

166 Chandler Street
ERIE
COUNTY
BUFFALO, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: C915320

Prepared for:

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Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date
1	08/24/2021	Updates to Monitoring and Sampling requirements (Environmental Advantage, Inc.)	
2	11/12/2021	Additional revisions – EWP, HASP, new building details (Environmental Advantage, Inc.)	
3	02/28/2022	Additional revisions – Revise Table 3, Include details from FER in Section 2.3.2, update Site contacts, provide revision Certification (Environmental Advantage, Inc.)	

DECEMBER 2018

REVISED FEBRUARY 2022

CERTIFICATION STATEMENT

I MICHELE M. WITTMAN, P.G. certify that I am currently a Qualified Environmental Professional as in 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).

Michele Wittman QEP

12/07/2018 DATE



I JOHN A. SCHENNE, PE. certify that I am currently a NYS registered professional engineer and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

John A. Schenne PE

12/07/2018 DATE



REVISION RE-CERTIFICATION

ENVIRONMENTAL PROFESSIONAL(S) STATEMENT

I, **C. MARK HANNA**, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and I have the specific qualifications based on education, training, and experience to revise this Site Management Plan in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

C. Mark Hanna, CHMM

Name

President

Title



Signature

02/28/2022

Date

TABLE OF CONTENTS

	Page
ES EXECUTIVE SUMMARY	i
1.0 INTRODUCTION	1
1.1 General.....	1
1.2 Revisions.....	2
1.3 Notifications.....	2
Table 1.3 Notifications.....	3
2.0 SUMMARY OF PREVIOUS REMEDIAL INVESTIGATIONS AND REMEDIAL ACTIONS.....	3
2.1 Site Location and Description.....	3
2.2 Physical Setting.....	3
2.2.1 Land Use.....	3
2.2.2 Geology.....	3
2.2.3 Hydrogeology	4
2.3 Investigation and Remedial History.....	4
2.3.1 Phase 2 Investigation.....	4
2.3.2 Interim Remedial Measures	4
2.3.3 Building Evaluation	6
2.3.4 Soil Vapor Intrusion Investigation	7
2.4 Remedial Action Objectives	7
2.4.1 Groundwater	7
2.4.2 Soil	7
2.4.3 Soil Vapor	8
2.5 Remaining Contamination	8
2.5.1 Soil	8
2.5.2 Groundwater	8
2.5.3 Soil Vapor	9
3.0 INSTITUTIONAL CONTROL PLAN.....	10
3.1 General.....	10
3.2 Institutional Controls	11
4.0 MONITORING AND SAMPLING PLAN	
4.1 Site-wide Inspection.....	11
4.2 Indoor Air Sampling.....	12
5.0 PERIODIC ASSESSMENTS/EVALUATIONS	12
5.1 Climate Change Vulnerability Assessment.....	12
5.2 Site-wide Inspection.....	13
6.0 REPORTING REQUIREMENTS	14
6.1 Site Management Reports.....	14
Table 6.1 Schedule of Inspection Reports.....	14
6.2 Period Review Report.....	15
6.2.1 Certification of Industrial Controls	15
6.3 Corrective Measures Work Plan	17
7.0 REFERENCES	17

TABLE OF CONTENTS

List of Tables

Table 1	Groundwater Elevation Data
Table 1.3	Notifications
Table 2	Interior Soil Unrestricted Use SCO Exceedances
Table 3	On-Site IRM Testing Results (Exterior)
Table 4	Groundwater Testing Results
Table 5	Historic Indoor and Outdoor Air Sampling Results
Table 6.1	Schedule of Inspection Reports

List of Figures

Figure 1	Site Location Map
Figure 2	Site Limits
Figure 3	Erie County Tax Map
Figure 4	Remedial Investigation Sampling Locations
Figure 5	Groundwater Isopotential Map
Figure 6	Interim Remedial Measures Locations
Figure 7	On-Site Confirmatory Soil Sample Locations and Soil Samples Exceeding Unrestricted Use Soil Cleanup Objectives
Figure 8	Groundwater Monitoring Well Exceedances
Figure 9	Indoor Air Sampling Locations
Figure S-1	Foundation Plan & Details

List of Appendices

Appendix A	Environmental Easement
Appendix B	List of Site Contacts
Appendix C	Soil Boring Logs
Appendix D	Monitoring Well Boring and Construction Logs
Appendix E	Excavation Work Plan
Appendix F	Site Management Forms
Appendix G	Quality Assurance Project Plan
Appendix H	Health and Safety Plan

List of Acronyms

AS	Air Sparging
ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CAMP	Community Air Monitoring Plan
C/D	Construction and Demolition
CFR	Code of Federal Regulation
CLP	Contract Laboratory Program
COC	Certificate of Completion
CO2	Carbon Dioxide
CP	Commissioner Policy
DER	Division of Environmental Remediation
ECL	Environmental Conservation Law
ELAP	Environmental Laboratory Approval Program
ERP	Environmental Restoration Program
GHG	Green House Gas
GWE&T	Groundwater Extraction and Treatment
HASP	Health and Safety Plan
IC	Institutional Control
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PID	Photoionization Detector
PRP	Potentially Responsible Party
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RP	Remedial Party
SAC	State Assistance Contract
SCG	Standards, Criteria and Guidelines
SCO	Soil Cleanup Objective
SMP	Soil Management Plan
SOP	Standard Operating Procedures
SOW	Statement of Work
SPDES	State Pollutant Discharge Elimination System

SSD	Sub-slab Depressurization
SVE	Soil Vapor Extraction
SVI	Soil Vapor Intrusion
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leachate Procedure
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VCA	Voluntary Cleanup Agreement
VCP	Voluntary Cleanup Program

ES EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for 166 Chandler Street, as well as the inspections, monitoring and reporting activities required by this Site Management Plan:

Site Identification: BCP #C915320 – 166 Chandler Street

Institutional Controls:	<ol style="list-style-type: none"> 1. The property may be used for restricted residential, commercial and/or industrial use; 2. The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Erie County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department. 3. A provision for evaluation of the potential for soil vapor intrusion in the existing building and for any new buildings developed on 166 Chandler Street, including provisions for implementing actions recommended to address exposures related to soil vapor intrusion; 4. Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP; 5. All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP; 6. Access to 166 Chandler Street 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. 7. Vegetable gardens and farming on 166 Chandler Street are prohibited; 	
Engineering Controls:	N/A	
Inspections:		Frequency:
Site-Wide Inspection		Annually
Monitoring:		N/A
Maintenance:		N/A
Reporting:		
Certification/PRR		Annually
Evaluations:		
1) Climate Change Vulnerability		As needed
2) Soil Vapor Intrusion Evaluation		

Further descriptions of the above requirements are provided in detail in the subsequent 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 “166 Chandler Street” located in Buffalo, Erie County New York. See Figure 1. 166 Chandler Street is currently in the New York State (NYS) Brownfield Cleanup Program (BCP) Site No. C915320 which is administered by New York State Department of Environmental Conservation (NYSDEC).

166 Chandler Holdings, LLC entered into a Brownfield Cleanup Agreement (BCA), on December 11, 2017 with the NYSDEC to remediate 166 Chandler Street. A figure showing 166 Chandler Street location and boundaries of 166 Chandler Street is provided in Figure 2. The boundaries of 166 Chandler Street are more fully described in the metes and bounds 166 Chandler Street description that is part of the Environmental Easement provided in Appendix A.

After completion of the remedial work, some contamination remains at 166 Chandler Street, which is hereafter referred to as “remaining contamination”. Institutional (ICs) have been incorporated into 166 Chandler Street 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 Erie County Clerk, requires compliance with this SMP and all ICs placed on 166 Chandler Street.

This SMP was prepared to manage remaining contamination at 166 Chandler Street 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), release or closure letter;
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the BCA Index C915320-07-17, Site #C915320 for 166 Chandler Street, and thereby subject to applicable penalties.

All reports associated with 166 Chandler Street 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 166 Chandler Street is provided in Appendix B of this SMP.

This SMP was prepared by Wittman GeoSciences, PLLC (WGS), in associated with Hazard Evaluations, Inc. (HEI) and Schenne & Associates (S&A), on behalf of 166
Site Management Plan [C915320] Revised February 2022 1

Chandler Holdings, LLC, in accordance with the requirements of the NYSDEC’s DER- 10 (“Technical Guidance for Site Investigation and Remediation”), dated May 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs that are required by the Environmental Easement for 166 Chandler Street. This SMP was revised in 2022 by Environmental Advantage, Inc. (EA).

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 post-remedial removal of contaminated sediment or soil, or other significant change to 166 Chandler Street conditions. In accordance with the Environmental Easement for 166 Chandler Street, 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:

- Written 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.
- Written 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan (EWP).

Any change in the ownership of 166 Chandler Street 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 166 Chandler Street, the new owner’s name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

Table 1.3 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 B.

Table 1.3: Notifications*

Name	Contact Information
Megan Kuczka	716-851-7220 megan.kuczka@dec.ny.gov
Andrea Caprio, P.E.	716-851-7220 Andrea.Caprio@dec.ny.gov
Kelly A. Lewandowski, P.E.	518-402-9542 kelly.lewandowski@dec.ny.gov

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

2.0 SUMMARY OF PREVIOUS REMEDIAL INVESTIGATIONS AND REMEDIAL ACTIONS

2.1 Site Location and Description

166 Chandler Street is located in Buffalo, Erie County, New York and is identified as Section 77.84 Block 4 and Lot 5 on the Erie County Tax Map (see Figure 3). 166 Chandler Street is an approximately 0.49-acre area and is bounded by Conrail Railroad Tracks to the north, Chandler Street to the south, commercial to the east, and commercial to the west (see Figure 2). The boundaries of 166 Chandler Street are more fully described in Appendix A – Environmental Easement. The owner(s) of 166 Chandler Street parcel(s) at the time of issuance of thisSMP is/are:

166 Chandler Holdings, LLC, 391 Washington Street, Buffalo, NY 14203

2.2 Physical Setting

2.2.1 Land Use

166 Chandler Street consists of a four-story, approximate 58,000 square-foot building which occupies almost the entirety of the parcel. Construction of the western portion of the building was completed in 2018-2019. 166 Chandler Street is zoned commercial and is currently occupied by several commercial occupants.

The properties adjoining 166 Chandler Street and in the neighborhood surrounding 166 Chandler Street primarily include commercial and residential properties. The properties immediately south of 166 Chandler Street include commercial and residential properties; the properties immediately north of 166 Chandler Street include railroad tracks; the properties immediately east of 166 Chandler Street include commercial properties; and the properties to the west of 166 Chandler Street include commercial properties.

2.2.2 Geology

Subsurface conditions generally included approximately 3 to 11 feet of granular and cohesive fill material overlying native silt and clay which extended the full depth drilled of up to 76 feet. The fill material, specifically within the western vacant lot, consisted of sand and gravel, with varying amounts of brick, concrete, cinders, slag, and wood, as well as presence of various debris such as metal pipes, steel pieces, wire and

electronic components. A former concrete foundation appeared to be present 5 to 8 feet below grade throughout most of the western lot area. Interior soil borings identified approximately 3 to 5 feet of fill that generally consisted of sand and gravel, with lesser amounts of silt, clay and trace amounts of concrete and cinders.

A naturally deposited silty clay was encountered at each soil boring location underlying the former concrete foundation or fill material. The native silty clay extended the full depth drilled at each location. Site specific boring logs are provided in Appendix C.

2.2.3 Hydrogeology

Monitoring well locations MW101 to MW103 area shown on Figure 4. Table 1 present the relative groundwater elevation data. Groundwater depth was generally greater than 12 to 15 feet below grade. Figure 5 presents the estimated groundwater flow direction in September 2018, which generally appeared to be southwesterly. Groundwater monitoring well construction logs are provided in Appendix D.

2.3 **Investigation and Remedial History**

As further documented in the Final Engineering Report, 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 166 Chandler Street. Full titles for each of the reports referenced below are provided in Section 7.0 References.

2.3.1 Phase 2 Investigation

During due diligence work prior to property purchase, Hazard Evaluations Inc. completed a limited Phase II investigation for Signature Development at the property in November of 2016. The work included completion of three hand augers, 13 soil borings and collection of soil and groundwater samples. Based on this limited investigation, the primary contaminants of concern in the soil/fill profile include semi-volatile organic compounds (SVOCs), and metals, while SVOCs were detected in the groundwater. A final report was not created for the Phase II work.

The Phase II testing identified SVOCs in the fill areas of the vacant lot at concentrations exceeding restricted residential, commercial, and industrial standards. Elevated levels of mercury was also identified within one sample under the building. Historical records identified a possible UST in the southwestern corner of 166 Chandler Street. No record of tank removal or registration was identified.

2.3.2 Interim Remedial Measures

A series of interim remedial measures (IRMs) were performed at 166 Chandler Street in order to remediate the on-site concerns.

- The excavation and off-site disposal of soil/fill exceeding RRSCO. Impacted soil/fill was removed from the western portion, limited interior area (identified as MW102 area), and elevators shaft and pit. The excavations were generally extended into native clay at each area.
- The entire western lot was excavated to the property limits, as shown on Figure 7, beyond the BCP boundary as indicated in Figure 2. The area was occupied by a

former building with foundation. Former foundation walls were exposed, and located along the northern, western and southern property limits, as well as various interior foundation walls. The bottom of the excavation extended to a solid concrete floor or excavation continued to the native underlying silty clay soil, generally ranging in depth from 5 to 8 feet below grade. The eastern limit was defined by 166 Chandler Street building. A total of 2,157 cubic yards (cy) or 3,235 tons of soil was removed from the western vacant lot, and disposed off-site at Town of Tonawanda landfill.

The excavations were completed to and beyond property limits to the north, south and west. The eastern limit was extended to the building wall, exposing the eastern building foundation along the entire length of the excavation. Therefore, no on-site sidewall confirmatory soil samples were necessary. Eleven (11) bottom confirmatory samples were collected from beneath the concrete floor, or from the underlying native silty clay in the western lot area, including one bottom sample collected underneath the UST described in the next bullet point. Confirmatory soil testing locations are illustrated with a green circle on Figure 7, and results are summarized on Table 3. No VOCs, SVOCs, metals, PCBs, herbicides or pesticides were detected in the confirmation samples at concentrations above RRUSCO.

- An old, damaged UST was uncovered in the southwestern corner of the vacant lot. The UST was severely corroded; however limited amount of standing water was present. The UST was estimated to be approximately 300 gallons in size. The minor amount of liquids was initially pumped and disposed off-site by ESG, generating approximately one-55-gallon drum of liquid. The cleaned tank remnants were taken off-site by ESG for recycling.

No visual or olfactory evidence of impact was observed in the vicinity of the UST. However, due to the presence of the historical fill, additional excavation extended beyond the limits of the UST. Soil samples were collected from the nearest west wall, south wall and bottom, as identified as UST-CS-West SW, UST-CS-South SW, and UST-CS-Bottom. The eastern and northern walls were defined by former building foundations that were fully exposed. No contaminant parameters were detected at concentrations exceeding their respective UUSCO.

- Several SVOCs were detected in the soil sample from MW102 (0-4') at concentrations exceeding RRUSCO including benzo(a)anthracene, benzo(a)pyrene, benzo(k)fluoranthene, and indeno(1,2,3-cd)pyrene. In order to address the presence of SVOC impacts, the concrete floor was removed and an approximate 11-foot by 11-foot excavation was completed in the vicinity of MW102. However the western and southern limits of the excavation were limited due to concrete foundations. Approximately 12 cy or 18 tons of soil was removed from the area of MW102, and dispose off-site at Town of Tonawanda landfill. Four sidewall samples and one bottom sample were collected from the excavation area of MW102, as shown on Figure 7. The analytical testing results did not identify SVOCs at concentrations exceeding UUSCO in the confirmatory samples.

- Asbestos survey for asbestos containing materials (ACM) within the roof of the 166 Chandler Street building. Asbestos removal activities were completed at 166 Chandler Street in 2018 and limited to the roof of the existing building.
- Various drums and miscellaneous waste were identified within the building during cleanout activities. The various materials were analyzed, as needed for proper disposal. Waste materials included several enamel based paints and latex paints, generally one to five-gallon size containers, and older fire extinguishers. These materials were collected by Environmental Service Group, Inc. (ESG) and disposed off-site.
- An elevator shaft is located in the northern portion of the site, with an associated elevator pit. The elevator has been unused for many years, and subsequently the shaft and pit have been filled with rainwater, groundwater, sediment, and miscellaneous debris. A sediment sample was collected from the pit, at the request of the disposal company for disposal characterization, which included VOC, SVOCs, metal, PCBs and the water was also analyzed for PCBs. Analytical results identified one VOC, 1,4-dichlorobeneze, and metal barium, at concentrations that were potentially hazardous. The disposal facility required further analysis for TCLP VOCs and TCLP Metals. The testing results revealed the sediment material was non-hazardous and was therefore accepted by ESG. A total of 1,698 gallons of sludge, shaft water, and wash water were removed from the elevator shaft and pit area. The concrete floors within the basement area were removed due to site development tasks, and disposed as non-hazardous soil. Soil samples taken on the south, west, and east side of the elevator pit and did not identify VOCs or metals at concentrations exceeding UUSCO.

2.3.3 Building Evaluation

Following remedial activities, a new building addition was constructed in the western portion and completed by 2018. Due to the VOCs detected as described above, upon completion of backfilling and compaction, a 6-mil poly-sheeting vapor barrier was installed above the new backfill, and below new concrete floor. As shown on Figure S-1, the new building foundation was constructed of a new 6-inch concrete floor. The new building addition is an open-floor, open air plan, with new roof heights of over 40 feet tall.

The existing building also underwent significant redevelopment activities. The concrete floor on the main floor was removed, new infrastructure installed, and pre-approved backfill material brought on-site. A 6-mil poly-sheeting vapor barrier was installed above the new backfill material, and below the new 6-inch concrete flooring. Portions of the western wall of the existing building were removed, allowing the new and existing building to be connected.

HVAC system installation was completed for the new and existing building meeting local building department requirements. As part of HVAC system requirements, a minimum of five (5) to seven (7) fresh air/make up air change outs will be realized per hour.

Due to considerations associated with depth of contaminated soil, depth of on-site groundwater, competent silty clay native soils, clean backfill material brought on-site, installation of a vapor barrier, ceiling height and building conditions, and required fresh air change outs, no further soil vapor intrusion evaluation was required in the western portion (2018 addition) of the Site building.

2.3.4 Soil Vapor Intrusion Investigation

To evaluate soil vapor intrusion in the existing site building and new building addition, three indoor air sampling events were completed on April 16, 2019, April 20, 2020, and February 18, 2021. The results of these investigations were detailed in the April 2020 Revised Periodic Review Report and the April 2021 Revised Periodic Review Report. In addition to indoor and outdoor air sampling, a site inspection and building questionnaire were conducted as well. Based on the results of these assessments, and as further described in section 4.2 below, soil vapor intrusion did not appear to be a concern to the health and safety of the Site's occupants; therefore, annual indoor air sampling requirement was discontinued as approved by NYSDEC. In the future should additional development or change in use of the site occur, further soil vapor intrusion evaluations may be necessary, following the procedures described in Section 4.2 below.

2.4 **Remedial Action Objectives**

Based on the IRM work completed and laboratory testing results, a No Further Action (NFA) Decision Document (DD) was issued.

The Remedial Action Objectives (RAOs) for 166 Chandler Street as listed in the Decision Document are as follows.

2.4.1 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

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

2.4.2 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.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

2.4.3 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 **Remaining Contamination**

2.5.1 Soil

Based on results of the IRM work completed, no areas of soil are anticipated to be present at concentrations above RRUSCO. IRM locations are included on Figure 6. Remaining soil impacts include limited concentrations of contaminant including VOCs, metals and PCBs at concentrations above the applicable Unrestricted Use SCO (UUSCO) (Part 375-6.8) after completion of remedial activities.

