Phase II ESA investigation containing elevated levels of analytes will be excavated and contaminated soils will be shipped off-site.

3.0 HAZARD IDENTIFICATION AND CONTROL

3.1 HAZARD IDENTIFICATION PROCESS

Prior to initiating any new project activity or when there is a change in site conditions, the Site Safety Officer (SSO) will assist project team members in completing a Job Hazard Analysis (JHA). A copy of the JHA form is presented in Attachment 1.

3.1.1 *Chemical Hazards*

Chemicals may be introduced into the body by ingestion, inhalation, or absorption through the skin. Since not all chemicals have the same level of toxicity, the length of time for the exposure and the concentration of the chemical are important in determining the risk. Inhalation and skin contact are the most common routes of entry. Chemicals can be introduced into the body by ingestion when chemicals present on the hands are transferred to food or cigarettes.

Based on historical soil and groundwater sampling, the chemicals of concern may be encountered at the site are listed in Table 1 along with pertinent health and safety information.

3.1.2 *Heavy Machinery / Equipment*

All site employees must remain aware of those site activities that involve the use of heavy machinery. Repertory protection and protective eyewear must be worn frequently during site activities. The protective equipment significantly reduces peripheral vision of the wearer; therefore, it is essential that the employees at the site exercise extreme caution during operation of equipment and machinery to avoid physical injury to themselves or others.

3.1.3 *Vehicular Traffic*

All employees will be required to wear a fluorescent safety vest at all times while on site. In addition, supplemental traffic safety equipment use can be exercised when warranted by specific tasks. Supplemental equipment can be items such as cones, flags, barricades, and/or caution tape. Drivers of waste transportation vehicles will only exit vehicles in designated areas within the Support Zone. During this time, drivers will only be allowed to inspect the placement of waste loads and cover their trailers.

3.1.4 *Site-Specific/Task-Specific Hazards and Control Strategies*

The hazards and control strategies associated with planned work activities are summarized in Table 2. During the mobilization phase of a specific work task, the project team can quickly review the hazards and control strategies by locating the task or activity to be performed on the table. Hazards that are common to all activities performed at the site at listed first. The hazards listed for a particular task or activity includes the common hazards.

4.0 PERSONAL PROTECTIVE EQUIPMENT

The level of PPE selected for a task is based on the following:

- Type and measured concentration of the chemical substance in the ambient atmosphere and its toxicity.
- Potential for exposure to substances in air, splashes of liquids or other direct contact with material due to work being done.
- Knowledge of chemicals on-site along with properties such as toxicity, route of exposure, and contaminant matrix.

In situations where the type of chemical, concentration, and possibilities of contact are not known, the appropriate level of protection must be selected based on professional experience and judgment until the hazards can be better identified.

In addition to summarizing the general PPE requirements for tasks performed at the site, Table 3 also serves as the written certification that the PPE Hazard Assessment has been conducted.

4.1 RESPIRATORY PROTECTION

The type of respiratory protection required will be based on the results of ambient air monitoring, the results of any models used to predict ambient air concentrations, and the professional judgment of either the SSO or the Project Health and Safety Coordinator.

As required by 29 CFR 1910.134, *Respiratory Protection*, a cartridge change-out schedule will be developed if it is necessary to upgrade to Level C based on either the results of ambient air monitoring, the results of any models used to predict ambient air concentration; or the professional judgment of the Project Health and Safety Coordinator. A community air monitoring plan (CAMP) can be found in Attachment 2. At a minimum, new respirator cartridges must be placed on the respirator at the beginning of the shift and after lunch.

5.0 HEAT AND COLD STRESS

5.1 HEAT STRESS

The timing of these activities may be such that heat stress may pose a threat to the health and safety of Site personnel. Acclimation periods and work/rest regimens will be implemented as necessary so that personnel do not suffer adverse effects from heat stress. Heat stress, if necessary, will be monitored in accordance with the American Conference of Governmental and Industrial Hygienists (ACGIH) Threshold Limit Values (TLV) for Heat Stress or equivalent when the temperature is greater than 80°F. The following work/rest regimen will be utilized:

Temp °F	*Work-Rest Regimen*
80	Work Break Every 2 hours.
82	75% Work - 25% Rest, each hour.
85	50% Work - 50% Rest, each hour.
88	25% Work - 75% Rest, each hour.
90	Delay work until cooler temperatures prevail.

Special clothing and an appropriate diet and fluid intake will be recommended for all Site personnel to further reduce these temperature-related hazards. A good rule of thumb to prevent dehydration from heat stress is that fluid intake should equal fluid loss from the body, which can be accomplished through frequent small intakes of water. Potable water and/or a drink substitute (i.e., Gatorade) will be available for employee consumption.

5.2 COLD STRESS

The timing of investigative or remediation activities may be such that cold stress may also present a threat to the health and safety of Site employees. Work/rest schedules, with rest in a warming shelter, will be implemented as necessary to reduce adverse effects from cold exposure. Cold stress, if necessary, will be monitored in accordance with the ACGIH TLV for Cold Stress or equivalent. The addition of wind speed and the resulting wind chill will be considered when determining an appropriate work/rest schedule and appropriate clothing.

Site personnel will be encouraged to consume water to avoid dehydration. Potable water and/or a drink substitute (i.e., Gatorade) shall be available for employee consumption. Workers will wear adequately insulated clothing to limit exposure to cold.

6.0 SAFE WORK PRACTICES AND STANDARD OPERATING PROCEDURES

6.1 GENERAL SITE PROVISIONS

6.1.1 *Smoking and Eating Areas*

Smoking will only be allowed in designated areas. Upon mobilization at the site, the SSO will establish smoking areas per site-specific or client-specific requirements. Individuals caught smoking outside the designated smoking areas will be subject to disciplinary action up to and including immediate termination.

Upon mobilization at the site, the SSO will establish eating and break areas per site-specific or client-specific requirements. Eating will only be allowed in the designated areas and the areas will be maintained in a clean and sanitary condition.

6.1.2 *Temporary Facilities*

This project will not require any temporary facilities.

6.1.3 *Standard Operating Procedures*

The following standard operating procedures will be adhered to at all times.

- All personnel entering the site must check in with the SSO.
- All individuals entering the site must demonstrate to the SSO that they have been adequately trained as defined in Section 8.0.
- All individuals must be familiar with emergency communication methods and how to summon emergency assistance.
- Use of alcoholic beverages before, during operations, or immediately after hours is absolutely forbidden. Alcohol can reduce the ability to detoxify compounds absorbed into the body as the result of minor exposures and may have negative effects with exposure to other chemicals. In addition, alcoholic beverages will dehydrate the body and intensify the effects of heat stress.
- Horseplay of any type is forbidden.
- All unsafe conditions will be immediately reported to the SSO, who will document such conditions in the field log. The SSO will be responsible for ensuring that the unsafe condition is correctly as quickly as possible.
- Smoking, matches, and lighters are only allowed in the designated smoking area.

- Avoid contact with potentially contaminated substances. Avoid, whenever possible, kneeling on the ground, or leaning or sitting on trucks, equipment or the ground. Do not place equipment on potentially contaminated surfaces.

6.2 SAFE WORK PRACTICES

6.2.1 *Ergonomics*

Ergonomic risk factors include repetitive motion, force, awkward posture, and vibration. The key to preventing ergonomic injuries is education of personnel relative to the hazards and risk factors and implementation of proper controls and work practices.

Several tasks associated with this project have the potential to cause back injuries, if proper lifting techniques are not followed. Site workers should not lift objects that are beyond their physical capabilities and the use of mechanical devices such as forklifts is encouraged. In addition, when shoveling, site workers should not twist their backs while moving materials with the shovel. The proper technique is to move the feet.

Proper lifting techniques are summarized below.

- Place feet, shoulder-width apart, with toes pointing slightly out.
- Bend at your knees keeping back straight.
- Get a good grip on the object and pull object close to your body.
- Tighten abdominal muscles.
- Keep your head up, looking forward, and lift with your legs while maintaining a straight back.
- Keep load close to your body and ensure your view is not obstructed.
- If one end of the load is heavier than the other, the heavier end should be closest to your body.
- Move your feet to relocate the object as opposed to twisting your back.
- When placing the object down, bend your knees and use your leg muscles while keeping your back straight.

6.3 PRE-DRILLING/PRE-EXCAVATION AND PROBING PROTOCOL

Prior to mobilizing to the field, the Contractor will be responsible for ensuring the following issues have been adequately addressed:

- Contacting One-Call or equivalent to identify underground pipelines, utility lines, and fiber optic cable.

- Contacting appropriate municipality to identify underground and sewer lines.
- Contacting posted pipeline companies.

6.4 FALL PROTECTION

This project does not involve working from heights more than six feet above grade.

6.5 WEATHER RELATED EVENTS

Weather related events that may impact fieldwork include, but are not limited to, rain, snow, and thunder/lightning. The SSO will be responsible for determining what site work can be performed safely in the rain and at what point work will cease due to either quality or safety issues. In the event of thunder and/or lightning, all work will be suspended until 15 minutes have elapsed from the last clap of thunder/flash of lightning.

During rain, lightning/thunder events, site workers should seek shelter in either a building or vehicle.

6.6 SOIL EXCAVATION/ TANK REMOVAL

Excavation risk factors include collapse of excavation side walls, working with heavy machinery; manual handling of materials; working in proximity to traffic; electrical hazards from overhead and underground power-lines; and underground utilities, such as natural gas.

Trench protection (e.g. sloping of side walls, shoring) is required on all excavation greater than 5 feet deep in order to protect against collapse.

At no time during this project shall any employee or subcontractor enter into an open excavation. All excavations should be secured with fencing at the end of every work shift to protect against accidental entry in to an excavation.

6.7 NIGHT WORK

This project will not involve activities being performed at night.

6.8 NOISE

Employees performing any noisy task, such as but not limited to, operating heavy equipment, drilling, using power tools, or employees working within 20 feet of the person performing the task will wear hearing protection consisting of either earplugs or earmuffs. Personnel operating a drilling rig or standing within 20 feet of a drilling rig during operation will also wear hearing protection.

7.0 EMPLOYEE TRAINING

All employees and subcontractors working on-site, who may be exposed to hazardous substances, health hazards, or safety hazards and their supervisors and management responsible for the site will receive training meeting the requirements of 29 CFR 1910.120, *Hazardous Waste Operations and Emergency Response* (HAZWOPER) before they are permitted to engage in any job task. Employees will not be permitted to participate in or supervise field activities until they have been trained to a level required by their job function and responsibility. All site workers will receive training that, at a minimum, covers the following:

- Names of personnel and alternates responsible for site safety and health;
- Safety, health and other hazards present on the site;
- Use of PPE;
- Safe use of engineering controls and equipment on the site; and
- Medical surveillance requirements including recognition of symptoms and signs that might indicate overexposure to hazards.

7.1 SUBCONTRACTOR TRAINING

The SSO will verify that subcontractor personnel have received all appropriate training as required by this CHASP prior to their arriving on-site. Verification will consist of reviewing written training documentation such as copies of training certificates or cards. Copies of the written training documentation will be retained in the project file. Subcontractor personnel will not be allowed to work at the site unless said training documentation is available.

7.2 DAILY TAILGATE SAFETY MEETING

A tailgate safety meeting will be conducted each morning. The daily safety meeting meetings will include awareness concerns such as special concerns regarding health and safety, pollution prevention or a discussion of recent incidents or safety observations. Issues such as any changes to the CHASP will be addressed daily. The meetings will include a discussion of what tasks will be completed that day and how those tasks will be conducted safely. The meetings will be documented on the Daily Safety Meeting form found in Attachment 3.

8.0 *MEDICAL SURVEILLANCE*

All ERM employees are enrolled in a medical surveillance program. All employees receive an initial medical examination and consultation prior to assignment to any job site. In addition, employees receive an annual medical examination, a medical examination upon termination of employment, and a medical examination when the employee exhibits signs or symptoms relating to possible overexposure to hazardous substances or when an injury or exposure above published exposure limits has occurred in an emergency situation.

Additional medical surveillance should be provided for employees who:

- Are or may be exposed to hazardous substances or health hazards at or above published exposure levels for these substances for 30 days or more a year;
- Wear a respirator for 30 days or more a year or as required by 29 CFR 1910.134, *Respiratory Protection*; and
- Are injured, become ill or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards from an emergency response or hazardous waste operation.

9.0 *SITE CONTROL MEASURES*

9.1 EXCAVATION

The soil excavation and surrounding area will be considered the work zone. Excavations will take place in different area and new work zones will be delineated by the SSO. All work zones around open excavations will be bounded by orange snow fence and secured at the end of the work shift to prevent accidental entry into the area. The SSO will ensure that no one enters the work zone without the proper training and requirements. No persons including ERM employee or subcontractors will be allowed to enter any open excavations. All personnel entering the Work Zone will sign the project sign-in sheet in Attachment 4. Furthermore, all ERM personnel and subcontractor will sign-in at the start of each workday and sign-out at the end of each workday.

10.0 DECONTAMINATION PROCEDURES

Decontamination involves the orderly controlled removal of contaminants from both personnel and equipment. The purpose of decontamination procedures is to prevent the spreading of contaminated materials into uncontaminated areas. All site personnel should limit contact with contaminated soil, groundwater or equipment in order to reduce the need for extensive decontamination.

10.1 PERSONNEL DECONTAMINATION

The following decontamination procedures will be utilized:

- Clean rubber boots with water.
- Remove all PPE and dispose of the PPE in the designated drums.
- Wash hands and any skin that may have come in contact with affected soil or groundwater with moistened disposable towels, such as baby wipes, or soap and water.

11.0 CONFINED SPACE ENTRY PROCEDURES

Entry into permit-required confined spaces is not anticipated or permitted.

12.0 SPILL CONTAINMENT PROGRAM

If project activities involve the use of drums or other containers, the drums or containers will meet the appropriate DOT regulations and will be inspected and their integrity assured prior to being used or moved. Operations will be organized so as to minimize drum or container movement. Drums or containers that cannot be moved without failure will be over packed into an appropriate container.

In the event of an unexpected release of hydraulic fluid, engine oil, gasoline or diesel fuel, the release material will be absorbed with sorbent pads, which will be placed in a designated drum for disposal. Impacted soil will be excavated and placed on plastic sheeting and covered until characterization and/or disposal can be arranged.

13.0 SITE COMMUNICATION

Cell phones will be used for communication between the project team and the client and office.

14.0 COMMUNICATION AND REVIEW OF SITE-SPECIFIC HEALTH AND SAFETY PLAN

An initial review of the site-specific CHASP will be held either prior to mobilization or after mobilization but prior to commencing work at the site to communicate CHASP details and answer questions to individuals working at the site. Daily tailgate safety meetings will be held each morning to review work practices for the day and to discuss safety issues. Any new hazard or safety information will be disseminated at the daily tailgate safety meeting or as needed throughout the day.

15.0 EMERGENCY RESPONSE PLAN

This section describes possible contingencies and emergency procedures to be implemented at the site.

15.1 PERSONNEL ROLES AND LINES OF AUTHORITY

The SSO has primary responsibility for site evacuation and notification in the event of an emergency situation. This includes taking appropriate measures to ensure the safety of site personnel and the public. Possible actions may involve the evacuation of personnel from the site area and ensuring that corrective measures have been implemented, appropriate authorities notified, and follow-up reports completed. If the SSO is not available, the ERM Project Geologist/Engineer will assume these responsibilities. Subcontractors are responsible for assisting the SSO in their mission within the parameters of their scope of work.

15.2 EMERGENCY ALARMS

Because of the small work area and mobility of work areas, an emergency evacuation plan and meeting place will be decided upon based on the final drilling or sampling locations.

15.3 REPORTING EMERGENCIES

All, including any late developing or aggravated injuries, must receive prompt medical attention. For non-life threatening injuries or illnesses site workers should be transported to the hospital. For life threatening injuries or illnesses, the local emergency responders should be contacted via 911.

The SSO is responsible for reporting all injuries, illnesses, fires, spills/releases, property damage or near misses to the following individuals.

- Injured/involved employee's supervisor
- ERM Project Manager
- ERM Partner-In-Charge
- ERM Project Health and Safety Consultant
- Client Contact

15.4 EMERGENCY CONTACTS

In case of an emergency, the SSO will contact the following as appropriate.

Title/Name	*Phone Numbers*
ERM Project Director Ernie Rossano.	Work: 631-756-8900 Mobile: 516-250-1429
Project Manager Karen Pickering	Work: 631-756-8900 Mobile: 631-241-0149
Site Safety Officer/ Geologist Brice Lynch	Work: 631-756-8900 Mobile: 631-219-6819
Project Health and Safety Coordinator Paulina Gravier	Work: 212-447-1900 Mobile: 484-802-5243
Local Emergency Responders – all services	Phone: 911
Hospital: **Bronx Lebanon Hospital** **1276 Fulton Avenue**	Phone: 718-518-5540

15.5 INCIDENT INVESTIGATIONS

An ERM Incident Form, Attachment 5, will be completed and forwarded to the Project Manager within 24 hours of an incident. All incidents will be investigated in a timely manner. The SSO and/or the Project Manager will schedule the investigation and include project supervision (ERM, subcontractors, and client), the injured/involved employee(s) and the Project Health and Safety Coordinator. Root cause analysis will be performed to assess the apparent cause and identify corrective measures to be implemented to prevent re-occurrence. The last page of the Incident Form is used to document the investigation.

15.6 DIRECTIONS TO NEAREST HOSPITAL

The nearest hospital is Bronx Lebanon Hospital. A map and directions to the medical facility is located in Attachment 6.

Bronx Lebanon Hospital
1276 Fulton Avenue
(718)-518-5540

15.7 EMERGENCY DRILLS

In accordance with HAZWOPER Standard emergency response plans will be rehearsed regularly as part of the overall training program for site operations. The frequency of this drill (rehearsal) is outlined on Table 4. All drills will be documented on the Emergency Drill Evaluation Form found in Table 4. Drills do not need to be elaborate. A tabletop scenario during the daily safety meeting is an adequate drill.

16.0 SAFETY EQUIPMENT

A first aid kit containing first aid items for minor incidents only and a fire extinguisher is maintained in each ERM Northeast vehicle. If you are driving a personal vehicle or a rental vehicle, please rent a first aid kit and fire extinguisher from the equipment room.

17.0 CERTIFICATION OF FAMILIARITY WITH PLAN BY SITE PERSONNEL

By signing below, your signature certifies that you have read, understand and will abide by the contents of this CHASP.

Name	Signature	Company	Date

ATTACHMENTS

ATTACHMENT 1

Job Hazard Analysis

ERM

JOB HAZARD ANALYSIS

Required for those field projects that do not require a HASP (see Project Safety Evaluation Checklist). JHAs also are used to supplement HASPs.

Prior to conducting fieldwork a Job Hazard Analysis must be completed and reviewed with all members of the Project Team. At the time of site mobilization, the job Hazard Analysis will be verified and reviewed again with the Project Team at the beginning of each day as fieldwork continues.

Client:	W.O.#
Project Name:	
Location:	
ERM Project Director:	Date:
ERM Project Manager:	Revision No.:
ERM Project Team:	
Subcontractors:	

Field Work Description

NOTE: For any hazards that are not applicable for your task, mark the left hand column with N/A. Do not leave any hazards blank.

Hazard Identification	Describe Hazard Control (appropriate for site)
Job Location/Setting:	☐ Industrial facility ☐ Commercial are ☐ Urban area ☐ Residential area ☐ Undeveloped/vacant ☐ Lone worker
☐ Chemicals at site List or attach separate page:	☐ MSDS or chemical information available to project team for each chemical (required) ☐ PPE (see PPE Section) ☐ Exposure monitoring ☐ Decontamination: Specify methods:
☐ Chemicals ERM will take to site	☐ Attach copies of MSDSs for all chemicals to en to clients site.
☐ Dust-Describe source	☐ PPE (*see* PPE Section) ☐ Exposure monitoring (see monitoring section) ☐ Dust suppression
☐ Confined Space	Coordinator ERM Health and Safety for assistance

Hazard Identification	Describe Hazard Control (appropriate for site)
☐ Slips (Wet Surface), Trips and Falls ☐ fall less than 6 feet ☐ fall more than 6 feet	☐ Clean/ dry surfaces ☐ Barricade the unsafe area ☐ Eyes on path ☐ Relocate the work area ☐ Use alternate route ☐ Use a construction platform ☐ Tie-off to equipment ☐ Move work to ground level ☐ Fall restraint, guardrails, short lanyard
☐ Electrical Shock	☐ Area around electrical equipment dry ☐ Energy isolation or Lock-out/Tag-out (LOTO) ☐ Grounding ☐ GCFI ☐ Shielding on equipment
☐ Combustible materials, Fire, Explosion	☐ Remove combustible materials ☐ Relocate work ☐ Isolation/ LOTO ☐ Area air monitoring ☐ PPE/ Flame Retardant Clothing (FRC) (See PPE Section) ☐ Fire watch ☐ Fire extinguisher available
☐ Heat/Cold Stress	☐ Work/Rest regimen ☐ Task rotation, shared tasks ☐ Source of cool water/electrolyte replacement drinks ☐ Ventilation
☐ Noise - Describe source	☐ PPE (see PPE Section) ☐ Relocate work ☐ Control noise source
☐ Lighting/ Visibility	☐ Adequate for task ☐ Nighttime considerations ☐ PPE (see PPE Section) ☐ Safety cones
☐ Lifting, Pulling, Pushing, Repetitive Motion	☐ Get equipment designed for the job ☐ Proper technique ☐ Smaller, lighter loads ☐ Prepared for "unexpected release" ☐ Move feet to turn with load
☐ Airborne/Flying Material	☐ Cover/Shield source ☐ PPE (see PPE Section) ☐ Positioning
☐ Rotating/Moving Equipment and Pinch Points	☐ Energy isolation, Lock-out/Tag-out (LOTO) ☐ Guarding, barricading ☐ No loose clothing ☐ Positioning
☐ Sharp Objects	☐ Guarding ☐ PPE (see PPE Section) ☐ Positioning
☐ Falling Objects	☐ Secure objects ☐ Guarding, covers ☐ PPE (see PPE Section) Barricading
☐ Hazards from others working in	☐ Communication: Specify Method
☐ Hazards to other working in vicinity	☐ Communication: Specify Method

Hazard Identification	Describe Hazard Control (appropriate for site)
☐ Environmental Spill	☐ Containment ☐ Waste Plan ☐ Waste containers ☐ Other
☐ Overhead lines/subsurface lines	☐ Spotter ☐ Verify clearance with client ☐ One-Call ☐ Mark line
☐ Site-specific training required	☐ Specify training requirement
☐ Client-specific safety procedure/policy required?	☐ Specify client specific safety procedure or policy (attach a copy)
☐ Client permit required?	☐ Specify method for obtaining permit:
☐ Subcontractor on-site	☐ Obtain proof of required (including site-specific) training ☐ Obtain proof of required (including site-specific) medical surveillance
☐ Other Hazards	☐ Description:

Exposure Monitoring
The following equipment will be used to monitor personnel exposure:

Emergency Plan required for every site job

Method of obtaining assistance	
Evacuation Route	
Prevailing wind direction	
Emergency call list	911 or Other emergency #:
	ERM Project Manager: ERM Project Director: Client Coordinator: Subcontractor Coordinator:
Emergency assembly area	

Emergency Plan

First aid equipment availability	
Nearest Medical Assistance Address: Phone Number:	Direction or attach map:

Personal Protective Equipment Required (Check boxes to indicate PPE requirements)

 Field clothes (long or short sleeve shirt, long pants)
 Disposable coveralls: specify type____
 High visibility or reflective vests
 Flame Retardant Clothing
 Hard-hat
 Steel toe boots/shoes
 Disposable shoe covers
 Respiratory Protection
 Half-face cartridge respirator, cartridge type: ____
 Cartridge change frequency____
 Other respirator type
 Gloves: specify type(s)

 Hearing protection: specify type(s)

 Eye Protection: specify type

PPE Hazard Assessment Certified by:
(Note: PPE can be certified by any knowledgeable staff member) Date: ______

Project team (including subcontractors) has seen, been briefed and understand the contents of this job Hazard Analysis.

Name	Signature	Date

ATTACHMENT 2

Community Air Monitoring Plan (CAMP)

COMMUNITY AIR MONITORING PLAN
Webster Avenue, Bronx, NY
August 2014

INTRODUCTION

The objective of the Community Air Monitoring Plan (CAMP) is to focus on potential community exposures related to migration of chemicals beyond the boundary of the Site where investigative work will be undertaken (e.g., nearby residences, public).

COMMUNITY AIR MONITORING PLAN

This CAMP has been developed in accordance with the New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan (CAMP) as well as the National Ambient Air Quality Standards (NAAQS) developed by the Environmental Protection Agency (EPA). The intent of the CAMP is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne releases of COPCs as a direct result of investigative and remedial work activities. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

Based on the NYSDOH guidance document, the CAMP includes requirements for continuous real-time air monitoring for total volatile organic compounds (VOCs), and particulates (PM-10) for select remedial activities. Real-time monitoring will be conducted at the perimeter of the work area, which may also be defined as the exclusion zone, and will include one upwind and one downwind monitoring location. Real-time monitoring will occur during activities that disrupt impacted media from the Site or adjacent sidewalk areas. The definition of activities that disrupt such impacted media is as follows:

- Ground intrusive activities include the installation of soil borings or monitoring wells and the soil/groundwater sampling.

The objective of the monitoring is to confirm that work area activities do not result in a sustained (i.e., 15 minute average) release of volatile organic compounds (VOCs) and particulates beyond the work area boundary above levels established herein. Upwind and downwind locations of the work area boundary will be determined using a wind sock. Depending on the remedial activity, perimeter monitoring will involve real-time total particulate and VOC measurements. Additional monitoring may also be conducted under any of the following circumstances:

- Change in ambient levels of hazardous constituents as indicated by the sense of smell and PID readings;
- Changes in the physical appearance of the soil or groundwater; and/or
- When new hazardous substances are encountered.

The remainder of this CAMP discusses the associated actions related to this monitoring plan as well as monitoring frequency and data reporting.

VOC Monitoring, Response Levels, Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis. Upwind concentrations should also be measured on a continuous basis.

Ambient air monitoring will be conducted using direct-reading real-time instruments. The continuous total VOC perimeter monitoring will be performed using a portable, direct-reading photoionization detector (e.g., RAE MiniRAE 2000 PID) or a flame ionization detector (FID). The instrumentation used for perimeter monitoring will be used to calculate a running 15-minute average concentration. The PID lamp voltage of to be used for this Site is 11.7 eV.

Direct reading instrumentation will be calibrated daily per manufacturer's instructions. Cylinders of the appropriate calibration gas (e.g., isobutylene) will be required for fieldwork lasting longer than one day. The monitoring location, date, time, weather conditions, activities performed and the 15 minute interval readings in ppm shall be recorded.

The VOC response levels and actions are as follows:

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

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

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

Particulate Monitoring, Response Levels, and Actions

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

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

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

MITIGATIVE MEASURES

Potential mitigative measures to control airborne levels may include, but are not limited to, the following:

- Water spraying and/or other dust suppression techniques
- Soil gas control techniques
- Ventilation techniques to provide dilution and/or isolation of VOCs

- Personal protective equipment (worker exposures)
- Administrative controls

DOCUMENTATION AND RECORDKEEPING

All 15-minute readings will be recorded and available for personnel and management to review. Instantaneous readings, if any, used for decision purposes will also be recorded. Sampling data will be evaluated daily and a summary report will be generated weekly. The summary report shall include equipment type, serial number, calibration results, flow rates, sampling locations, sampling dates, sampling times, sampling results in the required units, and corrective actions implemented based on any threshold level exceedances.

A copy of any laboratory analytical results will be kept on-site along with any datalogged results as well as by the Project Manager at ERM.

ATTACHMENT 3

Daily Safety Meeting Form

ERM.

Daily Safety Meeting Form

Date of Safety Meeting		Name of Meeting Facilitator	
Topics Discussed			
Safety Concerns and Action Plan to Correct			
Name	Signature	Company	Employee Number

ATTACHMENT 4

Project Sign-in Sheet

ERM.

PROJECT SITE SIGN-IN FORM

Site: 1960-1982 Webster Avenue, Bronx, NY   Date:________________

Employee	Company	Time In	Time Out

ATTACHMENT 5

ERM Incident Reporting Form

Environmental Resources Management

ERM INCIDENT REPORT FORM

Client Name: ______________________

Date and Time of Incident: ______________________

Type of Incident: ______________________

Location of Incident: ______________________

Employee: ______________________

Employee Job Title: ______________________

Specific Job At Time of Incident: ______________________

Level of Protection Worn at Time of Exposure: ______________________

Summary of What Occurred: ______________________

____

____

Actions Taken To Correct Situation (Engineering, PPE, etc.): ______________________

____

____

Employee Signature: ______________________

Site Safety Officer: ______________________

ERM Project Manager: ______________________

Time and Date of Report: ______________________

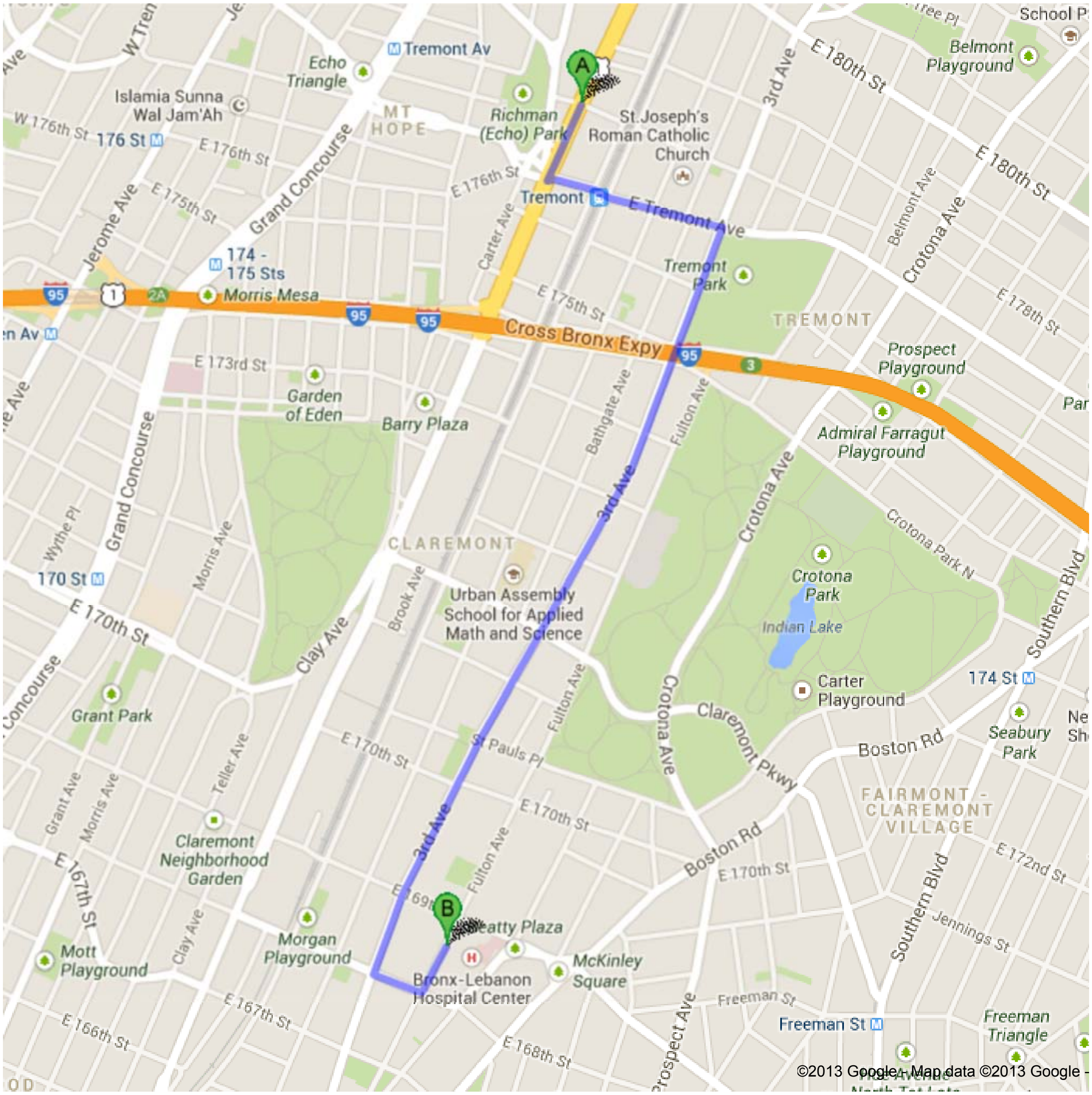
Please return completed forms to the Health and Safety Program Manager

ATTACHMENT 6

Hospital Route Map and Directions

Google

Directions to 1276 Fulton Ave, Bronx, NY 10456
1.7 mi – about **7 mins**



1960 Webster Ave, Bronx, NY 10457

1.	Head **southwest** on **Webster Ave** toward **E 178th St**	go 0.1 mi total 0.1 mi
2.	Turn left onto **E Tremont Ave** About 1 min	go 0.3 mi total 0.4 mi
3.	Turn right onto **3rd Ave** About 4 mins	go 1.2 mi total 1.6 mi
4.	Turn left onto **E 168th St**	go 404 ft total 1.7 mi
5.	Take the 1st left onto **Fulton Ave** Destination will be on the right	go 410 ft total 1.7 mi

1276 Fulton Ave, Bronx, NY 10456

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

TABLES

TABLE 1
SUMMARY OF CHEMICAL HAZARDS FOR CHEMICALS OF CONCERN
1960-1982 Webster Avenue, Bronx, NY

Chemical	Published Exposure Limit [1] (8-hour TWA [2])	Routes of Exposure	Target Organs	Signs/Symptoms of Exposure (Acute versus Chronic Effects)	First Aid &Emergency Response
Chemical Name: **Benzene** CAS: 71-43-2 Vapor Pressure: 75 mmHg	1 ppm (OSHA PEL)	Inhalation Skin absorption Ingestion Skin or eye contact	Eyes, skin, respiratory system, bone marrow, blood and central nervous system.	Acute: Irritation eyes, skin, nose, throat, respiratory system, nausea, dizziness, staggered gate, headache, anorexia, Chronic: leukemia	Flush skin/eyes with water Administer artificial respiration if no breathing If ingested seek medical attention
Chemical Name: **Xylene** CAS: 1330-20-7 Vapor Pressure: 7 - 9 mmHg	100 ppm (OSHA PEL)	Inhalation Skin absorption Ingestion Skin or eye contact	Eyes, skin, blood, respiratory system, heart, liver,	Acute: headache, fatigue, nausea, flatulence, irritation of eyes nose and throat, visual disturbance Chronic:	Flush skin/eyes with water Administer artificial respiration if no breathing If ingested seek medical attention do not induce vomiting
Chemical Name: **Napthalene** CAS: 91-20-3 Vapor Pressure: 0.8 mmHg	10 ppm (OSHA PEL)	Inhalation Skin absorption Ingestion Skin or eye contact	Eyes, nose, throat, skin, blood, liver, kidneys, central nervous system	Acute: salivation, vomiting, fever, abdominal pain, labored breathing, Chronic: liver and kidney damage	Flush skin/eyes with water Administer artificial respiration if no breathing If ingested seek medical attention

Chemical	Published Exposure Limit 1 (8-hour TWA 2)	Routes of Exposure	Target Organs	Signs/Symptoms of Exposure (Acute versus Chronic Effects)	First Aid &Emergency Response
Chemical Name: **2 Methyl Naphthalene** CAS: 75-35-4 Vapor Pressure: .068 mmHg	None -	Skin absorption Ingestion Skin or eye contact	Eye and Skin irritation.	Acute: Irritation eyes, skin,	Flush skin/eyes with water Administer artificial respiration if no breathing If ingested seek medical attention
Chemical Name: **Ethyl Benzene** CAS: 100-41-4 Vapor Pressure: 7 mmHg Ionization Potential: 8.76 eV	(OSHA PEL) 100 ppm	Inhilation, ingestion, skin and/or eye contact.	Eyes, skin, respiratory system, central nervous system	Acute: Irritation eyes, skin, mucous membrane, dermatitis, headache, narcosis, coma	Eye: Irrigate Immediately Skin: Soap/Flush promptly Breathing: Respiratory Support Ingestion: Medical attention immediately
Chemical Name: **MTBE** CAS: 1634-04-4 Vapor Pressure: 245 mmHg Ionization Potential: 9.24 Ev	200 ppm (OSHA PEL)	Inhalation Skin adsorption Ingestion Skin or eye contact	headaches, nausea, dizziness, irritation of the nose or throat, and sense of confusion	Acute: headaches, nausea, dizziness, irritation of the nose or throat, and sense of confusion. Chronic: Carcinogen	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support If ingested seek medical attention immediately
Chemical Name: **Toluene** CAS: 108-88-3 Vapor Pressure: 21 mmHg	200 ppm (OSHA PEL)	Inhalation Skin adsorption Ingestion Skin or eye contact	Eyes, skin, respiratory system, liver, kidneys, central nervous system.	Acute: Irritation eyes, nose; lassitude (weakness, exhaustion), confusion,euphoria, dizziness, headache; dilated pupils, lacrimation (discharge of tears); anxiety, muscle fatigue, insomnia; paresthesia; dermatitis; liver, kidney damage.	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support If ingested seek medical attention immediately

Chemical	Published Exposure Limit 1 (8-hour TWA 2)	Routes of Exposure	Target Organs	Signs/Symptoms of Exposure (Acute versus Chronic Effects)	First Aid &Emergency Response
Chemical Name: **PCBs**	1 mg/m3 (OSHA PEL)	Inhalation Skin adsorption Ingestion Skin or eye contact	Eyes, skin, respiratory system, liver, kidneys, central nervous system.	Acute: lesions, rashes, and burning eyes and skin Chronic: toxic effects on the liver	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support If ingested seek medical attention immediately
Chemical Name: **Dieldrin** CAS: 60-57-1	.25 mg/m3 (OSHA PEL)	Inhalation Skin adsorption Ingestion Skin or eye contact	Central nervous system, liver, kidneys, skin	Acute: Headaches, dizziness, nausea, vomiting, sweating, tonic convulsions, coma Chronic: carcinogenic	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support If ingested seek medical attention immediately
Chemical Name: **Lead** CAS: 7439-92-1	TWA: 0.03 (mg/m3) NIOSH	Inhalation Skin adsorption Ingestion Skin or eye contact	blood, kidneys, central nervous system (CNS)	Chronic: Developmental Toxicity, possible mutagenic effect	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Move to fresh Air Respiratory support If ingested seek medical attention immediately Do not induce vomiting
Chemical Name: **Chromium** CAS: 7440-47-3	TWA: 0.5 (mg/m3) NIOSH	Inhalation, skin or eye contact	Kidneys, lungs, liver, upper respiratory tract. Repeated or prolonged exposure to the substance can produce target organs damage	Accute: skin (irritant) eye contact (irritant) Chronic: sneezing, reddness of the throat, asthma, cough, polyps, chronic inflammation,. Effects on the nose include irritation, ulceration, and perforation of the nasal septum. Inflammation and ulceration of the larynx may also occur. Chronic exposure may cause liver and kidney damage.	Eye: Irrigate immediately Skin: Soap wash promptly, seek Medical attention Breathing: Move to fresh Air Respiratory support If ingested seek medical attention immediately Do not induce vomiting

Chemical	Published Exposure Limit 1 (8-hour TWA 2)	Routes of Exposure	Target Organs	Signs/Symptoms of Exposure (Acute versus Chronic Effects)	First Aid &Emergency Response
Chemical Name: **Barium** CAS: 7440-39-3	0.5 mg/m3 (OSHA PEL)	Eyes, skin and inhalation	smooth muscles, heart, intestines, vascular construction and bladder	Accute effects: Can cause irritation to the nose, throat, and upper respiratory tract. Causes severe irritation of the mouth, throat, and esophagus. Chronic Effects: Severe irritation or burns.	Eye: Irrigate immediately seek medical attention Skin: Soap wash promptly, seek Medical attention Breathing: Move to fresh Air Respiratory support If ingested seek medical attention immediately Do not induce vomiting
Chemical Name: **Beryllium** CAS: 7440-41-7	.002 mg/m3 (OSHA PEL)	Inhalation	Lungs, heart	Acute: may irritate eyes or skin Chronic: prolonged exposure may cause serious lung disease	Eye: Irrigate immediately seek medical attention Breathing: Move to fresh Air Respiratory support ingested: drink large volume of water Induce vomiting

NOTES:

1. The most conservative published occupational exposure limit is listed. Sources for occupational exposure limits were OSHA and ACGIH.
2. TWA = time weighted average.
3. ppm – parts of contaminant per million parts of air.

Sources of information include published exposure limits in 29 CFR 1910.1000 or the 2002 TLV Booklet published by ACGIH, NIOSH pocket guide, Chemical/Physical Properties from Texas Risk Reduction Program, International Chemical Safety Cards, MSDSs, and the HNU listing of Photoionization Characteristics of Selected Compounds.

TABLE 2
SITE-SPECIFIC AND TASK-SPECIFIC HAZARDS AND CONTROL STRATEGIES
1960-1982 Webster Avenue, Bronx, NY

Task/Activity	*Hazards*	*Control Strategy*
All activities at site Level D PPE	Poisonous plants	• Identify suspect plants • Vegetation control at or below ankle height by having client mow/weed-eat path and work area • Appropriate protective clothing disposable Tyvek™ coveralls, thin nitrile gloves, disposal boots, tape at wrists and ankles • Barrier cream for uncovered skin • Wash exposed body parts and equipment thoroughly after work in highly-vegetated areas
	Non-stinging insects	• Insect repellant
	Stinging insects	• Survey work area for presence of nests • Eliminate nests
	Thunder/Lightning	• If drilling, cease work following first indication of thunder/lightning • Shelter in buildings or vehicles not underneath trees or near drilling equipment • Begin work after 15 minutes has elapsed from last thunder/lightning
Drilling	Heavy equipment movement	• Personnel maintain eye contact with operators when near the rig.
	Dropped equipment, slip, trip or fall.	• Hard hats, steel-toe safety shoes and safety glasses worn during equipment operation.
	Noise	• Hearing protectors with proper noise reduction rating.
Completion and development of groundwater well	Splashing of chemical in groundwater	• Safety glasses; chemical-resistant suits (as determined necessary by SSO)

TABLE 3
PERSONAL PROTECTION EQUIPMENT REQUIREMENTS
1960-1982 Webster Avenue, Bronx, NY

PPE Level	Ensemble Components	Anticipated Use
Level D Should be worn only as a work uniform and not in any area with respiratory or skin hazards. It provides minimal protection against chemical hazards.	• Long pants and shirt with sleeves • Steel-toed footwear • Safety glasses with molded side shields or goggles. • Hard hat if potential for head injury or falling debris is possible/or client requirement • General purpose work gloves if task does not involve water or wet materials • Hearing protection • High visibility traffic vest when in traffic areas	All activates unless otherwise directed by the SSO, PM, and Project Manager and Project Health and Safety Coordinator .
Modified Level D	Level D and the following: • Disposal Tyvek coveralls • Steel-toed rubber boots or disposal boot covers over shoes • Thin nitrile gloves • Green nitrile gloves over thin nitrile gloves when primary gloves may tear or puncture	Any of the above-referenced tasks in which there is moderate potential for skin contact
Level C Should be worn when the criteria for using air-purifying respirators are met, and a lesser level of skin protection is needed.	Level D or Modified Level D and the following: • Half-face air purifying respirator with combination organic vapor/high efficiency particular air (HEPA) cartridges	Any of the above-referenced tasks in which there is moderate potential for skin contact with constituents and data indicating need for respiratory protection. No upgrade to Level C without approval from Project Manager and Project Health and Safety Coordinator
Level B Should be worn when the highest level of respiratory protection is needed, but a lesser level of skin protection is needed.	Not anticipated to be required	Tasks requiring Level B PPE are not anticipated during this project. If Level B PPE is needed, as determined by the SSO and/or the Project Health and Safety Consultant, the HASP will be revised.
Level A Should be worn when the highest level of respiratory, skin, and eye protection is needed.	Not anticipated to be required	Tasks requiring Level A PPE are not anticipated during this project. If Level A PPE is needed, as determined by the SSO and/or the Project Health and Safety Consultant, the HASP will be revised

TABLE 4
EMERGENCY DRILL FREQUENCY
1960-1982 Webster Avenue, Bronx, NY

Project Duration	***Drill Frequency***
Less than 30 days	None, cover during review/sign-off of HASP
Greater than one month but less than one year	Once
Greater than one year	Annually

Appendix G

Community Air Monitoring Plan

COMMUNITY AIR MONITORING PLAN
Webster Avenue, Bronx, NY
August 2014

INTRODUCTION

The objective of the Community Air Monitoring Plan (CAMP) is to focus on potential community exposures related to migration of chemicals beyond the boundary of the Site where investigative work will be undertaken (e.g., nearby residences, public).

COMMUNITY AIR MONITORING PLAN

This CAMP has been developed in accordance with the New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan (CAMP) as well as the National Ambient Air Quality Standards (NAAQS) developed by the Environmental Protection Agency (EPA). The intent of the CAMP is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne releases of COPCs as a direct result of investigative and remedial work activities. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

Based on the NYSDOH guidance document, the CAMP includes requirements for continuous real-time air monitoring for total volatile organic compounds (VOCs), and particulates (PM-10) for select remedial activities. Real-time monitoring will be conducted at the perimeter of the work area, which may also be defined as the exclusion zone, and will include one upwind and one downwind monitoring location. Real-time monitoring will occur during activities that disrupt impacted media from the Site or adjacent sidewalk areas. The definition of activities that disrupt such impacted media is as follows:

- Ground intrusive activities include the installation of soil borings or monitoring wells and the soil/groundwater sampling.

The objective of the monitoring is to confirm that work area activities do not result in a sustained (i.e., 15 minute average) release of volatile organic compounds (VOCs) and particulates beyond the work area boundary above levels established herein. Upwind and downwind locations of the work area boundary will be determined using a wind sock. Depending on the remedial activity, perimeter monitoring will involve real-time total particulate and VOC measurements. Additional monitoring may also be conducted under any of the following circumstances:

- Change in ambient levels of hazardous constituents as indicated by the sense of smell and PID readings;
- Changes in the physical appearance of the soil or groundwater; and/or
- When new hazardous substances are encountered.

The remainder of this CAMP discusses the associated actions related to this monitoring plan as well as monitoring frequency and data reporting.

VOC Monitoring, Response Levels, Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis. Upwind concentrations should also be measured on a continuous basis.

Ambient air monitoring will be conducted using direct-reading real-time instruments. The continuous total VOC perimeter monitoring will be performed using a portable, direct-reading photoionization detector (e.g., RAE MiniRAE 2000 PID) or a flame ionization detector (FID). The instrumentation used for perimeter monitoring will be used to calculate a running 15-minute average concentration. The PID lamp voltage of to be used for this Site is 11.7 eV.

Direct reading instrumentation will be calibrated daily per manufacturer's instructions. Cylinders of the appropriate calibration gas (e.g., isobutylene) will be required for fieldwork lasting longer than one day. The monitoring location, date, time, weather conditions, activities performed and the 15 minute interval readings in ppm shall be recorded.

The VOC response levels and actions are as follows:

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

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

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

Particulate Monitoring, Response Levels, and Actions

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

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

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

MITIGATIVE MEASURES

Potential mitigative measures to control airborne levels may include, but are not limited to, the following:

- Water spraying and/or other dust suppression techniques
- Soil gas control techniques
- Ventilation techniques to provide dilution and/or isolation of VOCs

- Personal protective equipment (worker exposures)
- Administrative controls

DOCUMENTATION AND RECORDKEEPING

All 15-minute readings will be recorded and available for personnel and management to review. Instantaneous readings, if any, used for decision purposes will also be recorded. Sampling data will be evaluated daily and a summary report will be generated weekly. The summary report shall include equipment type, serial number, calibration results, flow rates, sampling locations, sampling dates, sampling times, sampling results in the required units, and corrective actions implemented based on any threshold level exceedances.

A copy of any laboratory analytical results will be kept on-site along with any datalogged results as well as by the Project Manager at ERM.

Appendix H

Specification Sheets & Instruction Manuals for

SSDS Inline Fans

RadonAway®
The world's leading radon fan manufacturer

RP Series

Radon Mitigation Fan

All RadonAway® fans are specifically designed for radon mitigation. RP Series Fans provide superb performance, run ultra-quiet and are attractive. They are ideal for most sub-slab radon mitigation systems.

Features

- Energy efficient
- Ultra-quiet operation
- Meets all electrical code requirements
- Water-hardened motorized impeller
- Seams sealed to inhibit radon leakage (RP140 & RP145 double snap sealed)
- ETL Listed - for indoor or outdoor use
- Thermally protected motor
- Rated for commercial and residential use

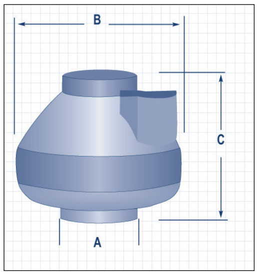
MODEL	P/N	FAN DUCT DIAMETER	WATTS	MAX. PRESSURE"WC	TYPICAL CFM vs. STATIC PRESSURE WC				
					0"	.5"	1.0"	1.5"	2.0"
RP140*	23029-1	4"	15-21	0.8	135	70	-	-	-
RP145	23030-1	4"	41-72	2.1	166	126	82	41	3
RP260	23032-1	6"	50-75	1.6	272	176	89	13	-
RP265	23033-1	6"	91-129	2.3	334	247	176	116	52
RP380	28208	8"	95-152	2.3	497	353	220	130	38

Made in USA with US and imported parts

ETL Listed
Intertek

All RadonAway inline radon fans are covered by our 5-year, hassle-free warranty

*Energy Star® Rated



Model	A	B	C
RP140	4.5"	9.7"	8.5"
RP145	4.5"	9.7"	8.5"
RP260	6"	11.75"	8.6"
RP265	6"	11.75"	8.6"
RP380	8"	13.41"	10.53"

For Further Information Contact

8/15
P/N 02008

The World's Leading
Radon Fan Manufacturer

RP Series

Installation & Operating Instructions

RadonAway
3 Saber Way | Ward Hill, MA 01835
www.radonaway.com

P/N IN020-REV R

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RadonAway Ward Hill, MA.

Series Fan Installation & Operating Instructions

__Please Read and Save These Instructions.__

DO NOT CONNECT POWER SUPPLY UNTIL FAN IS COMPLETELY INSTALLED. MAKE SURE ELECTRICAL SERVICE TO FAN IS LOCKED IN "OFF" POSITION. DISCONNECT POWER BEFORE SERVICING FAN.

1. **WARNING!** WARNING! For General Ventilating Use Only. Do Not Use to Exhaust Hazardous, Corrosive or Explosive Materials, Gases or Vapors. See Vapor Intrusion Application Note #AN001 for important information on VI applications. RadonAway.com/vapor-intrusion
2. **WARNING!** NOTE: Fan is suitable for use with solid state speed controls however use of speed controls is not generally recommended.
3. **WARNING!** Check voltage at the fan to insure it corresponds with nameplate.
4. **WARNING!** Normal operation of this device may affect the combustion airflow needed for safe operation of fuel burning equipment. Check for possible backdraft conditions on all combustion devices after installation.
5. **NOTICE!** There are no user serviceable parts located inside the fan unit.
   Do NOT attempt to open. Return unit to the factory for service.
6. **WARNING!** Do not leave fan unit installed on system piping without electrical power for more than 48 hours. Fan failure could result from this non-operational storage.
7. **WARNING!** TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

   a) Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.

   b) Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.

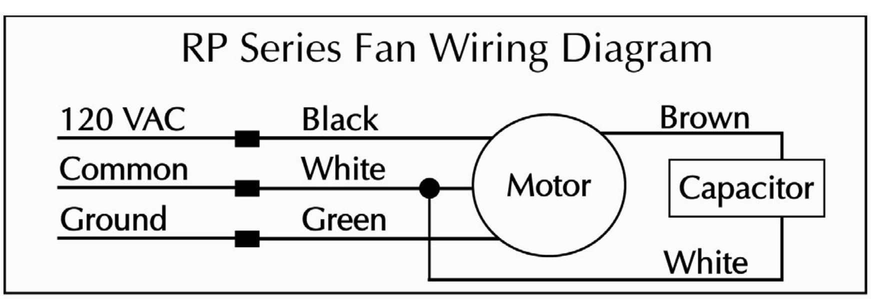
   c) Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire rated construction.

   d) Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent back drafting. Follow the heating equipment manufacturers guideline and safety standards such as those published by the National Fire Protection Association, and the American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), and the local code authorities.

   e) When cutting or drilling into a wall or ceiling, do not damage electrical wiring and other hidden utilities.

   f) Ducted fans must always be vented to outdoors.

   g) If this unit is to be installed over a tub or shower, it must be marked as appropriate for the application and be connected to a GFCI (Ground Fault Circuit Interrupter) - protected branch circuit.



RP Series

RP140	p/n 23029-1
RP145	p/n 23030-1
RP260	p/n 23032-1
RP265	p/n 23033-1
RP380	p/n 28208

1.0 SYSTEM DESIGN CONSIDERATIONS

1.1. INTRODUCTION

The RP Series Radon Fans are intended for use by trained, professional, certified/licensed Radon mitigators. The purpose of this instruction is to provide additional guidance for the most effective use of an RP Series Fan. This instruction should be considered as a supplement to EPA/radon industry standard practices, state and local building codes and state regulations. In the event of a conflict, those codes, practices and regulations take precedence over this instruction.

1.2. FAN SEALING

The RP Series Fans are factory sealed, no additional caulk or other materials are required to inhibit air leakage.

1.3. ENVIRONMENTALS

The RP Series Fans are designed to perform year-round in all but the harshest climates without additional concern for temperature or weather. For installations in an area of severe cold weather, please contact RadonAway for assistance. When not in operation, the fan should be stored in an area where the temperature is never less than 32 degrees F. or more than 100 degrees F.

1.4. ACOUSTICS

The RP Series Fan, when installed properly, operates with little or no noticeable noise to the building occupants. The velocity of the outgoing air should be considered in the overall system design. In some cases the "rushing" sound of the outlet air may be disturbing. In these instances, the use of a RadonAway Exhaust Muffler is recommended.

(To ensure quiet operation of ENERGY STAR qualified in-line and remote fans, each fan shall be installed using sound attenuation techniques appropriate for the installation. For bathroom and general ventilation applications, at least 8 feet of insulated flexible duct shall be installed between the exhaust or supply grille(s) and the fan). RP Series fans are not suitable for kitchen range hood remote ventilation applications.

1.5. GROUND WATER

In the event that a temporary high water table results in water at or above slab level, water may be drawn into the riser pipes thus blocking air flow to the RP Series Fan. The lack of cooling air may result in the fan cycling on and off as the internal temperature rises above the thermal cutoff and falls upon shutoff. Should this condition arise, it is recommended that the fan be turned off until the water recedes allowing for return to normal operation.

1.6. SLAB COVERAGE

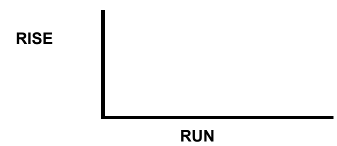
The RP Series Fan can provide coverage up to 2000+ sq. ft. per slab penetration. This will primarily depend on the sub-slab material in any particular installation. In general, the tighter the material, the smaller the area covered per penetration. Appropriate selection of the RP Series Fan best suited for the sub-slab material can improve the slab coverage. The RP140/145/155 are best suited for general purpose use. The RP260 can be used where additional airflow is required and the RP265/380 is best suited for large slab, high airflow applications. Additional suction points can be added as required. It is recommended that a small pit (5 to 10 gallons in size) be created below the slab at each suction hole.

1.7. CONDENSATION & DRAINAGE

Condensation is formed in the piping of a mitigation system when the air in the piping is chilled below its dew point. This can occur at points where the system piping goes through unheated space such as an attic, garage or outside. The system design must provide a means for water to drain back to a slab hole to remove the condensation. The RP Series Fan **MUST** be mounted vertically plumb and level, with the outlet pointing up for proper drainage through the fan. Avoid mounting the fan in any orientation that will allow water to accumulate inside the fan housing. The RP Series Fans are **NOT** suitable for underground burial.

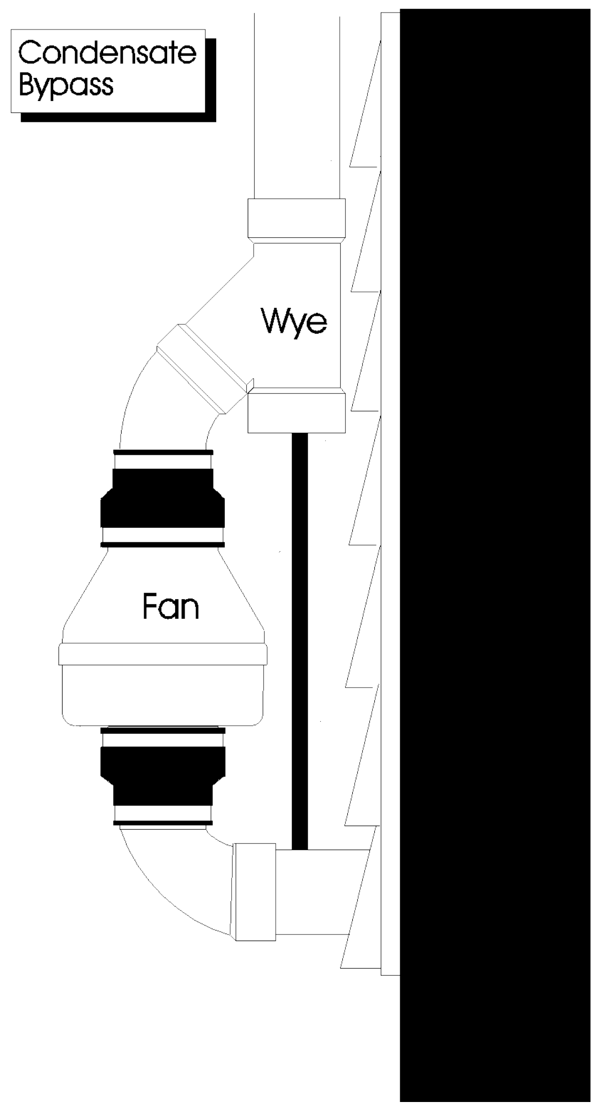
For RP Series Fan piping, the following table provides the minimum recommended pipe diameter and pitch under several system conditions.

Pipe Dia.	Minimum Rise per Ft of Run*				
	@25 CFM	@50 CFM	@100 CFM	@200 CFM	@300 CFM
6"	-	3/16	1/4	3/8	3/4
4"	1/8	1/4	3/8	2 3/8	-
3"	1/4	3/8	1 1/2	-	-



*Typical RP1xx/2xx Series Fan operational flow rate is 25 - 90 CFM 0n 3" and 4" pipe. (For more precision, determine flow rate by measuring Static Pressure, in WC, and correlate pressure to flow in the performance chart in the addendum.)

Under some circumstances in an outdoor installation a condensate bypass should be installed in the outlet ducting as shown. This may be particularly true in cold climate installations which require long lengths of outlet ducting or where the outlet ducting is likely to produce large amounts of condensation because of high soil moisture or outlet duct material. Schedule 20 piping and other thin-walled plastic ducting and Aluminum downspout will normally produce much more condensation than Schedule 40 piping. Schedule 40 piping is preferred for radon mitigation, all joints should fully sealed using the appropriate pipe cement on socket type fittings or flexible coupling firmly attached via worm drive screw clamps. Sealing ducting or pipe with duct tape is not acceptable on radon mitigation installations. No pipe penetrations are permitted, other than the condensation bypass. Silicon caulk is permitted for sealing purposes.



The bypass is constructed with a 45 degree Wye fitting at the bottom of the outlet stack. The bottom of the Wye is capped and fitted with a tube that connects to the inlet piping or other drain. The condensation produced in the outlet stack is collected in the Wye fitting and drained through the bypass tube. The bypass tubing may be insulated to prevent freezing.

1.8. SYSTEM MONITOR & LABEL

A System Monitor, such as a manometer (P/N 50017) or audible alarm (P/N 28001-2) is required to notify the occupants of a fan system malfunction. A System Label (provided with Manometer P/N 50017) with instructions for contacting the installing contractor for service and also identifying the necessity for regular radon tests to be conducted by the building occupants, must be conspicuously placed where the occupants frequent and can see the label.

1.9. VENTILATION

If used as a ventilation Fan any type of ducting is acceptable, however, flexible nonmetallic ducting is recommended for easy installation and quieter operation. Insulated flexible ducting is highly recommended in cold climates to prevent the warm bathroom air from forming condensation in the ducting where it is exposed to colder attic air. The outlet of the fan should always be ducted to the outside. Avoid venting the outlet of the fan directly into an attic area. The excess moisture from the bathroom can cause damage to building structure and any items stored in the attic. Multiple venting points may be connected together using a "T" or "Y" fitting. Ideally Duct should be arranged such that equal duct lengths are used between intake and "T" or "Y" fitting, this will result in equal flow rates in each intake branch. If adjustable intake grilles are used on multi-intake systems then the opening on each grill should be equal in order to minimize noise and resistance. Straight smooth runs of rigid metal ducting will present the least resistance and maximize system performance. The Equivalent Length of Rigid Metal Ducting resulting in .2" WC pressure loss for each Fan Model is provided in the specification section of these Instructions. Flexible ducting, if used, must always be as close to being fully extended as possible. Formed rigid metal duct elbows will present the least resistance and maximize system performance, recommended bend radius of elbow is at least 1.5 x duct diameter.

RP Series fans are not suitable for kitchen range hood remote ventilation applications. For quietest performance, the fan should be mounted further away from the inlet duct, near the outside vent. A minimum distance of 8 feet is recommended between the fan or T/Y of a multi-intake system and intake grille(s).

Backdraft dampers allow airflow in only one direction preventing cold/hot drafts from entering the vented area and minimize possible condensation and icing within the system while the fan is not operating. Backdraft dampers are highly recommended at each intake grille for bathroom ventilation in all cold climate installations. Installation instructions are included with Spruce backdraft dampers.

The ducting from this fan to the outside of the building has a strong effect on the airflow, noise and energy use of the fan. Use the shortest, straightest duct routing possible for best performance, and avoid installing the fan with smaller ducts than recommended. Insulation around the ducts can reduce energy loss and inhibit mold growth. Fans installed with existing ducts may not achieve their rated airflow.

1.10. ELECTRICAL WIRING

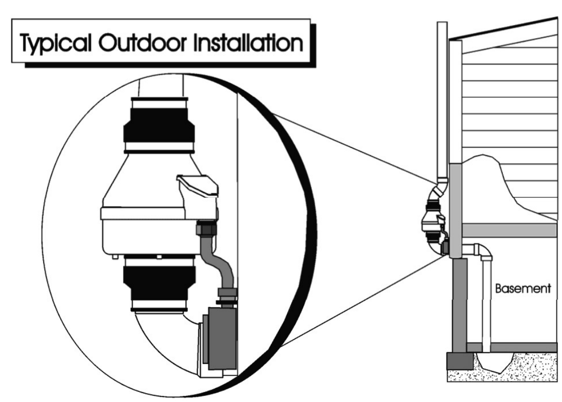
The RP Series Fans operate on standard 120V 60 Hz. AC. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA)"National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician. Outdoor installations require the use of a U.L. listed watertight conduit. Ensure that all exterior electrical boxes are outdoor rated and properly sealed to prevent water penetration into the box. A means, such as a weep hole, is recommended to drain the box.

1.11. SPEED CONTROLS

The RP Series Fans are rated for use with electronic speed controls, however, they are generally not recommended. If used, the recommended speed control is Pass & Seymour Solid State Speed Control Cat. No. 94601-I.

2.0 INSTALLATION

The RP Series Fan can be mounted indoors or outdoors. (It is suggested that EPA recommendations be followed in choosing the fan location.) The RP Series Fan may be mounted directly on the system piping or fastened to a supporting structure by means of optional mounting bracket



2.1 MOUNTING

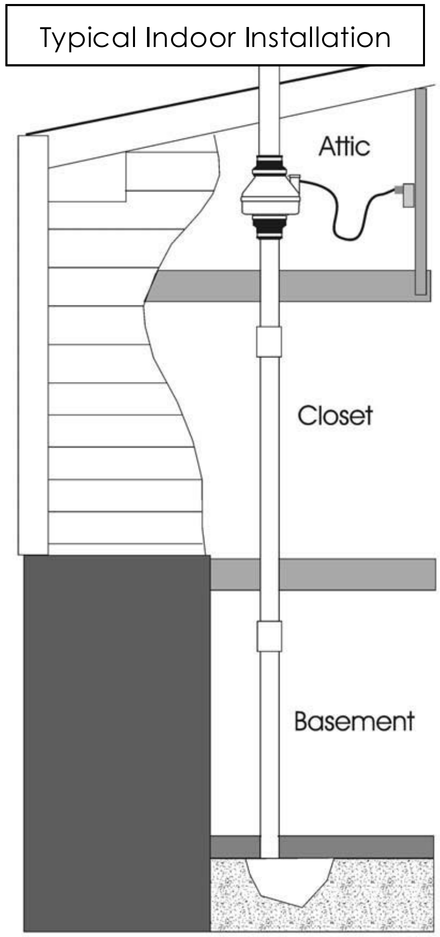
Mount the RP Series Fan vertically with outlet up. Insure the unit is plumb and level. When mounting directly on the system piping assure that the fan does not contact any building surface to avoid vibration noise.

2.2 MOUNTING BRACKET (optional)

The RP Series Fan may be optionally secured with the RadonAway P/N 25007 (25033 for RP385) mounting bracket. Foam or rubber grommets may also be used between the bracket and mounting surface for vibration isolation.

2.3 SYSTEM PIPING

Complete piping run, using flexible couplings as means of disconnect for servicing the unit and vibration isolation. Used as a Radon Fan the fan is typically outside of the building thermal boundary, and is venting to the outside, installation of insulation around the fan is not required. If used as a ventilation fan insulation may be installed around the fan and duct work, insulation should be sized appropriately for the duct size used and secured with duct tape.



2.4 ELECTRICAL CONNECTION

Connect wiring with wire nuts provided, observing proper connections (See Section 1.10). Note that the fan is not intended for connection to rigid metal conduit.

Fan Wire	Connection
Green	Ground
Black	AC Hot
White	AC Common

2.5 VENT MUFFLER (optional)

Install the muffler assembly in the selected location in the outlet ducting. Solvent weld all connections. The muffler is normally installed at the end of the vent pipe.

2.6 OPERATION CHECKS & ANNUAL SYSTEM MAINTENANCE

______**Verify** all connections are tight and **leak-free**.

______**Insure** the RP Series Fan and all ducting is secure and vibration-free.

______**Verify** system vacuum pressure with manometer. **Insure** vacuum pressure is within normal operating range and **less than** the maximum recommended operating pressure.

(Based on sea-level operation, at higher altitudes reduce by about 4% per 1000 Feet.)

(Further reduce Maximum Operating Pressure by 10% for High Temperature environments)

See Product Specifications. If this is exceeded, increase the number of suction points.

______**Verify Radon levels by testing to EPA protocol.**

RP SERIES PRODUCT SPECIFICATIONS

The following chart shows fan performance for the RP Series Fan:

Typical CFM Vs Static Pressure "WC									
	0"	.25"	.5"	.75"	1.0"	1.25"	1.5"	1.75"	2.0"
RP140	135	103	70	14	-	-	-	-	-
RP145	166	146	126	104	82	61	41	21	3
RP260	272	220	176	138	103	57	13	-	-
RP265	334	291	247	210	176	142	116	87	52
RP380*	497	401	353	281	220	176	130	80	38

* Tested with 6″ inlet and discharge pipe.

Power Consumption 120 VAC, 60Hz 1.5 Amp Maximum			Maximum Recommended Operating Pressure* (Sea Level Operation)**	
RP140	17 - 21	watts	RP140	0.8" W.C.
RP145	41 - 72	watts	RP145	1.7" W.C.
RP260	52 - 72	watts	RP260	1.5" W.C.
RP265	91 - 129	watts	RP265	2.2" W.C.
RP380	95 - 152	watts	RP380	2.0" W.C.

**Reduce by 10% for High Temperature Operation*
***Reduce by 4% per 1000 feet of altitude*

	Size	Weight	Inlet/Outlet	L.2
RP140	8.5H" x 9.7" Dia.	5.5 lbs.	4.5" OD (4.0" PVC Sched 40 size compatible)	25
RP145	8.5H" x 9.7" Dia.	5.5 lbs.	4.5" OD (4.0" PVC Sched 40 size compatible)	15
RP260	8.6H" x 11.75" Dia.	5.5 lbs.	6.0″ OD	48
RP265	8.6H" x 11.75" Dia.	6.5 lbs.	6.0″ OD	30
RP380	10.53H" x 13.41" Dia.	11.5 lbs.	8.0″ OD	57

L.2 = Estimated Equivalent Length of Rigid Metal Ducting resulting in .2in WC pressure loss for Duct Size listed. Longer Equivalent Lengths can be accommodated at Flows Lower than that at .2in WC pressure loss (see CFM Vs Static Pressure "WC Table).

Recommended ducting: 3" or 4" RP1xx/2xx, 6″ RP380, Schedule 20/40 PVC Pipe

Mounting: If used for Ventilation use 4", 6" or 8" Rigid or Flexible Ducting

Mount on the duct pipe or with optional mounting bracket.

Storage temperature range: 32 - 100 degrees F.

Normal operating temperature range: -20 - 120 degrees F.

Maximum inlet air temperature: 80 degrees F.

Continuous Duty

Class F Insulation [RP140 Class B]

Class B Insulation

Thermally Protected

3000 RPM

Rated for Indoor or Outdoor Use

LISTED
Electric Fan

Intertek
77728

Conforms to
UL STD. 507

Certified to
CAN/CSA STD.
C22.2 No.113

ENERGY STAR
RP140 Only

TESTED/CERTIFIED
2100 HVI
Home Ventilating Institute

IMPORTANT INSTRUCTIONS TO INSTALLER

Inspect the GP/XP/XR/RP/SF Series Fan for shipping damage within 15 days of receipt. Notify **RadonAway® of any damages immediately**. RadonAway® is not responsible for damages incurred during shipping. However, for your benefit, RadonAway® does insure shipments.

There are no user serviceable parts inside the fan. **Do not attempt to open.** Return unit to factory for service.

Install the GP/XP/XR/RP/SF Series Fan in accordance with all EPA standard practices, and state and local building codes and state regulations.

Provide a copy of this instruction or comparable radon system and testing information to the building occupants after completing system installation.

WARRANTY

RadonAway® warrants that the GPX01/XP/XR/RP/SF Series Fan (the "Fan") will be free from defects in materials and workmanship for a period of 90 days from the date of purchase (the "Warranty Term").

RadonAway® will replace any Fan which fails due to defects in materials or workmanship during the Warranty Term. The Fan must be returned (at Owner's cost) to the RadonAway® factory. Any Fan returned to the factory will be discarded unless the Owner provides specific instructions along with the Fan when it is returned regardless of whether or not the Fan is actually replaced under this warranty. Proof of purchase must be supplied upon request for service under this Warranty.

This Warranty is contingent on installation of the Fan in accordance with the instructions provided. This Warranty does not apply where any repairs or alterations have been made or attempted by others, or if the unit has been abused or misused. Warranty does not cover damage in shipment unless the damage is due to the negligence of RadonAway®.

5 YEAR EXTENDED WARRANTY WITH PROFESSIONAL INSTALLATION.

RadonAway® will extend the Warranty Term of the fan to five (5) years from date of purchase or sixty-three (63) months from the date of manufacture, whichever is sooner, if the Fan is installed in a professionally designed and professionally installed active soil depressurization system or installed as a replacement fan in a professionally designed and professionally installed active soil depressurization system by a qualified installer. Proof of purchase and/or proof of professional installation may be required for service under this warranty. Outside the Continental United States and Canada the extended Warranty Term is limited to one (1) year from the date of manufacture.

RadonAway® is not responsible for installation, removal or delivery costs associated with this Warranty.

LIMITATION OF WARRANTY

EXCEPT AS STATED ABOVE, THE GPx01/XP/XR/RP SERIES FANS ARE PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL RADONAWAY BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR RELATING TO, THE FAN OR THE PERFORMANCE THEREOF. RADONAWAY'S AGGREGATE LIABILITY HEREUNDER SHALL NOT IN ANY EVENT EXCEED THE AMOUNT OF THE PURCHASE PRICE OF SAID PRODUCT. THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY SHALL BE THE REPAIR OR REPLACEMENT OF THE PRODUCT, TO THE EXTENT THE SAME DOES NOT MEET WITH RADONAWAY'S WARRANTY AS PROVIDED ABOVE.

For service under this Warranty, contact RadonAway for a Return Material Authorization (RMA) number and shipping information. No returns can be accepted without an RMA. If factory return is required, the customer assumes all shipping costs, including insurance, to and from factory.

RadonAway® 3 Saber Way
Ward Hill, MA 01835 USA TEL (978) 521-3703
FAX (978) 521-3964
Email to: Returns@RadonAway.com

Record the following information for your records:

Serial No.____
Purchase Date______________________________________

Appendix I

Operations Log for SSDS

Operations Log for SSDS

1960-1982 Webster Avenue, Bronx, New York

NYSDEC Site No. C203075

Personnel:____________________________ Date/time: _____________

Company/Position:________________________________ Previous inspection: _____________

Location		Parameter	Unit	Response
In-line fan	SP-01	Fan running	Yes or No	__________
In-line fan	SP-02/SP-03	Fan running	Yes or No	__________
In-line fan	SP-04	Fan running	Yes or No	__________
Sampling port	SP-01	Applied vacuum - typically 2.2" w.c.	inches w.c.	__________
Sampling port	SP-02/SP-03	Applied vacuum - typically 1.9" w.c.	inches w.c.	__________
Sampling port	SP-04	Applied vacuum - typically 1.6" w.c.	inches w.c.	__________
Sampling port	SP-01	Flow rate - typically	cfm	__________
Sampling port	SP-02/SP-03	Flow rate - typically	cfm	__________
Sampling port	SP-04	Flow rate - typically	cfm	__________
Piping		Are there any holes, cracks, or other physical deficiencies? Are there any blockages in the piping?	Yes or No	

cfm = cubic feet per minute; inches w.c. = inches of water column

Material changes in vacuum readings or flow rates?

Material changes in SSDS operations?

Action items:

All action items from previous inspection completed? (re-write item if unresolved)

NOTES:

Appendix J

Quality Assurance Project Plan

QUALITY ASSURANCE PROJECT PLAN (QAPP)

1960-1982 Webster Avenue
Bronx, New York

August 2014

Prepared for:

Mountco Construction and Development Corporation
700 White Plains Road, Suite 363
Scarsdale, NY 10583

And

Common Ground Community II HDFC
505 Eighth Avenue, 5th floor
New York, NY 10018

Prepared by:

Environmental Resources Management
105 Maxess Road, Suite 316
Melville, NY 11747

LIST OF TABLES

FIGURES

1.0 PURPOSE AND OBJECTIVES

1.1 Purpose

This Quality Assurance Project Plan (QAPP) was prepared for the Remedial Action (RA) Work Plan (WP) for the site located at 1960-1982 Webster Avenue in Bronx, NY (the Site). It is intended to set forth guidelines for the generation of reliable data by measurement activities, such that data generated are scientifically valid, defensible, comparable and of known precision and accuracy.

This QAPP contains a detailed discussion of the quality assurance and quality control (QA/QC) protocols to be utilized by Environmental Resources Management (ERM) and laboratory personnel. The RA sampling program and relevant field/laboratory QA/QC requirements are summarized in Tables C-1 through C-6.

1.2 Definitions

The parameters that will be used to specify data quality objectives, and to evaluate the analytical system performance for all analytical samples are precision, accuracy, representativeness, completeness, and comparability (PARCC). Definitions of these and other key terms used in this QAPP are provided below.

- ***Accuracy*** - the degree of agreement of a measurement with an accepted reference value. Accuracy is generally reported as a percent recovery, and calculated as:

$$\frac{\text{Measured Value}}{\text{Accepted Value}} \times 100$$

- ***Analyte*** - the chemical or property for which a sample is analyzed.
- ***Comparability*** - the expression of information in units and terms consistent with reporting conventions; the collection of data by equivalent means; or the generation of data by the same analytical method. Aqueous samples will be reported as µg/l, solid samples will be reported in units of ug/kg or mg/kg, dry weight.
- ***Completeness*** - the percentage of valid data obtained relative to that which would be expected under normal conditions. Data are judged valid if they meet the stated precision and accuracy goals.

- ***Duplicate*** - two separate samples taken from the same source by the same person at essentially the same time and under the same conditions that are placed into separate containers for independent analysis. Duplicate samples are intended to assess the effectiveness of equipment decontamination, the precision of sampling efforts, the impacts of ambient environmental conditions on sensitive analyses (e.g., volatile organics analysis (VOA)), and the potential for contaminants attributable to reagents or decontamination fluids. Identifying such potential sources of error is essential to the success of the sampling program and the validity of the environmental data. Each QC sample is described below. As a minimum, each set of ten or fewer field samples will include a trip blank, a duplicate, and one sample collected in a sufficient volume to allow the laboratory to perform a matrix spike.

- ***Field Blanks*** - field blanks (sometimes referred to as "equipment blanks" or "sampler blanks") are the final analyte-free water rinse from equipment decontamination in the field and are collected at least one during a sampling episode. If analytes pertinent to the project are found in the field blank, the results from the blanks will be used to qualify the levels of analytes in the samples. This qualification is made during data validation. The field blank is analyzed for the same analytes as the sample that has been collected with that equipment.

- ***Precision*** - a measure of the agreement among individual measurements of the sample property under prescribed similar conditions. Precision is generally reported as Relative Standard Deviation (RSD) or Relative Percent Difference (RPD). Relative standard deviation is used when three or more measurements are available and is calculated as:

$$\text{RSD} = \frac{\text{Standard Deviation}}{\text{Arithmetic Mean}} \times 100$$

  Relative percent difference is used for duplicate measurements and is calculated as:

$$\text{RPD} = \frac{\text{Value 1 - Value 2}}{\text{Arithmetic Mean}} \times 100$$

- ***Quality Assurance (QA)*** - all means taken in the field and inside the laboratory to make certain that all procedures and protocols use the same calibration and standardization procedures for reporting results; also, a program which integrates the quality planning, quality assessment, and quality improvements activities within an organization.

- ***Quality Control (QC)*** - all the means taken by an analyst to ensure that the total measurement system is calibrated correctly. It is achieved by using reference standards, duplicates, replicates, and sample spikes. In addition, the routine application of procedures designed to ensure that the data produced achieve known limits of precision and accuracy.

- ***Replicate*** - two aliquots taken from the same sample container and analyzed separately. Where replicates are impossible, as with volatile organics, duplicates must be taken.

- ***Representativeness*** - degree to which data represent a characteristic of a set of samples. The representativeness of the data is a function of the procedures and caution utilized in collecting and analyzing the samples. The representativeness can be documented by the relative percent difference between separately collected, but otherwise identical sample volumes.

- ***Trip Blanks*** - trip blanks are samples that originate from analyte-free water taken from the laboratory to the sampling site and returned to the laboratory with the volatile organic samples. One trip blank should accompany each cooler containing volatile organics; it will be stored at the laboratory with the samples, and analyzed with the sample set. Trip blanks are only analyzed for VOCs.

1.3 Data Quality Objectives

1.3.1 Overall Data Quality Objectives

Data Quality Objectives (DQO) are quantitative and qualitative statements specifying the quality of the environmental data necessary to support the decision-making process to guide the RA and any subsequent corrective actions. DQO define the total uncertainty in the data that is acceptable for each specific activity during the RA. This uncertainty includes both sampling error and analytical error. Ideally, the prospect of zero uncertainty is the objective; however, the very processes by which data are collected in the field and analyzed in the laboratory contribute to the uncertainty of the data. It is the overall objective to keep the total uncertainty to a minimal level such that it will not hinder the intended use of the data.

To achieve the project DQO, specific data quality parameters such as detection limits, criteria for accuracy and precision, sample representativeness, data comparability and data completeness must be specified. The overall objectives are established such that there is a high degree of confidence in the measurements.

The parameters that will be used to specify data quality objectives and to evaluate the analytical system performance for soil and groundwater samples are PARCC: precision, accuracy, representativeness, completeness, and comparability.

1.3.2 Field Investigation Data Quality Objectives

To permit calculation of precision and accuracy for the samples, blind field duplicate, field blanks, trip blanks, and matrix spike/matrix spike duplicate (MS/MSD) samples will be collected, analyzed, and evaluated.

Through the submission of field QC samples, the distinction can be made between laboratory problems, sampling technique considerations, sample matrix effects, and laboratory artifacts. To assure sample representativeness, all sample collection will be performed in strict accordance with the procedures set forth in this QAPP.

Precision will be calculated as RPD if there are only two analytical points and percent relative standard deviation (% RSD) if there are more than two analytical points. Blind field duplicate and MS/MSD sample analyses will provide the means to assess precision. The submission of field and trip blanks will provide a check with respect to accuracy and will monitor chemicals that may be introduced during sampling, preservation, handling, shipping, and/or the analytical process. In the event that the blanks are contaminated and/or poor precision is obtained, the associated data will be appropriately qualified.

Representativeness will be assured through the implementation of the structured and coherent RAWP of which this QAPP is a part. This RAWP has been designed so that the appropriate numbers of samples of each matrix and of each location of interest are obtained for analysis.

Ideally, 100% completeness is the goal. However, it must be recognized that unforeseen issues may result in the generation of some data that may not be acceptable for use. Therefore, a completeness target of 90%, as determined by the total number of usable data points versus the total number of data points measured, will be the realistic goal of this program.

Comparability is defined as the extent to which data from one data set can be compared to similar data sets. Comparability between data sets is often questionable due to issues such as different analytical methods used or inter-laboratory differences. In order that the data generated as part of this project remain comparable to any previously generated data or data to be generated in the future, currently published analytical methods have been identified for the analysis of the collected samples. These methods will be performed by an analytical laboratory with a demonstrated proficiency in the analysis of similar samples by the referenced methods. In addition, samples will be collected using documented procedures to ensure consistency of effort and reproducibility if necessary.

1.3.3 Laboratory Data Quality Objectives

The analytical laboratory will demonstrate analytical precision and accuracy by the analysis of various QC samples (i.e., laboratory duplicates, spike samples, matrix spike duplicates and laboratory control samples). Tables C-5 and C-6 present the relevant precision and accuracy criteria for the analytical parameters related to this RAWP. Precision, as well as instrument stability, will also be demonstrated by comparison of calibration response factors from the initial calibration to that of the continuing calibrations. Laboratory accuracy will be evaluated by the addition of surrogate and matrix spike compounds, and will be presented as percent recovery (%R). Precision will be presented as RPD, % RSD, or percent difference (%D), whichever is appropriate for the number and type of QC samples analyzed. Laboratory blanks can also be used to demonstrate the accuracy of the analyses and possible effects from laboratory artifact contamination.

2.0 FIELD QUALITY ASSURANCE/QUALITY CONTROL

2.1 Equipment Maintenance

In addition to the laboratory analyses conducted during the course of this RA, field measurements will be collected for total volatile organics (air monitoring and soil sample screening), pH, conductivity, oxidation/reduction potential (ORP), dissolved oxygen (DO) and turbidity in groundwater. A maintenance, calibration, and operation program will be implemented to ensure that routine calibration and maintenance is performed on all field instruments. ERM's equipment manager, the Quality Assurance Officer (QAO), and the field team members will administer the program. ERM's equipment manager will perform the scheduled monthly and annual calibration and maintenance. Monthly and annual maintenance, calibration, and equipment operation will follow the procedures outlined in the manufacturer's Operation and Field Manuals accompanying the respective instruments.

2.2 Equipment Calibration

Trained field team members will be familiar with the field calibration, operation, and maintenance of the equipment. They will perform field calibrations, checks, and instrument maintenance daily. The photoionization detector (PID) and AREA Rae will be calibrated on a periodic basis with isobutylene. A Dust Trak will be calibrated daily using provided calibration air. A trained team member will perform daily field checks and instrument maintenance prior to use. A trained team member using standard calibration solutions will calibrate the pH, conductivity, ORP, DO, turbidity and colorimetry meters. Field maintenance, calibration, and equipment operation will follow the procedures outlined in the manufacturer's Operation and Field Manuals accompanying the respective instruments. All maintenance and calibration will be documented on an instrument-specific master calibration/maintenance form.

The Field Team Leader (FTL) will be responsible for keeping a master instrument calibration/maintenance form for each measuring device. Each form will include at least the following relevant information:

- Name of device and/or instrument calibrated;
- Device/instrument serial and/or identification (I.D.) number;
- Frequency of calibration;
- Date of calibration;
- Results of calibration;

- Name of person performing the calibration;
- Identification of the calibration standards; and
- Buffer solutions (pH meter only).

2.3 *Equipment Decontamination*

To minimize the potential for cross-contamination, all drilling and sampling equipment will be properly decontaminated prior to and after each use.

2.3.1 General Procedures

All heavy equipment will be decontaminated in a designated clean area. Sampling equipment and probes will be decontaminated in an area covered by plastic near the sampling location. All solvents and wash water used in the decontamination process will be collected and drummed for off-site disposal. All disposable sampling equipment will be properly disposed of in dry containers.

All well casing and screen will be steam cleaned, wrapped in clean polyethylene sheeting, and stored until the time of well construction.

Extraneous contamination and cross-contamination will be controlled by wrapping the sampling equipment with aluminum foil when not in use and changing and disposing of the sampler's gloves between samples. Decontamination of sampling equipment will be kept to a minimum in the field, and wherever possible, dedicated sampling equipment will be used. Personnel directly involved in equipment decontamination will wear appropriate protective equipment.

2.3.2 Heavy Equipment (drill rigs, etc.)

All drilling equipment and the back of the drilling rig will be decontaminated by steam cleaning prior to performance of the first boring/well installation and between all subsequent borings/well installations. This will include all hand tools, casing, augers, drill rods and bits, tremie pipe and other related tools and equipment. The steam cleaning equipment will be capable of generating live steam with a minimum temperature of 212° F.

All water used during drilling and/or steam-cleaning operations will be from a potable source and so designated in writing. The drilling contractor is responsible for obtaining all permits from the local potable water purveyor and any other concerned authorities, and provision of any requested back-flow prevention devices. The equipment will be cleaned to the satisfaction of the ERM Hydrogeologist or FTL.

2.3.4 *Aqueous Sampling Equipment*

Factory pre-cleaned disposable bailers will be used during the RA. In the event that field decontamination of reusable sampling equipment is necessary, decontamination procedures will be as follows:

- Laboratory-grade glassware detergent and tap water scrub to remove visual contamination;
- Generous tap water rinse; and
- Distilled and deionized (ASTM Type II) water rinse;
- 10% nitric acid rinse, followed by a distilled and deionized water rinse (metals only), or
- Methanol (pesticide grade) rinse (volatiles only);
- Total air dry; and
- Distilled and deionized water rinse.

The submersible sampling pumps that are placed in the borehole will be decontaminated with an Alconox detergent rinse and by pumping approximately 5 gallons of potable water through the pump. Since dedicated new lengths of polyethylene tubing will be used for sampling each well, the tubing will not be decontaminated. Unless otherwise specified, the submersible pumps will be decontaminated prior to the sampling the first well and between each subsequent well as follows:

- Potable water rinse.
- Alconox detergent and potable water scrub.
- Potable water rinse.
- Distilled/deionized water rinse.
- Wrap in aluminum foil, shiny side facing out.

2.3.5 *Meters and Probes*

All meters and probes that are used in the field (other than those used solely for air monitoring purposes, e.g., oxygen meters, explosimeters, etc.) will be decontaminated between uses as follows:

- Phosphate-free laboratory detergent solution;
- tap water;

- methanol rinse (at the FTL's discretion);
- deionized water (triple rinse).

A methanol rinse will be used if deemed necessary by the FTL.

2.4 *Quality Assurance/Quality Control Sampling*

The field sampling quality assurance-sampling program is summarized in Table C-1. Specific guidance regarding the collection of field and laboratory QA/QC samples is presented separately below.

2.4.1 Field QA/QC Samples

Trip Blanks

The trip blank will be used to determine if any cross-contamination occurs between aqueous samples during shipment. The analytical laboratory will supply trip blanks as aliquots of distilled, deionized water that will be sealed in a sample bottle prior to initiation of each day of fieldwork. Glass vials (40 ml) with Teflon®-lined lids will be used for trip blanks. The sealed trip blank bottles will be placed in a cooler with the empty sample bottles and will be shipped to the site by the laboratory personnel. If multiple coolers are necessary to store and transport aqueous VOC samples, then each cooler must contain an individual trip blank. Trip blanks are analyzed for VOCs only.

Field Blanks

Field blanks will be collected to evaluate the cleanliness of soil and aqueous sampling equipment, sample bottles and the potential for cross-contamination of samples due to handling of equipment, sample bottles and contaminants present in the air. Field blanks will be collected at a frequency of one per decontamination event for each type of sampling equipment, and each media being sampled (e.g., a groundwater bailer for groundwater, and a hand auger for soil sampling), at a minimum of one per equipment type and/or media per day.

Field blanks will be collected prior to the occurrence of any analytical field-sampling event by pouring deionized or potable water over a particular piece of sampling equipment and into a sample container. The analytical laboratory will provide field blank water and sample jars with preservatives for the collection of all field blanks. Glass jars will be used for organic blanks. The field blanks as well as the trip blanks will accompany field personnel to the sampling location. The field blanks will be analyzed for the same analytes as the environmental samples being collected that day and will be shipped with the samples taken.

Field blanks will be taken in accordance with the procedure described below:

- Decontaminate sampler using the procedures specified in the QAPP;
- Pour distilled/deionized water over the sampling equipment and collect the rinsate water in the appropriate sample bottles;
- The sample will be immediately placed in a sample cooler and maintained at a temperature of 4°C until receipt by the laboratory; and
- Fill out sample log, labels, and COC forms, and record in field notebook.

Temperature Blanks

The temperature blank will be used to determine the temperature of the samples within the cooler upon arrival at the analytical laboratory. A laboratory-supplied temperature blank will be an aliquot of distilled, deionized water that will be sealed in a sample bottle. The sealed temperature blank bottles will be placed in a cooler with the empty sample bottles and will be shipped to the site by the laboratory personnel. If multiple coolers are necessary to store and transport samples, then each cooler must contain an individual temperature blank.

2.4.2 Laboratory QA/QC

Blind Field Duplicate Samples

Aqueous blind field duplicate samples will be collected analyzed to check laboratory reproducibility of analytical data. Blind field duplicates will be collected from the soil borings.

Blind field duplicate samples will be collected at a frequency of at least 5% (one out of every 20 samples) of the total number of samples collected to evaluate the precision and reproducibility of the analytical methods. All blind field duplicate samples will be submitted to the analytical laboratory as a normal sample, however, will have a fictitious sample identification and fictitious time of sample collection. Each blind field duplicate will be cross-referenced to document which actual sample it is a blind field duplicate of in the field notes and on the master sample log.

Matrix Spike/Matrix Spike Duplicate

Additional environmental sample volume will be collected for use as MS/MSD samples at a frequency of at least 5% (one out of every 20 samples) of the total number of samples collected per matrix to evaluate the precision and reproducibility of the analytical methods. To ensure the laboratory has sufficient volume for MS/MSD analysis, triple sample volume must be submitted for aqueous organic extractable and volatile samples once per every 20 samples in a sample delivery group (SDG).

2.5 Field Records

Proper management and documentation of field activities is essential to ensure that all necessary work is conducted in accordance with the RAWP and QAPP in an efficient and high quality manner. Field management procedures include following proper chain of custody procedures to track a sample from collection through analysis, noting when and how samples are split (if necessary), making regular and complete entries in the field logbook, and the consistent use and completion of field management forms. Field management forms and field logbook will be used to document all field activities, as this documentation will support that the samples were collected and handled properly, making the resultant data complete, comparable and defensible. Field logbook procedures and field management forms are identified in the following sections.

2.5.1 Field Logbook

The sample team or individual performing a particular sampling activity will keep a weatherproof field notebook. Field notebooks are intended to provide sufficient data and observations to enable participants to reconstruct events that occurred during projects and to refresh the memory of the field personnel if called upon to give testimony during legal proceedings. In a legal proceeding, notes, if referred to, are subject to cross-examination and are admissible as evidence. The field notebook entries should be factual, detailed, and objective. All entries are to be signed and dated. All members of the field investigation team are to use this notebook, which will be kept as a permanent record. The field notebook will be filled out at the location of sample collection immediately after sampling. It will contain sample descriptions including: sample number, sample collection time, sample location, sample description, sampling method used, daily weather conditions, field measurements, name of sampler, and other site-specific observations. The field notebook will contain any deviations from protocol and why, visitor's names, or community contacts made during sampling, geologic and other site-specific information which may be noteworthy.

2.5.2 Field Management Forms

In addition to maintenance of a field logbook, the use of field management forms will supplement field logbook entries for all field activities associated with this project. Field management forms provide a regular format to record the relevant information for a particular field activity. Use of these forms will ensure that the field team consistently and completely records all pertinent data relative to a particular field activity on a regular basis. All forms, sample labels, custody seals and other sample documents will be filled out completely.

A list of forms and the associated activities for which each form could be potentially be completed is presented below.

Form	***Activity***
Groundwater Sampling Record	All permanent well sampling
Soil Boring Logs	All borings
Air Sampling Checklist	All air samples
Monitoring Well Construction Logs	All permanent well installations
Well Development Data Sheet	All well development efforts
Chain of Custody (COC) Form	All field sampling efforts
Laboratory Sample Bottle Request	All field sampling efforts
Sampling Equipment Checklist	All field sampling efforts
Daily Instrument Calibration Log	Every day a field instrument is used
Well Inspection Log	All permanent well sampling

Copies of each of these forms are provided at the end of this attachment.

2.6 Sample Preparation And Custody

2.6.1 Sample Identification

To provide for proper identification in the field, and proper tracking in the laboratory, all samples must be labeled in a clear and consistent fashion using the procedures and protocols described below and within the following subsections.

- Sample labels will be waterproof and have a pre-assigned, unique number that is indelible.
- Field personnel must maintain a field notebook. This notebook must be water resistant with sequentially numbered pages. Field activities will be sequentially recorded in the notebook.

- The notebook, along with the COC form, must contain sufficient information to allow reconstruction of the sample collection and handling procedure at a later time.
- Each sample will have a corresponding notebook entry which includes:
  - Sample ID number;
  - Well or other sample location and number;
  - Date and time;
  - Analysis for which sample was collected;
  - Additional comments as necessary; and
  - Samplers' name.
- Each sample must have a corresponding entry on a COC manifest.
- The manifest entry for sampling at any one well is to be completed before sampling is initiated at any other well by the same sampling team.
- In cases where the samples leave the immediate control of the sampling team (i.e., shipment via common carrier) the shipping container must be sealed.

Each sample collected will be designated by an alphanumeric code that will identify the type of sampling location and a specific sample designation (identifier). Location types will be identified by a two-letter code. Groundwater samples collected from the monitoring wells will begin with "MW". Sub-slab air samples will begin with "SS", indoor air samples from the basement will begin with "B", samples from other floors although not anticipated would begin with "FF" for first floor, etc, and ambient air samples will begin with "AA". Soil samples collected from the soil borings will begin with "SB". The depth will also be added to soil samples if applicable. The specific sampling designation (identifier) will be identified using a two-digit number. Samples collected for waste characterization will begin with "WC". For example, the first sample collected from the first soil boring at 5 feet will be identified as SB-01 (5).

In the case of QC samples such as field blanks, trip blanks and blind field duplicate samples, six digits will follow FB, TB and DUP respectively to represent the date (e.g., FB040112 would represent a field blank collected on 01 April 2012). For matrix spike/matrix spike duplicate samples, MS/MSD will be added following the applicable sample identification.

2.6.2 Sample Containers

- The analytical laboratory will provide all sample containers.

  - If glass bottles are used, extra glass bottles will be obtained from the laboratory to allow for accidental breakage that may occur.
  - If sample preservation is specified, the necessary preservatives will be placed in the sample bottles by the laboratory.
- The sample bottles will be handled carefully so that any preservatives are not inadvertently spilled.

A more detailed description of the sample containers to be utilized for this RI can be found in Tables C-2 through C-4.

2.6.3 *Sample Preservation*

Sample Preservation

Soil samples collected during the RA will be preserved by cooling to 4°C and maintained at this temperature until time of analysis. Groundwater samples for VOC analysis during the RA will be preserved by acidification to a pH of <2 using hydrochloric acid (HCl), cooled to 4°C, and maintained at this temperature until time of analysis. A more detailed description of the sample preservation to be utilized for this RA can be found in Table C-2.

- Immediately following collection of the samples, they will be placed in a cooler with "freezer-pacs" to maintain sample integrity. All volatile sample bottles to be filled to capacity with no headspace for volatilization. If necessary to meet a maximum recommended holding time, the samples are to be shipped by overnight courier to the laboratory.
- The shipping container used will be designed to prevent breakage, spills, and contamination of the samples. Tight packing material is to be provided around each sample container and any void around the "freezer-pacs". The container is to be securely sealed, clearly labeled, and accompanied by a COC record. Separate shipping containers should be used for "clean" samples and samples suspected of being heavily contaminated. During winter months, care should be taken to prevent samples from freezing. Sample bottles will not be placed directly on "freezer-pacs".

Sample Holding Time

- All samples will be shipped the same day they are obtained to the analytical laboratory.
- The samples must be stored at or near 4ºC and analyzed within specified holding times.

- The analytical laboratory will be a NYSDOH ELAP-certified laboratory, and conform to meeting specifications for documentation, data reduction, and reporting. The laboratory will follow all method specifications pertaining to sample holding times contained in the NYSDEC ASP (revised 2005) and/or as prescribed by the specific analytical method.

A more detailed description of the sample holding times to be utilized for this RA can be found in Table C-2. These holding times are consistent with NYSDEC ASP Exhibit I although technical holding times vary. The holding times for the air samples will be consistent with the method requirements and not the EPA Region 2 validation criteria.

Sample Custody

Chain of Custody - *T*he primary objective of the sample custody procedures is to create an accurate written record that can be used to trace the possession and handling of all samples from the moment of their collection, through analysis, until their final disposition. All field-sampling personnel will adhere to proper sample custody procedures because samples collected during an investigation could be used as evidence in litigation. Therefore, possession of the samples must be traceable from the time each sample is collected until it is analyzed at the laboratory.

Custody Transfer to Field Personnel - The on-site hydrogeologist or the field personnel will maintain custody of samples collected during this investigation. All field personnel are responsible for documenting each sample transfer and maintaining custody of all samples until they are shipped to the laboratory. COC records will be completed at the time of sample collection and will accompany the samples inside the cooler for shipment to the selected laboratory.

Each individual who has the samples in their possession will sign the COC record. Preparation of the COC record is as follows:

- For every sample, the person collecting the sample will initiate the COC record in the field. Every sample will be assigned a unique identification number that is entered on the COC Record.
- The record will be completed in the field to indicate project, sampling team, etc.
- If the person collecting the sample does not transport the samples to the laboratory or deliver the sample containers for shipment, the first block for Relinquished By __________, Received By __________ will be completed in the field.

- The person transporting the samples to the laboratory or delivering them for shipment will sign the record form as Relinquished By ___________.
- If commercial carrier ships the samples to the laboratory, the original COC record will be sealed in a watertight container and placed in the shipping container, which will be sealed prior to being given to the carrier. The carbonless copy of the COC record will be maintained in the field file.
- If the samples are directly transported to the laboratory, the COC will be kept in possession of the person delivering the samples.
- For samples shipped by commercial carrier, the waybill will serve as an extension of the COC record between the final field custodian and the laboratory.
- Upon receipt in the laboratory, the Sample Custodian or designated representative, will open the shipping containers, compare the contents with the COC record, and sign and date the record. Any discrepancies will be noted on the COC record.
- If discrepancies occur, the samples in question will be segregated from normal sample storage and the field personnel immediately notified.
- COC records will be maintained with the records for a specific project, becoming part of the data package.

Custody Transfer to Laboratory - All samples collected during the RA will be submitted to a NYSDOH ELAP-certified laboratory meeting specifications for documentation, sample login, internal chain of custody procedures, sample/analysis tracking, data reduction, and reporting. The laboratory will follow all specifications pertaining to laboratory sample custody procedures contained in the NYSDEC ASP (revised 2005).

In general, the following procedures will be followed upon sample receipt. The laboratory will not accept samples collected by project personnel for analysis without a correctly prepared COC record.

The first steps in the laboratory receipt of samples are completing the COC records and project sample login form. The laboratory Sample Custodian, or designee, will note that the shipment is accepted and notify the Laboratory Manager or the designated representative of the incoming samples.

Upon sample receipt, the laboratory Sample Custodian, or designee, will:

- Examine all samples and determine if proper temperature has been maintained during shipment. If samples have been damaged during shipment, the remaining samples will be carefully examined to determine whether they were affected. Any samples affected will also be considered damaged. It will be noted on the COC record that specific samples were damaged and that the samples were removed from the sampling program. Field personnel will be notified as soon as possible that samples were damaged and that they must be resampled, or the testing program changed, and provide an explanation of the cause of damage.

- Compare samples received against those listed on the COC record.
- Verify that sample holding times have not been exceeded.
- Sign and date the COC record and attach the waybill to the COC record.
- Denote the samples in the laboratory sample log-in book which contains the following information:
  - Project identification number
  - Sample numbers
  - Type of samples
  - Date received in laboratory
  - Record of the verified time of sample receipt (VTSR)
  - Date put into storage after analysis is completed
  - Date of disposal.

The last two items will be added to the log when the action is taken.

- Notify the Laboratory Manager of sample arrival.
- Place the completed COC records in the project file.

The VTSR is the time of sample receipt at the laboratory. The date and time the samples are logged in by the Sample Custodian or designee, will agree with the date and time recorded by the person relinquishing the samples.

A typical COC can be found as Figure C-1.

2.6.4 Sampling Packaging and Shipping

Sample bottles and samples will either be delivered/picked up at the site daily by the analytical laboratory, or delivered/shipped via overnight courier. Once the samples have been collected, proper procedures for packaging and shipping will be followed as described below.

Packaging

Prior to shipment, samples must be packaged in accordance with current United States Department of Transportation (USDOT) regulations. All necessary government and commercial carrier shipping papers must be filled out. The procedure below should be followed regardless of transport method:

- Samples will be transported in metal ice chests or sturdy plastic coolers (cardboard or Styrofoam containers are unacceptable).
- Remove previously used labels, tape, and postage from cooler.
- Ship filled sample bottles in same cooler in which empty bottles were received.
- Affix a return address label to the cooler.
- Check that all sample bottles are tightly capped.
- Check that all bottle labels are complete.
- Be sure COC forms are complete.
- Wrap sample bottles in bubble pack and place in cooler.
- Pack bottles with extra bubble pack, vermiculite, or Styrofoam "peanuts". Be sure to pack the trip blank, if one is being submitted with the samples.
- Keep samples refrigerated in cooler with bagged ice or frozen cold packs. Do not use ice for packing material; melting will cause bottle contact and possible breakage.
- Separate and retain the sampler's copy of COC and keep with field notes.
- Tape paperwork (COC, manifest, return address) in zipper bag to inside cooler lid.
- Close cooler and apply signed and dated custody seal in such a way that the seal must be broken to open cooler.
- Securely close cooler lid with packing or duct tape. Be sure to tape latches and drain plugs in closed position.

Shipping

Samples should arrive at the laboratory as soon as possible following sample collection to ensure that holding times are not exceeded. All samples must be hand delivered on the same day as sampling or sent via overnight courier. When using a commercial carrier, follow the steps below.

- Securely package samples and complete paperwork.
- Weigh coolers for air transport.

- Complete air bill for commercial carrier (air bills can be partially completed in office prior to sampling to avoid omissions in field). If necessary, insure packages.
- Keep customer copy of air bill with field notes and COC form.
- When coolers have been released to transporter, call receiving laboratory and give information regarding samplers' names, method of arrival.
- Call the lab on day following shipment to be sure all samples arrived intact. If bottles are broken, locations can be determined from COC and resampled.

2.7 Analytical Laboratory

The data collected during the course of the RA activities will be used to determine the presence and concentration of certain analytes in soil, and groundwater.

All groundwater samples collected from the permanent monitoring wells as well as the soil samples collected during the RA will be submitted to Spectrum Analytical Laboratories located at 175 Metro Center Boulevard, Warwick, Rhode Island 02886. Spectrum Warwick is a NYSDOH ELAP-certified laboratory (Lab I.D. # 11522) meeting specifications for documentation, data reduction, and reporting. Air samples will be sent to Spectrum Analytical Laboratories located at 830 Silver Street, Agawam, Massachusetts 01001. Spectrum Agawam is a NSDOH ELAP-certified laboratory (Lab I.D. # 11840) meeting specifications for documentation, data reduction, and reporting.

2.8 Analytical Test Parameters

The RA will require the analysis of (not including quality assurance/quality control [QA/QC] samples) approximately 90 groundwater samples for VOCs by USEPA SW-846 Method 8260B, 40 groundwater samples for Permanganate via USEPA SW-846 Method 3665A, 18 soil samples for VOCs by USEPA SW-846 Method 8260B, 8 soil samples for SVOCs by USEPA SW-846 Method 8270C and 6 soil samples for Natural Oxidant Demand (NOD) by ASTM Method D-7262-10.

These analyses will be performed in accordance with United States Environmental Protection Agency (USEPA) *"Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions"*.

Thirty-six air samples will be collected and analyzed for volatile compounds following "*Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition 1997, EPA/625/R-96/010B*", Compendium Method TO-15, "*Determination Of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography/Mass Spectrometry (GC/MS)*".

2.9 Instrument Calibration

The frequency of laboratory instrument calibration and associated procedures for the specific analytical methods to be followed by the selected laboratory are specified in the individual USEPA analytical method procedures. The selected laboratory's calibration schedule will adhere to all analytical method specifications.

2.10 Data Management and Reporting Plan

2.10.1 Data Use and Management Objectives

Data Use Objectives

The typical data use objectives for this RA are:

- Ascertaining if there is a threat to public health or the environment.
- Locating and identifying potential sources of impacts to soil or groundwater.
- Delineation of horizontal and vertical constituent concentrations, identifying clean areas, estimating the extent and/or volume of impacted soil and groundwater.
- Determining treatment and disposal options.
- Characterizing soil for on-site or off-site treatment.
- Formulating remediation strategies, and estimating remediation costs.

Data Management Objectives

The primary objective of proper data management is to ensure and document that all necessary work is conducted in accordance with the RAWP and QAPP in an efficient and high quality manner thereby maximizing the confidence in the data in terms of PARCC. Data management procedures not only include field and laboratory documentation, but also include how the information is handled after the conclusion of field investigation and laboratory analyses area completed. Data handling procedures include project file management, reporting, usability analysis (review and validation) and use of consistent formats for the final presentation of the data.

Project File Specifications

The ERM Project Manager in ERM's Melville, New York, office location will keep all project information in a central Project File maintained. The Project File will be assigned a unique project number that will be clearly displayed on all project file folders (including electronic files). Electronic files will be maintained in a similarly organized Project File located on the ERM Central Network system that is backed up on a weekly basis. Both hard copy and electronic Project Files will contain, at a minimum copies or originals of the following key project information:

- All correspondence including letters, transmittals, telephone logs, memoranda, and emails;
- Meeting notes;
- Technical information such as analytical data; field survey results, field notes, field logbooks and field management forms;
- Project calculations;
- Subcontractor agreements/contracts, and insurance certificates;
- Project-specific health and safety information/records;
- Access agreements;
- Project document output review/approval documentation; and
- Reports: Monthly Progress, Interim Technical, and Draft/Final Technical.

2.10.2 Reporting

Field Data

Field data will be recorded and reported by field personnel using appropriate field data documentation materials such as the field logbook, field management forms, and COC forms.

Good field management procedures include following proper chain of custody procedures to track a sample from collection through analysis, noting when and how samples are split (if necessary), making regular and complete entries in the field logbook, and the consistent use and completion of field management forms. Proper completion of these forms and the field logbook are necessary to support the consequent actions that may result from the sample analysis. This documentation will support that the samples were collected and handled properly making the resultant data complete, comparable, and defensible.

Laboratory Data

The analytical results of all samples collected, as part of the RA will be reported following NYSDEC ASP 2005 specifications. All laboratory analytical data will be reported as NYSDEC Category B deliverables. The Category B data deliverables include all backup QA/QC documentation necessary to facilitate a complete validation of the data.

In addition, NYSDEC "Sample Identification and Analytical Requirement Summary" and "Sample Preparation and Analysis Summary" forms will be completed and included with each data package. The sample tracking forms are specified and supplied by the 2005 NYSDEC ASP.

The laboratory will also transmit the analytical data in an electronic format to minimize the chances of transposition errors in summarizing the data. The data will be transmitted in an electronic data deliverable (EDD) in GISKEY (most recent version) format and a PDF copy of each ASP deliverable.

2.10.3 Data Validation

All field and laboratory data will be reviewed, validated and qualified as necessary to assess data usability by direct comparison to the specified data quality objectives and/or procedures set forth in this QAPP. The data associated with the groundwater samples, the soil samples, and the waste characterization samples will not be validated or qualified unless a major issue is observed after the initial review of the results. The ERM QAO will determine this. Information that can be obtained includes comparison of results obtained from samples taken at the same location, and the identification of missing data points. Examination of the data at the end of the process allows for the assessment of data quality with respect to PARCC.

Field Data Validation Protocol

Field data generated in accordance with the project-specific RAWP will primarily consist of field temperature, pH, ORP, specific conductance data, data associated with soil boring advancement, monitoring well installation and development, and soil classification. This data will be validated by review of the project documentation to check that all forms specified in the Work Plan and this QAPP have been completely and correctly filled out and that documentation exists for the specified instrument calibrations. This documentation will be considered sufficient to provide that proper procedures have been followed during the field investigation.

Laboratory Data Validation Protocol

Data validation is the assessment of data quality with respect to method specifications and technical performance of the analytical laboratory. Analytical data packages will be examined to ensure that all specified lab components are included, all QA/QC specifications were performed or met, and the data use restrictions are well defined.

Summary documentation regarding QA/QC results will be completed by the laboratory using NYSDEC ASP forms and will be submitted with the raw analytical data packages (NYSDEC ASP Category B deliverables). Data validation will be performed to assess and document analytical data quality in accordance with the project data quality objectives. The data review will evaluate data for its quality and usability. This process will qualify results so that the end user of the analytical results can make decisions with consideration of the potential accuracy and precision of the data. For example, the results are acceptable as presented, considered estimated and qualified with a "J", or rejected and not useable and therefore qualified with an "R".

The validation of the organic analytical data will be performed according to the protocols and QC requirements of the analytical methods, the NYSDEC ASP, the National Functional Guidelines for Organic Data Review (October 1999), the USEPA Region II Data Review Standard Operating Procedure (SOP) HW-24, Revision 1, June 1999: Validating Volatile Organic Compounds by SW-846 Method 8260B, the USEPA Region II Data Review SOP Number HW-22, Revision 3, October 2006: Validating Semivolatile Organic Compounds by SW-846 Method 8270C, the USEPA Region II Data Review SOP Number HW-18, Revision 0, August 1994: Validating Canisters of Volatile Organics in Ambient Air, and the reviewer's professional judgment.

The order in which the aforementioned guidance documents and/or criteria are listed does not imply a hierarchy of reliance on a particular document for validation. ERM will utilize all guidance documents and/or criteria relying on the most comprehensive reference sources to perform the most complete validation possible.

The data validation process will provide an informed assessment of the laboratory's performance based upon contractual requirements and applicable analytical criteria. The report generated as a result of the data validation process will provide a base upon which the usefulness of the data can be evaluated by the end user of the analytical results.

During the validation process, it will be determined whether sufficient back-up data and QA/QC results are available so the reviewer may conclusively determine the quality of data support laboratory submittals for sample results. Each data package will be checked for completeness and technical adequacy of the data. Upon completion of the review, the reviewers will develop a QA/QC data validation report for each SDG.

For the organic parameter analyses, the following items or criteria will be reviewed:

- Case narrative and deliverable compliance
- Holding times both technical and procedural and sample preservation (including pH and temperature)
- Surrogate Compound recoveries, summary and data
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) results, recoveries, summary and data
- Blank Spike Sample (BSS) recoveries
- Method blank summary and data
- Gas Chromatography (GC)/Mass Spectroscopy (MS) tuning and performance
- Initial and continuing calibration summaries and data
- Internal standard areas, retention times, summary and data
- Blind Field Duplicate sample results
- Field Blank results
- Trip Blank results
- Organic analysis data sheets (Form I)
- GC/MS chromatograms, mass spectra and quantitation reports
- Quantitation and detection limits
- Qualitative and quantitative compound identification

After the Summary Reports are prepared for each SDG, the validator will prepare a Data Usability Report (DUSR). The DUSR will be prepared according to the guidelines established by Division of Environmental Remediation Quality Assurance Group and will review the following:

- Is the data package complete as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables?
- Have all holding times been met?
- Do all the QC data: blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?

- Have all of the data been generated using established and agreed upon analytical protocols?
- Does an evaluation of the raw data confirm the results provided in the data summary sheets and qualify control verification forms?
- Have the correct data qualifiers been used?

Once the data package has been reviewed and the above questions asked and answered the DUSR proceeds to describe the samples and the analytical parameters. Data deficiencies, analytical protocol deviations, and quality control problems are identified and their effect-on the data is discussed. The DUSR shall also include recommendations on resampling/reanalysis. All data qualifications must be documented following the NYSDEC ASP 2005 Rev. Guidelines.

2.10.4 Data Presentation Formats

Project data will be presented in consistent formats for all letters, Progress Reports, Interim Technical Reports, and Draft/Final Technical Reports. All data will be submitted to the NYSDEC in EQuIS Electronic Data Deliverable (EDD) format consistent with the requirements outlined by the NYSDEC. General specifications are described below.

Data Records

The data record will generally include one or more of the following:

- Unique sample or field measurement code;
- Sampling or field measurement location and sample or measurement type;
- Sampling or field measurement raw data;
- Laboratory analysis ID number;
- Property or component measured; and
- Result of analysis (e.g., concentration).

Tabular Displays

The following data will generally be presented in tabular displays:

- Unsorted (raw) data;
- Results for each medium or for each constituent monitored;
- Data reduction for statistical analysis;

- Sorting of data by potential stratification factors (e.g., location, soil layer/depth, topography, etc.); and
- Summary data.

Graphical Displays

The following data will be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transects, three dimensional graphs, etc.):

- Sample locations and sampling grid;
- Boundaries of sampling area;
- Areas where additional data are necessary;
- Constituent concentrations at each sample location;
- Geographical extent of impacts;
- Constituent concentration levels, averages, minima and maxima;
- Changes in concentration in relation to distance from the source, time, depth or other parameters;
- Features affecting intramedia transport; and
- Potential receptors.

2.11 Performance Audits

2.11.1 Field Audits

During field activities, the ERM QAO may accompany sampling personnel into the field to verify that the sampling program is being properly implemented and to detect and define problems so that corrective action can be taken. All findings will be documented and provided to the ERM Project Manager and FTL.

2.11.2 Laboratory Audits

The NYSDOH ELAP certified laboratory that has satisfactorily completed performance audits and performance evaluation samples will be used for all sample analysis. The results of the most recent performance audits and performance evaluations will be made available upon request. ERM may perform a laboratory audit if warranted.

2.11.3 Corrective Actions

The laboratory utilized for this project will meet the specifications for corrective action protocols typical for performing contract laboratory services. Laboratory corrective action may include instrumentation maintenance, methods modification, cross contamination/carry over issues, sample tracking practices, laboratory information management (LIMs), etc.

Prior to mobilization for the field investigation, a meeting may be scheduled among representatives of ERM and the laboratory to discuss general corrective action approach and establish procedures to ensure good and timely communications among all parties during the investigation. New procedures will be put into effect as appropriate.

TABLES

TABLE C-1
SAMPLE TOTAL SUMMARY

Media	*AOC*	*Analytical Parameters*	*Number of Samples*	*Blind Field Duplicates* [1]	*MS/MSD Pairs* [2]	*Trip Blanks* [3]
Soil	UST	VOCs and SVOCs	10	1	1	1

Notes:

1. Duplicates are generally collected at a minimum frequency of five percent (1 per 20 field samples). More frequent collection may be warranted based on field conditions/observations and/or at the discretion of the Field Team Leader.
2. MS/MSD Pairs (two samples) will be collected at a minimum frequency of five percent (1 per 20 field samples). More frequent collection may be warranted based on field conditions/observations and/or at the discretion of the Field Team Leader.
3. Trip Blanks will be collected at the rate of one per aqueous sample shipment when VOCs are collected where applicable.

TABLE C-2
DETAILED SUMMARY OF SOIL SAMPLING PROGRAM
SAMPLE TOTALS, ANALYTICAL METHODS, PRESERVATIVES, HOLDING TIMES, AND CONTAINERS

Analytical Parameters	*Analytical Method Reference*	*Sample Preservation*	*Holding Time* [1]	*Container* [2]
TCL VOCs	SW-846 8260 + 10 TICs	Cool 4°C	10 days	1 – 4 oz. glass jar
TCL SVOCs	SW-846 8270 + 20 TICs	Cool 4°C	5 days/ 40 days	2 – 8 oz. glass jar

Notes:

1. Holding times are from Validated Time of Sample Receipt (VTSR). Technical holding times vary. VOC and TAL Inorganic holding times are days after VTSR until analysis; SVOC, Pesticide, and PCB holding times are days after VTSR until extraction / days from extraction to analysis; Inorganics holding times are days after VTSR until analysis. TCLP holding times are days after VTSR until leaching / days from leaching until extraction (if required)/days from extraction until analysis.
2. As specified by Spectrum Analytical Inc., Warwick RI and Alpha Woods Hole Laboratories, Westborough, MA.

TABLE C-3
VOLATILE TARGET COMPOUND LIST (TCL) AND REPORTING LIMITS

Target Compound List	*CAS Number* [1]	*Soil Reporting Limits (ug/kg)* [2]	*Aqueous Reporting Limits (ug/l)* [2]
Dichlorodifluoromethane	75-71-8	5	5
Chloromethane	74-87-3	5	5
Vinyl chloride	75-01-4	5	5
Bromomethane	74-83-9	5	5
Chloroethane	75-00-3	5	5
Trichlorofluoromethane	75-69-4	5	5
1,1-Dichloroethene	75-35-4	5	5
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	5	5
Acetone	67-64-1	5	5
Carbon disulfide	75-15-0	5	5
Methyl acetate	79-20-9	5	5
Methylene chloride	75-09-2	2	2
trans-1,2-Dichloroethene	156-60-5	5	5
Methyl tert-butyl ether	1634-04-4	5	5
1,1-Dichloroethane	75-34-3	5	5
cis-1,2-Dichloroethene	156-59-2	5	5
2-Butanone	78-93-3	5	5
Bromochloromethane	74-97-5	5	5
Chloroform	67-66-3	5	5
1,1,1-Trichloroethane	71-55-6	5	5
Cyclohexane	110-82-7	5	5
Carbon tetrachloride	56-23-5	5	5
Benzene	71-43-2	5	5
1,2-Dichloroethane	107-06-2	5	5
1,4-Dioxane	123-91-1	100	100
Trichloroethene	79-01-6	5	5
Methylcyclohexane	108-87-2	5	5
1,2-Dichloropropane	78-87-5	5	5
Bromodichloromethane	75-27-4	5	5
cis-1,3-Dichloropropene	10061-01-5	5	5
4-Methyl-2-pentanone	108-10-1	5	5
Toluene	108-88-3	5	5
trans-1,3-Dichloropropene	10061-02-6	5	5
1,1,2-Trichloroethane	79-00-5	5	5
Tetrachloroethene	127-18-4	5	5
2-Hexanone	591-78-6	5	5
Dibromochloromethane	124-48-1	5	5
1,2-Dibromoethane	106-93-4	5	5

TABLE C-3 (continued)
VOLATILE TARGET COMPOUND LIST (TCL) AND REPORTING LIMITS

Target Compound List	*CAS Number* [1]	*Soil Reporting Limits (ug/kg)* [2]	*Aqueous Reporting Limits (ug/l)* [2]
Chlorobenzene	108-90-7	5	5
Ethylbenzene	100-41-4	5	5
o-Xylene	95-47-6	5	5
m,p-Xylene	179601-23-1	5	5
Styrene	100-42-5	5	5
Bromoform	75-25-2	5	5
Isopropylbenzene	98-82-8	5	5
1,1,2,2-Tetrachloroethane	79-34-5	5	5
1,3-Dichlorobenzene	541-73-1	5	5
1,4-Dichlorobenzene	106-46-7	5	5
1,2-Dichlorobenzene	95-50-1	5	5
1,2-Dibromo-3-chloropropane	96-12-8	5	5
1,2,4-Trichlorobenzene	120-82-1	5	5
1,2,3-Trichlorobenzene	87-61-6	5	5

Notes:

1. Chemical Abstracts Service (CAS) Registry Number.
2. As specified by Spectrum Analytical Inc., Warwick RI.

TABLE C-4
SEMIVOLATILE TARGET COMPOUND LIST (TCL) AND REPORTING LIMITS

Target Compound List	*CAS Number* [1]	*Soil Reporting Limits (ug/kg)* [2]	*Aqueous Reporting Limits (ug/l)* [2]
Benzaldehyde	100-52-7	330	10
Phenol	108-95-2	330	10
Bis(2-chloroethyl) ether	111-44-4	330	10
2-Chlorophenol	95-57-8	330	10
2-Methylphenol	95-48-7	330	10
2,2'-Oxybis(1-choloropropane)	108-60-1	330	10
Acetophenone	98-86-2	330	10
4-Methylphenol	106-44-5	330	10
N-Nitroso-di-n propylamine	621-64-7	330	10
Hexachloroethane	67-72-1	330	10
Nitrobenzene	98-95-3	330	10
Isophorone	78-59-1	330	10
2-Nitrophenol	88-75-5	330	10
2,4-Dimethylphenol	105-67-9	330	10
Bis(2-chloroethoxy) methane	111-91-1	330	10
2,4-Dichlorophenol	120-83-2	330	10
Naphthalene	91-20-3	330	10
4-Chloroaniline	106-47-8	330	10
Hexachlorobutadiene	87-68-3	330	10
Caprolactam	105-60-2	330	10
4-Chloro-3-methylphenol	59-50-7	330	10
2-Methylnaphthalene	91-57-6	330	10
Hexachlorocyclopentadiene	77-47-4	330	10
2,4,6-Trichlorophenol	88-06-2	330	10
2,4,5-Trichlorophenol	95-95-4	330	10
1,1'-Biphenyl	92-52-4	330	10
2-Chloronaphthalene	91-58-7	330	10
2-Nitroaniline	88-74-4	670	20
Dimethylphthalate	131-11-3	330	10
2,6-Dinitrotoluene	606-20-2	330	10
Acenaphthylene	208-96-8	330	10
3-Nitroaniline	99-09-2	670	20
Acenaphthene	83-32-9	330	10
2,4-Dinitrophenol	51-28-5	670	20
4-Nitrophenol	100-02-7	670	20
Dibenzofuran	132-64-9	330	10
2,4-Dinitrotoluene	121-14-2	330	10
Diethylphthalate	84-66-2	330	10

TABLE C-4 (continued)
SEMIVOLATILE TARGET COMPOUND LIST (TCL) AND
REPORTING LIMITS

Target Compound List	*CAS Number* [1]	*Soil Reporting Limits (ug/kg)* [2]	*Aqueous Reporting Limits (ug/l)* [2]
Fluorene	86-73-7	330	10
4-Chlorophenyl-phenyl ether	7005-72-3	330	10
4-Nitroaniline	100-01-6	670	20
4,6-Dinitro-2-methylphenol	534-52-1	670	20
N-Nitrosodiphenylamine	86-30-6	330	10
1,2,4,5-Tetrachlorobenzene	95-94-3	330	10
4-Bromophenyl-phenylether	101-55-3	330	10
Hexachlorobenzene	118-74-1	330	10
Atrazine	1912-24-9	330	10
Pentachlorophenol	87-86-5	670	20
Phenanthrene	85-01-8	330	10
Anthracene	120-12-7	330	10
Carbazole	86-74-8	330	10
Di-n-butylphthalate	84-74-2	330	10
Fluoranthene	206-44-0	330	10
Pyrene	129-00-0	330	10
Butylbenzylphthalate	85-68-7	330	10
3,3'-dicholorobenzidine	91-94-1	330	10
Benzo(a)anthracene	56-55-3	330	10
Chrysene	218-01-9	330	10
Bis(2-ethylhexyl) phthalate	117-81-7	330	10
Di-n-octylphthalate	117-84-0	330	10
Benzo(b) fluoranthene	205-99-2	330	10
Benzo(k) fluoranthene	207-08-9	330	10
Benzo(a) pyrene	50-32-8	330	10
Indeno(1,2,3,-cd) pyrene	193-39-5	330	10
Dibenzo(a,h) anthracene	53-70-3	330	10
Benzo(g,h,i) perylene	191-24-2	330	10
2,3,4,6-Tetrachlorophenol	58-90-2	330	10

Notes:
1. Chemical Abstracts Service (CAS) Registry Number.
2. As specified by Spectrum Analytical Inc., Warwick RI.

TABLE C-5
ANALYTICAL LABORATORY DATA QUALITY OBJECTIVES (DQOs) FOR PRECISION AND ACCURACY
VOLATILE ANALYSES

Matrix	*QC Compounds*	*Surrogate Accuracy (% R)1*	*Blind Field Duplicate Precision (RPD)*	*Method Blanks*	*MS/MSD Accuracy (% R)[1]*	*MS/MSD Precision (RPD)[1]*	*BS/BSD Accuracy (% R)[1]*	*BS/BSD Precision (RPD)[1]*
Soil	all compounds		< 100	≤10 x RL for acetone,				
	Dichlorodifluoromethane			methylene chloride,	35-135	40	70 – 130	20
	Chloromethane			and 2-butanone	50-130	40	70 – 130	20
	Vinyl chloride				60-125	40	70 – 130	20
	Bromomethane			≤ RL for all other	30-160	40	70 – 130	20
	Chloroethane			compounds.	40-155	40	70 – 130	20
	Trichlorofluoromethane				25-185	40	70 – 130	20
	1,1-Dichloroethene				65-135	40	70 – 130	20
	1,1,2-Trichloro-1,2,2-trifluoroethane				70-130	40	70 – 130	20
	Acetone				20-160	40	70 – 130	20
	Carbon disulfide				45-160	40	70 – 130	20
	Methyl acetate				70-130	40	70 – 130	20
	Methylene chloride				55-140	40	70 – 130	20
	trans-1,2-Dichloroethene				65-135	40	70 – 130	20
	Methyl tert-butyl ether				75-126	40	70 – 130	20
	1,1-Dichloroethane				75-125	40	70 – 130	20
	cis-1,2-Dichloroethene				65-125	40	70 – 130	20
	2-Butanone				30-160	40	70 – 130	20
	Bromochloromethane				70-125	40	70 – 130	20
	Chloroform				70-125	40	70 – 130	20
	1,1,1-Trichloroethane				70-135	40	70 – 130	20
	Cyclohexane				70-130	40	70 – 130	20
	Carbon tetrachloride				65-135	40	70 – 130	20
	Benzene				75-125	40	70 – 130	20
	1,2-Dichloroethane				70-135	40	70 – 130	20

TABLE C-5 (continued)
ANALYTICAL LABORATORY DATA QUALITY OBJECTIVES (DQOs) FOR PRECISION AND ACCURACY
VOLATILE ANALYSES

Matrix	*QC Compounds*	*Surrogate Accuracy (% R)1*	*Blind Field Duplicate Precision (RPD)*	*Method Blanks*	*MS/MSD Accuracy (% R)¹*	*MS/MSD Precision (RPD)¹*	*BS/BSD Accuracy (% R)¹*	*BS/BSD Precision (RPD)¹*
Soil (continued)	1,4-Dioxane				70-130	40	70 – 130	20
	Trichloroethene				75-125	40	70 – 130	20
	Methylcyclohexane				70-130	40	70 – 130	20
	1,2-Dichloropropane				70-120	40	70 – 130	20
	Bromodichloromethane				70-130	40	70 – 130	20
	cis-1,3-Dichloropropene				70-125	40	70 – 130	20
	4-Methyl-2-pentanone				45-145	40	70 – 130	20
	Toluene				70-125	40	70 – 130	20
	trans-1,3-Dichloropropene				65-125	40	70 – 130	20
	1,1,2-Trichloroethane				60-125	40	70 – 130	20
	Tetrachloroethene				65-140	40	70 – 130	20
	2-Hexanone				45-145	40	70 – 130	20
	Dibromochloromethane				65-130	40	70 – 130	20
	1,2-Dibromoethane				70-125	40	70 – 130	20
	Chlorobenzene				75-125	40	70 – 130	20
	Ethylbenzene				75-125	40	70 – 130	20
	o-Xylene				75-125	40	70 – 130	20
	m,p-Xylene				80-125	40	70 – 130	20
	Styrene				75-125	40	70 – 130	20
	Bromoform				55-135	40	70 – 130	20
	Isopropylbenzene				75-130	40	70 – 130	20
	1,1,2,2-Tetrachloroethane				55-130	40	70 – 130	20
	1,3-Dichlorobenzene				70-125	40	70 – 130	20
	1,4-Dichlorobenzene				70-125	40	70 – 130	20
	1,2-Dichlorobenzene				75-120	40	70 – 130	20
	1,2-Dibromo-3-chloropropane				40-135	40	70 – 130	20
	1,2,4-Trichlorobenzene				65-130	40	70 – 130	20
	1,2,3-Trichlorobenzene				60-135	40	70 – 130	20
	toluene-d8	85-115						
	bromofluorobenzene	77-111						
	1,2-dichloroethane-d4	65-128						

TABLE C-5 (continued)
ANALYTICAL LABORATORY DATA QUALITY OBJECTIVES (DQOs) FOR PRECISION AND ACCURACY
VOLATILE ANALYSES

Notes:

1. As specified by Spectrum Analytical Inc., Warwick RI.

QC = Quality Control; % R = Percent Recovery; RPD = Relative Percent Difference; MS = Matrix Spike; MSD = Matrix Spike Duplicate;
RL = Reporting Limit

TABLE C-6
ANALYTICAL LABORATORY DATA QUALITY OBJECTIVES (DQOs) FOR PRECISION AND ACCURACY SEMIVOLATILE ANALYSES

Matrix	*QC Compounds*	*Surrogate Accuracy (% R)*[1]	*Blind Field Duplicate Precision (RPD)*	*Method Blanks*	*MS/MSD Accuracy (% R)*[1]	*MS/MSD Precision (RPD)*[1]	*BS/BSD Accuracy (% R)*[1]	*BS/BSD Precision (RPD)*[1]
Soil	all compounds		< 100	≤ 10 x RL for				
	Benzaldehyde			any phthalate	50-150	40	70 – 130	20
	Phenol			ester.	0-115	40	70 – 130	20
	Bis(2-chloroethyl) ether				35-110	40	70 – 130	20
	2-Chlorophenol			≤ RL for all	35-105	40	70 – 130	20
	2-Methylphenol			other compounds.	40-110	40	70 – 130	20
	2,2'-Oxybis(1-choloropropane)				30-123	40	70 – 130	20
	Acetophenone				50-150	40	70 – 130	20
	4-Methylphenol				30-110	40	70 – 130	20
	N-Nitroso-di-n propylamine				35-130	40	70 – 130	20
	Hexachloroethane				30-95	40	70 – 130	20
	Nitrobenzene				45-110	40	70 – 130	20
	Isophorone				50-110	40	70 – 130	20
	2-Nitrophenol				40-115	40	70 – 130	20
	2,4-Dimethylphenol				30-110	40	70 – 130	20
	Bis(2-chloroethoxy) methane				45-105	40	70 – 130	20
	2,4-Dichlorophenol				50-105	40	70 – 130	20
	Naphthalene				40-100	40	70 – 130	20
	4-Chloroaniline				15-110	40	70 – 130	20
	Hexachlorobutadiene				25-105	40	70 – 130	20
	Caprolactam				50-150	40	70 – 130	20
	4-Chloro-3-methylphenol				45-110	40	70 – 130	20
	2-Methylnaphthalene				45-105	40	70 – 130	20
	Hexachlorocyclopentadiene				27-147	40	70 – 130	20
	2,4,6-Trichlorophenol				50-115	40	70 – 130	20

TABLE C-6 (continued)
ANALYTICAL LABORATORY DATA QUALITY OBJECTIVES (DQOs) FOR PRECISION AND ACCURACY SEMIVOLATILE ANALYSES

Matrix	QC Compounds	Surrogate Accuracy (% R)[1]	Blind Field Duplicate Precision (RPD)	Method Blanks	MS/MSD Accuracy (% R)[1]	MS/MSD Precision (RPD)[1]	BS/BSD Accuracy (% R)[1]	BS/BSD Precision (RPD)[1]
Soil (continued)	2,4,5-Trichlorophenol				50-110	40	70 – 130	20
	1,1'-Biphenyl				55-108	40	70 – 130	20
	2-Chloronaphthalene				50-105	40	70 – 130	20
	2-Nitroaniline				50-115	40	70 – 130	20
	Dimethylphthalate				25-125	40	70 – 130	20
	2,6-Dinitrotoluene				50-115	40	70 – 130	20
	Acenaphthylene				50-105	40	70 – 130	20
	3-Nitroaniline				20-125	40	70 – 130	20
	Acenaphthene				45-110	40	70 – 130	20
	2,4-Dinitrophenol				15-140	40	70 – 130	20
	4-Nitrophenol				0-125	40	70 – 130	20
	Dibenzofuran				55-105	40	70 – 130	20
	2,4-Dinitrotoluene				50-120	40	70 – 130	20
	Diethylphthalate				40-120	40	70 – 130	20
	Fluorene				50-110	40	70 – 130	20
	4-Chlorophenyl-phenyl ether				50-110	40	70 – 130	20
	4-Nitroaniline				35-120	40	70 – 130	20
	4,6-Dinitro-2-methylphenol				40-130	40	70 – 130	20
	N-Nitrosodiphenylamine				50-110	40	70 – 130	20
	1,2,4,5-Tetrachlorobenzene				50-150	40	70 – 130	20
	4-Bromophenyl-phenylether				50-115	40	70 – 130	20
	Hexachlorobenzene				50-110	40	70 – 130	20
	Atrazine				52-175	40	70 – 130	20
	Pentachlorophenol				40-115	40	70 – 130	20
	Phenanthrene				40-115	40	70 – 130	20
	Anthracene				55-110	40	70 – 130	20
	Carbazole				50-115	40	70 – 130	20
	Di-n-butylphthalate				55-115	40	70 – 130	20
	Fluoranthene				53-115	40	70 – 130	20
	Pyrene				50-130	40	70 – 130	20

TABLE C-6 (continued)
ANALYTICAL LABORATORY DATA QUALITY OBJECTIVES (DQOs) FOR PRECISION AND ACCURACY SEMIVOLATILE ANALYSES

Matrix	QC Compounds	Surrogate Accuracy (% R)[1]	Blind Field Duplicate Precision (RPD)	Method Blanks	MS/MSD Accuracy (% R)[1]	MS/MSD Precision (RPD)[1]	BS/BSD Accuracy (% R)[1]	BS/BSD Precision (RPD)[1]
Soil (continued)	Butylbenzylphthalate				45-115	40	70 – 130	20
	3,3'-dicholorobenzidine				20-110	40	70 – 130	20
	Benzo(a)anthracene				55-110	40	70 – 130	20
	Chrysene				55-110	40	70 – 130	20
	Bis(2-ethylhexyl) phthalate				40-125	40	70 – 130	20
	Di-n-octylphthalate				35-135	40	70 – 130	20
	Benzo(b) fluoranthene				45-120	40	70 – 130	20
	Benzo(k) fluoranthene				45-125	40	70 – 130	20
	Benzo(a) pyrene				55-110	40	70 – 130	20
	Indeno(1,2,3,-cd) pyrene				45-125	40	70 – 130	20
	Dibenzo(a,h) anthracene				40-125	40	70 – 130	20
	Benzo(g,h,i) perylene				40-125	40	70 – 130	20
	2,3,4,6-Tetrachlorophenol				50-150	40	70 – 130	20
	nitrobenzene-d5	40-110						
	2-fluorobiphenyl	50-110						
	terphenyl-d14	50-135						
	phenol-d5	10-115						
	2-fluorophenol	20-110						
	2,4,6-tribromophenol	40-125						

Notes:
1. As specified by Spectrum Analytical Inc., Warwick RI.

QC = Quality Control; % R = Percent Recovery; RPD = Relative Percent Difference; MS = Matrix Spike; MSD = Matrix Spike Duplicate;
RL = Reporting Limit

FIGURES

FIGURE C-1
EXAMPLE CHAIN-OF-CUSTODY

MITKEM LABORATORIES

A DIVISION OF SPECTRUM ANALYTICAL, INC. Featuring HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page ______ of ______

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
- ☐ Rush TAT - Date Needed: __________
- · All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- · Samples disposed of after 60 days unless otherwise instructed.

Report To: ______________________

Project Mgr.: ______________________

Invoice To: ______________________

P.O. No.: ____________ RQN: ____________

Project No.: ______________________

Site Name: ______________________

Location: ______________________ State: ________

Sampler(s): ______________________

1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH_3OH 8=$NaHSO_4$ 9=__________ 10=__________

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1=__________ X2=__________ X3=__________

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Preservative	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses:								QA Reporting Notes: (check if needed)

QA Reporting Notes: (check if needed)

- ☐ Provide MA DEP MCP CAM Report
- ☐ Provide CT DEP RCP Report

QA/QC Reporting Level

☐ Standard ☐ No QC
☐ Other __________

State specific reporting standards: __________

☐ Fax results when available to (____) __________

☐ E-mail to __________

EDD Format __________

Condition upon receipt: ☐ Iced ☐ Ambient ☐ °C ______

Relinquished by:	Received by:	Date:	Time:

175 Metro Center Boulevard • Warwick, RI 02886-1755 • 401-732-3400 • Fax 401-732-3499 • www.mitkem.com

FIGURE C-2
EXAMPLE CUSTODY SEAL

ERM®

CHAIN OF CUSTODY SEAL

Appendix K

Site Management Forms

Annual Site-Wide Inspection Form
1960-1982 Webster Avenue, Bronx, New York
NYSDEC Site No. C203075

Item #	Inspection Item	Yes	No	Inspector Comments	Notes
1	Has a change of ownership occurred				NYSDEC must be informed 60 days in advance
2	Has there been any change in Site Use?				Current Site Use is Restricted Residential. NYSDEC must be informed 60 days in advance per 6 NYCRR Part 375-1.11(d)
3	Are there any plans to construct a new building?				Per Section 3.2 of the SMP, the potential for soil vapor intrusion monitoring plan must be evaluated before construction. Notify NYSDEC and prepare vapor intrusion work plan prior to any construction.
4	Have any soil disturbances occurred in the past?				Documentation must be provided as required by the Excavation Work Plan.
5	Are any soil disturbances planned at this time?				NYSDEC must be informed 15 days in advance
6	Have there been any disturbances to the elements of the cover system (soil cover, asphalt areas, building concrete slab)?				
7	Soil Cover - Are there any signs of erosion, settlement, or bare spots?				
8	Asphalt Cover - Are there any significant cracks, settlement, or erosion?				
9	Concrete cover (including building slab)and pavers - Are there any significant cracks, settlement, or erosion?				
10	Is ground water underlying the Site being used?				Use of Site ground water is prohibited without treatment rendering it safe for its intended use.
11	Are there any signs that the SSDS blower and fans are not being maintained? Any signs of operational problems?				
12	Are there any vegetable gardens or farming at the Site?				These activities are prohibited.
13	Is there any activity that may tend to interfere with the completed remedy or the continued ability to implement institutional controls?				

Annual Site-Wide Inspection Form
1960-1982 Webster Avenue, Bronx, New York
NYSDEC Site No. C203075

Item #	Inspection Item	Yes	No	Inspector Comments	Notes
14	SSD System - Upon visual inspection of entire system, are any components performing inadequately?				
15	SSD System pipes - Are there any holes, cracks, or other physical deficiencies? Are there any blockages in the piping?				
16	SSD System - Do the inline fans show signs of abnormal operation?				
17	SSD System - Is there an air intake or operable window located within 10 feet of any of the three exhaust points?				NYSDOH guidance requires SSD exhaust points tobe located at least 10 feet away from an air intake.
18	SSD System - After discussion with building management, have there been any HVAC system modifications that might affect performance of the SSD System?				
19	SSD System - Are there any holes or cracks in the floor?				Evaluate need for sealing/repairs in combination with vacuum monitoring readings.

<u>Corrective Measures:</u>
Specify any corrective measures needed (e.g., seal floor cracks, replace top soil, etc.):

<u>Photographs:</u>
Attach photos showing status of the cover elements

Name of Inspector:

Signature of Inspector:

Date of Inspection:

Date of Last Inspection:

Required Date of Next Inspection:

Identify expected inspector for next inspection:

Additional comments or drawings:

Appendix L

Correspondence

Memorandum

Environmental Resources Management

105 Maxess Road,
Suite 316
Melville, NY 11747
+1 631 756 8900
+1 631 756 8901 (fax)

http://www.erm.com

To: John Grathwol, Jim Moras

From: Ernie Rossano, Edyta Korczynska

Date: 23 March 2016

Subject: Webster Ave Brownfield Project, 411 E 178 Street Soil Remediation (Site Code C203075)

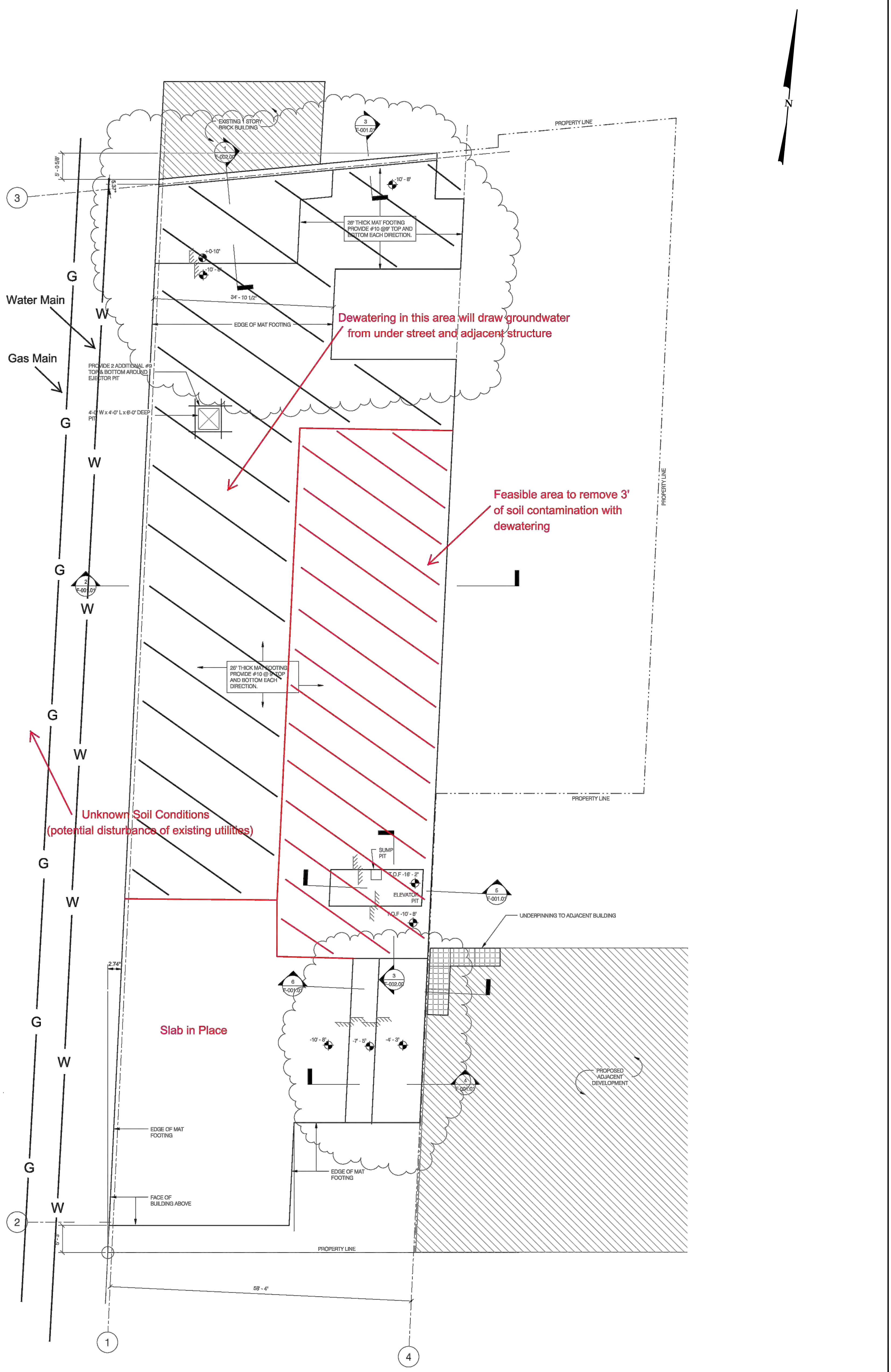
As a follow-up to our memo of 7 March 2016 and our subsequent phone conversation on 9 March 2016, Breaking Ground has developed a plan to access impacted soils in accessible areas of the Site. The attached Figure depicts the area that can be safely and efficiently accessed to remove as much impacted soil as feasible. This 30 foot by 60 foot area represents the removal of approximately 200 cubic yards of material in addition to material that will be removed as part of the elevator pit construction.

In order to eliminate the source material from the previously proposed area of excavation, it is necessary to dewater to an elevation two feet below the lowest point of excavation. In order to maintain the load bearing capacity necessary for the new building, the structural engineer on the project does not recommend excavation within 2-feet of the water table unless the area is dewatered and properly compacted during backfilling operations. This is based on the soil conditions within the property limits of 411 E178th Street and 4275 Park Ave from borings previously completed for development and design purposes. We do not know the soil conditions below the adjacent property to the north, nor do we know the conditions of the soil below Webster Avenue, the street bordering the site to the west. It is unknown what material was used to backfill years of utility work and excavation in the street. This material, when dewatered, has the potential of consolidating, causing damage to existing utilities. There is a water main and gas main running parallel to the west property line in close proximity. We have encountered evidence that soil conditions beneath the street can be quite different from those found on site. During a recent excavation for the sewer connection, the contractor encountered a clay layer in the street area which supports the view that the unpredictability of the soil conditions under the street could lead to consolidation under the utilities. With the completely unknown soil conditions under the adjacent structure to the north, dewatering near that structure has the potential of soil consolidation under the structure causing damage to it.

For these reasons, we recommend the dewatering, removal of soil, and backfilling in the area in the attached figure, staying away from the North and West property lines. We recommend limiting the dewatering to this area to ensure that the procedure remains controlled and to eliminate the potential for disturbance and damage to existing utilities and structures. Cost for the dewatering and excavation of this area are provided in Attachment 1. The costs for excavating the proposed area are still substantial but the schedule delays will be somewhat mitigated.

Documentation of the structural constraints on further excavation provided by the geotechnical engineer are found in Attachment 2. ERM will also include this documentation in the Final Engineering Report.

FIGURES



0 20 40

APPROXIMATE GRAPHIC SCALE IN FEET

TITLE

PREPARED FOR

Environmental Resources Management

FIGURE 1

DRAWN BY	SCALE	DATE	JOB NO.
ERM	GRAPHIC	3/21/16	0325306.05

ATTACHMENT 1

DEC Directed Removal of - 30' x 60' area - 3' deep cut

411 E178th Street, Bronx, NY

Cost to Owner

Dewatering:

	Before DEC	w/ DEC	Differential
Installation	$ 54,900.00	$ 100,000.00	$ 45,100.00
Remobilization	$ -	$ 10,000.00	$ 10,000.00
Rental per month	$ 8,500.00	$ 10,500.00	
for 2 mos (1st Free)	$ 8,500.00	$ 10,500.00	$ 2,000.00
Generator per month	$ 4,500.00	$ 6,500.00	
2mos needed	$ 9,000.00	$ 13,000.00	$ 4,000.00
Treatment	$ -	$ 52,400.00	
Treatment Rental	$ -	$ 10,500.00	
for 2 mos (1st Free)	$ -	$ 10,500.00	$ 10,500.00
Consumables			
Add'l Bag Filters	$ 2,400.00	$ 4,800.00	$ 2,400.00
Carbon Change Out	$ 200.00	$ 400.00	$ 200.00
Settling Tank Cleaning	$ 5,800.00	$ 11,600.00	$ 5,800.00
Operation per day	$ 2,500.00	$ 5,500.00	$ 3,000.00
total cost to operate	$ 62,500.00	$ 170,500.00	$ 108,000.00
Discharge Permit	$ 7,500.00	$ 15,000.00	$ 7,500.00
Discharge Fees (DEP)	$ 17,200.00	$ 34,000.00	$ 16,800.00
Total	$ 183,500.00	$ 465,700.00	
		Total Increase	$ 215,300.00

Excavation:

Operator:	2 days at $1,400/day =		$ 2,800.00	
Labor:	2 days x 2 men at $1,100/day =		$ 4,400.00	
Equipment:	2 days at $2,500/day =		$ 5,000.00	
Diesel:	200 gal/day at $4.50/gal =		$ 1,800.00	
Additional Testing:	From PT Consultant Proposal		$ 6,625.00	
Hauling	Quantity in CF	60' x 30' x 3' =	5400	CF
	LBS of soil	5400 CF x 125 lbs/CF =	675000	lbs
	Tons of soil	675000 lbs / 2000 lbs/ton =	337.5	tons
	Cost	337.5 tons at $65/ton =	$ 21,937.50	

Backfill - Backfilling and compacting of soil in 6" lifts.

Operator Excavator:	4 days at $1,400/day =		$ 8,400.00	
Equipment Excavator:	4 days at $2,500/day =		$ 10,000.00	
Operator Loader:	4 days at $1,400/day =		$ 5,600.00	
Equipment Loader:	4 days at $1,800/day =		$ 7,200.00	
Operator Roller:	4 days at $1,400/day =		$ 5,600.00	
Equipment Roller:	4 days at $1,000/day =		$ 4,000.00	
Labor:	4 days x 6 men at $1,100/day =		$ 26,400.00	
Diesel:	300 gal/day at $4.50/gal =		$ 5,400.00	
Analytics:			$ 2,500.00	
Backfill Material:	CCY of compacted backfill	5400 CF / 27 CF/CY =	200.0	CCY
	CCY to LCY	(1.3 LCY/.9 CCY) x 200 CY =	289	LCY
	LCY to trucks	289 LCY / 18 LCY/1 truck =	16	trucks
	trucks to cost	75 trucks at $850 per load =	$ 13,641.98	

General Conditions	9 additional days @ $6000/day		$ 54,000.00
per day	$ 6,010.90		
		SUBTOTAL	$ 391,004.48
		OH&P	$ 78,200.90
		Insurance	$ 14,076.16
		Grand Total	$ 483,281.53

ATTACHMENT 2

Mueser Rutledge
Consulting Engineers
515 M Street SE · Suite 210
Washington, DC 20003
(202) 554-0770 · www.mrce.com

March 23, 2016

Breaking Ground
505 Eighth Avenue, 5th Floor
New York, New York 10018

Attn: Elissa Winzelberg, Director Design and Construction

Re: Geotechnical Concerns for Environmental Remediation
Breaking Ground – Park & Webster Buildings
Bronx, New York
MRCE File 12092

Greetings:

We understand that soil excavation for the Webster Building (also known as 411 East 178th Street) has encountered materials containing contamination. New York State Department of Environmental Conservation (NYSDEC) has required removal of these materials to the extent that is feasible. We summarize herein the geotechnical concerns and risks of off-site impacts related to this additional work.

Project Details. The project consists of a new 8-story building supported on a mat foundation bearing on natural soils at El. 23.6 referenced to North American Vertical Datum of 1988 (NAVD 88). An ejector pit and elevator pit are planned to extend about 5 feet deeper. We note that Project Datum El. 0.0 corresponds to El. 36.45 in NAVD 88. Our geotechnical subsurface investigation was described in our Geotechnical Report dated March 18, 2014. That report described subsurface conditions, including groundwater elevations, and provided recommendations for foundation design and construction. In addition, we monitored groundwater levels for about one full year to determine seasonal variations, measuring a range from El. 21 to 23.

We prepared project earthwork specifications that included provisions to produce suitable, undisturbed bearing material for building foundations. In order to provide suitable subgrade, it is required to lower and maintain the groundwater level a minimum of two feet below excavation subgrade, in advance of excavation. In the case of the proposed building, the overall mat foundation is about 2 feet above the groundwater level, so dewatering is only currently required in very limited areas, namely the two depressed pits and where underpinning of a segment of the adjacent structure to the east is necessary. The dewatering contractor, Griffin Dewatering N.E. LLC, designed a wellpoint system to provide the required dewatering for these specific areas. The first portion of the mat foundation subgrade, in the southern end of the building footprint was excavated, prepared, and approved on February 3, 2016. The dewatering system has not been installed yet.

Environmental Issues. Subsequent excavation to the north of the first mat segment encountered contaminated soils. We understand the NYSDEC required that these materials be removed to the extent feasible. Removal is required to a depth of up to 3 feet, and will now necessitate widespread excavation below the groundwater level for foundation construction. The deeper subgrade must be suitable for foundation bearing before controlled, compacted clean granular fill is placed back up to the planned foundation subgrade level. Even with dewatering, excavation below the groundwater level poses difficulties and risks of subgrade disturbance that could affect foundation performance. In order to perform this excavation and maintain an undisturbed foundation subgrade, the dewatering system must be enhanced to lower and maintain the groundwater level a minimum of 2 feet below the deepened excavation. The deeper excavation to facilitate contaminant removal will require installation of a major dewatering system around the excavation perimeter and much more widespread dewatering across the site than originally necessary for foundation construction.

Dewatering Effects. Dewatering lowers the groundwater level, temporarily reducing the amount of soil that is submerged. Removal of submergence increases the weight of soil, thereby imposing a higher load on the underlying soils, resulting in compression and/or consolidation of soils feeling the increased loading. The soils underlying the project site primarily consist of medium compact granular materials that are not subject to significant compression.

Because the dewatering system creates a cone of depression in the groundwater level, its effects include all soils within the zone of influence of the dewatering system. The dewatering system designer calculated that the zone of influence for the enhanced dewatering system is about 260 feet. Therefore, the effects of dewatering extend well beyond the limits of the project site, including existing neighboring buildings to the north and utilities beneath Webster Avenue to the west.

The contractor reported that excavation in the street for a sewer connection encountered clayey soils, that were not encountered in the subsurface investigation made on the project site. Such materials may undergo settlement as a result of consolidation due to increasing loading. Because the extent and details of these materials beyond the site limits are not well defined, there is a risk of the enhanced dewatering system adversely affecting adjacent structures and utilities.

Proposed Course of Action. Limiting the area, depth, and duration of dewatering will limit the risk of settlement of adjacent facilities. In order to reduce this risk, it has been proposed to limit the area of contaminated soil removal, and therefore dewatering, to the zone shown on the attached, marked up Foundation Plan. This course of action is deemed to be feasible, with a less significant cost penalty compared to site wide excavation while imposing much less risk of settlement of adjacent buildings and utilities. The more limited excavation will also reduce impacts on existing excavation support systems and consequent potential for ground and utility movements at the site perimeter.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: Walter E. Kaeck
Walter E. Kaeck, P.E.

STATE OF NEW YORK
WALTER E. KAECK
No. 072575-1
LICENSED PROFESSIONAL ENGINEER

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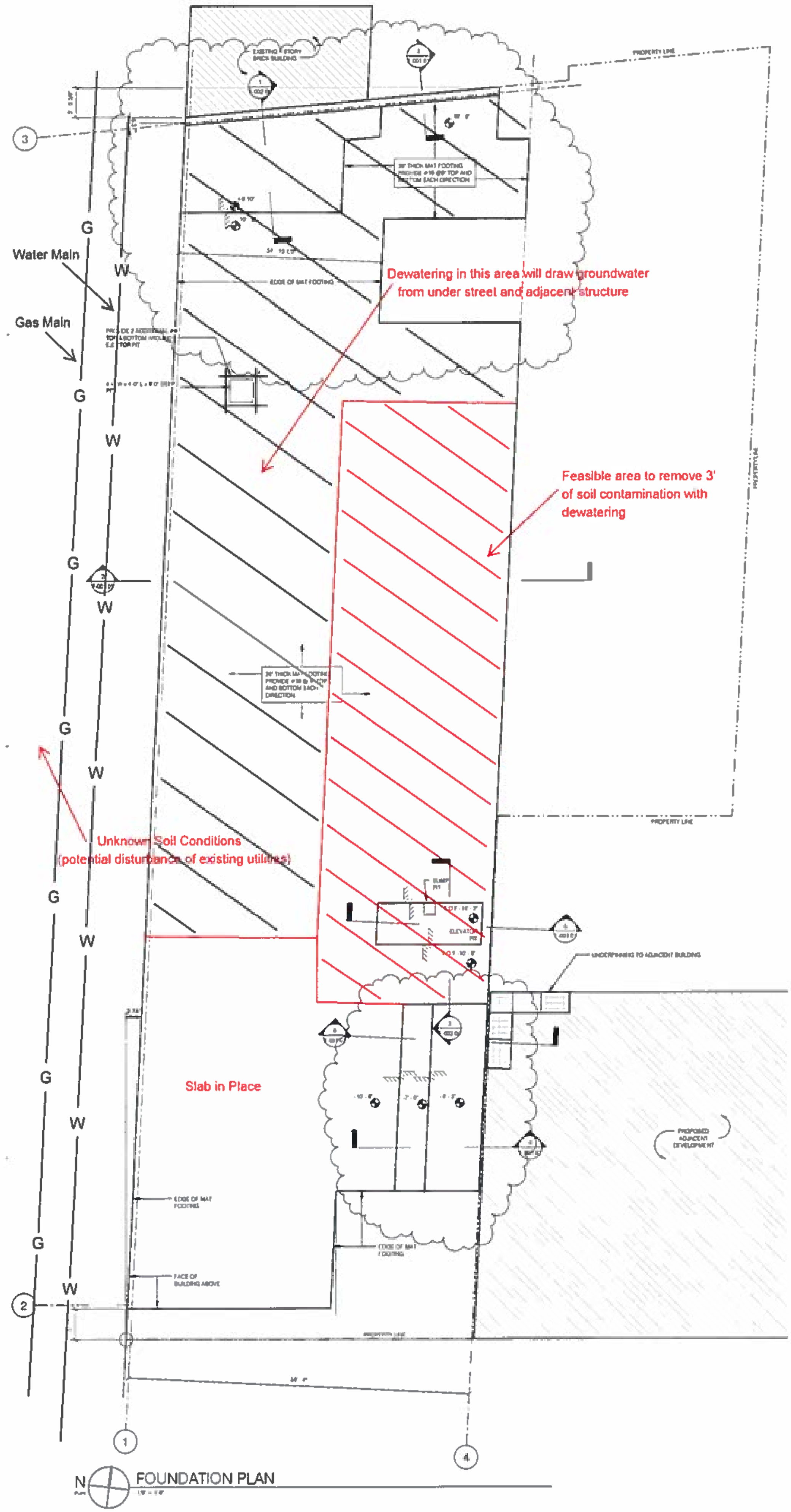


Water Main
Gas Main
Dewatering in this area will draw groundwater from under street and adjacent structure
Feasible area to remove 3' of soil contamination with dewatering
Unknown Soil Conditions (potential disturbance of existing utilities)
Slab in Place
FOUNDATION PLAN

Ecosystems Strategies, Inc.
24 Davis Avenue, Poughkeepsie, NY 12603
phone 845.452.1658 | fax 845.485.7083 | ecosystemsstrategies.com

April 30, 2015

Robert Gianatasio
Mountco Construction and Development Corp.
700 White Plains Road
Scarsdale, New York 10583 via email: rgianatasio@mountco.com

Re: Letter Report of Waste Characterization for Site B of the Former Western Beef property located at 4275 Park Avenue, Borough of Bronx, New York City, New York
ESI File: MB13205B.20

Dear Mr. Gianatasio:

Ecosystems Strategies, Inc. (ESI) is submitting this Letter Report of Waste Characterization (Letter Report) as an account of the test pit oversight and waste characterization services performed at the above-referenced property (the Site).