The areas of remaining contamination above UUSCO but below RRUSCO are 5 to 8 feet below the new building foundation in the western lot area, and potentially under the existing building floor. Tables 2 and 3; and Figure 7 summarize the results of all soil samples collected after the remedial actions under the IRM. Analysis of the results indicates that all of the results were below each respective RRUSCO.

2.5.2 Groundwater

Three groundwater monitoring wells were installed during RI work. Table 4 and Figure 8 summarize the results of all samples of groundwater that exceed the SCGs after completion of the remedial action.

- Cis 1, 2-dichloroethene was detected in MW101 at a concentration of 8 parts per billion (ppb) and 1,1-dichloroethane was detected at MW103 at a concentration of 6.3 ppb which exceeds their respective Class GA Criteria of 5 ppb.
- Seven (7) SVOCs were detected in the three groundwater samples analyzed, including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and indeno(1,2,3-cd)pyrene, and concentrations exceeding Class GA Criteria. Additionally, bis(2-ethylhexyl)phthalate was detected at concentration above its respective Class GA Criteria at MW103, located along the western limits of 166 Chandler Street. No SVOC were detected at concentrations above Class GA criteria in the sample from MW102.
- Several metals were identified, including antimony and iron, as well as naturally occurring metals magnesium, manganese and sodium were detected in the groundwater samples at concentrations exceeding Class GA Criteria. Additionally, lead and selenium were detected in the soil sample from MW103. Dissolved metal analysis also identified naturally

occurring metals magnesium, manganese and sodium. Antimony, iron, lead and selenium were not detected at concentrations exceeding Class GACriteria in the dissolved groundwater sample analysis.

- PCBs were non-detect above method detection limits in the groundwater samples collected for analysis.
- One pesticide, beta-BHC, was detected at a concentration of 0.09 ppb, which exceeds its respective Class GA Criteria of 0.04 ppb in the groundwater sample from MW102. No pesticides were detected at concentration exceeding Class GA Criteria in the sample from MW103.

2.5.3 Soil Vapor

One VOC, tetrachloroethene (PCE) was detected in one soil sample collected from the western vacant lot, after remedial activities were completed. The detected concentration of the one soil sample (VL-CS-08) was at a concentration of 4.4 parts per million (ppm) of PCE, which is below the restricted residential use soil cleanup objective (RRUSCO) and 166 Chandler Street cleanup goal, but above the unrestricted use soil cleanup objective (UUSCO). The LV-CS-08 soil sample was collected as a confirmatory soil sample, located beneath the former building concrete slab, at a depth of approximately 8 feet below existing ground surface. Native soils below the former building slab is competent silty clay. The excavation was backfilled and compacted with No. 2 crushed concrete.

After remedial activities were completed, three groundwater monitoring wells were installed at the Site and sampled on September 12, 2018. The results indicated that the groundwater sample from MW101 located inside the main building detected cis-1,2-dichloroethene (cis-DCE) at a concentration of 8 parts per billion (ppb), and the groundwater sample from MW103 located west and outside of the newly constructed building addition detected 1,1-dichloroethane (DCA) at a concentration of 6.3 ppb. Groundwater depth at MW101 and MW103 ranged from approximately 13 to 16 feet below grade.

As per the original version of the 166 Chandler Street SMP, indoor air sampling was required to be completed for two consecutive heating seasons to evaluate the potential for soil vapor intrusion. Four indoor air samples and one outdoor air sample were collected over an 8-hour period on April 16, 2019 and on April 20, 2020. The results of these sampling event were detailed in the Periodic Review Report – April 2020 Revised; DEC Site #C915320 as prepared by HEI. All target analytes were reported below the NYSDOH Guideline Values during the April 2019 and April 2020 air sampling events.

As per the NYSDEC's August 17, 2020 letter, NYSDEC and the New York State Department of Health (NYSDOH) requested that one additional round of sampling be completed during the 2020-2021 heating season, as the previous indoor air samples were collected in April 2020 due to COVID-19 exposure concerns, which was approximately three weeks outside of the NYSDOH official heating season (November 1 to March 31). Four indoor air samples and one outdoor air sample were collected over an 8-hour period on February 18, 2021. The results of this sampling event were detailed in the Periodic

Review Report – April 2021; DEC Site #C915320 as prepared by EA. All target analytes were reported below the NYSDOH Guideline Values during the February 2021 sampling event.

To conclude the April 2021 Periodic Review Report (PRR), EA stated that “Indoor air sampling has been collected from the Site’s indoor air for a minimum of two consecutive heating seasons to evaluate the potential for soil vapor intrusion. Based on the analytical results described above and in last year’s PRR, soil vapor intrusion does not appear to be a concern to the health and safety of the Site’s occupants. Therefore, EA recommends discontinuing the annual indoor air sampling requirement.” In the Department’s June 23, 2021 PRR acceptance letter, the Department agreed with EA’s recommendation and stated “The NYSDEC and NYSDOH have assessed the indoor air sampling data and concur that no further sampling is required.”

3.0 INSTITUTIONAL CONTROL PLAN

3.1 General

Since remaining contamination exists at 166 Chandler Street, Institutional Controls (ICs) are required to protect human health and the environment. This IC Plan describes the procedures for the implementation and management of all ICs at 166 Chandler Street. The IC Plan is one component of the SMP and is subject to revision by the NYSDEC.

This plan provides:

- A description of all ICs on 166 Chandler Street;
- The basic implementation and intended role of each IC;
- 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 ICs, 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 166 Chandler Street; and
- Any other provisions necessary to identify or establish methods for implementing the ICs required by 166 Chandler Street remedy, as determined by the NYSDEC.

3.2 Institutional Controls

A series of ICs is required by the Decision Document to: (1) prevent future exposure to remaining contamination; and, (2) limit the use and development of 166 Chandler Street to Restricted Residential, Commercial, or Industrial uses only. Adherence to these ICs on 166 Chandler Street 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 are shown on Figure 2. These ICs are:

- The property may be used for restricted residential use 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) use;
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Erie Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
- A provision for evaluation of the potential for soil vapor intrusion in the existing building and for any new buildings developed on 166 Chandler Street, including provisions for implementing actions recommended to address exposures related to soil vapor intrusion;
- 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;
- Access to 166 Chandler Street 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.
- Vegetable gardens and farming on 166 Chandler Street are prohibited;

4.0 MONITORING AND SAMPLING PLAN

4.1 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 the remaining contamination at 166 Chandler Street. A comprehensive site-wide inspection will be conducted and documented according to the SMP schedule, regardless of the frequency of the Periodic Review Report.

During an inspection, an inspection form will be completed as provided in Appendix F – Site Management Forms. The inspections will determine and document the following:

- Compliance with all ICs, including site usage;
- 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
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- If site records are complete and up to date.

Reporting requirements are outlined in Section 6.0 of this plan.

Inspections will also be performed in the event of an emergency. An inspection of 166 Chandler Street will be conducted within 5 days of the event to verify the effectiveness of the ICs implemented at 166 Chandler Street 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.

4.2 Indoor Air Sampling

Indoor air sampling was previously required to be completed for two consecutive heating seasons to evaluate the potential for soil vapor intrusion. As per the NYSDEC's August 17, 2020 letter, NYSDEC and the NYSDOH requested that one additional round of sampling be completed during the 2020-2021 heating season, as the previous indoor air samples were collected in April 2020 due to COVID-19 exposure concerns, which was approximately three weeks outside of the NYSDOH official heating season (November 1 to March 31). Based on the analytical results from the 2019, 2020, and 2021 indoor air sampling events, soil vapor did not appear to present a concern to the health and safety of the Site's occupants and discontinuation of the annual indoor air sampling requirement was recommended. As stated in NYSDEC's Site Management (SM) – Periodic Review Report (PRR) Response Letter, dated June 23, 2021, the NYSDEC and NYSDOH concurred that no further (indoor air) sampling is required. The results of the 2019, 2020, and 2021 air sampling events is detailed in the 2020 and 2021 PRR's, historical Indoor and Outdoor Air Sampling results are included in Table 5 of this SMP. If future development or change of use occurs at 166 Chandler Street, further SVI assessments may be required.

5.0 PERIODIC ASSESSMENTS/EVALUATIONS

5.1 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 is prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

This section provides a summary of 166 Chandler Street information. A

vulnerability assessment will not be conducted for 166 Chandler Street due to the following:

- 166 Chandler Street is located within the City of Buffalo which provides municipal water to site and surrounding areas.
- No flood plains or wetlands are located within over ¼ mile of 166 Chandler Street.
- 166 Chandler Street development is complete, which includes a new building with concrete foundation in the western lot. Drainage for 166 Chandler Street area is connected to the municipal storm sewer system. Due to 166 Chandler Street being occupied by building, no areas of flooding are expected.
- All surfaces on 166 Chandler Street are developed and finished, no areas of erosion are anticipated.
- 166 Chandler Street cleanup goal is Restricted Residential and will not have a remedial system.

5.2 Site – wide Inspection

Site-wide inspections will be performed at a minimum of once per year. These periodic inspections must be conducted when the ground surface is visible (i.e. no snow cover). Site-wide inspections will be performed by a qualified environmental professional as defined in 6 NYCRR Part 375/DER-10, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a qualified environmental professional or a PE who is licensed and registered in New York State. Modification to the frequency or duration of the inspections will require approval from the NYSDEC project manager. 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 F – 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;
- Whether stormwater management systems, such as basins and outfalls, are working as designed;
- 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. Reporting requirements are outlined in Section 6.0 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 project manager 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 defined in 6 NYCCR Part 375. Written confirmation must be provided to the NYSDEC project manager 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.

6.0 REPORTING REQUIREMENTS

6.1 Site Management Reports

All 166 Chandler Street management inspection events will be recorded on the appropriate site management forms provided in Appendix F. These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including media sampling data generated for 166 Chandler Street during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of Table 6.1 and summarized in the Periodic Review Report.

Table 6.1: Schedule of Inspection Reports

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

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

All 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);
- Copies of all field forms completed (e.g., chain-of-custody documentation, etc.);
- Any observations, conclusions, or recommendations; and
- A determination as to whether contaminant conditions have changed since the last reporting event.

Non-routine 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

6.2 Periodic Review Report

The Periodic Review Report will consist only of the certification as specified in Section 5.2.1 except in the event where there have been changes to 166 Chandler Street or data gathered during the certifying period. Given such an event, the submittal of a comprehensive PR report will be necessary, as specified below.

A Periodic Review Report (PRR) will be submitted to the Department beginning 30 days after the initial 15 month certifying period. This initial certifying period commences upon issuance of the Certificate of Completion. After submittal of the initial Periodic Review Report, the next PRR shall be submitted every year, as appropriate to the Department or at another frequency as may be subsequently required by the Department. In the event that 166 Chandler Street is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses 166 Chandler Street described in Appendix A -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 ICs required by the remedy for 166 Chandler Street.
- Results of the required annual site inspections and severe condition inspections, if applicable.
- All applicable site management forms and other records generated for 166 Chandler Street during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.
- A summary of any data and/or information generated during the reporting period, with comments and conclusions, if any
- A 166 Chandler Street evaluation, which includes the following:
 - The compliance of the remedy with the requirements of the site-specific RAWP or Decision Document;
 - Any new conclusions or observations regarding 166 Chandler Street contamination based on inspections or data generated;
 - Recommendations regarding any necessary changes to the remedy; and
 - The overall performance and effectiveness of the remedy.

6.2.1 Certification of Institutional Controls

Within 30 days after the end of each certifying period, as determined by the NYSDEC, the following certification will be provided to the Department:

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

- The institutional 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 information presented in this report is accurate and complete.*

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class “A” misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Rocco Termini of 166 Chandler Holdings, LLC, am certifying as Owner for the site.”

- No new information has come to my attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid; and*

In addition, every five years the following certification will be added:

- The assumptions made in the qualitative exposure assessment remain valid.*

The signed certification will be included in the Periodic Review Report, if such report is required for the period. Otherwise, the Certification will be submitted as a stand-alone document.

The Periodic Review Report/Certification will be submitted, in electronic format, to the NYSDEC Central Office, the NYSDEC Regional Office in which 166 Chandler Street is located and the NYSDOH Bureau of Environmental Exposure Investigation. The Periodic Review Report/Certification may need to be submitted in hard-copy format, as requested by the NYSDEC project manager.

6.3 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 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. Upon completion of the Corrective Measure, a signed certification form must be submitted to the Department.

7.0 REFERENCES

Final Engineering Report, Brownfield Cleanup Program for 166 Chandler Street, 166 Chandler Street, Buffalo, New York, 14207, BCP #C915320, prepared for 166 Chandler Holdings, LLC by Wittman GeoSciences, PLLC and Hazard Evaluations, Inc., dated December 2018.

Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006, prepared by New York State Department of Health.

New York State Department of Environmental Conservation, DER-10/Technical Guidance for Site Investigation and Remediation, dated May 3, 2010

New York State Department of Environmental Conservation, 6NYCRR Part 375 Environmental Remediation Programs, Subparts 375-1 to 375-4 & 375-6, dated December 14, 2006

New York State Department of Environmental Conservation, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1., dated June 1998 (April 2000 addendum).

Periodic Review Report – April 2020 Revised; DEC Site #C915320, 166 Chandler Street Site, 166 Chandler Street, Buffalo, New York, by Hazard Evaluations, August 17, 2020.

Periodic Review Report – April 2021; DEC Site #C915320, 166 Chandler Street Site, 166 Chandler Street, Buffalo, New York, by Environmental Advantage, Inc., June 9, 2021.

Remedial Investigation – Interim Remedial Action – Alternative Analysis Report, Brownfield Cleanup Program for 166 Chandler Street, 166 Chandler Street, Buffalo, New York, 14207, BCP #C915320, prepared for 166 Chandler Holdings, LLC by Wittman GeoSciences, PLLC and Hazard Evaluations, Inc., dated December 4, 2018.

Site Management (SM) - Periodic Review Report (PRR) Response Letter, 166 Chandler Street, Buffalo, Erie County, Site No.: C915320, by NYSDEC, dated June 23, 2021.

TABLES

Table 1
Groundwater Elevation Data
166 Chandler Street Buffalo, NY

Location	Well Depth (feet)	Top of Riser Elevation	9/10/2018		10/15/2018	
			Depth to Water (feet)	Groundwater Elevation	Depth to Water (feet)	Groundwater Elevation
MW-101	20.10	101.08	19.90	81.18	16.20	64.98
MW-102	20.00	101.20	17.00	84.20	3.20	81.00
MW-103	19.82	96.83	19.10	77.73	12.90	64.83

Notes: All measurements provided in feet.

Table 2
Interior Soil Unrestricted Use SCO Exceedances
166 Chandler, Buffalo, NY

Parameter	UUSCO	RRUSCO	CUSCO	IUSCO	Interior Remedial Investigation Locations										MW102A	MW102A DUPLICATE	MW102B	MW102C	MW102D	MW102 BOTTOM
					SB105 (0-3')	SB106 (0.5-3')	SB106 (3-7')	SB106 (3-7') DUPLICATE	SB107 (0-4')	SB108 (0.5-4')	MW101 (0.5-3.5')	SB114 (0-3')	MW102 (0-4')	8/31/2018						
SAMPLING DATE					6/21/2018	6/21/2018	6/21/2018	6/21/2018	6/21/2018	6/21/2018	6/21/2018	6/21/2018	6/22/2018	6/22/2018	8/31/2018	8/31/2018	8/31/2018	8/31/2018	8/31/2018	8/31/2018
LAB SAMPLE ID					L1823566-03	L1823566-04	L1823566-05	L1823566-06	L1823566-07	L1823566-08	L1823566-09	L1823799-01	L1823799-02							
Volatiles Organics (mg/kg)																				
Chloroform	0.37	49	350	700	ND	ND	ND	ND	ND	ND	ND	0.00014 J	ND	NT	NT	NT	NT	NT	NT	
Benzene	0.06	4.8	44	89	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	
Toluene	0.7	100	500	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	
Ethylbenzene	1	41	390	780	0.0021	ND	ND	ND	0.00015 J	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	
p/m-Xylene	0.26	100	500	1000	0.01	ND	ND	ND	0.00054 J	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	
o-Xylene	0.26	100	500	1000	0.0031	ND	ND	ND	ND	ND	ND	0.02 J	ND	NT	NT	NT	NT	NT	NT	
Acetone	0.05	100	500	1000	0.0089 J	0.029	0.0042 J	0.013	ND	0.069	ND	0.012	ND	NT	NT	NT	NT	NT	NT	
2-Butanone	0.12	100	500	1000	ND	0.003 J	ND	ND	ND	0.0091 J	ND	ND	ND	NT	NT	NT	NT	NT	NT	
Cyclohexane	NV	NV	NV	NV	ND	ND	ND	ND	ND	ND	ND	0.037 J	ND	NT	NT	NT	NT	NT	NT	
Methyl cyclohexane	NV	NV	NV	NV	ND	ND	ND	ND	ND	ND	ND	0.11 J	ND	NT	NT	NT	NT	NT	NT	
Semivolatile Organics (mg/kg)																				
Acenaphthene	20	100	500	1000	ND	ND	ND	ND	0.07 J	ND	ND	0.036 J	ND	Area re-excavated on August 31, 2018 - Confirmatory samples MW102A to D ad bottom sample collected	ND	ND	ND	ND	ND	ND
Fluoranthene	100	100	500	1000	0.027 J	ND	ND	ND	1.1	0.031 J	0.031 J	0.92	ND		ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	NV	NV	NV	NV	ND	ND	ND	ND	ND	0.21 U	ND	ND	ND		ND	ND	ND	ND	ND	ND
Naphthalene	12	100	500	1000	ND	ND	ND	ND	0.034 J	ND	ND	0.2	ND		ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	NV	NV	NV	NV	ND	ND	ND	ND	ND	ND	ND	0.082 J	ND		ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	1	1	5.6	11	ND	ND	ND	ND	0.48	0.026 J	ND	0.51	ND		ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	1	1	1	1.1	ND	ND	ND	ND	0.36	ND	ND	0.52	ND		ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	1	1	5.6	11	ND	ND	ND	ND	0.5	ND	ND	0.73	ND		ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	0.8	3.9	56	110	ND	ND	ND	ND	0.18	ND	ND	0.27	ND		ND	ND	ND	ND	ND	ND
Chrysene	1	3.9	56	110	ND	ND	ND	ND	0.45	0.03 J	0.023 J	0.54	ND		ND	ND	ND	ND	ND	ND
Acenaphthylene	100	100	500	1000	ND	ND	ND	ND	0.038 J	ND	ND	0.22	ND		ND	ND	ND	ND	ND	ND
Anthracene	100	100	500	1000	ND	ND	ND	ND	0.23	ND	ND	0.18	ND		ND	ND	ND	ND	ND	ND
Benzo(ghi)perylene	100	100	500	1000	ND	ND	ND	ND	0.2	ND	ND	0.33	ND		ND	ND	ND	ND	ND	ND
Fluorene	30	100	500	1000	ND	ND	ND	ND	0.092 J	ND	ND	0.063 J	ND		ND	ND	ND	ND	ND	ND
Phenanthrene	100	100	500	1000	0.04 J	0.032 J	ND	ND	1.1	ND	0.044 J	0.71	ND		ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	0.33	0.33	0.56	1.1	ND	ND	ND	ND	0.06 J	ND	ND	0.11 J	ND		ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.5	0.5	5.6	11	ND	ND	ND	ND	0.22	ND	ND	0.38	ND		ND	ND	ND	ND	ND	ND
Pyrene	100	100	500	1000	0.021 J	ND	ND	ND	0.87	0.031 J	0.03 J	0.72	ND		ND	ND	ND	ND	ND	ND
Dibenzofuran	7	59	350	1000	ND	ND	ND	ND	0.068 J	ND	ND	0.065 J	ND		ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	NV	NV	NV	NV	ND	ND	ND	ND	0.026 J	ND	ND	0.051 J	ND		ND	ND	ND	ND	ND	ND
Carbazole	NV	NV	NV	NV	ND	ND	ND	ND	0.14 J	ND	ND	0.18 J	ND	ND	ND	ND	ND	ND	ND	
Total Metals (mg/kg)																				
Aluminum, Total	NV	NV	NV	NV	11800	15200	11500	12000	10300	12100	15400	13100	16700	NT	NT	NT	NT	NT	NT	
Antimony, Total	NV	NV	NV	NV	ND	ND	ND	ND	ND	ND	ND	1.58 J	1.95 J	NT	NT	NT	NT	NT	NT	
Arsenic, Total	13	16	16	16	4.48	4.28	3.5	4.67	7.91	6.33	5.31	3.76	5.79	NT	NT	NT	NT	NT	NT	
Barium, Total	350	400	400	10000	134	100	108	115	82.5	98.2	132	86.2	134	NT	NT	NT	NT	NT	NT	
Beryllium, Total	7.2	72	590	2700	0.59	1.14	0.541	0.591	0.444 J	0.596	0.753	0.54	0.669	NT	NT	NT	NT	NT	NT	
Cadmium, Total	2.5	4.3	9.3	60	ND	ND	ND	ND	ND	ND	ND	1.01	1.48	NT	NT	NT	NT	NT	NT	
Calcium, Total	NV	NV	NV	NV	9000	1420	49200	55800	39800	16700	32300	54000	39800	NT	NT	NT	NT	NT	NT	
Chromium, Total	30	180	1500	6800	15.6	21.9	19.6	18.7	14.7	17.2	20.8	17.8	21.2	NT	NT	NT	NT	NT	NT	
Cobalt, Total	NV	NV	NV	NV	6.25	11.6	8.55	9.8	8.02	7.8	9.91	8.52	8.92	NT	NT	NT	NT	NT	NT	
Copper, Total	50	270	270	10000	20.5	19.6	17.9	19.8	20.1	22.5	21.4	23	35.1	NT	NT	NT	NT	NT	NT	
Iron, Total	NV	NV	NV	NV	18000	28100	21000	21900	18000	26200	21900	19400	22200	NT	NT	NT	NT	NT	NT	
Lead, Total	63	400	1000	3900	36.6	13.2	8.74	9.08	20.3	34.3	18	16.5	41.3	NT	NT	NT	NT	NT	NT	
Magnesium, Total	NV	NV	NV	NV	3200	4830	11700	11100	6900	4160	8610	12600	9740	NT	NT	NT	NT	NT	NT	
Manganese, Total	1600	2000	10000	10000	272	173	436	419	600	317	360	418	390	NT	NT	NT	NT	NT	NT	
Mercury, Total	0.18	0.81	2.8	5.7	0.665	0.043 J	0.032 J	0.031 J	0.093	0.064 J	0.087	0.45	0.099	NT	NT	NT	NT	NT	NT	
Nickel, Total	30	310	310	10000	14.7	26.5	21.7	21.9	16.9	16	21.9	20.1	22.7	NT	NT	NT	NT	NT	NT	
Potassium, Total	NV	NV	NV	NV	1340	1170	1390	1450	1240	1030	1600	2630	3610	NT	NT	NT	NT	NT	NT	
Selenium, Total	3.9	180	1500	6800	ND	ND	ND	ND	ND	ND	ND	0.282 J	ND	NT	NT	NT	NT	NT	NT	
Sodium, Total	NV	NV	NV	NV	210	88.8 J	152 J	170 J	224	183 J	263	161	171	NT	NT	NT	NT	NT	NT	
Vanadium, Total	NV	NV	NV	NV	20.7	35.4	23.2	24.8	23.1	25.5	26.9	24.6	31	NT	NT	NT	NT	NT	NT	
Zinc, Total	109	10000	10000	10000	65.4	58.5	56.7	54.5	73.8	52.1	79.2	76.2	242	NT	NT	NT	NT	NT	NT	
Polychlorinated Biphenyls (mg/kg)																				
Aroclor 1254	0.1	1	1	25	0.0153 J	NT	0.0117 J	ND	0.0142 J	ND	ND	NT	0.0241 J	NT	NT	NT	NT	NT	NT	
Aroclor 1260	0.1	1	1	25	ND	NT	ND	ND	ND	ND	ND	NT	ND	NT	NT	NT	NT	NT	NT	
PCBs, Total	0.1	1	1	25	0.0153 J	NT	0.0117 J	ND	0.0142 J	ND	ND	NT	0.0241 J	NT	NT	NT	NT	NT	NT	
Chlorinated Herbicides and Organochlorine Pesticides (mg/kg)																				
					NT	NT	ND	ND	NT	ND	NT	NT	ND	NT	NT	NT	NT	NT	NT	