ESI personnel were present at the Site on April 14, 2015 to: 1) evaluate sub-surface conditions during the extension of seven (7) test pits within the footprint of the proposed structure, and 2) collect waste characterization samples in order to determine an appropriate disposal strategy for the excavated materials.

PROJECT OVERVIEW

Mark Tosolini (the on-site project superintendent) of Mountco Construction and Development Corp. stated that approximately 5,500 cubic yards (approximately 7,150 tons) of soil will be removed from the Site (excluding volumes to be used for backfill) and that the footprint of the proposed structure will be excavated to 11 feet below street grade. The area of the proposed structure is currently a paved parking lot (the northern end is currently overlain by an existing vacant building) and is set 4 to 7 feet below street level; therefore, test pits were extended 4 to 7 feet below surface grade (bsg) to reach the maximum proposed depth of 11 feet below street grade (a Fieldwork Map is provided as Attachment A).

Based on the estimated total volume of 5,500 cubic yards, seven (7) samples were submitted for analysis (consistent with a repository-required sampling frequency of one sample per 800 cubic yards). A sufficient number of samples was submitted to account for the total volume of soils anticipated to leave the Site, including areas not accessible during fieldwork activities (under the existing on-site structure).

SUMMARY OF FIELDWORK ACTIVITIES

A dust monitor was placed in the vicinity of each test pit location to confirm that no excessive levels of dust were generated during activities. No elevated levels of dust were detected.

All test pits (TP-01 through TP-07) were extended by on-site Mountco personnel using a backhoe with a 10-foot reach.

An assessment of subsurface soil characteristics, including soil type, the presence of foreign materials, field indications of contamination (e.g., unusual coloration patterns, or odors), and instrument indications of contamination (i.e., PID readings) was made by ESI personnel during the extension of each test pit. ESI personnel maintained independent field logs documenting physical characteristics, PID readings, and any field indications of contamination for all encountered material at each boring location.

A MiniRAE 3000 (Model PGM 7320) photo-ionization detector (PID) was utilized by ESI personnel to screen all encountered material for the presence of any volatile organic vapors where appropriate. Prior to the initiation of fieldwork, this PID was properly calibrated to read parts per million calibration gas equivalents (ppm-cge) of isobutylene in accordance with protocols set forth by the equipment manufacturer.

Subsurface soils encountered at the Site during the extension of the test pits generally consisted of variable-texture fill materials (unsorted silts, clays, sands, and gravel to approximately 7 feet bsg) with low quantities of various debris (brick, wood, concrete, etc.) inclusions. Groundwater was not encountered during the extension of the test pits. Other than solid debris, no field evidence of contamination (e.g. stained soils, elevated PID readings, etc.) was observed at any test pit locations.

SAMPLE COLLECTION AND ANALYSIS

Seven (7) waste characterization soil samples (one from each test pit, each representing approximately 800 cubic yards) were collected by ESI personnel. Composite samples consist of eight grab samples from the following locations:

- WC-01: TP-01 (0-5 feet bsg; 6-11 feet below street grade)
- WC-02: TP-04 (0-4 feet bsg; 7-11 feet below street grade)
- WC-03: TP-03 (0-4 feet bsg; 7-11 feet below street grade)
- WC-04: TP-04 (0-5 feet bsg; 6-11 feet below street grade)
- WC-05: TP-05 (0-6 feet bsg; 5-11 feet below street grade)
- WC-06: TP-06 (0-7 feet bsg; 4-11 feet below street grade)
- WC-07: TP-07 (0-7 feet bsg; 4-11 feet below street grade)

One discrete sample was also collected from each test pit for volatile organic compound (VOC) analysis in accordance with USEPA Method 5035 fieldwork protocols, utilizing laboratory-supplied VOA kits.

All samples were analyzed for appropriate waste characterization parameters including:

- VOCs (USEPA Method 8260);
- Semi-volatile organic compounds (SVOCs; PAHs only; USEPA Method 8270);
- PCBs and pesticides (USEPA Methods 8081 and 8082);
- Target Analyte List (TAL) metals (USEPA Method 6010 and 7470/7471);
- Toxicity characteristic leaching procedure (TCLP) for RCRA-list metals (USEPA Methods 1311 and 6010);
- Total petroleum hydrocarbons (TPH; DRO only; USEPA method 8015); and,
- Ignitibility, corrosivity, and reactivity (applicable USEPA methods).

All soil samples were collected in a manner consistent with NYSDEC sample collection and decontamination protocols. Dedicated gloves were used at each sample location to place the material into jars pre-cleaned at the laboratory.

All sample containers were placed in a cooler immediately after sample collection and were maintained at cool temperatures prior to transport to the laboratory. The soil samples collected for chemical analyses were transported the following day via courier to York Analytical Laboratories, Inc., a New York State

Department of Health-certified laboratory (ELAP Certification Number 10854). Appropriate chain-of-custody procedures were followed.

LABORATORY RESULTS

Soil sampling results for organic compounds, pesticides, total metals, and PCBs were tabulated and compared to NYSDEC Brownfields Program (6NYCRR Part 375-6) Tables: 375-6.8(a), Unrestricted Use, Soil Cleanup Objectives (SCOs) and 375-6.8(b), Restricted Residential SCOs, as well as supplemental SCOs in NYSDEC CP-51 Table 1 and soil cleanup levels provided in NYSDEC CP-51 Tables 2 and 3. Results for TCLP metals are compared to Code of Federal Regulations Section 261.24 Table 1: Maximum Concentration of Contaminants for the Toxicity Characteristic.

VOCs

No detectable concentrations of VOCs (with the exception of acetone and 2-butanone, common laboratory contaminants) were detected in any sample. Acetone was detected at concentrations slightly above Unrestricted SCOs in six of seven samples. All detectable concentrations of 2-butanone were below Unrestricted Use SCOs.

SVOCs (PAHs)

Several SVOCs typically encountered in urban fill soils were detected in all samples at concentrations well below Unrestricted Use SCOs.

Pesticides/PCBs

Numerous pesticides including DDD, DDE, DDT, and dieldrin were detected in WC-02 through WC-06 at concentrations exceeding Unrestricted Use SCOs. Several additional pesticides were detected at concentrations below Unrestricted Use SCOs. No concentrations exceeded Restricted Residential SCOs. One PCB was detected in WC-03 at a concentration well below Unrestricted Use SCOs. PCBs were not detected in any other sample.

Metals

Elevated concentrations of lead exceeding Unrestricted Use SCOs (guidance level: 63 ppm) were detected in WC-02 (71.80 ppm), WC-03 (113 ppm), WC-05 (69.60 ppm), and WC-06 (96.10 ppm) and a concentration exceeding Restricted Residential SCOs (guidance level: 400 ppm) was detected in WC-07 (533 ppm). Elevated concentrations of zinc exceeding Unrestricted Use SCOs (guidance level: 109 ppm) were detected in WC-02 (123 ppm), WC-03 (139 ppm), and WC-07 (249 ppm) and a marginally-elevated concentration of copper exceeding Unrestricted Use SCOs (guidance level: 50 ppm) was detected in WC-03 (53.4 ppm). Neither zinc nor copper concentrations exceeded Restricted Residential SCOs.

Detectable concentrations of leachable barium and lead were detected at concentrations well below toxicity characteristic guidance levels. No other leachable metals were detected.

Laboratory data tables and analytical results are provided as Attachments B and C, respectively.

REPOSITORY BIDS FOR SOIL DISPOSAL

ESI provided site information (including a fieldwork map and project description) and laboratory data to five repositories/brokers (Clean Earth, Inc., Soil Safe, Inc., Enviro-Disposal Group, Pro-Teck LLC, and P Park NJ LLC) for bids. Formal bids from these facilities will be provided under separate cover. Additional waste characterization analysis will likely be required prior to acceptance of soils at specific repositories (including P Park NJ).

CONCLUSIONS

Based on the results of waste characterization sampling, the following conclusions are provided:

- Laboratory results confirm that all on-site fill soils proposed for excavation will require management as regulated, non-hazardous solid waste.
- Constituent concentrations in WC-01 through WC-06 are less than concentrations detected in WC-07; therefore, on-site soils can be segregated and sent to two separate repositories. Soils characterized by WC-01 through WC-06 can be managed at beneficial use sites while soils from WC-07 must go to a separate facility.

Please review this document and call me at (845) 452-1658 should you have any questions or comments.

Sincerely,

ECOSYSTEMS STRATEGIES, INC.

Paul H. Ciminello

President

Attachments: Fieldwork Map
Laboratory Data Tables
Laboratory Report

All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Fieldwork Map	Legend:	ESI File: MB13205B.20
4275 Park Avenue (Site B)	footprint of proposed structure	April 2015
Borough of Bronx, New York	test pit location	Scale as shown
		Attachment A

Table 1: TCL VOCs in Soils

Ecosystems Strategies, Inc.

ESI File: MB13205B

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**WC-01**		**WC-02**		**WC-03**	
U= Not Detected at or above indicated value		Sample Date	(2015-14-4)		(2015-14-4)		(2015-14-4)	
Data above SCOs shown in **Bold**		Dilution Factor	1		1		1	
VOCs, 8260	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
1,1,1-Trichloroethane	0.68	100	0.0026	*U*	0.0028	*U*	0.0026	*U*
1,1,2,2-Tetrachloroethane	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
1,1,2-Trichloroethane	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
1,1-Dichloroethane	0.27	26	0.0026	*U*	0.0028	*U*	0.0026	*U*
1,1-Dichloroethylene	0.33	100	0.0026	*U*	0.0028	*U*	0.0026	*U*
1,2,4-Trichlorobenzene	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
1,2,4-Trimethylbenzene	3.6	52	0.0026	*U*	0.0028	*U*	0.0026	*U*
1,2-Dibromo-3-chloropropane	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
1,2-Dibromoethane	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
1,2-Dichloroethane	0.2	31	0.0026	*U*	0.0028	*U*	0.0026	*U*
1,2-Dichloropropane	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
1,3,5-Trimethylbenzene	8.4	52	0.0026	*U*	0.0028	*U*	0.0026	*U*
2-Butanone	0.12	100	0.0044	*J*	0.0028	*U*	0.0089	
2-Hexanone	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
4-Methyl-2-pentanone	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
Acetone	0.05	100	0.07		0.0057	*U*	0.097	
Acrolein	NA	NA	0.0051	*U*	0.0057	*U*	0.0052	*U*
Acrylonitrile	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
Benzene	0.06	48	0.0026	*U*	0.0028	*U*	0.0026	*U*
Bromochloromethane	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
Bromoform	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
Bromomethane	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
Carbon disulfide	NA	100	0.0026	*U*	0.0028	*U*	0.0026	*U*
Carbon tetrachloride	0.76	24	0.0026	*U*	0.0028	*U*	0.0026	*U*
Chlorobenzene	1.1	100	0.0026	*U*	0.0028	*U*	0.0026	*U*
Chloroethane	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
Chloroform	0.37	49	0.0026	*U*	0.0028	*U*	0.0026	*U*
Chloromethane	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
cis-1,2-Dichloroethylene	0.25	100	0.0026	*U*	0.0028	*U*	0.0026	*U*
cis-1,3-Dichloropropylene	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
Dibromochloromethane	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
Dibromomethane	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
Dichlorodifluoromethane	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
Ethyl Benzene	1	41	0.0026	*U*	0.0028	*U*	0.0026	*U*
Methyl tert-butyl ether (MTBE)	0.93	100	0.0026	*U*	0.0028	*U*	0.0026	*U*
Methylene chloride	0.05	500	0.0026	*U*	0.0028	*U*	0.0026	*U*
Naphthalene	12	12	0.0026	*U*	0.0028	*U*	0.0026	*U*
n-Butylbenzene	12	100	0.0026	*U*	0.0028	*U*	0.0026	*U*
n-Propylbenzene	3.9	100	0.0051	*U*	0.0057	*U*	0.0052	*U*
o-Xylene	0.26	100	0.0026	*U*	0.0028	*U*	0.0026	*U*
p- & m- Xylenes	0.26	100	0.0051	*U*	0.0057	*U*	0.0052	*U*
sec-Butylbenzene	11	100	0.0026	*U*	0.0028	*U*	0.0026	*U*
Styrene	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
tert-Butylbenzene	5.9	100	0.0026	*U*	0.0028	*U*	0.0026	*U*
Tetrachloroethylene	1.3	19	0.0026	*U*	0.0028	*U*	0.0026	*U*
Toluene	0.7	100	0.0026	*U*	0.0028	*U*	0.0026	*U*
trans-1,2-Dichloroethylene	0.19	100	0.0026	*U*	0.0028	*U*	0.0026	*U*
trans-1,3-Dichloropropylene	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
Trichloroethylene	0.47	21	0.0026	*U*	0.0028	*U*	0.0026	*U*
Trichlorofluoromethane	NA	NA	0.0026	*U*	0.0028	*U*	0.0026	*U*
Vinyl chloride	NA	0.9	0.0026	*U*	0.0028	*U*	0.0026	*U*
Xylenes, Total	0.26	100	0.0077	*U*	0.0085	*U*	0.0077	*U*

Detected Concentrations

Concentrations > Track 1 UUSCOs

Concentrations > Track 2 RRUSCOs

TCL = total compound list

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51   NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 1: TCL VOCs in Soils

Ecosystems Strategies, Inc.

ESI File: MB13205B

All data in mg/Kg (parts per million, ppm)		Sample ID	WC-04		WC-05	
U= Not Detected at or above indicated value		Sample Date	(2015-14-4)		(2015-14-4)	
Data above SCOs shown in **Bold**		Dilution Factor	1		1	
VOCs, 8260	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*
1,1,1-Trichloroethane	0.68	100	0.0032	U	0.0024	U
1,1,2,2-Tetrachloroethane	NA	NA	0.0032	U	0.0024	U
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	0.0032	U	0.0024	U
1,1,2-Trichloroethane	NA	NA	0.0032	U	0.0024	U
1,1-Dichloroethane	0.27	26	0.0032	U	0.0024	U
1,1-Dichloroethylene	0.33	100	0.0032	U	0.0024	U
1,2,4-Trichlorobenzene	NA	NA	0.0032	U	0.0024	U
1,2,4-Trimethylbenzene	3.6	52	0.0032	U	0.0024	U
1,2-Dibromo-3-chloropropane	NA	NA	0.0032	U	0.0024	U
1,2-Dibromoethane	NA	NA	0.0032	U	0.0024	U
1,2-Dichloroethane	0.2	31	0.0032	U	0.0024	U
1,2-Dichloropropane	NA	NA	0.0032	U	0.0024	U
1,3,5-Trimethylbenzene	8.4	52	0.0032	U	0.0024	U
2-Butanone	0.12	100	0.0076		0.0027	J
2-Hexanone	NA	NA	0.0032	U	0.0024	U
4-Methyl-2-pentanone	NA	NA	0.0032	U	0.0024	U
Acetone	0.05	100	0.097		0.062	
Acrolein	NA	NA	0.0064	U	0.0047	U
Acrylonitrile	NA	NA	0.0032	U	0.0024	U
Benzene	0.06	48	0.0032	U	0.0024	U
Bromochloromethane	NA	NA	0.0032	U	0.0024	U
Bromoform	NA	NA	0.0032	U	0.0024	U
Bromomethane	NA	NA	0.0032	U	0.0024	U
Carbon disulfide	NA	100	0.0032	U	0.0024	U
Carbon tetrachloride	0.76	24	0.0032	U	0.0024	U
Chlorobenzene	1.1	100	0.0032	U	0.0024	U
Chloroethane	NA	NA	0.0032	U	0.0024	U
Chloroform	0.37	49	0.0032	U	0.0024	U
Chloromethane	NA	NA	0.0032	U	0.0024	U
cis-1,2-Dichloroethylene	0.25	100	0.0032	U	0.0024	U
cis-1,3-Dichloropropylene	NA	NA	0.0032	U	0.0024	U
Dibromochloromethane	NA	NA	0.0032	U	0.0024	U
Dibromomethane	NA	NA	0.0032	U	0.0024	U
Dichlorodifluoromethane	NA	NA	0.0032	U	0.0024	U
Ethyl Benzene	1	41	0.0032	U	0.0024	U
Methyl tert-butyl ether (MTBE)	0.93	100	0.0032	U	0.0024	U
Methylene chloride	0.05	500	0.0032	U	0.0024	U
Naphthalene	12	12	0.0032	U	0.0024	U
n-Butylbenzene	12	100	0.0032	U	0.0024	U
n-Propylbenzene	3.9	100	0.0064	U	0.0047	U
o-Xylene	0.26	100	0.0032	U	0.0024	U
p- & m- Xylenes	0.26	100	0.0064	U	0.0047	U
sec-Butylbenzene	11	100	0.0032	U	0.0024	U
Styrene	NA	NA	0.0032	U	0.0024	U
tert-Butylbenzene	5.9	100	0.0032	U	0.0024	U
Tetrachloroethylene	1.3	19	0.0032	U	0.0024	U
Toluene	0.7	100	0.0032	U	0.0024	U
trans-1,2-Dichloroethylene	0.19	100	0.0032	U	0.0024	U
trans-1,3-Dichloropropylene	NA	NA	0.0032	U	0.0024	U
Trichloroethylene	0.47	21	0.0032	U	0.0024	U
Trichlorofluoromethane	NA	NA	0.0032	U	0.0024	U
Vinyl chloride	NA	0.9	0.0032	U	0.0024	U
Xylenes, Total	0.26	100	0.0096	U	0.0071	U

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

TCL = total compound list

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51   NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 1: TCL VOCs in Soils

Ecosystems Strategies, Inc.

ESI File: MB13205B

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**WC-06**		**WC-07**	
U= Not Detected at or above indicated value		Sample Date	(2015-14-4)		(2015-14-4)	
Data above SCOs shown in **Bold**		Dilution Factor	1		1	
VOCs, 8260	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*
1,1,1-Trichloroethane	0.68	100	0.0027	*U*	0.0028	*U*
1,1,2,2-Tetrachloroethane	NA	NA	0.0027	*U*	0.0028	*U*
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	0.0027	*U*	0.0028	*U*
1,1,2-Trichloroethane	NA	NA	0.0027	*U*	0.0028	*U*
1,1-Dichloroethane	0.27	26	0.0027	*U*	0.0028	*U*
1,1-Dichloroethylene	0.33	100	0.0027	*U*	0.0028	*U*
1,2,4-Trichlorobenzene	NA	NA	0.0027	*U*	0.0028	*U*
1,2,4-Trimethylbenzene	3.6	52	0.0027	*U*	0.0028	*U*
1,2-Dibromo-3-chloropropane	NA	NA	0.0027	*U*	0.0028	*U*
1,2-Dibromoethane	NA	NA	0.0027	*U*	0.0028	*U*
1,2-Dichloroethane	0.2	31	0.0027	*U*	0.0028	*U*
1,2-Dichloropropane	NA	NA	0.0027	*U*	0.0028	*U*
1,3,5-Trimethylbenzene	8.4	52	0.0027	*U*	0.0028	*U*
2-Butanone	0.12	100	0.0027	*U*	0.0028	*U*
2-Hexanone	NA	NA	0.0027	*U*	0.0028	*U*
4-Methyl-2-pentanone	NA	NA	0.0027	*U*	0.0028	*U*
Acetone	0.05	100	0.063		0.065	
Acrolein	NA	NA	0.0054	*U*	0.0057	*U*
Acrylonitrile	NA	NA	0.0027	*U*	0.0028	*U*
Benzene	0.06	48	0.0027	*U*	0.0028	*U*
Bromochloromethane	NA	NA	0.0027	*U*	0.0028	*U*
Bromoform	NA	NA	0.0027	*U*	0.0028	*U*
Bromomethane	NA	NA	0.0027	*U*	0.0028	*U*
Carbon disulfide	NA	100	0.0027	*U*	0.0028	*U*
Carbon tetrachloride	0.76	24	0.0027	*U*	0.0028	*U*
Chlorobenzene	1.1	100	0.0027	*U*	0.0028	*U*
Chloroethane	NA	NA	0.0027	*U*	0.0028	*U*
Chloroform	0.37	49	0.0027	*U*	0.0028	*U*
Chloromethane	NA	NA	0.0027	*U*	0.0028	*U*
cis-1,2-Dichloroethylene	0.25	100	0.0027	*U*	0.0028	*U*
cis-1,3-Dichloropropylene	NA	NA	0.0027	*U*	0.0028	*U*
Dibromochloromethane	NA	NA	0.0027	*U*	0.0028	*U*
Dibromomethane	NA	NA	0.0027	*U*	0.0028	*U*
Dichlorodifluoromethane	NA	NA	0.0027	*U*	0.0028	*U*
Ethyl Benzene	1	41	0.0027	*U*	0.0028	*U*
Methyl tert-butyl ether (MTBE)	0.93	100	0.0027	*U*	0.0028	*U*
Methylene chloride	0.05	500	0.0027	*U*	0.0028	*U*
Naphthalene	12	12	0.0027	*U*	0.0028	*U*
n-Butylbenzene	12	100	0.0027	*U*	0.0028	*U*
n-Propylbenzene	3.9	100	0.0054	*U*	0.0057	*U*
o-Xylene	0.26	100	0.0027	*U*	0.0028	*U*
p- & m- Xylenes	0.26	100	0.0054	*U*	0.0057	*U*
sec-Butylbenzene	11	100	0.0027	*U*	0.0028	*U*
Styrene	NA	NA	0.0027	*U*	0.0028	*U*
tert-Butylbenzene	5.9	100	0.0027	*U*	0.0028	*U*
Tetrachloroethylene	1.3	19	0.0027	*U*	0.0028	*U*
Toluene	0.7	100	0.0027	*U*	0.0028	*U*
trans-1,2-Dichloroethylene	0.19	100	0.0027	*U*	0.0028	*U*
trans-1,3-Dichloropropylene	NA	NA	0.0027	*U*	0.0028	*U*
Trichloroethylene	0.47	21	0.0027	*U*	0.0028	*U*
Trichlorofluoromethane	NA	NA	0.0027	*U*	0.0028	*U*
Vinyl chloride	NA	0.9	0.0027	*U*	0.0028	*U*
Xylenes, Total	0.26	100	0.0081	*U*	0.0085	*U*

Detected Concentrations

Concentrations > Track 1 UUSCOs

Concentrations > Track 2 RRUSCOs

TCL = total compound list

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51   NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 2: SVOCs in Soils

Ecosystems Strategies, Inc.

ESI File: MB13205B

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**WC-01**		**WC-02**	
U= Not Detected at or above indicated value		Sample Date	(2015-14-4)		(2015-14-4)	
Data above SCOs shown in **Bold**		Dilution Factor	2		2	
SVOCs, 8270 (PAHs only)	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*
2-Methylnaphthalene	NA	0.41	0.0474	*U*	0.0447	*U*
Acenaphthene	20	100	0.0474	*U*	0.0447	*U*
Acenaphthylene	100	100	0.0474	*U*	0.0447	*U*
Anthracene	100	100	0.0474	*U*	0.0447	*U*
Benzo(a)anthracene	1	1	0.21	*D*	0.0985	*D*
Benzo(a)pyrene	1	1	0.0884	*JD*	0.0447	*U*
Benzo(b)fluoranthene	1	1	0.111	*D*	0.0447	*U*
Benzo(g,h,i)perylene	100	100	0.0688	*JD*	0.0447	*U*
Benzo(k)fluoranthene	0.8	3.9	0.0877	*JD*	0.0447	*U*
Chrysene	1	3.9	0.227	*D*	0.0949	*D*
Dibenzo(a,h)anthracene	0.33	0.33	0.0474	*U*	0.0447	*U*
Fluoranthene	100	100	0.367	*D*	0.166	*D*
Fluorene	30	100	0.0474	*U*	0.0447	*U*
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.0635	*JD*	0.0447	*U*
Naphthalene	12	100	0.0474	*U*	0.0447	*U*
Phenanthrene	100	100	0.15	*D*	0.0856	*JD*
Pyrene	100	100	0.373	*D*	0.148	*D*

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 2: SVOCs in Soils

Ecosystems Strategies, Inc.

ESI File: MB13205B

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**WC-03**		**WC-04**	
U= Not Detected at or above indicated value		Sample Date	(2015-14-4)		(2015-14-4)	
Data above SCOs shown in **Bold**		Dilution Factor	2		1	
SVOCs, 8270 (PAHs only)	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*
2-Methylnaphthalene	NA	0.41	0.0463	*U*	0.0249	*U*
Acenaphthene	20	100	0.0463	*U*	0.0249	*U*
Acenaphthylene	100	100	0.0463	*U*	0.0249	*U*
Anthracene	100	100	0.0776	*JD*	0.0249	*U*
Benzo(a)anthracene	1	1	0.229	*D*	0.0469	*J*
Benzo(a)pyrene	1	1	0.0909	*JD*	0.0249	*U*
Benzo(b)fluoranthene	1	1	0.0968	*D*	0.0249	*U*
Benzo(g,h,i)perylene	100	100	0.0621	*JD*	0.0249	*U*
Benzo(k)fluoranthene	0.8	3.9	0.111	*D*	0.0249	*U*
Chrysene	1	3.9	0.218	*D*	0.0485	*J*
Dibenzo(a,h)anthracene	0.33	0.33	0.0463	*U*	0.0249	*U*
Fluoranthene	100	100	0.508	*D*	0.101	
Fluorene	30	100	0.0463	*U*	0.0249	*U*
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.0621	*JD*	0.0249	*U*
Naphthalene	12	100	0.0463	*U*	0.0249	*U*
Phenanthrene	100	100	0.358	*D*	0.0708	
Pyrene	100	100	0.455	*D*	0.0887	

Detected Concentrations

Concentrations > Track 1 UUSCOs

Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 2: SVOCs in Soils

Ecosystems Strategies, Inc.

ESI File: MB13205B

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**WC-05**		**WC-06**	
U= Not Detected at or above indicated value		Sample Date	(2015-14-4)		(2015-14-4)	
Data above SCOs shown in **Bold**		Dilution Factor	2		2	
SVOCs, 8270 (PAHs only)	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*
2-Methylnaphthalene	NA	0.41	0.045	*U*	0.0447	*U*
Acenaphthene	20	100	0.045	*U*	0.0447	*U*
Acenaphthylene	100	100	0.045	*U*	0.0447	*U*
Anthracene	100	100	0.0638	*JD*	0.0541	*JD*
Benzo(a)anthracene	1	1	0.221	*D*	0.223	*D*
Benzo(a)pyrene	1	1	0.076	*JD*	0.0734	*JD*
Benzo(b)fluoranthene	1	1	0.0839	*JD*	0.0848	*JD*
Benzo(g,h,i)perylene	100	100	0.0523	*JD*	0.062	*JD*
Benzo(k)fluoranthene	0.8	3.9	0.081	*JD*	0.099	*D*
Chrysene	1	3.9	0.227	*D*	0.215	*D*
Dibenzo(a,h)anthracene	0.33	0.33	0.045	*U*	0.0447	*U*
Fluoranthene	100	100	0.472	*D*	0.452	*D*
Fluorene	30	100	0.045	*U*	0.0447	*U*
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.0523	*JD*	0.0641	*JD*
Naphthalene	12	100	0.045	*U*	0.0447	*U*
Phenanthrene	100	100	0.353	*D*	0.249	*D*
Pyrene	100	100	0.475	*D*	0.436	*D*

Detected Concentrations

Concentrations > Track 1 UUSCOs

Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51   NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 2: SVOCs in Soils

Ecosystems Strategies, Inc.

ESI File: MB13205B

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**WC-07**	
U= Not Detected at or above indicated value		Sample Date	(2015-14-4)	
Data above SCOs shown in **Bold**		Dilution Factor	2	
SVOCs, 8270 (PAHs only)	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*
2-Methylnaphthalene	NA	0.41	0.0472	*U*
Acenaphthene	20	100	0.0472	*U*
Acenaphthylene	100	100	0.0472	*U*
Anthracene	100	100	0.0472	*U*
Benzo(a)anthracene	1	1	0.0761	*JD*
Benzo(a)pyrene	1	1	0.0472	*U*
Benzo(b)fluoranthene	1	1	0.0472	*U*
Benzo(g,h,i)perylene	100	100	0.0472	*U*
Benzo(k)fluoranthene	0.8	3.9	0.0472	*U*
Chrysene	1	3.9	0.0911	*JD*
Dibenzo(a,h)anthracene	0.33	0.33	0.0472	*U*
Fluoranthene	100	100	0.161	*D*
Fluorene	30	100	0.0472	*U*
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.0472	*U*
Naphthalene	12	100	0.0472	*U*
Phenanthrene	100	100	0.0715	*JD*
Pyrene	100	100	0.152	*D*

Detected Concentrations

Concentrations > Track 1 UUSCOs

Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 3: Pesticides and PCBs in Soils

Ecosystems Strategies, Inc.

ESI File: MB13205B

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**WC-01**		**WC-02**		**WC-03**		**WC-04**		**WC-05**	
U= Not Detected at or above indicated value		Sample Date	(2015-14-4)		(2015-14-4)		(2015-14-4)		(2015-14-4)		(2015-14-4)	
Data above SCOs shown in **Bold**		Dilution Factor	5		5		5		5		5	
Pesticides, 8081	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
4,4'-DDD	0.0033	13	0.00187	*U*	0.00177	*U*	0.00183	*U*	0.00197	*U*	0.00177	*U*
4,4'-DDE	0.0033	8.9	0.00187	*U*	0.00232	*D*	0.00356	*D*	0.00197	*U*	0.00334	*D*
4,4'-DDT	0.0033	7.9	0.00187	*U*	0.00548	*D*	0.00588	*D*	0.00436	*D*	0.00344	*D*
Aldrin	0.005	0.097	0.00187	*U*	0.00177	*U*	0.00183	*U*	0.00197	*U*	0.00177	*U*
alpha-BHC	0.02	0.48	0.00187	*U*	0.00177	*U*	0.00183	*U*	0.00197	*U*	0.00177	*U*
alpha-Chlordane	0.094	4.2	0.00187	*U*	0.00418	*D*	0.00183	*U*	0.00197	*U*	0.00326	*D*
beta-BHC	0.036	0.36	0.00187	*U*	0.00177	*U*	0.00183	*U*	0.00197	*U*	0.00177	*U*
Chlordane, total	NA	NA	0.0748	*U*	0.0706	*U*	0.0732	*U*	0.0788	*U*	0.071	*U*
delta-BHC	0.04	100	0.00187	*U*	0.00177	*U*	0.00183	*U*	0.00197	*U*	0.00177	*U*
Dieldrin	0.005	0.2	0.00187	*U*	0.00639	*D*	0.00291	*D*	0.00197	*U*	0.0019	*D*
Endosulfan I	2.4	200	0.00187	*U*	0.00177	*U*	0.00183	*U*	0.00197	*U*	0.00177	*U*
Endosulfan II	2.4	200	0.00187	*U*	0.00177	*U*	0.00183	*U*	0.00197	*U*	0.00177	*U*
Endosulfan sulfate	2.4	200	0.00187	*U*	0.00177	*U*	0.00183	*U*	0.00197	*U*	0.00177	*U*
Endrin	0.014	11	0.00187	*U*	0.00177	*U*	0.00183	*U*	0.00197	*U*	0.00177	*U*
Endrin aldehyde	NA	NA	0.00187	*U*	0.00177	*U*	0.00183	*U*	0.00197	*U*	0.00177	*U*
Endrin ketone	NA	NA	0.00187	*U*	0.00177	*U*	0.00183	*U*	0.00197	*U*	0.00177	*U*
gamma-BHC (Lindane)	0.1	1.3	0.00187	*U*	0.00177	*U*	0.00183	*U*	0.00197	*U*	0.00177	*U*
gamma-Chlordane	NA	0.54	0.00187	*U*	0.00544	*D*	0.00183	*U*	0.00197	*U*	0.0031	*D*
Heptachlor	0.042	2.1	0.00187	*U*	0.00177	*U*	0.00183	*U*	0.00197	*U*	0.00177	*U*
Heptachlor Epoxide	NA	0.077	0.00187	*U*	0.00177	*U*	0.00183	*U*	0.00197	*U*	0.00177	*U*
Methoxychlor	NA	100	0.00935	*U*	0.00883	*U*	0.00915	*U*	0.00985	*U*	0.00887	*U*
Toxaphene	NA	NA	0.0947	*U*	0.0894	*U*	0.0926	*U*	0.0996	*U*	0.0898	*U*

		Sample ID	**WC-01**		**WC-02**		**WC-03**		**WC-04**		**WC-05**	
		Sample Date	(2015-14-4)		(2015-14-4)		(2015-14-4)		(2015-14-4)		(2015-14-4)	
		Dilution Factor	1		1		1		1		1	
PCBs, 8082	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Aroclor 1016	0.1	1.00	0.0189	*U*	0.0178	*U*	0.0185	*U*	0.0199	*U*	0.0179	*U*
Aroclor 1221	0.1	1.00	0.0189	*U*	0.0178	*U*	0.0185	*U*	0.0199	*U*	0.0179	*U*
Aroclor 1232	0.1	1.00	0.0189	*U*	0.0178	*U*	0.0185	*U*	0.0199	*U*	0.0179	*U*
Aroclor 1242	0.1	1.00	0.0189	*U*	0.0178	*U*	0.0185	*U*	0.0199	*U*	0.0179	*U*
Aroclor 1248	0.1	1.00	0.0189	*U*	0.0178	*U*	0.0185	*U*	0.0199	*U*	0.0179	*U*
Aroclor 1254	0.1	1.00	0.0189	*U*	0.0178	*U*	0.0185	*U*	0.0199	*U*	0.0179	*U*
Aroclor 1260	0.1	1.00	0.0189	*U*	0.0178	*U*	0.0212		0.0199	*U*	0.0179	*U*
Aroclor, Total	0.1	1.00	0.0189	*U*	0.0178	*U*	0.0212		0.0199	*U*	0.0179	*U*

Detected Concentrations

Concentrations > Track 1 UUSCOs

Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 3: Pesticides and PCBs in Soils

Ecosystems Strategies, Inc.

ESI File: MB13205B

All data in mg/Kg (parts per million, ppm)		Sample ID	WC-06		WC-07	
U= Not Detected at or above indicated value		Sample Date	(2015-14-4)		(2015-14-4)	
Data above SCOs shown in **Bold**		Dilution Factor	5		5	
Pesticides, 8081	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*
4,4'-DDD	0.0033	13	0.00382	*D*	0.00186	*U*
4,4'-DDE	0.0033	8.9	0.00294	*D*	0.00186	*U*
4,4'-DDT	0.0033	7.9	0.00508	*D*	0.00186	*U*
Aldrin	0.005	0.097	0.00176	*U*	0.00186	*U*
alpha-BHC	0.02	0.48	0.00176	*U*	0.00186	*U*
alpha-Chlordane	0.094	4.2	0.00201	*D*	0.00186	*U*
beta-BHC	0.036	0.36	0.00176	*U*	0.00186	*U*
Chlordane, total	NA	NA	0.0705	*U*	0.0745	*U*
delta-BHC	0.04	100	0.00176	*U*	0.00186	*U*
Dieldrin	0.005	0.2	0.00176	*U*	0.00186	*U*
Endosulfan I	2.4	200	0.00176	*U*	0.00186	*U*
Endosulfan II	2.4	200	0.00176	*U*	0.00186	*U*
Endosulfan sulfate	2.4	200	0.00176	*U*	0.00186	*U*
Endrin	0.014	11	0.00176	*U*	0.00186	*U*
Endrin aldehyde	NA	NA	0.00176	*U*	0.00186	*U*
Endrin ketone	NA	NA	0.00176	*U*	0.00186	*U*
gamma-BHC (Lindane)	0.1	1.3	0.00176	*U*	0.00186	*U*
gamma-Chlordane	NA	0.54	0.00228	*D*	0.00186	*U*
Heptachlor	0.042	2.1	0.00176	*U*	0.00186	
Heptachlor Epoxide	NA	0.077	0.00176	*U*	0.00186	*U*
Methoxychlor	NA	100	0.00881	*U*	0.00932	*U*
Toxaphene	NA	NA	0.0892	*U*	0.0943	*U*

		Sample ID	WC-06		WC-07	
		Sample Date	(2015-14-4)		(2015-14-4)	
		Dilution Factor	1		1	
PCBs, 8082	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*
Aroclor 1016	0.1	1.00	0.0178	*U*	0.0188	*U*
Aroclor 1221	0.1	1.00	0.0178	*U*	0.0188	*U*
Aroclor 1232	0.1	1.00	0.0178	*U*	0.0188	*U*
Aroclor 1242	0.1	1.00	0.0178	*U*	0.0188	*U*
Aroclor 1248	0.1	1.00	0.0178	*U*	0.0188	*U*
Aroclor 1254	0.1	1.00	0.0178	*U*	0.0188	*U*
Aroclor 1260	0.1	1.00	0.0178	*U*	0.0188	*U*
Aroclor, Total	0.1	1.00	0.0178	*U*	0.0188	*U*

Detected Concentrations

Concentrations > Track 1 UUSCOs

Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51   NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 4: TAL Metals in Soils

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**WC-01**		**WC-02**		**WC-03**		**WC-04**	
U= Not Detected at or above indicated value		Sample Date	(2015-14-4)		(2015-14-4)		(2015-14-4)		(2015-14-4)	
Data above SCOs shown in **Bold**		Dilution Factor	1		1		1		1	
Metals, 6010 and 7473	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Aluminum	NA	NA	10,500		9,480		9,370		15,200	
Antimony	NA	NA	0.567	*U*	0.535	*U*	0.554	*U*	0.597	*U*
Arsenic	13	16	2.48		2.59		3.25		2.62	
Barium	350	400	66.7		69.4		116		91.5	
Beryllium	7.2	72	0.113	*U*	0.107	*U*	0.111	*U*	0.119	*U*
Cadmium	2.5	4.3	0.34	*U*	0.321	*U*	0.333	*U*	0.358	*U*
Calcium	NA	NA	6,930		5,880		7,000		2,240	
Chromium	30	180	23.9		21.1		23.9		27.2	
Cobalt	NA	30	10.7		8.37		11		11.2	
Copper	50	270	41		35.1		53.4		19.5	
Iron	NA	NA	19,900		22,200		23,600		21,300	
Lead	63	400	48.1		71.8		113		55.4	
Magnesium	NA	NA	5,070		3,910		4,190		4,510	
Manganese	1,600	2,000	183		161		198		204	
Mercury	0.18	0.81	0.0823		0.127		0.112		0.0358	*U*
Nickel	30	310	19.2		16.6		19.9		18.2	
Potassium	NA	NA	1,370		1,130		1,530		857	
Selenium	3.90	180	2.17		3.07		2.82		2.05	
Silver	2	180	0.567	*U*	0.535	*U*	0.554	*U*	0.597	*U*
Sodium	NA	NA	229		155		206		156	
Thallium	NA	NA	1.13	*U*	1.07	*U*	1.11	*U*	1.19	*U*
Vanadium	NA	100	43		36		43.6		37.3	
Zinc	109	2,200	79.8		123		139		81.7	

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 4: TAL Metals in Soils

Ecosystems Strategies, Inc.

ESI File: MB13205B

All data in mg/Kg (parts per million, ppm)		Sample ID	WC-05		WC-06		WC-07	
U= Not Detected at or above indicated value		Sample Date	(2015-14-4)		(2015-14-4)		(2015-14-4)	
Data above SCOs shown in **Bold**		Dilution Factor	1		1		1	
Metals, 6010 and 7473	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Aluminum	NA	NA	7,550		9,600		11,200	
Antimony	NA	NA	0.538	*U*	0.534	*U*	0.565	*U*
Arsenic	13	16	2		2.89		7.16	
Barium	350	400	62.9		94.5		287	
Beryllium	7.2	72	0.108	*U*	0.107	*U*	0.113	*U*
Cadmium	2.5	4.3	0.323	*U*	0.321	*U*	0.339	*U*
Calcium	NA	NA	6,030		9,650		9,120	
Chromium	30	180	17.3		22.4		26.9	
Cobalt	NA	30	8.5		9.66		8.35	
Copper	50	270	30.6		34.8		29.4	
Iron	NA	NA	18,500		20,400		16,500	
Lead	63	400	69.6		96.1		**533**	
Magnesium	NA	NA	4,420		7,010		8,300	
Manganese	1,600	2,000	190		193		360	
Mercury	0.18	0.81	0.0967		0.137		0.165	
Nickel	30	310	14.9		17.9		17	
Potassium	NA	NA	1,450		1,630		1,360	
Selenium	3.90	180	2.23		2.84		2.84	
Silver	2	180	0.538	*U*	0.534	*U*	0.565	*U*
Sodium	NA	NA	149		197		521	
Thallium	NA	NA	1.08	*U*	1.07	*U*	1.13	*U*
Vanadium	NA	100	30.5		38.7		30.2	
Zinc	109	2,200	68		98.2		249	

Detected Concentrations

Concentrations > Track 1 UUSCOs

Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 5: Additional Parameters in Soils

Ecosystems Strategies, Inc.

ESI File: MB13205B

All data in mg/Kg (parts per million, ppm)	**Sample ID**	**WC-01**		**WC-02**		**WC-03**		**WC-04**	
U= Not Detected at or above indicated value	Sample Date	(2015-14-4)		(2015-14-4)		(2015-14-4)		(2015-14-4)	
Data above SCOs shown in **Bold**	Dilution Factor	1		1		1		1	
Analysis	**SCG**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Metals, TCLP RCRA									
Arsenic	5	0.004	*U*	0.004	*U*	0.004	*U*	0.004	*U*
Barium	100	0.347		0.476		0.5		0.539	
Cadmium	1	0.003	*U*	0.003	*U*	0.006		0.003	*U*
Chromium	5	0.005	*U*	0.005	*U*	0.005	*U*	0.005	*U*
Lead	5	0.057		0.085		0.445		0.092	
Mercury	0.2	0.0002	*U*	0.0002	*U*	0.0002	*U*	0.0002	*U*
Selenium	1	0.01	*U*	0.01	*U*	0.01	*U*	0.01	*U*
Silver	5	0.005	*U*	0.005	*U*	0.005	*U*	0.005	*U*
pH (Corrosivity)	NA	7.66		8.67		8.53		8.2	
Ignitability	NA	Non-Ignit.		Non-Ignit.		Non-Ignit.		Non-Ignit.	
Paint Filter Test	NA	No Free Liquid		NA		NA		NA	
Reactivity									
Cyanide	NA	0.25	*U*	0.25	*U*	0.25	*U*	0.25	*U*
Sulfide	NA	15	*U*	15	*U*	15	*U*	15	*U*

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

SCG = standards, criteria, and guidance

Notes: SCG based on Code of Federal Regulations Section 261.24 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 5: Additional Parameters in Soils

Ecosystems Strategies, Inc.

ESI File: MB13205B

All data in mg/Kg (parts per million, ppm)	**Sam**	**WC-05**		**WC-06**		**WC-07**	
U= Not Detected at or above indicated value	Sample	(2015-14-4)		(2015-14-4)		(2015-14-4)	
Data above SCOs shown in **Bold**	Dilution F	1		1		1	
Analysis	**SCG**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Metals, TCLP RCRA							
Arsenic	5	0.004	*U*	0.004	*U*	0.004	*U*
Barium	100	0.409		0.497		0.828	
Cadmium	1	0.003	*U*	0.003	*U*	0.003	*U*
Chromium	5	0.005	*U*	0.005	*U*	0.007	
Lead	5	0.137		0.1		0.693	
Mercury	0.2	0.0002	*U*	0.0002	*U*	0.0002	*U*
Selenium	1	0.01	*U*	0.01	*U*	0.01	*U*
Silver	5	0.005	*U*	0.005	*U*	0.005	*U*
pH (Corrosivity)	NA	8.21		8.49		8.56	
Ignitability	NA	Non-Ignit.		Non-Ignit.		Non-Ignit.	
Paint Filter Test	NA	NA		NA		NA	
Reactivity							
Cyanide	NA	0.25	*U*	0.25	*U*	0.25	*U*
Sulfide	NA	15	*U*	15	*U*	15	*U*

Detected Concentrations

Concentrations > Track 1 UUSCOs

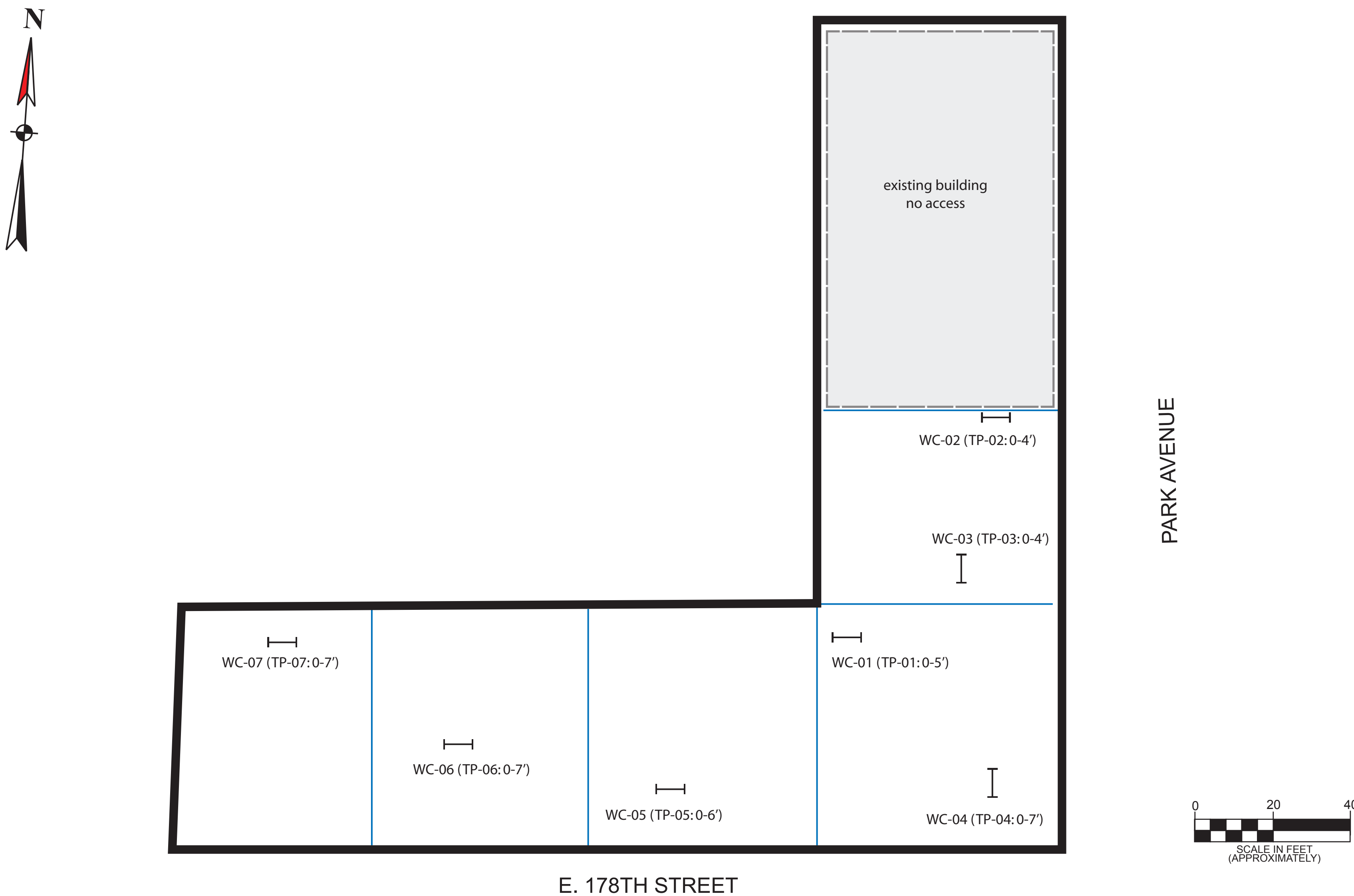
Concentrations > Track 2 RRUSCOs

SCG = standards, criteria, and guidance

Notes: SCG based on Code of Federal Regulations Section 261.24   NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Ecosystems Strategies, Inc.



All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Fieldwork Map

4275 Park Avenue
Borough of Bronx, New York

Legend:

- subject property border
- waste characterization grid
- test pit location

ESI File: MB13205.21

April 2015

Scale as shown

Appendix A

Ecosystems Strategies, Inc.

All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Fieldwork Map

4275 Park Avenue (Site B)
Borough of Bronx, New York

Legend:

- footprint of proposed structure
- April 2015 test pit location
- June 2015 test pit location

ESI File: MB13205B.20

June 2015

Scale as shown

Appendix A

Technical Report

prepared for:

Ecosystems Strategies, Inc.
24 Davis Avenue
Poughkeepsie NY, 12603
Attention: Danielle Bonneau

Report Date: 06/16/2015
Client Project ID: MB13205B
York Project (SDG) No.: 15F0427

CT Cert. No. PH-0723 New Jersey Cert. No. CT-005 New York Cert. No. 10854 PA Cert. No. 68-04440

Report Date: 06/16/2015
Client Project ID: MB13205B
York Project (SDG) No.: 15F0427

Ecosystems Strategies, Inc.
24 Davis Avenue
Poughkeepsie NY, 12603
Attention: Danielle Bonneau

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on June 11, 2015 and listed below. The project was identified as your project: **MB13205B**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the attachment to this report, and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
15F0427-01	TP-08 (2-6)	Soil	06/10/2015	06/11/2015
15F0427-02	TP-09 (2-4)	Soil	06/10/2015	06/11/2015
15F0427-03	TP-10 (2-4)	Soil	06/10/2015	06/11/2015
15F0427-04	TP-11 (2-6)	Soil	06/10/2015	06/11/2015
15F0427-05	TP-12 (2-6)	Soil	06/10/2015	06/11/2015

General Notes for York Project (SDG) No.: 15F0427

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation, unless otherwise noted.
6. All analyses conducted met method or Laboratory SOP requirements. See the Qualifiers and/or Narrative sections for further information.
7. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
8. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.

Approved By: **Date:** 06/16/2015

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: TP-08 (2-6) — **York Sample ID:** 15F0427-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List — **Log-in Notes:** — **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
563-58-6	1,1-Dichloropropylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
96-18-4	1,2,3-Trichloropropane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
142-28-9	1,3-Dichloropropane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS

Sample Information

Client Sample ID: TP-08 (2-6) **York Sample ID:** 15F0427-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
123-91-1	1,4-Dioxane	ND		ug/kg dry	52	100	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
594-20-7	2,2-Dichloropropane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
78-93-3	2-Butanone	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
95-49-8	2-Chlorotoluene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
106-43-4	4-Chlorotoluene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
67-64-1	**Acetone**	**6.5**	CCV-E, SCAL-E, J	ug/kg dry	5.2	10	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
71-43-2	Benzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
108-86-1	Bromobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
75-25-2	Bromoform	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
67-66-3	Chloroform	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
74-95-3	Dibromomethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS

Sample Information

Client Sample ID: **TP-08 (2-6)** **York Sample ID:** **15F0427-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
75-09-2	Methylene chloride	ND		ug/kg dry	5.2	10	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
91-20-3	Naphthalene	ND		ug/kg dry	2.6	10	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
104-51-8	n-Butylbenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
103-65-1	n-Propylbenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854	06/15/2015 09:50	06/15/2015 15:27	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	5.2	10	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854	06/15/2015 09:50	06/15/2015 15:27	SS
99-87-6	p-Isopropyltoluene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
135-98-8	sec-Butylbenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
100-42-5	Styrene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
98-06-6	tert-Butylbenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
108-88-3	Toluene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:27	SS
108-05-4	Vinyl acetate	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:27	SS

Sample Information

Client Sample ID: TP-08 (2-6) **York Sample ID:** 15F0427-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.6	5.2	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:27	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
1330-20-7	Xylenes, Total	ND		ug/kg dry	7.8	16	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:27	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*105 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*97.6 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*90.3 %*	*76-130*

Semi-Volatiles, 8270 Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	63.9	128	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:20	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
208-96-8	Acenaphthylene	ND		ug/kg dry	63.9	128	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:20	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
62-53-3	Aniline	ND		ug/kg dry	255	511	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:20	KH
								Certifications: NELAC-NY10854,NJDEP,PADEP			
120-12-7	Anthracene	ND		ug/kg dry	63.9	128	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:20	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	63.9	128	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:20	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	63.9	128	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:20	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	63.9	128	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:20	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	63.9	128	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:20	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	63.9	128	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:20	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
100-51-6	Benzyl alcohol	ND		ug/kg dry	63.9	128	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:20	KH
								Certifications: NELAC-NY10854,NJDEP,PADEP			
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	63.9	128	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:20	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	63.9	128	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:20	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	63.9	128	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:20	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
106-47-8	4-Chloroaniline	ND		ug/kg dry	63.9	128	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:20	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	63.9	128	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:20	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: TP-08 (2-6) **York Sample ID:** 15F0427-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Semi-Volatiles, 8270 Target List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
95-57-8	2-Chlorophenol	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
218-01-9	Chrysene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
132-64-9	Dibenzofuran	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 21:20	KH
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: NELAC-NY10854	06/12/2015 11:30	06/12/2015 21:20	KH
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: NELAC-NY10854	06/12/2015 11:30	06/12/2015 21:20	KH
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: NELAC-NY10854	06/12/2015 11:30	06/12/2015 21:20	KH
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
84-66-2	Diethyl phthalate	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
131-11-3	Dimethyl phthalate	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	128	255	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 21:20	KH
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	128	255	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH

Sample Information

Client Sample ID: TP-08 (2-6) **York Sample ID:** 15F0427-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Semi-Volatiles, 8270 Target List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
206-44-0	Fluoranthene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
86-73-7	Fluorene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
118-74-1	Hexachlorobenzene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
67-72-1	Hexachloroethane	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
78-59-1	Isophorone	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 21:20	KH
95-48-7	2-Methylphenol	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 21:20	KH
91-20-3	Naphthalene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 21:20	KH
99-09-2	3-Nitroaniline	ND		ug/kg dry	128	255	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
88-74-4	2-Nitroaniline	ND		ug/kg dry	128	255	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
100-01-6	4-Nitroaniline	ND		ug/kg dry	128	255	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
98-95-3	Nitrobenzene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
88-75-5	2-Nitrophenol	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
100-02-7	4-Nitrophenol	ND		ug/kg dry	128	255	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
62-75-9	N-Nitrosodimethylamine	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 21:20	KH
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 21:20	KH

Sample Information

Client Sample ID: TP-08 (2-6) **York Sample ID:** 15F0427-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Semi-Volatiles, 8270 Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
87-86-5	Pentachlorophenol	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
85-01-8	Phenanthrene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
108-95-2	Phenol	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
129-00-0	Pyrene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
110-86-1	Pyridine	ND		ug/kg dry	255	511	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:20	KH
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	63.9	128	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 21:20	KH

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*44.5 %*	*10-95*
4165-62-2	*Surrogate: Phenol-d5*	*52.7 %*	*10-107*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*56.1 %*	*10-95*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*52.4 %*	*10-97*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*57.8 %*	*10-103*
1718-51-0	*Surrogate: Terphenyl-d14*	*49.5 %*	*19-99*

Pesticides, 8081 target list

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC
72-55-9	4,4'-DDE	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC
50-29-3	4,4'-DDT	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC
309-00-2	Aldrin	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC
319-84-6	alpha-BHC	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC
5103-71-9	alpha-Chlordane	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 14:28	AMC
319-85-7	beta-BHC	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC

Sample Information

Client Sample ID: TP-08 (2-6) **York Sample ID:** 15F0427-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Pesticides, 8081 target list

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
57-74-9	Chlordane, total	ND		ug/kg dry	67.3	67.3	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC
319-86-8	delta-BHC	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC
60-57-1	Dieldrin	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC
959-98-8	Endosulfan I	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC
33213-65-9	Endosulfan II	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC
72-20-8	Endrin	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC
7421-93-4	Endrin aldehyde	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC
53494-70-5	Endrin ketone	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 14:28	AMC
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC
5103-74-2	gamma-Chlordane	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 14:28	AMC
76-44-8	Heptachlor	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	1.68	1.68	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC
72-43-5	Methoxychlor	ND		ug/kg dry	8.41	8.41	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:28	AMC
8001-35-2	Toxaphene	ND		ug/kg dry	85.1	85.1	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 14:28	AMC

CAS No.	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*67.9 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*82.7 %*	*30-140*

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0170	0.0170	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 16:45	AMC
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0170	0.0170	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 16:45	AMC

Sample Information

Client Sample ID: **TP-08 (2-6)** **York Sample ID:** **15F0427-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0170	0.0170	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 16:45	AMC
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0170	0.0170	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 16:45	AMC
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0170	0.0170	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 16:45	AMC
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0170	0.0170	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 16:45	AMC
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0170	0.0170	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 16:45	AMC
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0170	0.0170	1	EPA 8082A Certifications:	06/12/2015 11:25	06/15/2015 16:45	AMC

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*85.7 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*84.1 %*	*30-140*

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	**Aluminum**	**5400**		mg/kg dry	5.10	5.10	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7440-36-0	Antimony	ND		mg/kg dry	0.510	0.510	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7440-38-2	Arsenic	ND		mg/kg dry	1.02	1.02	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7440-39-3	**Barium**	**41.3**		mg/kg dry	1.02	1.02	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7440-41-7	Beryllium	ND		mg/kg dry	0.102	0.102	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7440-43-9	Cadmium	ND		mg/kg dry	0.306	0.306	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7440-70-2	**Calcium**	**2160**		mg/kg dry	0.510	5.10	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7440-47-3	**Chromium**	**14.6**		mg/kg dry	0.510	0.510	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7440-48-4	**Cobalt**	**5.10**		mg/kg dry	0.510	0.510	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7440-50-8	**Copper**	**13.2**		mg/kg dry	0.510	0.510	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7439-89-6	**Iron**	**9970**		mg/kg dry	2.04	2.04	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7439-92-1	**Lead**	**70.3**		mg/kg dry	0.306	0.306	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:25	ALD

Sample Information

Client Sample ID: TP-08 (2-6) **York Sample ID:** 15F0427-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-95-4	**Magnesium**	**3200**		mg/kg dry	5.10	5.10	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7439-96-5	**Manganese**	**87.8**		mg/kg dry	0.510	0.510	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7440-02-0	**Nickel**	**9.66**		mg/kg dry	0.510	0.510	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7440-09-7	**Potassium**	**1040**		mg/kg dry	5.10	5.10	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7782-49-2	Selenium	ND		mg/kg dry	1.02	1.02	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7440-22-4	Silver	ND		mg/kg dry	0.510	0.510	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7440-23-5	**Sodium**	**112**		mg/kg dry	10.2	10.2	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7440-28-0	Thallium	ND		mg/kg dry	1.02	1.02	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7440-62-2	**Vanadium**	**16.0**		mg/kg dry	1.02	1.02	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:25	ALD
7440-66-6	**Zinc**	**27.7**		mg/kg dry	1.02	1.02	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:25	ALD

Mercury by 7473

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0306	0.0306	1	EPA 7473 Certifications: CTDOH,NJDEP,NELAC-NY10854,PADEP	06/12/2015 05:54	06/12/2015 10:29	ALD

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**98.1**		%	0.100	0.100	1	SM 2540G Certifications: CTDOH	06/12/2015 09:46	06/12/2015 14:26	SCA

Sample Information

Client Sample ID: TP-09 (2-4) **York Sample ID:** 15F0427-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Sample Information

Client Sample ID: TP-09 (2-4)

York Sample ID: 15F0427-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:57	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:57	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:57	SS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:57	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:57	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:57	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:57	SS
563-58-6	1,1-Dichloropropylene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:57	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:57	SS
96-18-4	1,2,3-Trichloropropane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:57	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:57	SS
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:57	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:57	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:57	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:57	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:57	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:57	SS
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:57	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:57	SS
142-28-9	1,3-Dichloropropane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:57	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 15:57	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	49	99	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 15:57	SS

Sample Information

Client Sample ID: **TP-09 (2-4)** | **York Sample ID:** **15F0427-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
594-20-7	2,2-Dichloropropane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: NELAC-NY10854,NJDEP			
78-93-3	2-Butanone	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP			
95-49-8	2-Chlorotoluene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP			
106-43-4	4-Chlorotoluene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP			
67-64-1	**Acetone**	**11**	CCV-E, SCAL-E	ug/kg dry	4.9	9.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP			
71-43-2	Benzene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
108-86-1	Bromobenzene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: NELAC-NY10854,NJDEP			
74-97-5	Bromochloromethane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: NELAC-NY10854,NJDEP			
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
75-25-2	Bromoform	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
74-83-9	Bromomethane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
108-90-7	Chlorobenzene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
75-00-3	Chloroethane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
67-66-3	Chloroform	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
74-87-3	Chloromethane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP			
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: NELAC-NY10854,NJDEP,PADEP			
74-95-3	Dibromomethane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: NELAC-NY10854,NJDEP			
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: NELAC-NY10854,NJDEP			

Sample Information

Client Sample ID: **TP-09 (2-4)** | **York Sample ID:** **15F0427-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	NELAC-NY10854,NJDEP		
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
75-09-2	Methylene chloride	ND		ug/kg dry	4.9	9.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	Naphthalene	ND		ug/kg dry	2.5	9.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	NELAC-NY10854,NJDEP		
104-51-8	n-Butylbenzene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
103-65-1	n-Propylbenzene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
95-47-6	o-Xylene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854		
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	4.9	9.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854		
99-87-6	p-Isopropyltoluene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
135-98-8	sec-Butylbenzene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
100-42-5	Styrene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
98-06-6	tert-Butylbenzene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-88-3	Toluene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
79-01-6	Trichloroethylene	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-05-4	Vinyl acetate	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	NELAC-NY10854,NJDEP		
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.5	4.9	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: TP-09 (2-4) **York Sample ID:** 15F0427-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1330-20-7	Xylenes, Total	ND		ug/kg dry	7.4	15	1	EPA 8260C	06/15/2015 09:50	06/15/2015 15:57	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*106 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*99.8 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*88.8 %*	*76-130*

Semi-Volatiles, 8270 Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	65.2	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:52	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
208-96-8	Acenaphthylene	ND		ug/kg dry	65.2	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:52	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
62-53-3	Aniline	ND		ug/kg dry	261	521	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:52	KH
								Certifications: NELAC-NY10854,NJDEP,PADEP			
120-12-7	Anthracene	ND		ug/kg dry	65.2	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:52	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	65.2	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:52	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	65.2	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:52	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	65.2	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:52	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	65.2	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:52	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	65.2	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:52	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
100-51-6	Benzyl alcohol	ND		ug/kg dry	65.2	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:52	KH
								Certifications: NELAC-NY10854,NJDEP,PADEP			
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	65.2	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:52	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	65.2	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:52	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	65.2	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:52	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
106-47-8	4-Chloroaniline	ND		ug/kg dry	65.2	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:52	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	65.2	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:52	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	65.2	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 21:52	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: TP-09 (2-4) **York Sample ID:** 15F0427-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Semi-Volatiles, 8270 Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
95-57-8	2-Chlorophenol	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
218-01-9	Chrysene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
132-64-9	Dibenzofuran	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 21:52	KH
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: NELAC-NY10854	06/12/2015 11:30	06/12/2015 21:52	KH
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: NELAC-NY10854	06/12/2015 11:30	06/12/2015 21:52	KH
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: NELAC-NY10854	06/12/2015 11:30	06/12/2015 21:52	KH
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
84-66-2	Diethyl phthalate	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
131-11-3	Dimethyl phthalate	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	130	260	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 21:52	KH
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	130	260	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH

Sample Information

Client Sample ID: TP-09 (2-4) **York Sample ID:** 15F0427-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Semi-Volatiles, 8270 Target List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
206-44-0	Fluoranthene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
86-73-7	Fluorene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
118-74-1	Hexachlorobenzene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
67-72-1	Hexachloroethane	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
78-59-1	Isophorone	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 21:52	KH
95-48-7	2-Methylphenol	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 21:52	KH
91-20-3	Naphthalene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 21:52	KH
99-09-2	3-Nitroaniline	ND		ug/kg dry	130	260	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
88-74-4	2-Nitroaniline	ND		ug/kg dry	130	260	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
100-01-6	4-Nitroaniline	ND		ug/kg dry	130	260	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
98-95-3	Nitrobenzene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
88-75-5	2-Nitrophenol	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
100-02-7	4-Nitrophenol	ND		ug/kg dry	130	260	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
62-75-9	N-Nitrosodimethylamine	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 21:52	KH
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 21:52	KH
87-86-5	Pentachlorophenol	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH

Sample Information

Client Sample ID:	TP-09 (2-4)	York Sample ID:	15F0427-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Semi-Volatiles, 8270 Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
85-01-8	Phenanthrene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
108-95-2	Phenol	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
129-00-0	Pyrene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
110-86-1	Pyridine	ND		ug/kg dry	261	521	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 21:52	KH
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	65.2	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 21:52	KH

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*52.3 %*	*10-95*
4165-62-2	*Surrogate: Phenol-d5*	*62.1 %*	*10-107*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*61.0 %*	*10-95*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*55.1 %*	*10-97*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*64.3 %*	*10-103*
1718-51-0	*Surrogate: Terphenyl-d14*	*52.8 %*	*19-99*

Pesticides, 8081 target list

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC
72-55-9	4,4'-DDE	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC
50-29-3	4,4'-DDT	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC
309-00-2	Aldrin	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC
319-84-6	alpha-BHC	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC
5103-71-9	alpha-Chlordane	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 14:43	AMC
319-85-7	beta-BHC	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC
57-74-9	Chlordane, total	ND		ug/kg dry	68.7	68.7	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC

Sample Information

Client Sample ID: TP-09 (2-4) | **York Sample ID:** 15F0427-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Pesticides, 8081 target list

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
319-86-8	delta-BHC	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC
60-57-1	Dieldrin	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC
959-98-8	Endosulfan I	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC
33213-65-9	Endosulfan II	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC
72-20-8	Endrin	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC
7421-93-4	Endrin aldehyde	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC
53494-70-5	Endrin ketone	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 14:43	AMC
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC
5103-74-2	gamma-Chlordane	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 14:43	AMC
76-44-8	Heptachlor	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	1.72	1.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC
72-43-5	Methoxychlor	ND		ug/kg dry	8.58	8.58	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:43	AMC
8001-35-2	Toxaphene	ND		ug/kg dry	86.9	86.9	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 14:43	AMC

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*76.7 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*88.7 %*	*30-140*

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0173	0.0173	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 17:14	AMC
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0173	0.0173	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 17:14	AMC
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0173	0.0173	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 17:14	AMC

Sample Information

Client Sample ID: TP-09 (2-4) | **York Sample ID:** 15F0427-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0173	0.0173	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 17:14	AMC
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0173	0.0173	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 17:14	AMC
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0173	0.0173	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 17:14	AMC
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0173	0.0173	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 17:14	AMC
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0173	0.0173	1	EPA 8082A Certifications:	06/12/2015 11:25	06/15/2015 17:14	AMC

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*94.1 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*86.6 %*	*30-140*

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	**Aluminum**	**8250**		mg/kg dry	5.20	5.20	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7440-36-0	Antimony	ND		mg/kg dry	0.520	0.520	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7440-38-2	Arsenic	ND		mg/kg dry	1.04	1.04	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7440-39-3	**Barium**	**58.1**		mg/kg dry	1.04	1.04	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7440-41-7	Beryllium	ND		mg/kg dry	0.104	0.104	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7440-43-9	Cadmium	ND		mg/kg dry	0.312	0.312	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7440-70-2	**Calcium**	**2360**		mg/kg dry	0.520	5.20	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7440-47-3	**Chromium**	**25.7**		mg/kg dry	0.520	0.520	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7440-48-4	**Cobalt**	**7.96**		mg/kg dry	0.520	0.520	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7440-50-8	**Copper**	**21.3**		mg/kg dry	0.520	0.520	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7439-89-6	**Iron**	**15600**		mg/kg dry	2.08	2.08	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7439-92-1	**Lead**	**14.9**		mg/kg dry	0.312	0.312	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7439-95-4	**Magnesium**	**3940**		mg/kg dry	5.20	5.20	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:30	ALD

Sample Information

Client Sample ID: TP-09 (2-4) **York Sample ID:** 15F0427-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-96-5	**Manganese**	**117**		mg/kg dry	0.520	0.520	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7440-02-0	**Nickel**	**15.0**		mg/kg dry	0.520	0.520	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7440-09-7	**Potassium**	**1680**		mg/kg dry	5.20	5.20	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7782-49-2	**Selenium**	**1.79**		mg/kg dry	1.04	1.04	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7440-22-4	Silver	ND		mg/kg dry	0.520	0.520	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7440-23-5	**Sodium**	**194**		mg/kg dry	10.4	10.4	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7440-28-0	Thallium	ND		mg/kg dry	1.04	1.04	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7440-62-2	**Vanadium**	**28.7**		mg/kg dry	1.04	1.04	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:30	ALD
7440-66-6	**Zinc**	**37.0**		mg/kg dry	1.04	1.04	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:30	ALD

Mercury by 7473

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0312	0.0312	1	EPA 7473 Certifications: CTDOH,NJDEP,NELAC-NY10854,PADEP	06/12/2015 05:54	06/12/2015 10:38	ALD

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**96.1**		%	0.100	0.100	1	SM 2540G Certifications: CTDOH	06/12/2015 09:46	06/12/2015 14:26	SCA

Sample Information

Client Sample ID: TP-10 (2-4) **York Sample ID:** 15F0427-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List

Log-in Notes: **Sample Notes:**

Sample Information

Client Sample ID: **TP-10 (2-4)** | **York Sample ID:** **15F0427-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
563-58-6	1,1-Dichloropropylene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
96-18-4	1,2,3-Trichloropropane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
142-28-9	1,3-Dichloropropane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	55	110	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS

Sample Information

Client Sample ID: TP-10 (2-4) **York Sample ID:** 15F0427-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
594-20-7	2,2-Dichloropropane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
78-93-3	2-Butanone	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
95-49-8	2-Chlorotoluene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
106-43-4	4-Chlorotoluene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
67-64-1	**Acetone**	**7.8**	CCV-E, SCAL-E, J	ug/kg dry	5.5	11	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
71-43-2	Benzene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
108-86-1	Bromobenzene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
75-25-2	Bromoform	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
67-66-3	Chloroform	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
74-95-3	Dibromomethane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS

Sample Information

Client Sample ID: **TP-10 (2-4)** **York Sample ID:** **15F0427-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
75-09-2	Methylene chloride	ND		ug/kg dry	5.5	11	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
91-20-3	Naphthalene	ND		ug/kg dry	2.8	11	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
104-51-8	n-Butylbenzene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
103-65-1	n-Propylbenzene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854	06/15/2015 09:50	06/15/2015 16:27	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	5.5	11	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854	06/15/2015 09:50	06/15/2015 16:27	SS
99-87-6	p-Isopropyltoluene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
135-98-8	sec-Butylbenzene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
100-42-5	Styrene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
98-06-6	tert-Butylbenzene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
108-88-3	Toluene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS
108-05-4	Vinyl acetate	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:27	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.8	5.5	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:27	SS

Sample Information

Client Sample ID: TP-10 (2-4) **York Sample ID:** 15F0427-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1330-20-7	Xylenes, Total	ND		ug/kg dry	8.3	17	1	EPA 8260C	06/15/2015 09:50	06/15/2015 16:27	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*104 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*100 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*87.6 %*	*76-130*

Semi-Volatiles, 8270 Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	65.1	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:24	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
208-96-8	Acenaphthylene	ND		ug/kg dry	65.1	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:24	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
62-53-3	Aniline	ND		ug/kg dry	260	521	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:24	KH
								Certifications: NELAC-NY10854,NJDEP,PADEP			
120-12-7	Anthracene	ND		ug/kg dry	65.1	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:24	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	65.1	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:24	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	65.1	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:24	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	65.1	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:24	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	65.1	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:24	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	65.1	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:24	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
100-51-6	Benzyl alcohol	ND		ug/kg dry	65.1	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:24	KH
								Certifications: NELAC-NY10854,NJDEP,PADEP			
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	65.1	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:24	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	65.1	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:24	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	65.1	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:24	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
106-47-8	4-Chloroaniline	ND		ug/kg dry	65.1	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:24	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	65.1	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:24	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	65.1	130	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:24	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: TP-10 (2-4) **York Sample ID:** 15F0427-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Semi-Volatiles, 8270 Target List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
95-57-8	2-Chlorophenol	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
218-01-9	Chrysene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
132-64-9	Dibenzofuran	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 22:24	KH
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: NELAC-NY10854	06/12/2015 11:30	06/12/2015 22:24	KH
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: NELAC-NY10854	06/12/2015 11:30	06/12/2015 22:24	KH
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: NELAC-NY10854	06/12/2015 11:30	06/12/2015 22:24	KH
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
84-66-2	Diethyl phthalate	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
131-11-3	Dimethyl phthalate	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	130	260	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 22:24	KH
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	130	260	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH

Sample Information

Client Sample ID: TP-10 (2-4) | **York Sample ID:** 15F0427-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Semi-Volatiles, 8270 Target List | **Log-in Notes:** | **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
206-44-0	Fluoranthene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
86-73-7	Fluorene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
118-74-1	Hexachlorobenzene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
67-72-1	Hexachloroethane	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
78-59-1	Isophorone	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 22:24	KH
95-48-7	2-Methylphenol	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 22:24	KH
91-20-3	Naphthalene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 22:24	KH
99-09-2	3-Nitroaniline	ND		ug/kg dry	130	260	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
88-74-4	2-Nitroaniline	ND		ug/kg dry	130	260	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
100-01-6	4-Nitroaniline	ND		ug/kg dry	130	260	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
98-95-3	Nitrobenzene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
88-75-5	2-Nitrophenol	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
100-02-7	4-Nitrophenol	ND		ug/kg dry	130	260	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
62-75-9	N-Nitrosodimethylamine	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 22:24	KH
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 22:24	KH
87-86-5	Pentachlorophenol	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH

Sample Information

Client Sample ID: TP-10 (2-4) **York Sample ID:** 15F0427-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Semi-Volatiles, 8270 Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
85-01-8	Phenanthrene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
108-95-2	Phenol	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
129-00-0	Pyrene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
110-86-1	Pyridine	ND		ug/kg dry	260	521	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:24	KH
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	65.1	130	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 22:24	KH

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*49.7 %*	*10-95*
4165-62-2	*Surrogate: Phenol-d5*	*57.4 %*	*10-107*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*56.3 %*	*10-95*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*53.0 %*	*10-97*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*57.1 %*	*10-103*
1718-51-0	*Surrogate: Terphenyl-d14*	*48.1 %*	*19-99*

Pesticides, 8081 target list

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC
72-55-9	4,4'-DDE	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC
50-29-3	4,4'-DDT	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC
309-00-2	Aldrin	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC
319-84-6	alpha-BHC	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC
5103-71-9	alpha-Chlordane	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 14:58	AMC
319-85-7	beta-BHC	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC
57-74-9	Chlordane, total	ND		ug/kg dry	68.6	68.6	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC

Sample Information

Client Sample ID:	TP-10 (2-4)	York Sample ID:	15F0427-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Pesticides, 8081 target list

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
319-86-8	delta-BHC	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC
60-57-1	Dieldrin	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC
959-98-8	Endosulfan I	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC
33213-65-9	Endosulfan II	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC
72-20-8	Endrin	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC
7421-93-4	Endrin aldehyde	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC
53494-70-5	Endrin ketone	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 14:58	AMC
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC
5103-74-2	gamma-Chlordane	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 14:58	AMC
76-44-8	Heptachlor	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	1.71	1.71	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC
72-43-5	Methoxychlor	ND		ug/kg dry	8.57	8.57	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 14:58	AMC
8001-35-2	Toxaphene	ND		ug/kg dry	86.8	86.8	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 14:58	AMC

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*71.1 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*68.6 %*	*30-140*

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0173	0.0173	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 17:44	AMC
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0173	0.0173	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 17:44	AMC
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0173	0.0173	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 17:44	AMC

Sample Information

Client Sample ID: TP-10 (2-4) | **York Sample ID:** 15F0427-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0173	0.0173	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 17:44	AMC
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0173	0.0173	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 17:44	AMC
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0173	0.0173	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 17:44	AMC
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0173	0.0173	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 17:44	AMC
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0173	0.0173	1	EPA 8082A Certifications:	06/12/2015 11:25	06/15/2015 17:44	AMC

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*92.6 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*87.1 %*	*30-140*

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	**Aluminum**	**9460**		mg/kg dry	5.19	5.19	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7440-36-0	Antimony	ND		mg/kg dry	0.519	0.519	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7440-38-2	Arsenic	ND		mg/kg dry	1.04	1.04	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7440-39-3	**Barium**	**53.8**		mg/kg dry	1.04	1.04	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7440-41-7	Beryllium	ND		mg/kg dry	0.104	0.104	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7440-43-9	Cadmium	ND		mg/kg dry	0.312	0.312	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7440-70-2	**Calcium**	**2730**		mg/kg dry	0.519	5.19	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7440-47-3	**Chromium**	**18.0**		mg/kg dry	0.519	0.519	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7440-48-4	**Cobalt**	**8.13**		mg/kg dry	0.519	0.519	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7440-50-8	**Copper**	**21.2**		mg/kg dry	0.519	0.519	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7439-89-6	**Iron**	**18400**		mg/kg dry	2.08	2.08	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7439-92-1	**Lead**	**6.62**		mg/kg dry	0.312	0.312	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7439-95-4	**Magnesium**	**4650**		mg/kg dry	5.19	5.19	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:35	ALD

Sample Information

Client Sample ID: TP-10 (2-4) **York Sample ID:** 15F0427-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-96-5	**Manganese**	**170**		mg/kg dry	0.519	0.519	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7440-02-0	**Nickel**	**15.0**		mg/kg dry	0.519	0.519	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7440-09-7	**Potassium**	**1410**		mg/kg dry	5.19	5.19	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7782-49-2	**Selenium**	**1.49**		mg/kg dry	1.04	1.04	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7440-22-4	Silver	ND		mg/kg dry	0.519	0.519	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7440-23-5	**Sodium**	**212**		mg/kg dry	10.4	10.4	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7440-28-0	Thallium	ND		mg/kg dry	1.04	1.04	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7440-62-2	**Vanadium**	**28.1**		mg/kg dry	1.04	1.04	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:35	ALD
7440-66-6	**Zinc**	**40.3**		mg/kg dry	1.04	1.04	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:35	ALD

Mercury by 7473

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0312	0.0312	1	EPA 7473 Certifications: CTDOH,NJDEP,NELAC-NY10854,PADEP	06/12/2015 05:54	06/12/2015 10:47	ALD

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**96.2**		%	0.100	0.100	1	SM 2540G Certifications: CTDOH	06/12/2015 09:46	06/12/2015 14:26	SCA

Sample Information

Client Sample ID: TP-11 (2-6) **York Sample ID:** 15F0427-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List

Log-in Notes: **Sample Notes:**

Sample Information

Client Sample ID: **TP-11 (2-6)** **York Sample ID:** **15F0427-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
563-58-6	1,1-Dichloropropylene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
96-18-4	1,2,3-Trichloropropane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
142-28-9	1,3-Dichloropropane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	48	96	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS

Sample Information

Client Sample ID: TP-11 (2-6) **York Sample ID:** 15F0427-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
594-20-7	2,2-Dichloropropane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
78-93-3	2-Butanone	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
95-49-8	2-Chlorotoluene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
106-43-4	4-Chlorotoluene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
67-64-1	**Acetone**	**8.3**	CCV-E, SCAL-E, J	ug/kg dry	4.8	9.6	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
71-43-2	Benzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
108-86-1	Bromobenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
75-25-2	Bromoform	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
67-66-3	Chloroform	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
74-95-3	Dibromomethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS

Sample Information

Client Sample ID: TP-11 (2-6) **York Sample ID:** 15F0427-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
75-09-2	Methylene chloride	ND		ug/kg dry	4.8	9.6	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
91-20-3	Naphthalene	ND		ug/kg dry	2.4	9.6	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
104-51-8	n-Butylbenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
103-65-1	n-Propylbenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854	06/15/2015 09:50	06/15/2015 16:57	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	4.8	9.6	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854	06/15/2015 09:50	06/15/2015 16:57	SS
99-87-6	p-Isopropyltoluene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
135-98-8	sec-Butylbenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
100-42-5	Styrene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
98-06-6	tert-Butylbenzene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
108-88-3	Toluene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS
108-05-4	Vinyl acetate	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 16:57	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.4	4.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 16:57	SS

Sample Information

Client Sample ID: TP-11 (2-6) **York Sample ID:** 15F0427-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1330-20-7	Xylenes, Total	ND		ug/kg dry	7.2	14	1	EPA 8260C	06/15/2015 09:50	06/15/2015 16:57	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*104 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*98.5 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*87.3 %*	*76-130*

Semi-Volatiles, 8270 Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
208-96-8	Acenaphthylene	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
62-53-3	Aniline	ND		ug/kg dry	275	549	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications: NELAC-NY10854,NJDEP,PADEP			
120-12-7	Anthracene	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
100-51-6	Benzyl alcohol	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications: NELAC-NY10854,NJDEP,PADEP			
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
106-47-8	4-Chloroaniline	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: **TP-11 (2-6)** **York Sample ID:** **15F0427-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Semi-Volatiles, 8270 Target List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
95-57-8	2-Chlorophenol	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	Chrysene	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
132-64-9	Dibenzofuran	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	NELAC-NY10854		
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	NELAC-NY10854		
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	NELAC-NY10854		
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
84-66-2	Diethyl phthalate	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
131-11-3	Dimethyl phthalate	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	137	274	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	137	274	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	68.8	137	2	EPA 8270D	06/12/2015 11:30	06/12/2015 22:56	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: TP-11 (2-6) **York Sample ID:** 15F0427-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Semi-Volatiles, 8270 Target List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
206-44-0	Fluoranthene	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
86-73-7	Fluorene	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
118-74-1	Hexachlorobenzene	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
67-72-1	Hexachloroethane	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
78-59-1	Isophorone	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 22:56	KH
95-48-7	2-Methylphenol	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 22:56	KH
91-20-3	Naphthalene	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 22:56	KH
99-09-2	3-Nitroaniline	ND		ug/kg dry	137	274	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
88-74-4	2-Nitroaniline	ND		ug/kg dry	137	274	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
100-01-6	4-Nitroaniline	ND		ug/kg dry	137	274	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
98-95-3	Nitrobenzene	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
88-75-5	2-Nitrophenol	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
100-02-7	4-Nitrophenol	ND		ug/kg dry	137	274	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
62-75-9	N-Nitrosodimethylamine	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 22:56	KH
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 22:56	KH
87-86-5	Pentachlorophenol	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH

Sample Information

Client Sample ID: TP-11 (2-6) **York Sample ID:** 15F0427-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Semi-Volatiles, 8270 Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
85-01-8	Phenanthrene	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
108-95-2	Phenol	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
129-00-0	Pyrene	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
110-86-1	Pyridine	ND		ug/kg dry	275	549	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 22:56	KH
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	68.8	137	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 22:56	KH

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*64.9 %*	*10-95*
4165-62-2	*Surrogate: Phenol-d5*	*73.5 %*	*10-107*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*72.2 %*	*10-95*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*65.9 %*	*10-97*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*74.9 %*	*10-103*
1718-51-0	*Surrogate: Terphenyl-d14*	*59.1 %*	*19-99*

Pesticides, 8081 target list

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC
72-55-9	4,4'-DDE	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC
50-29-3	4,4'-DDT	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC
309-00-2	Aldrin	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC
319-84-6	alpha-BHC	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC
5103-71-9	alpha-Chlordane	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 15:13	AMC
319-85-7	beta-BHC	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC
57-74-9	Chlordane, total	ND		ug/kg dry	72.4	72.4	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC

Sample Information

Client Sample ID: TP-11 (2-6) **York Sample ID:** 15F0427-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Pesticides, 8081 target list

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
319-86-8	delta-BHC	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC
60-57-1	Dieldrin	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC
959-98-8	Endosulfan I	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC
33213-65-9	Endosulfan II	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC
72-20-8	Endrin	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC
7421-93-4	Endrin aldehyde	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC
53494-70-5	Endrin ketone	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 15:13	AMC
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC
5103-74-2	gamma-Chlordane	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 15:13	AMC
76-44-8	Heptachlor	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	1.81	1.81	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC
72-43-5	Methoxychlor	ND		ug/kg dry	9.05	9.05	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:13	AMC
8001-35-2	Toxaphene	ND		ug/kg dry	91.6	91.6	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 15:13	AMC

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*84.8 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*108 %*	*30-140*

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0183	0.0183	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 18:13	AMC
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0183	0.0183	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 18:13	AMC
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0183	0.0183	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 18:13	AMC

Sample Information

Client Sample ID: TP-11 (2-6) **York Sample ID:** 15F0427-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0183	0.0183	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 18:13	AMC
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0183	0.0183	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 18:13	AMC
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0183	0.0183	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 18:13	AMC
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0183	0.0183	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 18:13	AMC
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0183	0.0183	1	EPA 8082A Certifications:	06/12/2015 11:25	06/15/2015 18:13	AMC

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*91.6 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*81.6 %*	*30-140*

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	**Aluminum**	**6070**		mg/kg dry	5.48	5.48	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7440-36-0	Antimony	ND		mg/kg dry	0.548	0.548	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7440-38-2	Arsenic	ND		mg/kg dry	1.10	1.10	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7440-39-3	**Barium**	**30.8**		mg/kg dry	1.10	1.10	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7440-41-7	Beryllium	ND		mg/kg dry	0.110	0.110	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7440-43-9	Cadmium	ND		mg/kg dry	0.329	0.329	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7440-70-2	**Calcium**	**1860**		mg/kg dry	0.548	5.48	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7440-47-3	**Chromium**	**18.8**		mg/kg dry	0.548	0.548	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7440-48-4	**Cobalt**	**6.92**		mg/kg dry	0.548	0.548	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7440-50-8	**Copper**	**17.3**		mg/kg dry	0.548	0.548	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7439-89-6	**Iron**	**12100**		mg/kg dry	2.19	2.19	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7439-92-1	**Lead**	**4.18**		mg/kg dry	0.329	0.329	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7439-95-4	**Magnesium**	**3940**		mg/kg dry	5.48	5.48	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:52	ALD

Sample Information

Client Sample ID: TP-11 (2-6) **York Sample ID:** 15F0427-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Metals, Target Analyte **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-96-5	**Manganese**	**99.0**		mg/kg dry	0.548	0.548	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7440-02-0	**Nickel**	**14.2**		mg/kg dry	0.548	0.548	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7440-09-7	**Potassium**	**1060**		mg/kg dry	5.48	5.48	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7782-49-2	Selenium	ND		mg/kg dry	1.10	1.10	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7440-22-4	Silver	ND		mg/kg dry	0.548	0.548	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7440-23-5	**Sodium**	**213**		mg/kg dry	11.0	11.0	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7440-28-0	Thallium	ND		mg/kg dry	1.10	1.10	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7440-62-2	**Vanadium**	**23.1**		mg/kg dry	1.10	1.10	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:52	ALD
7440-66-6	**Zinc**	**32.4**		mg/kg dry	1.10	1.10	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:52	ALD

Mercury by 7473 **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0329	0.0329	1	EPA 7473 Certifications: CTDOH,NJDEP,NELAC-NY10854,PADEP	06/12/2015 05:54	06/12/2015 10:56	ALD

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**91.2**		%	0.100	0.100	1	SM 2540G Certifications: CTDOH	06/12/2015 09:46	06/12/2015 14:26	SCA

Sample Information

Client Sample ID: TP-12 (2-6) **York Sample ID:** 15F0427-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Information

Client Sample ID: TP-12 (2-6) **York Sample ID:** 15F0427-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
563-58-6	1,1-Dichloropropylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
96-18-4	1,2,3-Trichloropropane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
142-28-9	1,3-Dichloropropane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	52	100	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS

Sample Information

Client Sample ID: TP-12 (2-6) **York Sample ID:** 15F0427-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
594-20-7	2,2-Dichloropropane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
78-93-3	2-Butanone	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
95-49-8	2-Chlorotoluene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
106-43-4	4-Chlorotoluene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
67-64-1	Acetone	ND	SCAL-E	ug/kg dry	5.2	10	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
71-43-2	Benzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
108-86-1	Bromobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
75-25-2	Bromoform	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
67-66-3	Chloroform	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
74-95-3	Dibromomethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS

Sample Information

Client Sample ID: TP-12 (2-6) **York Sample ID:** 15F0427-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
75-09-2	Methylene chloride	ND		ug/kg dry	5.2	10	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
91-20-3	Naphthalene	ND		ug/kg dry	2.6	10	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
104-51-8	n-Butylbenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
103-65-1	n-Propylbenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854	06/15/2015 09:50	06/15/2015 17:27	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	5.2	10	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854	06/15/2015 09:50	06/15/2015 17:27	SS
99-87-6	p-Isopropyltoluene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
135-98-8	sec-Butylbenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
100-42-5	Styrene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
98-06-6	tert-Butylbenzene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
108-88-3	Toluene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS
108-05-4	Vinyl acetate	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/15/2015 09:50	06/15/2015 17:27	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.6	5.2	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 09:50	06/15/2015 17:27	SS

Sample Information

Client Sample ID: TP-12 (2-6) **York Sample ID:** 15F0427-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Volatile Organics, 8260 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1330-20-7	Xylenes, Total	ND		ug/kg dry	7.9	16	1	EPA 8260C	06/15/2015 09:50	06/15/2015 17:27	SS
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*106 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*101 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*88.3 %*	*76-130*

Semi-Volatiles, 8270 Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	67.7	135	2	EPA 8270D	06/12/2015 11:30	06/12/2015 23:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
208-96-8	Acenaphthylene	ND		ug/kg dry	67.7	135	2	EPA 8270D	06/12/2015 11:30	06/12/2015 23:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
62-53-3	Aniline	ND		ug/kg dry	270	541	2	EPA 8270D	06/12/2015 11:30	06/12/2015 23:28	KH
								Certifications: NELAC-NY10854,NJDEP,PADEP			
120-12-7	Anthracene	ND		ug/kg dry	67.7	135	2	EPA 8270D	06/12/2015 11:30	06/12/2015 23:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	67.7	135	2	EPA 8270D	06/12/2015 11:30	06/12/2015 23:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	67.7	135	2	EPA 8270D	06/12/2015 11:30	06/12/2015 23:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	67.7	135	2	EPA 8270D	06/12/2015 11:30	06/12/2015 23:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	67.7	135	2	EPA 8270D	06/12/2015 11:30	06/12/2015 23:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	67.7	135	2	EPA 8270D	06/12/2015 11:30	06/12/2015 23:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
100-51-6	Benzyl alcohol	ND		ug/kg dry	67.7	135	2	EPA 8270D	06/12/2015 11:30	06/12/2015 23:28	KH
								Certifications: NELAC-NY10854,NJDEP,PADEP			
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	67.7	135	2	EPA 8270D	06/12/2015 11:30	06/12/2015 23:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	67.7	135	2	EPA 8270D	06/12/2015 11:30	06/12/2015 23:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	67.7	135	2	EPA 8270D	06/12/2015 11:30	06/12/2015 23:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
106-47-8	4-Chloroaniline	ND		ug/kg dry	67.7	135	2	EPA 8270D	06/12/2015 11:30	06/12/2015 23:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	67.7	135	2	EPA 8270D	06/12/2015 11:30	06/12/2015 23:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	67.7	135	2	EPA 8270D	06/12/2015 11:30	06/12/2015 23:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: TP-12 (2-6) **York Sample ID:** 15F0427-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Semi-Volatiles, 8270 Target List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
95-57-8	2-Chlorophenol	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
218-01-9	Chrysene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
132-64-9	Dibenzofuran	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 23:28	KH
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: NELAC-NY10854	06/12/2015 11:30	06/12/2015 23:28	KH
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: NELAC-NY10854	06/12/2015 11:30	06/12/2015 23:28	KH
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: NELAC-NY10854	06/12/2015 11:30	06/12/2015 23:28	KH
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
84-66-2	Diethyl phthalate	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
131-11-3	Dimethyl phthalate	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	135	270	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 23:28	KH
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	135	270	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH

Sample Information

Client Sample ID: TP-12 (2-6) **York Sample ID:** 15F0427-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Semi-Volatiles, 8270 Target List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
206-44-0	Fluoranthene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
86-73-7	Fluorene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
118-74-1	Hexachlorobenzene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
67-72-1	Hexachloroethane	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
78-59-1	Isophorone	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 23:28	KH
95-48-7	2-Methylphenol	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 23:28	KH
91-20-3	Naphthalene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 23:28	KH
99-09-2	3-Nitroaniline	ND		ug/kg dry	135	270	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
88-74-4	2-Nitroaniline	ND		ug/kg dry	135	270	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
100-01-6	4-Nitroaniline	ND		ug/kg dry	135	270	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
98-95-3	Nitrobenzene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
88-75-5	2-Nitrophenol	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
100-02-7	4-Nitrophenol	ND		ug/kg dry	135	270	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
62-75-9	N-Nitrosodimethylamine	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 23:28	KH
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 23:28	KH
87-86-5	Pentachlorophenol	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH

Sample Information

Client Sample ID: TP-12 (2-6) **York Sample ID:** 15F0427-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Semi-Volatiles, 8270 Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
85-01-8	Phenanthrene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
108-95-2	Phenol	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
129-00-0	Pyrene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
110-86-1	Pyridine	ND		ug/kg dry	270	541	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:30	06/12/2015 23:28	KH
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	67.7	135	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:30	06/12/2015 23:28	KH

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*50.5 %*	*10-95*
4165-62-2	*Surrogate: Phenol-d5*	*57.3 %*	*10-107*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*60.6 %*	*10-95*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*61.0 %*	*10-97*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*57.8 %*	*10-103*
1718-51-0	*Surrogate: Terphenyl-d14*	*52.0 %*	*19-99*

Pesticides, 8081 target list

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC
72-55-9	4,4'-DDE	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC
50-29-3	4,4'-DDT	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC
309-00-2	Aldrin	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC
319-84-6	alpha-BHC	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC
5103-71-9	alpha-Chlordane	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 15:28	AMC
319-85-7	beta-BHC	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC
57-74-9	Chlordane, total	ND		ug/kg dry	71.2	71.2	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC

Sample Information

Client Sample ID: TP-12 (2-6) **York Sample ID:** 15F0427-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Pesticides, 8081 target list

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
319-86-8	delta-BHC	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC
60-57-1	Dieldrin	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC
959-98-8	Endosulfan I	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC
33213-65-9	Endosulfan II	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC
72-20-8	Endrin	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC
7421-93-4	Endrin aldehyde	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC
53494-70-5	Endrin ketone	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 15:28	AMC
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC
5103-74-2	gamma-Chlordane	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 15:28	AMC
76-44-8	Heptachlor	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	1.78	1.78	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC
72-43-5	Methoxychlor	ND		ug/kg dry	8.90	8.90	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 15:28	AMC
8001-35-2	Toxaphene	ND		ug/kg dry	90.1	90.1	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP	06/12/2015 11:25	06/15/2015 15:28	AMC

CAS No.	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*84.3 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*109 %*	*30-140*

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0180	0.0180	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 18:42	AMC
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0180	0.0180	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 18:42	AMC
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0180	0.0180	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 18:42	AMC

Sample Information

Client Sample ID: TP-12 (2-6) **York Sample ID:** 15F0427-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0180	0.0180	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 18:42	AMC
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0180	0.0180	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 18:42	AMC
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0180	0.0180	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 18:42	AMC
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0180	0.0180	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/12/2015 11:25	06/15/2015 18:42	AMC
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0180	0.0180	1	EPA 8082A Certifications:	06/12/2015 11:25	06/15/2015 18:42	AMC

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*92.1 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*86.6 %*	*30-140*

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	**Aluminum**	**9190**		mg/kg dry	5.40	5.40	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7440-36-0	Antimony	ND		mg/kg dry	0.540	0.540	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7440-38-2	Arsenic	ND		mg/kg dry	1.08	1.08	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7440-39-3	**Barium**	**57.9**		mg/kg dry	1.08	1.08	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7440-41-7	Beryllium	ND		mg/kg dry	0.108	0.108	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7440-43-9	Cadmium	ND		mg/kg dry	0.324	0.324	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7440-70-2	**Calcium**	**3180**		mg/kg dry	0.540	5.40	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7440-47-3	**Chromium**	**33.3**		mg/kg dry	0.540	0.540	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7440-48-4	**Cobalt**	**9.46**		mg/kg dry	0.540	0.540	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7440-50-8	**Copper**	**23.5**		mg/kg dry	0.540	0.540	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7439-89-6	**Iron**	**14100**		mg/kg dry	2.16	2.16	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7439-92-1	**Lead**	**22.3**		mg/kg dry	0.324	0.324	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7439-95-4	**Magnesium**	**4140**		mg/kg dry	5.40	5.40	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:57	ALD

Sample Information

Client Sample ID: TP-12 (2-6) **York Sample ID:** 15F0427-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0427	MB13205B	Soil	June 10, 2015 3:00 pm	06/11/2015

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-96-5	**Manganese**	**126**		mg/kg dry	0.540	0.540	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7440-02-0	**Nickel**	**19.5**		mg/kg dry	0.540	0.540	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7440-09-7	**Potassium**	**1580**		mg/kg dry	5.40	5.40	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7782-49-2	**Selenium**	**1.75**		mg/kg dry	1.08	1.08	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7440-22-4	Silver	ND		mg/kg dry	0.540	0.540	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7440-23-5	**Sodium**	**435**		mg/kg dry	10.8	10.8	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7440-28-0	Thallium	ND		mg/kg dry	1.08	1.08	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7440-62-2	**Vanadium**	**35.8**		mg/kg dry	1.08	1.08	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:57	ALD
7440-66-6	**Zinc**	**59.1**		mg/kg dry	1.08	1.08	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/15/2015 12:28	06/15/2015 19:57	ALD

Mercury by 7473

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0324	0.0324	1	EPA 7473 Certifications: CTDOH,NJDEP,NELAC-NY10854,PADEP	06/12/2015 05:54	06/12/2015 11:05	ALD

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**92.7**		%	0.100	0.100	1	SM 2540G Certifications: CTDOH	06/12/2015 09:46	06/12/2015 14:26	SCA

Volatile Analysis Sample Containers

Lab ID	Client Sample ID	Volatile Sample Container
15F0427-01	TP-08 (2-6)	40mL Vial with Stir Bar-Cool 4° C
15F0427-02	TP-09 (2-4)	40mL Vial with Stir Bar-Cool 4° C
15F0427-03	TP-10 (2-4)	40mL Vial with Stir Bar-Cool 4° C
15F0427-04	TP-11 (2-6)	40mL Vial with Stir Bar-Cool 4° C
15F0427-05	TP-12 (2-6)	40mL Vial with Stir Bar-Cool 4° C

Notes and Definitions

SCAL-E	The value reported is ESTIMATED. The value is estimated due to its behavior during initial calibration (average Rf>20%).
J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration.
CCV-E	The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit).
B	Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <10x the blank value as artifact.

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*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two.
For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.

YORK
ANALYTICAL LABORATORIES, INC.
120 RESEARCH DR. STRATFORD, CT 06615
(203) 325-1371 FAX (203) 357-0166

Field Chain-of-Custody Record

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions unless superseded by written contract.

York Project No. 15F0427

Client Information		Report to:		Invoice To:		Client Project ID	Turn-Around Time		Report Type/Deliverables	
Company:	Ecosystems Strategies	SAME	X	SAME	X		RUSH Same Day		Summary	X
Address:	24 Davis Ave	Name:	Danielle Bonneau	Name:	Brenda		RUSH Next Day		QA/QC Summary	
	Poughkeepsie, NY	Company:		Company:		MB13205B	RUSH Two Day		CT RCP Pkg	
Phone no.:	845-452-1658	Address:		Address:		Purchase Order no.	RUSH Three Day		ASP A Pkg	
Contact Person	Danielle Bonneau						RUSH Four Day		ASP B Pkg	
E-mail Addr.:	Mail@ecosystemsstrategies.com	E-mail:		E-mail			Standard (5-7 days)	X	Excel	X
FAX No.:	845-485-7083	Fax No.:		Fax No.:		Samples from: CT__ NY_X_ NJ__	OTHER		EDD	

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

DBonneau
Samples Collected/Authorized By (Signature)

Danielle Bonneau
Name (printed)

Matrix Codes
S - soil
Other - specify (oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists	Miscellaneous Parameters		
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity	Nitrate	Color
624	Site Spec.	STARS	8081Pest	PP13	TPH DRO	TCL Organics	Reactivity	Nitrite	Phenols
STARS	SPLP or TCLP	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability	TKN	Cyanide-T
BTEX	Benzene	Acids Only	CT RCP	CT15	NY 310-13	Full TCLP	Flash Point	Tot. Nitrogen	Cyanide-A
MTBE	Nassau Co.	PAH	App. IX	Total	TPH 418.1	Full App. IX	Sieve Anal.	Ammonia-N	BOD5
TCL list	Suffolk Co.	TAGM	Site Spec.	Dissolved	Air TO14A	Part 360-Routine	Heterotrophs	Chloride	CBOD5
TAGM	Ketones	CT RCP	SPLP or TCLP	SPLP or TCLP	Air TO15	Part 360-Baseline	TOX	Phosphate	BOD28
CT RCP	Oxygenates	TCL list	TCLP Pest	Indiv. Metals	Air STARS	Part 360-Expanded	BTU/lb.	Tot. Phos.	COD
Arom.	TCLP list	TICs	TCLP Herb	Hg, Pb, As, Cd	Air VPH	Part 360-Expanded Full List	Aquatic Tox.	Oil&Grease	TSS
Halog.	524.2	App. IX	Chlordane	Cr, Ni, Be, Fe,	Air TICs	NYCDEP Sewer	TOC	F.O.G.	Total Solids
App.IX	502.2	SPLP or TCLP	608 Pest	Se, Tl, Sb, Cu,	Methane	NYSDEC Sewer	Asbestos	pH	TDS
8021B list	5035	TCLP BNA	608 PCB	Na, Mn, Ag, etc	Helium	TAGM	Silica	MBAS	TPH - IR

Special Instructions
Field Filtered ☐
Lab to Filter ☐

Sample Identification	Date Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
TP-08 (2-6)	6/10/2015	S	VOCs (8260), SVOCs (8270), pesticides, PCBs, and TAL metals	8 oz, 4 oz, VOA kit
TP-09 (2-4)				
TP-10 (2-4)				
TP-11 (2-6)				
TP-12 (2-6)				

Comments
please hold extra sample

Preservation "X" those applicable: Cool 4°C ___ HNO3 ___ H2SO4 ___ NaOH ___ NONE ___ FROZEN ___

Samples Relinquished By	Date/Time	Samples Received By	Date/Time
[signature]	6/11/15	[signature]	6-11-15 12:00
Samples Relinquished By	Date/Time	Samples Received in LAB by	Date/Time
		[signature]	1536 1920 6/11/15

Temperature on Receipt 3.7 °C

July 15, 2015

Webster Ave. Affordable, LLC
c/o Mountco Contruction & Development
505 8th Avenue, 5th Floor
New York, NY 10457
Attention: Robert Giantasio

Re: Certification of Application of Acceptance of Fill
4275 Park Avenue
Bronx, New York
Pure Soil Project Approval No. P01038

Dear Mr. Giantasio:

This letter serves as the Third Party Licensed Site Remediation Professional (LSRP) Certification for Application of Fill Materials for the Pure Soil – Perth Amboy Facility. A review of the following documentation was completed:

- Pure Soil – Perth Amboy Material Characterization Report (MCR) from the 4275 Park Avenue Project
- July 2015 – Waste Characterization Map prepared by Ecosystems Strategies, Inc.
- Laboratory Data Reports from Yorke Analytical Laboratories (New York Lab Registration No. 10854)

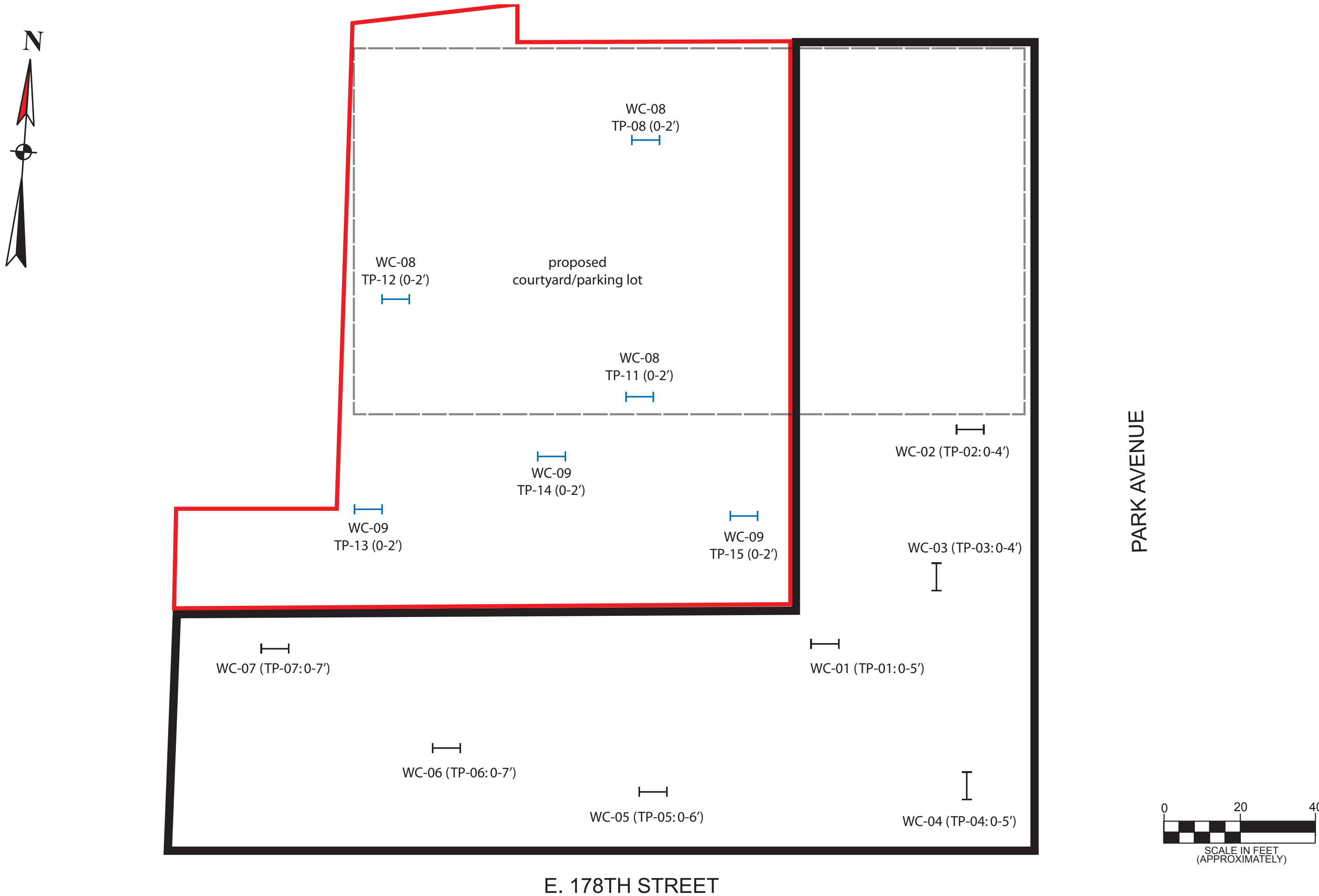
A review of the MCR and the laboratory reports for the 4275 Park Avenue Project indicates that sample's WC-08 and WC-09 submitted within the MCR meet the standards found in the Material Acceptance Protocol for the Pure Soil – Perth Amboy Facility established by the New Jersey Department of Environmental Protection. Pure Soil @ Perth Amboy is aware that the soil located at the above referenced site is contaminated soil, coming from a NYS Brownfield Clean-up site, located in the State of New York, of which the Remedial Engineer of record is Gregg Demers, P.E. (617) 646-7858, gregg.demers@erm.com.

Therefore, the areas mentioned above are approved for disposal at the Pure Soil – Perth Amboy Facility up to the limit of 3,000 tons that was requested in this application.

Sincerely,

Alan J. Krohn, LSRP
Principal Environmental Scientist

Ecosystems Strategies, Inc.



All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Waste Characterization Map

4275 Park Avenue (Site B)
Borough of Bronx, New York

Legend:
- footprint of proposed structure
- WC-08/WC-09 (0-2' grid)
- footprint of former structure
- April 2015 test pit location
- June/July 2015 test pit location

ESI File: MB13205B.20
July 2015
Scale as shown
Appendix A

Technical Report

prepared for:

Ecosystems Strategies, Inc.
24 Davis Avenue
Poughkeepsie NY, 12603
Attention: Danielle Bonneau

Report Date: 07/15/2015
Client Project ID: MB13205B
York Project (SDG) No.: 15G0122

Revision No. 1.0

Report Date: 07/15/2015
Client Project ID: MB13205B
York Project (SDG) No.: 15G0122

Ecosystems Strategies, Inc.
24 Davis Avenue
Poughkeepsie NY, 12603
Attention: Danielle Bonneau

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on July 02, 2015 and listed below. The project was identified as your project: **MB13205B**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the attachment to this report, and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
15G0122-01	WC-09(0-2)	Soil	07/02/2015	07/02/2015

General Notes for York Project (SDG) No.: 15G0122

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation, unless otherwise noted.
6. All analyses conducted met method or Laboratory SOP requirements. See the Qualifiers and/or Narrative sections for further information.
7. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
8. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.

Approved By: **Date:** 07/15/2015

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: WC-09(0-2) **York Sample ID:** 15G0122-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15G0122	MB13205B	Soil	July 2, 2015 11:00 am	07/02/2015

Volatile Organics, 8260 - Comprehensive

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
96-18-4	1,2,3-Trichloropropane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
123-91-1	1,4-Dioxane	ND		ug/kg dry	44	88	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
78-93-3	2-Butanone	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
591-78-6	2-Hexanone	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS

YORK ANALYTICAL LABORATORIES INC

Sample Information

Client Sample ID: WC-09(0-2) **York Sample ID:** 15G0122-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15G0122	MB13205B	Soil	July 2, 2015 11:00 am	07/02/2015

Volatile Organics, 8260 - Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	Acetone	ND		ug/kg dry	4.4	8.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
107-02-8	Acrolein	ND		ug/kg dry	4.4	8.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
107-13-1	Acrylonitrile	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
71-43-2	Benzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
75-25-2	Bromoform	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
74-83-9	Bromomethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
75-15-0	Carbon disulfide	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
75-00-3	Chloroethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
67-66-3	Chloroform	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
74-87-3	Chloromethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
110-82-7	Cyclohexane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
74-95-3	Dibromomethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
79-20-9	Methyl acetate	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS

Sample Information

Client Sample ID: WC-09(0-2) **York Sample ID:** 15G0122-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15G0122	MB13205B	Soil	July 2, 2015 11:00 am	07/02/2015

Volatile Organics, 8260 - Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
108-87-2	Methylcyclohexane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
75-09-2	Methylene chloride	ND		ug/kg dry	4.4	8.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
104-51-8	n-Butylbenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
103-65-1	n-Propylbenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
95-47-6	o-Xylene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854	07/06/2015 08:42	07/06/2015 15:21	BS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	4.4	8.8	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854	07/06/2015 08:42	07/06/2015 15:21	BS
99-87-6	p-Isopropyltoluene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
135-98-8	sec-Butylbenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
100-42-5	Styrene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
75-65-0	tert-Butyl alcohol (TBA)	ND		ug/kg dry	4.4	8.8	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
98-06-6	tert-Butylbenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
108-88-3	Toluene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/06/2015 08:42	07/06/2015 15:21	BS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.2	4.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS
1330-20-7	Xylenes, Total	ND		ug/kg dry	6.6	13	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/06/2015 08:42	07/06/2015 15:21	BS

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*112 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*110 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*99.2 %*	*76-130*

Semi-Volatiles, 8270 - Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Information

Client Sample ID: WC-09(0-2) **York Sample ID:** 15G0122-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15G0122	MB13205B	Soil	July 2, 2015 11:00 am	07/02/2015

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	07/07/2015 08:00	07/07/2015 10:41	KH
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	94.9	189	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	07/07/2015 08:00	07/07/2015 10:41	KH
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: NELAC-NY10854	07/07/2015 08:00	07/07/2015 10:41	KH
122-66-7	1,2-Diphenylhydrazine (as Azobenzene)	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	07/07/2015 08:00	07/07/2015 10:41	KH
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: NELAC-NY10854	07/07/2015 08:00	07/07/2015 10:41	KH
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: NELAC-NY10854	07/07/2015 08:00	07/07/2015 10:41	KH
58-90-2	2,3,4,6-Tetrachlorophenol	ND		ug/kg dry	94.9	189	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	07/07/2015 08:00	07/07/2015 10:41	KH
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	07/07/2015 08:00	07/07/2015 10:41	KH
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	94.9	189	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
95-57-8	2-Chlorophenol	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	07/07/2015 08:00	07/07/2015 10:41	KH
95-48-7	2-Methylphenol	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
88-74-4	2-Nitroaniline	ND		ug/kg dry	94.9	189	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
88-75-5	2-Nitrophenol	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	07/07/2015 08:00	07/07/2015 10:41	KH
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
99-09-2	3-Nitroaniline	ND		ug/kg dry	94.9	189	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH

Sample Information

Client Sample ID: WC-09(0-2) **York Sample ID:** 15G0122-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15G0122	MB13205B	Soil	July 2, 2015 11:00 am	07/02/2015

Semi-Volatiles, 8270 - Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	94.9	189	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	07/07/2015 08:00	07/07/2015 10:41	KH
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
106-47-8	4-Chloroaniline	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
100-01-6	4-Nitroaniline	ND		ug/kg dry	94.9	189	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
100-02-7	4-Nitrophenol	ND		ug/kg dry	94.9	189	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
83-32-9	Acenaphthene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
208-96-8	Acenaphthylene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
98-86-2	Acetophenone	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	07/07/2015 08:00	07/07/2015 10:41	KH
62-53-3	Aniline	ND		ug/kg dry	190	380	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
120-12-7	Anthracene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
1912-24-9	Atrazine	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	07/07/2015 08:00	07/07/2015 10:41	KH
100-52-7	Benzaldehyde	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	07/07/2015 08:00	07/07/2015 10:41	KH
92-87-5	Benzidine	ND		ug/kg dry	190	380	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854	07/07/2015 08:00	07/07/2015 10:41	KH
56-55-3	**Benzo(a)anthracene**	**116**		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
50-32-8	**Benzo(a)pyrene**	**82.6**	J	ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
205-99-2	**Benzo(b)fluoranthene**	**75.1**	J	ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
191-24-2	**Benzo(g,h,i)perylene**	**60.7**	J	ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
207-08-9	**Benzo(k)fluoranthene**	**84.9**	J	ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
65-85-0	Benzoic acid	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	07/07/2015 08:00	07/07/2015 10:41	KH
100-51-6	Benzyl alcohol	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH

Sample Information

Client Sample ID: WC-09(0-2) | **York Sample ID:** 15G0122-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15G0122	MB13205B	Soil	July 2, 2015 11:00 am	07/02/2015

Semi-Volatiles, 8270 - Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
105-60-2	Caprolactam	ND		ug/kg dry	94.9	189	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	07/07/2015 08:00	07/07/2015 10:41	KH
86-74-8	Carbazole	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
218-01-9	**Chrysene**	**105**		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
132-64-9	Dibenzofuran	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	07/07/2015 08:00	07/07/2015 10:41	KH
84-66-2	Diethyl phthalate	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
131-11-3	Dimethyl phthalate	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
206-44-0	**Fluoranthene**	**218**		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
86-73-7	Fluorene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
118-74-1	Hexachlorobenzene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
67-72-1	Hexachloroethane	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
193-39-5	**Indeno(1,2,3-cd)pyrene**	**58.4**	J	ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
78-59-1	Isophorone	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
91-20-3	Naphthalene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	07/07/2015 08:00	07/07/2015 10:41	KH
98-95-3	Nitrobenzene	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH

Sample Information

Client Sample ID: **WC-09(0-2)** | **York Sample ID:** **15G0122-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15G0122	MB13205B	Soil	July 2, 2015 11:00 am	07/02/2015

Semi-Volatiles, 8270 - Comprehensive

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
62-75-9	N-Nitrosodimethylamine	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	07/07/2015 08:00	07/07/2015 10:41	KH
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	07/07/2015 08:00	07/07/2015 10:41	KH
87-86-5	Pentachlorophenol	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
85-01-8	**Phenanthrene**	**124**		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
108-95-2	Phenol	ND		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH
129-00-0	**Pyrene**	**149**		ug/kg dry	47.5	94.9	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:00	07/07/2015 10:41	KH

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*26.2 %*	*10-95*
4165-62-2	*Surrogate: Phenol-d5*	*35.7 %*	*10-107*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*22.0 %*	*10-95*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*26.3 %*	*10-97*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*33.4 %*	*10-103*
1718-51-0	*Surrogate: Terphenyl-d14*	*48.1 %*	*19-99*

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.00		ug/kg dry			2	EPA 8270D Certifications:	07/07/2015 08:00	07/07/2015 10:41	KH

Pesticides, EPA TCL List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		ug/kg dry	1.88	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC
72-55-9	4,4'-DDE	ND		ug/kg dry	1.88	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC
50-29-3	4,4'-DDT	ND		ug/kg dry	1.88	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC
309-00-2	Aldrin	ND		ug/kg dry	1.88	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC
319-84-6	alpha-BHC	ND		ug/kg dry	1.88	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC
319-85-7	beta-BHC	ND		ug/kg dry	1.88	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC

YORK ANALYTICAL LABORATORIES INC

Sample Information

Client Sample ID: WC-09(0-2) **York Sample ID:** 15G0122-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15G0122	MB13205B	Soil	July 2, 2015 11:00 am	07/02/2015

Pesticides, EPA TCL List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
57-74-9	Chlordane, total	ND		ug/kg dry	7.51	7.51	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC
319-86-8	delta-BHC	ND		ug/kg dry	1.88	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC
60-57-1	Dieldrin	ND		ug/kg dry	1.88	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC
959-98-8	Endosulfan I	ND		ug/kg dry	1.88	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC
33213-65-9	Endosulfan II	ND		ug/kg dry	1.88	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	1.88	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC
72-20-8	Endrin	ND		ug/kg dry	1.88	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC
7421-93-4	Endrin aldehyde	ND		ug/kg dry	1.88	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC
53494-70-5	Endrin ketone	ND		ug/kg dry	1.88	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP	07/07/2015 08:05	07/07/2015 11:46	AMC
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	1.88	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC
76-44-8	Heptachlor	ND		ug/kg dry	1.88	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	1.88	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC
72-43-5	Methoxychlor	ND		ug/kg dry	9.38	9.38	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 11:46	AMC
8001-35-2	Toxaphene	ND		ug/kg dry	95.0	95.0	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP	07/07/2015 08:05	07/07/2015 11:46	AMC

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*39.5 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*58.6 %*	*30-140*

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0189	0.0189	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 10:24	AMC
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0189	0.0189	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 10:24	AMC
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0189	0.0189	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 10:24	AMC
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0189	0.0189	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 10:24	AMC
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0189	0.0189	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 10:24	AMC

Sample Information

Client Sample ID: **WC-09(0-2)** | **York Sample ID:** **15G0122-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15G0122	MB13205B	Soil	July 2, 2015 11:00 am	07/02/2015

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0189	0.0189	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 10:24	AMC
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0189	0.0189	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	07/07/2015 08:05	07/07/2015 10:24	AMC
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0189	0.0189	1	EPA 8082A Certifications:	07/07/2015 08:05	07/07/2015 10:24	AMC

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*44.3 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*50.7 %*	*30-140*

NJDEP EPH (Cat. 2 Non-Fractionated)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	*** Total EPH**	**101**	B	mg/kg dry	56.9	56.9	1	NJDEP EPH Rev 3.0 Certifications: NJDEP	07/06/2015 07:38	07/06/2015 20:50	AMC

	Surrogate Recoveries	Result	Acceptance Range
3386-33-2	*Surrogate: 1-Chlorooctadecane*	*59.4 %*	*40-140*
84-15-1	*Surrogate: o-Terphenyl*	*59.6 %*	*40-140*

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	**Aluminum**	**11700**		mg/kg dry	5.69	5.69	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/07/2015 09:07	07/07/2015 11:50	AMC
7440-36-0	Antimony	ND		mg/kg dry	0.569	0.569	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 09:07	07/07/2015 11:50	AMC
7440-38-2	**Arsenic**	**3.87**		mg/kg dry	1.14	1.14	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 09:07	07/07/2015 11:50	AMC
7440-39-3	**Barium**	**222**		mg/kg dry	1.14	1.14	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 09:07	07/07/2015 11:50	AMC
7440-41-7	Beryllium	ND		mg/kg dry	0.114	0.114	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/07/2015 09:07	07/07/2015 11:50	AMC
7440-43-9	**Cadmium**	**0.489**		mg/kg dry	0.341	0.341	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 09:07	07/07/2015 11:50	AMC
7440-70-2	**Calcium**	**16000**		mg/kg dry	0.569	5.69	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/07/2015 09:07	07/07/2015 11:50	AMC
7440-47-3	**Chromium**	**31.5**		mg/kg dry	0.569	0.569	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	07/07/2015 09:07	07/07/2015 11:50	AMC
7440-48-4	**Cobalt**	**12.2**		mg/kg dry	0.569	0.569	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	07/07/2015 09:07	07/07/2015 11:50	AMC

Sample Information

Client Sample ID: WC-09(0-2) **York Sample ID:** 15G0122-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15G0122	MB13205B	Soil	July 2, 2015 11:00 am	07/02/2015

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-50-8	**Copper**	**56.4**		mg/kg dry	0.569	0.569	1	EPA 6010C	07/07/2015 09:07	07/07/2015 11:50	AMC
								Certifications: CTDOH,NELAC-NY10854,NJDEP			
7439-89-6	**Iron**	**21600**		mg/kg dry	2.27	2.27	1	EPA 6010C	07/07/2015 09:07	07/07/2015 11:50	AMC
								Certifications: CTDOH,NELAC-NY10854,NJDEP			
7439-92-1	**Lead**	**334**		mg/kg dry	0.341	0.341	1	EPA 6010C	07/07/2015 09:07	07/07/2015 11:50	AMC
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7439-95-4	**Magnesium**	**9800**		mg/kg dry	5.69	5.69	1	EPA 6010C	07/07/2015 09:07	07/07/2015 11:50	AMC
								Certifications: CTDOH,NELAC-NY10854,NJDEP			
7439-96-5	**Manganese**	**269**		mg/kg dry	0.569	0.569	1	EPA 6010C	07/07/2015 09:07	07/07/2015 11:50	AMC
								Certifications: CTDOH,NELAC-NY10854,NJDEP			
7440-02-0	**Nickel**	**19.7**		mg/kg dry	0.569	0.569	1	EPA 6010C	07/07/2015 09:07	07/07/2015 11:50	AMC
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-09-7	**Potassium**	**1420**		mg/kg dry	5.69	5.69	1	EPA 6010C	07/07/2015 09:07	07/07/2015 11:50	AMC
								Certifications: CTDOH,NELAC-NY10854,NJDEP			
7782-49-2	**Selenium**	**2.49**		mg/kg dry	1.14	1.14	1	EPA 6010C	07/07/2015 09:07	07/07/2015 11:50	AMC
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-22-4	Silver	ND		mg/kg dry	0.569	0.569	1	EPA 6010C	07/07/2015 09:07	07/07/2015 11:50	AMC
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-23-5	**Sodium**	**349**		mg/kg dry	11.4	11.4	1	EPA 6010C	07/07/2015 09:07	07/07/2015 11:50	AMC
								Certifications: CTDOH,NELAC-NY10854,NJDEP			
7440-28-0	Thallium	ND		mg/kg dry	1.14	1.14	1	EPA 6010C	07/07/2015 09:07	07/07/2015 11:50	AMC
								Certifications: CTDOH,NELAC-NY10854,NJDEP			
7440-62-2	**Vanadium**	**38.9**		mg/kg dry	1.14	1.14	1	EPA 6010C	07/07/2015 09:07	07/07/2015 11:50	AMC
								Certifications: CTDOH,NELAC-NY10854,NJDEP			
7440-66-6	**Zinc**	**232**		mg/kg dry	1.14	1.14	1	EPA 6010C	07/07/2015 09:07	07/07/2015 11:50	AMC
								Certifications: CTDOH,NELAC-NY10854,NJDEP			

Mercury by 7473

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	**Mercury**	**2.00**		mg/kg dry	0.0341	0.0341	1	EPA 7473	07/07/2015 11:23	07/07/2015 14:59	AA
								Certifications: CTDOH,NJDEP,NELAC-NY10854,PADEP			

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**87.9**		%	0.100	0.100	1	SM 2540G	07/06/2015 11:54	07/06/2015 18:11	SCA
								Certifications: CTDOH			

Chromium, Hexavalent

Log-in Notes: **Sample Notes:**

Sample Information

Client Sample ID: **WC-09(0-2)** **York Sample ID:** **15G0122-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15G0122	MB13205B	Soil	July 2, 2015 11:00 am	07/02/2015

Sample Prepared by Method: EPA SW846-3060

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
18540-29-9	Chromium, Hexavalent	ND		mg/kg dry	0.398	0.569	1	EPA 7196A	07/15/2015 07:25	07/15/2015 14:05	SC
								Certifications: NJDEP,CTDOH,NELAC-NY10854			

Cyanide, Total

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation Soil

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
57-12-5	Cyanide, total	ND		mg/kg dry	0.569	0.569	1	EPA 9014/9010C	07/07/2015 08:43	07/07/2015 12:42	AD
								Certifications: NELAC-NY10854,CTDOH,NJDEP			

Analytical Batch Summary

Batch ID: BG50182 **Preparation Method:** EPA 3545A **Prepared By:** CM

YORK Sample ID	Client Sample ID	Preparation Date
15G0122-01	WC-09(0-2)	07/06/15
BG50182-BLK1	Blank	07/06/15
BG50182-BS1	LCS	07/06/15
BG50182-BSD1	LCS Dup	07/06/15

Batch ID: BG50189 **Preparation Method:** EPA 5035A **Prepared By:** BGS

YORK Sample ID	Client Sample ID	Preparation Date
15G0122-01	WC-09(0-2)	07/06/15
BG50189-BLK1	Blank	07/06/15
BG50189-BS1	LCS	07/06/15
BG50189-BSD1	LCS Dup	07/06/15

Batch ID: BG50211 **Preparation Method:** % Solids Prep **Prepared By:** SCA

YORK Sample ID	Client Sample ID	Preparation Date
15G0122-01	WC-09(0-2)	07/06/15

Batch ID: BG50255 **Preparation Method:** EPA 3550C **Prepared By:** CM

YORK Sample ID	Client Sample ID	Preparation Date
15G0122-01	WC-09(0-2)	07/07/15
BG50255-BLK1	Blank	07/07/15
BG50255-BS1	LCS	07/07/15
BG50255-BSD1	LCS Dup	07/07/15

Batch ID: BG50256 **Preparation Method:** EPA 3550C **Prepared By:** CM

YORK Sample ID	Client Sample ID	Preparation Date
15G0122-01	WC-09(0-2)	07/07/15
15G0122-01	WC-09(0-2)	07/07/15
BG50256-BLK1	Blank	07/07/15
BG50256-BS2	LCS	07/07/15

Batch ID: BG50258 **Preparation Method:** Analysis Preparation Soil **Prepared By:** AD

YORK Sample ID	Client Sample ID	Preparation Date
15G0122-01	WC-09(0-2)	07/07/15
BG50258-BLK1	Blank	07/07/15
BG50258-DUP1	Duplicate	07/07/15
BG50258-MS1	Matrix Spike	07/07/15
BG50258-SRM1	Reference	07/07/15

Batch ID: BG50261 **Preparation Method:** EPA 3050B **Prepared By:** AMC

YORK Sample ID	Client Sample ID	Preparation Date
15G0122-01	WC-09(0-2)	07/07/15
BG50261-BLK1	Blank	07/07/15
BG50261-DUP1	Duplicate	07/07/15
BG50261-MS1	Matrix Spike	07/07/15
BG50261-SRM1	Reference	07/07/15

Batch ID: BG50278 **Preparation Method:** EPA 7473 soil **Prepared By:** AA

YORK Sample ID	Client Sample ID	Preparation Date
15G0122-01	WC-09(0-2)	07/07/15
BG50278-BLK1	Blank	07/07/15
BG50278-SRM1	Reference	07/07/15

Batch ID: BG50733 **Preparation Method:** EPA SW846-3060 **Prepared By:** SC

YORK Sample ID	Client Sample ID	Preparation Date
15G0122-01	WC-09(0-2)	07/15/15
BG50733-BLK1	Blank	07/15/15
BG50733-DUP1	Duplicate	07/15/15
BG50733-MS1	Matrix Spike	07/15/15
BG50733-SRM1	Reference	07/15/15

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BG50189 - EPA 5035A											
Blank (BG50189-BLK1)								Prepared & Analyzed: 07/06/2015			
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg wet								
Tentatively Identified Compounds	0.0		"								
1,1,1-Trichloroethane	ND	5.0	"								
1,1,2,2-Tetrachloroethane	ND	5.0	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"								
1,1,2-Trichloroethane	ND	5.0	"								
1,1-Dichloroethane	ND	5.0	"								
1,1-Dichloroethylene	ND	5.0	"								
1,2,3-Trichlorobenzene	ND	5.0	"								
1,2,3-Trichloropropane	ND	5.0	"								
1,2,4-Trichlorobenzene	ND	5.0	"								
1,2,4-Trimethylbenzene	ND	5.0	"								
1,2-Dibromo-3-chloropropane	ND	5.0	"								
1,2-Dibromoethane	ND	5.0	"								
1,2-Dichlorobenzene	ND	5.0	"								
1,2-Dichloroethane	ND	5.0	"								
1,2-Dichloropropane	ND	5.0	"								
1,3,5-Trimethylbenzene	ND	5.0	"								
1,3-Dichlorobenzene	ND	5.0	"								
1,4-Dichlorobenzene	ND	5.0	"								
1,4-Dioxane	ND	100	"								
2-Butanone	ND	5.0	"								
2-Hexanone	ND	5.0	"								
4-Methyl-2-pentanone	ND	5.0	"								
Acetone	ND	10	"								
Acrolein	ND	10	"								
Acrylonitrile	ND	5.0	"								
Benzene	ND	5.0	"								
Bromochloromethane	ND	5.0	"								
Bromodichloromethane	ND	5.0	"								
Bromoform	ND	5.0	"								
Bromomethane	ND	5.0	"								
Carbon disulfide	ND	5.0	"								
Carbon tetrachloride	ND	5.0	"								
Chlorobenzene	ND	5.0	"								
Chloroethane	ND	5.0	"								
Chloroform	ND	5.0	"								
Chloromethane	ND	5.0	"								
cis-1,2-Dichloroethylene	ND	5.0	"								
cis-1,3-Dichloropropylene	ND	5.0	"								
Cyclohexane	ND	5.0	"								
Dibromochloromethane	ND	5.0	"								
Dibromomethane	ND	5.0	"								
Dichlorodifluoromethane	ND	5.0	"								
Ethyl Benzene	ND	5.0	"								
Hexachlorobutadiene	ND	5.0	"								
Isopropylbenzene	ND	5.0	"								
Methyl acetate	ND	5.0	"								
Methyl tert-butyl ether (MTBE)	ND	5.0	"								
Methylcyclohexane	ND	5.0	"								
Methylene chloride	ND	10	"								

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BG50189 - EPA 5035A

Blank (BG50189-BLK1) Prepared & Analyzed: 07/06/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
n-Butylbenzene	ND	5.0	ug/kg wet								
n-Propylbenzene	ND	5.0	"								
o-Xylene	ND	5.0	"								
p- & m- Xylenes	ND	10	"								
p-Isopropyltoluene	ND	5.0	"								
sec-Butylbenzene	ND	5.0	"								
Styrene	ND	5.0	"								
tert-Butyl alcohol (TBA)	ND	5.0	"								
tert-Butylbenzene	ND	5.0	"								
Tetrachloroethylene	ND	5.0	"								
Toluene	ND	5.0	"								
trans-1,2-Dichloroethylene	ND	5.0	"								
trans-1,3-Dichloropropylene	ND	5.0	"								
Trichloroethylene	ND	5.0	"								
Trichlorofluoromethane	ND	5.0	"								
Vinyl Chloride	ND	5.0	"								
Xylenes, Total	ND	15	"								
Surrogate: 1,2-Dichloroethane-d4	*54.5*		*ug/L*	*50.0*		*109*	*77-125*				
Surrogate: Toluene-d8	*48.2*		*"*	*50.0*		*96.4*	*85-120*				
Surrogate: p-Bromofluorobenzene	*45.4*		*"*	*50.0*		*90.8*	*76-130*				

LCS (BG50189-BS1) Prepared & Analyzed: 07/06/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,1,2-Tetrachloroethane	56		ug/L	50.0		112	75-129				
1,1,1-Trichloroethane	56		"	50.0		112	71-137				
1,1,2,2-Tetrachloroethane	55		"	50.0		110	79-129				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	52		"	50.0		104	58-146				
1,1,2-Trichloroethane	54		"	50.0		108	83-123				
1,1-Dichloroethane	54		"	50.0		109	75-130				
1,1-Dichloroethylene	50		"	50.0		100	64-137				
1,2,3-Trichlorobenzene	51		"	50.0		102	81-140				
1,2,3-Trichloropropane	54		"	50.0		109	81-126				
1,2,4-Trichlorobenzene	55		"	50.0		110	80-141				
1,2,4-Trimethylbenzene	52		"	50.0		103	84-125				
1,2-Dibromo-3-chloropropane	51		"	50.0		103	74-142				
1,2-Dibromoethane	54		"	50.0		109	86-123				
1,2-Dichlorobenzene	54		"	50.0		107	85-122				
1,2-Dichloroethane	55		"	50.0		110	71-133				
1,2-Dichloropropane	52		"	50.0		105	81-122				
1,3,5-Trimethylbenzene	51		"	50.0		102	82-126				
1,3-Dichlorobenzene	53		"	50.0		106	84-124				
1,4-Dichlorobenzene	53		"	50.0		105	84-124				
1,4-Dioxane	1200		"	1000		120	10-228				
2-Butanone	56		"	50.0		113	58-147				
2-Hexanone	54		"	50.0		108	70-139				
4-Methyl-2-pentanone	51		"	50.0		101	72-132				
Acetone	50		"	50.0		100	36-155				
Acrolein	75		"	50.0		150	10-238				
Acrylonitrile	59		"	50.0		117	66-141				
Benzene	55		"	50.0		109	77-127				
Bromochloromethane	56		"	50.0		113	74-129				
Bromodichloromethane	54		"	50.0		107	81-124				
Bromoform	57		"	50.0		114	80-136				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BG50189 - EPA 5035A

LCS (BG50189-BS1) Prepared & Analyzed: 07/06/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Bromomethane	55		ug/L	50.0		111	32-177				
Carbon disulfide	49		"	50.0		97.4	10-136				
Carbon tetrachloride	56		"	50.0		113	66-143				
Chlorobenzene	54		"	50.0		108	86-120				
Chloroethane	55		"	50.0		109	51-142				
Chloroform	54		"	50.0		109	76-131				
Chloromethane	42		"	50.0		83.4	49-132				
cis-1,2-Dichloroethylene	55		"	50.0		110	74-132				
cis-1,3-Dichloropropylene	55		"	50.0		111	81-129				
Cyclohexane	54		"	50.0		108	70-130				
Dibromochloromethane	56		"	50.0		112	10-200				
Dibromomethane	53		"	50.0		107	83-124				
Dichlorodifluoromethane	41		"	50.0		82.5	28-158				
Ethyl Benzene	53		"	50.0		106	84-125				
Hexachlorobutadiene	53		"	50.0		106	83-133				
Isopropylbenzene	55		"	50.0		109	81-127				
Methyl acetate	53		"	50.0		105	41-143				
Methyl tert-butyl ether (MTBE)	54		"	50.0		108	74-131				
Methylcyclohexane	52		"	50.0		103	70-130				
Methylene chloride	54		"	50.0		107	57-141				
n-Butylbenzene	52		"	50.0		104	80-130				
n-Propylbenzene	53		"	50.0		107	74-136				
o-Xylene	53		"	50.0		105	83-123				
p- & m- Xylenes	100		"	100		103	82-128				
p-Isopropyltoluene	52		"	50.0		103	85-125				
sec-Butylbenzene	53		"	50.0		106	83-125				
Styrene	52		"	50.0		105	86-126				
tert-Butyl alcohol (TBA)	52		"	50.0		103	70-130				
tert-Butylbenzene	55		"	50.0		111	80-127				
Tetrachloroethylene	55		"	50.0		111	80-129				
Toluene	54		"	50.0		108	85-121				
trans-1,2-Dichloroethylene	54		"	50.0		109	72-132				
trans-1,3-Dichloropropylene	55		"	50.0		109	78-132				
Trichloroethylene	54		"	50.0		109	84-123				
Trichlorofluoromethane	54		"	50.0		107	62-140				
Vinyl Chloride	51		"	50.0		101	52-130				
Surrogate: 1,2-Dichloroethane-d4	*48.3*		"	*50.0*		*96.7*	*77-125*				
Surrogate: Toluene-d8	*47.6*		"	*50.0*		*95.3*	*85-120*				
Surrogate: p-Bromofluorobenzene	*50.2*		"	*50.0*		*100*	*76-130*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BG50189 - EPA 5035A

LCS Dup (BG50189-BSD1) Prepared & Analyzed: 07/06/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,1,2-Tetrachloroethane	56		ug/L	50.0		113	75-129		0.267	30	
1,1,1-Trichloroethane	58		"	50.0		116	71-137		4.15	30	
1,1,2,2-Tetrachloroethane	55		"	50.0		109	79-129		0.875	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	53		"	50.0		107	58-146		2.26	30	
1,1,2-Trichloroethane	53		"	50.0		105	83-123		2.11	30	
1,1-Dichloroethane	55		"	50.0		110	75-130		1.10	30	
1,1-Dichloroethylene	52		"	50.0		103	64-137		3.36	30	
1,2,3-Trichlorobenzene	51		"	50.0		103	81-140		0.410	30	
1,2,3-Trichloropropane	53		"	50.0		106	81-126		2.48	30	
1,2,4-Trichlorobenzene	55		"	50.0		109	80-141		0.859	30	
1,2,4-Trimethylbenzene	53		"	50.0		106	84-125		2.11	30	
1,2-Dibromo-3-chloropropane	53		"	50.0		105	74-142		2.69	30	
1,2-Dibromoethane	52		"	50.0		104	86-123		4.82	30	
1,2-Dichlorobenzene	54		"	50.0		109	85-122		1.33	30	
1,2-Dichloroethane	54		"	50.0		109	71-133		0.678	30	
1,2-Dichloropropane	52		"	50.0		105	81-122		0.172	30	
1,3,5-Trimethylbenzene	53		"	50.0		105	82-126		3.10	30	
1,3-Dichlorobenzene	51		"	50.0		103	84-124		3.07	30	
1,4-Dichlorobenzene	53		"	50.0		106	84-124		0.624	30	
1,4-Dioxane	1100		"	1000		110	10-228		8.58	30	
2-Butanone	54		"	50.0		109	58-147		3.46	30	
2-Hexanone	51		"	50.0		103	70-139		4.84	30	
4-Methyl-2-pentanone	51		"	50.0		103	72-132		1.65	30	
Acetone	48		"	50.0		96.2	36-155		4.29	30	
Acrolein	71		"	50.0		142	10-238		5.89	30	
Acrylonitrile	60		"	50.0		120	66-141		1.81	30	
Benzene	54		"	50.0		108	77-127		1.68	30	
Bromochloromethane	57		"	50.0		114	74-129		1.10	30	
Bromodichloromethane	53		"	50.0		105	81-124		2.18	30	
Bromoform	56		"	50.0		111	80-136		2.48	30	
Bromomethane	61		"	50.0		121	32-177		9.13	30	
Carbon disulfide	49		"	50.0		98.3	10-136		0.879	30	
Carbon tetrachloride	55		"	50.0		110	66-143		2.50	30	
Chlorobenzene	55		"	50.0		110	86-120		1.51	30	
Chloroethane	57		"	50.0		115	51-142		5.03	30	
Chloroform	55		"	50.0		110	76-131		1.15	30	
Chloromethane	43		"	50.0		85.0	49-132		1.95	30	
cis-1,2-Dichloroethylene	56		"	50.0		112	74-132		1.65	30	
cis-1,3-Dichloropropylene	53		"	50.0		107	81-129		3.42	30	
Cyclohexane	51		"	50.0		102	70-130		4.89	30	
Dibromochloromethane	56		"	50.0		112	10-200		0.357	30	
Dibromomethane	53		"	50.0		106	83-124		0.677	30	
Dichlorodifluoromethane	41		"	50.0		82.5	28-158		0.0242	30	
Ethyl Benzene	52		"	50.0		105	84-125		1.19	30	
Hexachlorobutadiene	54		"	50.0		109	83-133		2.55	30	
Isopropylbenzene	54		"	50.0		107	81-127		2.00	30	
Methyl acetate	53		"	50.0		107	41-143		1.38	30	
Methyl tert-butyl ether (MTBE)	55		"	50.0		110	74-131		1.23	30	
Methylcyclohexane	52		"	50.0		104	70-130		0.406	30	
Methylene chloride	55		"	50.0		110	57-141		2.85	30	
n-Butylbenzene	52		"	50.0		104	80-130		0.692	30	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BG50189 - EPA 5035A

LCS Dup (BG50189-BSD1) Prepared & Analyzed: 07/06/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
n-Propylbenzene	53		ug/L	50.0		106	74-136		0.694	30	
o-Xylene	52		"	50.0		104	83-123		0.917	30	
p- & m- Xylenes	100		"	100		104	82-128		0.848	30	
p-Isopropyltoluene	52		"	50.0		104	85-125		0.406	30	
sec-Butylbenzene	54		"	50.0		107	83-125		0.843	30	
Styrene	52		"	50.0		105	86-126		0.325	30	
tert-Butyl alcohol (TBA)	55		"	50.0		111	70-130		6.73	30	
tert-Butylbenzene	55		"	50.0		110	80-127		1.22	30	
Tetrachloroethylene	55		"	50.0		110	80-129		0.489	30	
Toluene	52		"	50.0		104	85-121		4.48	30	
trans-1,2-Dichloroethylene	54		"	50.0		108	72-132		0.0553	30	
trans-1,3-Dichloropropylene	55		"	50.0		110	78-132		0.912	30	
Trichloroethylene	54		"	50.0		108	84-123		0.794	30	
Trichlorofluoromethane	54		"	50.0		107	62-140		0.0559	30	
Vinyl Chloride	52		"	50.0		105	52-130		3.13	30	
Surrogate: 1,2-Dichloroethane-d4	*49.6*		"	*50.0*		*99.2*	*77-125*				
Surrogate: Toluene-d8	*48.1*		"	*50.0*		*96.2*	*85-120*				
Surrogate: p-Bromofluorobenzene	*49.0*		"	*50.0*		*98.1*	*76-130*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BG50255 - EPA 3550C											
Blank (BG50255-BLK1)						Prepared & Analyzed: 07/07/2015					
1,1'-Biphenyl	ND	41.7	ug/kg wet								
1,2,4,5-Tetrachlorobenzene	ND	83.3	"								
1,2,4-Trichlorobenzene	ND	41.7	"								
1,2-Dichlorobenzene	ND	41.7	"								
1,2-Diphenylhydrazine (as Azobenzene)	ND	41.7	"								
1,3-Dichlorobenzene	ND	41.7	"								
1,4-Dichlorobenzene	ND	41.7	"								
2,3,4,6-Tetrachlorophenol	ND	83.3	"								
2,4,5-Trichlorophenol	ND	41.7	"								
2,4,6-Trichlorophenol	ND	41.7	"								
2,4-Dichlorophenol	ND	41.7	"								
2,4-Dimethylphenol	ND	41.7	"								
2,4-Dinitrophenol	ND	83.3	"								
2,4-Dinitrotoluene	ND	41.7	"								
2,6-Dinitrotoluene	ND	41.7	"								
2-Chloronaphthalene	ND	41.7	"								
2-Chlorophenol	ND	41.7	"								
2-Methylnaphthalene	ND	41.7	"								
2-Methylphenol	ND	41.7	"								
2-Nitroaniline	ND	83.3	"								
2-Nitrophenol	ND	41.7	"								
3- & 4-Methylphenols	ND	41.7	"								
3,3'-Dichlorobenzidine	ND	41.7	"								
3-Nitroaniline	ND	83.3	"								
4,6-Dinitro-2-methylphenol	ND	83.3	"								
4-Bromophenyl phenyl ether	ND	41.7	"								
4-Chloro-3-methylphenol	ND	41.7	"								
4-Chloroaniline	ND	41.7	"								
4-Chlorophenyl phenyl ether	ND	41.7	"								
4-Nitroaniline	ND	83.3	"								
4-Nitrophenol	ND	83.3	"								
Acenaphthene	ND	41.7	"								
Acenaphthylene	ND	41.7	"								
Acetophenone	ND	41.7	"								
Aniline	ND	167	"								
Anthracene	ND	41.7	"								
Atrazine	ND	41.7	"								
Benzaldehyde	ND	41.7	"								
Benzidine	ND	167	"								
Benzo(a)anthracene	ND	41.7	"								
Benzo(a)pyrene	ND	41.7	"								
Benzo(b)fluoranthene	ND	41.7	"								
Benzo(g,h,i)perylene	ND	41.7	"								
Benzo(k)fluoranthene	ND	41.7	"								
Benzoic acid	ND	41.7	"								
Benzyl alcohol	ND	41.7	"								
Benzyl butyl phthalate	ND	41.7	"								
Bis(2-chloroethoxy)methane	ND	41.7	"								
Bis(2-chloroethyl)ether	ND	41.7	"								
Bis(2-chloroisopropyl)ether	ND	41.7	"								
Bis(2-ethylhexyl)phthalate	ND	41.7	"								

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BG50255 - EPA 3550C											
Blank (BG50255-BLK1)								Prepared & Analyzed: 07/07/2015			
Caprolactam	ND	83.3	ug/kg wet								
Carbazole	ND	41.7	"								
Chrysene	ND	41.7	"								
Dibenzo(a,h)anthracene	ND	41.7	"								
Dibenzofuran	ND	41.7	"								
Diethyl phthalate	ND	41.7	"								
Dimethyl phthalate	ND	41.7	"								
Di-n-butyl phthalate	ND	41.7	"								
Di-n-octyl phthalate	ND	41.7	"								
Fluoranthene	ND	41.7	"								
Fluorene	ND	41.7	"								
Hexachlorobenzene	ND	41.7	"								
Hexachlorobutadiene	ND	41.7	"								
Hexachlorocyclopentadiene	ND	41.7	"								
Hexachloroethane	ND	41.7	"								
Indeno(1,2,3-cd)pyrene	ND	41.7	"								
Isophorone	ND	41.7	"								
Naphthalene	ND	41.7	"								
Nitrobenzene	ND	41.7	"								
N-Nitrosodimethylamine	ND	41.7	"								
N-nitroso-di-n-propylamine	ND	41.7	"								
N-Nitrosodiphenylamine	ND	41.7	"								
Pentachlorophenol	ND	41.7	"								
Phenanthrene	ND	41.7	"								
Phenol	ND	41.7	"								
Pyrene	ND	41.7	"								
Surrogate: 2-Fluorophenol	*2520*		*"*	*2510*		*101*	*10-95*				
Surrogate: Phenol-d5	*2860*		*"*	*2510*		*114*	*10-107*				
Surrogate: Nitrobenzene-d5	*1880*		*"*	*1670*		*113*	*10-95*				
Surrogate: 2-Fluorobiphenyl	*1970*		*"*	*1670*		*118*	*10-97*				
Surrogate: 2,4,6-Tribromophenol	*2970*		*"*	*2510*		*119*	*10-103*				
Surrogate: Terphenyl-d14	*1900*		*"*	*1670*		*114*	*19-99*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BG50255 - EPA 3550C

LCS (BG50255-BS1) Prepared & Analyzed: 07/07/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1'-Biphenyl	942	41.7	ug/kg wet				22-103				
1,2,4,5-Tetrachlorobenzene	1180	83.3	"	1670		70.7	10-144				
1,2,4-Trichlorobenzene	1010	41.7	"	1670		60.4	23-130				
1,2-Dichlorobenzene	903	41.7	"	1670		54.2	26-113				
1,2-Diphenylhydrazine (as Azobenzene)	893	41.7	"	1670		53.6	10-140				
1,3-Dichlorobenzene	880	41.7	"	1670		52.8	32-113				
1,4-Dichlorobenzene	903	41.7	"	1670		54.2	28-111				
2,3,4,6-Tetrachlorophenol	2030	83.3	"	1670		122	30-130				
2,4,5-Trichlorophenol	881	41.7	"	1670		52.8	14-138				
2,4,6-Trichlorophenol	961	41.7	"	1670		57.7	27-122				
2,4-Dichlorophenol	1090	41.7	"	1670		65.1	23-133				
2,4-Dimethylphenol	1140	41.7	"	1670		68.1	15-131				
2,4-Dinitrophenol	1050	83.3	"	1670		62.7	10-149				
2,4-Dinitrotoluene	1050	41.7	"	1670		63.1	30-123				
2,6-Dinitrotoluene	993	41.7	"	1670		59.6	30-125				
2-Chloronaphthalene	919	41.7	"	1670		55.2	22-115				
2-Chlorophenol	965	41.7	"	1670		57.9	25-121				
2-Methylnaphthalene	1130	41.7	"	1670		67.8	16-127				
2-Methylphenol	934	41.7	"	1670		56.0	10-146				
2-Nitroaniline	906	83.3	"	1670		54.4	24-126				
2-Nitrophenol	1070	41.7	"	1670		64.2	17-129				
3- & 4-Methylphenols	826	41.7	"	1670		49.6	20-109				
3,3'-Dichlorobenzidine	1220	41.7	"	1670		73.2	10-147				
3-Nitroaniline	857	83.3	"	1670		51.4	23-123				
4,6-Dinitro-2-methylphenol	1010	83.3	"	1670		60.5	10-149				
4-Bromophenyl phenyl ether	872	41.7	"	1670		52.3	30-138				
4-Chloro-3-methylphenol	1040	41.7	"	1670		62.6	16-138				
4-Chloroaniline	813	41.7	"	1670		48.8	10-117				
4-Chlorophenyl phenyl ether	975	41.7	"	1670		58.5	18-132				
4-Nitroaniline	844	83.3	"	1670		50.7	14-125				
4-Nitrophenol	828	83.3	"	1670		49.7	10-136				
Acenaphthene	880	41.7	"	1670		52.8	17-124				
Acenaphthylene	864	41.7	"	1670		51.8	16-124				
Acetophenone	852	41.7	"	1670		51.1	28-105				
Aniline	900	167	"	1670		54.0	10-111				
Anthracene	864	41.7	"	1670		51.9	24-124				
Atrazine	702	41.7	"	1670		42.1	22-120				
Benzaldehyde	1070	41.7	"	1670		63.9	21-100				
Benzo(a)anthracene	849	41.7	"	1670		51.0	25-134				
Benzo(a)pyrene	869	41.7	"	1670		52.1	29-144				
Benzo(b)fluoranthene	737	41.7	"	1670		44.2	20-151				
Benzo(g,h,i)perylene	1040	41.7	"	1670		62.3	10-153				
Benzo(k)fluoranthene	782	41.7	"	1670		46.9	10-148				
Benzoic acid	1140	41.7	"	1670		68.4	10-116				
Benzyl alcohol	935	41.7	"	1670		56.1	17-128				
Benzyl butyl phthalate	796	41.7	"	1670		47.8	10-132				
Bis(2-chloroethoxy)methane	1070	41.7	"	1670		64.5	10-129				
Bis(2-chloroethyl)ether	958	41.7	"	1670		57.5	14-125				
Bis(2-chloroisopropyl)ether	1260	41.7	"	1670		75.9	14-122				
Bis(2-ethylhexyl)phthalate	885	41.7	"	1670		53.1	10-141				
Caprolactam	1400	83.3	"	1670		84.3	10-123				

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BG50255 - EPA 3550C

LCS (BG50255-BS1) Prepared & Analyzed: 07/07/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Carbazole	900	41.7	ug/kg wet	1670		54.0	31-120				
Chrysene	819	41.7	"	1670		49.1	24-116				
Dibenzo(a,h)anthracene	1060	41.7	"	1670		63.7	17-147				
Dibenzofuran	1080	41.7	"	1670		64.6	23-123				
Diethyl phthalate	931	41.7	"	1670		55.9	23-122				
Dimethyl phthalate	895	41.7	"	1670		53.7	28-127				
Di-n-butyl phthalate	862	41.7	"	1670		51.7	19-123				
Di-n-octyl phthalate	824	41.7	"	1670		49.5	10-132				
Fluoranthene	843	41.7	"	1670		50.6	36-125				
Fluorene	937	41.7	"	1670		56.2	16-130				
Hexachlorobenzene	828	41.7	"	1670		49.7	10-129				
Hexachlorobutadiene	1090	41.7	"	1670		65.6	22-153				
Hexachlorocyclopentadiene	942	41.7	"	1670		56.5	10-134				
Hexachloroethane	869	41.7	"	1670		52.2	20-112				
Indeno(1,2,3-cd)pyrene	984	41.7	"	1670		59.0	10-155				
Isophorone	1070	41.7	"	1670		64.2	14-131				
Naphthalene	1020	41.7	"	1670		61.4	20-121				
Nitrobenzene	971	41.7	"	1670		58.3	20-121				
N-Nitrosodimethylamine	1080	41.7	"	1670		64.9	10-124				
N-nitroso-di-n-propylamine	961	41.7	"	1670		57.6	21-119				
N-Nitrosodiphenylamine	1190	41.7	"	1670		71.6	10-163				
Pentachlorophenol	765	41.7	"	1670		45.9	10-143				
Phenanthrene	966	41.7	"	1670		58.0	24-123				
Phenol	1090	41.7	"	1670		65.6	15-123				
Pyrene	861	41.7	"	1670		51.7	24-132				
Surrogate: 2-Fluorophenol	*2460*		*"*	*2510*		*98.3*	*10-95*				
Surrogate: Phenol-d5	*2810*		*"*	*2510*		*112*	*10-107*				
Surrogate: Nitrobenzene-d5	*1730*		*"*	*1670*		*104*	*10-95*				
Surrogate: 2-Fluorobiphenyl	*1850*		*"*	*1670*		*111*	*10-97*				
Surrogate: 2,4,6-Tribromophenol	*3040*		*"*	*2510*		*121*	*30-130*				
Surrogate: Terphenyl-d14	*1660*		*"*	*1670*		*99.1*	*19-99*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BG50255 - EPA 3550C

LCS Dup (BG50255-BSD1) Prepared & Analyzed: 07/07/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1'-Biphenyl	943	41.7	ug/kg wet				22-103		0.0354	30	
1,2,4,5-Tetrachlorobenzene	1230	83.3	"	1670		73.8	10-144		4.21	30	
1,2,4-Trichlorobenzene	1090	41.7	"	1670		65.4	23-130		7.95	30	
1,2-Dichlorobenzene	954	41.7	"	1670		57.2	26-113		5.46	30	
1,2-Diphenylhydrazine (as Azobenzene)	921	41.7	"	1670		55.2	10-140		3.01	30	
1,3-Dichlorobenzene	924	41.7	"	1670		55.4	32-113		4.88	30	
1,4-Dichlorobenzene	963	41.7	"	1670		57.8	28-111		6.43	30	
2,3,4,6-Tetrachlorophenol	2050	83.3	"	1670		123	30-130		1.08	30	
2,4,5-Trichlorophenol	994	41.7	"	1670		59.7	14-138		12.1	30	
2,4,6-Trichlorophenol	1020	41.7	"	1670		61.2	27-122		5.92	30	
2,4-Dichlorophenol	1150	41.7	"	1670		69.1	23-133		5.90	30	
2,4-Dimethylphenol	1180	41.7	"	1670		70.7	15-131		3.69	30	
2,4-Dinitrophenol	1070	83.3	"	1670		64.4	10-149		2.71	30	
2,4-Dinitrotoluene	1110	41.7	"	1670		66.8	30-123		5.82	30	
2,6-Dinitrotoluene	1050	41.7	"	1670		63.3	30-125		6.06	30	
2-Chloronaphthalene	982	41.7	"	1670		58.9	22-115		6.56	30	
2-Chlorophenol	1030	41.7	"	1670		61.7	25-121		6.32	30	
2-Methylnaphthalene	1200	41.7	"	1670		71.8	16-127		5.73	30	
2-Methylphenol	990	41.7	"	1670		59.4	10-146		5.89	30	
2-Nitroaniline	950	83.3	"	1670		57.0	24-126		4.67	30	
2-Nitrophenol	1090	41.7	"	1670		65.4	17-129		1.85	30	
3- & 4-Methylphenols	913	41.7	"	1670		54.8	20-109		9.97	30	
3,3'-Dichlorobenzidine	1270	41.7	"	1670		76.1	10-147		3.89	30	
3-Nitroaniline	859	83.3	"	1670		51.5	23-123		0.155	30	
4,6-Dinitro-2-methylphenol	1060	83.3	"	1670		63.8	10-149		5.44	30	
4-Bromophenyl phenyl ether	916	41.7	"	1670		55.0	30-138		4.96	30	
4-Chloro-3-methylphenol	1060	41.7	"	1670		63.4	16-138		1.24	30	
4-Chloroaniline	844	41.7	"	1670		50.6	10-117		3.74	30	
4-Chlorophenyl phenyl ether	1020	41.7	"	1670		61.1	18-132		4.35	30	
4-Nitroaniline	919	83.3	"	1670		55.2	14-125		8.51	30	
4-Nitrophenol	837	83.3	"	1670		50.2	10-136		1.12	30	
Acenaphthene	927	41.7	"	1670		55.6	17-124		5.13	30	
Acenaphthylene	907	41.7	"	1670		54.4	16-124		4.86	30	
Acetophenone	844	41.7	"	1670		50.6	28-105		1.02	30	
Aniline	985	167	"	1670		59.1	10-111		9.02	30	
Anthracene	892	41.7	"	1670		53.5	24-124		3.15	30	
Atrazine	676	41.7	"	1670		40.5	22-120		3.82	30	
Benzaldehyde	992	41.7	"	1670		59.5	21-100		7.16	30	
Benzo(a)anthracene	874	41.7	"	1670		52.4	25-134		2.82	30	
Benzo(a)pyrene	868	41.7	"	1670		52.1	29-144		0.154	30	
Benzo(b)fluoranthene	775	41.7	"	1670		46.5	20-151		4.98	30	
Benzo(g,h,i)perylene	1080	41.7	"	1670		64.6	10-153		3.59	30	
Benzo(k)fluoranthene	810	41.7	"	1670		48.6	10-148		3.56	30	
Benzoic acid	1130	41.7	"	1670		67.7	10-116		1.12	30	
Benzyl alcohol	992	41.7	"	1670		59.5	17-128		5.95	30	
Benzyl butyl phthalate	822	41.7	"	1670		49.3	10-132		3.17	30	
Bis(2-chloroethoxy)methane	1150	41.7	"	1670		69.0	10-129		6.86	30	
Bis(2-chloroethyl)ether	996	41.7	"	1670		59.7	14-125		3.89	30	
Bis(2-chloroisopropyl)ether	1350	41.7	"	1670		81.2	14-122		6.85	30	
Bis(2-ethylhexyl)phthalate	905	41.7	"	1670		54.3	10-141		2.20	30	
Caprolactam	1270	83.3	"	1670		76.4	10-123		9.78	30	