Notes:

- Analytical testing performed by Alpha Analytical. Compounds detected in one or more samples are presented in this table. Refer to Appendix for the full analytical report.
- ug/kg = parts per billion; mg/kg = parts per million.
- ND = not detected; NT = not tested; NV = no value.
- Analytical results compared to NYSDEC Part 375-6; Remedial Program Soil Cleanup Objectives, Table 375-(a) Unrestricted Use Soil Cleanup Objective; and Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
- * = Concentration of analyte exceeded range of the calibration curve, which required a re-analysis at a higher dilution factor.
- E = Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- J = Estimated value. The target analyte is below the reporting limit (RL), but above the method detection limit (MDL).
- P = The RPD between the results for the two columns exceeds the method-specified criteria.
- Shading indicates:
 - exceeds UUSCO - Unrestricted Use Soil Cleanup Objective
 - exceeds RRUSCO - Restricted Residential Use Soil Cleanup Objective
 - exceeds CUSCO - Commercial Use Soil Cleanup Objective
 - exceeds IUSCO - Industrial Use Soil Cleanup Objective

Table 2
Interior Soil Unrestricted Use SCO Exceedances
166 Chandler, Buffalo, NY

Parameter	UUSCO	RRUSCO	CUSCO	IUSCO	Interior Transformer Room			Elevator Pit Samples			
					CS-TR-EAST-01	CS-TR-WEST-01	HA-TR-01	HA-ES-EAST	HA-ES-WEST	HA-ES-South	HA-ES-SOUTH DUPLICATE
SAMPLING DATE					5/24/2018	5/24/2018	5/24/2018	8/31/2018	8/31/2018	8/31/2018	8/31/2018
LAB SAMPLE ID					L1818780-05	L1818780-06	L1818780-07	L1834606-09	L1834606-10	L1834606-11	L1834606-12
Volatile Organics (mg/kg)											
Chloroform	0.37	49	350	700	NT	NT	ND	ND	ND	ND	ND
Benzene	0.06	4.8	44	89	NT	NT	0.0004 J	ND	ND	ND	ND
Toluene	0.7	100	500	1000	NT	NT	0.00033 J	ND	ND	ND	ND
Ethylbenzene	1	41	390	780	NT	NT	0.00057 J	ND	ND	ND	ND
p/m-Xylene	0.26	100	500	1000	NT	NT	0.00088 J	ND	ND	ND	ND
o-Xylene	0.26	100	500	1000	NT	NT	0.0014 J	ND	ND	ND	ND
Acetone	0.05	100	500	1000	NT	NT	0.018	0.018	0.018	ND	ND
2-Butanone	0.12	100	500	1000	NT	NT	ND	ND	ND	ND	ND
Cyclohexane	NV	NV	NV	NV	NT	NT	ND	ND	ND	ND	ND
Methyl cyclohexane	NV	NV	NV	NV	NT	NT	0.00072 J	ND	ND	ND	ND
Semivolatile Organics (mg/kg)											
Acenaphthene	20	100	500	1000	NT	NT	0.037 J	NT	NT	NT	NT
Fluoranthene	100	100	500	1000	NT	NT	0.31	NT	NT	NT	NT
4-Chlorophenyl phenyl ether	NV	NV	NV	NV	NT	NT	ND	NT	NT	NT	NT
Naphthalene	12	100	500	1000	NT	NT	ND	NT	NT	NT	NT
Bis(2-ethylhexyl)phthalate	NV	NV	NV	NV	NT	NT	ND	NT	NT	NT	NT
Benzo(a)anthracene	1	1	5.6	11	NT	NT	0.13	NT	NT	NT	NT
Benzo(a)pyrene	1	1	1	1.1	NT	NT	0.1 J	NT	NT	NT	NT
Benzo(b)fluoranthene	1	1	5.6	11	NT	NT	0.14	NT	NT	NT	NT
Benzo(k)fluoranthene	0.8	3.9	56	110	NT	NT	0.054 J	NT	NT	NT	NT
Chrysene	1	3.9	56	110	NT	NT	0.12 J	NT	NT	NT	NT
Acenaphthylene	100	100	500	1000	NT	NT	ND	NT	NT	NT	NT
Anthracene	100	100	500	1000	NT	NT	0.06 J	NT	NT	NT	NT
Benzo(ghi)perylene	100	100	500	1000	NT	NT	0.067 J	NT	NT	NT	NT
Fluorene	30	100	500	1000	NT	NT	0.037 J	NT	NT	NT	NT
Phenanthrene	100	100	500	1000	NT	NT	0.28	NT	NT	NT	NT
Dibenzo(a,h)anthracene	0.33	0.33	0.56	1.1	NT	NT	ND	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	0.5	0.5	5.6	11	NT	NT	0.072 J	NT	NT	NT	NT
Pyrene	100	100	500	1000	NT	NT	0.23	NT	NT	NT	NT
Dibenzofuran	7	59	350	1000	NT	NT	0.027 J	NT	NT	NT	NT
2-Methylnaphthalene	NV	NV	NV	NV	NT	NT	ND	NT	NT	NT	NT
Carbazole	NV	NV	NV	NV	NT	NT	0.045 J	NT	NT	NT	NT
Total Metals (mg/kg)											
Aluminum, Total	NV	NV	NV	NV	NT	NT	13000	10500	11400	10500	10500
Antimony, Total	NV	NV	NV	NV	NT	NT	ND	1.18 J	ND	1.01 J	1.16 J
Arsenic, Total	13	16	16	16	NT	NT	3.31	3.5	4.6	4.57	4.5
Barium, Total	350	400	400	10000	NT	NT	122	102	119	98.8	103
Beryllium, Total	7.2	72	590	2700	NT	NT	0.531	0.492	0.525	0.492	0.494
Cadmium, Total	2.5	4.3	9.3	60	NT	NT	0.372 J	0.463 J	0.516 J	0.44 J	0.458 J
Calcium, Total	NV	NV	NV	NV	NT	NT	46100	54000	56600	52800	57000
Chromium, Total	30	180	1500	6800	NT	NT	18.7	17.5	17.9	17	19.3
Cobalt, Total	NV	NV	NV	NV	NT	NT	12.2	10.3	9.98	9.21	10
Copper, Total	50	270	270	10000	NT	NT	52.8	21.6	22.7	20	19.7
Iron, Total	NV	NV	NV	NV	NT	NT	18800	22000	23200	21900	22000
Lead, Total	63	400	1000	3900	NT	NT	14.2	10.2	12	8.91	9.36
Magnesium, Total	NV	NV	NV	NV	NT	NT	13100	15700	14700	14900	14700
Manganese, Total	1600	2000	10000	10000	NT	NT	516	513	520	479	508
Mercury, Total	0.18	0.81	2.8	5.7	NT	NT	0.028 J	ND	ND	ND	ND
Nickel, Total	30	310	310	10000	NT	NT	22.3	21.9	22	21.1	22.8
Potassium, Total	NV	NV	NV	NV	NT	NT	2020	1670	1910	1340	1320
Selenium, Total	3.9	180	1500	6800	NT	NT	0.977 J	0.781 J	1.16 J	0.993 J	1.07 J
Sodium, Total	NV	NV	NV	NV	NT	NT	1040	224	260	164 J	162 J
Vanadium, Total	NV	NV	NV	NV	NT	NT	20.9	25.2	24.3	23.8	24.1
Zinc, Total	109	10000	10000	10000	NT	NT	84.3	60.8	76.6	58	61.2
Polychlorinated Biphenyls (mg/kg)											
Aroclor 1254	0.1	1	1	25	ND	ND	ND	NT	NT	NT	NT
Aroclor 1260	0.1	1	1	25	0.414	0.0543 J	ND	NT	NT	NT	NT
PCBs, Total	0.1	1	1	25	0.414	0.0543 J	ND	NT	NT	NT	NT
Chlorinated Herbicides and Organochlorine Pesticides (mg/kg)											
					NT	NT	NT	NT	NT	NT	NT

Table 3
On-Site IRM Testing Results
166 Chandler, Buffalo, NY

Parameter	UUSCO	RRUSCO	CUSCO	IUSCO	Vacant Lot - Bottom Soil Sample Locations													
					VL-CS-01	VL-CS-01 DUPLICATE	VL-CS-04	VL-CS-05	VL-CS-06	VL-CS-07	VL-CS-08	VL-CS-12	VL-CS-13	UST-CS-BOTTOM	VL-CS-14	VL-CS-14 DUPLICATE	VL-CS-15	
Sampling Date					5/21/2018	5/21/2018	5/25/2018	5/25/2018	5/25/2018	5/25/2018	5/25/2018	5/25/2018	5/25/2018	5/25/2018	5/29/2018	5/29/2018	5/29/2018	
Alpha Job Number					L1818780-01	L1818780-02	L1818780-13	L1818780-14	L1818780-15	L1818780-16	L1818780-17	L1818780-21	L1818780-22	L1818780-10	L1819848-03	L1819848-04	L1819848-05	
Chlorinated Herbicides and Organochlorine Pesticide (mg/kg)																		
Beta-BHC	0.036	0.36	3	14	0.00189 U	0.00189 U	0.00182 U	NT	NT	NT	0.00188 U	0.0019 U	0.00189 U	0.00182 U	NT	NT	NT	
Endosulfan II	2.4	24	200	920	0.00189 U	0.00189 U	0.00182 U	NT	NT	NT	0.00188 U	0.0019 U	0.00189 U	0.00182 U	NT	NT	NT	
trans-Chlordane	NV	NV	NV	NV	0.00236 U	0.00236 U	0.00227 U	NT	NT	NT	0.00235 U	0.00238 U	0.00236 U	0.00227 U	NT	NT	NT	
Polychlorinated Biphenyls (mg/kg)																		
Aroclor 1242	0.1	1	1	25	0.0388 U	0.038 U	0.0391 U	NT	0.0211 J	NT	0.0389 U	0.0392 U	0.0885	0.0381 U	NT	NT	NT	
Aroclor 1254	0.1	1	1	25	0.0388 U	0.038 U	0.0391 U	NT	0.0419 U	NT	0.0389 U	0.0392 U	0.0402 U	0.0381 U	NT	NT	NT	
Aroclor 1260	0.1	1	1	25	0.0388 U	0.038 U	0.0391 U	NT	0.0419 U	NT	0.0389 U	0.0392 U	0.0402 U	0.0381 U	NT	NT	NT	
PCBs, Total	0.1	1	1	25	0.0388 U	0.038 U	0.0391 U	NT	0.0211 J	NT	0.0389 U	0.0392 U	0.0885	0.0381 U	NT	NT	NT	
Semivolatile Organics by (mg/kg)																		
2-Methylnaphthalene	NV	NV	NV	NV	0.24 U	0.24 U	0.24 U	0.23 U	0.25 U	0.22 U	0.037 J	0.24 U	0.24 U	0.23 U	0.23 U	0.23 U	0.23 U	
Acenaphthene	20	100	500	1000	0.16 U	0.16 U	0.16 U	0.15 U	0.17 U	0.15 U	0.16 U	0.16 U	0.16 U	0.15 U	0.15 U	0.16 U	0.15 U	
Acenaphthylene	100	100	500	1000	0.16 U	0.16 U	0.16 U	0.15 U	0.17 U	0.15 U	0.16 U	0.16 U	0.16 U	0.15 U	0.15 U	0.16 U	0.15 U	
Anthracene	100	100	500	1000	0.12 U	0.12 U	0.12 U	0.12 U	0.13 U	0.11 U	0.12 U	0.12 U	0.12 U	0.11 U	0.11 U	0.12 U	0.11 U	
Benzo(a)anthracene	1	1	5.6	11	0.12 U	0.12 U	0.12 U	0.12 U	0.031 J	0.11 U	0.024 J	0.12 U	0.054 J	0.12 U	0.11 U	0.12 U	0.11 U	
Benzo(a)pyrene	1	1	1	1.1	0.16 U	0.16 U	0.16 U	0.15 U	0.17 U	0.15 U	0.16 U	0.16 U	0.16 U	0.15 U	0.15 U	0.16 U	0.15 U	
Benzo(b)fluoranthene	1	1	5.6	11	0.12 U	0.12 U	0.12 U	0.12 U	0.13 U	0.11 U	0.12 U	0.12 U	0.062 J	0.12 U	0.11 U	0.12 U	0.11 U	
Benzo(ghi)perylene	100	100	500	1000	0.16 U	0.16 U	0.16 U	0.15 U	0.17 U	0.15 U	0.16 U	0.16 U	0.027 J	0.15 U	0.15 U	0.16 U	0.15 U	
Benzo(k)fluoranthene	0.8	3.9	56	110	0.12 U	0.12 U	0.12 U	0.12 U	0.13 U	0.11 U	0.12 U	0.12 U	0.12 U	0.12 U	0.11 U	0.12 U	0.11 U	
Biphenyl	NV	NV	NV	NV	0.45 U	0.45 U	0.45 U	0.44 U	0.48 U	0.42 U	0.45 U	0.46 U	0.46 U	0.44 U	0.44 U	0.44 U	0.44 U	
Bis(2-ethylhexyl)phthalate	NV	NV	NV	NV	0.2 U	0.2 U	0.2 U	0.19 U	0.21 U	0.18 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U	
Carbazole	NV	NV	NV	NV	0.2 U	0.2 U	0.2 U	0.19 U	0.21 U	0.18 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U	
Chrysene	1	3.9	56	110	0.12 U	0.12 U	0.12 U	0.12 U	0.026 J	0.11 U	0.022 J	0.12 U	0.051 J	0.12 U	0.11 U	0.12 U	0.11 U	
Dibenzo(a,h)anthracene	0.33	0.33	0.56	1.1	0.12 U	0.12 U	0.12 U	0.12 U	0.13 U	0.11 U	0.12 U	0.12 U	0.12 U	0.12 U	0.11 U	0.12 U	0.11 U	
Dibenzofuran	7	59	350	1000	0.2 U	0.2 U	0.2 U	0.19 U	0.21 U	0.18 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U	
Diethyl phthalate	NV	NV	NV	NV	0.2 U	0.2 U	0.2 U	0.19 U	0.21 U	0.02 J	0.02 J	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U	
Fluoranthene	100	100	500	1000	0.12 U	0.12 U	0.12 U	0.12 U	0.066 J	0.043 J	0.12 U	0.11 J	0.12 U	0.11 U	0.12 U	0.12 U	0.024 J	
Fluorene	30	100	500	1000	0.2 U	0.2 U	0.2 U	0.19 U	0.21 U	0.18 U	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U	
Indeno(1,2,3-cd)pyrene	0.5	0.5	5.6	11	0.16 U	0.16 U	0.16 U	0.15 U	0.17 U	0.15 U	0.16 U	0.16 U	0.031 J	0.15 U	0.15 U	0.16 U	0.15 U	
Naphthalene	12	100	500	1000	0.2 U	0.2 U	0.2 U	0.19 U	0.21 U	0.18 U	0.029 J	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U	
Phenanthrene	100	100	500	1000	0.12 U	0.12 U	0.12 U	0.12 U	0.053 J	0.11 U	0.044 J	0.12 U	0.097 J	0.12 U	0.11 U	0.12 U	0.11 U	
Pyrene	100	100	500	1000	0.12 U	0.12 U	0.12 U	0.12 U	0.05 J	0.11 U	0.035 J	0.12 U	0.091 J	0.12 U	0.11 U	0.12 U	0.019 J	
Total Metals (mg/kg)																		
Aluminum, Total	NV	NV	NV	NV	11900	11200	15000	12700	13600	12600	10500	10800	18900	11800	11200	10700	12900	
Antimony, Total	NV	NV	NV	NV	4.75 U	4.75 U	4.62 U	4.42 U	5.08 U	0.38 J	4.56 U	4.79 U	0.516 J	4.46 U	1.33 J	1.37 J	1.47 J	
Arsenic, Total	13	16	16	16	1.92	1.92	4.1	4.61	4.59	3.99	3.57	4.4	4.32	4.04	4.14	2.9	4.26	
Barium, Total	350	400	400	10000	102	80.3	124	106	115	125	104	126	201	75.6	126	109	102	
Beryllium, Total	7.2	72	590	2700	0.466 J	0.475	0.694	0.548	0.569	0.548	0.465	0.498	0.901	0.508	0.534	0.494	0.618	
Cadmium, Total	2.5	4.3	9.3	60	0.361 J	0.332 J	0.351 J	0.327 J	0.386 J	0.407 J	0.356 J	0.364 J	0.45 J	0.366 J	0.922 U	0.932 U	0.896 U	
Calcium, Total	NV	NV	NV	NV	59300	45400	40800	62100	45800	63700	67000	64900	2920	63300	48700	47400	50900	
Chromium, Total	30	180	1500	6800	17.2	16.7	19.1	16.9	19.2	18.1	15.8	15.6	24.8	16.9	17	16.9	19.6	
Cobalt, Total	NV	NV	NV	NV	8.29	8.09	10.9	9.38	11.5	9.06	9.61	8.4	14	9.46	11	10.5	11.7	
Copper, Total	50	270	270	10000	12.8	16.1	20.1	20.4	22	21.4	18.7	19.3	22	20	22.1	19.9	24.2	
Iron, Total	NV	NV	NV	NV	17800	19500	24000	21800	23100	21700	19300	20300	28300	20000	21200	19000	23200	
Lead, Total	63	400	1000	3900	7.07	7.18	7.34	7.72	9.87	11	9.1	9.72	28.8	8.83	7.82	7.68	9.92	
Magnesium, Total	NV	NV	NV	NV	13500	12800	12000	14100	14200	14100	14800	15500	9200	13900	13900	14300	13600	
Manganese, Total	1600	2000	10000	10000	398	378	382	434	456	407	430	370	470	384	501	463	529	
Mercury, Total	0.18	0.81	2.8	5.7	0.017 J	0.076 U	0.078 U	0.077 U	0.08 U	0.017 J	0.018 J	0.023 J	0.018 J	0.075 U	0.076 U	0.074 U	0.075 U	
Nickel, Total	30	310	310	10000	19.4	19.4	21.6	19.7	24.4	19.9	19.7	18	31.2	20.4	22.9	21.9	26.4	
Potassium, Total	NV	NV	NV	NV	1720	1580	1530	1470	1860	1730	1580	1610	1580	1440	1540	1460	1610	
Selenium, Total	3.9	180	1500	6800	0.864 J	0.817 J	1.4 J	1.1 J	1.17 J	1.13 J	1.1 J	0.957 J	1.58 J	0.936 J	1.16 J	1.08 J	1.36 J	
Sodium, Total	NV	NV	NV	NV	133 J	127 J	122 J	144 J	151 J	176 J	152 J	206	105 J	157 J	217	206	187	
Thallium, Total	NV	NV	NV	NV	1.9 U	1.9 U	1.85 U	1.77 U	2.03 U	1.77 U	1.82 U	1.91 U	1.88 U	1.78 U	1.84 U	1.86 U	1.79 U	
Vanadium, Total	NV	NV	NV	NV	17.7	20.7	25.6	22.9	24.5	23.5	20.4	20.3	30.7	22.3	23.2	22.3	26.4	
Zinc, Total	109	1000	10000	10000	62.1	52.5	50.7	49.1	64	58.5	58.7	53.6	87.4	59.5	54.7	54.6	57.3	
Volatile Organics (mg/kg)																		
1,1-Dichloroethane	0.27	26	240	480	0.0018 U	0.0014 U	0.0018 U	0.002 U	0.00042 J	0.0024 U	0.14 U	0.0011 U	0.0013 U	0.0018 U	0.0017 U	0.0014 U	0.003 U	
1,1-Dichloroethene	0.33	100	500	1000	0.0012 U	0.00093 U	0.0012 U	0.0013 U	0.00073 U	0.0016 U	0.092 U	0.00076 U	0.00088 U	0.0012 U	0.0012 U	0.00097 U	0.002 U	
2-Butanone	0.12	100	500	1000	0.0012 U	0.00093 U	0.0012 U	0.0013 U	0.00073 U	0.0016 U	0.092 U	0.00076 U	0.00088 U	0.0012 U	0.0012 U	0.00097 U	0.002 U	
Acetone	0.05	100	500	1000	0.028	0.0053 J	0.022	0.044	0.014	0.06	0.92 U	0.0026 J	0.025	0.015	0.0028 J	0.0097 U	0.042	
Benzene	0.06	4.8	44	89	0.0012 U	0.00093 U	0.0012 U	0.0013 U	0.00073 U	0.0016 U	0.092 U	0.00076 U	0.00088 U	0.0012 U	0.0012 U	0.00097 U	0.002 U	
Chloroethane					0.0024 U	0.0019 U	0.0024 U	0.0027 U	0.0014 U	0.0032 U	0.18 U	0.0015 U	0.0018 U	0.0025 U	0.0023 U	0.0019 U	0.0039 U	
Ethylbenzene	1	41	390	780	0.0012 U	0.00093 U	0.0012 U	0.0013 U	0.00073 U	0.0016 U	0.092 U	0.00076 U	0.00088 U	0.0012 U	0.0012 U	0.00097 U	0.002 U	
Methyl cyclohexane					0.0049 U	0.0037 U	0.0049 U	0.0053 U	0.0029 U	0.0064 U	0.052 J	0.003 U	0.0035 U	0.0049 U	0.0046 U	0.0039 U	0.0079 U	
o-Xylene																		