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BG50255 - EPA 3550C											
LCS Dup (BG50255-BSD1)							Prepared & Analyzed: 07/07/2015				
Carbazole	944	41.7	ug/kg wet	1670		56.7	31-120		4.81	30	
Chrysene	876	41.7	"	1670		52.5	24-116		6.73	30	
Dibenzo(a,h)anthracene	1100	41.7	"	1670		65.9	17-147		3.52	30	
Dibenzofuran	1130	41.7	"	1670		68.1	23-123		5.15	30	
Diethyl phthalate	982	41.7	"	1670		58.9	23-122		5.30	30	
Dimethyl phthalate	938	41.7	"	1670		56.3	28-127		4.66	30	
Di-n-butyl phthalate	888	41.7	"	1670		53.3	19-123		2.93	30	
Di-n-octyl phthalate	873	41.7	"	1670		52.4	10-132		5.73	30	
Fluoranthene	867	41.7	"	1670		52.0	36-125		2.77	30	
Fluorene	984	41.7	"	1670		59.0	16-130		4.86	30	
Hexachlorobenzene	901	41.7	"	1670		54.0	10-129		8.45	30	
Hexachlorobutadiene	1140	41.7	"	1670		68.3	22-153		4.09	30	
Hexachlorocyclopentadiene	1040	41.7	"	1670		62.5	10-134		10.0	30	
Hexachloroethane	922	41.7	"	1670		55.3	20-112		5.84	30	
Indeno(1,2,3-cd)pyrene	1040	41.7	"	1670		62.4	10-155		5.63	30	
Isophorone	1110	41.7	"	1670		66.6	14-131		3.67	30	
Naphthalene	1070	41.7	"	1670		64.3	20-121		4.55	30	
Nitrobenzene	1030	41.7	"	1670		61.5	20-121		5.48	30	
N-Nitrosodimethylamine	1070	41.7	"	1670		64.2	10-124		0.991	30	
N-nitroso-di-n-propylamine	1040	41.7	"	1670		62.6	21-119		8.19	30	
N-Nitrosodiphenylamine	1250	41.7	"	1670		75.1	10-163		4.66	30	
Pentachlorophenol	811	41.7	"	1670		48.7	10-143		5.88	30	
Phenanthrene	977	41.7	"	1670		58.6	24-123		1.06	30	
Phenol	1180	41.7	"	1670		70.7	15-123		7.51	30	
Pyrene	907	41.7	"	1670		54.4	24-132		5.13	30	
Surrogate: 2-Fluorophenol	*2360*		*"*	*2510*		*94.2*	*10-95*				
Surrogate: Phenol-d5	*2820*		*"*	*2510*		*112*	*10-107*				
Surrogate: Nitrobenzene-d5	*1680*		*"*	*1670*		*101*	*10-95*				
Surrogate: 2-Fluorobiphenyl	*1790*		*"*	*1670*		*107*	*10-97*				
Surrogate: 2,4,6-Tribromophenol	*2920*		*"*	*2510*		*116*	*30-130*				
Surrogate: Terphenyl-d14	*1580*		*"*	*1670*		*94.7*	*19-99*				

Polychlorinated Biphenyls by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BG50256 - EPA 3550C											
Blank (BG50256-BLK1)							Prepared & Analyzed: 07/07/2015				
Aroclor 1016	ND	0.0167	mg/kg wet								
Aroclor 1221	ND	0.0167	"								
Aroclor 1232	ND	0.0167	"								
Aroclor 1242	ND	0.0167	"								
Aroclor 1248	ND	0.0167	"								
Aroclor 1254	ND	0.0167	"								
Aroclor 1260	ND	0.0167	"								
Total PCBs	ND	0.0167	"								
Surrogate: Tetrachloro-m-xylene	*0.0440*		*"*	*0.0677*		*65.0*	*30-140*				
Surrogate: Decachlorobiphenyl	*0.0477*		*"*	*0.0670*		*71.1*	*30-140*				
LCS (BG50256-BS2)							Prepared & Analyzed: 07/07/2015				
Aroclor 1016	0.231	0.0167	mg/kg wet	0.333		69.2	40-130				
Aroclor 1260	0.178	0.0167	"	0.333		53.3	40-130				
Surrogate: Tetrachloro-m-xylene	*0.0443*		*"*	*0.0677*		*65.5*	*30-140*				
Surrogate: Decachlorobiphenyl	*0.0403*		*"*	*0.0670*		*60.2*	*30-140*				

Gas Chromatography/Flame Ionization Detector - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BG50182 - EPA 3545A											
Blank (BG50182-BLK1)							Prepared & Analyzed: 07/06/2015				
Total EPH	60.5	50.0	mg/kg wet								
Surrogate: 1-Chlorooctadecane	*8.11*		"	*10.0*		*81.1*	*40-140*				
Surrogate: o-Terphenyl	*8.23*		"	*10.0*		*82.3*	*40-140*				
LCS (BG50182-BS1)							Prepared & Analyzed: 07/06/2015				
Total EPH	274	50.0	mg/kg wet	360		76.0	40-140				
Surrogate: 1-Chlorooctadecane	*8.80*		"	*10.0*		*88.0*	*40-140*				
Surrogate: o-Terphenyl	*8.64*		"	*10.0*		*86.4*	*40-140*				
LCS Dup (BG50182-BSD1)							Prepared & Analyzed: 07/06/2015				
Total EPH	269	50.0	mg/kg wet	360		74.8	40-140		1.58	30	
Surrogate: 1-Chlorooctadecane	*8.80*		"	*10.0*		*88.0*	*40-140*				
Surrogate: o-Terphenyl	*8.76*		"	*10.0*		*87.6*	*40-140*				

Metals by ICP - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BG50261 - EPA 3050B

Blank (BG50261-BLK1) Prepared & Analyzed: 07/07/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aluminum	ND	5.00	mg/kg wet								
Antimony	ND	0.500	"								
Arsenic	ND	1.00	"								
Barium	ND	1.00	"								
Beryllium	ND	0.100	"								
Cadmium	ND	0.300	"								
Calcium	ND	5.00	"								
Chromium	ND	0.500	"								
Cobalt	ND	0.500	"								
Copper	ND	0.500	"								
Iron	ND	2.00	"								
Lead	ND	0.300	"								
Magnesium	ND	5.00	"								
Manganese	ND	0.500	"								
Nickel	ND	0.500	"								
Potassium	ND	5.00	"								
Selenium	ND	1.00	"								
Silver	ND	0.500	"								
Sodium	ND	10.0	"								
Thallium	ND	1.00	"								
Vanadium	ND	1.00	"								
Zinc	ND	1.00	"								

Duplicate (BG50261-DUP1) *Source sample: 15G0122-01 (WC-09(0-2)) Prepared & Analyzed: 07/07/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aluminum	11700	5.69	mg/kg dry		11700				0.0963	35	
Antimony	ND	0.569	"		ND					35	
Arsenic	3.53	1.14	"		3.87				9.30	35	
Barium	224	1.14	"		222				1.01	35	
Beryllium	ND	0.114	"		ND					35	
Cadmium	0.486	0.341	"		0.489				0.720	35	
Calcium	16000	5.69	"		16000				0.271	35	
Chromium	31.9	0.569	"		31.5				1.07	35	
Cobalt	12.3	0.569	"		12.2				0.277	35	
Copper	56.9	0.569	"		56.4				0.876	35	
Iron	21600	2.27	"		21600				0.0462	35	
Lead	337	0.341	"		334				0.989	35	
Magnesium	9810	5.69	"		9800				0.0843	35	
Manganese	270	0.569	"		269				0.0560	35	
Nickel	19.8	0.569	"		19.7				0.731	35	
Potassium	1430	5.69	"		1420				0.442	35	
Selenium	2.71	1.14	"		2.49				8.42	35	
Silver	ND	0.569	"		ND					35	
Sodium	345	11.4	"		349				1.12	35	
Thallium	ND	1.14	"		ND					35	
Vanadium	39.4	1.14	"		38.9				1.22	35	
Zinc	234	1.14	"		232				0.994	35	

Metals by ICP - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BG50261 - EPA 3050B

Matrix Spike (BG50261-MS1) *Source sample: 15G0122-01 (WC-09(0-2)) Prepared & Analyzed: 07/07/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aluminum	12000	5.69	mg/kg dry	227	11700	125	75-125				
Antimony	29.3	0.569	"	28.4	ND	103	75-125				
Arsenic	234	1.14	"	227	3.87	101	75-125				
Barium	452	1.14	"	227	222	101	75-125				
Beryllium	2.80	0.114	"	5.69	ND	49.3	75-125	Low Bias			
Cadmium	6.29	0.341	"	5.69	0.489	102	75-125				
Chromium	53.2	0.569	"	22.7	31.5	95.2	75-125				
Cobalt	69.0	0.569	"	56.9	12.2	99.8	75-125				
Copper	85.4	0.569	"	28.4	56.4	102	75-125				
Iron	21600	2.27	"	114	21600	17.5	75-125	Low Bias			
Lead	400	0.341	"	56.9	334	116	75-125				
Magnesium	9770	5.69	"		9800		75-125				
Manganese	328	0.569	"	56.9	269	104	75-125				
Nickel	76.3	0.569	"	56.9	19.7	99.6	75-125				
Potassium	1420	5.69	"		1420		75-125				
Selenium	234	1.14	"	227	2.49	102	75-125				
Silver	ND	0.569	"	5.69	ND		75-125	Low Bias			
Sodium	351	11.4	"		349		75-125				
Thallium	190	1.14	"	227	ND	83.4	75-125				
Vanadium	94.1	1.14	"	56.9	38.9	97.0	75-125				
Zinc	284	1.14	"	56.9	232	90.6	75-125				

Reference (BG50261-SRM1) Prepared & Analyzed: 07/07/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aluminum	6280	5.00	mg/kg wet	8100		77.5	39.6-160.5				
Antimony	73.5	0.500	"	116		63.4	55.7-252.6				
Arsenic	112	1.00	"	122		92.0	70-145.1				
Barium	154	1.00	"	167		92.2	73.1-126.9				
Beryllium	48.5	0.100	"	54.3		89.4	73.1-127.1				
Cadmium	79.8	0.300	"	88.0		90.7	73.3-127.3				
Calcium	5540	5.00	"	5920		93.5	73.6-126.4				
Chromium	87.6	0.500	"	102		85.9	69.4-130.4				
Cobalt	92.7	0.500	"	99.4		93.3	74.3-125.8				
Copper	73.5	0.500	"	78.0		94.2	73.7-132.1				
Iron	11200	2.00	"	15100		74.2	37.1-162.9				
Lead	83.4	0.300	"	94.5		88.3	70.5-129				
Magnesium	2660	5.00	"	3020		88.0	65.9-133.8				
Manganese	390	0.500	"	401		97.2	76.1-132.9				
Nickel	57.1	0.500	"	56.3		101	69.8-130				
Potassium	2130	5.00	"	2490		85.5	60.6-139.4				
Selenium	146	1.00	"	157		92.8	67.5-131.8				
Silver	27.9	0.500	"	34.2		81.4	65.5-134.2				
Sodium	238	10.0	"	246		96.8	32-170				
Thallium	89.0	1.00	"	116		76.7	67.4-132.7				
Vanadium	55.1	1.00	"	67.1		82.2	57.8-192.3				
Zinc	180	1.00	"	207		87.1	70-130.4				

Mercury by EPA 7000/200 Series Methods - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BG50278 - EPA 7473 soil											
Blank (BG50278-BLK1)							Prepared & Analyzed: 07/07/2015				
Mercury	ND	0.0300	mg/kg wet								
Reference (BG50278-SRM1)							Prepared & Analyzed: 07/07/2015				
Mercury	5.8650		mg/kg	5.76		102	71.2-129				

Wet Chemistry Parameters - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BG50258 - Analysis Preparation Soil											
Blank (BG50258-BLK1)							Prepared & Analyzed: 07/07/2015				
Cyanide, total	ND	0.500	mg/kg wet								
Duplicate (BG50258-DUP1)	*Source sample: 15G0122-01 (WC-09(0-2))						Prepared & Analyzed: 07/07/2015				
Cyanide, total	ND	0.569	mg/kg dry		ND					15	
Matrix Spike (BG50258-MS1)	*Source sample: 15G0122-01 (WC-09(0-2))						Prepared & Analyzed: 07/07/2015				
Cyanide, total	9.78	0.569	mg/kg dry	11.4	ND	86.0	79.6-107				
Reference (BG50258-SRM1)							Prepared & Analyzed: 07/07/2015				
Cyanide, total	63.0		ug/mL	59.3		106	38.4-202				
Batch BG50733 - EPA SW846-3060											
Blank (BG50733-BLK1)							Prepared & Analyzed: 07/15/2015				
Chromium, Hexavalent	ND	0.500	mg/kg wet								
Duplicate (BG50733-DUP1)	*Source sample: 15G0122-01 (WC-09(0-2))						Prepared & Analyzed: 07/15/2015				
Chromium, Hexavalent	ND	0.569	mg/kg dry		ND					35	
Matrix Spike (BG50733-MS1)	*Source sample: 15G0122-01 (WC-09(0-2))						Prepared & Analyzed: 07/15/2015				
Chromium, Hexavalent	15.6	0.569	mg/kg dry	22.7	ND	68.4	75-125	Low Bias			
Reference (BG50733-SRM1)							Prepared & Analyzed: 07/15/2015				
Chromium, Hexavalent	74.8		mg/L	97.4		76.8	26.6-178				

Volatile Analysis Sample Containers

Lab ID	Client Sample ID	Volatile Sample Container
15G0122-01	WC-09(0-2)	40mL Vial with Stir Bar-Cool 4° C

Notes and Definitions

S-D	The surrogates were spiked at twice the normal concentration and recovery is within limits.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data are acceptable.
M-MISpk	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The SRM was within acceptance limits, therefore data are acceptable.
M-HCSpk	Sample conc. >10 X spike conc.
J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration.
GC-BEPH	Method blank is acceptable up to 5X the RL due to elevated baseline.
B	Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <10x the blank value as artifact.

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*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two.
For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.

Revision Description: This report has been revised to include Hexavalent Chromium.

YORK ANALYTICAL LABORATORIES INC

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Field Chain-of-Custody Record

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions.

York Project No. 15G0122

YOUR Information	Report To:	Invoice To:	YOUR Project ID	Turn-Around Time	Report Type
Company: EcoSystems Strategies	Company: same	Company: same	MB13205B	RUSH - Same Day ☐	Summary Report ✓
Address: 24 Davis Ave	Address:	Address:		RUSH - Next Day ☐	Summary w/ QA Summary
Poughkeepsie			**Purchase Order No.**	RUSH - Two Day ✓	CT RCP Package
Phone No. (845) 452-1658	Phone No.	Phone No.	MB13205B.20	RUSH - Three Day ☐	CTRCP DQA/DUE Pkg
Contact Person: Danielle Bonneau	Attention: Danielle Bonneau	Attention:		RUSH - Four Day ☐	NY ASP A Package
E-Mail Address:	E-Mail Address:	E-Mail Address:	Samples from: CT__ NY ✓ NJ__	Standard (5-7 Days) ☐	NY ASP B Package
					NJDEP Red. Deliv.

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

DBonneau
Samples Collected/Authorized By (Signature)

Danielle Bonneau
Name (printed)

Matrix Codes
S - soil
Other - specify (oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists	Misc.
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics	Reactivity
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP	Flash Point
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX	Sieve Anal.
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part 360-Routine	Heterotrophs
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part 360-Baseline	TOX
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part 360-Expanded No Dioxans Furans	BTU/lb.
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part 360-Expanded Full List	Aquatic Tox.
Halog. only	NJDEP list	App. IX	Chlordane	Indiv. Metals	Air TICs	NYCDEP Sewer	TOC
App.IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer	Asbestos
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM	Silica

Electronic Data Deliverables (EDD)
Simple Excel ✓
NYSDEC EQuIS
EQuIS (std)
EZ-EDD (EQuIS)
NJDEP SRP HazSite EDD
GIS/KEY (std)
Other
York Regulatory Comparison Excel Spreadsheet
Compare to the following Regs. (please fill in):

Sample Identification	Date/Time Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
WC-09(0-2)	7/2/2015	S	TAL/TCL + 30 + EPH (NJEPHR3)	2x 8oz jars + VOA kit

Comments
results by Tuesday afternoon

Preservation Check those Applicable: 4°C___ Frozen___ HCl___ MeOH___ HNO_3___ H_2SO_4___ NaOH___ ZnAc Ascorbic Acid Other

Special Instructions
Field Filtered ☐
Lab to Filter ☐

DBonneau	7/2/2015	[illegible signature]	7-2-15 14:00
Samples Relinquished By	Date/Time	Samples Received By	Date/Time
		TCPuhl	7/2/15 1540
Samples Relinquished By	Date/Time	Samples Received in LAB by	Date/Time

Temperature on Receipt 3.9 °C

Technical Report

prepared for:

Ecosystems Strategies, Inc.
24 Davis Avenue
Poughkeepsie NY, 12603
Attention: Danielle Bonneau

Report Date: 06/26/2015
Client Project ID: MB13205B
York Project (SDG) No.: 15F0907

Report Date: 06/26/2015
Client Project ID: MB13205B
York Project (SDG) No.: 15F0907

Ecosystems Strategies, Inc.
24 Davis Avenue
Poughkeepsie NY, 12603
Attention: Danielle Bonneau

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on June 23, 2015 and listed below. The project was identified as your project: **MB13205B**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the attachment to this report, and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
15F0907-01	WC-08 (0-2)	Soil	06/10/2015	06/23/2015

General Notes for York Project (SDG) No.: 15F0907

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation, unless otherwise noted.
6. All analyses conducted met method or Laboratory SOP requirements. See the Qualifiers and/or Narrative sections for further information.
7. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
8. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.

Approved By: **Date:** 06/26/2015

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: **WC-08 (0-2)** **York Sample ID:** **15F0907-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0907	MB13205B	Soil	June 10, 2015 3:00 pm	06/23/2015

Volatile Organics, 8260 - Comprehensive

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
96-18-4	1,2,3-Trichloropropane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	54	110	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
78-93-3	2-Butanone	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
591-78-6	2-Hexanone	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
108-10-1	4-Methyl-2-pentanone	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS

Sample Information

Client Sample ID: WC-08 (0-2) **York Sample ID:** 15F0907-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0907	MB13205B	Soil	June 10, 2015 3:00 pm	06/23/2015

Volatile Organics, 8260 - Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-64-1	**Acetone**	**21**	SCAL-E	ug/kg dry	5.4	11	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
107-02-8	Acrolein	ND		ug/kg dry	5.4	11	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
107-13-1	Acrylonitrile	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
71-43-2	Benzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
75-25-2	Bromoform	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
74-83-9	Bromomethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
75-15-0	Carbon disulfide	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
67-66-3	Chloroform	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
110-82-7	Cyclohexane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
74-95-3	Dibromomethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
79-20-9	Methyl acetate	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS

Sample Information

Client Sample ID: WC-08 (0-2) **York Sample ID:** 15F0907-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0907	MB13205B	Soil	June 10, 2015 3:00 pm	06/23/2015

Volatile Organics, 8260 - Comprehensive

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
108-87-2	Methylcyclohexane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
75-09-2	Methylene chloride	ND		ug/kg dry	5.4	11	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
104-51-8	n-Butylbenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
103-65-1	n-Propylbenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854	06/24/2015 08:00	06/24/2015 15:45	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	5.4	11	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854	06/24/2015 08:00	06/24/2015 15:45	SS
99-87-6	p-Isopropyltoluene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
135-98-8	sec-Butylbenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
100-42-5	Styrene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
75-65-0	tert-Butyl alcohol (TBA)	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
98-06-6	tert-Butylbenzene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
108-88-3	Toluene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:00	06/24/2015 15:45	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.7	5.4	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS
1330-20-7	Xylenes, Total	ND		ug/kg dry	8.2	16	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:00	06/24/2015 15:45	SS

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*107 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*100 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*101 %*	*76-130*

Volatile Organics, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Information

Client Sample ID: **WC-08 (0-2)** | **York Sample ID:** **15F0907-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0907	MB13205B	Soil	June 10, 2015 3:00 pm	06/23/2015

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
NA	**unknown siloxanes**	**28**		ug/kg dry			1	EPA 8260C Certifications:	06/24/2015 08:00	06/24/2015 15:45	SS

Semi-Volatiles, 8270 - Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
92-52-4	1,1'-Biphenyl	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:55	06/24/2015 20:42	KH
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/kg dry	93.7	187	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:55	06/24/2015 20:42	KH
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: NELAC-NY10854	06/24/2015 08:55	06/24/2015 20:42	KH
122-66-7	1,2-Diphenylhydrazine (as Azobenzene)	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:55	06/24/2015 20:42	KH
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: NELAC-NY10854	06/24/2015 08:55	06/24/2015 20:42	KH
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: NELAC-NY10854	06/24/2015 08:55	06/24/2015 20:42	KH
58-90-2	2,3,4,6-Tetrachlorophenol	ND		ug/kg dry	93.7	187	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:55	06/24/2015 20:42	KH
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:55	06/24/2015 20:42	KH
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	93.7	187	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
95-57-8	2-Chlorophenol	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:55	06/24/2015 20:42	KH
95-48-7	2-Methylphenol	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
88-74-4	2-Nitroaniline	ND		ug/kg dry	93.7	187	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH

Sample Information

Client Sample ID: **WC-08 (0-2)** **York Sample ID:** **15F0907-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0907	MB13205B	Soil	June 10, 2015 3:00 pm	06/23/2015

Semi-Volatiles, 8270 - Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
88-75-5	2-Nitrophenol	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:55	06/24/2015 20:42	KH
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
99-09-2	3-Nitroaniline	ND		ug/kg dry	93.7	187	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	93.7	187	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:55	06/24/2015 20:42	KH
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
106-47-8	4-Chloroaniline	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
100-01-6	4-Nitroaniline	ND		ug/kg dry	93.7	187	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
100-02-7	4-Nitrophenol	ND		ug/kg dry	93.7	187	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
83-32-9	Acenaphthene	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
208-96-8	**Acenaphthylene**	**56.2**	J	ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
98-86-2	Acetophenone	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:55	06/24/2015 20:42	KH
62-53-3	Aniline	ND		ug/kg dry	188	375	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
120-12-7	Anthracene	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
1912-24-9	Atrazine	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:55	06/24/2015 20:42	KH
100-52-7	Benzaldehyde	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:55	06/24/2015 20:42	KH
92-87-5	Benzidine	ND		ug/kg dry	188	375	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854	06/24/2015 08:55	06/24/2015 20:42	KH
56-55-3	**Benzo(a)anthracene**	**227**		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
50-32-8	**Benzo(a)pyrene**	**252**		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
205-99-2	**Benzo(b)fluoranthene**	**196**		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
191-24-2	**Benzo(g,h,i)perylene**	**277**	CCV-E	ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH

Sample Information

Client Sample ID:	WC-08 (0-2)	York Sample ID:	15F0907-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0907	MB13205B	Soil	June 10, 2015 3:00 pm	06/23/2015

Semi-Volatiles, 8270 - Comprehensive

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
207-08-9	**Benzo(k)fluoranthene**	**302**		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
65-85-0	Benzoic acid	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:55	06/24/2015 20:42	KH
100-51-6	Benzyl alcohol	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
117-81-7	**Bis(2-ethylhexyl)phthalate**	**74.9**	J	ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
105-60-2	Caprolactam	ND		ug/kg dry	93.7	187	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:55	06/24/2015 20:42	KH
86-74-8	Carbazole	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
218-01-9	**Chrysene**	**253**		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
53-70-3	**Dibenzo(a,h)anthracene**	**92.1**	CCV-E, J	ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
132-64-9	Dibenzofuran	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:55	06/24/2015 20:42	KH
84-66-2	Diethyl phthalate	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
131-11-3	Dimethyl phthalate	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
84-74-2	**Di-n-butyl phthalate**	**102**		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
206-44-0	**Fluoranthene**	**427**		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
86-73-7	Fluorene	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
118-74-1	Hexachlorobenzene	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
67-72-1	Hexachloroethane	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH

Sample Information

Client Sample ID: **WC-08 (0-2)** **York Sample ID:** **15F0907-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0907	MB13205B	Soil	June 10, 2015 3:00 pm	06/23/2015

Semi-Volatiles, 8270 - Comprehensive

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
193-39-5	**Indeno(1,2,3-cd)pyrene**	**251**	CCV-E	ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
78-59-1	Isophorone	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
91-20-3	Naphthalene	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:55	06/24/2015 20:42	KH
98-95-3	Nitrobenzene	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
62-75-9	N-Nitrosodimethylamine	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:55	06/24/2015 20:42	KH
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:55	06/24/2015 20:42	KH
87-86-5	Pentachlorophenol	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
85-01-8	**Phenanthrene**	**172**		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
108-95-2	Phenol	ND		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH
129-00-0	**Pyrene**	**323**		ug/kg dry	47.0	93.7	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:55	06/24/2015 20:42	KH

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*39.7 %*	*10-95*
4165-62-2	*Surrogate: Phenol-d5*	*44.3 %*	*10-107*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*44.7 %*	*10-95*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*42.2 %*	*10-97*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*46.7 %*	*10-103*
1718-51-0	*Surrogate: Terphenyl-d14*	*39.0 %*	*19-99*

Semi-Volatiles, Tentatively Identified Cmpds.

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Tentatively Identified Compounds	0.00		ug/kg dry			2	EPA 8270D Certifications:	06/24/2015 08:55	06/24/2015 20:42	KH

Pesticides, NJDEP/TCL List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC
72-55-9	4,4'-DDE	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC

Sample Information

Client Sample ID: WC-08 (0-2) **York Sample ID:** 15F0907-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0907	MB13205B	Soil	June 10, 2015 3:00 pm	06/23/2015

Pesticides, NJDEP/TCL List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
50-29-3	4,4'-DDT	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC
309-00-2	Aldrin	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC
319-84-6	alpha-BHC	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC
5103-71-9	alpha-Chlordane	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:16	06/24/2015 19:48	AMC
319-85-7	beta-BHC	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC
57-74-9	Chlordane, total	ND		ug/kg dry	7.42	7.42	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC
319-86-8	delta-BHC	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC
60-57-1	Dieldrin	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC
959-98-8	Endosulfan I	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC
33213-65-9	Endosulfan II	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC
72-20-8	Endrin	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC
7421-93-4	Endrin aldehyde	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC
53494-70-5	Endrin ketone	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:16	06/24/2015 19:48	AMC
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC
5103-74-2	gamma-Chlordane	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	06/24/2015 08:16	06/24/2015 19:48	AMC
76-44-8	Heptachlor	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	1.85	1.85	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC
72-43-5	Methoxychlor	ND		ug/kg dry	9.27	9.27	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:48	AMC
8001-35-2	Toxaphene	ND		ug/kg dry	93.8	93.8	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP	06/24/2015 08:16	06/24/2015 19:48	AMC

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*90.9 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*97.5 %*	*30-140*

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Information

Client Sample ID: WC-08 (0-2) **York Sample ID:** 15F0907-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0907	MB13205B	Soil	June 10, 2015 3:00 pm	06/23/2015

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0187	0.0187	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:16	AMC
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0187	0.0187	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:16	AMC
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0187	0.0187	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:16	AMC
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0187	0.0187	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:16	AMC
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0187	0.0187	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:16	AMC
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0187	0.0187	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:16	AMC
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0187	0.0187	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	06/24/2015 08:16	06/24/2015 19:16	AMC
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0187	0.0187	1	EPA 8082A Certifications:	06/24/2015 08:16	06/24/2015 19:16	AMC

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*89.2 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*83.6 %*	*30-140*

NJDEP EPH (Cat. 2 Non-Fractionated)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	*** Total EPH**	**56.4**		mg/kg dry	56.2	56.2	1	NJDEP EPH Rev 3.0 Certifications: NJDEP	06/24/2015 14:24	06/25/2015 16:22	AMC

	Surrogate Recoveries	Result	Acceptance Range
3386-33-2	*Surrogate: 1-Chlorooctadecane*	*62.4 %*	*40-140*
84-15-1	*Surrogate: o-Terphenyl*	*60.8 %*	*40-140*

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	**Aluminum**	**11300**		mg/kg dry	5.62	5.62	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7440-36-0	**Antimony**	**1.11**		mg/kg dry	0.562	0.562	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7440-38-2	**Arsenic**	**3.37**		mg/kg dry	1.12	1.12	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7440-39-3	**Barium**	**170**		mg/kg dry	1.12	1.12	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7440-41-7	Beryllium	ND		mg/kg dry	0.112	0.112	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/26/2015 07:13	06/26/2015 11:29	ALD

Sample Information

Client Sample ID: **WC-08 (0-2)** **York Sample ID:** **15F0907-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0907	MB13205B	Soil	June 10, 2015 3:00 pm	06/23/2015

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-43-9	**Cadmium**	**0.830**		mg/kg dry	0.337	0.337	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7440-70-2	**Calcium**	**6260**		mg/kg dry	0.562	5.62	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7440-47-3	**Chromium**	**31.1**		mg/kg dry	0.562	0.562	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7440-48-4	**Cobalt**	**9.71**		mg/kg dry	0.562	0.562	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7440-50-8	**Copper**	**56.9**		mg/kg dry	0.562	0.562	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7439-89-6	**Iron**	**19100**		mg/kg dry	2.25	2.25	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7439-92-1	**Lead**	**256**		mg/kg dry	0.337	0.337	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7439-95-4	**Magnesium**	**5250**		mg/kg dry	5.62	5.62	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7439-96-5	**Manganese**	**252**		mg/kg dry	0.562	0.562	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7440-02-0	**Nickel**	**19.3**		mg/kg dry	0.562	0.562	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7440-09-7	**Potassium**	**1490**		mg/kg dry	5.62	5.62	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7782-49-2	Selenium	ND		mg/kg dry	1.12	1.12	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7440-22-4	Silver	ND		mg/kg dry	0.562	0.562	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7440-23-5	**Sodium**	**343**		mg/kg dry	11.2	11.2	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7440-28-0	Thallium	ND		mg/kg dry	1.12	1.12	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7440-62-2	**Vanadium**	**36.0**		mg/kg dry	1.12	1.12	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/26/2015 07:13	06/26/2015 11:29	ALD
7440-66-6	**Zinc**	**200**		mg/kg dry	1.12	1.12	1	EPA 6010C Certifications: CTDOH,NELAC-NY10854,NJDEP	06/26/2015 07:13	06/26/2015 11:29	ALD

Mercury by 7473

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	**Mercury**	**0.181**		mg/kg dry	0.0337	0.0337	1	EPA 7473 Certifications: CTDOH,NJDEP,NELAC-NY10854,PADEP	06/26/2015 07:02	06/26/2015 10:27	ALD

ORP (Oxidation-Reduction Potential)(Ag/AgCl)

Log-in Notes: **Sample Notes:**

Sample Information

Client Sample ID: WC-08 (0-2) **York Sample ID:** 15F0907-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15F0907	MB13205B	Soil	June 10, 2015 3:00 pm	06/23/2015

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	*** ORP (Oxidation-Reduction Potential) (Ag/AgCl)**	**470**	HT-02	mV	-200	-200	1	ASTM 1498-08 M Certifications:	06/26/2015 09:50	06/26/2015 10:31	KK

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**89.0**		%	0.100	0.100	1	SM 2540G Certifications: CTDOH	06/25/2015 09:42	06/26/2015 10:01	KK

Chromium, Hexavalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-3060

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
18540-29-9	Chromium, Hexavalent	ND		mg/kg dry	0.393	0.562	1	EPA 7196A Certifications: NJDEP,CTDOH,NELAC-NY10854	06/25/2015 07:54	06/25/2015 13:14	SC

Cyanide, Total

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation Soil

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
57-12-5	Cyanide, total	ND	HT-01	mg/kg dry	0.562	0.562	1	EPA 9014/9010C Certifications: NELAC-NY10854,CTDOH,NJDEP	06/26/2015 09:06	06/26/2015 13:06	AD

pH

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	pH	**9.05**	HT-pH	pH units		0.500	1	EPA 9045D Certifications: NELAC-NY10854,CTDOH	06/25/2015 12:20	06/25/2015 16:18	SCA

Analytical Batch Summary

Batch ID: BF51162 **Preparation Method:** EPA 3545A **Prepared By:** SA

YORK Sample ID	Client Sample ID	Preparation Date
15F0907-01	WC-08 (0-2)	06/24/15
BF51162-BLK1	Blank	06/24/15
BF51162-BS1	LCS	06/24/15
BF51162-BSD1	LCS Dup	06/24/15

Batch ID: BF51171 **Preparation Method:** EPA 3550C **Prepared By:** TFD

YORK Sample ID	Client Sample ID	Preparation Date
15F0907-01	WC-08 (0-2)	06/24/15
15F0907-01	WC-08 (0-2)	06/24/15
BF51171-BLK1	Blank	06/24/15
BF51171-BLK1	Blank	06/24/15
BF51171-BS1	LCS	06/24/15
BF51171-BS2	LCS	06/24/15
BF51171-BSD1	LCS Dup	06/24/15

Batch ID: BF51176 **Preparation Method:** EPA 5035A **Prepared By:** BGS

YORK Sample ID	Client Sample ID	Preparation Date
15F0907-01	WC-08 (0-2)	06/24/15
BF51176-BLK1	Blank	06/24/15
BF51176-BS1	LCS	06/24/15
BF51176-BSD1	LCS Dup	06/24/15

Batch ID: BF51180 **Preparation Method:** EPA 3550C **Prepared By:** TB

YORK Sample ID	Client Sample ID	Preparation Date
15F0907-01	WC-08 (0-2)	06/24/15
BF51180-BLK1	Blank	06/24/15
BF51180-BS1	LCS	06/24/15
BF51180-BSD1	LCS Dup	06/24/15

Batch ID: BF51244 **Preparation Method:** EPA SW846-3060 **Prepared By:** SC

YORK Sample ID	Client Sample ID	Preparation Date
15F0907-01	WC-08 (0-2)	06/25/15
BF51244-BLK1	Blank	06/25/15
BF51244-SRM1	Reference	06/25/15

Batch ID: BF51268 **Preparation Method:** % Solids Prep **Prepared By:** KK

YORK Sample ID	Client Sample ID	Preparation Date

15F0907-01	WC-08 (0-2)	06/25/15

Batch ID: BF51292 **Preparation Method:** Analysis Preparation **Prepared By:** SCA

YORK Sample ID	Client Sample ID	Preparation Date
15F0907-01	WC-08 (0-2)	06/25/15

Batch ID: BF51318 **Preparation Method:** EPA 7473 soil **Prepared By:** ALD

YORK Sample ID	Client Sample ID	Preparation Date
15F0907-01	WC-08 (0-2)	06/26/15
BF51318-BLK1	Blank	06/26/15
BF51318-DUP1	Duplicate	06/26/15
BF51318-MS1	Matrix Spike	06/26/15
BF51318-SRM1	Reference	06/26/15

Batch ID: BF51320 **Preparation Method:** EPA 3050B **Prepared By:** ALD

YORK Sample ID	Client Sample ID	Preparation Date
15F0907-01	WC-08 (0-2)	06/26/15
BF51320-BLK1	Blank	06/26/15
BF51320-DUP1	Duplicate	06/26/15
BF51320-MS1	Matrix Spike	06/26/15
BF51320-SRM1	Reference	06/26/15

Batch ID: BF51339 **Preparation Method:** Analysis Preparation **Prepared By:** KK

YORK Sample ID	Client Sample ID	Preparation Date
15F0907-01	WC-08 (0-2)	06/26/15
BF51339-DUP1	Duplicate	06/26/15

Batch ID: BF51347 **Preparation Method:** Analysis Preparation Soil **Prepared By:** AD

YORK Sample ID	Client Sample ID	Preparation Date
15F0907-01	WC-08 (0-2)	06/26/15
BF51347-BLK1	Blank	06/26/15
BF51347-DUP1	Duplicate	06/26/15
BF51347-MS1	Matrix Spike	06/26/15
BF51347-SRM1	Reference	06/26/15

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF51176 - EPA 5035A											
Blank (BF51176-BLK1)								Prepared & Analyzed: 06/24/2015			
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg wet								
Tentatively Identified Compounds	0.0		"								
1,1,1-Trichloroethane	ND	5.0	"								
1,1,2,2-Tetrachloroethane	ND	5.0	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"								
1,1,2-Trichloroethane	ND	5.0	"								
1,1-Dichloroethane	ND	5.0	"								
1,1-Dichloroethylene	ND	5.0	"								
1,2,3-Trichlorobenzene	ND	5.0	"								
1,2,3-Trichloropropane	ND	5.0	"								
1,2,4-Trichlorobenzene	ND	5.0	"								
1,2,4-Trimethylbenzene	ND	5.0	"								
1,2-Dibromo-3-chloropropane	ND	5.0	"								
1,2-Dibromoethane	ND	5.0	"								
1,2-Dichlorobenzene	ND	5.0	"								
1,2-Dichloroethane	ND	5.0	"								
1,2-Dichloropropane	ND	5.0	"								
1,3,5-Trimethylbenzene	ND	5.0	"								
1,3-Dichlorobenzene	ND	5.0	"								
1,4-Dichlorobenzene	ND	5.0	"								
1,4-Dioxane	ND	100	"								
2-Butanone	ND	5.0	"								
2-Hexanone	ND	5.0	"								
4-Methyl-2-pentanone	ND	5.0	"								
Acetone	ND	10	"								
Acrolein	ND	10	"								
Acrylonitrile	ND	5.0	"								
Benzene	ND	5.0	"								
Bromochloromethane	ND	5.0	"								
Bromodichloromethane	ND	5.0	"								
Bromoform	ND	5.0	"								
Bromomethane	ND	5.0	"								
Carbon disulfide	ND	5.0	"								
Carbon tetrachloride	ND	5.0	"								
Chlorobenzene	ND	5.0	"								
Chloroethane	ND	5.0	"								
Chloroform	ND	5.0	"								
Chloromethane	ND	5.0	"								
cis-1,2-Dichloroethylene	ND	5.0	"								
cis-1,3-Dichloropropylene	ND	5.0	"								
Cyclohexane	ND	5.0	"								
Dibromochloromethane	ND	5.0	"								
Dibromomethane	ND	5.0	"								
Dichlorodifluoromethane	ND	5.0	"								
Ethyl Benzene	ND	5.0	"								
Hexachlorobutadiene	ND	5.0	"								
Isopropylbenzene	ND	5.0	"								
Methyl acetate	ND	5.0	"								
Methyl tert-butyl ether (MTBE)	ND	5.0	"								
Methylcyclohexane	ND	5.0	"								
Methylene chloride	ND	10	"								

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF51176 - EPA 5035A											
Blank (BF51176-BLK1)								Prepared & Analyzed: 06/24/2015			
n-Butylbenzene	ND	5.0	ug/kg wet								
n-Propylbenzene	ND	5.0	"								
o-Xylene	ND	5.0	"								
p- & m- Xylenes	ND	10	"								
p-Isopropyltoluene	ND	5.0	"								
sec-Butylbenzene	ND	5.0	"								
Styrene	ND	5.0	"								
tert-Butyl alcohol (TBA)	ND	5.0	"								
tert-Butylbenzene	ND	5.0	"								
Tetrachloroethylene	ND	5.0	"								
Toluene	ND	5.0	"								
trans-1,2-Dichloroethylene	ND	5.0	"								
trans-1,3-Dichloropropylene	ND	5.0	"								
Trichloroethylene	ND	5.0	"								
Trichlorofluoromethane	ND	5.0	"								
Vinyl Chloride	ND	5.0	"								
Xylenes, Total	ND	15	"								
Surrogate: 1,2-Dichloroethane-d4	*49.5*		*ug/L*	*50.0*		*99.0*	*77-125*				
Surrogate: Toluene-d8	*49.2*		*"*	*50.0*		*98.5*	*85-120*				
Surrogate: p-Bromofluorobenzene	*49.8*		*"*	*50.0*		*99.5*	*76-130*				
LCS (BF51176-BS1)								Prepared & Analyzed: 06/24/2015			
1,1,1,2-Tetrachloroethane	56		ug/L	50.0		111	75-129				
1,1,1-Trichloroethane	61		"	50.0		121	71-137				
1,1,2,2-Tetrachloroethane	55		"	50.0		109	79-129				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	54		"	50.0		108	58-146				
1,1,2-Trichloroethane	55		"	50.0		110	83-123				
1,1-Dichloroethane	55		"	50.0		111	75-130				
1,1-Dichloroethylene	48		"	50.0		96.6	64-137				
1,2,3-Trichlorobenzene	55		"	50.0		109	81-140				
1,2,3-Trichloropropane	59		"	50.0		117	81-126				
1,2,4-Trichlorobenzene	55		"	50.0		110	80-141				
1,2,4-Trimethylbenzene	56		"	50.0		112	84-125				
1,2-Dibromo-3-chloropropane	56		"	50.0		112	74-142				
1,2-Dibromoethane	56		"	50.0		113	86-123				
1,2-Dichlorobenzene	54		"	50.0		109	85-122				
1,2-Dichloroethane	53		"	50.0		105	71-133				
1,2-Dichloropropane	49		"	50.0		97.8	81-122				
1,3,5-Trimethylbenzene	55		"	50.0		110	82-126				
1,3-Dichlorobenzene	54		"	50.0		108	84-124				
1,4-Dichlorobenzene	55		"	50.0		110	84-124				
1,4-Dioxane	1300		"	1000		131	10-228				
2-Butanone	57		"	50.0		114	58-147				
2-Hexanone	55		"	50.0		110	70-139				
4-Methyl-2-pentanone	51		"	50.0		102	72-132				
Acetone	53		"	50.0		105	36-155				
Acrolein	20		"	50.0		40.2	10-238				
Acrylonitrile	57		"	50.0		115	66-141				
Benzene	58		"	50.0		117	77-127				
Bromochloromethane	51		"	50.0		102	74-129				
Bromodichloromethane	54		"	50.0		108	81-124				
Bromoform	61		"	50.0		123	80-136				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BF51176 - EPA 5035A

LCS (BF51176-BS1) Prepared & Analyzed: 06/24/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Bromomethane	57		ug/L	50.0		115	32-177				
Carbon disulfide	50		"	50.0		101	10-136				
Carbon tetrachloride	61		"	50.0		123	66-143				
Chlorobenzene	55		"	50.0		109	86-120				
Chloroethane	49		"	50.0		98.6	51-142				
Chloroform	59		"	50.0		118	76-131				
Chloromethane	47		"	50.0		94.0	49-132				
cis-1,2-Dichloroethylene	61		"	50.0		122	74-132				
cis-1,3-Dichloropropylene	53		"	50.0		106	81-129				
Cyclohexane	53		"	50.0		107	70-130				
Dibromochloromethane	58		"	50.0		115	10-200				
Dibromomethane	53		"	50.0		107	83-124				
Dichlorodifluoromethane	57		"	50.0		115	28-158				
Ethyl Benzene	56		"	50.0		111	84-125				
Hexachlorobutadiene	56		"	50.0		112	83-133				
Isopropylbenzene	56		"	50.0		112	81-127				
Methyl acetate	55		"	50.0		110	41-143				
Methyl tert-butyl ether (MTBE)	61		"	50.0		122	74-131				
Methylcyclohexane	57		"	50.0		113	70-130				
Methylene chloride	42		"	50.0		83.8	57-141				
n-Butylbenzene	55		"	50.0		111	80-130				
n-Propylbenzene	56		"	50.0		112	74-136				
o-Xylene	55		"	50.0		111	83-123				
p- & m- Xylenes	110		"	100		111	82-128				
p-Isopropyltoluene	55		"	50.0		111	85-125				
sec-Butylbenzene	56		"	50.0		112	83-125				
Styrene	56		"	50.0		112	86-126				
tert-Butyl alcohol (TBA)	62		"	50.0		125	70-130				
tert-Butylbenzene	55		"	50.0		110	80-127				
Tetrachloroethylene	59		"	50.0		119	80-129				
Toluene	54		"	50.0		108	85-121				
trans-1,2-Dichloroethylene	54		"	50.0		109	72-132				
trans-1,3-Dichloropropylene	55		"	50.0		110	78-132				
Trichloroethylene	55		"	50.0		110	84-123				
Trichlorofluoromethane	56		"	50.0		112	62-140				
Vinyl Chloride	50		"	50.0		101	52-130				
Surrogate: 1,2-Dichloroethane-d4	*50.3*		*"*	*50.0*		*101*	*77-125*				
Surrogate: Toluene-d8	*48.9*		*"*	*50.0*		*97.8*	*85-120*				
Surrogate: p-Bromofluorobenzene	*51.4*		*"*	*50.0*		*103*	*76-130*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BF51176 - EPA 5035A

LCS Dup (BF51176-BSD1) Prepared & Analyzed: 06/24/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,1,2-Tetrachloroethane	57		ug/L	50.0		114	75-129		2.13	30	
1,1,1-Trichloroethane	62		"	50.0		124	71-137		2.07	30	
1,1,2,2-Tetrachloroethane	54		"	50.0		108	79-129		0.810	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	58		"	50.0		116	58-146		7.18	30	
1,1,2-Trichloroethane	55		"	50.0		110	83-123		0.473	30	
1,1-Dichloroethane	57		"	50.0		114	75-130		2.88	30	
1,1-Dichloroethylene	52		"	50.0		105	64-137		8.32	30	
1,2,3-Trichlorobenzene	52		"	50.0		104	81-140		4.65	30	
1,2,3-Trichloropropane	56		"	50.0		112	81-126		4.27	30	
1,2,4-Trichlorobenzene	53		"	50.0		106	80-141		4.31	30	
1,2,4-Trimethylbenzene	56		"	50.0		111	84-125		0.822	30	
1,2-Dibromo-3-chloropropane	54		"	50.0		109	74-142		2.77	30	
1,2-Dibromoethane	56		"	50.0		113	86-123		0.124	30	
1,2-Dichlorobenzene	54		"	50.0		109	85-122		0.276	30	
1,2-Dichloroethane	54		"	50.0		107	71-133		1.75	30	
1,2-Dichloropropane	50		"	50.0		99.7	81-122		1.90	30	
1,3,5-Trimethylbenzene	57		"	50.0		114	82-126		3.36	30	
1,3-Dichlorobenzene	55		"	50.0		109	84-124		1.57	30	
1,4-Dichlorobenzene	54		"	50.0		108	84-124		1.45	30	
1,4-Dioxane	1200		"	1000		117	10-228		11.2	30	
2-Butanone	57		"	50.0		113	58-147		1.12	30	
2-Hexanone	52		"	50.0		104	70-139		5.30	30	
4-Methyl-2-pentanone	50		"	50.0		100	72-132		2.03	30	
Acetone	57		"	50.0		114	36-155		8.31	30	
Acrolein	19		"	50.0		37.9	10-238		5.89	30	
Acrylonitrile	53		"	50.0		107	66-141		7.53	30	
Benzene	59		"	50.0		118	77-127		1.17	30	
Bromochloromethane	51		"	50.0		103	74-129		0.214	30	
Bromodichloromethane	55		"	50.0		109	81-124		1.11	30	
Bromoform	60		"	50.0		119	80-136		3.11	30	
Bromomethane	61		"	50.0		123	32-177		7.04	30	
Carbon disulfide	54		"	50.0		107	10-136		6.00	30	
Carbon tetrachloride	63		"	50.0		126	66-143		2.17	30	
Chlorobenzene	55		"	50.0		110	86-120		0.346	30	
Chloroethane	53		"	50.0		107	51-142		8.09	30	
Chloroform	58		"	50.0		116	76-131		1.95	30	
Chloromethane	48		"	50.0		96.1	49-132		2.19	30	
cis-1,2-Dichloroethylene	61		"	50.0		123	74-132		0.473	30	
cis-1,3-Dichloropropylene	53		"	50.0		106	81-129		0.717	30	
Cyclohexane	56		"	50.0		111	70-130		4.08	30	
Dibromochloromethane	57		"	50.0		113	10-200		1.93	30	
Dibromomethane	52		"	50.0		104	83-124		2.35	30	
Dichlorodifluoromethane	60		"	50.0		119	28-158		3.81	30	
Ethyl Benzene	57		"	50.0		113	84-125		1.71	30	
Hexachlorobutadiene	56		"	50.0		111	83-133		0.395	30	
Isopropylbenzene	57		"	50.0		113	81-127		1.71	30	
Methyl acetate	50		"	50.0		100	41-143		9.59	30	
Methyl tert-butyl ether (MTBE)	60		"	50.0		120	74-131		2.01	30	
Methylcyclohexane	58		"	50.0		116	70-130		2.16	30	
Methylene chloride	45		"	50.0		90.1	57-141		7.22	30	
n-Butylbenzene	55		"	50.0		111	80-130		0.0360	30	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF51176 - EPA 5035A											
LCS Dup (BF51176-BSD1)							Prepared & Analyzed: 06/24/2015				
n-Propylbenzene	57		ug/L	50.0		113	74-136		1.42	30	
o-Xylene	56		"	50.0		111	83-123		0.180	30	
p- & m- Xylenes	110		"	100		111	82-128		0.244	30	
p-Isopropyltoluene	57		"	50.0		113	85-125		2.25	30	
sec-Butylbenzene	57		"	50.0		115	83-125		2.32	30	
Styrene	55		"	50.0		111	86-126		1.10	30	
tert-Butyl alcohol (TBA)	57		"	50.0		113	70-130		9.75	30	
tert-Butylbenzene	57		"	50.0		114	80-127		3.53	30	
Tetrachloroethylene	60		"	50.0		121	80-129		1.89	30	
Toluene	55		"	50.0		110	85-121		1.16	30	
trans-1,2-Dichloroethylene	56		"	50.0		112	72-132		3.31	30	
trans-1,3-Dichloropropylene	54		"	50.0		109	78-132		0.807	30	
Trichloroethylene	56		"	50.0		112	84-123		1.76	30	
Trichlorofluoromethane	58		"	50.0		116	62-140		3.80	30	
Vinyl Chloride	55		"	50.0		110	52-130		8.33	30	
Surrogate: 1,2-Dichloroethane-d4	*50.8*		"	*50.0*		*102*	*77-125*				
Surrogate: Toluene-d8	*48.9*		"	*50.0*		*97.7*	*85-120*				
Surrogate: p-Bromofluorobenzene	*51.4*		"	*50.0*		*103*	*76-130*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BF51180 - EPA 3550C

Blank (BF51180-BLK1) Prepared & Analyzed: 06/24/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1'-Biphenyl	ND	41.7	ug/kg wet								
Tentatively Identified Compounds	0.00		"								
1,2,4,5-Tetrachlorobenzene	ND	83.3	"								
1,2,4-Trichlorobenzene	ND	41.7	"								
1,2-Dichlorobenzene	ND	41.7	"								
1,2-Diphenylhydrazine (as Azobenzene)	ND	41.7	"								
1,3-Dichlorobenzene	ND	41.7	"								
1,4-Dichlorobenzene	ND	41.7	"								
2,3,4,6-Tetrachlorophenol	ND	83.3	"								
2,4,5-Trichlorophenol	ND	41.7	"								
2,4,6-Trichlorophenol	ND	41.7	"								
2,4-Dichlorophenol	ND	41.7	"								
2,4-Dimethylphenol	ND	41.7	"								
2,4-Dinitrophenol	ND	83.3	"								
2,4-Dinitrotoluene	ND	41.7	"								
2,6-Dinitrotoluene	ND	41.7	"								
2-Chloronaphthalene	ND	41.7	"								
2-Chlorophenol	ND	41.7	"								
2-Methylnaphthalene	ND	41.7	"								
2-Methylphenol	ND	41.7	"								
2-Nitroaniline	ND	83.3	"								
2-Nitrophenol	ND	41.7	"								
3- & 4-Methylphenols	ND	41.7	"								
3,3'-Dichlorobenzidine	ND	41.7	"								
3-Nitroaniline	ND	83.3	"								
4,6-Dinitro-2-methylphenol	ND	83.3	"								
4-Bromophenyl phenyl ether	ND	41.7	"								
4-Chloro-3-methylphenol	ND	41.7	"								
4-Chloroaniline	ND	41.7	"								
4-Chlorophenyl phenyl ether	ND	41.7	"								
4-Nitroaniline	ND	83.3	"								
4-Nitrophenol	ND	83.3	"								
Acenaphthene	ND	41.7	"								
Acenaphthylene	ND	41.7	"								
Acetophenone	ND	41.7	"								
Aniline	ND	167	"								
Anthracene	ND	41.7	"								
Atrazine	ND	41.7	"								
Benzaldehyde	ND	41.7	"								
Benzidine	ND	167	"								
Benzo(a)anthracene	ND	41.7	"								
Benzo(a)pyrene	ND	41.7	"								
Benzo(b)fluoranthene	ND	41.7	"								
Benzo(g,h,i)perylene	ND	41.7	"								
Benzo(k)fluoranthene	ND	41.7	"								
Benzoic acid	ND	41.7	"								
Benzyl alcohol	ND	41.7	"								
Benzyl butyl phthalate	ND	41.7	"								
Bis(2-chloroethoxy)methane	ND	41.7	"								
Bis(2-chloroethyl)ether	ND	41.7	"								
Bis(2-chloroisopropyl)ether	ND	41.7	"								

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF51180 - EPA 3550C											
Blank (BF51180-BLK1)								Prepared & Analyzed: 06/24/2015			
Bis(2-ethylhexyl)phthalate	ND	41.7	ug/kg wet								
Caprolactam	ND	83.3	"								
Carbazole	ND	41.7	"								
Chrysene	ND	41.7	"								
Dibenzo(a,h)anthracene	ND	41.7	"								
Dibenzofuran	ND	41.7	"								
Diethyl phthalate	ND	41.7	"								
Dimethyl phthalate	ND	41.7	"								
Di-n-butyl phthalate	ND	41.7	"								
Di-n-octyl phthalate	ND	41.7	"								
Fluoranthene	ND	41.7	"								
Fluorene	ND	41.7	"								
Hexachlorobenzene	ND	41.7	"								
Hexachlorobutadiene	ND	41.7	"								
Hexachlorocyclopentadiene	ND	41.7	"								
Hexachloroethane	ND	41.7	"								
Indeno(1,2,3-cd)pyrene	ND	41.7	"								
Isophorone	ND	41.7	"								
Naphthalene	ND	41.7	"								
Nitrobenzene	ND	41.7	"								
N-Nitrosodimethylamine	ND	41.7	"								
N-nitroso-di-n-propylamine	ND	41.7	"								
N-Nitrosodiphenylamine	ND	41.7	"								
Pentachlorophenol	ND	41.7	"								
Phenanthrene	ND	41.7	"								
Phenol	ND	41.7	"								
Pyrene	ND	41.7	"								
Surrogate: 2-Fluorophenol	*1140*		*"*	*2510*		*45.7*	*10-95*				
Surrogate: Phenol-d5	*1210*		*"*	*2510*		*48.2*	*10-107*				
Surrogate: Nitrobenzene-d5	*820*		*"*	*1670*		*49.2*	*10-95*				
Surrogate: 2-Fluorobiphenyl	*752*		*"*	*1670*		*44.9*	*10-97*				
Surrogate: 2,4,6-Tribromophenol	*1350*		*"*	*2510*		*53.9*	*10-103*				
Surrogate: Terphenyl-d14	*745*		*"*	*1670*		*44.5*	*19-99*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BF51180 - EPA 3550C

LCS (BF51180-BS1) Prepared & Analyzed: 06/24/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1'-Biphenyl	890	41.7	ug/kg wet				22-103				
1,2,4,5-Tetrachlorobenzene	1010	83.3	"	1670		60.7	10-144				
1,2,4-Trichlorobenzene	819	41.7	"	1670		49.1	23-130				
1,2-Dichlorobenzene	792	41.7	"	1670		47.5	26-113				
1,2-Diphenylhydrazine (as Azobenzene)	1030	41.7	"	1670		61.9	10-140				
1,3-Dichlorobenzene	829	41.7	"	1670		49.7	32-113				
1,4-Dichlorobenzene	872	41.7	"	1670		52.3	28-111				
2,3,4,6-Tetrachlorophenol	965	83.3	"	1670		57.9	30-130				
2,4,5-Trichlorophenol	929	41.7	"	1670		55.7	14-138				
2,4,6-Trichlorophenol	965	41.7	"	1670		57.9	27-122				
2,4-Dichlorophenol	976	41.7	"	1670		58.5	23-133				
2,4-Dimethylphenol	865	41.7	"	1670		51.9	15-131				
2,4-Dinitrophenol	1290	83.3	"	1670		77.4	10-149				
2,4-Dinitrotoluene	1220	41.7	"	1670		73.1	30-123				
2,6-Dinitrotoluene	1190	41.7	"	1670		71.2	30-125				
2-Chloronaphthalene	940	41.7	"	1670		56.4	22-115				
2-Chlorophenol	925	41.7	"	1670		55.5	25-121				
2-Methylnaphthalene	883	41.7	"	1670		53.0	16-127				
2-Methylphenol	904	41.7	"	1670		54.2	10-146				
2-Nitroaniline	1110	83.3	"	1670		66.9	24-126				
2-Nitrophenol	859	41.7	"	1670		51.5	17-129				
3- & 4-Methylphenols	952	41.7	"	1670		57.1	20-109				
3,3'-Dichlorobenzidine	1590	41.7	"	1670		95.5	10-147				
3-Nitroaniline	1360	83.3	"	1670		81.4	23-123				
4,6-Dinitro-2-methylphenol	1160	83.3	"	1670		69.3	10-149				
4-Bromophenyl phenyl ether	945	41.7	"	1670		56.7	30-138				
4-Chloro-3-methylphenol	1060	41.7	"	1670		63.4	16-138				
4-Chloroaniline	1520	41.7	"	1670		91.4	10-117				
4-Chlorophenyl phenyl ether	913	41.7	"	1670		54.8	18-132				
4-Nitroaniline	1180	83.3	"	1670		70.9	14-125				
4-Nitrophenol	1270	83.3	"	1670		76.1	10-136				
Acenaphthene	975	41.7	"	1670		58.5	17-124				
Acenaphthylene	969	41.7	"	1670		58.1	16-124				
Acetophenone	1000	41.7	"	1670		60.1	28-105				
Aniline	1220	167	"	1670		73.3	10-111				
Anthracene	907	41.7	"	1670		54.4	24-124				
Atrazine	957	41.7	"	1670		57.4	22-120				
Benzaldehyde	861	41.7	"	1670		51.7	21-100				
Benzo(a)anthracene	923	41.7	"	1670		55.4	25-134				
Benzo(a)pyrene	1290	41.7	"	1670		77.2	29-144				
Benzo(b)fluoranthene	1280	41.7	"	1670		76.7	20-151				
Benzo(g,h,i)perylene	2150	41.7	"	1670		129	10-153				
Benzo(k)fluoranthene	927	41.7	"	1670		55.6	10-148				
Benzoic acid	457	41.7	"	1670		27.4	10-116				
Benzyl alcohol	890	41.7	"	1670		53.4	17-128				
Benzyl butyl phthalate	995	41.7	"	1670		59.7	10-132				
Bis(2-chloroethoxy)methane	1060	41.7	"	1670		63.3	10-129				
Bis(2-chloroethyl)ether	777	41.7	"	1670		46.6	14-125				
Bis(2-chloroisopropyl)ether	1120	41.7	"	1670		66.9	14-122				
Bis(2-ethylhexyl)phthalate	1110	41.7	"	1670		66.7	10-141				
Caprolactam	1240	83.3	"	1670		74.2	10-123				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BF51180 - EPA 3550C

LCS (BF51180-BS1) Prepared & Analyzed: 06/24/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Carbazole	1020	41.7	ug/kg wet	1670		61.1	31-120				
Chrysene	942	41.7	"	1670		56.5	24-116				
Dibenzo(a,h)anthracene	1810	41.7	"	1670		109	17-147				
Dibenzofuran	949	41.7	"	1670		57.0	23-123				
Diethyl phthalate	986	41.7	"	1670		59.2	23-122				
Dimethyl phthalate	1070	41.7	"	1670		64.4	28-127				
Di-n-butyl phthalate	923	41.7	"	1670		55.4	19-123				
Di-n-octyl phthalate	1050	41.7	"	1670		63.3	10-132				
Fluoranthene	954	41.7	"	1670		57.2	36-125				
Fluorene	920	41.7	"	1670		55.2	16-130				
Hexachlorobenzene	1030	41.7	"	1670		61.8	10-129				
Hexachlorobutadiene	824	41.7	"	1670		49.5	22-153				
Hexachlorocyclopentadiene	168	41.7	"	1670		10.1	10-134				
Hexachloroethane	856	41.7	"	1670		51.3	20-112				
Indeno(1,2,3-cd)pyrene	1820	41.7	"	1670		109	10-155				
Isophorone	901	41.7	"	1670		54.0	14-131				
Naphthalene	849	41.7	"	1670		50.9	20-121				
Nitrobenzene	892	41.7	"	1670		53.5	20-121				
N-Nitrosodimethylamine	674	41.7	"	1670		40.5	10-124				
N-nitroso-di-n-propylamine	924	41.7	"	1670		55.4	21-119				
N-Nitrosodiphenylamine	1040	41.7	"	1670		62.4	10-163				
Pentachlorophenol	973	41.7	"	1670		58.4	10-143				
Phenanthrene	1010	41.7	"	1670		60.3	24-123				
Phenol	75.3	41.7	"	1670		4.52	15-123	Low Bias			
Pyrene	961	41.7	"	1670		57.7	24-132				
Surrogate: 2-Fluorophenol	*1270*		*"*	*2510*		*50.8*	*10-95*				
Surrogate: Phenol-d5	*1280*		*"*	*2510*		*51.2*	*10-107*				
Surrogate: Nitrobenzene-d5	*897*		*"*	*1670*		*53.8*	*10-95*				
Surrogate: 2-Fluorobiphenyl	*785*		*"*	*1670*		*46.9*	*10-97*				
Surrogate: 2,4,6-Tribromophenol	*1430*		*"*	*2510*		*57.0*	*30-130*				
Surrogate: Terphenyl-d14	*882*		*"*	*1670*		*52.7*	*19-99*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF51180 - EPA 3550C											
LCS Dup (BF51180-BSD1)							Prepared & Analyzed: 06/24/2015				
1,1'-Biphenyl	816	41.7	ug/kg wet				22-103		8.68	30	
1,2,4,5-Tetrachlorobenzene	957	83.3	"	1670		57.4	10-144		5.59	30	
1,2,4-Trichlorobenzene	727	41.7	"	1670		43.6	23-130		11.9	30	
1,2-Dichlorobenzene	753	41.7	"	1670		45.2	26-113		5.09	30	
1,2-Diphenylhydrazine (as Azobenzene)	915	41.7	"	1670		54.9	10-140		12.0	30	
1,3-Dichlorobenzene	725	41.7	"	1670		43.5	32-113		13.3	30	
1,4-Dichlorobenzene	745	41.7	"	1670		44.7	28-111		15.7	30	
2,3,4,6-Tetrachlorophenol	872	83.3	"	1670		52.3	30-130		10.2	30	
2,4,5-Trichlorophenol	906	41.7	"	1670		54.4	14-138		2.47	30	
2,4,6-Trichlorophenol	902	41.7	"	1670		54.1	27-122		6.75	30	
2,4-Dichlorophenol	864	41.7	"	1670		51.8	23-133		12.2	30	
2,4-Dimethylphenol	769	41.7	"	1670		46.1	15-131		11.8	30	
2,4-Dinitrophenol	767	83.3	"	1670		46.0	10-149		50.9	30	Non-dir.
2,4-Dinitrotoluene	1120	41.7	"	1670		67.3	30-123		8.32	30	
2,6-Dinitrotoluene	1030	41.7	"	1670		61.9	30-125		14.1	30	
2-Chloronaphthalene	878	41.7	"	1670		52.7	22-115		6.78	30	
2-Chlorophenol	794	41.7	"	1670		47.6	25-121		15.2	30	
2-Methylnaphthalene	783	41.7	"	1670		47.0	16-127		12.0	30	
2-Methylphenol	789	41.7	"	1670		47.4	10-146		13.5	30	
2-Nitroaniline	1040	83.3	"	1670		62.6	24-126		6.67	30	
2-Nitrophenol	761	41.7	"	1670		45.6	17-129		12.1	30	
3- & 4-Methylphenols	824	41.7	"	1670		49.4	20-109		14.5	30	
3,3'-Dichlorobenzidine	1350	41.7	"	1670		81.2	10-147		16.2	30	
3-Nitroaniline	1180	83.3	"	1670		71.1	23-123		13.5	30	
4,6-Dinitro-2-methylphenol	940	83.3	"	1670		56.4	10-149		20.6	30	
4-Bromophenyl phenyl ether	843	41.7	"	1670		50.6	30-138		11.4	30	
4-Chloro-3-methylphenol	947	41.7	"	1670		56.8	16-138		10.9	30	
4-Chloroaniline	1350	41.7	"	1670		81.0	10-117		12.1	30	
4-Chlorophenyl phenyl ether	856	41.7	"	1670		51.4	18-132		6.44	30	
4-Nitroaniline	1170	83.3	"	1670		69.9	14-125		1.42	30	
4-Nitrophenol	1140	83.3	"	1670		68.7	10-136		10.2	30	
Acenaphthene	859	41.7	"	1670		51.5	17-124		12.6	30	
Acenaphthylene	853	41.7	"	1670		51.2	16-124		12.7	30	
Acetophenone	850	41.7	"	1670		51.0	28-105		16.4	30	
Aniline	999	167	"	1670		59.9	10-111		20.1	30	
Anthracene	818	41.7	"	1670		49.1	24-124		10.4	30	
Atrazine	889	41.7	"	1670		53.4	22-120		7.36	30	
Benzaldehyde	735	41.7	"	1670		44.1	21-100		15.9	30	
Benzo(a)anthracene	820	41.7	"	1670		49.2	25-134		11.8	30	
Benzo(a)pyrene	1180	41.7	"	1670		70.8	29-144		8.62	30	
Benzo(b)fluoranthene	1030	41.7	"	1670		61.6	20-151		21.8	30	
Benzo(g,h,i)perylene	1890	41.7	"	1670		113	10-153		13.1	30	
Benzo(k)fluoranthene	1060	41.7	"	1670		63.4	10-148		13.0	30	
Benzoic acid	48.0	41.7	"	1670		2.88	10-116	Low Bias	162	30	Non-dir.
Benzyl alcohol	803	41.7	"	1670		48.2	17-128		10.3	30	
Benzyl butyl phthalate	907	41.7	"	1670		54.4	10-132		9.22	30	
Bis(2-chloroethoxy)methane	945	41.7	"	1670		56.7	10-129		11.0	30	
Bis(2-chloroethyl)ether	707	41.7	"	1670		42.4	14-125		9.48	30	
Bis(2-chloroisopropyl)ether	972	41.7	"	1670		58.3	14-122		13.7	30	
Bis(2-ethylhexyl)phthalate	1020	41.7	"	1670		61.0	10-141		8.93	30	
Caprolactam	1080	83.3	"	1670		65.1	10-123		13.1	30	

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BF51180 - EPA 3550C

LCS Dup (BF51180-BSD1) Prepared & Analyzed: 06/24/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Carbazole	924	41.7	ug/kg wet	1670		55.5	31-120		9.68	30	
Chrysene	845	41.7	"	1670		50.7	24-116		10.9	30	
Dibenzo(a,h)anthracene	1640	41.7	"	1670		98.5	17-147		10.0	30	
Dibenzofuran	869	41.7	"	1670		52.2	23-123		8.80	30	
Diethyl phthalate	923	41.7	"	1670		55.4	23-122		6.67	30	
Dimethyl phthalate	982	41.7	"	1670		58.9	28-127		8.98	30	
Di-n-butyl phthalate	828	41.7	"	1670		49.7	19-123		10.8	30	
Di-n-octyl phthalate	987	41.7	"	1670		59.2	10-132		6.59	30	
Fluoranthene	855	41.7	"	1670		51.3	36-125		11.0	30	
Fluorene	859	41.7	"	1670		51.6	16-130		6.86	30	
Hexachlorobenzene	944	41.7	"	1670		56.6	10-129		8.72	30	
Hexachlorobutadiene	735	41.7	"	1670		44.1	22-153		11.4	30	
Hexachlorocyclopentadiene	165	41.7	"	1670		9.88	10-134	Low Bias	2.20	30	
Hexachloroethane	736	41.7	"	1670		44.2	20-112		15.0	30	
Indeno(1,2,3-cd)pyrene	1620	41.7	"	1670		97.3	10-155		11.7	30	
Isophorone	793	41.7	"	1670		47.6	14-131		12.7	30	
Naphthalene	748	41.7	"	1670		44.9	20-121		12.6	30	
Nitrobenzene	798	41.7	"	1670		47.9	20-121		11.0	30	
N-Nitrosodimethylamine	595	41.7	"	1670		35.7	10-124		12.4	30	
N-nitroso-di-n-propylamine	810	41.7	"	1670		48.6	21-119		13.1	30	
N-Nitrosodiphenylamine	920	41.7	"	1670		55.2	10-163		12.2	30	
Pentachlorophenol	766	41.7	"	1670		46.0	10-143		23.7	30	
Phenanthrene	910	41.7	"	1670		54.6	24-123		9.95	30	
Phenol	61.3	41.7	"	1670		3.68	15-123	Low Bias	20.5	30	
Pyrene	881	41.7	"	1670		52.9	24-132		8.72	30	
Surrogate: 2-Fluorophenol	*1140*		*"*	*2510*		*45.7*	*10-95*				
Surrogate: Phenol-d5	*1150*		*"*	*2510*		*46.0*	*10-107*				
Surrogate: Nitrobenzene-d5	*824*		*"*	*1670*		*49.4*	*10-95*				
Surrogate: 2-Fluorobiphenyl	*747*		*"*	*1670*		*44.6*	*10-97*				
Surrogate: 2,4,6-Tribromophenol	*1270*		*"*	*2510*		*50.5*	*30-130*				
Surrogate: Terphenyl-d14	*823*		*"*	*1670*		*49.2*	*19-99*				

Organochlorine Pesticides by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF51171 - EPA 3550C											
Blank (BF51171-BLK1)							Prepared & Analyzed: 06/24/2015				
4,4'-DDD	ND	0.330	ug/kg wet								
4,4'-DDE	ND	0.330	"								
4,4'-DDT	ND	0.330	"								
Aldrin	ND	0.330	"								
alpha-BHC	ND	0.330	"								
alpha-Chlordane	ND	0.330	"								
beta-BHC	ND	0.330	"								
Chlordane, total	ND	1.32	"								
delta-BHC	ND	0.330	"								
Dieldrin	ND	0.330	"								
Endosulfan I	ND	0.330	"								
Endosulfan II	ND	0.330	"								
Endosulfan sulfate	ND	0.330	"								
Endrin	ND	0.330	"								
Endrin aldehyde	ND	0.330	"								
Endrin ketone	ND	0.330	"								
gamma-BHC (Lindane)	ND	0.330	"								
gamma-Chlordane	ND	0.330	"								
Heptachlor	ND	0.330	"								
Heptachlor epoxide	ND	0.330	"								
Methoxychlor	ND	1.65	"								
Toxaphene	ND	16.7	"								
Surrogate: Tetrachloro-m-xylene	*52.5*		*"*	*67.7*		*77.6*	*30-140*				
Surrogate: Decachlorobiphenyl	*73.2*		*"*	*67.0*		*109*	*30-140*				
LCS (BF51171-BS1)							Prepared & Analyzed: 06/24/2015				
4,4'-DDD	37.7	0.330	ug/kg wet	33.3		113	40-140				
4,4'-DDE	30.6	0.330	"	33.3		91.9	40-140				
4,4'-DDT	36.2	0.330	"	33.3		109	40-140				
Aldrin	32.5	0.330	"	33.3		97.5	40-140				
alpha-BHC	37.3	0.330	"	33.3		112	40-140				
alpha-Chlordane	32.7	0.330	"	33.3		98.2	40-140				
beta-BHC	39.0	0.330	"	33.3		117	40-140				
delta-BHC	38.6	0.330	"	33.3		116	40-140				
Dieldrin	34.5	0.330	"	33.3		104	40-140				
Endosulfan I	35.2	0.330	"	33.3		106	40-140				
Endosulfan II	35.5	0.330	"	33.3		107	40-140				
Endosulfan sulfate	34.6	0.330	"	33.3		104	40-140				
Endrin	36.9	0.330	"	33.3		111	40-140				
Endrin aldehyde	32.3	0.330	"	33.3		96.9	40-140				
Endrin ketone	38.0	0.330	"	33.3		114	40-140				
gamma-BHC (Lindane)	37.1	0.330	"	33.3		111	40-140				
gamma-Chlordane	31.9	0.330	"	33.3		95.6	40-140				
Heptachlor	29.7	0.330	"	33.3		89.2	40-140				
Heptachlor epoxide	32.2	0.330	"	33.3		96.6	40-140				
Methoxychlor	35.8	1.65	"	33.3		108	40-140				
Surrogate: Tetrachloro-m-xylene	*54.5*		*"*	*67.7*		*80.5*	*30-140*				
Surrogate: Decachlorobiphenyl	*69.4*		*"*	*67.0*		*104*	*30-140*				

Organochlorine Pesticides by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF51171 - EPA 3550C											
LCS Dup (BF51171-BSD1)							Prepared & Analyzed: 06/24/2015				
4,4'-DDD	36.0	0.330	ug/kg wet	33.3		108	40-140		4.67	30	
4,4'-DDE	38.2	0.330	"	33.3		115	40-140		22.1	30	
4,4'-DDT	34.5	0.330	"	33.3		103	40-140		4.77	30	
Aldrin	30.9	0.330	"	33.3		92.6	40-140		5.15	30	
alpha-BHC	35.2	0.330	"	33.3		106	40-140		5.60	30	
alpha-Chlordane	30.9	0.330	"	33.3		92.8	40-140		5.64	30	
beta-BHC	36.9	0.330	"	33.3		111	40-140		5.76	30	
delta-BHC	36.4	0.330	"	33.3		109	40-140		5.72	30	
Dieldrin	32.6	0.330	"	33.3		98.0	40-140		5.60	30	
Endosulfan I	33.3	0.330	"	33.3		99.8	40-140		5.59	30	
Endosulfan II	33.6	0.330	"	33.3		101	40-140		5.74	30	
Endosulfan sulfate	32.9	0.330	"	33.3		98.6	40-140		5.31	30	
Endrin	35.0	0.330	"	33.3		105	40-140		5.11	30	
Endrin aldehyde	30.8	0.330	"	33.3		92.5	40-140		4.66	30	
Endrin ketone	36.6	0.330	"	33.3		110	40-140		3.71	30	
gamma-BHC (Lindane)	35.2	0.330	"	33.3		106	40-140		5.36	30	
gamma-Chlordane	30.1	0.330	"	33.3		90.3	40-140		5.70	30	
Heptachlor	28.2	0.330	"	33.3		84.6	40-140		5.22	30	
Heptachlor epoxide	30.6	0.330	"	33.3		91.7	40-140		5.23	30	
Methoxychlor	32.6	1.65	"	33.3		97.9	40-140		9.39	30	
Surrogate: Tetrachloro-m-xylene	*53.1*		*"*	*67.7*		*78.4*	*30-140*				
Surrogate: Decachlorobiphenyl	*68.2*		*"*	*67.0*		*102*	*30-140*				

Polychlorinated Biphenyls by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF51171 - EPA 3550C											
Blank (BF51171-BLK1)							Prepared & Analyzed: 06/24/2015				
Aroclor 1016	ND	0.0167	mg/kg wet								
Aroclor 1221	ND	0.0167	"								
Aroclor 1232	ND	0.0167	"								
Aroclor 1242	ND	0.0167	"								
Aroclor 1248	ND	0.0167	"								
Aroclor 1254	ND	0.0167	"								
Aroclor 1260	ND	0.0167	"								
Total PCBs	ND	0.0167	"								
Surrogate: Tetrachloro-m-xylene	*0.0720*		*"*	*0.0677*		*106*	*30-140*				
Surrogate: Decachlorobiphenyl	*0.0630*		*"*	*0.0670*		*94.0*	*30-140*				
LCS (BF51171-BS2)							Prepared & Analyzed: 06/24/2015				
Aroclor 1016	0.381	0.0167	mg/kg wet	0.333		114	40-130				
Aroclor 1260	0.385	0.0167	"	0.333		115	40-130				
Surrogate: Tetrachloro-m-xylene	*0.0723*		*"*	*0.0677*		*107*	*30-140*				
Surrogate: Decachlorobiphenyl	*0.0670*		*"*	*0.0670*		*100*	*30-140*				

Gas Chromatography/Flame Ionization Detector - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF51162 - EPA 3545A											
Blank (BF51162-BLK1)							Prepared: 06/24/2015 Analyzed: 06/25/2015				
Total EPH	ND	50.0	mg/kg wet								
Surrogate: 1-Chlorooctadecane	*9.70*		*"*	*10.0*		*97.0*	*40-140*				
Surrogate: o-Terphenyl	*9.78*		*"*	*10.0*		*97.8*	*40-140*				
LCS (BF51162-BS1)							Prepared: 06/24/2015 Analyzed: 06/25/2015				
Total EPH	324	50.0	mg/kg wet	360		90.0	40-140				
Surrogate: 1-Chlorooctadecane	*10.8*		*"*	*10.0*		*108*	*40-140*				
Surrogate: o-Terphenyl	*10.6*		*"*	*10.0*		*106*	*40-140*				
LCS Dup (BF51162-BSD1)							Prepared: 06/24/2015 Analyzed: 06/25/2015				
Total EPH	302	50.0	mg/kg wet	360		83.8	40-140		7.12	30	
Surrogate: 1-Chlorooctadecane	*10.1*		*"*	*10.0*		*101*	*40-140*				
Surrogate: o-Terphenyl	*9.86*		*"*	*10.0*		*98.6*	*40-140*				

Metals by ICP - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BF51320 - EPA 3050B

Blank (BF51320-BLK1) Prepared & Analyzed: 06/26/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aluminum	ND	5.00	mg/kg wet								
Antimony	ND	0.500	"								
Arsenic	ND	1.00	"								
Barium	ND	1.00	"								
Beryllium	ND	0.100	"								
Cadmium	ND	0.300	"								
Calcium	ND	5.00	"								
Chromium	ND	0.500	"								
Cobalt	ND	0.500	"								
Copper	ND	0.500	"								
Iron	ND	2.00	"								
Lead	ND	0.300	"								
Magnesium	ND	5.00	"								
Manganese	ND	0.500	"								
Nickel	ND	0.500	"								
Potassium	ND	5.00	"								
Selenium	ND	1.00	"								
Silver	ND	0.500	"								
Sodium	ND	10.0	"								
Thallium	ND	1.00	"								
Vanadium	ND	1.00	"								
Zinc	ND	1.00	"								

Duplicate (BF51320-DUP1) *Source sample: 15F0907-01 (WC-08 (0-2)) Prepared & Analyzed: 06/26/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aluminum	11300	5.62	mg/kg dry		11300				0.100	35	
Antimony	0.611	0.562	"		1.11				58.0	35	Non-dir.
Arsenic	3.21	1.12	"		3.37				4.82	35	
Barium	169	1.12	"		170				0.486	35	
Beryllium	ND	0.112	"		ND					35	
Cadmium	0.813	0.337	"		0.830				2.11	35	
Calcium	6340	5.62	"		6260				1.37	35	
Chromium	31.0	0.562	"		31.1				0.434	35	
Cobalt	9.71	0.562	"		9.71				0.0314	35	
Copper	56.9	0.562	"		56.9				0.0910	35	
Iron	19100	2.25	"		19100				0.0242	35	
Lead	255	0.337	"		256				0.405	35	
Magnesium	5240	5.62	"		5250				0.189	35	
Manganese	250	0.562	"		252				0.748	35	
Nickel	19.7	0.562	"		19.3				2.00	35	
Potassium	1490	5.62	"		1490				0.206	35	
Selenium	2.99	1.12	"		ND					35	
Silver	ND	0.562	"		ND					35	
Sodium	337	11.2	"		343				1.80	35	
Thallium	ND	1.12	"		ND					35	
Vanadium	35.9	1.12	"		36.0				0.388	35	
Zinc	199	1.12	"		200				0.608	35	

Metals by ICP - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BF51320 - EPA 3050B

Matrix Spike (BF51320-MS1) *Source sample: 15F0907-01 (WC-08 (0-2)) Prepared & Analyzed: 06/26/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aluminum	11500	5.62	mg/kg dry	225	11300	95.4	75-125				
Antimony	27.7	0.562	"	28.1	1.11	94.6	75-125				
Arsenic	211	1.12	"	225	3.37	92.2	75-125				
Barium	410	1.12	"	225	170	107	75-125				
Beryllium	3.06	0.112	"	5.62	ND	54.4	75-125	Low Bias			
Cadmium	6.26	0.337	"	5.62	0.830	96.6	75-125				
Chromium	54.6	0.562	"	22.5	31.1	104	75-125				
Cobalt	67.9	0.562	"	56.2	9.71	103	75-125				
Copper	88.5	0.562	"	28.1	56.9	112	75-125				
Iron	19200	2.25	"	112	19100	143	75-125	High Bias			
Lead	308	0.337	"	56.2	256	93.4	75-125				
Magnesium	5270	5.62	"		5250		75-125				
Manganese	308	0.562	"	56.2	252	100	75-125				
Nickel	77.1	0.562	"	56.2	19.3	103	75-125				
Potassium	1490	5.62	"		1490		75-125				
Selenium	218	1.12	"	225	ND	96.9	75-125				
Silver	ND	0.562	"	5.62	ND		75-125	Low Bias			
Sodium	330	11.2	"		343		75-125				
Thallium	203	1.12	"	225	ND	90.2	75-125				
Vanadium	94.3	1.12	"	56.2	36.0	104	75-125				
Zinc	256	1.12	"	56.2	200	98.2	75-125				

Reference (BF51320-SRM1) Prepared & Analyzed: 06/26/2015

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aluminum	6900	5.00	mg/kg wet	8100		85.2	39.6-160.5				
Antimony	97.5	0.500	"	116		84.0	55.7-252.6				
Arsenic	112	1.00	"	122		92.2	70-145.1				
Barium	171	1.00	"	167		102	73.1-126.9				
Beryllium	54.8	0.100	"	54.3		101	73.1-127.1				
Cadmium	80.8	0.300	"	88.0		91.8	73.3-127.3				
Calcium	5870	5.00	"	5920		99.1	73.6-126.4				
Chromium	105	0.500	"	102		103	69.4-130.4				
Cobalt	102	0.500	"	99.4		103	74.3-125.8				
Copper	86.2	0.500	"	78.0		111	73.7-132.1				
Iron	14600	2.00	"	15100		96.4	37.1-162.9				
Lead	98.5	0.300	"	94.5		104	70.5-129				
Magnesium	2900	5.00	"	3020		96.2	65.9-133.8				
Manganese	429	0.500	"	401		107	76.1-132.9				
Nickel	61.5	0.500	"	56.3		109	69.8-130				
Potassium	2310	5.00	"	2490		92.9	60.6-139.4				
Selenium	153	1.00	"	157		97.1	67.5-131.8				
Silver	32.6	0.500	"	34.2		95.4	65.5-134.2				
Sodium	299	10.0	"	246		122	32-170				
Thallium	103	1.00	"	116		89.2	67.4-132.7				
Vanadium	67.2	1.00	"	67.1		100	57.8-192.3				
Zinc	206	1.00	"	207		99.5	70-130.4				

Mercury by EPA 7000/200 Series Methods - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF51318 - EPA 7473 soil											
Blank (BF51318-BLK1)							Prepared & Analyzed: 06/26/2015				
Mercury	ND	0.0300	mg/kg wet								
Duplicate (BF51318-DUP1)	*Source sample: 15F0907-01 (WC-08 (0-2))						Prepared & Analyzed: 06/26/2015				
Mercury	0.216	0.0337	mg/kg dry		0.181				17.4	35	
Matrix Spike (BF51318-MS1)	*Source sample: 15F0907-01 (WC-08 (0-2))						Prepared & Analyzed: 06/26/2015				
Mercury	0.629		mg/kg	0.500	0.161	93.6	75-125				
Reference (BF51318-SRM1)							Prepared & Analyzed: 06/26/2015				
Mercury	5.3573		mg/kg	5.76		93.0	71.2-129				

Miscellaneous Physical Parameters - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF51339 - Analysis Preparation											
Duplicate (BF51339-DUP1)	*Source sample: 15F0907-01 (WC-08 (0-2))							Prepared & Analyzed: 06/26/2015			
ORP (Oxidation-Reduction Potential) (Ag/AgCl)	460	-200	mV		470				0.429	30	

Wet Chemistry Parameters - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF51244 - EPA SW846-3060											
Blank (BF51244-BLK1)							Prepared & Analyzed: 06/25/2015				
Chromium, Hexavalent	ND	0.500	mg/kg wet								
Reference (BF51244-SRM1)							Prepared & Analyzed: 06/25/2015				
Chromium, Hexavalent	72.0		mg/L	97.4		73.9	26.6-178				
Batch BF51347 - Analysis Preparation Soil											
Blank (BF51347-BLK1)							Prepared & Analyzed: 06/26/2015				
Cyanide, total	ND	0.500	mg/kg wet								
Duplicate (BF51347-DUP1)	*Source sample: 15F0907-01 (WC-08 (0-2))						Prepared & Analyzed: 06/26/2015				
Cyanide, total	ND	0.562	mg/kg dry		ND					15	
Matrix Spike (BF51347-MS1)	*Source sample: 15F0907-01 (WC-08 (0-2))						Prepared & Analyzed: 06/26/2015				
Cyanide, total	9.50	0.562	mg/kg dry	11.2	ND	84.5	79.6-107				
Reference (BF51347-SRM1)							Prepared & Analyzed: 06/26/2015				
Cyanide, total	71.5		ug/mL	59.3		121	38.4-202				

Volatile Analysis Sample Containers

Lab ID	Client Sample ID	Volatile Sample Container
15F0907-01	WC-08 (0-2)	40mL Vial with Stir Bar-Cool 4° C

Notes and Definitions

SCAL-E	The value reported is ESTIMATED. The value is estimated due to its behavior during initial calibration (average Rf>20%).
QM-01	The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
M-RPD	Sample conc. <5 X reporting limit.
M-MISpk	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The SRM was within acceptance limits, therefore data are acceptable.
M-HCSpk	Sample conc. >10 X spike conc.
J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration.
HT-pH	HOLDING TIME EXCEEDED. Samples for pH must be measured in the field or within 15 minutes of sample collection.
HT-02	NON-COMPLIANT-This sample was received outside the EPA recommended holding time.
HT-01	This result was reported from an analysis conducted outside of the EPA recommended holding time.
CCV-E	The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit).