Table 4
Groundwater Testing Results
166 Chandler Street, Cheektowaga, New York

Parameter	Class GA	MW101 9/13/2018	MW102 9/12/2018	MW102 DUPLICATE 9/12/2018	MW103 9/12/2018
Volatile Organics (ug/l)					
1,1-Dichloroethane	5	ND	ND	ND	6.3
1,1,1-Trichloroethane	5	ND	ND	ND	4
Bromomethane	5	ND	ND	0.75 J	2.2 J
Vinyl chloride	2	1	ND	ND	ND
p/m-Xylene	5	0.86 J	ND	ND	ND
o-Xylene	5	2.7	ND	ND	ND
cis-1,2-Dichloroethene	5	8	ND	ND	ND
Acetone	50	49	50	60	80
Carbon disulfide	60	ND	3.4 J	3.2 J	1.4 J
2-Butanone	50	6.9	6.2	7	8.5
2-Hexanone	50	ND	ND	1 J	2 J
Semivolatile Organics (ug/l)					
Acenaphthene	20	0.05 J	0.21	0.14	0.11
Fluoranthene	50	0.18	0.08 J	0.09 J	0.32
Naphthalene	10	0.1 J	ND	0.09 J	0.89
Benzo(a)anthracene	0.002	0.05 J	ND	ND	0.1
Benzo(a)pyrene	0	0.05 J	ND	ND	0.08 J
Benzo(b)fluoranthene	0.002	0.08 J	ND	0.03 J	0.14
Benzo(k)fluoranthene	0.002	0.03 J	ND	0.02 J	0.05 J
Chrysene	0.002	0.06 J	ND	ND	0.12
Acenaphthylene		ND	ND	ND	0.06 J
Anthracene	50	ND	0.06 J	0.04 J	0.11
Benzo(ghi)perylene		ND	ND	ND	0.04 J
Fluorene	50	0.04 J	0.09 J	0.11	0.16
Phenanthrene	50	0.1 J	0.1 J	0.28	0.68
Indeno(1,2,3-cd)pyrene	0.002	ND	ND	ND	0.04 J
Pyrene	50	0.14	0.07 J	0.08 J	0.29
2-Methylnaphthalene		0.03 J	ND	0.08 J	0.11
Pentachlorophenol	1	0.38 J	ND	ND	ND
Bis(2-ethylhexyl)phthalate	5	ND	ND	ND	8.6
Acetophenone		ND	ND	0.83 J	1.8 J
Total Metals (ug/l)					
Aluminum, Total		NT	275	364	9000
Antimony, Total	3	NT	3.39 J	1.09 J	1.25 J
Arsenic, Total	25	NT	1.99	1.77	17.49
Barium, Total	1000	NT	15.48	19.34	169.6
Beryllium, Total	3	NT	ND	ND	0.56
Cadmium, Total	5	NT	0.09 J	0.1 J	0.12 J
Calcium, Total		NT	91900	106000	181000
Chromium, Total	50	NT	1.07	1.72	31.22
Cobalt, Total		NT	5.88	6.52	19.7
Copper, Total	200	NT	4.14	4.05	54.58
Iron, Total	300	NT	552	868	37600
Lead, Total	25	NT	0.72 J	0.81 J	26.1
Magnesium, Total	35000	NT	106000	105000	157000
Manganese, Total	300	NT	414.4	392.8	2032
Nickel, Total	100	NT	9.71	10.06	32.58
Potassium, Total		NT	7390	8760	13100
Selenium, Total	10	NT	2.02 J	5 U	10.7
Sodium, Total	20000	NT	71500	64900	108000
Thallium, Total	0.5	NT	0.16 J	ND	0.2 J
Vanadium, Total		NT	ND	ND	18.47
Zinc, Total	2000	NT	7.11 J	13.65	126.4
Dissolved Metals (ug/l)					
Aluminum, Dissolved		NT	25	23.6	94.2
Antimony, Dissolved	3	NT	1.36 J	2 J	1.68 J
Arsenic, Dissolved	25	NT	1.38	1.37	1.38
Barium, Dissolved	1000	NT	10.27	9.87	35.46
Cadmium, Dissolved	5	NT	0.13 J	0.12 J	0.07 J
Calcium, Dissolved		NT	93000	87900	105000
Chromium, Dissolved	50	NT	0.43 J	0.49 J	0.98 J
Cobalt, Dissolved		NT	7.21	6.97	5.11
Copper, Dissolved	200	NT	2.89	2.97	8.74
Iron, Dissolved	300	NT	67.9	72.2	240
Lead, Dissolved	25	NT	0.47 J	ND	4.51
Magnesium, Dissolved	35000	NT	129000	124000	208000
Manganese, Dissolved	300	NT	433.5	420.4	659.5
Nickel, Dissolved	100	NT	11.45	11.29	9.56
Potassium, Dissolved		NT	7990	7430	10200
Selenium, Dissolved	10	NT	2.83 J	2.16 J	8.07
Sodium, Dissolved	20000	NT	103000	98900	134000
Thallium, Dissolved	0.5	NT	0.14 J	0.21 J	ND
Zinc, Dissolved	2000	NT	12.24	8.6 J	10.45
Polychlorinated Biphenyls (ug/l)					
PCBs, Total		NT	ND	ND	ND
Chlorinated Herbicides (ug/l)					
2,4-D	50	NT	2.36 J	3.3 J	NT
Organochlorine Pesticides (ug/l)					
Beta-BHC	0.04	NT	0.094 P	0.148 P	ND

Notes:

- Analytical testing performed by Alpha Analytical. Compounds detected in one or more samples are presented in this table. Refer to Appendix for the full analytical report.
- ug/L = parts per billion; mg/L = parts per million.
- ND = not detected; NT = not tested; NV = no value.
- Analytical results compared to NYSDEC Division of Water Technical and Operational Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.
- * = Concentration of analyte exceeded range of the calibration curve, which required a re-analysis at a higher dilution factor.
- E = Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- J = Estimated value. The target analyte is below the reporting limit (RL), but above the method detection limit (MDL).
- P = The RPD between the results for the two columns exceeds the method-specified criteria.
- Shading indicates: exceeds NYSDEC Class GA criteria

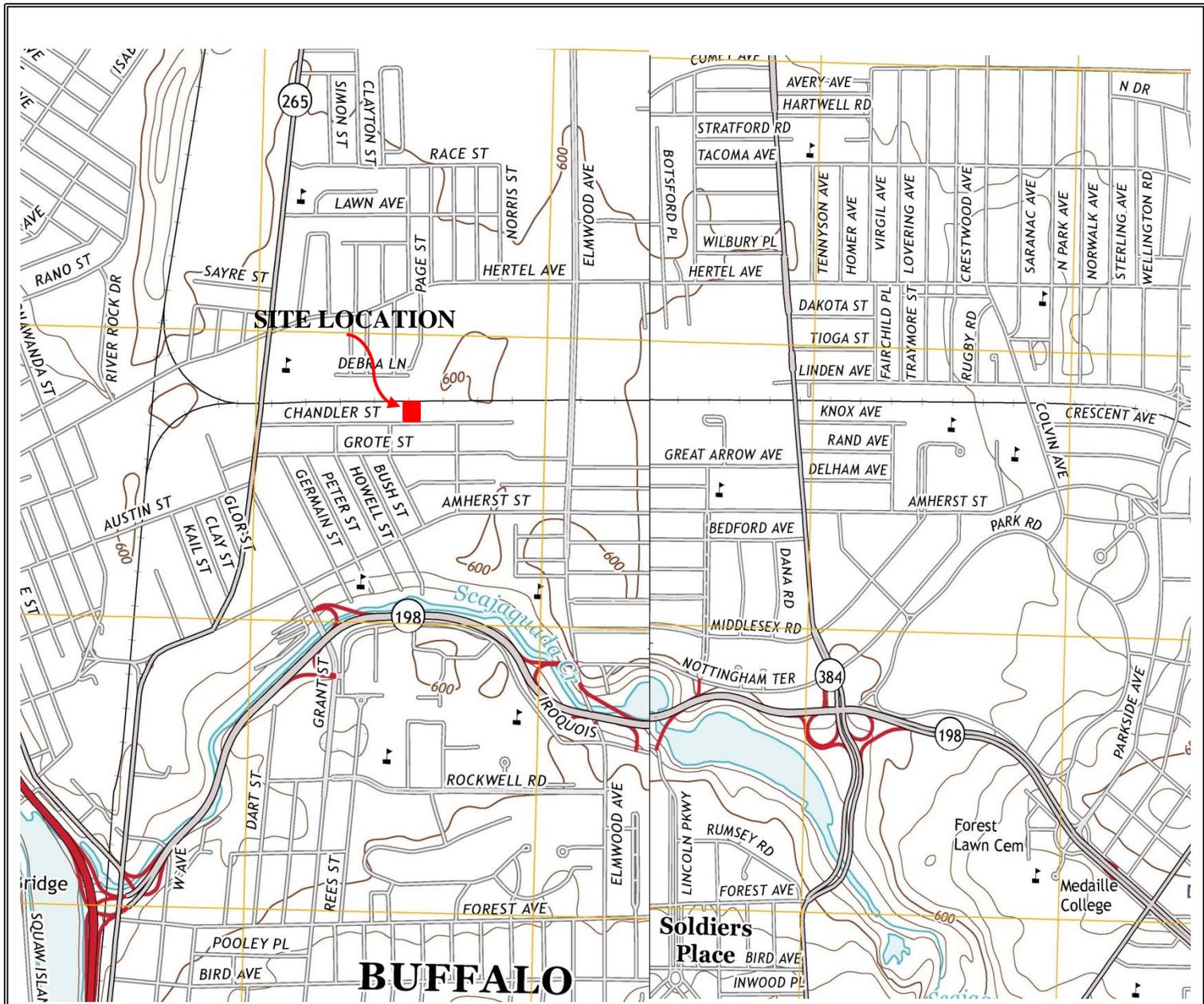
Table 5
Historic Indoor and Outdoor Air Sampling Results
166 Chandler Street, Buffalo, NY
Historical Data

LOCATION	Guidance Values - Indoor Air		IA-1			IA-2			IA-3					IA-4			OA-1			Outdoor Air	
	Table C2 Commercial Indoor Air Background (90%)	NYSDOH Air Guideline Value	IA-1 (041619) Indoor Air	IA-1 (042020) Indoor Air	IA-1 (021821) Indoor Air	IA-2 (041619) Indoor Air	IA-2 (042020) Indoor Air	IA-2 (021821) Indoor Air	IA-3 (041619) Indoor Air	IA-3 (041619) Duplicate	IA-3 (042020) Indoor Air	IA-3 (042020) Duplicate	IA-3 (021821) Indoor Air	IA-3 (021821) Duplicate	IA-4 (041619) Indoor Air	IA-4 (042020) Indoor Air	IA-4 (021821) Indoor Air	OA-1 (041619) Outdoor Air	OA-1 (042020) Outdoor Air	OA-5 (021821) Outdoor Air	Table C2 Outdoor Air Guidance Values
SAMPLING DATE			4/16/2019	4/20/2020	2/18/2021	4/16/2019	4/20/2020	2/18/2021	4/16/2019	4/16/2019	4/20/2020	4/20/2020	2/18/2021	2/18/2021	4/16/2019	4/20/2020	2/18/2021	4/16/2019	4/20/2020	2/18/2021	
LAB SAMPLE ID			L1915616-01	L2016426-01	L2108107-01	L1915616-02	L2016426-02	L2108107-02	L1915616-03	L1915616-04	L2016426-03	L2016426-04	L2108107-03	L2108107-04	L1915616-05	L2016426-05	L2108107-05	L1915616-06	L2016426-06	L2108107-06	
1,1,1-Trichloroethane	20.6		ND	ND	ND	0.169	ND	ND	0.131	0.175	ND	ND	ND	ND	0.338	ND	ND	ND	ND	ND	2.6
1,2,4-Trimethylbenzene	9.5		ND	ND	ND	1.57	ND	ND	ND	ND	ND	ND	ND	ND	1.64	ND	ND	ND	ND	ND	5.8
Acetone	98.9		565	33.7	57.2	461	40.4	46.1	278	287	32.3	17.4	39	31.6	278	37.3	44.7	5.18	4.3	4.8	43.7
Benzene	9.4		0.898	ND	0.658	1.40	ND	0.661	0.847	0.815	ND	ND	0.642	0.655	1.11	ND	ND	ND	ND	ND	6.6
Carbon tetrachloride	<1.3		0.629	0.635	0.421	0.560	0.522	0.39	0.604	0.616	0.679	0.616	0.403	0.472	0.554	0.654	0.44	0.629	0.629	0.403	0.7
Chloroform	1.1		ND	ND	1.34	ND	ND	1.07	ND	ND	ND	ND	1.01	1.03	ND	ND	1.21	ND	ND	ND	0.6
Chloromethane	3.7		1.25	1.08	1.13	1.27	1.19	1.12	1.21	1.26	1.14	1.14	1.17	1.17	1.32	1.13	1.16	1.34	1.15	1.14	3.7
cis-1,2-Dichloroethene	<1.9		ND	ND	ND	ND	0.107	0.25	0.103	ND	ND	ND	ND	ND	<1.8						
Cyclohexane	NV		3.44	1.3	1.47	2.74	0.768	1.47	2.49	2.41	0.688	ND	ND	ND	2.19	ND	ND	ND	ND	ND	NV
Dichlorodifluoromethane	16.5		2.38	2.62	2.32	2.31	2.77	2.32	2.37	2.42	2.71	2.67	2.34	2.35	2.38	2.61	2.45	2.34	2.83	2.29	8.1
Ethanol	210		57.1	6,200	28,300	86.3	4,540	18,800	117	117	2,360	923	14,200	14,400	149	3,600	17,600	ND	14.9	60.3	57
Ethyl acetate	5.4		ND	32.8	112	ND	29.7	61.6	7.39	7.82	17.1	13.9	53.7	54.4	2.98	31.2	68.1	ND	ND	ND	1.5
Ethylbenzene	5.7		3.90	ND	ND	4.56	1.03	ND	8.43	8.60	ND	0.886	ND	ND	7.43	1.68	1.1	ND	ND	ND	3.5
Heptane	NV		1.33	ND	ND	2.73	ND	ND	1.54	1.43	ND	ND	ND	ND	2.43	ND	ND	ND	ND	ND	NV
Hexane	NV		12.6	ND	ND	9.80	ND	ND	7.30	6.98	ND	ND	ND	ND	6.52	ND	ND	ND	ND	ND	6.4
Isopropanol	NV		71.8	9,370	2,450	55.1	2,390	1,610	92.2	86.5	1,630	205	2,120	2,140	147	1,270	2,040	3.32	3.39	15.5	NV
m&p-Xylene	22.2		15.5	3.5	1.79	17.5	4.14	3.04	32.5	33.7	3.61	3.9	ND	ND	28.7	6.99	4.25	ND	ND	ND	12.8
Methyl Ethyl Ketone	12		118	22.4	275	87.3	37.2	294	51.6	53.1	12.7	12.7	162	165	46.3	21.5	301	ND	ND	ND	11.3
o-Xylene	7.9		3.84	0.934	ND	4.69	1.09	ND	8.73	8.99	1.09	1.22	ND	ND	7.08	1.71	1.04	ND	ND	ND	4.6
Styrene	1.9		ND	ND	ND	1.35	ND	ND	0.903	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3
Tetrachloroethene	15.9	30	0.156	ND	0.149	0.170	ND	ND	0.170	ND	ND	ND	ND	0.156	0.149	ND	ND	ND	ND	ND	6.5
Tetrahydrofuran	NV		1,080	1.76	2.01	835	2.63	1.79	475	498	1.78	1.93	1.62	1.63	481	1.99	1.71	ND	ND	ND	NV
Toluene	43		14.5	0.95	1.86	12.1	1.11	1.42	10.7	9.38	0.904	1.22	1.44	1.42	8.14	0.788	1.52	1.82	ND	ND	33.7
trans-1,2-Dichloroethene	NV		ND	ND	ND	ND	ND	ND	0.975	ND	ND	ND	ND	ND	NV						
Trichloroethene	4.2	2	0.570	0.21	0.188	0.677	0.204	0.188	0.672	0.580	0.204	0.451	0.226	0.516	1.27	0.22	0.188	0.134	ND	ND	1.3
Trichlorofluoromethane	18.1		ND	1.57	1.34	1.13	1.57	1.29	1.33	1.25	1.66	1.7	1.33	1.32	1.17	1.61	1.34	1.14	1.68	ND	4.3