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two.
For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.

YORK
ANALYTICAL LABORATORIES, INC.
120 RESEARCH DR. STRATFORD, CT 06615
(203) 325-1371 FAX (203) 357-0166

Field Chain-of-Custody Record

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions unless superseded by written contract.

York Project No. 15F0907

Client Information		Report to:		Invoice To:		Client Project ID	Turn-Around Time		Report Type/Deliverables	
Company:	Ecosystems Strategies	SAME	X	SAME	X		RUSH Same Day		Summary	X
Address:	24 Davis Ave	Name:	Danielle Bonneau	Name:	Brenda	MB13205B	RUSH Next Day		QA/QC Summary	
	Poughkeepsie, NY	Company:		Company:			RUSH Two Day		CT RCP Pkg	
Phone no.:	845-452-1658	Address:		Address:		Purchase Order no.	RUSH Three Day		ASP A Pkg	
Contact Person	Danielle Bonneau						RUSH Four Day		ASP B Pkg	
E-mail Addr.:	Mail@ecosystemsstrategies.com	E-mail:		E-mail			Standard (5-7 days)	X	Excel	X
FAX No.:	845-485-7083	Fax No.:		Fax No.:		Samples from: CT__ NY_X_ NJ_	OTHER		EDD	

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

D Bonneau
Samples Collected/Authorized By (Signature)

Danielle Bonneau
Name (printed)

Matrix Codes
S - soil
Other - specify (oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists	Miscellaneous Parameters		
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity	Nitrate	Color
624	Site Spec.	STARS	8081Pest	PP13	TPH DRO	TCL Organics	Reactivity	Nitrite	Phenols
STARS	SPLP or TCLP	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability	TKN	Cyanide-T
BTEX	Benzene	Acids Only	CT RCP	CT15	NY 310-13	Full TCLP	Flash Point	Tot. Nitrogen	Cyanide-A
MTBE	Nassau Co.	PAH	App. IX	Total	TPH 418.1	Full App. IX	Sieve Anal.	Ammonia-N	BOD5
TCL list	Suffolk Co.	TAGM	Site Spec.	Dissolved	Air TO14A	Part360-Routine	Heterotrophs	Chloride	CBOD5
TAGM	Ketones	CT RCP	SPLP or TCLP	SPLP or TCLP	Air TO15	Part360-Baseline	TOX	Phosphate	BOD28
CT RCP	Oxygenates	TCL list	TCLP Pest	Indiv. Metals	Air STARS	Part 360-Expanded No Dioxin/Furans	BTU/lb.	Tot. Phos.	COD
Arom.	TCLP list	TICs	TCLP Herb	Hg, Pb, As, Cd	Air VPH	Part 360-Expanded Full List	Aquatic Tox.	Oil&Grease	TSS
Halog.	524.2	App. IX	Chlordane	Cr, Ni, Be, Fe,	Air TICs	NYCDEP Sewer	TOC	F.O.G.	Total Solids
App.IX	502.2	SPLP or TCLP	608 Pest	Se, Tl, Sb, Cu,	Methane	NYSDEC Sewer	Asbestos	pH	TDS
8021B list	5035	TCLP BNA	608 PCB	Na, Mn, Ag, etc.	Helium	TAGM	Silica	MBAS	TPH-IR

Special Instructions
Field Filtered ☐
Lab to Filter ☐

Sample Identification	Date Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
WC-08 (0-2)	6/10/2015	S	NJDCSRS and TAL/TCL + 30 plus, Extractable Petroleum Hydrocarbons, and hex chrom (PPARK repository requirements)	2 x 8 oz jars + 1 VOA kit

****samples have been frozen since date of collection***

Samples Relinquished By	Date/Time	Samples Received By	Date/Time	Temperature on Receipt
D Bonneau	6/23/15 4:10	[signature]	6/23/15 4:10	3.9 °C
Samples Relinquished By	Date/Time	Samples Received in LAB by: TC [signature]	6/23/15 2000	

Karen Pickering

From:	Robert Gianatasio <rgianatasio@mountco.com>
Sent:	Wednesday, July 01, 2015 10:06 AM
To:	Edyta Korczynska
Cc:	paul@ecosystemsstrategies.com; 'tsinclair'; 'Danielle Bonneau'; 'Mark Tosolini'; 'Richard Caruso'; 'Mercedes Arnao'; 'Elissa Winzelberg'; 'Vincent Linarello'; bharrison@cookfox.com; Ernie Rossano
Subject:	RE: 4275 Park Avenue - Conference Call Today

Thank you

Tom/Mark, please coordinate these requirements with ERM

Rob

From: Edyta Korczynska [mailto:Edyta.Korczynska@erm.com]
Sent: Wednesday, July 01, 2015 9:42 AM
To: Robert Gianatasio
Cc: paul@ecosystemsstrategies.com; 'tsinclair'; 'Danielle Bonneau'; 'Mark Tosolini'; 'Richard Caruso'; 'Mercedes Arnao'; 'Elissa Winzelberg'; 'Vincent Linarello'; bharrison@cookfox.com; Ernie Rossano
Subject: RE: 4275 Park Avenue - Conference Call Today

Rob,

On June 30, 2015, Mountco, Ecosystems Solutions and ERM had a conference call with John Grathwol of the NYSDEC regarding reuse of the on-site soil excavated from 0 - 2 ft below ground surface (bgs) from the proposed building footprint area and placing it in the 1-2 ft bgs under the asphalt and concrete covered areas. It was agreed that the on-site soil will not be reused in the 0 - 2 ft bgs and certified clean backfill will be brought on-site. ERM advised against "surgical" excavations and proposed to keep the first 2 ft of the soil as certified clean fill with asphalt/concrete cover. This was proposed to avoid any potential complications, additional questions and delays during review of the Final Engineering Report (FER) by the NYSDEC, NYCDOH and the public. This approach will also simplify later Site Management. Following the initial 0-2 ft backfill plan will ensure that Site was remediated to meet restricted residential SCOs and there are no delays with the subsequent tax credits.

Please let me know if you have any questions.

Thank you,

Edyta Korczynska

ERM
105 Maxess Road, Suite 316
Melville
New York
11747

Tel: 631-756-8907 (direct line)
Tel: 631-756-8900 (switchboard)
Mobile: 917-346-2976

www.erm.com
edyta.korczynska@erm.com

From: Robert Gianatasio [mailto:rgianatasio@mountco.com]
Sent: Tuesday, June 30, 2015 4:47 PM
To: Edyta Korczynska
Cc: paul@ecosystemsstrategies.com; 'tsinclair'; 'Danielle Bonneau'; 'Mark Tosolini'; 'Richard Caruso'; 'Mercedes Arnao'; 'Elissa Winzelberg'; 'Vincent Linarello'; bharrison@cookfox.com
Subject: 4275 Park Avenue - Conference Call Today

Hi Edyta, can you send meeting notes or an email as a summary of the call today with John at DEC.

Robert Gianatasio
Mountco Construction & Development
700 White Plains Road
Scarsdale, NY 10583
914.723.1200 (phone)
914.723.2275 (fax)
rgianatasio@mountco.com

Karen Pickering

From: Edyta Korczynska
Sent: Monday, June 08, 2015 3:22 PM
To: rgianatasio@mountco.com
Cc: Mark Tosolini (mtosolini@mountco.com); tsinclair@mountco.com; paul@ecosystemsstrategies.com; Ernie Rossano
Subject: Soil reuse - NYSDEC conference call summary

Rob,

Ernie and I had a conference call with John Grathwol of the NYSDEC regarding reusing of the excavated soil. See the conference call summary below:

1. The previously provided soil sampling analytical results are acceptable to the NYSDEC, however, Ecosystems Strategies needs to clarify at what depth grab samples for VOCs were collected. Also, please clarify from how many points composite samples were collected (i.e. 3-point composite or 5-point composite). John Grathwol indicated that it would not change his decision to reuse the on-site soil, he needs this info for the file;
2. The top 2 feet of soil (from the entire Site) needs to be removed and disposed of. The soil below 2 feet can be reused as backfill, except soil to the west of the WC-06 (TP-06:0-7'). See attached John Grathwol's marked up Site Plan.
3. Soil excavated below the bottom of the test pits cannot be used as backfill (since no soil samples were collected and analyzed). However, ERM believes that additional soil samples can be collected and analyzed below the bottom of the test pits and results be discussed with the NYSDEC (if needed).
4. The entire Site needs to topped with 2 feet of certified clean fill. If the sloped area between the sidewalk and the building is to be backfilled with the excavated soil, the first 2 feet needs to be certified clean fill. So in order to allay any doubts about the safety of the final cleanup NYSDEC will not allow the beneficial reuse of site soil in the upper 2-feet of the site.

Please let me know if you have any questions.

Thank you,

Edyta Korczynska

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11747

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edyta.korczynska@erm.com

Environmental Resources Management

105 Maxess Road, Ste. 160
Melville, NY 11747
(631) 756-8900 (telephone)
(631) 756-8901(fax)

http://www.erm.com

11 June 2015
Reference: 0295737

Re: Proposed changes to the Sub-Slab Depressurization System
1960-1982 Webster Avenue Brownfields Project
4275 Park Avenue, Bronx, New York
Brownfield NYSDEC BCP No. C203075

ERM Consulting & Engineering, Inc. (ERM) has prepared this letter to outline proposed changes to the design of the Sub-Slab Depressurization System (SSDS) at the Webster Avenue Residences located at 4275 Park Avenue, Bronx, New York.

Based on the discussion between ERM, Mountco Construction & Development (Mountco) and Cookfox Architects (Cookfox) the following changes to the SSDS specified in the Remedial Action Work Plan (RAWP) are proposed:

1. The specified SSDS aggregate will not be installed under the 24″ and 36″ slab mat, only under the 4″ cover slab (see attached drawing and cross section A-A′). Therefore, two (2) suction pits initially located under the 36″slab mat are proposed to be relocated under the section of the building where 2′ to 3′ of aggregate and 4″ cover slab will installed. The aggregate is an essential part of the SSDS and adequate vacuum response will not be achieved in areas without this material. However, the aggregate cannot be installed under the 24″ and 36″ mat slab as this would compromise building's structural integrity. Given the thickness of the mat slabs (2′ to 3′), and combined with the vapor barrier in these areas, this appears to be a reasonable degree of protection against vapor intrusion into the building. The design of the suction pits will remain as specified in the RAWP.

2. In the RAWP, all piping for the SSDS is specified to be PVC Schedule 40. However, based on the recent review of the New York City Mechanical and Plumbing Codes, aboveground piping shall be Schedule 40 PVC Type DWV, as set forth by NYC Plumbing Code 2008 Section 702.1 *Above-ground sanitary drainage and vent pipe*. All underground piping shall be cast-iron piping as specified in t the NYC Plumbing Code 2008 Section 702.2 *Underground building sanitary drainage and vent pipe*.

3. No 6″ PVC pipe sections will be installed through bearing walls as depicted on the Figure 18a of the RAWP. All bearing walls will be

underlain by the 24″ and 36″ mat slab. Therefore, 6″ PVC pipe sections are not necessary.

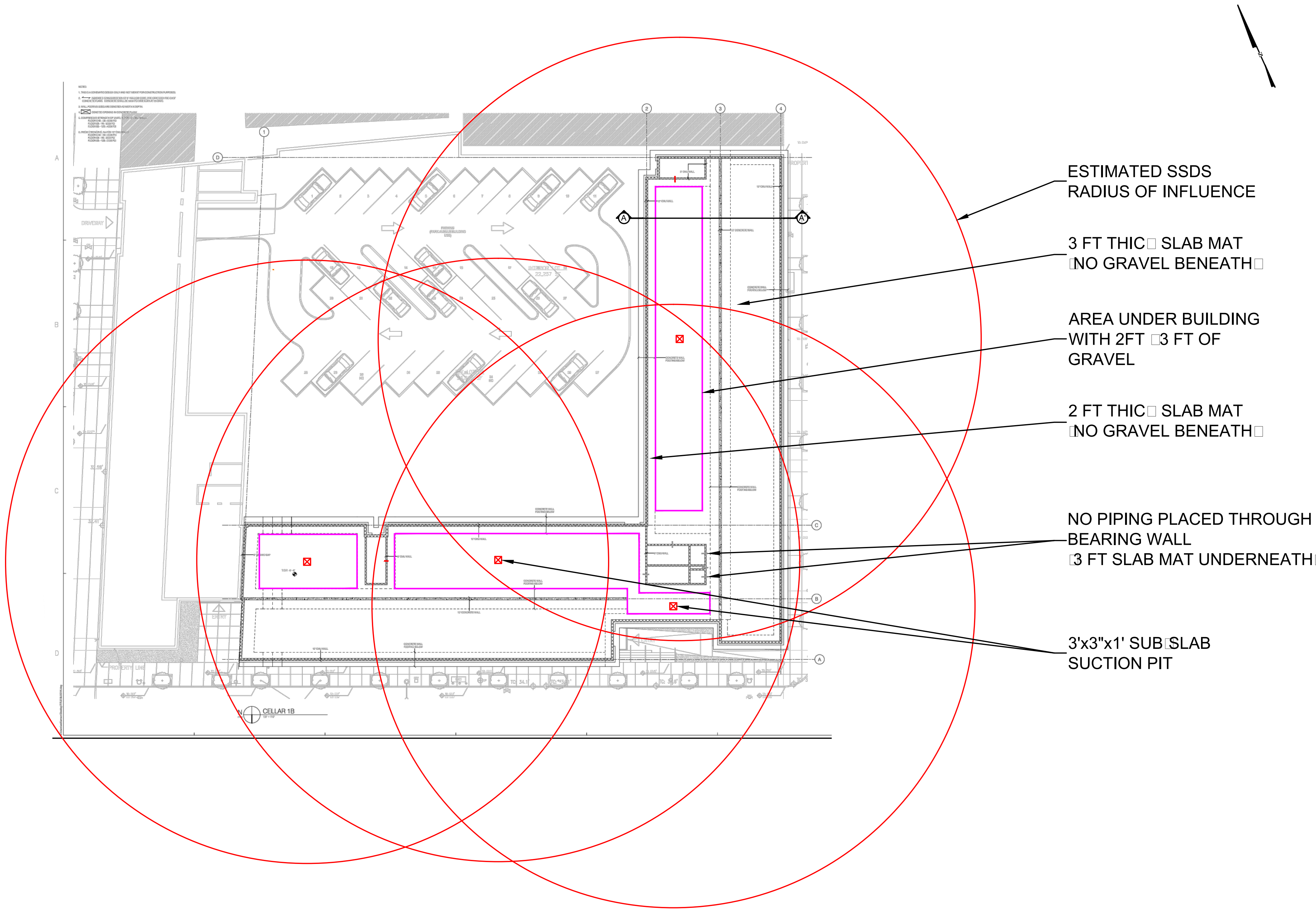
Please confirm if the above listed changes to the SSDS are acceptable to the NYSDEC.

Please contact me at (917) 346-2976 if you have any questions ore require any additional information.

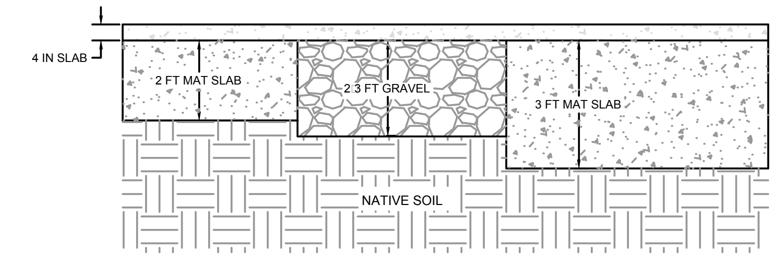
Sincerely,

Edyta Korczynska

Edyta Korczynska
Project Engineer



PROPOSED SUB-SLAB DEPRESSURIZATION SYSTEM
SCALE: AS NOTES



BUILDING SUB SLAB
CROSS SECTION A-A'
NTS

0 50 100
GRAPHIC SCALE IN FEET

TITLE			
[illegible]			
PREPARED FOR [illegible]			
Environmental Resources Management			FIGURE 1
DRAWN BY EMF	SCALE GRAPHIC	DATE 06-03-2015	JOB NO. [illegible]

C:\[illegible] 06-05-2015 10:32 [illegible]

Appendix M

Stormwater Pollution Protection Plan

REPORT

Prepared For:

Webster Avenue Housing Development Fund Corporation,
Webster Avenue Supportive LLC, and
Webster Avenue Affordable LLC
c/o Common Ground Community II Housing Development Fund Corporation

Stormwater Pollution Prevention Plan

Webster Avenue Residences Property
411 E 178th Street & 4275 Park Ave
Bronx, New York

February 2015

Warning: It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

STATE OF NEW YORK
JOHN PAUL MOHLIN
077921
LICENSED PROFESSIONAL ENGINEER

ERM Consulting & Engineering, Inc.
105 Maxess Road
Suite 316
Melville, NY 11747

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1.0 PROJECT

1.1 PROJECT DESCRIPTION

The purpose of the project is to redevelop the Site located at 411 East 178th Street as well as 4275 Park Ave in Bronx, New York, as part of a New York State Brownfield Cleanup Agreement (Site No. C203075). The project will include demolishing the existing building on-Site, a minimum 2-foot soil excavation and removal to the limit of disturbance (deeper in areas of future building foundations), and redevelopment i.e. construction of residential housing. The excavated soil will be sampled and transported to an off-Site disposal facility that is permitted to receive the soil based on analytical results and a minimum of two feet of clean fill material will be placed in all areas not covered by the future buildings. The 1.4 acres is planned to be disturbed during the demolition and excavation activities. The existing Site includes approximate 1.3 acres of impervious land and 0.1 acres of pervious land and will be replaced with approximate 1.1 acres of impervious land and 0.3 acres of pervious land. The existing drainage infrastructure will be disturbed and replaced during the redevelopment activities. Appendix A - Erosion and Settlement Control Plan provides details on the stormwater management during construction, and includes a layout of the proposed replacement storm water infrastructure. Appendix B contains further details for the design of the post-construction stormwater management practices performed by Brooker Engineering, PLLC, 76 Lafayette Avenue, Suffern, New York 10901.

1.2 SITE DESCRIPTION

The Site's address was 1960-1982 Webster Avenue in the Tremont section in Bronx, New York, and is identified as Block 3028 and Lots 1, 6, 7, 8, 48 and 75 on the New York City Tax Map. However, the future addresses of the site will be 411 East 178th street as well as 4275 Park Ave in Bronx, New York, and is identified as Block 3028 and Lots 3 and 55. The Site is 59,292-square feet and is bounded by 1984 Webster Avenue, a warehouse to the north, East 178th Street and beyond by commercial and residential properties to the south, Park Avenue and beyond by MTA Metro North railway lines to the east, and Webster Avenue and beyond by commercial and residential properties to the west. Currently, the Site is improved with an unoccupied one-story and partial two-story steel framed masonry block structure on lot 48 which was last occupied several years ago by a Western Beef Supermarket. No additional permanent structures or other pertinent Site features exist on the property. The Site is gently sloping toward the center of the Site with slopes less than 8%. The Site is drained through a system of catch basins on-Site, which will be replaced. The project Site lies within New York City designated Municipal Separate Storm Sewer System (MS4) boundary.

1.3 SOILS

The soil in the project area is classified as Urban Land, outwash substratum (UoA). The Natural Resource Conservation Service does not associate this soil classification with a Hydrological Soil Group (HSG). Therefore, the HSG "D" was assigned based on the classification of predominant surrounding soils. The Natural Resources and Conservation Service Custom Soil Resource Report for the project Site is presented in Appendix C.

1.4 WETLANDS AND RECEIVING WATERS

According to the U.S. Fish and Wildlife National Wetlands Inventory, there are no wetlands or riparian areas within or adjacent to the project Site. Additionally, according to the New York Department of Environmental Conservations' (DEC) Environmental Resource Mapper website, there are no DEC wetlands located within or adjacent to the project Site. The project Site in relation to the federal wetlands is indicated on Figure 1 – U.S. Fish and Wildlife Service National Wetlands Inventory.

1.5 HISTORICAL AND CULTURAL RESOURCES SOILS

According to the New York State Historic Preservation Office (SHPO) Geographic Information System (GIS) Archeology and National Register website, the project Site is not located within any State or Federal archeological sensitive/listed areas. The project Site in relation to SHPO designated areas is shown on Figure 2 – NYSOPRHP Archeology & National Register Map.

2.0 PLANNED EROSION AND SEDIMENT CONTROL PRACTICES

This Erosion and Sediment Control Plan presents the erosion and sediment control practices for the project. The existing conditions of the Site, the proposed erosion and sediment control measures, construction notes, maintenance notes, and construction details are depicted on the drawings C-01, C-02, C-03, C-04 presented in Appendix A - Erosion and Sediment Control Plan For Redevelopment Project.

The erosion and sediment control practices are as follows:

2.1 COMPOST FILTER SOCK

A compost filter sock will be installed around the perimeter of the Site along the Limit of Disturbance line to minimize sediment transport from the Site. The renovations to the existing city sidewalk will be part of this construction; however, a filter sock will not be installed around the sidewalk construction due to the proximity of the road. Inlet protection will, however, be installed within the street storm water inlets along the sidewalk to minimize storm water pollution. The compost filter sock was selected as a more effective and constructible sediment control measure than silt fence. The compost filter sock specification and details are referenced from the Pennsylvania Department of Environmental Protection Erosion and Sediment Pollution Control Program Manual, March 2012.

2.2 STABILIZED CONSTRUCTION ENTRANCE

Equipment will access the Site from Webster Avenue at the Northwest side of the Site.

2.3 INLET PROTECTION

Temporary inlet protection will be installed to protect open catch basins on-Site and the catch basins within the city street that are along the sidewalk as identified during construction. Catch basins in the street will be protected during periods of adjacent sidewalk construction.

2.4 MATERIAL STAGING

Materials and equipment will be staged on-Site within the perimeter controls to minimize movement of silt or small soil particles off-Site.

2.5 BACKFILLING

A minimum of two feet of clean fill material will be placed in all areas not covered by the future buildings.

2.6 DUST CONTROL

Dust suppression operations will be performed using water misting to control potential dust generation during demolition, excavation, loading, and backfilling operations. Such dust suppression measures will reduce the potential for dust to be generated during earth-moving activities.

2.7 PERMANENT VEGETATION

The proposed asphalt parking area in the northerly portion of the property will be surrounded and have islands of vegetated areas. Trees, shrubs and container grown perennials will be planted rather than seeded. Topsoil will be added to promote the establishment of the vegetation. Temporary stabilization with mulching will be utilized until permanent vegetation is established.

2.8 TEMPORARY STABILIZATION

If it is anticipated that permanent vegetation cannot be installed in less than 14 days after the completion of construction activities in an area, mulching will be utilized to temporarily control the exposed soil.

2.9 TREE PRESERVATION AND PROTECTION

There are no trees or shrubs currently on-Site.

3.0 CONSTRUCTION SPECIFICATIONS

3.1 COMPOST FILTER SOCK

1. Sock fabric shall meet standards of Table 4.1 and the compost shall meet the standards of Table 4.2 of the Pennsylvania Department of Environmental Protection Erosion and Sediment Pollution Control Program Manual, March 2012.

2. Compost filter sock shall be placed at existing level grade. The ends of the filter sock will be overlapped by a minimum of 3 feet. Maximum slope length above any sock shall not exceed that shown on Figure 4.2, Pennsylvania Department of Environmental Protection Erosion and Sediment Pollution Control Program Manual, March 2012. Stakes may be installed immediately downslope of the sock if so specified by the manufacturer.

3. Traffic shall not be permitted to cross filter socks.

4. Accumulated sediment shall be removed when it reaches half the aboveground height of the sock and disposed.

5. Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired according to manufacturer's specifications or replaced within 24 hours of inspection.

6. Biodegradable filter socks shall be replaced after 6 months; photodegradable socks after 1 year. Polypropylene socks shall be replaced according to manufacturer's recommendations.

7. Upon stabilization of the area tributary to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed. In the latter case, the mesh shall be cut open and the mulch spread as a soil supplement.

8. Construction detail is provided in Appendix A - Erosion and Sediment Control Plan for Redevelopment Project.

3.2 STABILIZED CONSTRUCTION ENTRANCE

1. The construction entrance width shall be 12 feet minimum. Use a 2-inch stone, or reclaimed or recycled concrete or equivalent.

2. Length shall be 50 feet, but may be adjusted to accommodate Site conditions.

3. Thickness shall not be less than 6 inches.

4. Geotextile shall be placed over the entire area prior to placing of stone.

5. Surface water – All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be used.

6. Maintenance – The entrance shall be maintained in a condition which will prevent tracking or flow of sediment onto public Rights-of-Way. All sediment spilled, dropped, washed, or tracked onto public Rights-of-Way will be removed immediately.

7. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.

8. Periodic inspection and needed maintenance shall be provided after each rain.

9. Construction detail is provided in Appendix A - Erosion and Sediment Control Plan for Redevelopment Project.

3.3 FABRIC DROP INLET PROTECTION

1. Land area slope immediately surrounding this device should not exceed 1 percent. The maximum height of the fabric above the inlet crest shall not exceed 1.5 feet unless reinforced. The top of the barrier should be maintained to allow overflow to drop into the drop inlet and not bypass the inlet to unprotected lower areas. Support stakes for fabric shall be a minimum of 3 feet long, spaced a maximum 3 feet apart. They should be driven close to the inlet so any overflow drops into the inlet and not on the unprotected soil. Improved performance and sediment storage volume can be obtained by excavating the area.

2. Inspect the fabric barrier after each rain event and make repairs as needed. Remove sediment from the pool area as necessary with care not to undercut or damage the filter fabric. Upon stabilization of the drainage area, remove all materials and unstable sediment and dispose of properly. Bring the adjacent area of the drop inlet to grade, smooth and compact and stabilize in the appropriate manner to the site.

3. Construction detail is provided in Appendix A - Erosion and Sediment Control Plan for Redevelopment Project.

3.4 EXCAVATED DROP INLET PROTECTION

1. Excavated side slopes shall be no steeper than 2:1. The minimum depth shall be 1 foot and the maximum depth 2 feet as measured from the crest of the inlet

structure. Shape the excavated basin to fit conditions with the longest dimension oriented toward the longest inflow area to provide maximum trap efficiency. Weep holes, protected by fabric and stone, should be provided for draining the temporary pool.

2. Inspect and clean the excavated basin after every storm. Sediment should be removed when 50 percent of the storage volume is achieved. This material should be incorporated into the Site in a stabilized manner.

3. Construction detail is provided in Appendix A - Erosion and Sediment Control Plan for Redevelopment Project.

3.5 STONE AND BLOCK DROP INLET PROTECTION

1. The stone barrier should have a minimum height of 1 foot and a maximum height of 2 feet. Do not use mortar. The height should be limited to prevent excess ponding and bypass flow.

2. Recess the first course of blocks at least 2 inches below the crest opening of the storm drain for lateral support. Subsequent courses can be supported laterally if needed by placing a 2x4 inch wood stud through the block openings perpendicular to the course. The bottom row should have a few blocks oriented so flow can drain through the block to dewater the basin area.

3. The stone should be placed just below the top of the blocks on slopes of 2:1 or flatter. Place hardware cloth of wire mesh with ½ inch openings over all block openings to hold stone in place.

4. The concrete blocks may be omitted and the entire structure constructed of stone, ringing the outlet ("doughnut"). The stone should be kept at a 3:1 slope toward the inlet to keep it from being washed into the inlet. A level area 1 foot wide and four inches below the crest will further prevent wash. Stone on the slope toward the inlet should be at least 3 inches in size for stability and 1 inch or smaller away from the inlet to control flow rate. The elevation of the top of the stone crest must be maintained 6 inches lower than the ground elevation down slope from the inlet to ensure that all storm flows pass over the stone into the storm drain and not past the structure. Temporary diking should be used as necessary to prevent bypass flow.

5. The barrier should be inspected after each rain event and repairs made where needed. Remove sediment as necessary to provide for accurate storage volume for subsequent rains. Upon stabilization of contributing drainage area, remove all materials and any unstable soil and dispose of properly.

6. Bring the disturbed area to proper grade, smooth, compact and stabilized in a manner appropriate to the Site.

7. Construction detail is provided in Appendix A - Erosion and Sediment Control Plan for Redevelopment Project.

3.6 CURB DROP INLET PROTECTION

1. The wire mesh must be of sufficient strength to support the filter fabric and stone with the water fully impounded against it. Stone is to be 2 inches in size and clean. The filter fabric must be of a type approved for this purpose with an equivalent opening size (EOS) of 40-85.

2. The protective structure will be constructed to extend beyond the inlet 2 feet in both directions. Assure that storm flow does not bypass the inlet by installing temporary dikes (such as sand bags) directing flow into the inlet. Make sure that the overflow weir is stable.

3. Traffic safety shall be integrated with the use of this practice.

4. The structure should be inspected after every storm event. Any sediment should be removed and disposed of on the Site. Any stone missing should be replaced. Check materials for proper anchorage and secure as necessary.

5. Construction detail is provided in Appendix A - Erosion and Sediment Control Plan for Redevelopment Project.

3.7 PERMANENT VEGETATIVE PLAN FOR SOIL STABILIZATION

1. Topsoiling:

 a. Scarify all compact, slowly permeable, medium and fine textured subsoil areas. Scarify at approximately right angles to the slope direction in soil areas that are steeper than 5 percent. Areas that have been overly compacted shall be fluffed/loosened to a minimum depth of 12 inches with a deep ripper or chisel plow prior to topsoiling.

 b. Remove refuse, woody plant parts, stones over 3 inches in diameter, and other litter.

 c. Topsoil shall have at least 6 percent by weight of fine textured stable organic material, and no greater than 20 percent. Muck soil shall not be considered topsoil.

 d. Topsoil shall have not less than 20 percent fine textured material (passing the NO. 200 sieve) and not more than 15 percent clay.

e. Topsoil treated with soil sterilants or herbicides shall be so identified to the purchaser.

f. Topsoil shall be relatively free of stones over 1 1/2 inches in diameter, trash, noxious weeds such as nut sedge and quackgrass, and will have less than 10 percent gravel.

g. Topsoil containing soluble salts greater than 500 parts per million shall not be used.

h. Topsoil shall be distributed to a uniform depth over the area. It shall not be placed when it is partly frozen, muddy, or on frozen slopes or over ice, snow, or standing water puddles.

i. Topsoil placed and graded on slopes steeper than 5 percent shall be promptly fertilized, seeded, mulched, and stabilized by "tracking" with suitable equipment.

j. At minimum 4 inches of topsoil shall be applied.

2. Site Preparation:

a. Provide an adequate rooting zone for plantings, to a minimum depth of 12 inches, by chiseling or disking in any severely compacted sections.

b. Ensure that an adequate amount of soil moisture is present in the seedbed. If the surface is powder dry or sticky wet, postpone operations until moisture changes to a favorable condition.

c. Remove all stones and other debris from the surface that are greater than 4 inches, or that will interfere with future mowing or maintenance.

d. Soil amendments should be incorporated into the upper 4 inches of soil. The soil should be tested to determine the amounts of amendments needed. Apply ground agricultural limestone to attain a pH of 6.0 to 7.5 in the upper 4 inches of soil. If soil must be fertilized before results of a soil test can be obtained to determine fertilizer needs, apply commercial fertilizer at 600 lbs. per acre of 5-10-10 or equivalent. If manure is used, apply a quantity to meet the nutrients of the above fertilizer. This requires an appropriate manure analysis prior to applying to the Site. Do not use manure on Sites to be planted with birdsfoot trefoil.

3. Establish Vegetation:

a. Plant trees, shrubs, and container grown perennials as shown on C-03 of Appendix A.

b. At the time of planting, mulch and provide adequate moisture to the planting areas.

c. Replant areas that fail in the late summer to early fall or the following spring.

d. Utilize temporary vegetative stabilization with mulching until seeding is established permanently.

3.8 TEMPORARY VEGETATIVE PLAN FOR STABILIZATION WITH MULCHING

1. Slope, grade and smooth the Site to fit needs of selected mulch products.

2. Remove all undesirable stones and other debris to meet the needs of the anticipated land use and maintenance required.

3. Apply mulch after soil amendments and planting is accomplished or simultaneously if hydroseeding is used.

4. Select appropriate mulch material and application rate using Table 3.7, New York State Standards and Specifications for Erosion and Sediment Control, August 2005.

5. Select appropriate mulch anchoring material using Table 3.8, New York State Standards and Specifications for Erosion and Sediment Control, August 2005.

4.0 CONSTRUCTION SCHEDULE

1. Obtain plan approval and other applicable permits.

2. The owner or operators shall have each of the contractors and subcontractors identified as responsible for implementation of the SWPPP sign a copy of the certification statement according to Part III.A.6 of the New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity.

3. Flag the work limits.

4. Mark trees and shrubs for protection.

5. Install filter sock and inlet protection throughout the Site.

6. Install stabilized construction entrance.

7. Perform redevelopment operations.

8. Complete all waste disposal operations.

9. Plant trees, shrubs, and container grown perennials.

10. Remove all temporary erosion control measures.

All erosion and sediment control practices will be inspected weekly and after rainfall events by a Qualified Inspector as specified in Part IV.C and in Appendix A of the New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity. Needed repairs will be made immediately.

5.0 MAINTENANCE

1. All erosion and sediment control practices must be maintained in accordance with the New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity.

2. All erosion and sediment control practices will be checked for stability and operation following every runoff-producing rainfall but in no case less than once every week. Any needed repairs will be made immediately to maintain all practices as designed and installed for their appropriate phase of the project.

3. Sediment will be removed from the inlet protection devices when storage capacity has been approximately 50% filled. Gravel will be cleaned or replaced when the sediment pool no longer drains properly.

4. Accumulated sediment shall be removed when it reaches half the aboveground height of the filter sock.

5. Inspect construction roads and parking areas periodically for condition of surface. Topdress with new gravel as needed. Areas producing sediment should be treated immediately.

6. Stabilize all soil exposed as a result of earthwork activities within 14 days of disturbance.

7. Provide adequate moisture to seeded and other planting areas until permanent vegetation is established.

8. Inspection Reports shall be stored on-Site for review by Regulatory Inspectors.

6.0 *SITE WASTE MANAGEMENT AND SPILL PREVENTION*

6.1 MATERIAL DELIVERY AND STORAGE

1. Keep inventory low.

2. Store dry chemicals and bagged materials on pallets.

3. Store all flammable products away from any heat and/or ignition source.

4. Provide secondary containment for hazardous liquids. It is anticipated that the following hazardous or controlled substances and petroleum products will be stored on Site, within regulatory approved containers:

    a. Gasoline

    b. Diesel Fuel

    c. Equipment Oils and Lubricants

    d. Commercial Fertilizer

5. Keep designated storage areas clean and well organized. Conduct weekly inspections to check for damaged containers, leaks, etc.

6. Comply with State and Local requirements for storage of hazardous waste.

7. Cover chemicals, drums, and bagged materials to prevent contact with rainwater (e.g. tarps, bins, structures).

8. Cover secondary containment areas to prevent accumulation of water.

9. Keep chemicals labeled and in original containers.

10. Train all employees and subcontractors on the proper use of storage area.

6.2 SPILL PREVENTION AND CONTROL

1. Notify all employees and subcontractors of the location of materials used to cleanup spills.

2. Store spill cleanup materials on Site and near potential spill areas.

3. Keep commercially available spill kits for construction equipment on Site.

4. Keep drums, barrels, temporary storage bags, or equivalent materials for containment and transportation on Site.

5. Keep absorbent pads, oil booms, mat, or equivalent materials on Site.

6. Keep washable, reusable rags for cleaning up small lubricant leaks on Site.

7. Train employees and subcontractors on proper spill prevention and control methods.

8. Never hose down or bury dry material spills. Cleanup as much as possible and dispose of properly.

9. In the event of a spill occurrence, the following actions are to be taken:

a. Document the spill and Report to the Owner's Representative.

b. For spills less than 5 gallons on an impervious surface, attempt to confine and clean the spill.

c. For spills greater than 5 gallons, attempt to confine the spill and call a remediation contractor if assistance is required with product recovery and containment.

d. Report all spills to NYSDEC Spill Hotline (1-800-457-7362) within two hours of discovery, except spills that meet the following criteria:

- The quantity is known to be less than 5 gallons; and
- The spill is contained an under control of the spiller; and
- The spill has not and will not reach the State's water or any land; and
- The spill is cleaned up within 2 hours of discovery.

e. Provide written documentation of the spill.

f. Disposal of recovered materials must be conducted in accordance with State and federal regulations.

6.3 SOLID WASTE MANAGEMENT

1. Provide as many waste bins as needed to keep Site clean of litter and waste. Waste bins must be covered to prevent runoff from trash.

2. Collect trash on a daily basis.

3. Arrange for regular waste collection by a licensed trash hauler.

4. Segregate and recycle waste materials (e.g. paints, solvents, oil, etc.).

5. Provide covered waste bins for disposal of all empty products (e.g. paints, solvents, glues, pesticides, etc.).

6. Provide secondary containment for hazardous waste containers.

7. Comply with all Local and State solid waste disposal and nuisance requirements.

8. Do not hose-out waste containers on Site.

9. Train employees and subcontractors to use proper solid waste management.

6.4 VEHICLE AND EQUIPMENT MAINTENANCE

1. Do not discharge vehicle/machinery wash waters or solvents to storm drains or on the ground.

2. Any equipment, which must be refueled in the field, will be refueled from tanks carried to the work Site by truck.

3. Prevent spills and leaks during fueling and maintenance operations.

4. Inspect and maintain vehicles regularly to minimize leaks and drips; place drip pans or absorbent materials under leak-prone machinery when idle.

5. Comply with Federal, State, and Local requirements for fuel storage tanks.

6.5 SANITARY/SEPTIC WASTE MANAGEMENT

1. Untreated raw wastewater may not be discharged to land, the storm drain system, or to surface water bodies.

2. Sanitary/septic facilities should be maintained in good working order by a licensed service.

3. Arrange regular waste collection by a licensed hauler before facilities overflow.

7.0 OPERATION & MAINTENANCE OF POST-CONSTRUCTION STORMWATER PRACTICES

The new storm collection system shall be maintained in perpetuity for full function and operation. This includes general maintenance and inspection of each individual component on a period basis as follows:

Catch Basins, stormwater planter areas, manholes and underground detention system shall be visually inspected annually at the start of spring (or prior to significant snow melt or rain conditions). The inspection should include documentation of debris build up in each structure as well as noting any structural defects that have surfaced, including defects to castings, frames, covers, grates and concrete cracking or spalling.

Debris or sediment removal shall be done as soon as reasonably possible to avoid impacts to receiving system and no later than one month from the date of the inspection report. Cosmetic deficiencies shall be corrected based on the severity of the deficiency. Any deficiency that notes structural imperfections that may cause potential failure modes shall be corrected immediately and without delay.

Catch basins and stormwater planter areas shall be cleaned of all debris at a frequency of no less than one fiscal year or in the event that sediment buildup exceeds six inches.

Trash and debris shall be removed regardless of buildup depth.

Any removed sediments shall be disposed of in an acceptable manner (i.e., landfill). All disposal records shall be maintained with all inspection records.

All pavers shall be kept clean of debris and sediment monthly and after storms greater than 0.5 inches. Vacuum sweep any porous pavers at least once a year or as needed.

The current responsible entities for these maintenance activities are: Webster Avenue Supportive LLC, and Webster Avenue Affordable LLC.

8.0 CONTRACTOR CERTIFICATION

Prior to the commencement of construction activity, the owner or operator must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP.

The owner or operator shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the trained contractor, as defined in the SPDES General Permit for Stormwater Discharges from Construction Activity - GP-0-15-002. The owner or operator shall ensure that at least one trained contractor is on Site on a daily basis when soil disturbance activities are being performed.

The owner or operator shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below, and complete the required information before they commence any construction activity:

"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a Site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

Contractor:____
Trained Contractor Signature________________________Date:___________
Title:____________________________Email:__________________________
Address:____
____
Phone:____
Description of Work:____
____
____

Contractor:____

Trained Contractor Signature_____________________________Date:______________

Title:___________________________________Email:_________________________________

Address:____

Phone:____

Description of Work:____

Contractor:____

Trained Contractor Signature_____________________________Date:______________

Title:___________________________________Email:_________________________________

Address:____

Phone:____

Description of Work:____

Contractor:____

Trained Contractor Signature_____________________________Date:______________

Title:___________________________________Email:_________________________________

Address:____

Phone:____

Description of Work:____

Contractor:____

Trained Contractor Signature_____________________________Date:______________

Title:___________________________________Email:_________________________________

Address:____

Phone:____

Description of Work:____

(For additional contractors, copy this page, and add to this SWPPP)

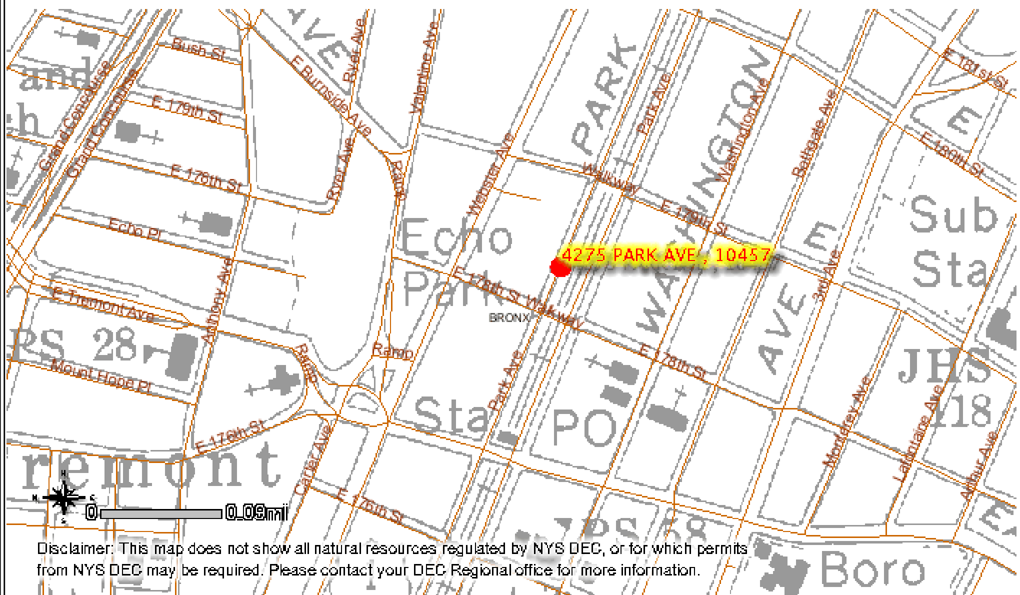
Figures

Figure 1

U.S. Fish and Wildlife Service National Wetlands Inventory [print page] [close window]

Please set your printer orientation to "Landscape".

Webster Ave



MinX: 592208, MaxX: 593360, MinY: 4522810, MaxY: 4522326

Visible Layers

- Classified Streams
- Classified Ponds
- Rare Plants and Rare Animals
- Interstate Highways
- Adirondack Park Boundary
- Counties

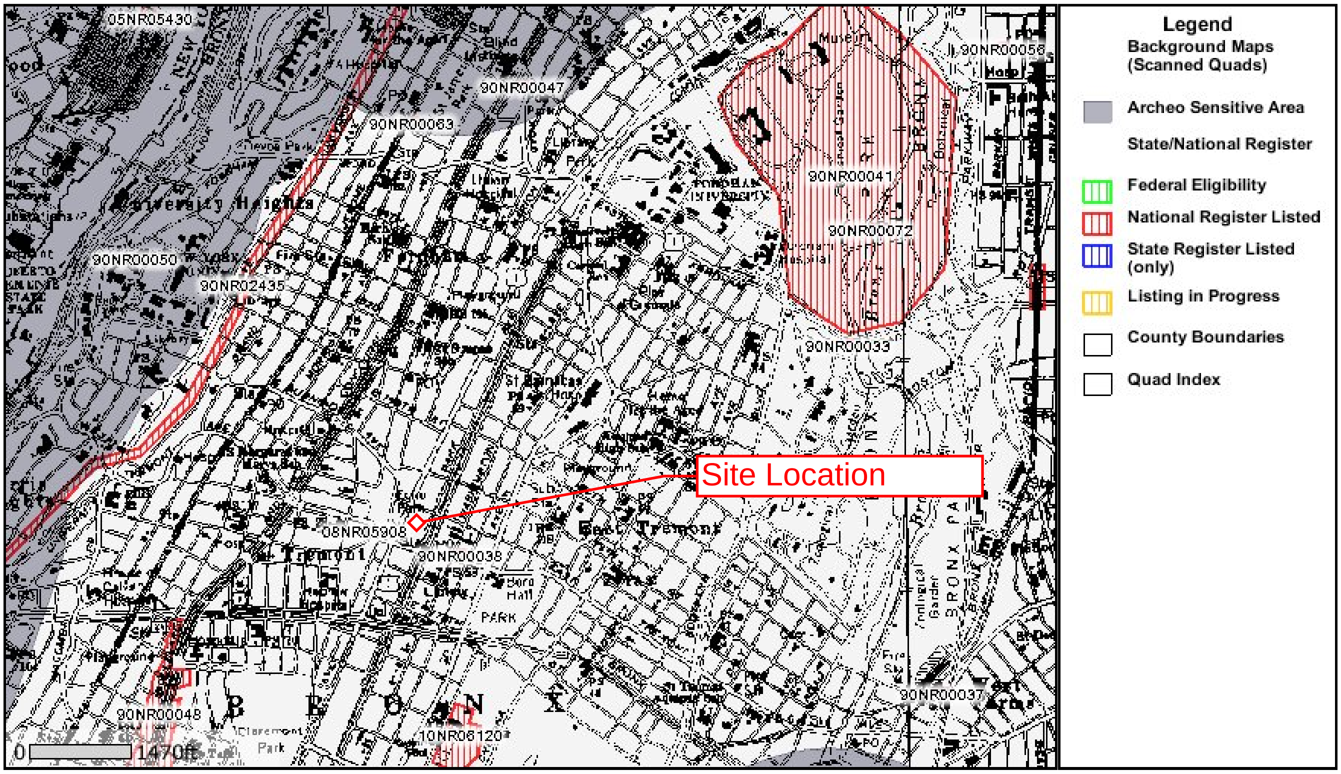
Disclaimer:This map was prepared by the New York State Department of Environmental Conservation using the most current data available. It is deemed accurate but is not guaranteed. NYS DEC is not responsible for any inaccuracies in the data and does not necessarily endorse any interpretations or products derived from the data.

Note: This map was prepared using the the New York Department of Environmental Conservations' Environmental Resource Mapper website (http://www.dec.ny.gov/imsmaps/ERM/viewer.htm) on January 13, 2015.

Figure 1 - U.S. Fish and Wildlife Service National Wetlands Inventory

Figure 2

NYSOPRHP Archeology & National Register Map



January 16, 2015

Disclaimer: This map was prepared by the New York State Parks, Recreation and Historic Preservation National Register Listing Internet Application. The information was compiled using the most current data available. It is deemed accurate, but is not guaranteed.

Note: This map was prepared using the NY State Historic Preservation Office GIS-Public Access on January 16, 2015.

Figure 2: NYSOPRHP Archeology & National Register Map

Appendices

Appendix A
Erosion & Sediment
Control Plan Drawings
for Redevelopment Project

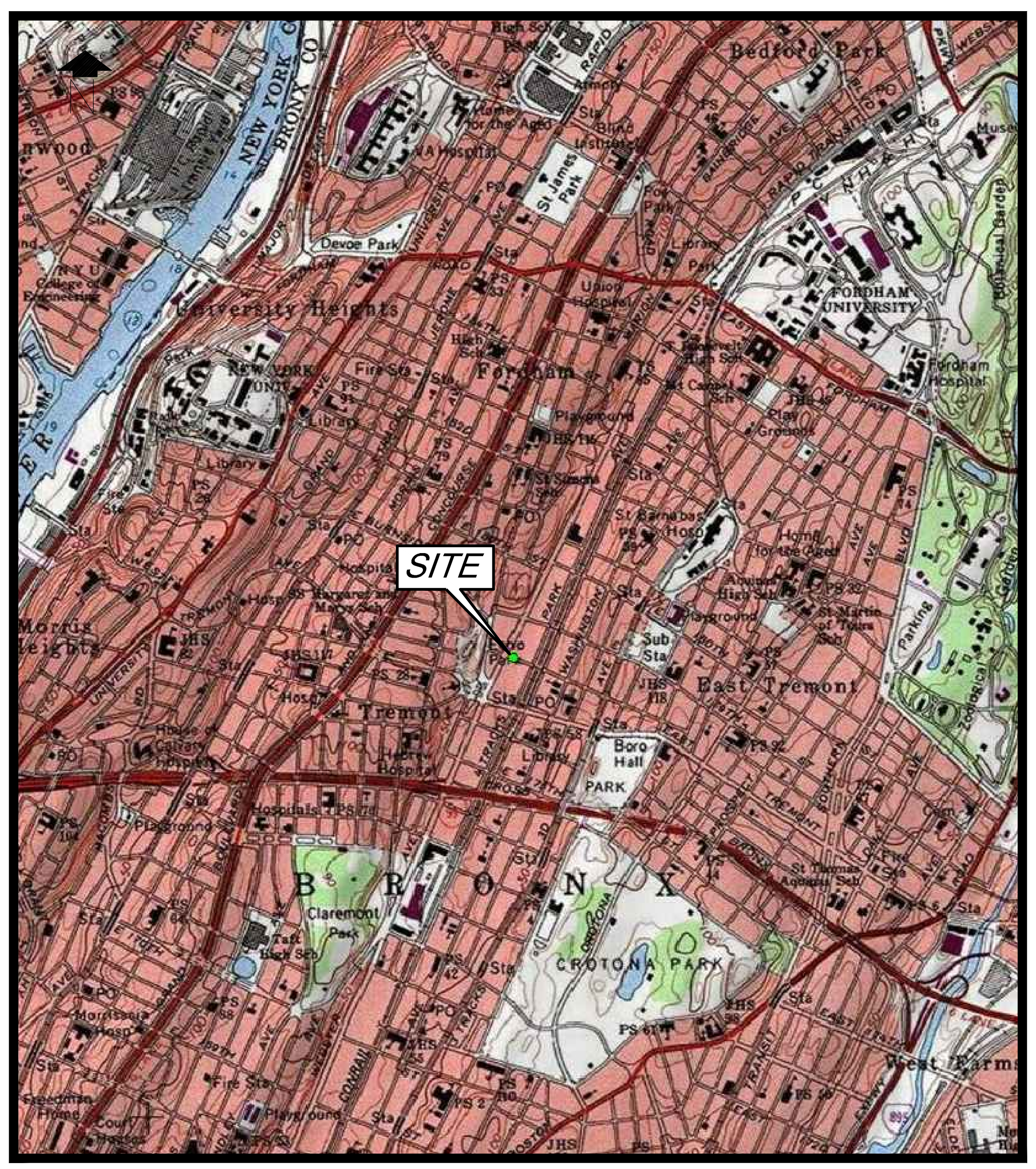
EROSION AND SEDIMENT CONTROL PLAN FOR REDEVELOPEMENT PROJECT

411 E. 178th STREET & 4275 PARK AVE.
BRONX, NEW YORK

ISSUED FOR PERMITTING
JANUARY 2015

PREPARED FOR
WEBSTER AVENUE HOUSING FUND CORPORATION
WEBSTER AVENUE SUPPORTIVE LLC
WEBSTER AVENUE AFFORDABLE LLC
c/o COMMON GROUND COMMUNITY II
HOUSING DEVELOPEMENT FUND CORPORATION

SITE LOCATION MAP



SOURCE MAP: USGS QUAD CENTRAL PARK

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SCALE IN FEET

DRAWING INDEX

PREPARED BY

ERM

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Melville, New York 631-756-8900

STATE OF NEW YORK
JOHN PAUL MOHLIN
LICENSED PROFESSIONAL ENGINEER
077921

JOHN P. MOHLIN
NY Professional Engineer License No. 077921

THIS SITE MAP WAS PROVIDED BY TERRY BERGENDORFF COLLINS
EXISTING CONDITIONS SURVEY OF PROPERTY, OCTOBER 28, 2014

WARNING: IT IS A VIOLATION OF ARTICLE 145 OF NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE EXPRESS WRITTEN VERIFICATION OF ADOPTION BY ANY NEW YORK STATE LICENSED ENGINEER IN ACCORDANCE WITH SECTION 7209(2), ARTICLE 145, NEW YORK STATE EDUCATION LAW.

STATE OF NEW YORK · JOHN PAUL MOHLIN · 077921 · LICENSED PROFESSIONAL ENGINEER

JOHN P. MOHLIN
NY PROFESSIONAL ENGINEER
LICENSE NO. 077921

Rev.	Date	Description	By	Chk

DRAWN BY PLS/MLB | DESIGNED BY AMB | CHECKED BY AMB

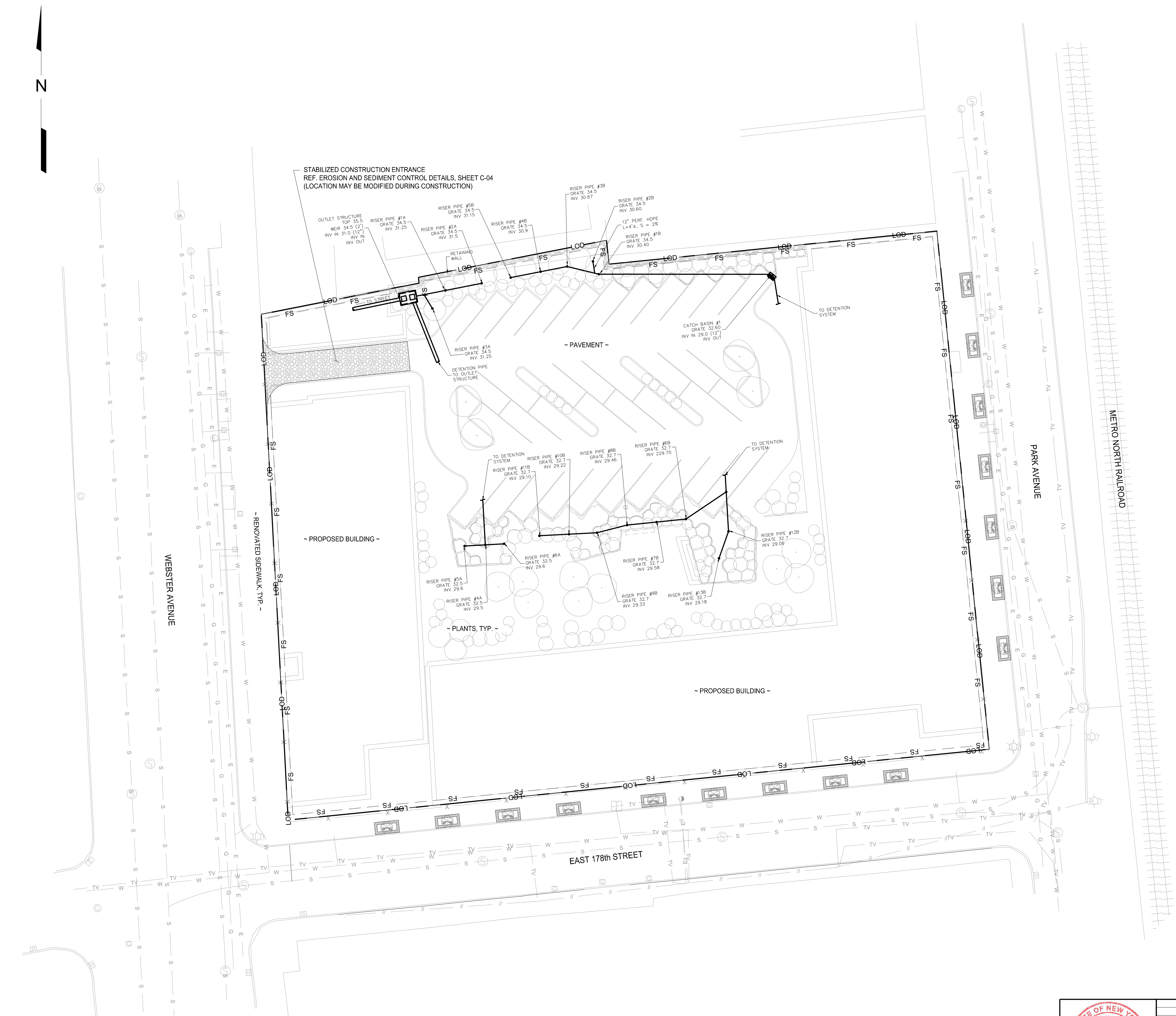
ERM Consulting & Engineering, Inc.
Melville, NY 631-756-8900
ERM

411 E 178th STREET & 4275 PARK AVE
E & S PLAN FOR REDEVELOPEMENT PROJECT
BRONX **NEW YORK**

EXISTING CONDITIONS

SCALE	PROJECT NUMBER	SHEET	REV.
AS SHOWN	0280785	C-02	

DATE JAN 2015 ISSUE



LEGEND

- PROPERTY BOUNDARY
- FENCE
- RAILROAD TRACKS
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND SEWER LINE
- UNDERGROUND CABLE TV LINE
- OVERHEAD UTILITY LINE
- LIGHT POLE
- ELECTRIC BOX
- SANITARY MANHOLE
- GAS MANHOLE
- STORMWATER MANHOLE
- FS — FILTER SOCK
- LOD — LIMIT OF DISTURBANCE

NOTE:

1. ALL CURB DROP INLETS SHALL BE PROTECTED DURING CONSTRUCTION OF ADJACENT SIDEWALK AREAS. REF. EROSION & SEDIMENT CONTROL DETAILS, SHEET C-04.

50 25 0 50
SCALE IN FEET

THIS REDEVELOPMENT PLAN WAS PROVIDED BY COOKFOX ARCHITECTS, LLP
GRADING AND UTILITY PLAN, MAY 20, 2014

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JOHN P. MOHLIN
NY PROFESSIONAL ENGINEER
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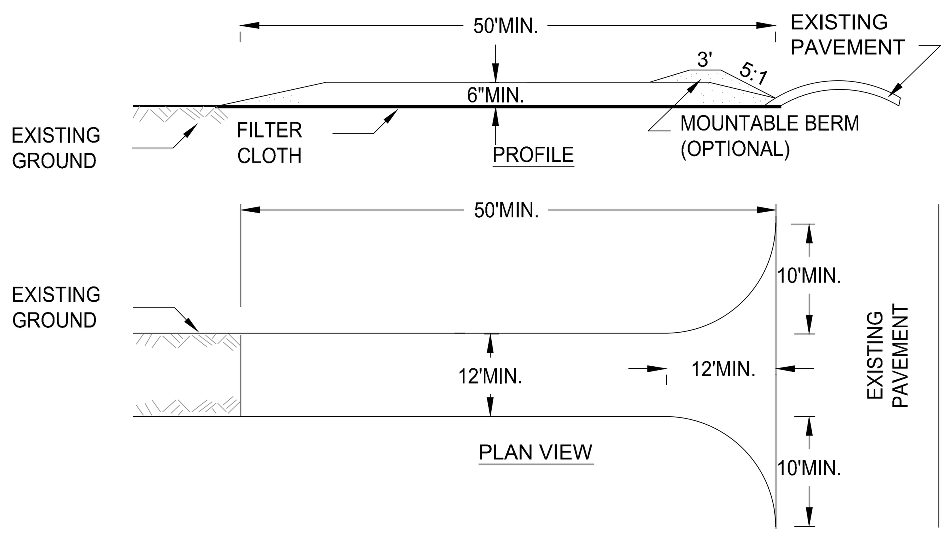
ERM Consulting & Engineering, Inc.
Melville, NY 631-756-8900

411 E 178th STREET & 4275 PARK AVE
E & S PLAN FOR REDEVELOPEMENT PROJECT
BRONX NEW YORK

EROSION AND SEDIMENT CONTROL PLAN

SCALE	PROJECT NUMBER	SHEET	REV.
AS SHOWN	0280785	C-03	

DATE JAN 2015 ISSUE

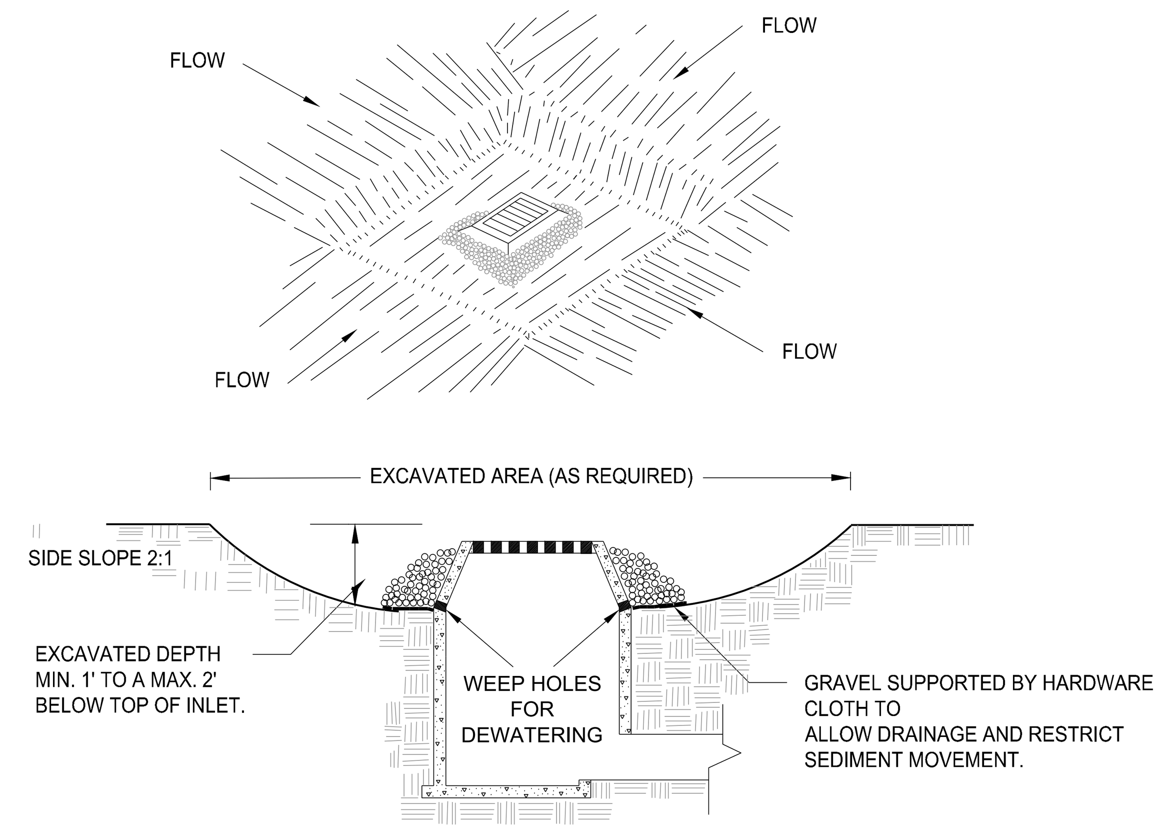


STABILIZED CONSTRUCTION ENTRANCE

N.T.S.

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET.
3. THICKNESS - NOT LESS THAN 6 INCHES.
4. WIDTH - 12 FEET MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24 FEET IF A SINGLE ENTRANCE TO THE SITE.
5. GEOTEXTILE WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.



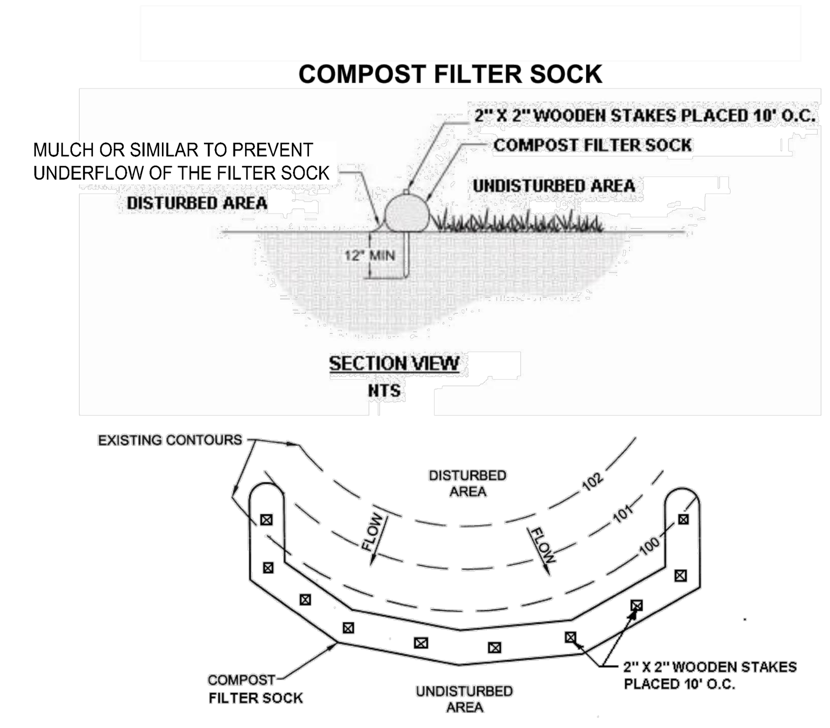
EXCAVATED DROP INLET PROTECTION

N.T.S.

CONSTRUCTION SPECIFICATIONS

1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION.
2. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN.
3. WEEP HOLES SHALL BE PROTECTED BY GRAVEL.
4. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEEP HOLES, FILL BASIN WITH STABLE SOIL TO FINAL GRADE, COMPACT IT PROPERLY AND STABILIZE WITH PERMANENT SEEDING.
5. MAXIMUM DRAINAGE AREA IS 1 ACRE.

COMPOST FILTER SOCK

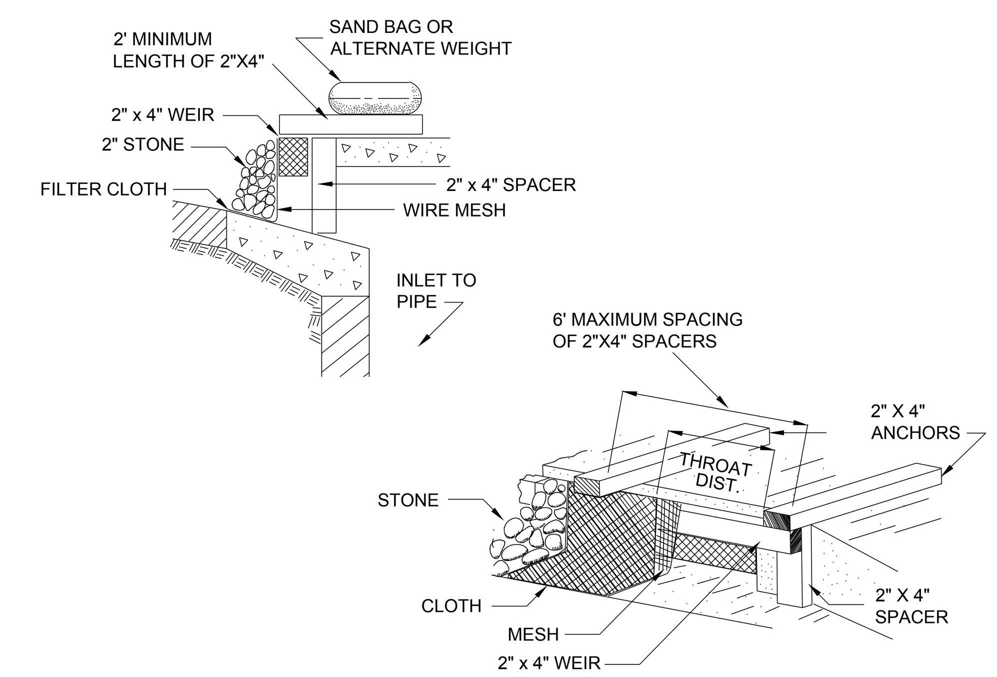


NOTES:

ADOPTED FROM PADEP EROSION AND SEDIMENT CONTROL PROGRAM MANUAL, MARCH 2012.

1. SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 AND COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE MARCH 2012 PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL.
2. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.
3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
4. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVEGROUND HEIGHT OF THE SOCK.
5. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
6. BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES AND SOCK SHALL BE REMOVED.
8. FILTER SOCK AROUND TRENCH DRAINS WILL BE ANCHORED BY CONCRETE BLOCKS OR SIMILAR.

Curb Drop Inlet Protection



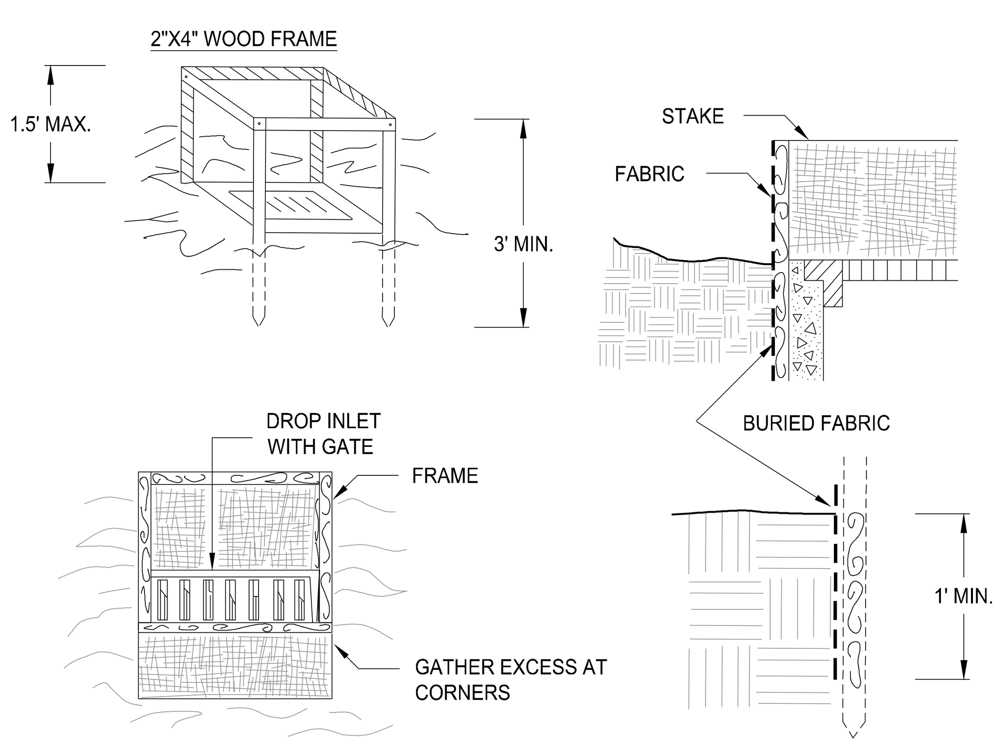
NOTES:

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATIONS, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE.

CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN AOS OF 40-85.
2. WOODEN FRAME SHALL BE CONSTRUCTED OF 2" X 4" CONSTRUCTION GRADE LUMBER.
3. WIRE MESH ACROSS THROAT SHALL BE A CONTINUOUS PIECE 30 INCH MINIMUM WIDTH WITH A LENGTH 4 FEET LONGER THAN THE THROAT. IT SHALL BE SHAPED AND SECURELY NAILED TO A 2" X 4" WEIR.
4. THE WEIR SHALL BE SECURELY NAILED TO 2" X 4" SPACERS 9 INCHES LONG SPACED NO MORE THAN 6 FEET APART.
5. THE ASSEMBLY SHALL BE PLACED AGAINST THE INLET AND SECURED BY 2" X 4" ANCHORS 2 FEET LONG EXTENDING ACROSS THE TOP OF THE INLET AND HELD IN PLACE BY SANDBAGS OR ALTERNATED WEIGHTS.