Notes:

- Compounds detected in one or more samples included in this table. For a list of all compounds, refer to analytical report.
- Analytical testing for VOCs via TO-15 completed by Alpha Laboratories.
- Results present in ug/m³ or microgram per cubic meter.
- Samples were collected during a 8-hour sample duration.
- 90th percentile values as presented in C2 (EPA 2001: Building assessment and survey evaluation (BASE) database) Appendix C, in the NYSDOH Guidance Manual, as indicated for Indoor and Outdoor air only.
- Air Guidance Values from "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006, prepared by New York State Department of Health.
- NYSDOH does not currently have standards, criteria or guidance values for concentrations in sub-slab vapor. The detection of VOCs in sub-slab vapor samples does not necessarily indicate soil vapor intrusion is occurring or action should be taken to address exposures.
- Grey shaded values represent exceedance of table C2 indoor/outdoor guidance values; yellow shaded values represent exceedance of NYSDOH Air Guidance Values
- Qualifiers: J = result is less than the reporting limit but greater or equal to the method detection limit and the concentration is an approximate value.
- ND = Non Detect; NV = No Value

FIGURES



BUFFALO

Soldiers Place



WITTMAN GEOSCIENCES, PLLC	Date: 10/2018	Site Location Map	Project: 18-104
	Scale: not to scale	166 Chandler Street, Buffalo, NY	Figure: 1



BCP Boundary Limits

ENVIRONMENTAL ADVANTAGE, INC. <i>Regulatory Compliance – Site Investigations – Facility Inspections</i>		
SITE LIMITS 166 CHANDLER STREET BUFFALO, NEW YORK		
DRAWN BY: MB	SCALE: NOT TO SCALE	PROJECT: 01103
CHECKED BY: CMH	DATE: 10/2021	FIGURE NO: 2



Notes:

- 1 – Base map adapted from Erie County Department of Environment and Planning Office of GIS
- 2 – Boundaries of Site correspond with tax boundaries for SBL #77.84-4-5 at 166 Chandler.

ENVIRONMENTAL ADVANTAGE, INC.

Regulatory Compliance – Site Investigations – Facility Inspections

ERIE COUNTY TAX MAP

166 CHANDLER STREET
BUFFALO, NEW YORK

DRAWN BY: MB

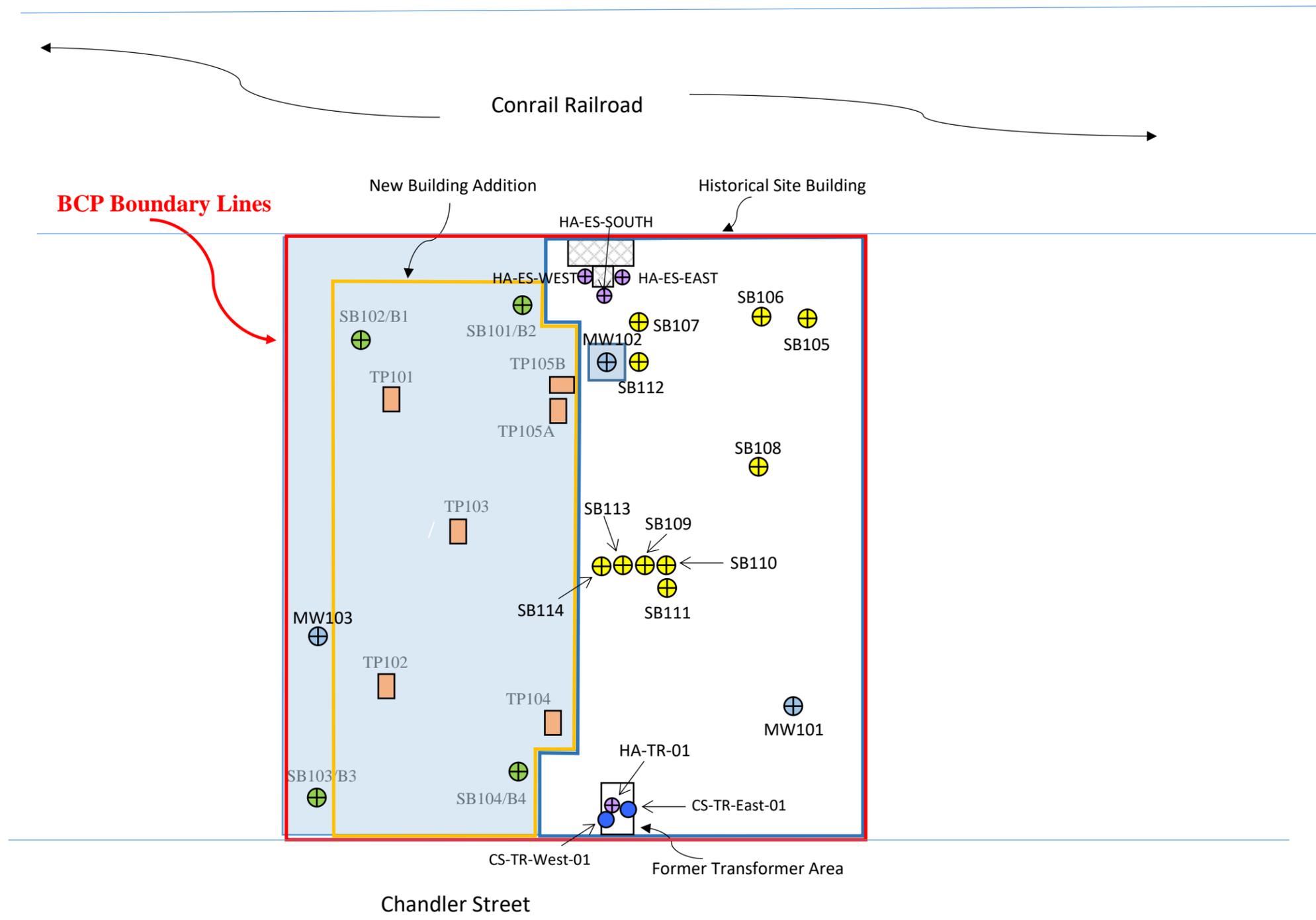
SCALE: NOT TO SCALE

PROJECT: 01103

CHECKED BY: CMH

DATE: 10/2021

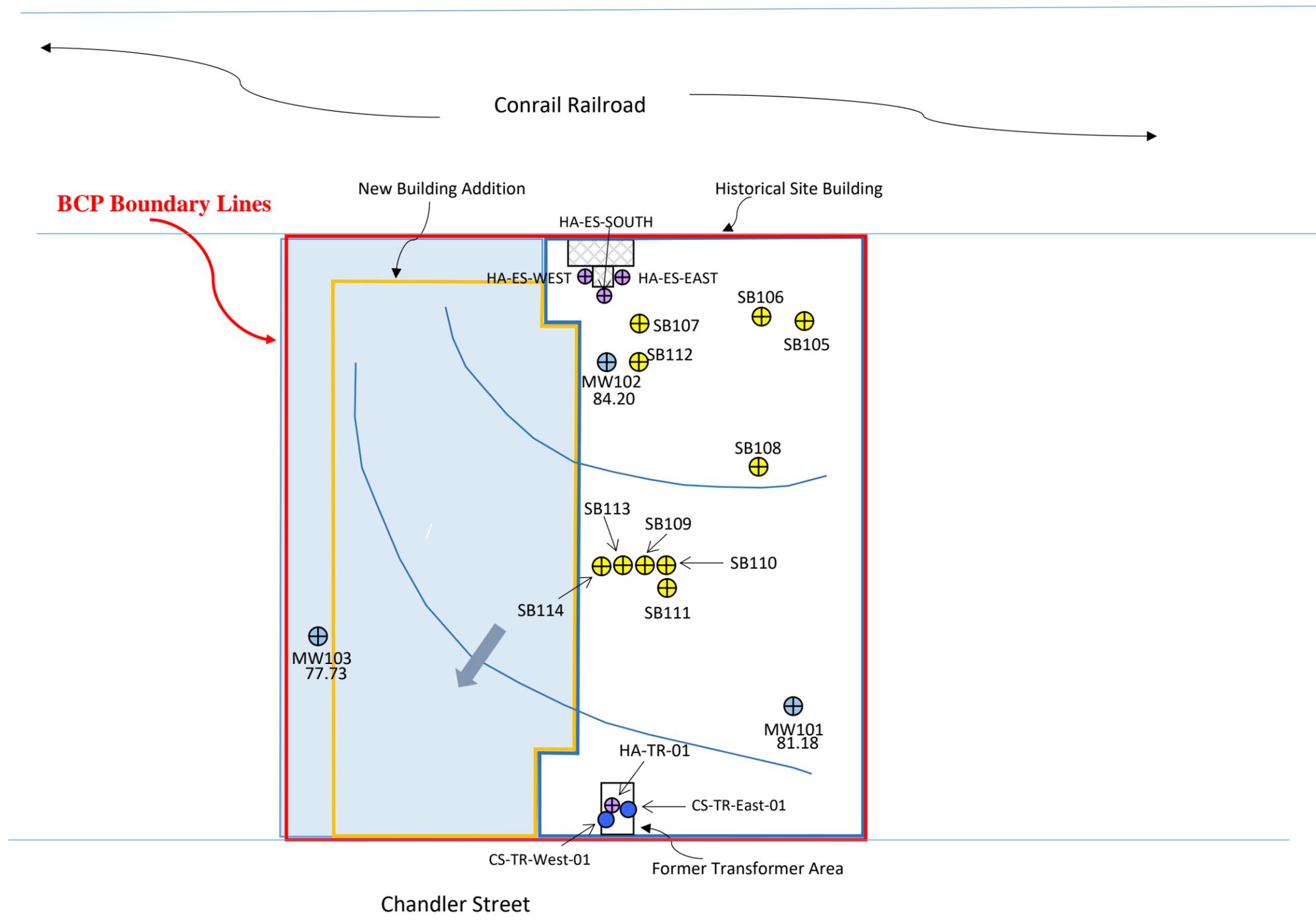
FIGURE NO: 3



KEY

- ⊕ = Soil Boring Location (06/2018)
- ⊕ = Exterior Soil Boring Location (5/12/2018-5/30/2018)
- ⊕ = Soil Boring/Monitoring Well Location (06/2018)
- ⊕ = Exterior Test Pit Location (03/2018)
- = Concrete Sample Location (05/2018)
- ⊕ = IRM Excavation Limits (May 2018, August 2018)
- ⊕ = Hand Auger Location (05/2018)
- ⊕ = Elevator Shaft and Pit (06/2018)

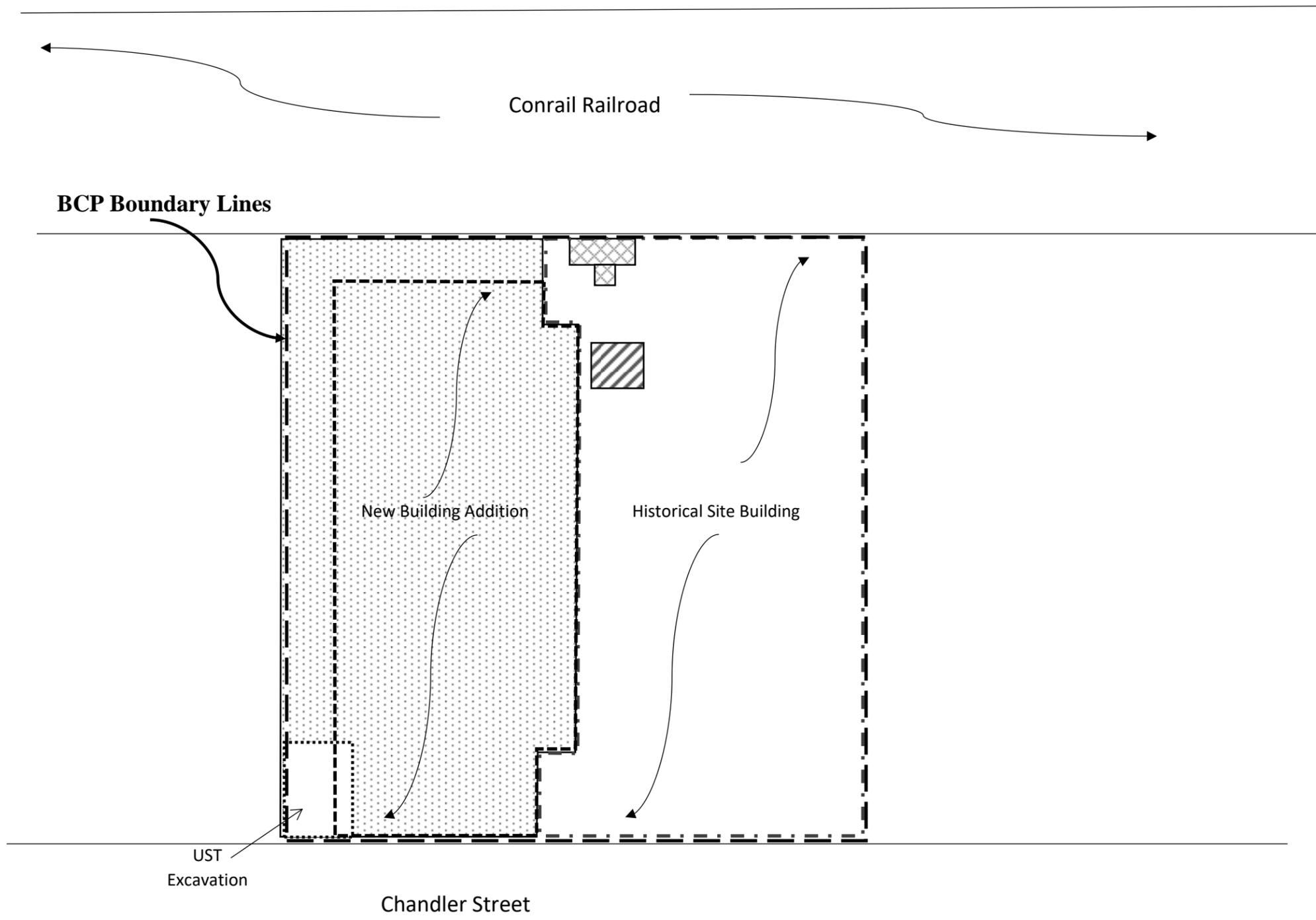
ENVIRONMENTAL ADVANTAGE, INC.		
<i>Regulatory Compliance – Site Investigations – Facility Inspections</i>		
REMEDIAL INVESTIGATION SAMPLING LOCATIONS		
166 CHANDLER STREET BUFFALO, NEW YORK		
DRAWN BY: MB	SCALE: NOT TO SCALE	PROJECT: 01103
CHECKED BY: CMH	DATE: 10/2021	FIGURE NO: 4



KEY

- = Soil Boring Location (06/2018)
- = Soil Boring/Monitoring Well Location (06/2018)
- = Concrete Sample Location (05/2018)
- = Hand Auger Location (05/2018)
- = Elevator Shaft and Pit (06/2018)
- = Estimated Groundwater Contour (9/2018)
- = IRM Excavation Limits (May 2018, August 2018)

ENVIRONMENTAL ADVANTAGE, INC.		
<i>Regulatory Compliance – Site Investigations – Facility Inspections</i>		
GROUNDWATER ISOPOTENTIAL MAP		
166 CHANDLER STREET BUFFALO, NEW YORK		
DRAWN BY: MB	SCALE: NOT TO SCALE	PROJECT: 01103
CHECKED BY: CMH	DATE: 10/2021	FIGURE NO: 5



BCP Boundary Lines

Conrail Railroad

New Building Addition

Historical Site Building

UST
Excavation

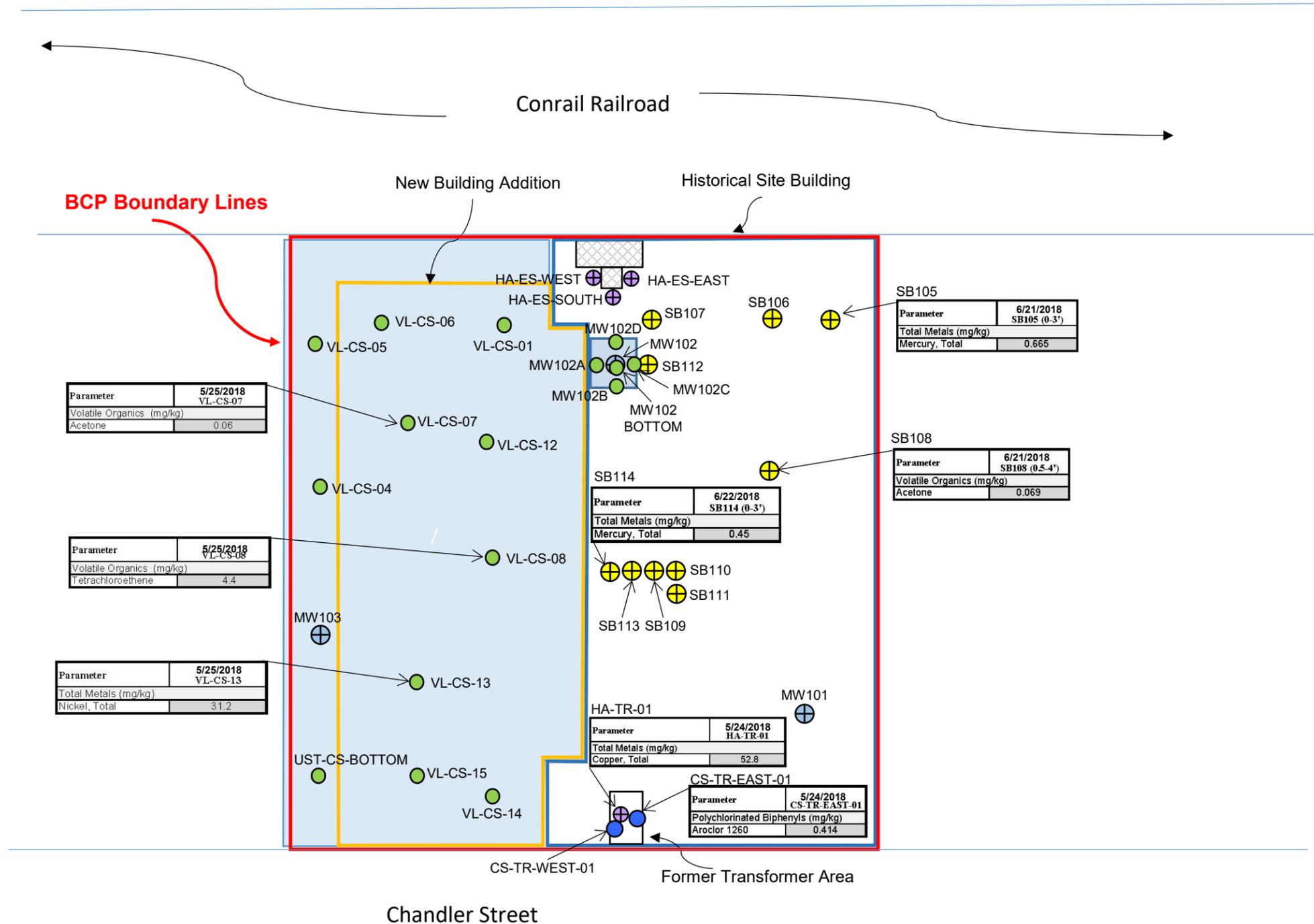
Chandler Street

KEY

-  = Western Vacant Lot Excavation Limits
-  = UST Remediation Excavation Limits

-  = MW102 Excavation Limits
-  = Elevator Shaft and Pit

ENVIRONMENTAL ADVANTAGE, INC.		
<i>Regulatory Compliance – Site Investigations – Facility Inspections</i>		
INTERIM REMEDIAL MEASURE LOCATIONS		
166 CHANDLER STREET BUFFALO, NEW YORK		
DRAWN BY: MB	SCALE: NOT TO SCALE	PROJECT: 01103
CHECKED BY: CMH	DATE: 10/2021	FIGURE NO: 6