MAXIMUM DRAINAGE AREA OF 1 ACRE

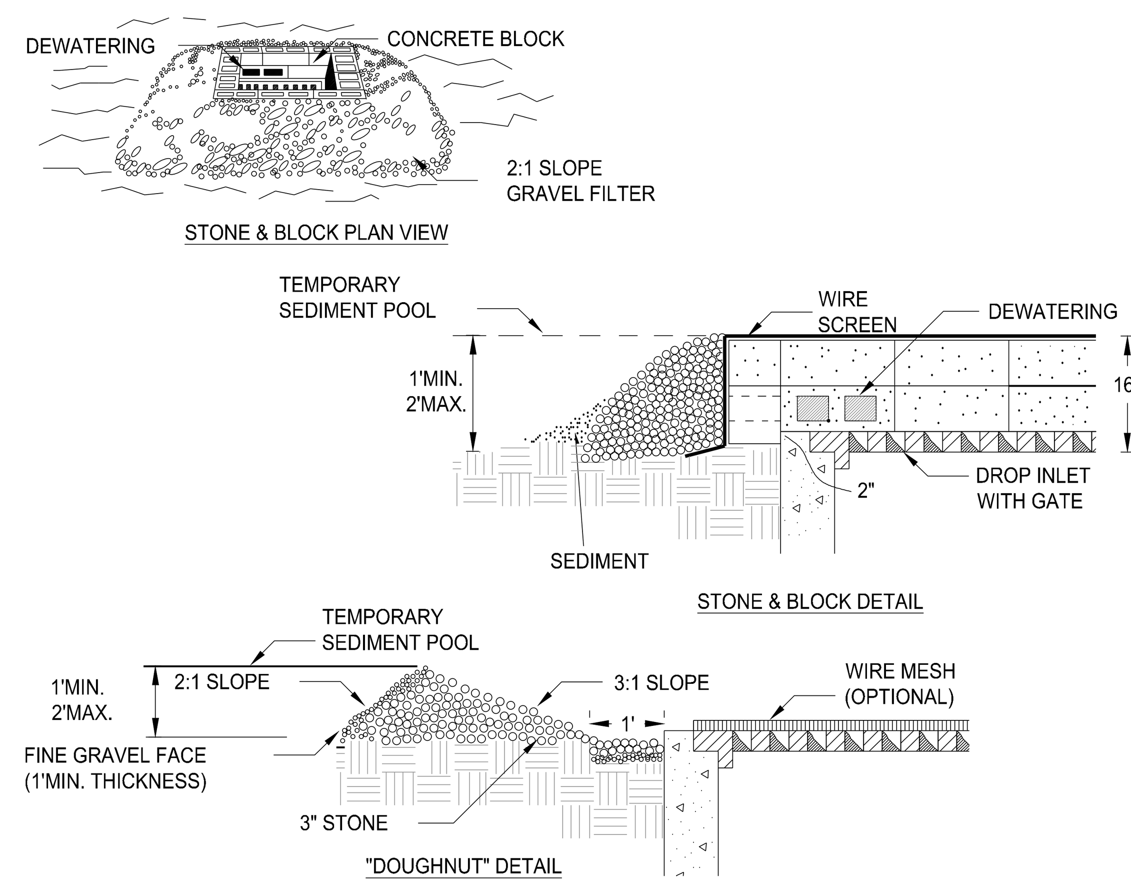


FILTER FABRIC DROP INLET PROTECTION

N.T.S.

CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN AOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
6. MAXIMUM DRAINAGE AREA IS 1 ACRE.



STONE & BLOCK DROP INLET PROTECTION

N.T.S.

CONSTRUCTION SPECIFICATIONS

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2 INCHES MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.
2. HARDWARE CLOTH OR 1/2" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
3. USE CLEAN STONE OR GRAVEL 1/2-3/4 INCH IN DIAMETER PLACED 2 INCHES BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
4. FOR STONE STRUCTURES ONLY, A 1 FOOT THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3 INCH STONE AS SHOWN ON THE DRAWINGS.
5. MAXIMUM DRAINAGE AREA IS 1 ACRE.

GENERAL NOTES:

CONSTRUCTION SCHEDULE

1. OBTAIN PLAN APPROVAL AND OTHER APPLICABLE PERMITS.
2. THE OWNER OR OPERATORS SHALL HAVE EACH OF THE CONTRACTORS AND SUBCONTRACTORS IDENTIFIED AS RESPONSIBLE FOR IMPLEMENTATION OF THE SWPPP SIGN A COPY OF THE CERTIFICATION STATEMENT ACCORDING TO PART III.A.6 OF THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY.
3. FLAG THE WORK LIMITS.
4. MARK TREES AND SHRUBS FOR PROTECTION.
5. INSTALL FILTER SOCK AND INLET PROTECTION THROUGHOUT THE SITE.
6. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
7. PERFORM REDEVELOPMENT OPERATIONS.
8. COMPLETE ALL WASTE DISPOSAL OPERATIONS.
9. PLANT TREES, SHRUBS AND CONTAINER GROWN PERENNIALS WITHIN PERVIOUS AREAS.
10. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
11. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE INSPECTED WEEKLY AND AFTER RAINFALL EVENTS BY A QUALIFIED INSPECTOR AS SPECIFIED IN PART IV.C AND IN APPENDIX A OF THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY. NEEDED REPAIRS WILL BE MADE IMMEDIATELY.

MAINTENANCE

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED AND INSTALLED FOR THEIR APPROPRIATE PHASE OF THE PROJECT.
2. SEDIMENT WILL BE REMOVED FROM THE INLET PROTECTION DEVICES WHEN STORAGE CAPACITY HAS BEEN APPROXIMATELY 50% FILLED. GRAVEL WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS PROPERLY.
3. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVEGROUND HEIGHT OF THE FILTER SOCK.
4. INSPECT CONSTRUCTION ROADS AND PARKING AREAS PERIODICALLY FOR CONDITION OF SURFACE. TOPDRESS WITH NEW GRAVEL AS NEEDED. AREAS PRODUCING SEDIMENT SHOULD BE TREATED IMMEDIATELY.
5. INSPECTION REPORTS SHALL BE STORED ON-SITE FOR REVIEW BY REGULATORY INSPECTORS.

WARNING: IT IS A VIOLATION OF ARTICLE 145 OF NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE EXPRESS WRITTEN VERIFICATION OF ADOPTION BY ANY NEW YORK STATE LICENSED ENGINEER IN ACCORDANCE WITH SECTION 7209(2), ARTICLE 145, NEW YORK STATE EDUCATION LAW.

STATE OF NEW YORK · JOHN PAUL MOHLIN · 077921 · LICENSED PROFESSIONAL ENGINEER

JOHN P. MOHLIN
NY PROFESSIONAL ENGINEER
LICENSE NO. 077921

Rev.	Date	Description	By	Chk
DRAWN BY PLS/MLB	DESIGNED BY AMB		CHECKED BY AMB	

ERM Consulting & Engineering, Inc.
Melville, NY 631-756-8900

411 E 178th STREET & 4275 PARK AVE
E & S PLAN FOR REDEVELOPEMENT PROJECT

BRONX NEW YORK

EROSION AND SEDIMENT CONTROL DETAILS AND NOTES

SCALE	PROJECT NUMBER	SHEET	REV.
AS SHOWN	0280785	C-04	
DATE JAN 2015	ISSUE		

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Appendix B
Hydrologic Stormwater
Management Analysis Report
(Prepared by Brooker Engineering, PLLC)

BROOKER ENGINEERING, PLLC

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Fax: 845.357.1896

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46 North Central Ave
Ramsey, New Jersey 07446
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HYDROLOGIC STORMWATER MANAGEMENT ANALYSIS REPORT

Prepared For:

Webster Avenue Residences Property

Location:
411 East 178th Street &
4275 Park Avenue
Bronx, New York

Owners:
Webster Avenue Housing Development Fund Corporation,
Webster Avenue Supportive LLC and
Webster Avenue Affordable LLC

c/o:
Common Ground Community II Housing Development Fund Corporation

STATE OF NEW YORK
GLENN DONALD McCREEDY
084274
LICENSED PROFESSIONAL ENGINEER

Date: February 9, 2015
BE#: 13247

Glenn D. McCreedy, P.E. NY#084274
New York State Professional Engineer

Executive Summary and Methodology

Brooker Engineering, PLLC has been retained to perform a hydrologic drainage analyses for the proposed development located at Tax Block 3028, Lots 3 and 55 in the Borough of Bronx, New York.

The existing property is currently developed and vacant. The proposed development will consist of two multifamily apartment buildings, new parking and driveway, retaining walls, utility and storm drainage, recreational amenities and landscaping.

The existing site drains via overland and shallow concentrated flow to a subsurface system that discharges to the NYC Combined Sewer System.

The soil consists of 100% Urban Land (UoA), outwash substratum, 0 to 3 percent slopes according to the Soil Survey of Rockland County by the United Sates Department of Agriculture Soil Conservation Service.

The proposed site drainage is comprised of two major components; surface drainage and piped drainage. The surface drainage will accommodate all of the parking and recreation area runoff and will discharge via overland flow to stormwater planter depressions on the north and south side of the new courtyard. The piped drainage will discharge the roof top runoff systems of both buildings. The rooftop systems are comprised of various green infrastructure techniques, including green lawn areas and green roof planter bed filtration systems ("Green Paks"). Both systems ultimately discharge to two underground detention systems that will ultimately discharge into the NYC Combined Storm System.

The underground detention systems were only required to meet compliance with the NYCDEP Site Connection Proposal regulations which administers the NYC master drainage plan. For compliance with the NYS General Permit GP-0-15-002, the detention was not required since the impervious coverage has decreased from existing to developed conditions therefore sufficient mitigation has been provided to reduce runoff and peak rate of discharge. The attached hydrologic analysis, did not include modeling of the detention systems and provides compliance with NYSDEC regulations for coverage under GP-0-15-002.

Hydrocad Version 9.1 software was utilized to generate runoff hydrographs for the existing and proposed subarea utilizing the SCS Type III Rainfall Distribution to determine the 24-hour peak hydrograph for the 1, 2, 5, 10, 25, 50 and 100-year storm recurrence intervals. Rainfall precipitations were extracted from the National Weather Service Technical Paper 40 (TP-40).

We have attached the design and support calculations within this report.

Summary of Peak Discharges

RETURN PERIOD (Years)	EXISTING CONDITIONS (cfs)	DEVELOPED CONDITIONS (cfs)	DELTA (cfs)	% CHANGE in OFFSITE DISCHARGE (existing to proposed)
1	3.36	3.28	-0.08	-2.4%
2	4.47	4.40	-0.07	-1.6%
10	6.53	6.49	-0.04	-0.6%
100	9.94	9.92	-0.02	-0.2%

Water Quality and Runoff Reduction was provided via the stormwater planters and new pervious pavers on-site. Supporting calculations for this are provided in this report.

Site Summary Calculations:

178th Street Development

Existing Conditions		**Developed Conditions**	
Grass Cover, Good	0.149 Acres	Paved Parking	0.057 Acres
Paved Parking and Roof	0.256 Acres	Permeable Pavers	0.036 Acres
		Green Roof	0.058 Acres
		50-75% Grass Cover, Fair	0.086 Acres
		Rooftop	0.168 Acres
Total Area	*0.405 Acres*		*0.405 acres*

Park Avenue Development

Existing Conditions		**Developed Conditions**	
Paved Parking and Roof	0.996 Acres	Paved Parking	0.220 Acres
		Permeable Pavers	0.144 Acres
		Green Roof	0.235 Acres
		50-75% Grass Cover, Fair	0.139 Acres
		Rooftop	0.258 Acres
Total Area	*0.996 Acres*		*0.996 acres*

Total Webster Development

Existing Conditions		**Developed Conditions**	
Grass Cover, Good	0.149 Acres	Paved Parking	0.277 Acres
Paved Parking and Roof	1.252 Acres	Permeable Pavers	0.180 Acres
		Green Roof	0.293 Acres
		50-75% Grass Cover, Fair	0.225 Acres
		Rooftop	0.426 Acres
Total Area	*1.401 Acres*		*1.401 acres*

The green roof as indicated does not achieve performance standards for compliance with section 5.3.8 of the New York State Stormwater Design Manual, therefore, this area was considered impervious within the hydrologic modeling and green infrastructure evaluation.

Two BMP practices were utilized for Water Quality and Runoff Reduction.

The Stormwater Planters were considered Subcatchment #1 and had a total contributory area of 1.22 acres (all area with the exception of the pervious pavers). Total impervious of 0.995 acres and 0.225 acres of pervious grass.

The pervious pavers were considered Subcatchment #2 and had a total area of 0.18 acres as indicated above.

REFERENCE:
NEW YORK CITY DEPARTMENT
OF FINANCE DIGITAL TAX MAP

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76 Lafayette Avenue
Suffern, NY 10901
(845) 357-4411
46 N. Central Avenue
Ramsey, NJ 07446
(201) 684-1221

PROJECT:
WEBSTER AVENUE RESIDENCES PROPERTY
BOROUGH OF BRONX
BRONX COUNTY, NEW YORK

TITLE:
NEW YORK CITY TAX MAP

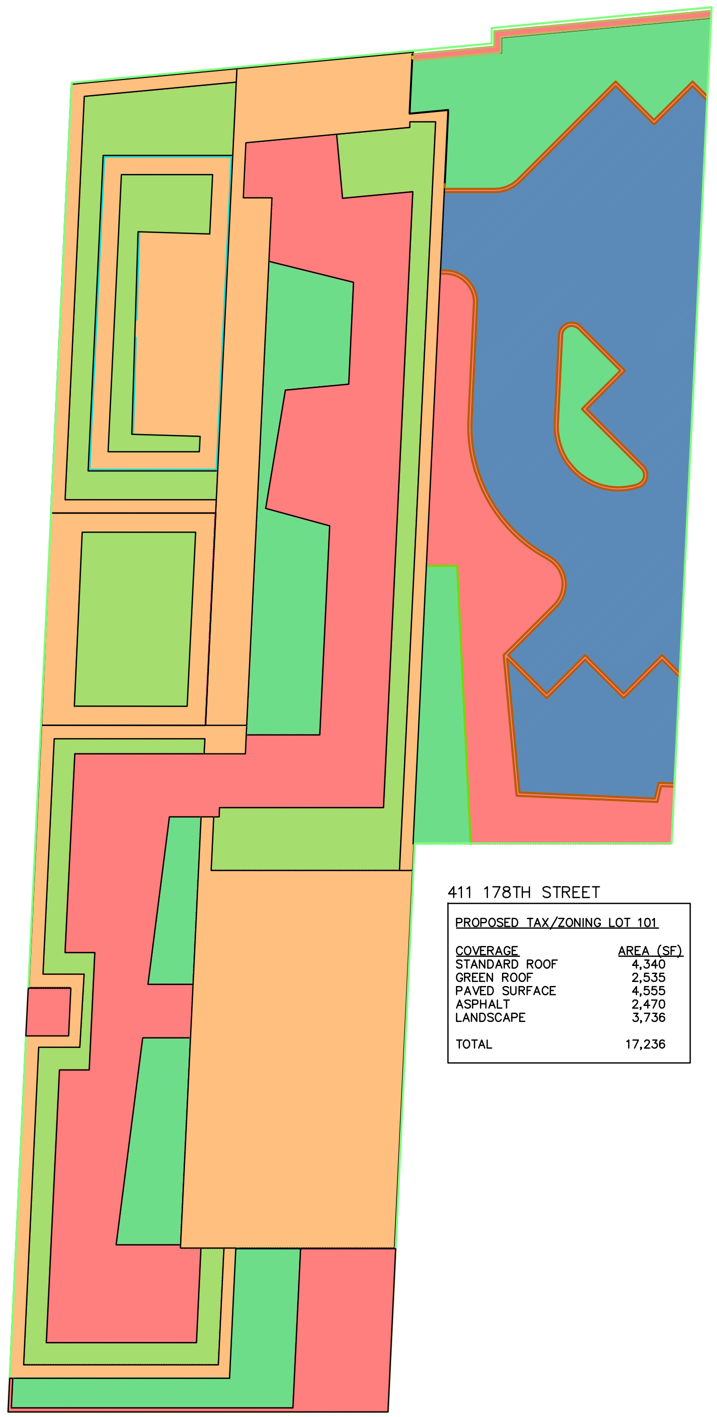
PROJECT NO:	DRAWN:	CHECKED:
13247	G.M.	G.M.

SCALE: N.T.S.

GRAPHIC SCALE:

DATE: 2/9/2015

DRAWING NO: 1



STANDARD ROOF

GREEN ROOF

LANDSCAPE

ASPHAULT

PAVED

411 178TH STREET

PROPOSED TAX/ZONING LOT 101

COVERAGE	AREA (SF)
STANDARD ROOF	4,340
GREEN ROOF	2,535
PAVED SURFACE	4,555
ASPHALT	2,470
LANDSCAPE	3,736
TOTAL	17,236

4275 PARK AVENUE

PROPOSED TAX/ZONING LOT 101

COVERAGE	AREA (SF)
STANDARD ROOF	11,250
GREEN ROOF	10,220
PAVED SURFACE	6,270
ASPHALT	9,570
LANDSCAPE	6,050
TOTAL	43,360

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Suffern, NY 10901
(845) 357-4411

46 N. Central Avenue
Ramsey, NJ 07446
(201) 684-1221

PROJECT:

WEBSTER AVENUE RESIDENCES PROPERTY

BOROUGH OF BRONX
BRONX COUNTY, NEW YORK

TITLE:

PROPOSED SITE DEVELOPMENT SURFACE TREATMENT COVERAGES

PROJECT NO:	DRAWN:	CHECKED:
13247	G.M.	G.M.

SCALE: N.T.S.

GRAPHIC SCALE:

DATE:	DRAWING NO:
2/9/2015	2

Water Quality and Runoff Reduction Calculations

Brooker Engineering PLLC
Version 1.0, Date 2/9/2015

Total Water Quality Volume Calculation
WQv(acre-feet) = [(P)(Rv)(A)] /12

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?...						No
Design Point:	Off Site		*Manually enter P, Total Area and Impervious Cover.*			
P=	1.20	*inch*				

Breakdown of Subcatchments						
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft³)*	**Description**
1	1.22	0.76	62%	0.61	3,230	Stormwater Planter
2	0.18	0.00	0%	0.05	39	Porous Pavement
3						
4						
5						
6						
Subtotal (1-30)	1.40	0.76	54%	0.54	**3,269**	**Subtotal 1**
Total	1.40	0.76	54%	0.54	**3,269**	**Initial WQv**

Identify Runoff Reduction Techniques By Area			
Technique	**Total Contributing Area** *(Acre)*	**Contributing Impervious Area** *(Acre)*	**Notes**
Conservation of Natural Areas	0.00	0.00	*minimum 10,000 sf*
Riparian Buffers	0.00	0.00	*maximum contributing length 75 feet to 150 feet*
Filter Strips	0.00	0.00	
Tree Planting	0.00	0.00	*Up to 100 sf directly connected impervious area may be subtracted per tree*
Total	**0.00**	**0.00**	

Recalculate WQv after application of Area Reduction Techniques					
	Total Area *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Runoff Coefficient Rv**	**WQv** *(ft³)*
"<<Initial WQv"	1.40	0.76	54%	0.54	3,269
Subtract Area	0.00	0.00			
WQv adjusted after Area Reductions	**1.40**	**0.76**	54%	0.54	3,269
Disconnection of Rooftops		0.00			
Adjusted WQv after Area Reduction and Rooftop Disconnect	1.40	0.76	54%	0.54	**3,269**
WQv reduced by Area Reduction techniques					0
Redevelopment Reduction		-0.57			
Adjusted WQv after Redevelopment Impervious Reduction	1.40	0.19	14%	0.17	**1,046**

Total Water Quality Volume Calculation
WQv(acre-feet) = [(P)(Rv)(A)] /12

Redevelopment Reduction						
Catchment Number	**Redevelopment Chapter 9**	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*
1	Yes	1.22	0.19	15%	0.19	159
2		0.18	0.00	0%	0.05	0
3		0.00	0.00			
4		0.00	0.00			
5		0.00	0.00			
6		0.00	0.00			
7		0.00	0.00			
8		0.00	0.00			
9		0.00	0.00			
10		0.00	0.00			
11		0.00	0.00			
12		0.00	0.00			
13		0.00	0.00			
14		0.00	0.00			
15		0.00	0.00			
16		0.00	0.00			
17		0.00	0.00			
18		0.00	0.00			
19		0.00	0.00			
20		0.00	0.00			
21		0.00	0.00			
22		0.00	0.00			
23		0.00	0.00			
24		0.00	0.00			
25		0.00	0.00			
26		0.00	0.00			
27		0.00	0.00			
28		0.00	0.00			
29		0.00	0.00			
30		0.00	0.00			
Subtotal		1.40	0.19			**0**

Runoff Reduction Volume and Treated volumes						
	Runoff Reduction Techiques/Standard SMPs		**Total Contributing Area**	**Total Contributing Impervious Area**	**WQv Reduced (RRv)**	**WQv Treated**
			(acres)	**(acres)**	**cf**	**cf**
Area/Volume Reduction	Conservation of Natural Areas	RR-1	0.00	0.00		
	Sheetflow to Riparian Buffers/Filter Strips	RR-2	0.00	0.00		
	Tree Planting/Tree Pit	RR-3	0.00	0.00		
	Disconnection of Rooftop Runoff	RR-4		0.00		
	Vegetated Swale	RR-5	0.00	0.00	0	
	Rain Garden	RR-6	0.00	0.00	0	
	Stormwater Planter	RR-7	1.22	0.76	1453	
	Rain Barrel/Cistern	RR-8	0.00	0.00	0	
	Porous Pavement	RR-9	0.18	0.00	39	
	Green Roof (Intensive & Extensive)	RR-10	0.00	0.00	0	
Standard SMPs w/RRv Capacity	Infiltration Trench	I-1	0.00	0.00	0	0
	Infiltration Basin	I-2	0.00	0.00	0	0
	Dry Well	I-3	0.00	0.00	0	0
	Underground Infiltration System	I-4	0.00			
	Bioretention & Infiltration Bioretention	F-5	0.00	0.00	0	0
	Dry swale	O-1	0.00	0.00	0	0
Standard SMPs	Micropool Extended Detention (P-1)	P-1				
	Wet Pond (P-2)	P-2				
	Wet Extended Detention (P-3)	P-3				
	Multiple Pond system (P-4)	P-4				
	Pocket Pond (p-5)	P-5				
	Surface Sand filter (F-1)	F-1				
	Underground Sand filter (F-2)	F-2				
	Perimeter Sand Filter (F-3)	F-3				
	Organic Filter (F-4	F-4				
	Shallow Wetland (W-1)	W-1				
	Extended Detention Wetland (W-2	W-2				
	Pond/Wetland System (W-3)	W-3				
	Pocket Wetland (W-4)	W-4				
	Wet Swale (O-2)	O-2				
	Totals by Area Reduction	→	0.00	0.00	0	
	Totals by Volume Reduction	→	1.40	0.76	1492	
	Totals by Standard SMP w/RRV	→	0.00	0.00	0	0
	Totals by Standard SMP	→	0.00	0.00		0
	Totals (Area + Volume + all SMPs)	→	1.40	0.76	1,492	0
	Impervious Cover √	okay				
	Total Area √	okay				

Minimum RRv

Enter the Soils Data for the site		
Soil Group	Acres	S
A		55%
B		40%
C		30%
D	**1.40**	20%
Total Area	1.4	

Calculate the Minimum RRv		
S =	**0.20**	
Impervious =	0.76	*acre*
Precipitation	1.2	*in*
Rv	0.95	
Minimum RRv	**626**	***ft3***
	0.01	af

NOI QUESTIONS

#	NOI Question	Reported Value	
		cf	af
28	Total Water Quality Volume (WQv) Required	1046	*0.024*
30	Total RRV Provided	1492	*0.034*
31	Is RRv Provided ≥WQv Required?	Yes	
32	Minimum RRv	626	*0.014*
32a	Is RRv Provided ≥ Minimum RRv Required?	Yes	
33a	Total WQv Treated		
34	Sum of Volume Reduced & Treated		
35	Is Sum RRv Provided and WQv Provided ≥WQv Required?		

Apply Peak Flow Attenuation			
36	Channel Protection	*Cpv*	
37	Overbank	*Qp*	
37	Extreme Flood Control	*Qf*	
	Are Quantity Control requirements met?		

Planning

Practice	Description	Application
Preservation of Undisturbed Areas	Delineate and place into permanent conservation undisturbed forests, native vegetated areas, riparian corridors, wetlands, and natural terrain.	N/A
Preservation of Buffers	Define, delineate and preserve naturally vegetated buffers along perennial streams, rivers, shorelines and wetlands.	N/A
Reduction of Clearing and Grading	Limit clearing and grading to the minimum amount needed for roads, driveways, foundations, utilities and stormwater management facilities.	N/A
Locating Development in Less Sensitive Areas	Avoid sensitive resource areas such as floodplains, steep slopes, erodible soils, wetlands, mature forests and critical habitats by locating development to fit the terrain in areas that will create the least impact.	N/A
Open Space Design	Use clustering, conservation design or open space design to reduce impervious cover, preserve more open space and protect water resources.	N/A
Soil Restoration	Restore the original properties and porosity of the soil by deep till and amendment with compost to reduce the generation of runoff and enhance the runoff reduction performance of post construction practices.	N/A
Roadway Reduction	Minimize roadway widths and lengths to reduce site impervious area	N/A
Sidewalk Reduction	Minimize sidewalk lengths and widths to reduce site impervious area	N/A
Driveway Reduction	Minimize driveway lengths and widths to reduce site impervious area	Considered & Applied
Cul-de-sac Reduction	Minimize the number of cul-de-sacs and incorporate landscaped areas to reduce their impervious cover.	N/A
Building Footprint Reduction	Reduce the impervious footprint of residences and commercial buildings by using alternate or taller buildings while maintaining the same floor to area ratio.	Considered & Applied
Parking Reduction	Reduce imperviousness on parking lots by eliminating unneeded spaces, providing compact car spaces and efficient parking lanes, minimizing stall dimensions, using porous pavement surfaces in overflow parking areas, and using multi-storied parking decks where appropriate.	Considered & Applied

Porous Pavement Worksheet

$$Ap = Vw / (n \times dt)$$

Ap	Required porous pavement surface area	*ft2*	
Vw	Design Volume	*ft3*	
n	porosity of gravel bed/resevoir		*Assume .4 for gravel*
dt	depth of gravel bed/resevoir		

Design Point:	**Off Site**						
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
2	0.18	0.00	0.00	0.05	39.20	1.20	Porous Pavement
Enter Soil Infiltration Rate							
Soil Inflitration Rate		0.50	*in/hour*				
Calculate Required Surface Area							
Design Volume		Vw	39	*ft^3*			
Porosity of Gravel Bed		*n*	0.40				
Gravel Bed Depth		dt	1.25	*ft*			
Required Surface Area		Ap	78	*sf*			
Surface Area Provided			12,040	*sf*	*Dimensions of pavement can be provided here*		
Storage Volume Provided			6,020	*ft^3*			
Determine the Runoff Reduction							
RRv	**39**	***ft^3***					

Stormwater Planter Worksheet

Af=WQv*(df)/[k*(hf+df)(tf)]

where:	*Af*	Required Surface Area (ft2)
	WQv	Water Quality Volume (ft^3)
	df	Depth of the Soil Medium (ft)
	k	The Hyrdaulic Conductivity (ft/day), usually set at 4 ft/day when soil is loosely **Sand** - 3.5 ft/day (City of Austin 1988); **Peat** - 2.0 ft/day (Galli 1990); **Leaf Compost** - 8.7 ft/day (Claytor and Schueler, 1996); **Bioretention Soil**
	hf	Average Height of Water above planter bed (ft)
	tf	The Design Time to Filter the Treatment Volume Through the Filter Media (days)

Design Point: **Off Site**

Enter Site Data For Drainage Area to be Treated by Practice

Catchment Number	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Rv	WQv *(ft^3)*	Precipitation *(in)*	Description
1	1.22	0.76	0.62	0.61	3229.54	1.20	Stormwater Planter

Calculate the Mimimum Filter Area

Parameter	Value	Units	
WQv	3,230	*ft^3*	*WQv*
Depth of Soil Media	3.5	*ft*	*df*
Hydraulic Conductivity	4	*ft/d*	*k*
Average Height of Ponding	0.25	*ft*	*hf*
Filter Time	0.17	*d*	*tf*
Required Area of Filter	4433	*ft^2*	*Af*

Area of Filter

Width	4.7	*ft*
Length	200	*ft*
Area Provided	940	*ft^2*
Volume Provided	684.857143	

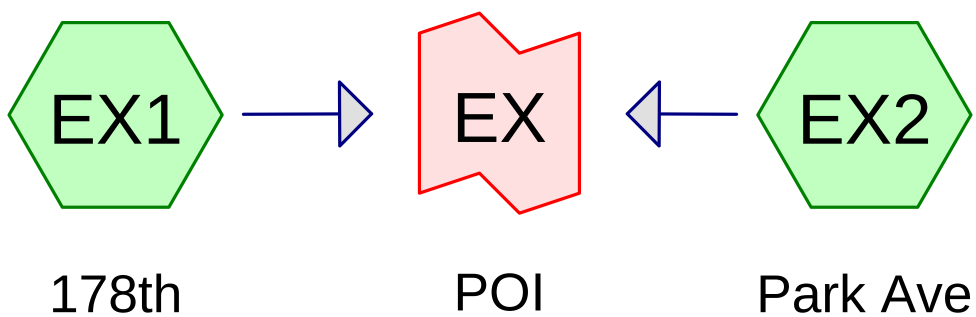
Runoff Reduction

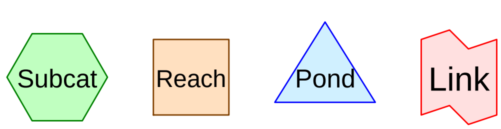
Soil Type	C
Flow Through Planter?	*Yes*

Determine the Runoff Reduction

RRv	**3,230**	***ft^3***
RRv Applied	**1,453**	***ft^3***

Existing Conditions Hydrologic Analysis





Routing Diagram for NRCS
Prepared by Hewlett-Packard Company, Printed 2/9/2015
HydroCAD® 10.00 s/n 06354 © 2011 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.149	80	>75% Grass cover, Good, HSG D (EX1)
1.252	98	Paved parking, HSG D (EX1, EX2)
1.401	**96**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
1.401	HSG D	EX1, EX2
0.000	Other	
1.401		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.149	0.000	0.149	>75% Grass cover, Good	EX1
0.000	0.000	0.000	1.252	0.000	1.252	Paved parking	EX1, EX2
0.000	**0.000**	**0.000**	**1.401**	**0.000**	**1.401**	**TOTAL AREA**	

Time span=0.05-24.00 hrs, dt=0.05 hrs, 480 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EX1: 178th Runoff Area=0.405 ac 63.21% Impervious Runoff Depth>1.79"
Tc=6.0 min CN=91 Runoff=0.83 cfs 0.060 af

Subcatchment EX2: Park Ave Runoff Area=0.996 ac 100.00% Impervious Runoff Depth>2.47"
Tc=6.0 min CN=98 Runoff=2.54 cfs 0.205 af

Link EX: POI Inflow=3.36 cfs 0.265 af
Primary=3.36 cfs 0.265 af

Total Runoff Area = 1.401 ac Runoff Volume = 0.265 af Average Runoff Depth = 2.27"
10.64% Pervious = 0.149 ac 89.36% Impervious = 1.252 ac

Summary for Subcatchment EX1: 178th

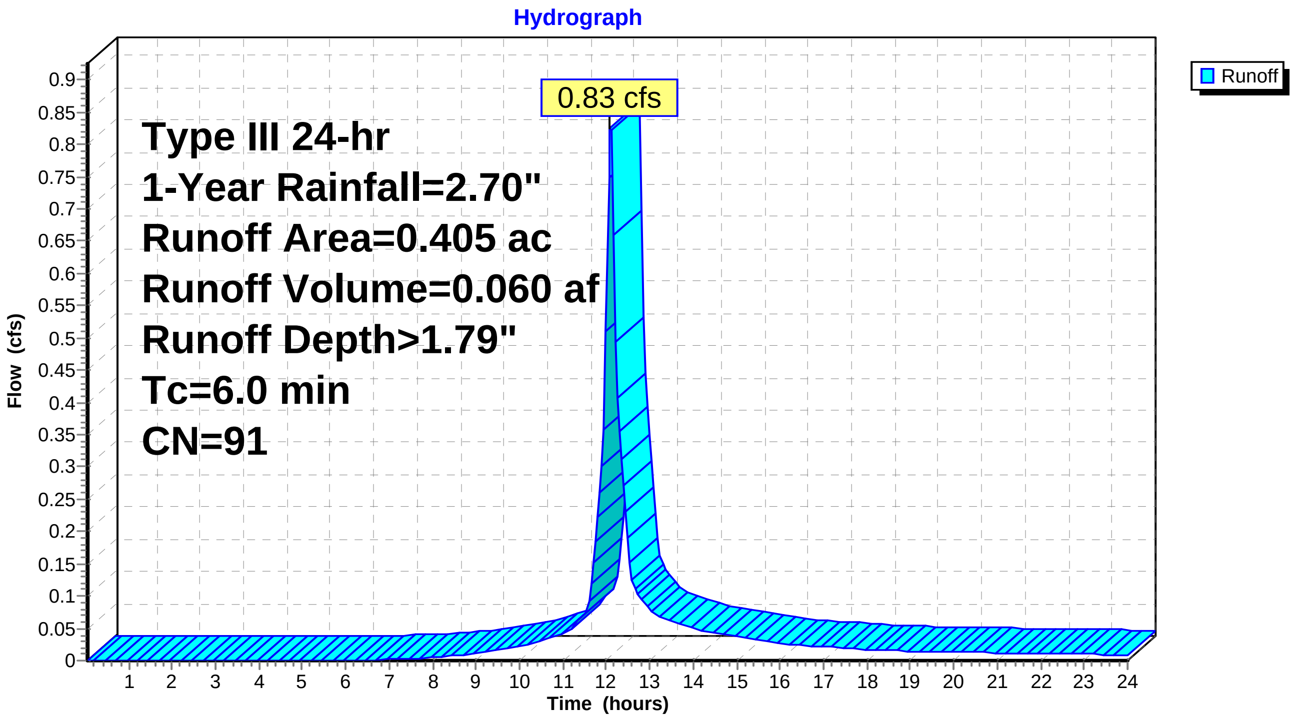
Runoff = 0.83 cfs @ 12.09 hrs, Volume= 0.060 af, Depth> 1.79"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.70"

Area (ac)	CN	Description
0.256	98	Paved parking, HSG D
0.149	80	>75% Grass cover, Good, HSG D
0.405	91	Weighted Average
0.149		36.79% Pervious Area
0.256		63.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EX1: 178th



Summary for Subcatchment EX2: Park Ave

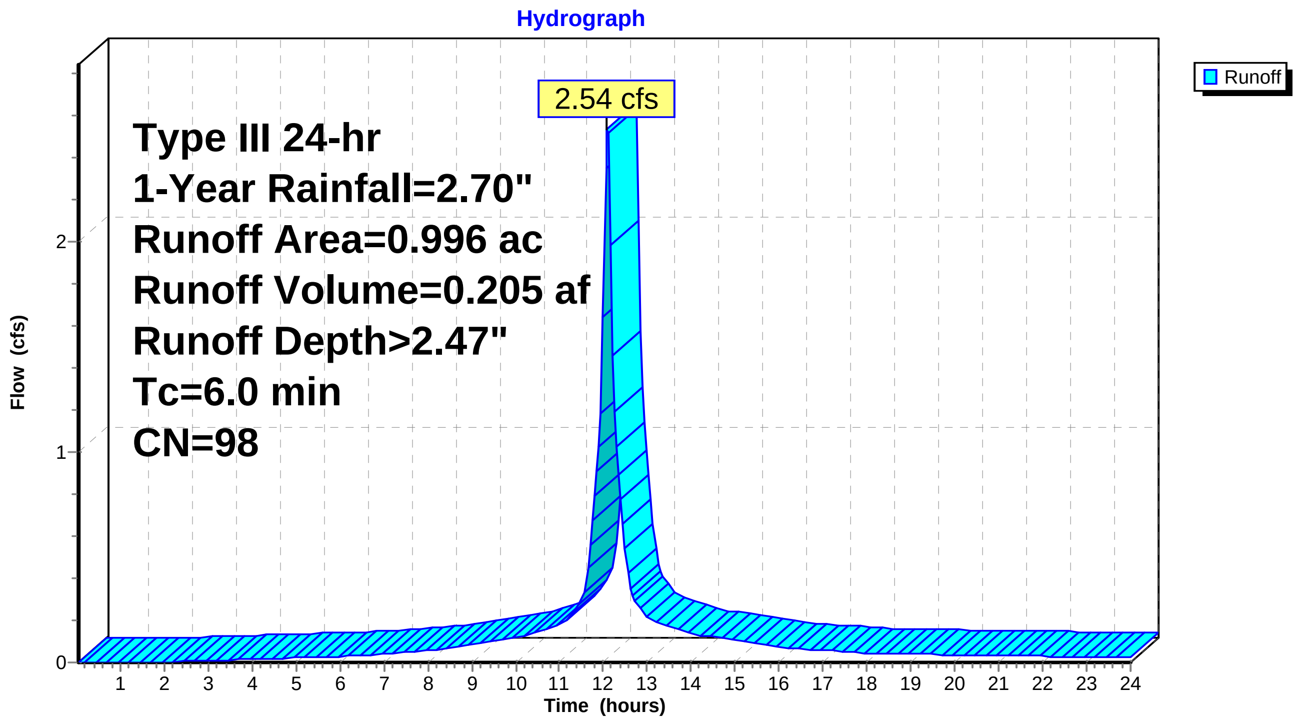
Runoff = 2.54 cfs @ 12.09 hrs, Volume= 0.205 af, Depth> 2.47"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.70"

Area (ac)	CN	Description
0.996	98	Paved parking, HSG D
0.996		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EX2: Park Ave

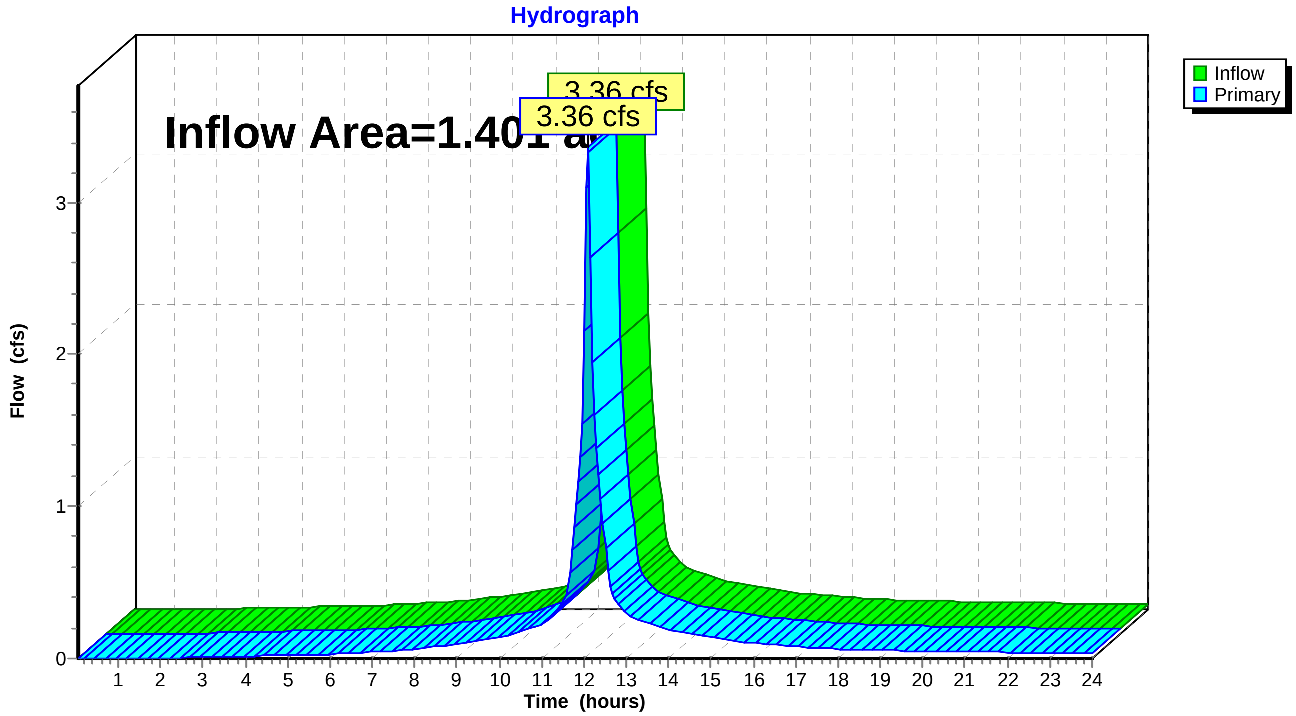


Summary for Link EX: POI

Inflow Area = 1.401 ac, 89.36% Impervious, Inflow Depth > 2.27" for 1-Year event
Inflow = 3.36 cfs @ 12.09 hrs, Volume= 0.265 af
Primary = 3.36 cfs @ 12.09 hrs, Volume= 0.265 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs

Link EX: POI



Time span=0.05-24.00 hrs, dt=0.05 hrs, 480 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EX1: 178th Runoff Area=0.405 ac 63.21% Impervious Runoff Depth>2.54"
Tc=6.0 min CN=91 Runoff=1.16 cfs 0.086 af

Subcatchment EX2: Park Ave Runoff Area=0.996 ac 100.00% Impervious Runoff Depth>3.26"
Tc=6.0 min CN=98 Runoff=3.31 cfs 0.271 af

Link EX: POI Inflow=4.47 cfs 0.357 af
Primary=4.47 cfs 0.357 af

Total Runoff Area = 1.401 ac Runoff Volume = 0.357 af Average Runoff Depth = 3.05"
10.64% Pervious = 0.149 ac 89.36% Impervious = 1.252 ac

Summary for Subcatchment EX1: 178th

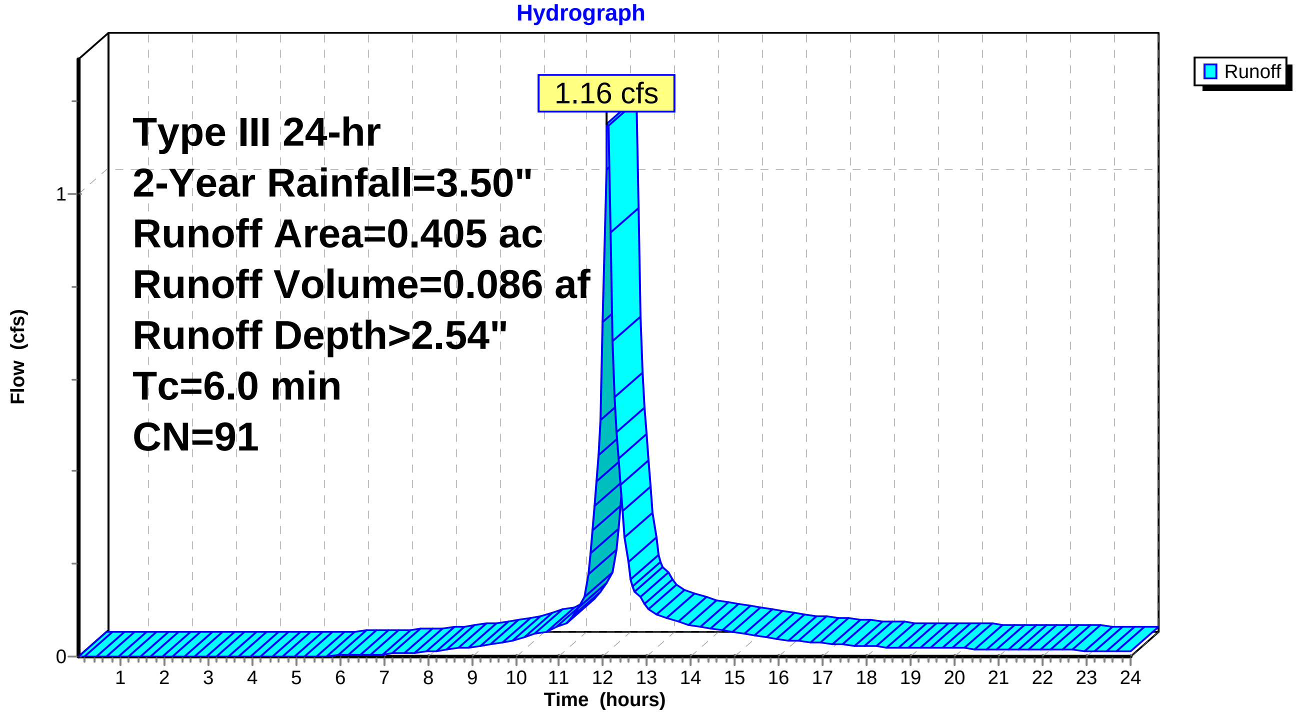
Runoff = 1.16 cfs @ 12.09 hrs, Volume= 0.086 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.50"

Area (ac)	CN	Description
0.256	98	Paved parking, HSG D
0.149	80	>75% Grass cover, Good, HSG D
0.405	91	Weighted Average
0.149		36.79% Pervious Area
0.256		63.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EX1: 178th



Summary for Subcatchment EX2: Park Ave

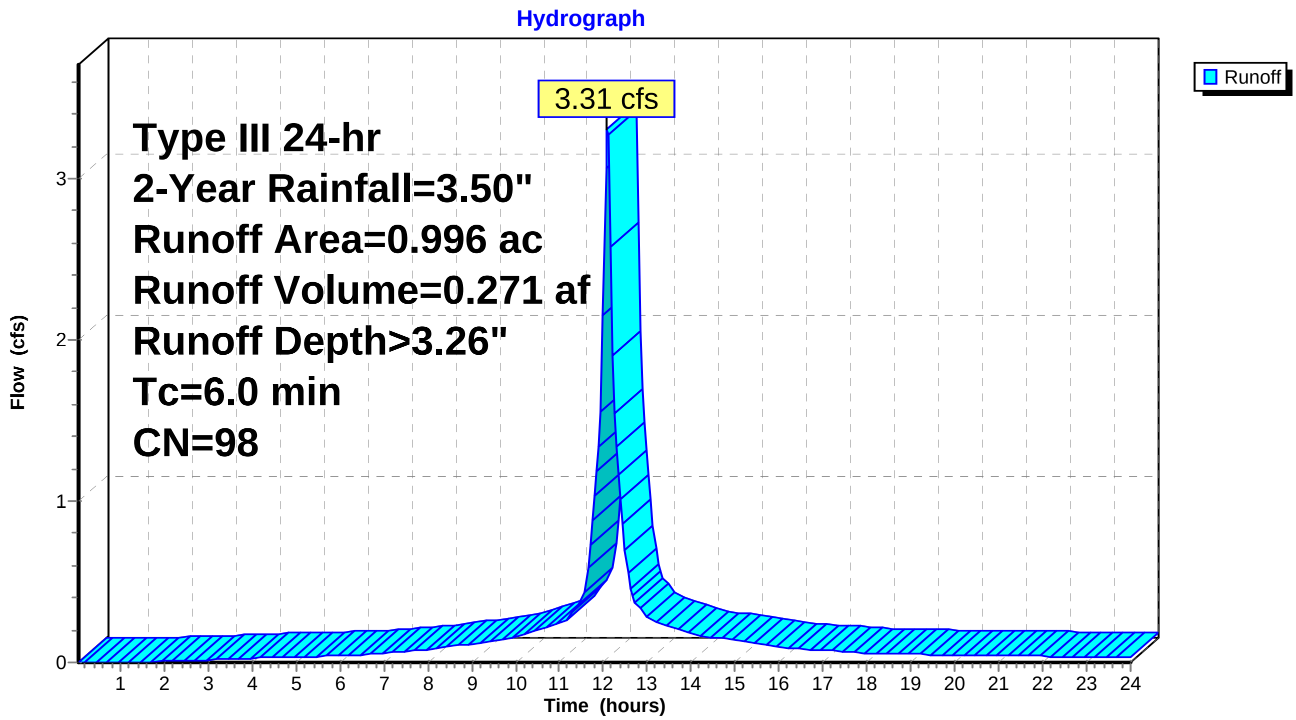
Runoff = 3.31 cfs @ 12.09 hrs, Volume= 0.271 af, Depth> 3.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.50"

Area (ac)	CN	Description
0.996	98	Paved parking, HSG D
0.996		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EX2: Park Ave

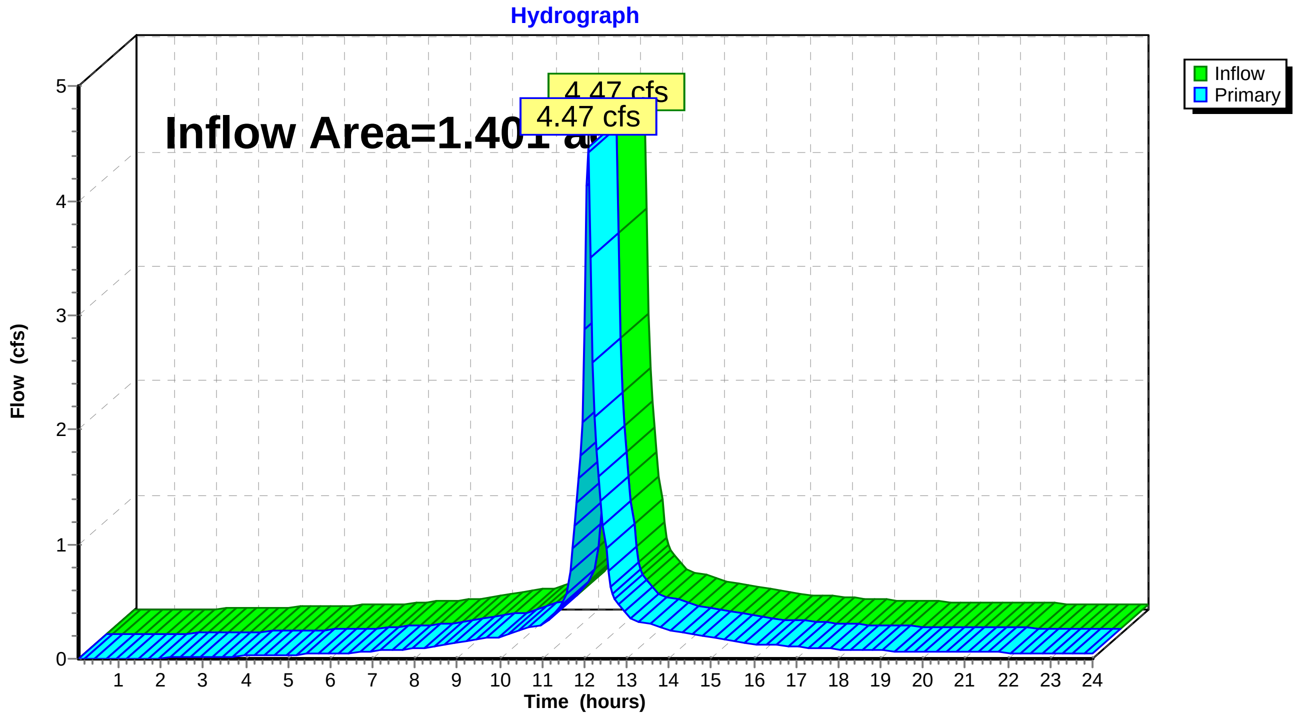


Summary for Link EX: POI

Inflow Area = 1.401 ac, 89.36% Impervious, Inflow Depth > 3.05" for 2-Year event
Inflow = 4.47 cfs @ 12.09 hrs, Volume= 0.357 af
Primary = 4.47 cfs @ 12.09 hrs, Volume= 0.357 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs

Link EX: POI



Time span=0.05-24.00 hrs, dt=0.05 hrs, 480 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EX1: 178th Runoff Area=0.405 ac 63.21% Impervious Runoff Depth>3.98"
Tc=6.0 min CN=91 Runoff=1.77 cfs 0.134 af

Subcatchment EX2: Park Ave Runoff Area=0.996 ac 100.00% Impervious Runoff Depth>4.76"
Tc=6.0 min CN=98 Runoff=4.76 cfs 0.395 af

Link EX: POI Inflow=6.53 cfs 0.529 af
Primary=6.53 cfs 0.529 af

Total Runoff Area = 1.401 ac Runoff Volume = 0.529 af Average Runoff Depth = 4.53"
10.64% Pervious = 0.149 ac 89.36% Impervious = 1.252 ac

Summary for Subcatchment EX1: 178th

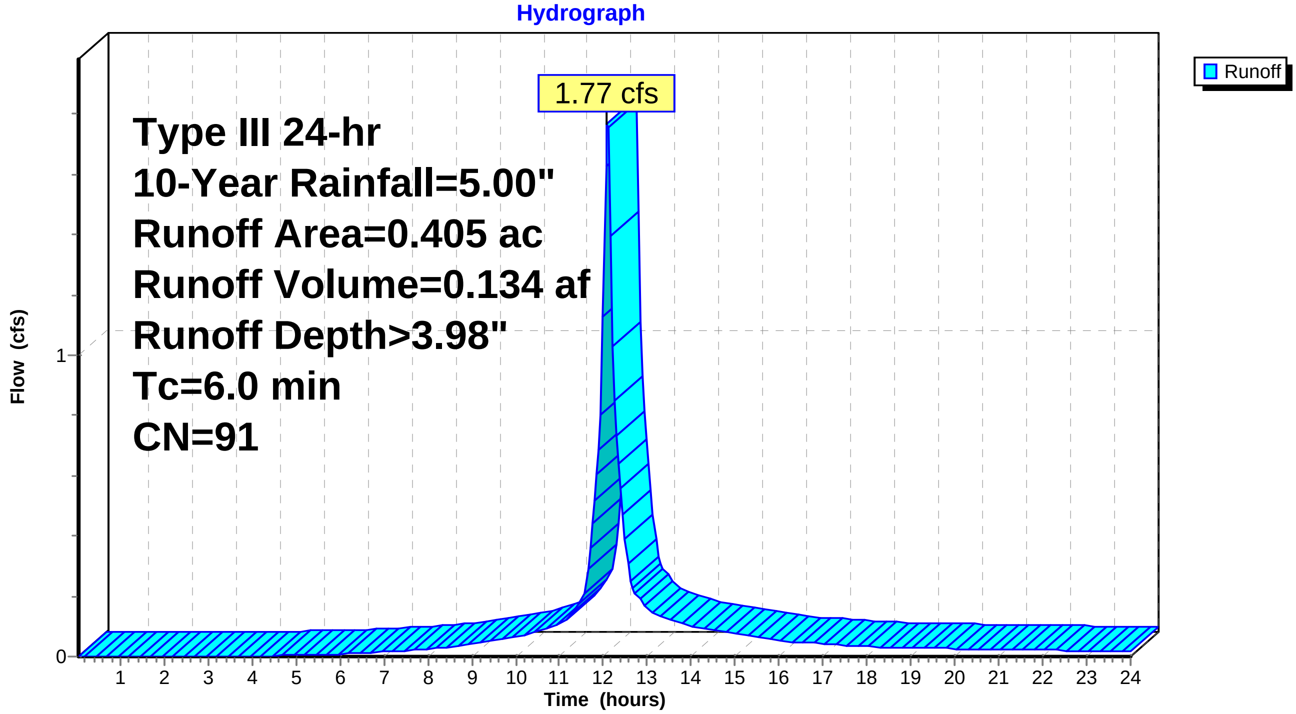
Runoff = 1.77 cfs @ 12.09 hrs, Volume= 0.134 af, Depth> 3.98"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.00"

Area (ac)	CN	Description
0.256	98	Paved parking, HSG D
0.149	80	>75% Grass cover, Good, HSG D
0.405	91	Weighted Average
0.149		36.79% Pervious Area
0.256		63.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EX1: 178th



Summary for Subcatchment EX2: Park Ave

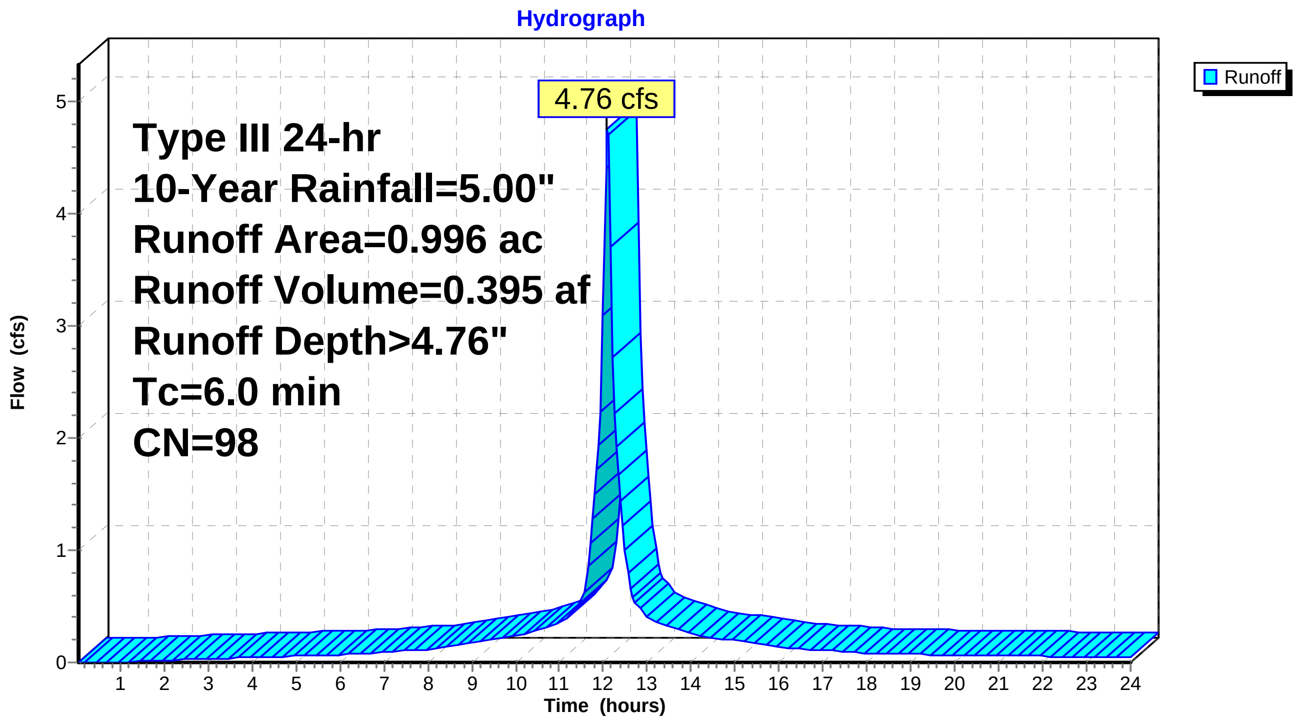
Runoff = 4.76 cfs @ 12.09 hrs, Volume= 0.395 af, Depth> 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.00"

Area (ac)	CN	Description
0.996	98	Paved parking, HSG D
0.996		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EX2: Park Ave

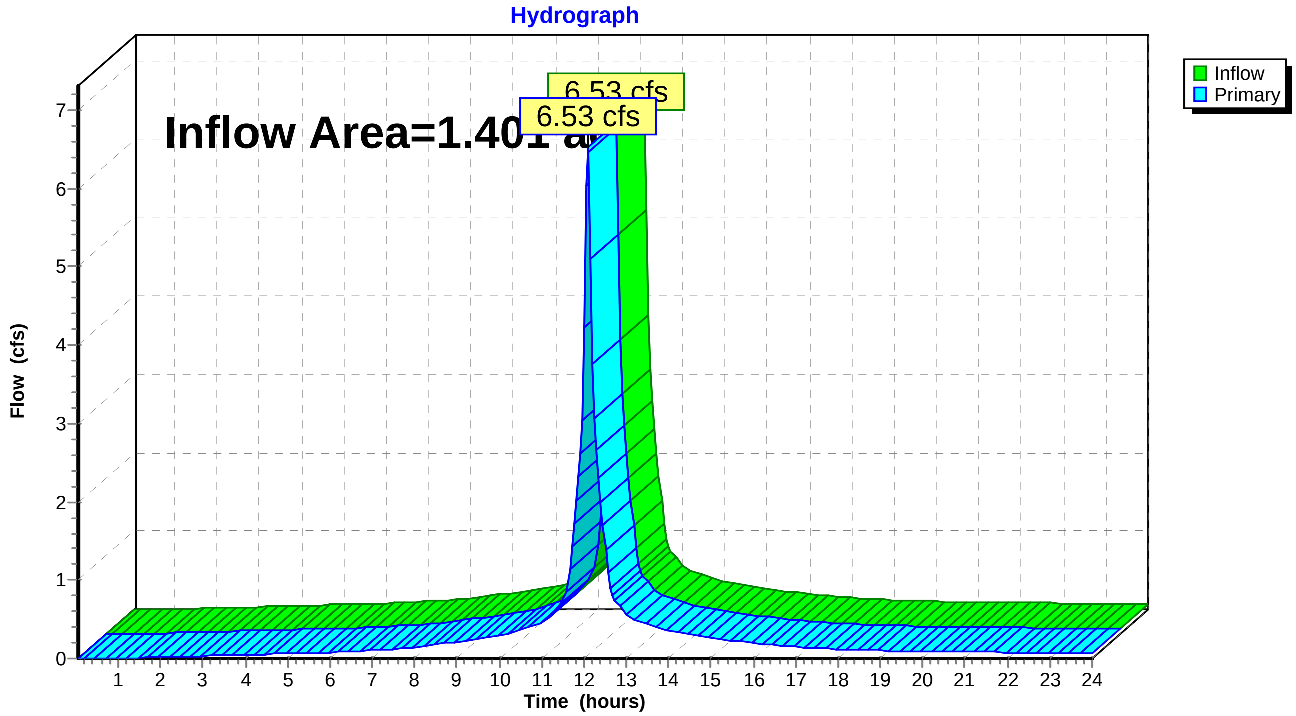


Summary for Link EX: POI

Inflow Area = 1.401 ac, 89.36% Impervious, Inflow Depth > 4.53" for 10-Year event
Inflow = 6.53 cfs @ 12.09 hrs, Volume= 0.529 af
Primary = 6.53 cfs @ 12.09 hrs, Volume= 0.529 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs

Link EX: POI



Time span=0.05-24.00 hrs, dt=0.05 hrs, 480 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EX1: 178th Runoff Area=0.405 ac 63.21% Impervious Runoff Depth>6.43"
Tc=6.0 min CN=91 Runoff=2.78 cfs 0.217 af

Subcatchment EX2: Park Ave Runoff Area=0.996 ac 100.00% Impervious Runoff Depth>7.26"
Tc=6.0 min CN=98 Runoff=7.16 cfs 0.602 af

Link EX: POI Inflow=9.94 cfs 0.819 af
Primary=9.94 cfs 0.819 af

Total Runoff Area = 1.401 ac Runoff Volume = 0.819 af Average Runoff Depth = 7.02"
10.64% Pervious = 0.149 ac 89.36% Impervious = 1.252 ac

Summary for Subcatchment EX1: 178th

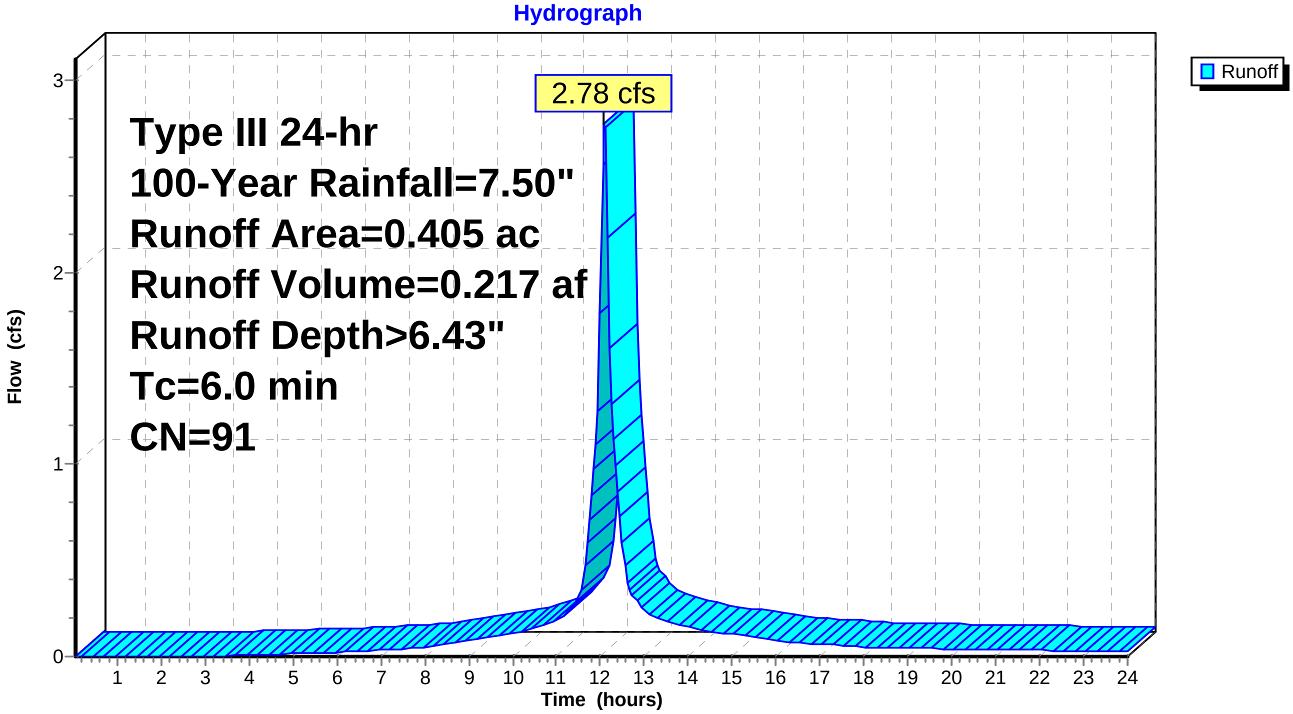
Runoff = 2.78 cfs @ 12.09 hrs, Volume= 0.217 af, Depth> 6.43"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=7.50"

Area (ac)	CN	Description
0.256	98	Paved parking, HSG D
0.149	80	>75% Grass cover, Good, HSG D
0.405	91	Weighted Average
0.149		36.79% Pervious Area
0.256		63.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EX1: 178th



Summary for Subcatchment EX2: Park Ave

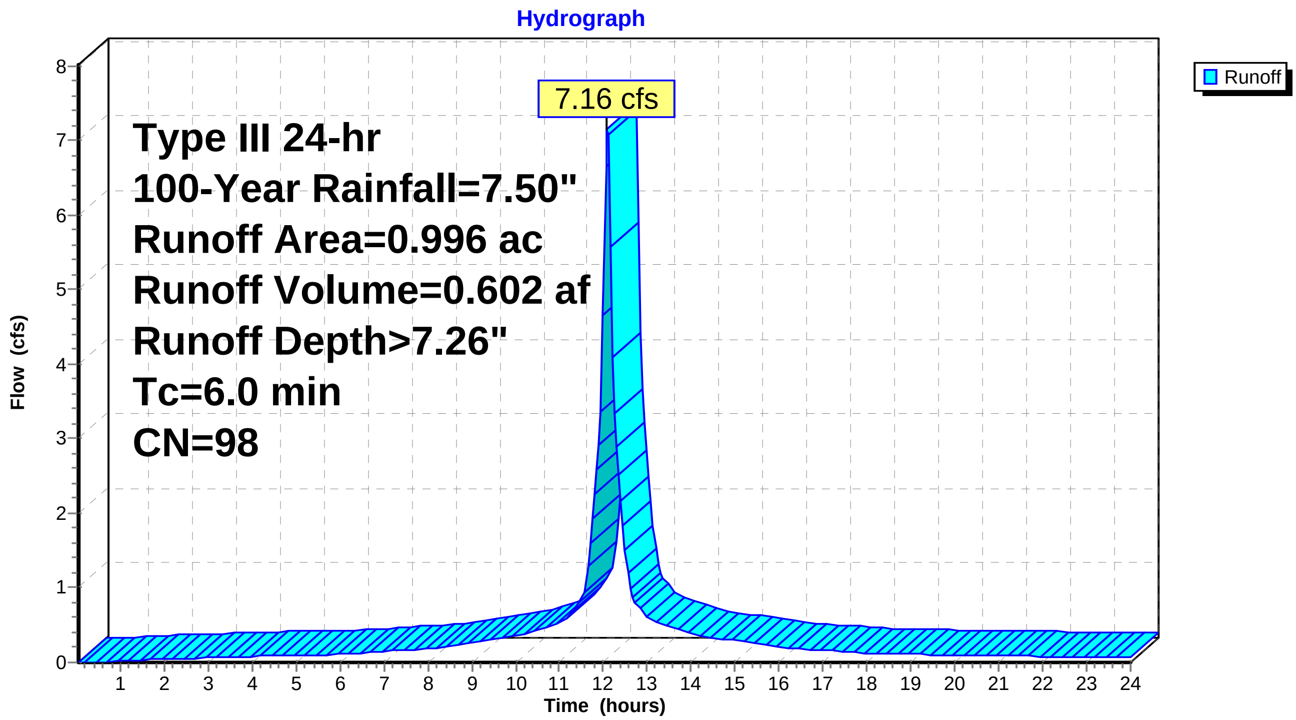
Runoff = 7.16 cfs @ 12.09 hrs, Volume= 0.602 af, Depth> 7.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=7.50"

Area (ac)	CN	Description
0.996	98	Paved parking, HSG D
0.996		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EX2: Park Ave

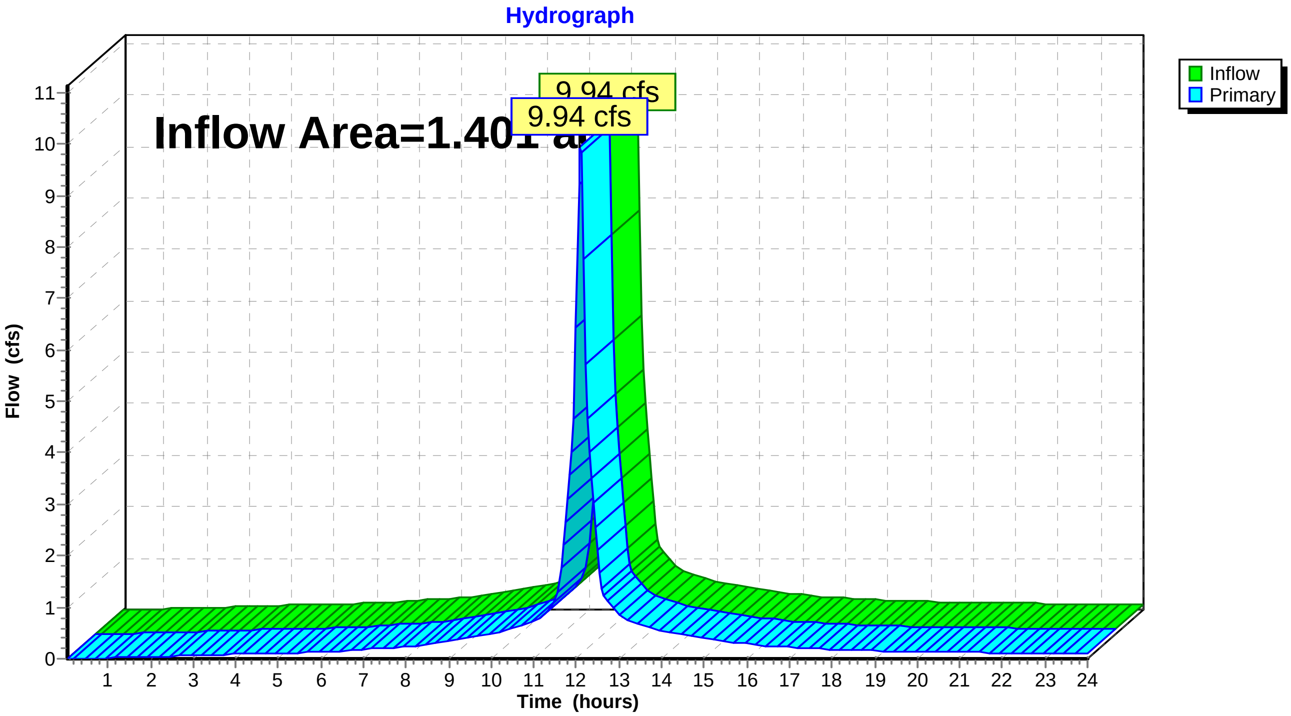


Summary for Link EX: POI

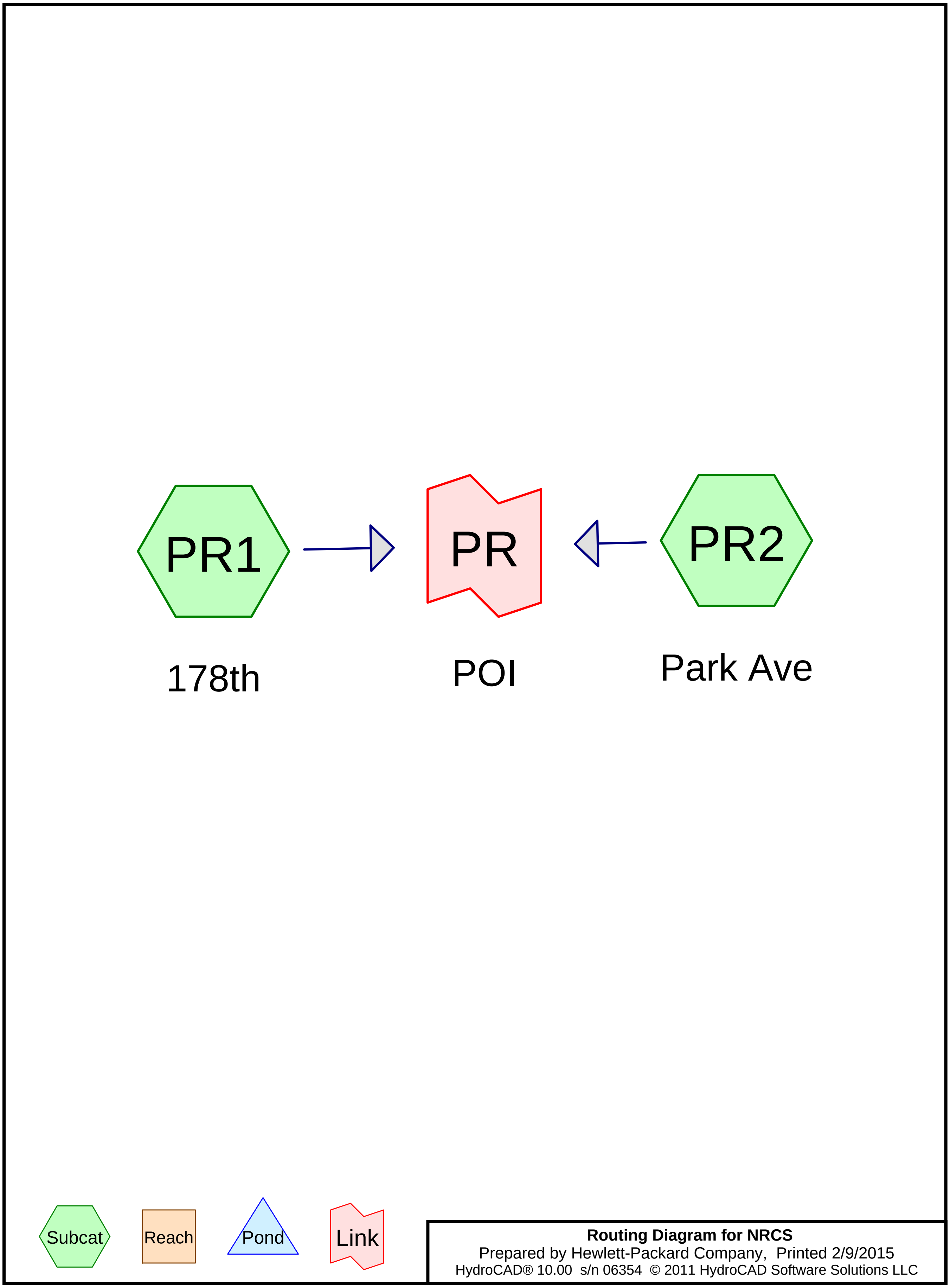
Inflow Area = 1.401 ac, 89.36% Impervious, Inflow Depth > 7.02" for 100-Year event
Inflow = 9.94 cfs @ 12.09 hrs, Volume= 0.819 af
Primary = 9.94 cfs @ 12.09 hrs, Volume= 0.819 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs

Link EX: POI



Developed Conditions Hydrologic Analysis


PR1
178th
PR
POI
PR2
Park Ave
Subcat
Reach
Pond
Link
Routing Diagram for NRCS
Prepared by Hewlett-Packard Company, Printed 2/9/2015
HydroCAD® 10.00 s/n 06354 © 2011 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.225	79	50-75% Grass cover, Fair, HSG C (PR1, PR2)
0.293	98	Green Roof (PR1, PR2)
0.277	98	Paved Parking (PR1, PR2)
0.180	98	Perm Pavers (PR1, PR2)
0.426	98	Roof (PR1, PR2)
1.401	**95**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.225	HSG C	PR1, PR2
0.000	HSG D	
1.176	Other	PR1, PR2
1.401		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	0.293	0.293	Green Roof	PR1, PR2
0.000	0.000	0.000	0.000	0.277	0.277	Paved Parking	PR1, PR2
0.000	0.000	0.000	0.000	0.180	0.180	Perm Pavers	PR1, PR2
0.000	0.000	0.225	0.000	0.000	0.225	50-75% Grass cover, Fair	PR1, PR2
0.000	0.000	0.000	0.000	0.426	0.426	Roof	PR1, PR2
0.000	**0.000**	**0.225**	**0.000**	**1.176**	**1.401**	**TOTAL AREA**	

Time span=0.05-24.00 hrs, dt=0.05 hrs, 480 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PR1: 178th Runoff Area=0.405 ac 78.77% Impervious Runoff Depth>2.06"
Tc=6.0 min CN=94 Runoff=0.93 cfs 0.070 af

Subcatchment PR2: Park Ave Runoff Area=0.996 ac 86.04% Impervious Runoff Depth>2.16"
Tc=6.0 min CN=95 Runoff=2.35 cfs 0.179 af

Link PR: POI Inflow=3.28 cfs 0.248 af
Primary=3.28 cfs 0.248 af

Total Runoff Area = 1.401 ac Runoff Volume = 0.248 af Average Runoff Depth = 2.13"
16.06% Pervious = 0.225 ac 83.94% Impervious = 1.176 ac

Summary for Subcatchment PR1: 178th

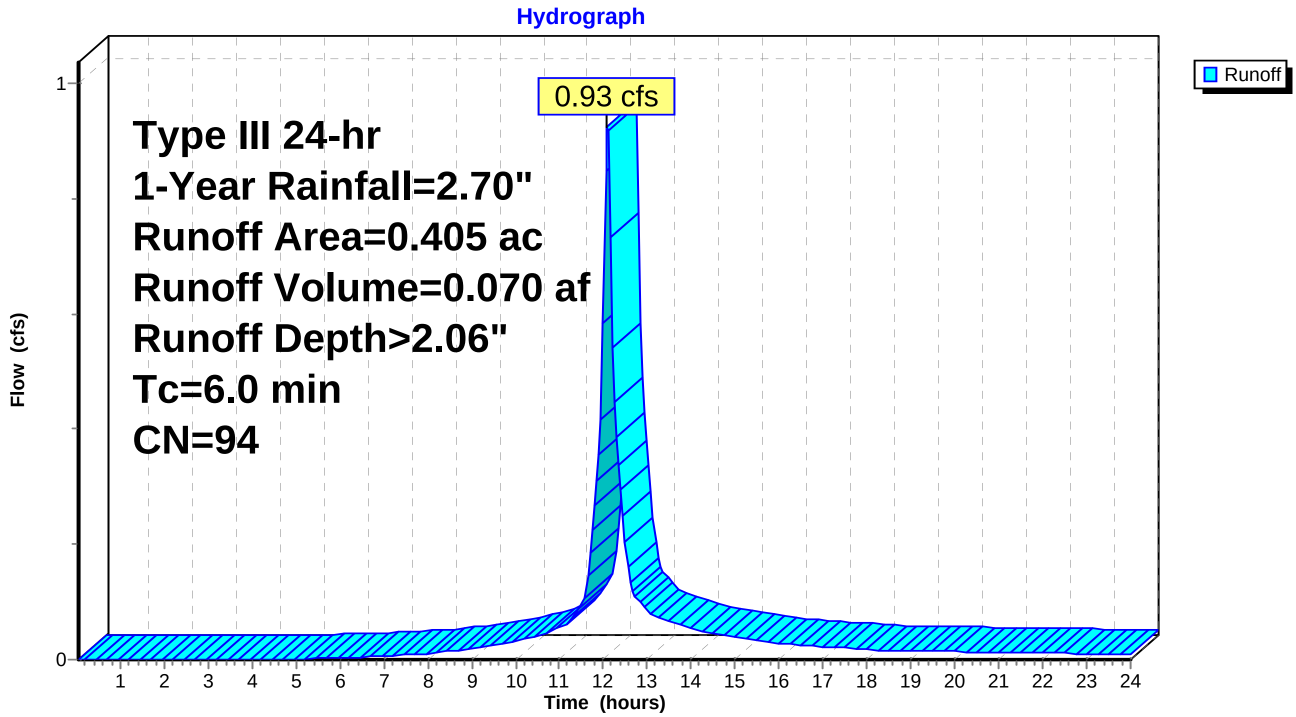
Runoff = 0.93 cfs @ 12.09 hrs, Volume= 0.070 af, Depth> 2.06"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.70"

	Area (ac)	CN	Description
*	0.057	98	Paved Parking
*	0.036	98	Perm Pavers
*	0.058	98	Green Roof
	0.086	79	50-75% Grass cover, Fair, HSG C
*	0.168	98	Roof
	0.405	94	Weighted Average
	0.086		21.23% Pervious Area
	0.319		78.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PR1: 178th



Summary for Subcatchment PR2: Park Ave

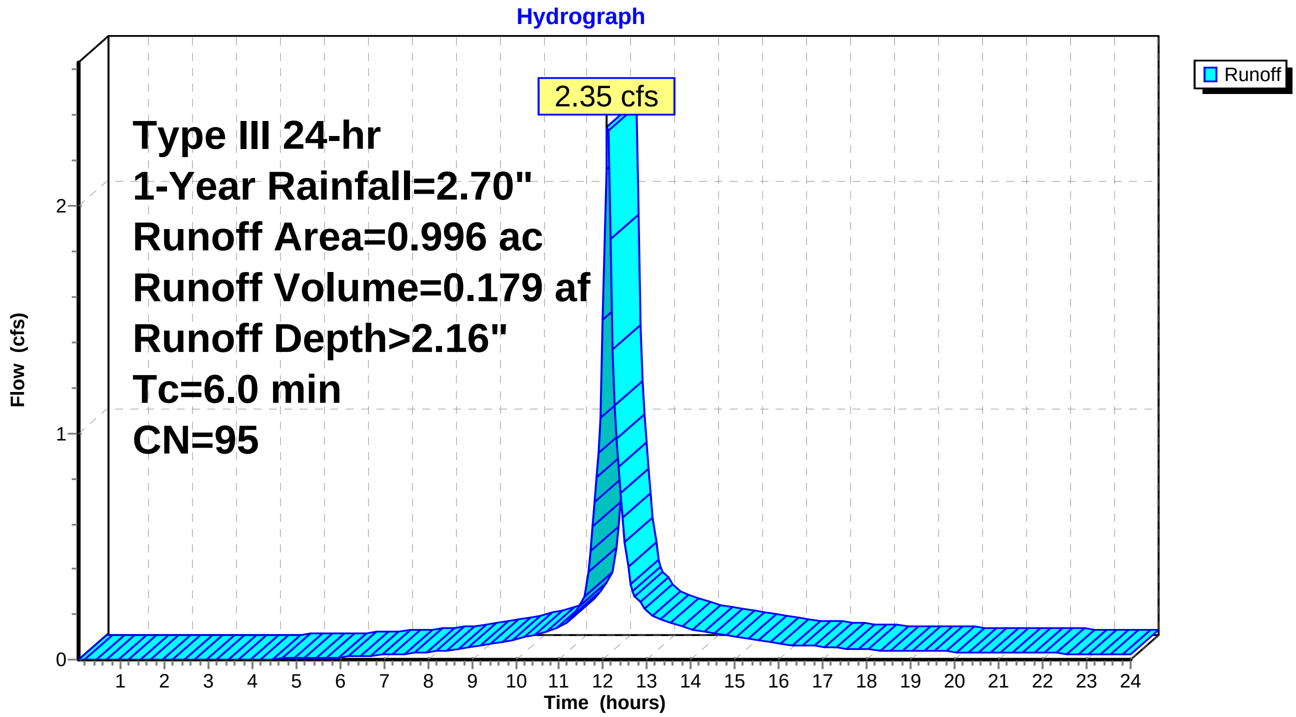
Runoff = 2.35 cfs @ 12.09 hrs, Volume= 0.179 af, Depth> 2.16"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.70"

	Area (ac)	CN	Description
*	0.220	98	Paved Parking
*	0.144	98	Perm Pavers
*	0.235	98	Green Roof
	0.139	79	50-75% Grass cover, Fair, HSG C
*	0.258	98	Roof
	0.996	95	Weighted Average
	0.139		13.96% Pervious Area
	0.857		86.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

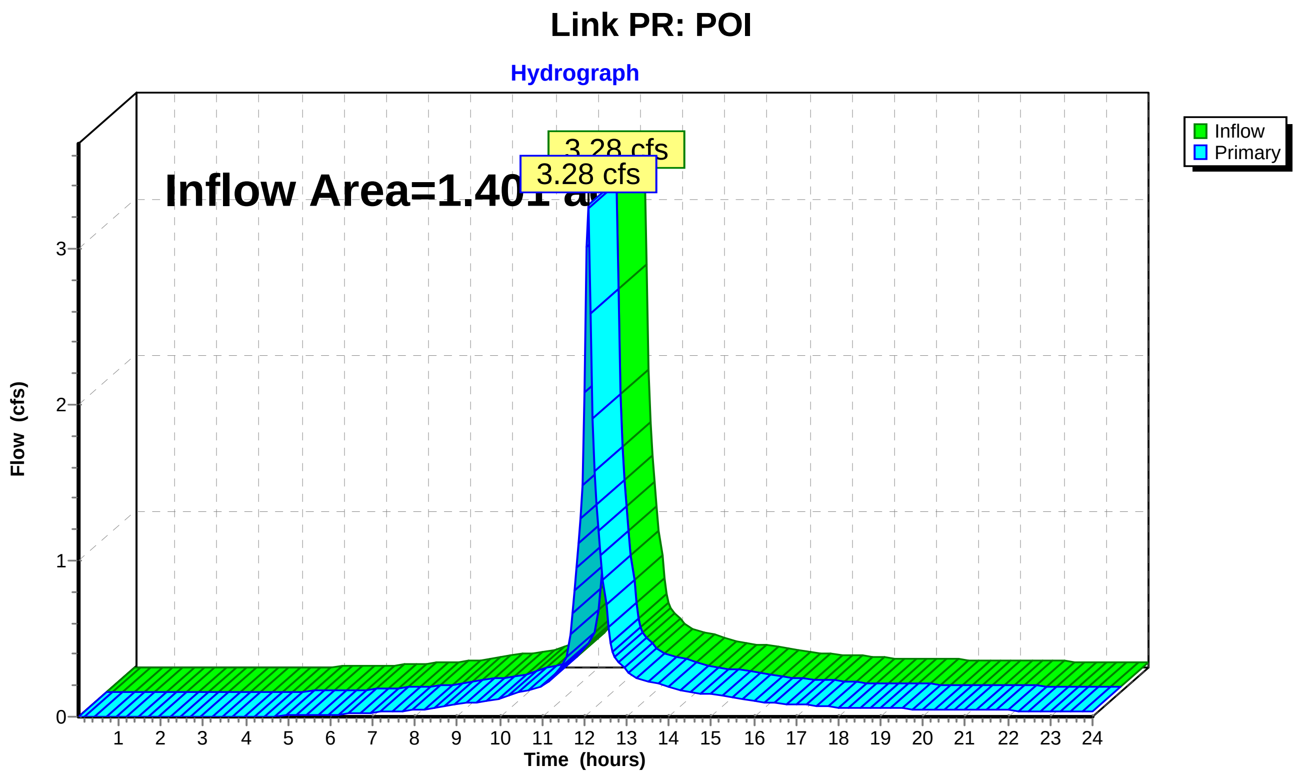
Subcatchment PR2: Park Ave



Summary for Link PR: POI

Inflow Area = 1.401 ac, 83.94% Impervious, Inflow Depth > 2.13" for 1-Year event
Inflow = 3.28 cfs @ 12.09 hrs, Volume= 0.248 af
Primary = 3.28 cfs @ 12.09 hrs, Volume= 0.248 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs



Time span=0.05-24.00 hrs, dt=0.05 hrs, 480 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PR1: 178th Runoff Area=0.405 ac 78.77% Impervious Runoff Depth>2.83"
Tc=6.0 min CN=94 Runoff=1.25 cfs 0.096 af

Subcatchment PR2: Park Ave Runoff Area=0.996 ac 86.04% Impervious Runoff Depth>2.94"
Tc=6.0 min CN=95 Runoff=3.15 cfs 0.244 af

Link PR: POI Inflow=4.40 cfs 0.339 af
Primary=4.40 cfs 0.339 af

Total Runoff Area = 1.401 ac Runoff Volume = 0.339 af Average Runoff Depth = 2.91"
16.06% Pervious = 0.225 ac 83.94% Impervious = 1.176 ac

Summary for Subcatchment PR1: 178th

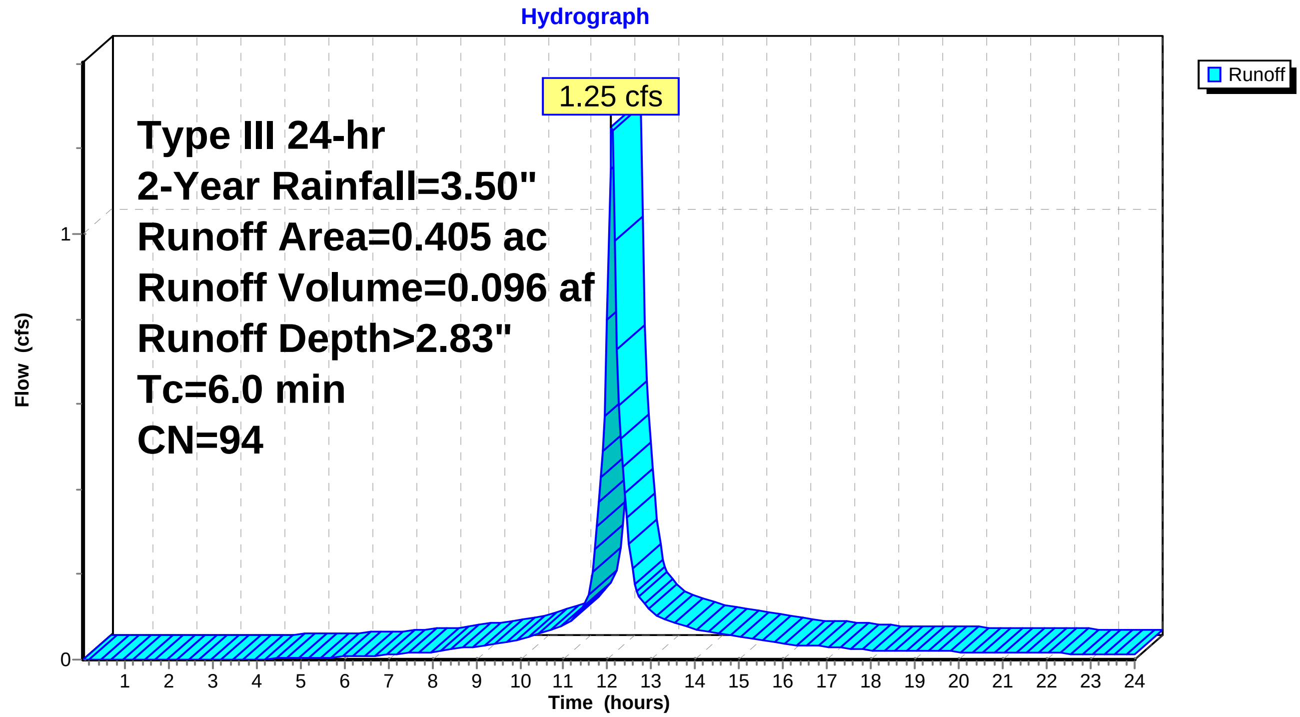
Runoff = 1.25 cfs @ 12.09 hrs, Volume= 0.096 af, Depth> 2.83"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.50"

	Area (ac)	CN	Description
*	0.057	98	Paved Parking
*	0.036	98	Perm Pavers
*	0.058	98	Green Roof
	0.086	79	50-75% Grass cover, Fair, HSG C
*	0.168	98	Roof
	0.405	94	Weighted Average
	0.086		21.23% Pervious Area
	0.319		78.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PR1: 178th



Summary for Subcatchment PR2: Park Ave

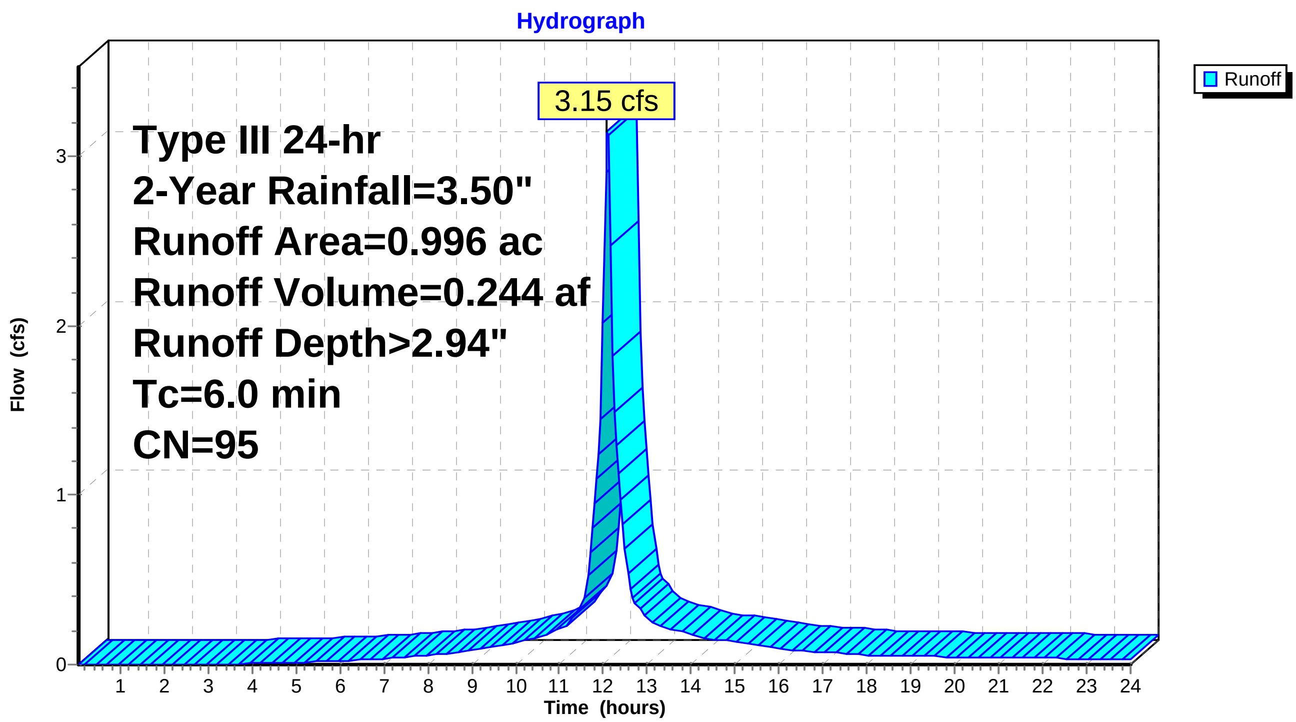
Runoff = 3.15 cfs @ 12.09 hrs, Volume= 0.244 af, Depth> 2.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.50"

	Area (ac)	CN	Description
*	0.220	98	Paved Parking
*	0.144	98	Perm Pavers
*	0.235	98	Green Roof
	0.139	79	50-75% Grass cover, Fair, HSG C
*	0.258	98	Roof
	0.996	95	Weighted Average
	0.139		13.96% Pervious Area
	0.857		86.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PR2: Park Ave

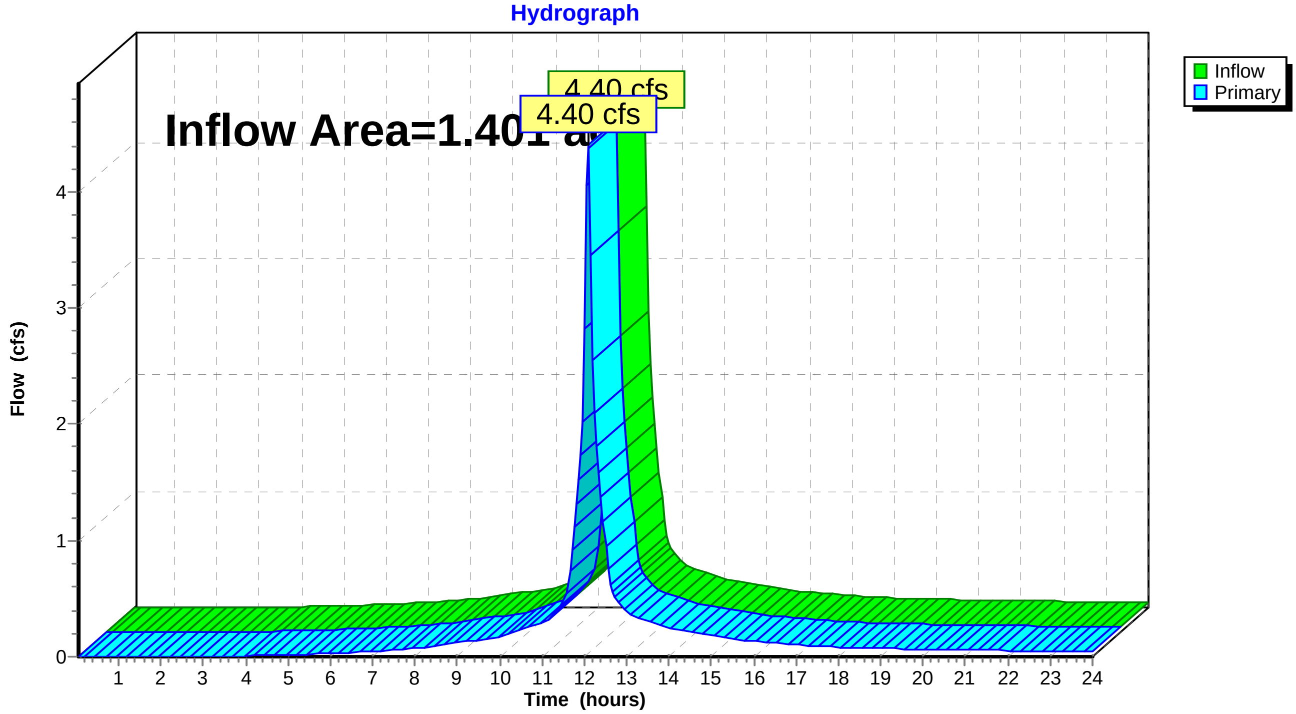


Summary for Link PR: POI

Inflow Area =	1.401 ac,	83.94% Impervious, Inflow Depth > 2.91"	for 2-Year event	
Inflow =	4.40 cfs @	12.09 hrs, Volume=	0.339 af	
Primary =	4.40 cfs @	12.09 hrs, Volume=	0.339 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs

Link PR: POI



Time span=0.05-24.00 hrs, dt=0.05 hrs, 480 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PR1: 178th Runoff Area=0.405 ac 78.77% Impervious Runoff Depth>4.31"
Tc=6.0 min CN=94 Runoff=1.86 cfs 0.145 af

Subcatchment PR2: Park Ave Runoff Area=0.996 ac 86.04% Impervious Runoff Depth>4.42"
Tc=6.0 min CN=95 Runoff=4.63 cfs 0.367 af

Link PR: POI Inflow=6.49 cfs 0.512 af
Primary=6.49 cfs 0.512 af

Total Runoff Area = 1.401 ac Runoff Volume = 0.512 af Average Runoff Depth = 4.38"
16.06% Pervious = 0.225 ac 83.94% Impervious = 1.176 ac

Summary for Subcatchment PR1: 178th

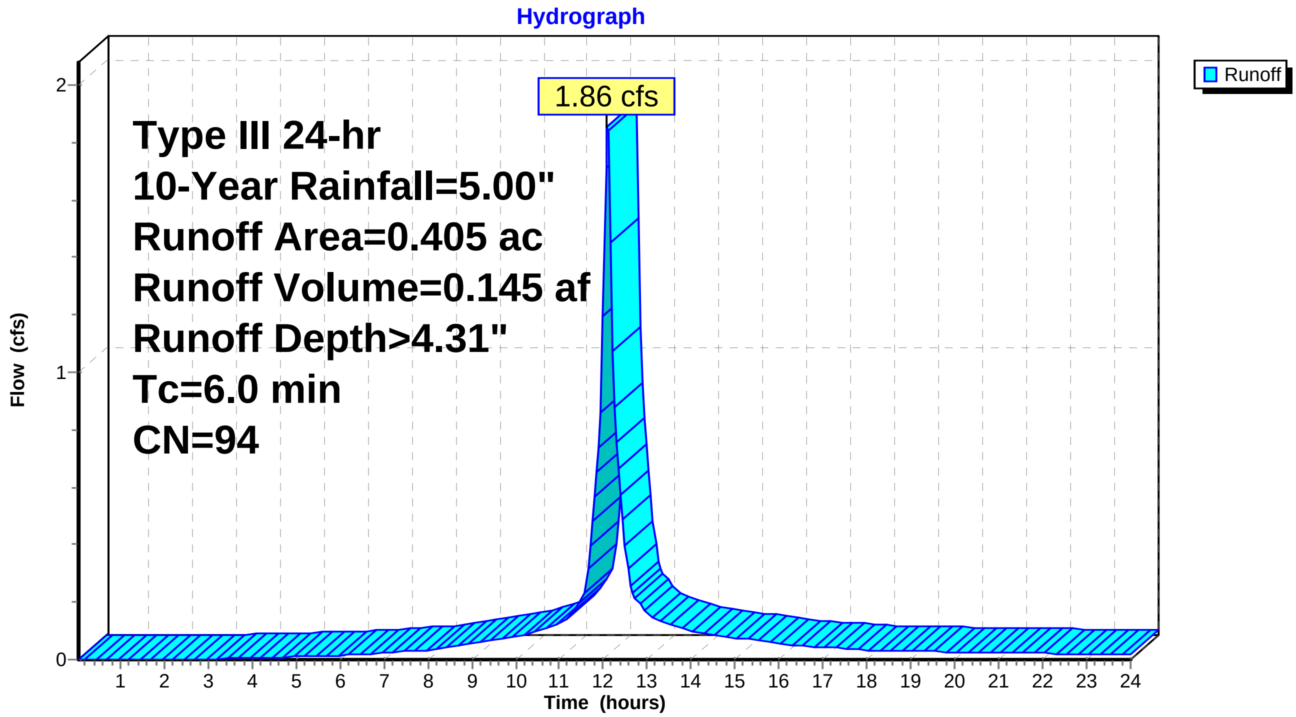
Runoff = 1.86 cfs @ 12.09 hrs, Volume= 0.145 af, Depth> 4.31"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.00"

	Area (ac)	CN	Description
*	0.057	98	Paved Parking
*	0.036	98	Perm Pavers
*	0.058	98	Green Roof
	0.086	79	50-75% Grass cover, Fair, HSG C
*	0.168	98	Roof
	0.405	94	Weighted Average
	0.086		21.23% Pervious Area
	0.319		78.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PR1: 178th



Summary for Subcatchment PR2: Park Ave

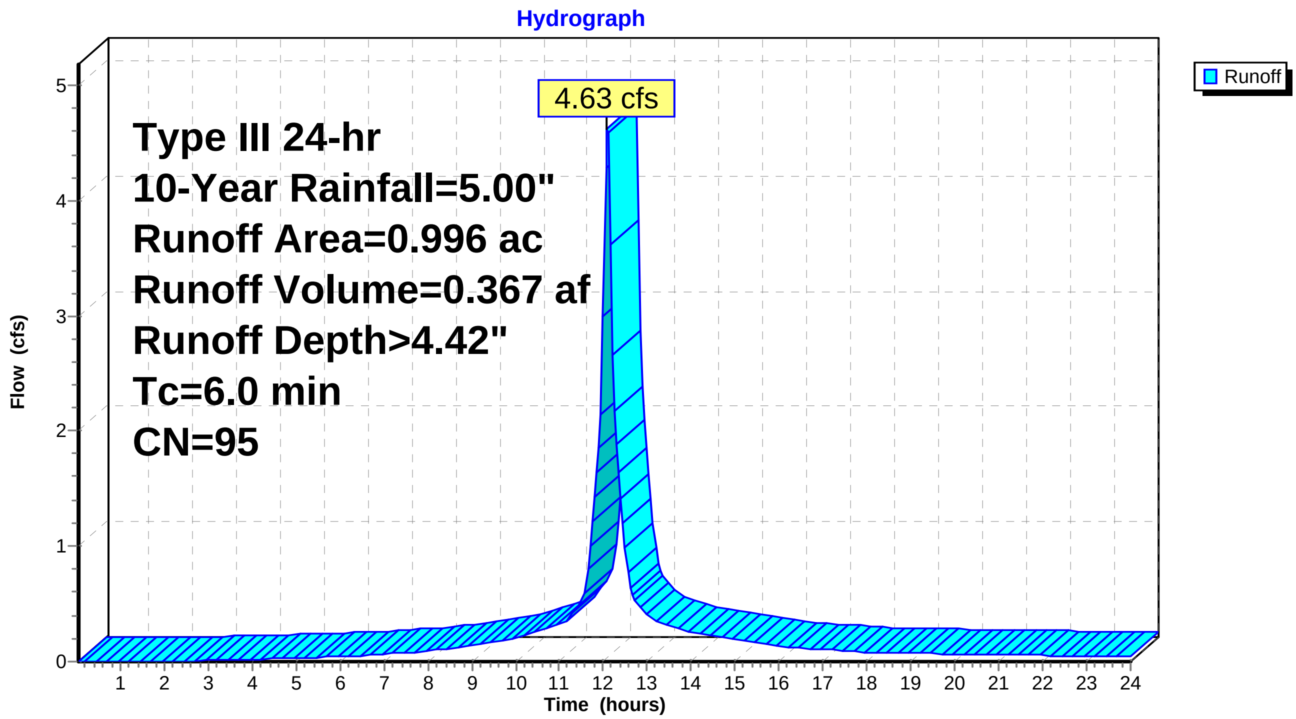
Runoff = 4.63 cfs @ 12.09 hrs, Volume= 0.367 af, Depth> 4.42"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.00"

	Area (ac)	CN	Description
*	0.220	98	Paved Parking
*	0.144	98	Perm Pavers
*	0.235	98	Green Roof
	0.139	79	50-75% Grass cover, Fair, HSG C
*	0.258	98	Roof
	0.996	95	Weighted Average
	0.139		13.96% Pervious Area
	0.857		86.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PR2: Park Ave

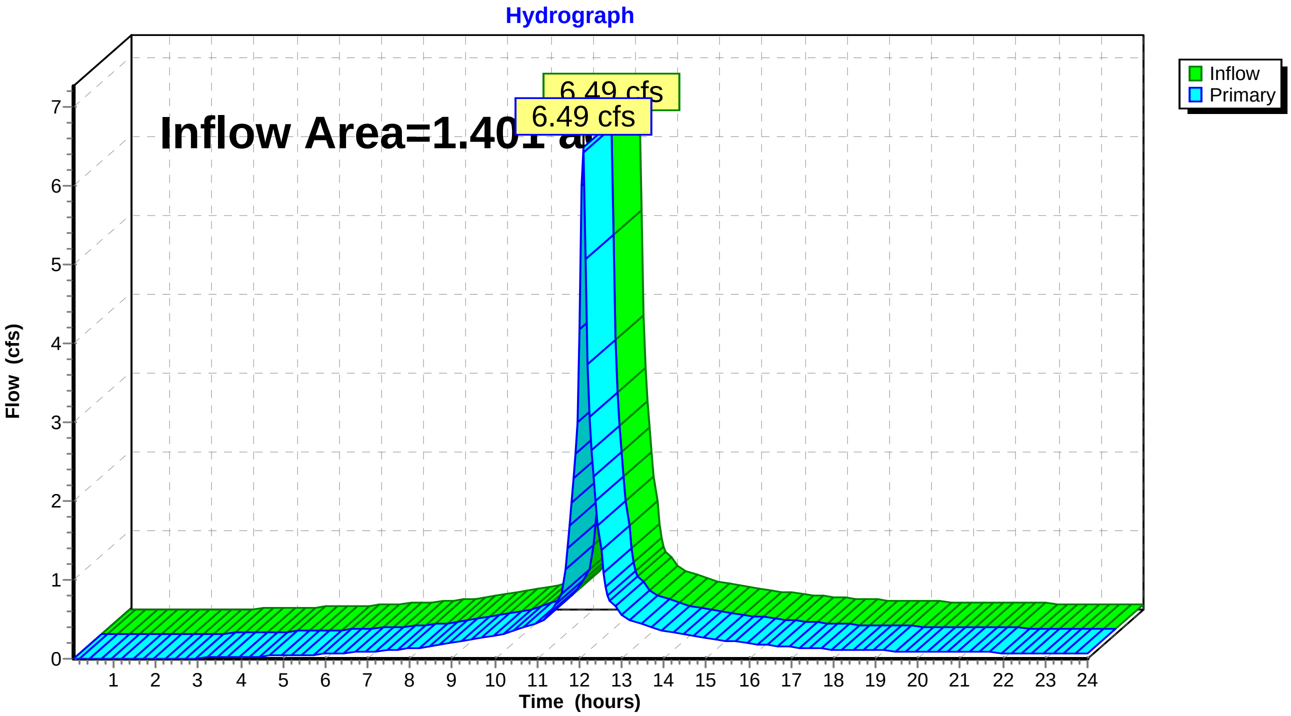


Summary for Link PR: POI

Inflow Area = 1.401 ac, 83.94% Impervious, Inflow Depth > 4.38" for 10-Year event
Inflow = 6.49 cfs @ 12.09 hrs, Volume= 0.512 af
Primary = 6.49 cfs @ 12.09 hrs, Volume= 0.512 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs

Link PR: POI



Time span=0.05-24.00 hrs, dt=0.05 hrs, 480 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PR1: 178th Runoff Area=0.405 ac 78.77% Impervious Runoff Depth>6.78"
Tc=6.0 min CN=94 Runoff=2.85 cfs 0.229 af

Subcatchment PR2: Park Ave Runoff Area=0.996 ac 86.04% Impervious Runoff Depth>6.90"
Tc=6.0 min CN=95 Runoff=7.06 cfs 0.573 af

Link PR: POI Inflow=9.92 cfs 0.801 af
Primary=9.92 cfs 0.801 af

Total Runoff Area = 1.401 ac Runoff Volume = 0.801 af Average Runoff Depth = 6.86"
16.06% Pervious = 0.225 ac 83.94% Impervious = 1.176 ac

Summary for Subcatchment PR1: 178th

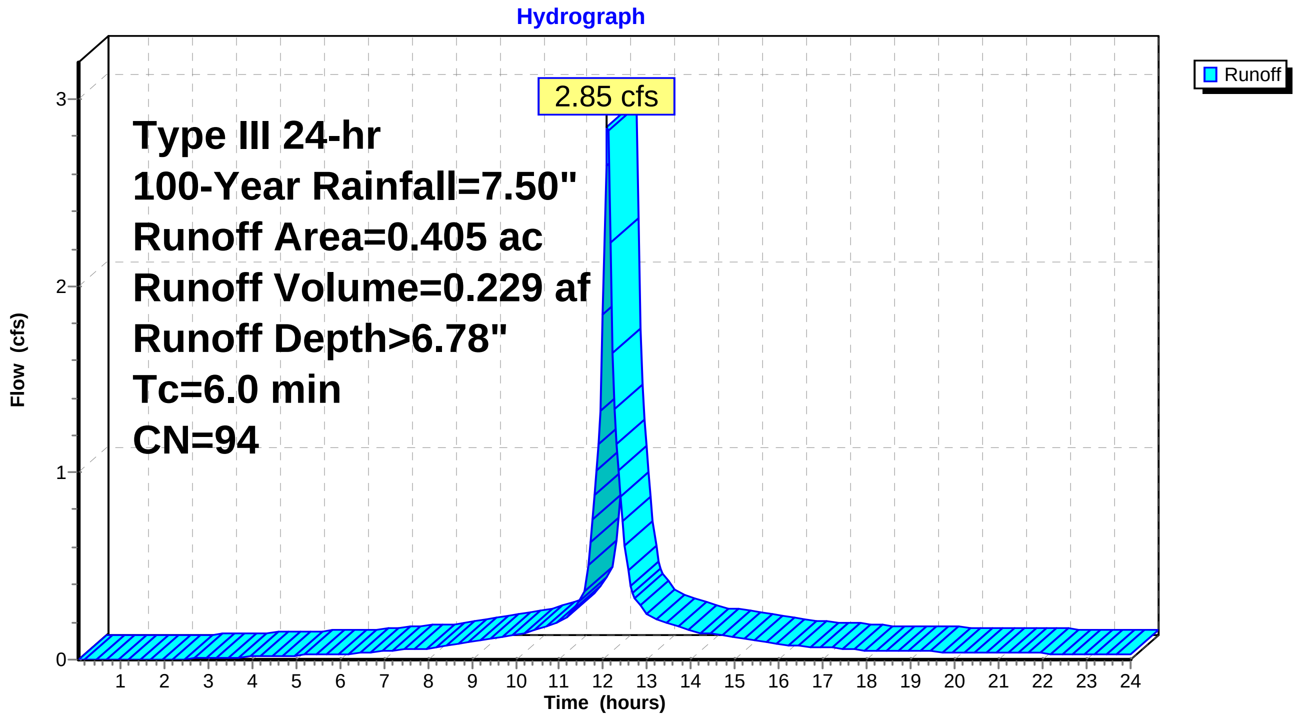
Runoff = 2.85 cfs @ 12.09 hrs, Volume= 0.229 af, Depth> 6.78"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=7.50"

	Area (ac)	CN	Description
*	0.057	98	Paved Parking
*	0.036	98	Perm Pavers
*	0.058	98	Green Roof
	0.086	79	50-75% Grass cover, Fair, HSG C
*	0.168	98	Roof
	0.405	94	Weighted Average
	0.086		21.23% Pervious Area
	0.319		78.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PR1: 178th



Summary for Subcatchment PR2: Park Ave

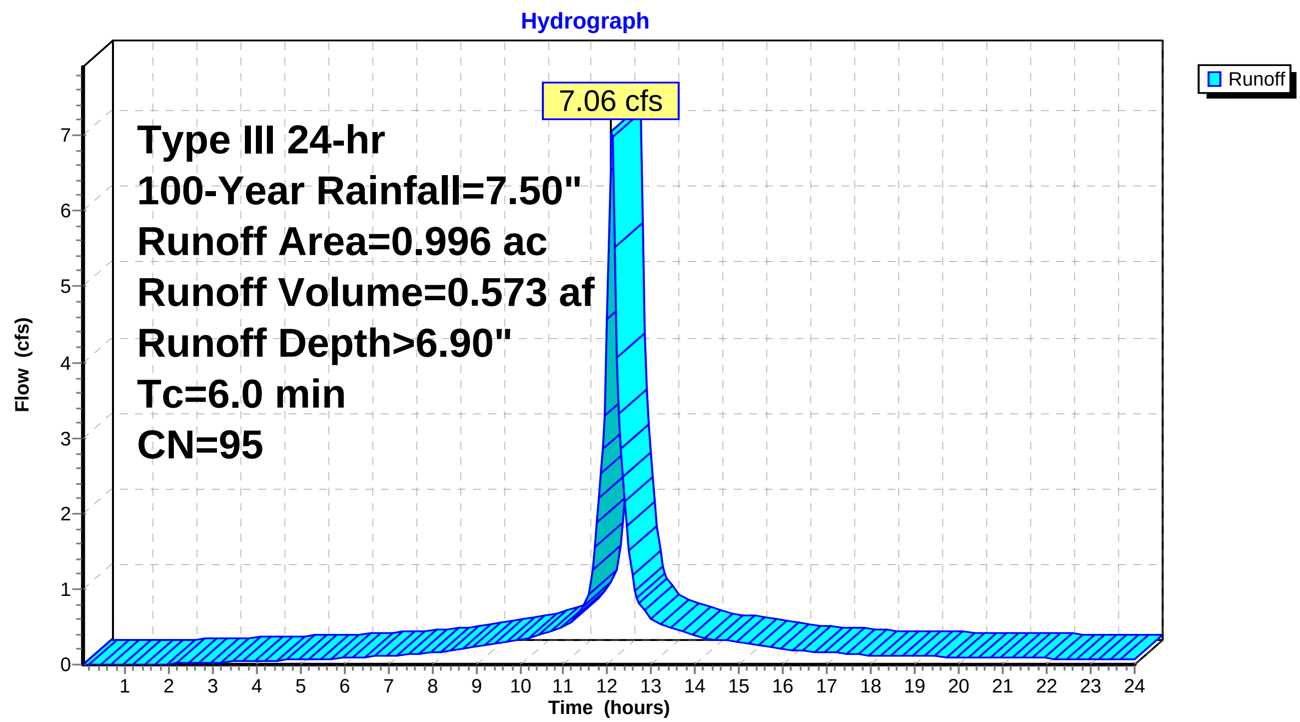
Runoff = 7.06 cfs @ 12.09 hrs, Volume= 0.573 af, Depth> 6.90"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=7.50"

	Area (ac)	CN	Description
*	0.220	98	Paved Parking
*	0.144	98	Perm Pavers
*	0.235	98	Green Roof
	0.139	79	50-75% Grass cover, Fair, HSG C
*	0.258	98	Roof
	0.996	95	Weighted Average
	0.139		13.96% Pervious Area
	0.857		86.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PR2: Park Ave

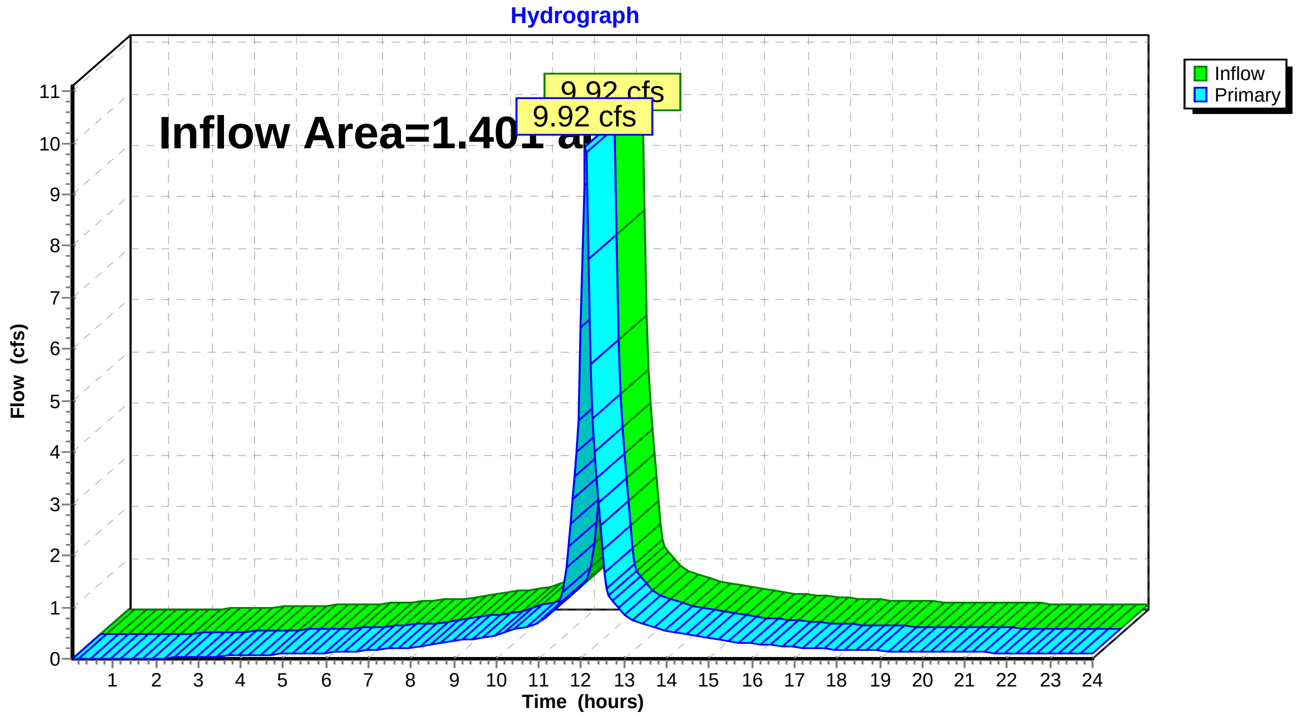


Summary for Link PR: POI

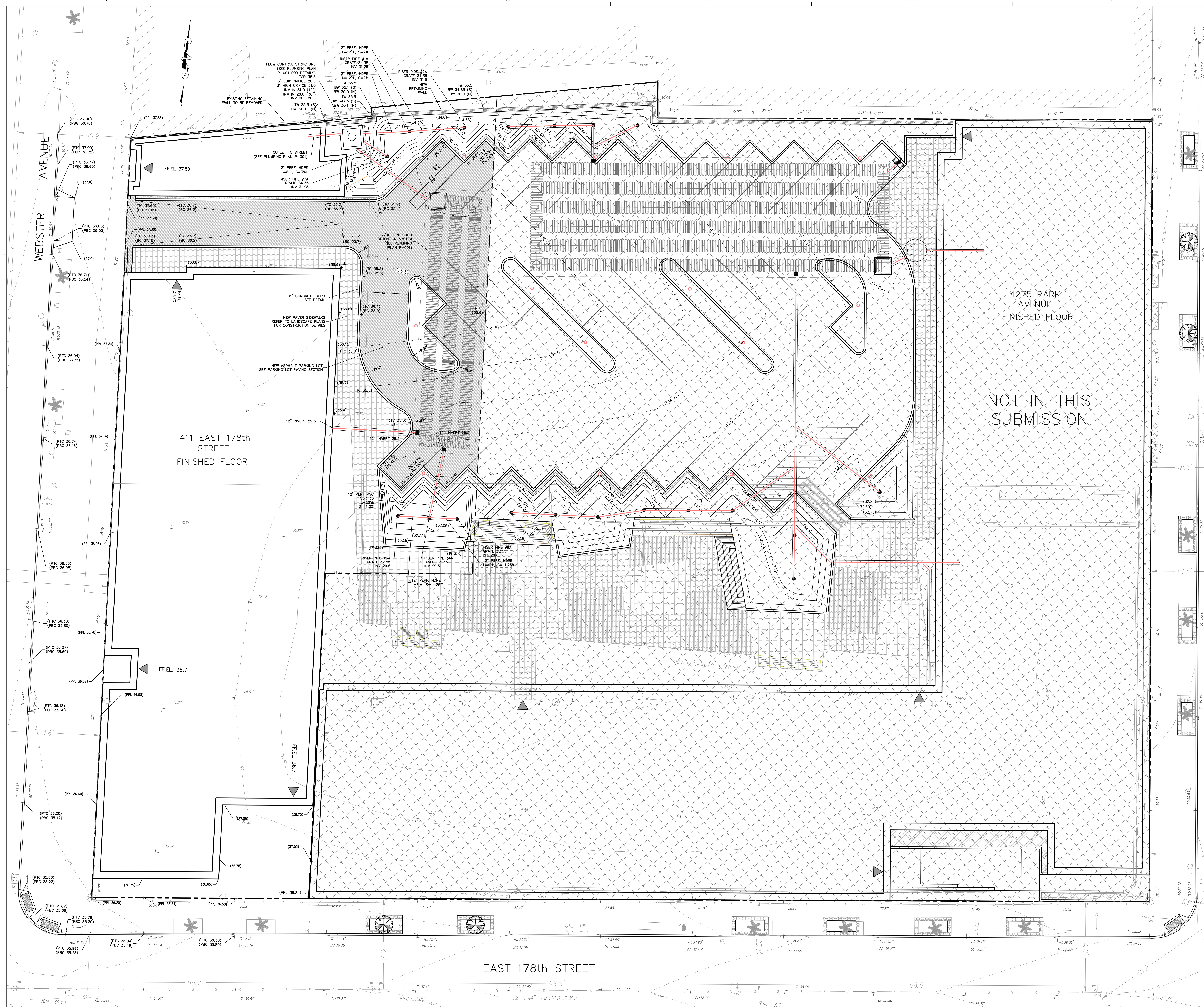
Inflow Area = 1.401 ac, 83.94% Impervious, Inflow Depth > 6.86" for 100-Year event
Inflow = 9.92 cfs @ 12.09 hrs, Volume= 0.801 af
Primary = 9.92 cfs @ 12.09 hrs, Volume= 0.801 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.05-24.00 hrs, dt= 0.05 hrs

Link PR: POI



411 East 178th Street and 4275 Park Avenue Grading and Utility Plans



411 EAST 178th STREET

411 EAST 178TH STREET
BRONX, NY 10457

COMMON GROUND COMMUNITY — OWNER
505 Eigth Avenue, 15th Floor
New York, NY 10018
T: 212.389.9325

MOUNTCO CONSTRUCTION AND DEVELOPMENT — OWNER
700 White Plains Road
Scarsdale, NY 10583
T: 914.723.1200

COOKFOX ARCHITECTS, LLP — ARCHITECT
641 Avenue of the Americas, Floor 8
New York, NY 10011
T: 212.477.0287 F: 212.477.4521

RODKIN CARDINALE ENGINEERS — MEP ENGINEER
224 W 29th St, 4th Floor
New York, NY 10001
T: 212.239.1982

MURRAY ENGINEERING — STRUCTURAL ENGINEER
307 7th Avenue, Suite 1001
New York, NY 10001
T: 212.741.1102

TERRAIN — LANDSCAPE ARCHITECT
200 PARK AVENUE SOUTH, SUITE 1401
New York, NY 10003
T: 212.537.6080

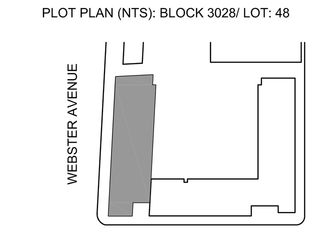
BROOKER ENGINEERING — CIVIL ENGINEER
76 LAFAYETTE AVENUE
SUFFERN, NY 10901
T: 845.357.1896

COOKFOX

ISSUES:

NO:	DATE	DESCRIPTION
	2014.06.04	NYC D.O.B. FILING SET
	2014.07.03	DESIGN DEVELOPMENT SET
	2014.09.24	NYC D.O.B. FILING SET
	2014.10.15	C.D. SET - FOR BID
	2015.01.16	NORTH WALL REVISED

PLOT PLAN (NTS): BLOCK 3028/ LOT: 48

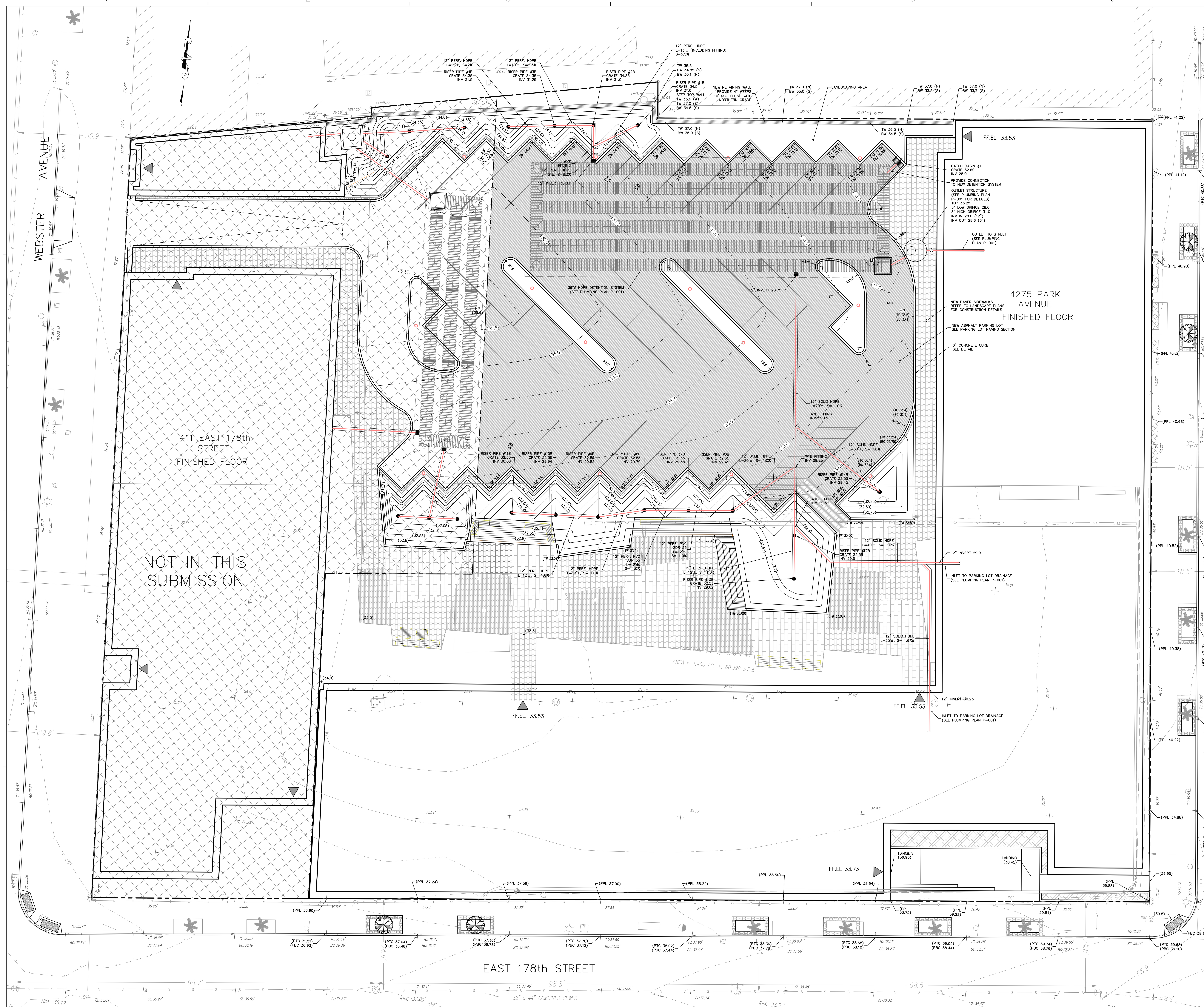


DRAWING TITLE
GRADING AND UTILITY PLAN

SEAL
STATE OF NEW YORK · GLENN DONALD McCREEDY · 084274 · LICENSED PROFESSIONAL ENGINEER
GLENN McCREEDY, PE
N.Y.S. Lic. No. 084274

PROJECT NO: 13247
SCALE 1/8" = 1' - 0"
SHEET No.
DRAWING NO:
C-100.00

NYC DOB NUMBER:



4275 PARK AVENUE

4275 PARK AVENUE
BRONX, NY 10457

COMMON GROUND COMMUNIT[illegible] — OWNER
505 E[illegible] A[illegible] 15[illegible] F[illegible]r
N[illegible] r[illegible] N[illegible] 1001[illegible]
T: 212.3[illegible].[illegible]325

MOUNTCO CONSTRUCTION AND DEVELOPMENT — OWNER
[illegible]00 W[illegible] P[illegible] R[illegible]d
S[illegible]r[illegible]d[illegible] N[illegible] 105[illegible]3
T: [illegible]14.[illegible]23.1200

COOKFOX ARCHITECTS LLP — ARCHITECT
641 A[illegible] A[illegible] r[illegible] F[illegible]r [illegible]
N[illegible] r[illegible] N[illegible] 10011
T: 212.4[illegible].02[illegible] F: 212.4[illegible].4521

ROD[illegible]IN CARDINALE ENGINEERS — MEP ENGINEER
224 W 2[illegible] S[illegible]4[illegible] F[illegible]r
N[illegible] r[illegible] N[illegible] 10001
T: 212.23[illegible].1[illegible]2

MURRA[illegible] ENGINEERING — STRUCTURAL ENGINEER
30[illegible] A[illegible] S[illegible] 1001
N[illegible] r[illegible] N[illegible] 10001
T: 212.[illegible]41.1102

TERRAIN — LANDSCAPE ARCHITECT
200 PARK AVENUE SOUTH SUITE 1401
N[illegible] r[illegible] N[illegible] 10003
T: 212.53[illegible].60[illegible]0

BROO[illegible]ER ENGINEERING — CIVIL ENGINEER
[illegible]6 LAFA[illegible]ETTE AVENUE
SUFFERN N[illegible] 10[illegible]01
T: [illegible]45.35[illegible].1[illegible]6

COOKFOX

ISSUES:

NO:	DATE	DESCRIPTION
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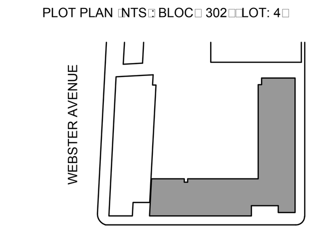
	2014.0[illegible].03	DESIGN DEVELOPMENT SET
	2014.0[illegible].24	NYC D.O.B. FILING SET
	2014.10.15	C.D. SET [illegible]FOR BID
	2015.01.16	ADDENDUM [illegible]2

PLOT PLAN [illegible]NTS[illegible] BLOC[illegible] 302[illegible] LOT: 4[illegible]



DRAWING TITLE
GRADING AND UTILITY PLAN

SEAL
STATE OF NEW YORK
GLENN DONALD McCREEDY
084274
LICENSED PROFESSIONAL ENGINEER
GLENN McCREEDY, PE
N.Y.S. Lic. No. 084274

PROJECT NO: 1324[illegible]
SCALE 1/8" = 1' - 0"
SHEET N[illegible]
DRAWING NO:
C-100.00

NYC DOB NUMBER:

Appendix C
Natural Resources and Conservation Service Custom Soil Resource Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for

Bronx County, New York

Mountco Construction & Development Corporation

January 13, 2015

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,170 if printed on A landscape (11" x 8.5") sheet.

Meters: 0, 15, 30, 60, 90

Feet: 0, 50, 100, 200, 300

N

Map projection: Web Mercator   Corner coordinates: WGS84   Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Bronx County, New York
Survey Area Data: Version 4, Sep 13, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 23, 2014—Aug 15, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Bronx County, New York (NY005)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
UoA	Urban land, outwash substratum, 0 to 3 percent slopes	2.9	100.0%
Totals for Area of Interest		**2.9**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Bronx County, New York

UoA—Urban land, outwash substratum, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2pbdp
Elevation: 0 to 160 feet
Mean annual precipitation: 40 to 52 inches
Mean annual air temperature: 47 to 62 degrees F
Frost-free period: 216 to 234 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land, outwash substratum: 92 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land, Outwash Substratum

Setting

Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Asphalt over human-transported material

Typical profile

M1 - 0 to 6 inches: cemented material
M2 - 6 to 20 inches: cemented material
2^C - 20 to 72 inches: gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 0 inches to manufactured layer
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Calcium carbonate, maximum in profile: 10 percent
Available water storage in profile: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s

Minor Components

Greenbelt

Percent of map unit: 3 percent
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Crest, side slope, base slope, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex

Flatbush

Percent of map unit: 2 percent
Landform position (two-dimensional): Summit, backslope, footslope, toeslope

Landform position (three-dimensional): Side slope, base slope, crest, talf, rise
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex

Centralpark

Percent of map unit: 1 percent
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Convex

Ebbets

Percent of map unit: 1 percent
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope, crest, base slope, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex

Laguardia

Percent of map unit: 1 percent
Landform position (two-dimensional): Summit, shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Base slope, side slope, crest, rise, dip, talf
Down-slope shape: Linear, convex, concave
Across-slope shape: Linear, convex, concave

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the "National Soil Survey Handbook."

ABC soil

A soil having an A, a B, and a C horizon.

Ablation till

Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

AC soil

A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil

The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil

Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alkali (sodic) soil

A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvial cone

A semiconical type of alluvial fan having very steep slopes. It is higher, narrower, and steeper than a fan and is composed of coarser and thicker layers of material deposited by a combination of alluvial episodes and (to a much lesser degree) landslides (debris flow). The coarsest materials tend to be concentrated at the apex of the cone.

Alluvial fan

A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium

Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl

A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM)

The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions

Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon

A subsoil horizon characterized by an accumulation of illuvial clay.

Arroyo

The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in unconsolidated material. It is usually dry but can be transformed into a temporary watercourse or short-lived torrent after heavy rain within the watershed.

Aspect

The direction toward which a slope faces. Also called slope aspect.

Association, soil

A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity)

The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low: 0 to 3
Low: 3 to 6
Moderate: 6 to 9
High: 9 to 12
Very high: More than 12

Backslope

The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp

A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Badland

A landscape that is intricately dissected and characterized by a very fine drainage network with high drainage densities and short, steep slopes and narrow interfluves. Badlands develop on surfaces that have little or no vegetative cover overlying unconsolidated or poorly cemented materials (clays, silts, or sandstones) with, in some cases, soluble minerals, such as gypsum or halite.

Bajada

A broad, gently inclined alluvial piedmont slope extending from the base of a mountain range out into a basin and formed by the lateral coalescence of a series of alluvial fans. Typically, it has a broadly undulating transverse profile, parallel to the mountain front, resulting from the convexities of component fans. The term is generally restricted to constructional slopes of intermontane basins.

Basal area

The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation

The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology)

A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding plane

A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system

A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock

The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography

A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace

A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum

Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout (map symbol)

A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed. The adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.

Borrow pit (map symbol)

An open excavation from which soil and underlying material have been removed, usually for construction purposes.

Bottom land

An informal term loosely applied to various portions of a flood plain.

Boulders

Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks

A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

Breast height

An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management

Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Butte

An isolated, generally flat-topped hill or mountain with relatively steep slopes and talus or precipitous cliffs and characterized by summit width that is less than the height of bounding escarpments; commonly topped by a caprock of resistant material and representing an erosion remnant carved from flat-lying rocks.

Cable yarding

A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Calcareous soil

A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Caliche

A general term for a prominent zone of secondary carbonate accumulation in surficial materials in warm, subhumid to arid areas. Caliche is formed by both geologic and pedologic processes. Finely crystalline calcium carbonate forms a nearly continuous surface-coating and void-filling medium in geologic (parent) materials. Cementation ranges from weak in nonindurated forms to very strong in indurated forms. Other minerals (e.g., carbonates, silicate, and sulfate) may occur as accessory cements. Most petrocalcic horizons and some calcic horizons are caliche.

California bearing ratio (CBR)

The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy

The leafy crown of trees or shrubs. (See Crown.)

Canyon

A long, deep, narrow valley with high, precipitous walls in an area of high local relief.

Capillary water

Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena

A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation

An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity

The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps

See Terracettes.

Cement rock

Shaly limestone used in the manufacture of cement.

Channery soil material

Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment

Control of unwanted vegetation through the use of chemicals.

Chiseling

Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Cirque

A steep-walled, semicircular or crescent-shaped, half-bowl-like recess or hollow, commonly situated at the head of a glaciated mountain valley or high on the side of a mountain. It was produced by the erosive activity of a mountain glacier. It commonly contains a small round lake (tarn).

Clay

As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions

See Redoximorphic features.

Clay film

A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Clay spot (map symbol)

A spot where the surface texture is silty clay or clay in areas where the surface layer of the soils in the surrounding map unit is sandy loam, loam, silt loam, or coarser.

Claypan

A dense, compact subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. The layer restricts the downward movement of water through the soil. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community

The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil

Sand or loamy sand.

Cobble (or cobblestone)

A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material

Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility)

See Linear extensibility.

Colluvium

Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope

Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil

A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions

See Redoximorphic features.

Conglomerate

A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system

Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage

A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil

Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping

Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section

The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat)

A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology)

A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations)

Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop

A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management

Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system

Growing crops according to a planned system of rotation and management practices.

Cross-slope farming

Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown

The upper part of a tree or shrub, including the living branches and their foliage.

Cryoturbate

A mass of soil or other unconsolidated earthy material moved or disturbed by frost action. It is typically coarser than the underlying material.

Cuesta

An asymmetric ridge capped by resistant rock layers of slight or moderate dip (commonly less than 15 percent slopes); a type of homocline produced by differential erosion of interbedded resistant and weak rocks. A cuesta has a long, gentle slope on one side (dip slope) that roughly parallels the inclined beds; on the other side, it has a relatively short and steep or clifflike slope (scarp) that cuts through the tilted rocks.

Culmination of the mean annual increment (CMAI)

The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave

The walls of excavations tend to cave in or slough.

Decreasers

The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing

Postponing grazing or resting grazing land for a prescribed period.

Delta

A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer

A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depression, closed (map symbol)

A shallow, saucer-shaped area that is slightly lower on the landscape than the surrounding area and that does not have a natural outlet for surface drainage.

Depth, soil

Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Desert pavement

A natural, residual concentration or layer of wind-polished, closely packed gravel, boulders, and other rock fragments mantling a desert surface. It forms where wind action and sheetwash have removed all smaller particles or where rock fragments have migrated upward through sediments to the surface. It typically protects the finer grained underlying material from further erosion.

Diatomaceous earth

A geologic deposit of fine, grayish siliceous material composed chiefly or entirely of the remains of diatoms.

Dip slope

A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace)

A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming

A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural)

Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface

Runoff, or surface flow of water, from an area.

Drainageway

A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Draw

A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.

Drift

A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Drumlin

A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

Duff

A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune

A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

Earthy fill

See Mine spoil.

Ecological site

An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation

The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation

A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit

Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream

A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation

A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion

The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (accelerated)

Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion (geologic)

Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion pavement

A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface

A land surface shaped by the action of erosion, especially by running water.

Escarpment

A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Escarpment, bedrock (map symbol)

A relatively continuous and steep slope or cliff, produced by erosion or faulting, that breaks the general continuity of more gently sloping land surfaces. Exposed material is hard or soft bedrock.

Escarpment, nonbedrock (map symbol)

A relatively continuous and steep slope or cliff, generally produced by erosion but in some places produced by faulting, that breaks the continuity of more gently sloping land surfaces. Exposed earthy material is nonsoil or very shallow soil.

Esker

A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Extrusive rock

Igneous rock derived from deep-seated molten matter (magma) deposited and cooled on the earth’s surface.

Fallow

Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown.

The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan remnant

A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

Fertility, soil

The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat)

The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity

The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope

A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil

Sandy clay, silty clay, or clay.

Firebreak

An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom

An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material

Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone

A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain

The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms

A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay

A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step

An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial

Of or pertaining to rivers or streams; produced by stream or river action.

Foothills

A region of steeply sloping hills that fringes a mountain range or high-plateau escarpment. The hills have relief of as much as 1,000 feet (300 meters).

Footslope

The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb

Any herbaceous plant not a grass or a sedge.

Forest cover

All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type

A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan

A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil

The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gilgai

Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

Glaciofluvial deposits

Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits

Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

Gleyed soil

Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping

Growing crops in strips that grade toward a protected waterway.

Grassed waterway

A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel

Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravel pit (map symbol)

An open excavation from which soil and underlying material have been removed and used, without crushing, as a source of sand or gravel.

Gravelly soil material

Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Gravelly spot (map symbol)

A spot where the surface layer has more than 35 percent, by volume, rock fragments that are mostly less than 3 inches in diameter in an area that has less than 15 percent rock fragments.

Green manure crop (agronomy)

A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water

Water filling all the unblocked pores of the material below the water table.

Gully (map symbol)

A small, steep-sided channel caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage whereas a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock

Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim

Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan

A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology)

A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat)

Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops

Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill

A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope

A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil

A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon: An organic layer of fresh and decaying plant residue.

L horizon: A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon: The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon: The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon: The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon: The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon: Soft, consolidated bedrock beneath the soil.

R layer: Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

M layer: A root-limiting subsoil layer consisting of nearly continuous, horizontally oriented, human-manufactured materials.

W layer: A layer of water within or beneath the soil.

Humus

The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups

Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties include depth to a seasonal high water table, the infiltration rate, and depth to a layer that significantly restricts the downward movement of water. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock

Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation

The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil

A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers

Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration

The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity

The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate

The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate

The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Very low: Less than 0.2
Low: 0.2 to 0.4
Moderately low: 0.4 to 0.75
Moderate: 0.75 to 1.25
Moderately high: 1.25 to 1.75
High: 1.75 to 2.5
Very high: More than 2.5

Interfluve

A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology)

A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream

A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders

On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions

See Redoximorphic features.

Irrigation

Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin: Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border: Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding: Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation: Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle): Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow: Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler: Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation: Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding: Water, released at high points, is allowed to flow onto an area without controlled distribution.

Kame

A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Karst (topography)

A kind of topography that formed in limestone, gypsum, or other soluble rocks by dissolution and that is characterized by closed depressions, sinkholes, caves, and underground drainage.

Knoll

A small, low, rounded hill rising above adjacent landforms.

Ksat

See Saturated hydraulic conductivity.

Lacustrine deposit

Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain

A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace

A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Landfill (map symbol)

An area of accumulated waste products of human habitation, either above or below natural ground level.

Landslide

A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones

Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Lava flow (map symbol)

A solidified, commonly lobate body of rock formed through lateral, surface outpouring of molten lava from a vent or fissure.

Leaching

The removal of soluble material from soil or other material by percolating water.

Levee (map symbol)

An embankment that confines or controls water, especially one built along the banks of a river to prevent overflow onto lowlands.

Linear extensibility

Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit

The moisture content at which the soil passes from a plastic to a liquid state.

Loam

Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess

Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength

The soil is not strong enough to support loads.

Low-residue crops

Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Marl

An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

Marsh or swamp (map symbol)

A water-saturated, very poorly drained area that is intermittently or permanently covered by water. Sedges, cattails, and rushes are the dominant vegetation in marshes, and trees or shrubs are the dominant vegetation in swamps. Not used in map units where the named soils are poorly drained or very poorly drained.

Mass movement

A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses

See Redoximorphic features.

Meander belt

The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar

A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll

One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment

Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil

Very fine sandy loam, loam, silt loam, or silt.

Mesa

A broad, nearly flat topped and commonly isolated landmass bounded by steep slopes or precipitous cliffs and capped by layers of resistant, nearly horizontal rocky material. The summit width is characteristically greater than the height of the bounding escarpments.

Metamorphic rock

Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth’s crust. Nearly all such rocks are crystalline.

Mine or quarry (map symbol)

An open excavation from which soil and underlying material have been removed and in which bedrock is exposed. Also denotes surface openings to underground mines.

Mine spoil

An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil

Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage

Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area

A kind of map unit that has little or no natural soil and supports little or no vegetation.

Miscellaneous water (map symbol)

Small, constructed bodies of water that are used for industrial, sanitary, or mining applications and that contain water most of the year.

Moderately coarse textured soil

Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil

Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon

A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine

In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil

The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil

Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain

A generic term for an elevated area of the land surface, rising more than 1,000 feet (300 meters) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range. Mountains are formed primarily by tectonic activity and/or volcanic action but can also be formed by differential erosion.

Muck

Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mucky peat

See Hemic soil material.

Mudstone

A blocky or massive, fine grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

Munsell notation

A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon

A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil

A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules

See Redoximorphic features.

Nose slope (geomorphology)

A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant

Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter

Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low: Less than 0.5 percent
Low: 0.5 to 1.0 percent
Moderately low: 1.0 to 2.0 percent
Moderate: 2.0 to 4.0 percent
High: 4.0 to 8.0 percent
Very high: More than 8.0 percent

Outwash

Stratified and sorted sediments (chiefly sand and gravel) removed or “washed out” from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain

An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleoterrace

An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan

A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material

The unconsolidated organic and mineral material in which soil forms.

Peat

Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped

An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment

A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon

The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation

The movement of water through the soil.

Perennial water (map symbol)

Small, natural or constructed lakes, ponds, or pits that contain water most of the year.

Permafrost

Ground, soil, or rock that remains at or below 0 degrees C for at least 2 years. It is defined on the basis of temperature and is not necessarily frozen.

pH value

A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil

A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping

Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting

Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit

The moisture content at which a soil changes from semisolid to plastic.

Plasticity index

The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology)

A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Playa

The generally dry and nearly level lake plain that occupies the lowest parts of closed depressions, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff. Playa deposits are fine grained and may or may not have a high water table and saline conditions.

Plinthite

The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan

A compacted layer formed in the soil directly below the plowed layer.

Ponding

Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded

Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings

See Redoximorphic features.

Potential native plant community

See Climax plant community.

Potential rooting depth (effective rooting depth)

Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning

Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil

The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil

A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use

Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland

Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil

A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid: Less than 3.5

Extremely acid: 3.5 to 4.4

Very strongly acid: 4.5 to 5.0

Strongly acid: 5.1 to 5.5

Moderately acid: 5.6 to 6.0

Slightly acid: 6.1 to 6.5

Neutral: 6.6 to 7.3

Slightly alkaline: 7.4 to 7.8

Moderately alkaline: 7.9 to 8.4

Strongly alkaline: 8.5 to 9.0

Very strongly alkaline: 9.1 and higher

Red beds

Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations

See Redoximorphic features.

Redoximorphic depletions

See Redoximorphic features.

Redoximorphic features

Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix

See Redoximorphic features.

Regolith

All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief

The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material)

Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill

A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser

The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut

A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments

Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rock outcrop (map symbol)

An exposure of bedrock at the surface of the earth. Not used where the named soils of the surrounding map unit are shallow over bedrock or where “Rock outcrop” is a named component of the map unit.

Root zone

The part of the soil that can be penetrated by plant roots.

Runoff

The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil

A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Saline spot (map symbol)

An area where the surface layer has an electrical conductivity of 8 mmhos/cm more than the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has an electrical conductivity of 2 mmhos/cm or less.

Sand

As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone

Sedimentary rock containing dominantly sand-sized particles.

Sandy spot (map symbol)

A spot where the surface layer is loamy fine sand or coarser in areas where the surface layer of the named soils in the surrounding map unit is very fine sandy loam or finer.

Sapric soil material (muck)

The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (Ksat)

The ease with which pores of a saturated soil transmit water. Formally, the proportionality coefficient that expresses the relationship of the rate of water movement to hydraulic gradient in Darcy's Law, a law that describes the rate of water movement through porous media. Commonly abbreviated as "Ksat." Terms describing saturated hydraulic conductivity are:

Very high: 100 or more micrometers per second (14.17 or more inches per hour)

High: 10 to 100 micrometers per second (1.417 to 14.17 inches per hour)

Moderately high: 1 to 10 micrometers per second (0.1417 inch to 1.417 inches per hour)

Moderately low: 0.1 to 1 micrometer per second (0.01417 to 0.1417 inch per hour)

Low: 0.01 to 0.1 micrometer per second (0.001417 to 0.01417 inch per hour)

Very low: Less than 0.01 micrometer per second (less than 0.001417 inch per hour).

To convert inches per hour to micrometers per second, multiply inches per hour by 7.0572. To convert micrometers per second to inches per hour, multiply micrometers per second by 0.1417.

Saturation

Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification

The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock

A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum

A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil

A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Severely eroded spot (map symbol)

An area where, on the average, 75 percent or more of the original surface layer has been lost because of accelerated erosion. Not used in map units in which “severely eroded,” “very severely eroded,” or “gullied” is part of the map unit name.

Shale

Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion

The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Short, steep slope (map symbol)

A narrow area of soil having slopes that are at least two slope classes steeper than the slope class of the surrounding map unit.

Shoulder

The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell

The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Shrub-coppice dune

A small, streamlined dune that forms around brush and clump vegetation.

Side slope (geomorphology)

A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica

A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio

The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt

As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone

An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils

Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole (map symbol)

A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index

A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic)

Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slide or slip (map symbol)

A prominent landform scar or ridge caused by fairly recent mass movement or descent of earthy material resulting from failure of earth or rock under shear stress along one or several surfaces.

Slope

The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope alluvium

Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill

The slow filling of ponds, resulting from restricted water transmission in the soil.

Slow water movement

Restricted downward movement of water through the soil. See Saturated hydraulic conductivity.

Sodic (alkali) soil

A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodic spot (map symbol)

An area where the surface layer has a sodium adsorption ratio that is at least 10 more than that of the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has a sodium adsorption ratio of 5 or less.

Sodicity

The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^{+} to Ca^{++} + Mg^{++}. The degrees of sodicity and their respective ratios are:

Slight: Less than 13:1

Moderate: 13-30:1

Strong: More than 30:1

Sodium adsorption ratio (SAR)

A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock

Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil

A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates

Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand: 2.0 to 1.0
Coarse sand: 1.0 to 0.5
Medium sand: 0.5 to 0.25
Fine sand: 0.25 to 0.10
Very fine sand: 0.10 to 0.05
Silt: 0.05 to 0.002
Clay: Less than 0.002

Solum

The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Spoil area (map symbol)

A pile of earthy materials, either smoothed or uneven, resulting from human activity.

Stone line

In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones

Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony

Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stony spot (map symbol)

A spot where 0.01 to 0.1 percent of the soil surface is covered by rock fragments that are more than 10 inches in diameter in areas where the surrounding soil has no surface stones.

Strath terrace

A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace

One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping

Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil

The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are:

Platy: Flat and laminated
Prismatic: Vertically elongated and having flat tops
Columnar: Vertically elongated and having rounded tops
Angular blocky: Having faces that intersect at sharp angles (planes)
Subangular blocky: Having subrounded and planar faces (no sharp angles)
Granular: Small structural units with curved or very irregular faces

Structureless soil horizons are defined as follows:

Single grained: Entirely noncoherent (each grain by itself), as in loose sand
Massive: Occurring as a coherent mass

Stubble mulch

Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil

Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling

Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum

The part of the soil below the solum.

Subsurface layer

Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow

The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit

The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer

The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil

The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus

Rock fragments of any size or shape (commonly coarse and angular) derived from and lying at the base of a cliff or very steep rock slope. The accumulated mass of such loose broken rock formed chiefly by falling, rolling, or sliding.

Taxadjuncts

Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terminal moraine

An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation)

An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology)

A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes

Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil

The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer

Otherwise suitable soil material that is too thin for the specified use.

Till

Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain

An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil

The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope

The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil

The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements

Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread

The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Tuff

A generic term for any consolidated or cemented deposit that is 50 percent or more volcanic ash.

Upland

An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill

The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Variegation

Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve

A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Very stony spot (map symbol)

A spot where 0.1 to 3.0 percent of the soil surface is covered by rock fragments that are more than 10 inches in diameter in areas where the surface of the surrounding soil is covered by less than 0.01 percent stones.

Water bars

Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering

All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded

Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wet spot (map symbol)

A somewhat poorly drained to very poorly drained area that is at least two drainage classes wetter than the named soils in the surrounding map unit.

Wilting point (or permanent wilting point)

The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow

The uprooting and tipping over of trees by the wind.

Appendix N

Responsibilities of Owner and Remedial Party

Responsibilities

The responsibilities for implementing the Site Management Plan ("SMP") for the 1960-1982 Webster Avenue site (the "site"), NYSDEC Site Number: C203075, are divided between the site owner(s) and a Remedial Party, as defined below. The owner(s) is/are currently listed as:

Webster Avenue Housing Development Fund Corporation

Contacts: Zachary Korb; (212) 389-9329; ZKorb@breakingground.org;
Elissa Winzelberg; (212) 389-9325; EWinzelberg@breakingground.org.

Solely for the purposes of this document and based upon the facts related to a particular site and the remedial program being carried out, the term Remedial Party ("RP") refers to any of the following: certificate of completion holder, volunteer, applicant, responsible party, and, in the event the New York State Department of Environmental Conservation ("NYSDEC") is carrying out remediation or site management, the NYSDEC and/or an agent acting on its behalf. The RP is:

Webster Avenue Housing Development Fund Corporation

Contacts: Zachary Korb; (212) 389-9329; ZKorb@breakingground.org;
Elissa Winzelberg; (212) 389-9325; EWinzelberg@breakingground.org.

Nothing on this page shall supersede the provisions of an Environmental Easement, Consent Order, Consent Decree, agreement, or other legally binding document that affects rights and obligations relating to the site.

Site Owner's Responsibilities:

1) The owner shall follow the provisions of the SMP as they relate to future construction and excavation at the site.

2) In accordance with a periodic time frame determined by the NYSDEC, the owner shall periodically certify, in writing, that all Institutional Controls set forth in an Environmental Easement remain in place and continue to be complied with. The owner shall provide a written certification to the RP, upon the RP's request, in order to allow the RP to include the certification in the site's Periodic Review Report (PRR) certification to the NYSDEC.

3) In the event the site is delisted, the owner remains bound by the Environmental Easement and shall submit, upon request by the NYSDEC, a written certification that the Environmental Easement is still in place and has been complied with.

4) The owner shall grant access to the site to the RP and the NYSDEC and its agents for the purposes of performing activities required under the SMP and assuring compliance with the SMP.

5) The owner is responsible for assuring the security of the remedial components located on its property to the best of its ability. In the event that damage to the remedial components or vandalism is evident, the owner shall notify the site's RP and the NYSDEC in accordance with the timeframes indicated in Section 1.3 -Notifications.

6) In the event some action or inaction by the owner adversely impacts the site, the owner must notify the site's RP and the NYSDEC in accordance with the time frame indicated in Section 1.3 - Notifications and (ii) coordinate the performance of necessary corrective actions with the RP.

7) The owner must notify the RP and the NYSDEC of any change in ownership of the site property (identifying the tax map numbers in any correspondence) and provide contact information for the new owner of the site property 6 NYCRR Part contains notification requirements applicable to any construction or activity changes and changes in ownership. Among the notification requirements is the following: Sixty days prior written notification must be made to the NYSDEC. Notification is to be submitted to the NYSDEC Division of Environmental Remediation's Site Control Section. Notification requirements for a change in use are detailed in Section 2.4 of the SMP. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html.

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9) Until such time as the NYSDEC deems the SSDS unnecessary, the owner shall operate the system, pay for the utilities for the system's operation, and report any maintenance issues to the RP and the NYSDEC.

10) In accordance with the tenant notification law, within 15 days of receipt, the owner must supply a copy of any vapor intrusion data, that is produced with respect to structures and that exceeds NYSDOH or OSHA guidelines on the site, whether produced by the NYSDEC, RP, or owner, to the tenants on the property. The owner must otherwise comply with the tenant and occupant notification provisions of Environmental Conservation Law Article 27, Title 24.

Remedial Party Responsibilities

1) The RP must follow the SMP provisions regarding any construction and/or excavation it undertakes at the site.

2) The RP shall report to the NYSDEC all activities required for remediation, operation, maintenance, monitoring, and reporting. Such reporting includes, but is not limited to, periodic review reports and certifications, electronic data deliverables, corrective action work plans and reports, and updated SMPs.

3) Before accessing the site property to undertake a specific activity, the RP shall provide the owner advance notification that shall include an explanation of the work expected to be completed. The RP shall provide to (i) the owner, upon the owner's request, (ii) the NYSDEC, and (iii) other entities, if required by the SMP, a copy of any data generated during the site visit and/or any final report produced.

4) If the NYSDEC determines that an update of the SMP is necessary, the RP shall update the SMP and obtain final approval from the NYSDEC. Within 5 business days after NYSDEC approval, the RP shall submit a copy of the approved SMP to the owner(s).

5) The RP shall notify the NYSDEC and the owner of any changes in RP ownership and/or control and of any changes in the party/entity responsible for the operation, maintenance, and monitoring of and reporting with respect to any remedial system (Engineering Controls). The RP shall provide contact information for the new party/entity. Such activity constitutes a Change of Use pursuant to 375-1.11(d) and requires 60-days prior notice to the NYSDEC. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html .

6) The RP shall notify the NYSDEC of any damage to or modification of the systems as required under Section 1.3 -Notifications of the SMP.

7) The RP is responsible for the proper maintenance of any installed SSDS associated with the site, as required in 5.3.2 Routine System Operation and Maintenance Section of the SMP.

8) Prior to a change in use that impacts the remedial system or requirements and/or responsibilities for implementing the SMP, the RP shall submit to the NYSDEC for approval an amended SMP.

9) Any change in use, change in ownership, change in site classification (*e.g.*, delisting), reduction or expansion of remediation, and other significant changes related to the site may result in a change in responsibilities and, therefore, necessitate an update to the SMP and/or updated legal documents. The RP shall contact the Department to discuss the need to update such documents.

Change in RP ownership and/or control and/or site ownership does not affect the RP's obligations with respect to the site unless a legally binding document executed by the NYSDEC releases the RP of its obligations.

Future site owners and RPs and their successors and assigns are required to carry out the activities set forth above.