Note: Detected soil concentrations presented on this figure exceed Unrestricted Use SCO, but below Restricted Residential Use SCO

KEY

- = Soil Boring Location (06/2018)
- = Soil Boring/Monitoring Well Location (06/2018)
- = Concrete Sample Location (05/2018)
- = Hand Auger Location (05/2018)
- = Elevator Shaft and Pit (06/2018)
- = IRM Excavation Limits (May 2018, August 2018)
- = On-site IRM Confirmatory Sample Location (5/12/2018-5/30/2018)

ENVIRONMENTAL ADVANTAGE, INC.		
<i>Regulatory Compliance – Site Investigations – Facility Inspections</i>		
ON-SITE CONFIRMATORY SOIL SAMPLE LOCATIONS AND SOIL SAMPLES EXCEEDING UNRESTRICTED USE SOIL CLEANUP OBJECTIVES		
166 CHANDLER STREET BUFFALO, NEW YORK		
DRAWN BY: MB	SCALE: NOT TO SCALE	PROJECT: 01103
CHECKED BY: CMH	DATE: 02/2022	FIGURE NO: 7



Conrail Railroad

BCP Boundary Lines

New Building Addition

Historic Site Building

9/12/2018

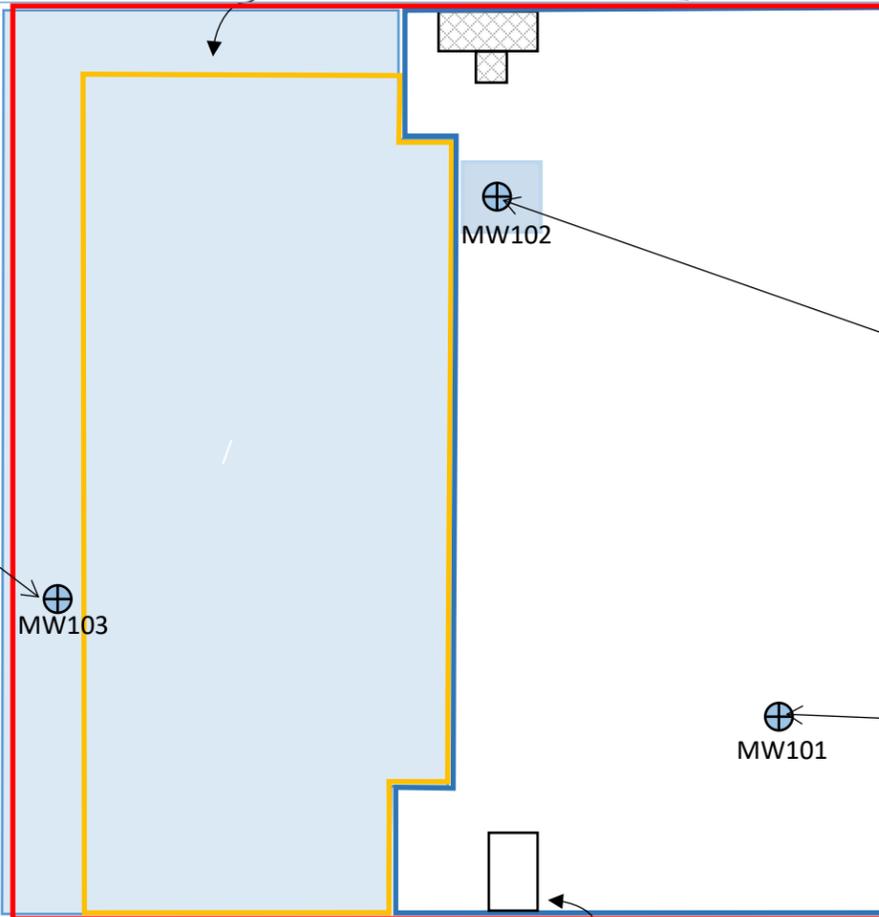
Parameter	MW103
Volatile Organics (ug/l)	
1,1-Dichloroethane	6.3
Acetone	80
Semivolatile Organics (ug/l)	
Benzo(a)anthracene	0.1
Benzo(a)pyrene	0.08 J
Benzo(b)fluoranthene	0.14
Benzo(k)fluoranthene	0.05 J
Chrysene	0.12
Indeno(1,2,3-cd)pyrene	0.04 J
Bis(2-ethylhexyl)phthalate	8.6
Total Metals (ug/l)	
Iron, Total	37600
Lead, Total	26.1
Magnesium, Total	157000
Manganese, Total	2032
Selenium, Total	10.7
Silver, Total	ND
Sodium, Total	108000
Dissolved Metals (ug/l)	
Magnesium, Dissolved	208000
Manganese, Dissolved	659.5
Sodium, Dissolved	134000

9/12/2018

Parameter	MW102
Volatile Organics (ug/l)	
Acetone	50
Total Metals (ug/l)	
Antimony, Total	3.39 J
Iron, Total	552
Magnesium, Total	106000
Manganese, Total	414.4
Sodium, Total	71500
Dissolved Metals (ug/l)	
Magnesium, Dissolved	129000
Manganese, Dissolved	433.5
Sodium, Dissolved	103000
Organochlorine Pesticides (ug/l)	
Beta-BHC	0.094 P

9/13/2018

Parameter	MW101
Volatile Organics (ug/l)	
cis-1,2-Dichloroethene	8
Semivolatile Organics (ug/l)	
Benzo(a)anthracene	0.05 J
Benzo(a)pyrene	0.05 J
Benzo(b)fluoranthene	0.08 J
Benzo(k)fluoranthene	0.03 J
Chrysene	0.06 J



Chandler Street

Former Transformer Area

KEY

- ⊕ = Soil Boring/Monitoring Well Location (06/2018)
- ⊠ = Elevator Shaft and Pit (06/2018)
- = IRM Excavation Limits (May 2018, August 2018)

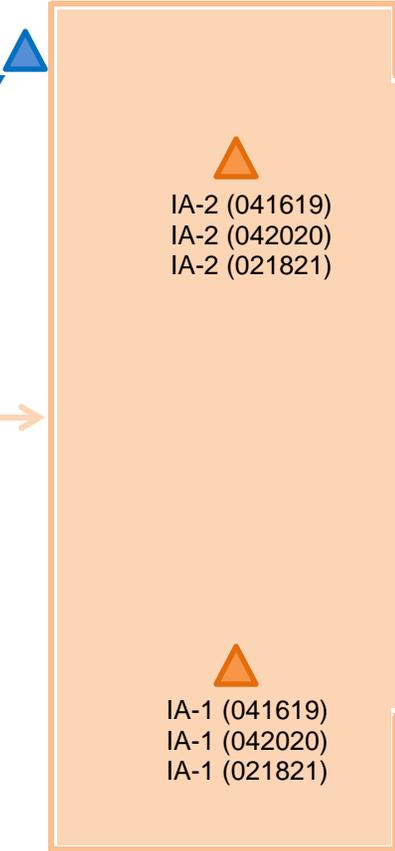
ENVIRONMENTAL ADVANTAGE, INC.		
<i>Regulatory Compliance – Site Investigations – Facility Inspections</i>		
GROUNDWATER MONITORING WELL EXCEEDANCES		
166 CHANDLER STREET BUFFALO, NEW YORK		
DRAWN BY: MB	SCALE: NOT TO SCALE	PROJECT: 01103
CHECKED BY: CMH	DATE: 02/2022	FIGURE NO: 8



← CONRAIL RAILROAD →

BCP Boundary Lines →

OA-1 (041619)
OA-1 (042020)
OA-1 (021821)



New Building Addition →

IA-4 (041619)
IA-4 (042020)
IA-4 (021821)

← Historical Site Building

IA-3 (041619)
IA-3 (042020)
IA-3 (021821)

← Former Transformer Area

CHANDLER STREET

KEY

-  Indoor Air Sample Location
-  Outdoor Air Sample Location
- (#####) Sampling Date

ENVIRONMENTAL ADVANTAGE, INC.

Regulatory Compliance – Site Investigations – Facility Inspections

INDOOR AIR SAMPLING LOCATIONS

166 CHANDLER STREET
BUFFALO, NEW YORK

166 CHANDLER HOLDINGS, LLC
BUFFALO, NEW YORK

DRAWN BY: MB	SCALE: NOT TO SCALE	PROJECT: 01103
CHECKED BY: CMH	DATE: 06/2021	FIGURE NO: 9

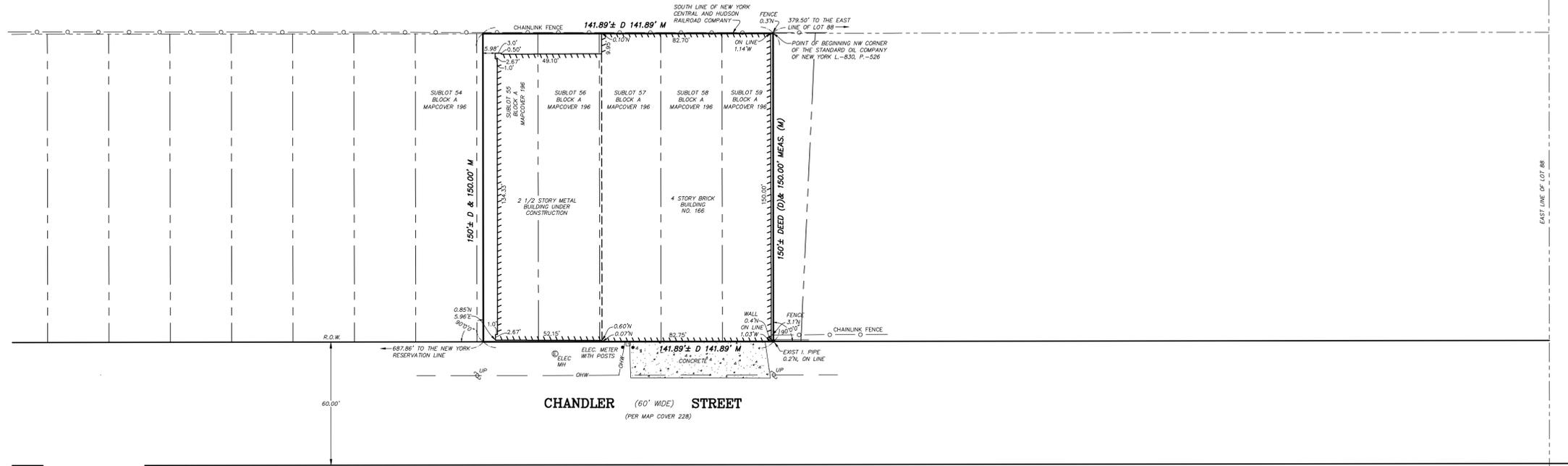
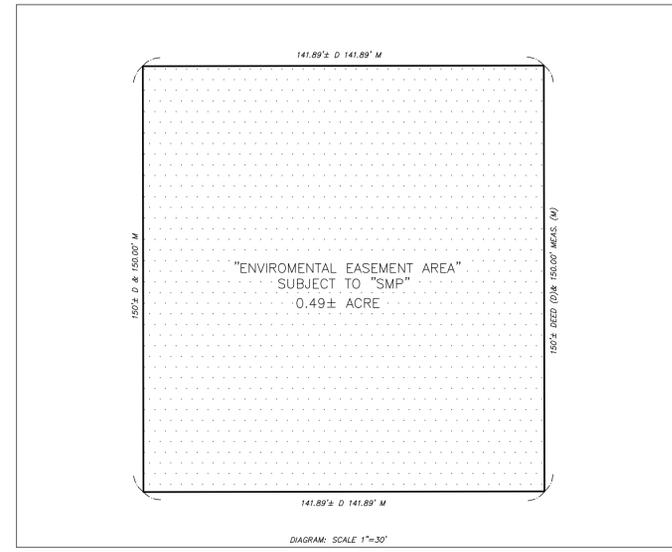
APPENDIX A – ENVIRONMENTAL EASEMENT

The Environmental Easement was filed with Erie County Clerk on November 13, 2018.



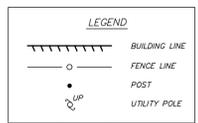
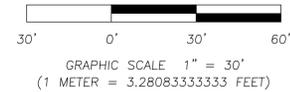
DEED AND EASEMENT DESCRIPTION

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Buffalo, County of Erie and State of New York, being part of Lot No. 88, Township 11, Range 8 of the Holland Land Company's Survey, and according to a map filed in the Erie County Clerk's Office under Cover No. 196 is known as and distinguished as part of Subdivision Lot Nos. 55 and 59 and all of Subdivision Lot Nos. 56, 57 and 58 in Block "A", bounded and described as follows:
 Beginning at a point in the southerly line of the New York Central & Hudson River Railroad Company, 379.50 feet westerly from the point of intersection of the southerly line of the said Railroad Company's lands with the easterly line of said Lot No. 88, said point of beginning being also the northwest corner of lands conveyed by John L. Chase and John M. Hull to the Standard Oil Company of New York by deed recorded in the Erie County Clerk's Office in Liber 830 of Deeds at page 526, running thence southerly at right angles to Chandler Street and along the westerly line of lands so conveyed to the Standard Oil Company of New York, aforesaid, 150 feet, more or less, 150.00 feet measured, to the northerly line of Chandler Street, as laid down on a certain map made by E.P. Babcock and filed in the Erie County Clerk's Office under Cover No. 228; thence westerly along the northerly line of Chandler Street, 141.89 feet, more or less, 141.89 feet measured to a point thereon, which is 687.86 feet easterly from the intersection of the said northerly line of Chandler Street with the New York State Reservation line, thence northerly and at right angles to Chandler Street, 150 feet, more or less, 150.00 feet measured, to the southerly line of lands of the New York Central & Hudson River Railroad Company, thence easterly and along the southerly line of said Railroad Company's lands, 141.89 feet, more or less, 141.89 feet measured the point or place of beginning, containing 0.49 acre more or less.



THE ENGINEERING AND INSTITUTIONAL CONTROLS FOR THE EASEMENT ARE SET FORTH IN MORE DETAIL IN THE SITE MANAGEMENT PLAN ("SMP"). A COPY OF THE SMP MUST BE OBTAINED BY ANY PARTY WITH AN INTEREST IN THE PROPERTY. THE SMP MAY BE OBTAINED FROM NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF ENVIRONMENTAL REMEDIATION, SITE CONTROL SECTION, 625 BROADWAY, ALBANY, NY 12233 OR AT DERWEB@DEC.NY.GOV.

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 New York Environmental Conservation Law.



PROPERTY ADDRESS:
166 CHANDLER STREET

I HEREBY CERTIFY:
 THAT THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE CURRENT CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS AND AS AMENDED BY THE NIAGARA FRONTIER LAND SURVEYORS ASSOCIATION.
 THIS CERTIFICATION DOES NOT EXTEND TO SUBSEQUENT OWNERS, MORTGAGEES, OR TITLE INSURORS, UNLESS THIS SURVEY HAS BEEN RESURVEYED FOR THIS PURPOSE BY THE SURVEYOR.

MARK J. ANDREWS L.S.
 LICENSE NO. 050455

DATE: 10/11/2018



DATE	REVISION/TYPE

SURVEY OF
 166 CHANDLER STREET
 PART OF LOT 88 (BLACK ROCK), TOWNSHIP 11 RANGE 8
 HOLLAND LAND COMPANY'S SURVEY
 CITY OF BUFFALO, ERIE COUNTY, NEW YORK



Job No. 7213 Date: OCTOBER 3, 2018
 Scale: 1" = 30' TAX No. 77.84-4-5



November 13, 2018

Jason Paananen
Director of Environmental Affairs
901 City Hall
Buffalo, NY 14202

**Re: Environmental Easement- 166 Chandler Street, Buffalo NY 14207 (SBL No. 77.84-4-5)
HSR File No. 30048.02**

Dear Mr. Paananen:

Attached please find a copy of an environmental easement granted to the New York State Department of Environmental Conservation ("Department") on November 7, 2018, by 166 Chandler Holdings LLC for property at 166 Chandler Street, Buffalo, NY 14207, SBL No. 77.84-4-5, DEC Site No: C915320.

This Environmental Easement restricts future use of the above-referenced property to restricted residential uses. Any on-site activity must be done in accordance with the Environmental Easement and the Site Management Plan which is incorporated into the Environmental Easement. Department approval is also required prior to any groundwater use. Article 71, Section 71-3607 of the New York State Environmental Conservation Law requires that:

1. Whenever the department is granted an environmental easement, it shall provide each affected local government with a copy of such easement and shall also provide a copy of any documents modifying or terminating such environmental easement.
2. Whenever an affected local government receives an application for a building permit or any other application affecting land use or development of land that is subject to an environmental easement and that may relate to or impact such easement, the affected local government shall notify the department and refer such application to the department. The department shall evaluate whether the application is consistent with the environmental easement and shall notify the affected local government of its determination in a timely fashion, considering the time frame for the local government's review of the application. The affected local government shall not approve the application until it receives approval from the department.

HOPKINS SORGI & ROMANOWSKI PLLC

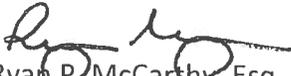
Attorneys at Law

26 Mississippi Street, Suite 400 • Buffalo, New York 14203
Office: 716-427-7100 • Fax: 716-424-2171 • www.hsr-legal.com

An electronic version of every environmental easement that has been accepted by the Department is available to the public at <http://www.dec.ny.gov/chemical/60058.html>. Please forward this notice to your building and/or planning departments, as applicable, to ensure your compliance with these provisions of New York State Environmental Conservation Law. If you have any questions or comments regarding this matter, please do not hesitate to contact me.

Sincerely,

HOPKINS SORGI & ROMANOWSKI PLLC



Ryan P. McCarthy, Esq.

Enc.

MICHAEL P. KEARNS, ERIE COUNTY CLERK
REF:

DATE: 11/13/2018
TIME: 11:14:58 AM
RECEIPT: 18202203 - DUPLICATE -

HOPKINS SORGI & ROMANOWSKI PLLC- BOX 460
ACCOUNT #: 9074

DUPLICATE RECEIPT

ITEM - 01 785
RECD: 11/13/2018 11:19:11 AM
FILE: 2018225643 BK/PG D 11337/2066
Deed Sequence: TT2018008130
166 CHANDLER HOLDINGS LLC
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Recording Fees 90.00
TP584 10.00

Subtotal 100.00

TOTAL DUE \$100.00
PAID TOTAL \$100.00
PAID ESCROW \$100.00

REC BY: Sharon
COUNTY RECORDER

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

THIS INDENTURE made this 7th day of November, 2018, between Owner(s) 166 Chandler Holdings, LLC, having an office at 489 Ellicott Street #3, Buffalo, New York 14203, County of Erie, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee"), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

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

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

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

WHEREAS, Grantor, is the owner of real property located at the address of 166 Chandler Street in the City of Buffalo, County of Erie and State of New York, known and designated on the tax map of the County Clerk of Erie as tax map parcel numbers: Section 77.84 Block 4 Lot 5, being the same as that property conveyed to Grantor by deed dated February 4, 2016 and recorded in the Erie County Clerk's Office in Liber and Page 11292/2937. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.490 +/- acres, and is hereinafter more fully described in the Land Title Survey dated October 3, 2018 prepared by Mark J. Andrews, 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; 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

FILED

NOV 13 2018

ERIE COUNTY

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: C915320-07-17, 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 Erie County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

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

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation

Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved 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 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

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.

11. Consistency with the SMP. To the extent there is any conflict or inconsistency between the terms of this Environmental Easement and the SMP, regarding matters specifically addressed by the SMP, the terms of the SMP will control.

Remainder of Page Intentionally Left Blank

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

166 Chandler Holdings, LLC:

By: [Signature]

Print Name: Rocco Termini

Title: Managing member Date: 10-30-18

Grantor's Acknowledgment

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

On the 30th day of October, in the year 20 18, before me, the undersigned, personally appeared Rocco Termini, 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.

[Signature]
Notary Public - State of New York

NANCY E CLARK
NOTARY PUBLIC-STATE OF NEW YORK
No 01CL6308963
Qualified in New York County
My Commission Expires 08-04-2022

APPENDIX B – LIST OF SITE CONTACTS

Name	Contact Information
Site Owner / Remedial Party Rocco Termini; 166 Chandler Holdings, LLC	(716) 861- 5385 rtermini@wnylofts.com
Qualified Environmental Professional C. Mark Hanna; Environmental Advantage, Inc.	(716) 667-3100 mhanna@envadvantage.com
NYSDEC DER Project Manager Megan Kuczka	(716) 851-7220 Megan.Kuczka@dec.ny.gov
NYSDEC Regional HW Engineer Andrea Caprio, P.E.	(716) 851-7220 Andrea.Caprio@dec.ny.gov
NYSDEC Site Control Jennifer Hathaway	(518) 402-9543 Jennifer.Hathaway@dec.ny.gov
NYSDOH Public Specialist Harolyn Hood	(518) 402-7860 Harolyn.Hood@health.ny.gov
Remedial Party Attorney Marc Romanowski; Rupp Baase Pfalzgraf Cunningham, LLC	(716) 834-3400 romanowski@ruppbaase.com

APPENDIX C – SOIL BORING LOGS

Wittman GeoSciences, PLLC

3636 N. Buffalo Road, Orchard Park, NY 14127
 michelewittmangeo@gmail.com 716-574-1513

Boring No: SB101 (1 of 4)

Project Name & Location	RI Investigation; 166 Chandler Street Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	36302	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	3/26/2018	End Date	3/26/2018
Drilling Contractor	E. Dimensions	Type of Drill Rig	Tire Mount
GW Depth While Drilling	8'	Sampler Type:	SS
GW Depth at Completion	NWAC		

Sample Depth (ft)	Blow count	Sample #/Interval	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	3	S-1 (0-2')		DK. Brown Clay & Silt, little f/c Sand, tr. Cinders, moist. (FILL)	0
	4				
	14				
2	6	S-2 (2-4')	12		0
	24				
3	13				0
	16				
4	19	S-3 (4-6')	8	Brown f/c Sand, Some Silt, Some Gravel, tr. Clay, little Brick, moist. (FILL)	0
	4				
5	7			DK. Brown, f/c Sand, and Gravel, Some Brick, little slag, little Silt, tr. Cinders, moist. (FILL)	0
	7				
6	6	S-4 (6-8')	2		0
	2				
7	7			Grades to... some Silt, some burnt wood, some Slag.	0.6
	4				
8	5	S-5 (8-9')	10	Grades to ... tr. Wood, tr. Slag, tr. Concrete.	0
	12				
9				Grades to ... some Gravel, some Concrete, saturated.	0
10		S-6 (10-12')			0
	45				
11	22			Grades to ... and Gravel.	0
	24				
12	15	S-7 (12-14')	24	Red/Brown SILT&CLAY, little f/c Sand, tr. Gravel, moist.	0
	6				
13	15			Grades to ... tr. f/c Sand.	0
	26				
14	30	S-8 (14-16')	24		0
	15				
15	24				0
	25				
16	30	S-9 (16-18')	24		0
	7				
17	10				0
	4				
18	20	S-10 (18-20')	24		0
	2				
19	5				0
	5				
20	10	S-11 (20-22')	24		0

Notes: Spoon Refusal @ 8.8'; Auger to 10' NE Quad
 Driller noted that fill materials are loose and no Auger spoils

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

Wittman GeoSciences, PLLC

3636 N. Buffalo Road, Orchard Park, NY 14127
 michelewittmangeo@gmail.com 716-574-1513

Boring No: SB101 (2 of 4)

Project Name & Location RI Investigation; 166 Chandler Street Buffalo, NY
 WGS Project Number: 36302
 Start Date 3/26/2018 End Date 3/26/2018
 GW Depth While Drilling 8'
 GW Depth at Completion NWAC

WGS Representative: E. Betzold/HEI
 WGS Reviewed & Approved by: M. Wittman, P.G.
 Drilling Contractor E. Dimensions
 Type of Drill Rig Tire Mount
 Sampler Type: SS

Sample Depth (ft)	Blow count	Sample #/Interval	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
21					0
22					0
23	2	S-11(23-25')	24		0
	5				
24	5				0
	6				
25					0
26					0
27					0
	2	S-12 (28-30')	24		
28	4				0
	4			Grades to Wet.	
29	5				0
30					0
31					0
32					0
33	2	S-13 (33-35')	24	Same as S-12.	0
	4				
34	5				0
	6				
35					0
36					0
37					0
		S-14 (38-40')	24	Same as S-12.	
38	2				0
	3				
39	3				0
	6				
40					0

Notes:

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

Wittman GeoSciences, PLLC

3636 N. Buffalo Road, Orchard Park, NY 14127
 michelewittmangeo@gmail.com 716-574-1513

Boring No: SB101 (3 of 4)

Project Name & Location RI Investigation; 166 Chandler Street Buffalo, NY
 WGS Project Number: 36302
 Start Date 3/26/2018 End Date 3/26/2018
 GW Depth While Drilling 8'
 GW Depth at Completion NWAC

WGS Representative: E. Betzold/HEI
 WGS Reviewed & Approved by: M. Wittman, P.G.
 Drilling Contractor E. Dimensions
 Type of Drill Rig Tire Mount
 Sampler Type: SS

Sample Depth (ft)	Blow count	Sample#/Interval	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
41					0
42					0
43	1	S-15 (43-45')	24	Grades to... saturated.	0
44	2				0
45					0
46					0
47					0
48	1	S-16 (48-50')	24	Same as S-15.	0
49	3				0
50					0
51					0
52					0
53	2	S-17 (53-55')	24	Grades to... little F/c Sand, little Gravel, wet.	0
54	3				0
55					0
56					0
57					0
58		S-18 (58-60')	24	Grades to... moist.	0
59	10				0
60	11				0
	14				0
	22				0

Notes:

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

Wittman GeoSciences, PLLC

3636 N. Buffalo Road, Orchard Park, NY 14127
 michelewittmangeo@gmail.com 716-574-1513

Boring No: SB101 (4 of 4)

Project Name & Location RI Investigation; 166 Chandler Street Buffalo, NY
 WGS Project Number: 36302
 Start Date 3/26/2018 End Date 3/26/2018
 GW Depth While Drilling 8'
 GW Depth at Completion NWAC

WGS Representative: E. Betzold/HEI
 WGS Reviewed & Approved by: M. Wittman, P.G.
 Drilling Contractor E. Dimensions
 Type of Drill Rig Tire Mount
 Sampler Type: SS

Sample Depth (ft)	Blow count	Sample#/Interval	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
61					0
62					0
63	10	S-19 (63-65')	24	Same as S-18.	0
	14				
64	23				0
	25				
65					0
66					0
67					0
68		S-20 (68-70')	24	Grades to... tr. f/c Sand, tr. Gravel, wet.	0
	3				
69	4				0
	6			During drilling when SS pulled, gas noise & mehane-like odor noted out of augers.	
70	9				0
71					0
72					0
	12	S-21 (73-75')	24	Brown SILT, some fine Sand, wet.	
73	24			Grades to: and f/c Sand.	0
	23				
74	17				0

75				Brown Clayey SILT, some f/c Sand, little Gravel, moist.	0
76					0
				Auger Refusal encountered at 76' bg	
77					
78					
79					
80					

Notes:

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

Wittman GeoSciences, PLLC

3636 N. Buffalo Road, Orchard Park, NY 14127
 michelewittmangeo@gmail.com 716-574-1513

Boring No: SB102 (1 of 2)

Project Name & Location RI Investigation; 166 Chandler Street Buffalo, NY
 WGS Project Number: 36302
 Start Date 3/27/2018 End Date 3/27/2018
 GW Depth While Drilling 4.0
 GW Depth at Completion NWAC

WGS Representative: E. Betzold/HEI
 WGS Reviewed & Approved by: M. Wittman, P.G.
 Drilling Contractor E. Dimensions
 Type of Drill Rig Tire Mount
 Sampler Type: SS

Sample Depth (ft)	Blow count	Sample#/Interval	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	10			Brown f/c Sand, some Concrete, Some Gravel, little Silt, moist. (FILL)	0
	17				
2	8			Grades to Some Silt, little Gravel, tr. Concrete.	0.5
	24	S-1 (0-2')	11		
3	38			Grades to ... some Brick, tr. Silt.	0
	11				
4	10			Grades to ... Dk. Brown, Some Cinders, tr. Gravel, tr. Wood, wet.	0
	9	S-2 (2-4')	2		
5	3				58
	6				
6	11			Grades to ... Some Silt, little Cinders.	56
	5	S-3 (4-6')	10		
7	7			Grades to ... and Wood.	3
	9				
8	3			Brown Silty Clay, tr. f/c Sand, tr. Gravel, moist. (FILL)	0.5
	6	S-4 (6-8')	12		
9	7			Red/Brown SILTY CAY, tr. f/c Sand, tr. Gravel, moist.	0
	10				
10	6			Very Stiff	0
	8	S-5 (8-10')	15		
11	11				0
	21				
12	18			Same as S-5	0
	25	S-6 (10-12')	21		
13	15				0
	25				
14	31			Same as S-5	0
	36	S-7 (12-14')	24		
15	17				0
	12				
16	20			Same as S-5	0
	23	S-8 (14-16')	24		
17	6				0
	10				
18	13			Same as S-5	0
	15	S-9 (16-18)	22		
19	3			Stiff	0
	6				
20	10				0
	14	S-10 (18-20')	21		
					0

Notes: at 2-4 - little to no recovery due to Bricks. NW Quad
 at 7-8 - Wood fibers

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

Wittman GeoSciences, PLLC

3636 N. Buffalo Road, Orchard Park, NY 14127
 michelewittmangeo@gmail.com 716-574-1513

Boring No: SB103 (1 of 2)

Project Name & Location RI Investigation; 166 Chandler Street Buffalo, NY
 WGS Project Number: 36302
 Start Date 3/27/2018 End Date 3/27/2018
 GW Depth While Drilling 20'
 GW Depth at Completion NWAC

WGS Representative: E. Betzold/HEI
 WGS Reviewed & Approved by: M. Wittman, P.G.
 Drilling Contractor E. Dimensions
 Type of Drill Rig Tire Mount
 Sampler Type: SS

Sample Depth (ft)	Blow count	Sample#/Interval	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	3			Brown f/c Sand, Some Silt, little Gravel, trace concrete, moist. (FILL)	0.5
	8				
2	10			Grades to ... DK. Brown and Silt, some Cinders, tr. Gravel.	0
	11	S-1 (0-2')	12		
3	6			Grades to ... tr. Crinders.	0
	5				
4	9	S-2 (2-4')	16	Brown Silty Clay, tr. f/c Sand, tr. Gravel, moist. (FILL)	0
	6				
5	11			Red/Brown SILTY CLAY, little Sand, tr. Gravel, moist.	0
	12				
6	14	S-3 (4-6)	20	Very Stiff.	0
	5				
7	14				0
	18				
8	22	S-4 (6-8')	19	Same as S-3.	0
	13				
9	16				0
	24				
10	39	S-5 (8-10')	24	Same as S-3.	0
	13				
11	16				0
	23				
12	28	S-6 (10-12)	24	Same as S-3.	0
	7				
13	10				0
	14				
14	20	S-7 (12-14')	24	Stiff.	0
	4				
15	6				0
	12				
16	14	S-8 (14-16')	24	Grades to ... tr. f/c Sand.	0
	3				
17	5				0
	8				
18	8	S-9 (16-18')	20	Same as S-8.	0
	4				
19	5				0
	7				
20	7	S-10 (18-20')	24	Grades to ... Grey/Brown, wet.	0

Notes:

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

Wittman GeoSciences, PLLC

3636 N. Buffalo Road, Orchard Park, NY 14127
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Boring No: SB104 (1 of 2)

Project Name & Location	RI Investigation; 166 Chandler Street Buffalo, NY		WGS Representative:	E. Betzold/HEI	
WGS Project Number:	36302		WGS Reviewed & Approved by:	M. Wittman, P.G.	
Start Date	3/27/2018	End Date	3/27/2018	Drilling Contractor	E. Dimensions
GW Depth While Drilling	5.5		Type of Drill Rig	Tire Mount	
GW Depth at Completion	NWAC		Sampler Type:	SS	

Sample Depth (ft)	Blow count	Sample#/Interval	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	12			Brown Clay & Silt, some f/c Sand, little Gravel, moist. (FILL)	0
	12				
2	10			Grades to and Brick.	0
	8	S-1 (0-2')	12	DK. Brown f/c sand, some Gravel, little Cinders, tr. Concrete, moist. (FILL)	0
3	2				0
	8				0
4	9				0
	14	S-2 (2-4')	2		0
5	8			Concrete Floor.	0
	5			DK Grey sub-base Gravel, wet (FILL)	0
6	6	S-3 (4-6')	10	Red/Brown SILTY CLAY, little f/c Sand, tr. Gravel, moist.	0
	2				0
7	8				0
	8				0
8	17	S-4 (6-8')	21	Same as S-3.	0
	8				0
9	14			Grades to ... tr. f/c Sand.	0
	22				0
10	29	S-5 (8-10')	24		0
	12				0
11	10				0
	20				0
12	22	S-6 (10-12')	24	Same as S-4.	0
	9				0
13	10				0
	11				0
14	16	S-7 (12-14')	24	Same as S-4.	0
	5				0
15	9				0
	12				0
16	16	S-8 (14-16')	24	Stiff.	0
	4				0
17	7				0
	8				0
18	11	S-9 (16-18')	24	Same as S-8.	0
	2				0
19	4				0
	6				0
20	8	S-10 (18-20')	24	Sames as S-8.	0
					0

Notes: Concrete floor encountered at ~5' gb
 Sample 5.5' 7.5'
 Earth Dimensions boring #4

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

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Boring No: SB105

Project Name & Location RI; 166 Chandler Street, Buffalo, NY
 WGS Project Number: 36304
 Start Date 6/21/2018 End Date 6/21/2018
 GW Depth While Drilling NWWD
 GW Depth at Completion NWAC

WGS Representative: E. Betzold/HEI
 WGS Reviewed & Approved by: M. Wittman, P.G.
 Drilling Contractor SJB
 Type of Drill Rig Track Mount
 Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-4	36	Brown f/c Sand, some Gravel, little Silt, tr. Concrete, moist. (FILL)	1
2				Brown Clay & Silt, little f/c Sand, tr. Gravel, moist. (FILL)	0
3					0
4	2	4-8	40	Red/Brown CLAY & SILT, little f/c Sand, tr. Gravel, moist.	0
5					0.1
6				Red/Brown SILTY CLAY, tr. f/c Sand, tr. Gravel, moist.	0.5
7					0.1
8	3	8-12	48		0
9					0
10					0
11					0
12					0
13				Bottom of Boring 12' bg	
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

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Boring No: SB106

Project Name & Location RI; 166 Chandler Street, Buffalo, NY
 WGS Project Number: 36304
 Start Date 6/21/2018 End Date 6/21/2018
 GW Depth While Drilling NWWD
 GW Depth at Completion NWAC

WGS Representative: E. Betzold/HEI
 WGS Reviewed & Approved by: M. Wittman, P.G.
 Drilling Contractor SJB
 Type of Drill Rig Track Mount
 Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0.5-4	36	Concrete	0
				Grey sub-base Gravel, moist. (FILL)	
2				Brown Clay & Silt, little f/c Sand, tr. Gravel, moist. (FILL)	0
				Grades to ... DK Brown, some f/c Sand.	
3				Grades to ... little f/c Sand.	0

4	2	4-8	45	Red/Brown CLAY & SILT, little f/c Sand, tr. Gravel, moist.	0
5					0

6				Red/Brown SILTY CLAY, tr. f/c Sand, tr. Gravel, moist.	0
7					0
8	3	8-12	48		0
9					0
10					0
11					0
12					0
				Bottom of Boring 12' bg	
13					
14					
15					
16					
18					
20					
22					
24					

Notes: Sample native clay 3-7'

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

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Boring No: SB107

Project Name & Location RI; 166 Chandler Street, Buffalo, NY
 WGS Project Number: 36304
 Start Date 6/21/2018 End Date 6/21/2018
 GW Depth While Drilling NWWD
 GW Depth at Completion NWAC

WGS Representative: E. Betzold/HEI
 WGS Reviewed & Approved by: M. Wittman, P.G.
 Drilling Contractor SJB
 Type of Drill Rig Track Mount
 Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-4	36	Grey/Brown Gravel and f/c Sand, little silt, tr. Asphalt, tr. Concrete, moist. (FILL)	0
2				Red/Brown Clay & Silt, little f/c Sand, tr. Gravel, moist. (FILL)	0
3				Grades to ... tr. Cinders.	0
4	2	4-8	48	----- Red/Brown CLAY & SILT, little f/c Sand, tr. Gravel, moist.	0
5				----- Red/Brown SILTY CLAY, tr. f/c Sand, tr. Gravel, moist.	0
6					0
7					0
8	3	8-12	48		0
9					0
10					0
11					0
12					0
13				Bottom of Boring 12' bg	
14					
15					
16					
18					
20					
22					
24					

Notes: Sample (0-4)

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

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Boring No: SB108

Project Name & Location RI; 166 Chandler Street, Buffalo, NY
 WGS Project Number: 36304
 Start Date 6/21/2018 End Date 6/21/2018
 GW Depth While Drilling NWWD
 GW Depth at Completion NWAC

WGS Representative: E. Betzold/HEI
 WGS Reviewed & Approved by: M. Wittman, P.G.
 Drilling Contractor SJB
 Type of Drill Rig Track Mount
 Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
				Concrete	
1	1	0.5-4	30	Grey sub-base Gravel, moist. (FILL)	0
				Red/Brown Clay & Silt, little f/c Sand, tr. Gravel, moist. (FILL)	
2					0
				Grades to ... DK Brown, some f/c Sand.	
3					0
				Grades to ... Brown/Grey, little f/c Sand.	
4	2	4-8	48		0

				Red/Brown CLAY & SILT, little f/c Sand, tr. Gravel, moist.	
5					0
				Red/Brown SILTY CLAY, tr. f/c Sand, tr. Gravel, moist.	
6					0
7					0
	3	8-12	48		
8					0
9					0
10					0
11					0
12					0
				Bottom of Boring 12' bg	
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

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Boring No: SB109

Project Name & Location RI; 166 Chandler Street, Buffalo, NY
 WGS Project Number: 36304
 Start Date 6/21/2018 End Date 6/21/2018
 GW Depth While Drilling NWWD
 GW Depth at Completion NWAC

WGS Representative: E. Betzold/HEI
 WGS Reviewed & Approved by: M. Wittman, P.G.
 Drilling Contractor SJB
 Type of Drill Rig Track Mount
 Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-3	20	Concrete	0
2					0
3				Refusal encountered at 3' bg	0
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes: It's assumed that the footer from the columns was encountered.

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

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Boring No: SB110

Project Name & Location RI; 166 Chandler Street, Buffalo, NY
 WGS Project Number: 36304
 Start Date 6/21/2018 End Date 6/21/2018
 GW Depth While Drilling NWWD
 GW Depth at Completion NWAC

WGS Representative: E. Betzold/HEI
 WGS Reviewed & Approved by: M. Wittman, P.G.
 Drilling Contractor SJB
 Type of Drill Rig Track Mount
 Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-1	0	Concrete	
2				Refusal encountered @ 1' bg	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes: 5' east of SB109

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

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Boring No: SB111

Project Name & Location RI; 166 Chandler Street, Buffalo, NY
 WGS Project Number: 36304
 Start Date 6/21/2018 End Date 6/21/2018
 GW Depth While Drilling NWWD
 GW Depth at Completion NWAC

WGS Representative: E. Betzold/HEI
 WGS Reviewed & Approved by: M. Wittman, P.G.
 Drilling Contractor SJB
 Type of Drill Rig Track Mount
 Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-1	0	Concrete	
2				Refusal encountered @ 1' bg	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes: 5' east of SB110

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

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Boring No: SB112

Project Name & Location: RI; 166 Chandler Street, Buffalo, NY
 WGS Project Number: 36304
 Start Date: 6/21/2018 End Date: 6/21/2018
 GW Depth While Drilling: NWWD
 GW Depth at Completion: NWAC

WGS Representative: E. Betzold/HEI
 WGS Reviewed & Approved by: M. Wittman, P.G.
 Drilling Contractor: SJB
 Type of Drill Rig: Track Mount
 Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-3	12	Concrete	0
2					0
3				Refusal encountered at 3' bg	0
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

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Boring No: MW101

Project Name & Location RI; 166 Chandler Street, Buffalo, NY
 WGS Project Number: 36304
 Start Date 6/21/2018 End Date 6/21/2018
 GW Depth While Drilling 16'
 GW Depth at Completion NWAC

WGS Representative: E. Betzold/HEI
 WGS Reviewed & Approved by: M. Wittman, P.G.
 Drilling Contractor SJB
 Type of Drill Rig Track Mount
 Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0.5-4'	24	Concrete	
				Brown f/c Sand, little Gravel, little Cinders, little Silt, moist .(FILL)	0
				Red/Brown Clay & Silt, little f/c Sand, tr. Gravel, moist. (FILL)	
2					0
3					0
	2	4-8	48		
4				Red/Brown CLAY & SILT, little f/c Sand, tr. Gravel, moist.	0
5					0
6				Red/Brown SILTY CLAY, tr. f/c Sand, tr. Gravel, moist.	0
7					0
	3	8-12'	48		
8					0
9					0
10					0
11					0
	4	12-16	48		
12					0
13					0
14					0
15					0
	5	16-20	48		
16				Grades to ... wet.	0
18				Grades to ... moist.	0
20					
22				Bottom of Boring 20' bg	
				Monitoring Well installed to	
24					

Notes: Sample (0.5-3')

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

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Boring No: SB113

Project Name & Location RI; 166 Chandler Street, Buffalo, NY
 WGS Project Number: 36304
 Start Date 6/21/2018 End Date 6/21/2018
 GW Depth While Drilling NWWD
 GW Depth at Completion NWAC

WGS Representative: E. Betzold/HEI
 WGS Reviewed & Approved by: M. Wittman, P.G.
 Drilling Contractor SJB
 Type of Drill Rig Track Mount
 Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-4'	24	Brown f/c sand, some Concrete, little Gravel, tr. Brick, moist. (FILL)	0
2				Red/Brown Clay & Silt, little f/c Sand, tr. Gravel, moist. (FILL)	0
3				Concrete	0
4				Refusal encountered at 3' bg	
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

Wittman GeoSciences, PLLC

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Boring No: SB114

Project Name & Location RI; 166 Chandler Street, Buffalo, NY
 WGS Project Number: 36304
 Start Date 6/21/2018 End Date 6/21/2018
 GW Depth While Drilling NWWD
 GW Depth at Completion NWAC

WGS Representative: E. Betzold/HEI
 WGS Reviewed & Approved by: M. Wittman, P.G.
 Drilling Contractor SJB
 Type of Drill Rig Track Mount
 Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OMV Reading (ppm)
1	1	0-4'	30	Brown f/c Sand, some Concrete, little Gravel, tr. Brick, moist. (FILL)	0
2				Red/Brown Clay & Silt, little f/c Sand, tr. Gravel, tr. Conders, moist. (FILL)	1
3					0
4	1	4-8	24		0
5				----- Red/Brown CLAY & SILT, little f/c Sand, tr. Gravel, moist.	0
6				----- Red/Brown SILTY CLAY, tr. f/c Sand, tr. Gravel, moist.	0
7					0
8	3	8-12	48		0
9					0
10					0
11					0
12	4	12-16	48		0
13					0
14					0
15					0
16	5	16-20	48		0
18					0
20				Bottom of Boring 20' bg	0
22					0
24					0

Notes:

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

Wittman GeoSciences, PLLC

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Boring No: SB114

Project Name & Location RI; 166 Chandler Street, Buffalo, NY
 WGS Project Number: 36304
 Start Date 6/21/2018 End Date 6/21/2018
 GW Depth While Drilling NWWD
 GW Depth at Completion NWAC

WGS Representative: E. Betzold/HEI
 WGS Reviewed & Approved by: M. Wittman, P.G.
 Drilling Contractor SJB
 Type of Drill Rig Track Mount
 Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-4	30	Brown f/c Sand, some concrete, little Gravel, moist. (FILL)	0
2				Red/Brown Clay & Silt, little f/c Sand, tr. Gravel, moist. (FILL)	0
3				Grades to ... DK Brown, some f/c Sand.	0
4	2	4-8	36	Grades to ... Brown/Grey, little f/c Sand.	0
5					0
6				----- Red/Brown CLAY & SILT, little f/c Sand, tr. Gravel, moist.	0
7				----- Red/Brown SILTY CLAY, little f/c Sand, tr. Gravel, moist.	0
8	3	8-12	48		0
9					0
10					0
11					0
12					0
13				Bottom of Boring 12' bg	
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:
 1) Stratification lines represent approximate boundary between soil. Transitions may be gradual. Depths are approximate.
 2) Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
 3) f=fine; m=medium; c=coarse
 4) and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

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3636 N. Buffalo Road, Orchard Park, NY 14127
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Test Pit No: TP101

Project Name & Location: RI Investigation HEI Representative: E. Betzold
 Project Number: 36302
 Start Date: 3/26/2018 End Date: 3/26/2018 Type of Excavator: Track Mount
 Contractor: SAB
 Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-2	0	Brown Silt & Clay, some Gravel, little f/c Sand, little Gravel size to full size Brick, tr. Gravel size Cinders, tr. Cobble size concrete, moist. (FILL) Grades to ... and f/c Sand.
			0	
2	2	2-4	0	DK. Brown f/c Sand, some Gravel, little Gravel size Brick, little cobble sized concrete, tr. Gravel sized slag/cinders, moist (FILL) Grades to ... little Steel Pieces (electrical components).
			0	
4	3	4-5	0	Grades to ...some Gravel sized slag.
			0	
5	4	5-6	0	Grades to ... some full sized Brick.
			0	
6				Bottom of Excavation 6' bg
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				

Notes: Foundation wall noted on the west side of test pit.

General Notes:
 1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
 2 - Groundwater (GW) depths approximate at time of test pit completion. Fluctuations in groundwater may occur.
 3 - f=fine; m=medium; c=coarse
 4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

Wittman GeoSciences, PLLC

3636 N. Buffalo Road, Orchard Park, NY 14127
 michelewittmangeo@gmail.com 716-574-1513

Test Pit No: TP102

Project Name & Location: RI Investigation HEI Representative: E. Betzold
 Project Number: 36302
 Start Date: 3/26/2018 End Date: 3/26/2018 Type of Excavator: Track Mount
 Contractor: SAB
 Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-2	1	Brown Silt & Clay, Some f/c Sand, little Gravel, Little full sized Brick, moist. (FILL)
				Grades to ... some full sized Brick, some Gravel.
2	2	2-4'	0	DK. Brown f/c Sand, some silt, Some Gravel, little steel pieces/pipes, little cobble sized Concrete, tr. gravel sized Slag, moist. (FILL)
3			0	
4	3	4-5.5'	0	Grades to ... little wood pieces.
5			0	
6				Refusal encountered at 5.5' bg
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				

Notes:

General Notes:

- 1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
- 2 - Groundwater (GW) depths approximate at time of test pit completion. Fluctuations in groundwater may occur.
- 3 - f=fine; m=medium; c=coarse
- 4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

Wittman GeoSciences, PLLC

3636 N. Buffalo Road, Orchard Park, NY 14127
 michelewittmangeo@gmail.com 716-574-1513

Test Pit No: TP103

Project Name & Location: RI Investigation (BCP# C915320) HEI Representative: E. Betzold
 Project Number: 36302
 Start Date: 3/26/2018 End Date: 3/26/2018 Type of Excavator: Track Mount
 Contractor: SAB
 Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-2'	ND	Brown f/c Sand and Gravel, little Silt, tr. full size Brick, moist. (FILL)
			ND	
2	2	2-4'		Grades to ... some full sized Brick.
			ND	
3				Grades to ... little steel pieces.
			ND	
4	3	4-6'		Grades to ... and full sized Brick, some steel pieces (pipes & sheetings), tr. Wood pieces.
5				Grades to ... DK. Brown, tr. Gravel sized slag, tr. Glass.
6				Bottom of Excavation 6' bg
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				

Notes:

General Notes:
 1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
 2 - Groundwater (GW) depths approximate at time of test pit completion. Fluctuations in groundwater may occur.
 3 - f=fine; m=medium; c=coarse
 4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

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3636 N. Buffalo Road, Orchard Park, NY 14127
 michelewittmangeo@gmail.com 716-574-1513

Test Pit No: TP104

Project Name & Location: <u>RI Investigation (BCP# C915320)</u>	HEI Representative: <u>E. Betzold</u>
Project Number: <u>36302</u>	
Start Date: <u>3/27/2018</u> End Date: <u>3/27/2018</u>	Type of Excavator: <u>Track Mount</u>
	Contractor: _____
	Sampler Type: <u>Bucket</u>

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
1				Brown Clayey Silt, and f/c Sand, some Gravel, little Gravel size Brick, tr. Glass, moist. (FILL)
2				Brown f/c Sand, some full size Brick, some Gravel, little silt, tr. Steel pieces, moist. (FILL)
3				Grades to ... and full size Brick.
4				
5				Grades to ... little Gravel-full size Brick, little Gravel. Concrete floor
6				Red/Brown SILTY CLAY, little f/c Sand, tr. Gravel, moist.
7				Grades to ... tr. f/c Sand.
8				Bottom of Excavation 6' bg
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				

Notes: Completed prior to HEI on site.
 Concrete floor @ 5.5' bg

General Notes:
 1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
 2 - Groundwater (GW) depths approximate at time of test pit completion. Fluctuations in groundwater may occur.
 3 - f=fine; m=medium; c=coarse
 4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

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3636 N. Buffalo Road, Orchard Park, NY 14127
 michelewittmangeo@gmail.com 716-574-1513

Test Pit No: TP105A

Project Name & Location: RI Investigation (BCP# C915320)

HEI Representative: E. Betzold

Project Number: 36302

Start Date: _____ End Date: _____

Type of Excavator: _____

Contractor: _____

Sampler Type: _____

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
1				Brown f/c Sand and Silt, some Gravel, little full sized Brick, little steel pieces, moist. (FILL)
2				Grades to ... and full size Brick, some Gravel.
3				Grades to ... little Gravel.
4				
5				Concrete floor
6				Red/Brown SILTY CLAY, little f/c Sand and tr. Gravel, moist.
7				Bottom of Excavation 6.5' bg
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				

Notes: Completed prior to HEI on-site.
 Concrete floor @ 5' bg

General Notes:
 1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
 2 - Groundwater (GW) depths approximate at time of test pit completion. Fluctuations in groundwater may occur.
 3 - f=fine; m=medium; c=coarse
 4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

Wittman GeoSciences, PLLC

3636 N. Buffalo Road, Orchard Park, NY 14127
 michelewittmangeo@gmail.com 716-574-1513

Test Pit No: TP105B

Project Name & Location: RI Investigation (BCP# C915320) HEI Representative: E. Betzold
 Project Number: 36302
 Start Date: _____ End Date: _____ Type of Excavator: _____
 Contractor: _____
 Sampler Type: _____

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
1				Brown f/c Sand, some Gravel, little Gravel sized Brick, little Silt, tr. Concrete, moist. (FILL)
2				
3				Grades to ... tr. Gravel sized Brick.
4				
5				Red/Brown SILTY CLAY, little f/c Sand, tr. Gravel, moist.
6				Bottom of Excavation 5' bg
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				

Notes: Completed prior to HEI on-site.
 Completed outside historiv building footprint.

General Notes:
 1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
 2 - Groundwater (GW) depths approximate at time of test pit completion. Fluctuations in groundwater may occur.
 3 - f=fine; m=medium; c=coarse
 4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

APPENDIX D – MONITORING WELL BORING AND CONSTRUCTION LOGS

Hazard Evaluations, Inc.

Hole No.: MW-101

Date started: 9/6/18

Sheet 1 of 1

Date Finished: 9/6/18

Client: 166 Chandler Holdings, LLC

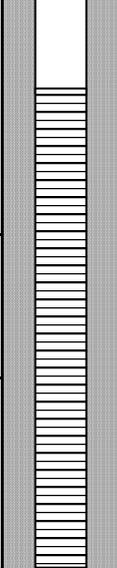
Method of Investigation: Advance 3.25" hollow-stem tubes to depth of boring.
Set 2-inch well at total depth of boring.

Location: 166 Chandler Street

Project No.: 36302
Project Manager: Eric Betzold

Drilling Co.: SJB Services
Driller: Steve
Drill Rig: Geoprobe 6620DT

Weather: Cloudy 75F

Depth (ft.)	Sample		Blows/6"	Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	No.	Depth (ft.)					
	1	0-4		Flush mount road box (0-1')			
				Cement/Bentonite mix (1-2')			
4	2	4-8		2" sch. 40 PVC riser (0'-10')			
8	3	8-12		Bentonite pellets (2-8')			
12	4	12-16		2" sch. 40 PVC 0.10 slot screen (10-20')			
16	5	16-20		#0 sand (8-20')			
20				Bottom of screen 20' bg			
20				Bottom of borehole 20' bg			
24							
30							

N/A: Well Completed with Geoprobe drill rig

Sample Types:

S=Split Spoon: _____

R= Rock Core: _____

T= Shelby Tube: _____

O = _____

N = ASTM D1586

Backfill Well Key



Cement/Bentonite



Grout



Sand



Bentonite

Hazard Evaluations, Inc.

Hole No.: MW-102

Date started: 9/6/18

Sheet 1 of 1

Date Finished: 9/6/18

Client: 166 Chandler Holdings, LLC

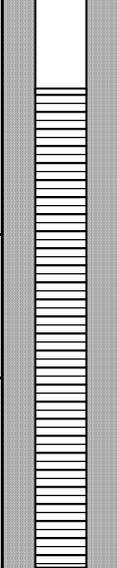
Method of Investigation: Advance 3.25" hollow-stem tubes to depth of boring.
Set 2-inch well at total depth of boring.

Location: 166 Chandler Street

Project No.: 36302
Project Manager: Eric Betzold

Drilling Co.: SJB Services
Driller: Steve
Drill Rig: Geoprobe 6620DT

Weather: Cloudy 75F

Depth (ft.)	Sample		Blows/6"	Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	No.	Depth (ft.)					
	1	0-4		Flush mount road box (0-1')			
				Cement/Bentonite mix (1-2')			
4	2	4-8		2" sch. 40 PVC riser (0'-10')			
8	3	8-12		Bentonite pellets (2-8')			
12	4	12-16		2" sch. 40 PVC 0.10 slot screen (10-20')			
16	5	16-20		#0 sand (8-20')			
20				Bottom of screen 20' bg			
20				Bottom of borehole 20' bg			
24							
30							

N/A: Well Completed with Geoprobe drill rig

Sample Types:

S=Split Spoon: _____

R= Rock Core: _____

T= Shelby Tube: _____

O = _____

N = ASTM D1586

Backfill Well Key



Cement/Bentonite



Grout



Sand



Bentonite

Hazard Evaluations, Inc.

Hole No.: MW-103

Date started: 9/5/18

Sheet 1 of 1

Date Finished: 9/5/18

Client: 166 Chandler Holdings, LLC

Method of Investigation: Advance 3.25" hollow-stem tubes to depth of boring.
Set 2-inch well at total depth of boring.

Location: 166 Chandler Street

Project No.: 36302
Project Manager: Eric Betzold

Drilling Co.: SJB Services
Driller: Steve
Drill Rig: CME

Weather: Sunny 82F

Depth (ft.)	Sample		Blows/6"	Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	No.	Depth (ft.)					
	1	0-4		Flush mount road box (0-1')			
				Cement/Bentonite mix (1-2')			
4	2	4-8		2" sch. 40 PVC riser (0'-10')			
8	3	8-12		Bentonite pellets (2-8')			
12	4	12-16		2" sch. 40 PVC 0.10 slot screen (10-20')			
16	5	16-20	N/A	#0 sand (8-20')			
20				Bottom of screen 20' bg			
20				Bottom of borehole 20' bg			
24							
30							

Sample Types:

S=Split Spoon: _____

R= Rock Core: _____

T= Shelby Tube: _____

O = _____

N = ASTM D1586

Backfill Well Key



Cement/Bentonite



Grout



Sand



Bentonite

**HAZARD
EVALUATIONS**

Well Data Sheet

Date: 10/17/18 Job #: 36302
 Well ID: MW101
 Crew: E. Betzold
 Well Depth (TOR): 20.1'
 Well Depth (GS): 20.35'
 Initial Water Level (TOR): 16.05'
 Initial Water Level (GS): 16.30'

Volume Calculation: 4.05 x .163 = .66 gal (1 well vol.)
 DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity
10:54am	.3 gal	7.54	3.910	12.1	10.69
10:55am	.5 gal	7.51	3.960	12.2	8.39
10:57am	.7 gal	7.46	4.002	12.2	8.92

Purge Method: Bailer/Submersible Pump
 Initial Water Quality: Good
 Final Water Quality: Good

SAMPLE RECORD

Date: 10/17/18
 Time: 10:58 am
 Crew: E. Betzold
 Method: Low Flow Pump
 Sample ID: MW101
 Water Quality: Good
 pH: 7.41
 Conductivity: 4.009
 Temperature: 12.2°C
 Turbidity: 6.25

Volume: _____
 Analysis: PFASs, 1,4 Dioxane
 Chain of Custody #: _____
 Sample Type: Continuous

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: _____

TOR= Top of Riser
 GS= Ground Surface

Signature: _____

HAZARD EVALUATIONS

Well Data Sheet

Date: 10/17/18 Job #: 36302
 Well ID: MW102
 Crew: E. Betzold
 Well Depth (TOR): 20.00'
 Well Depth (GS): 20.20'
 Initial Water Level (TOR): 3.27'
 Initial Water Level (GS): 3.47'

Volume Calculation: $16.73 \times 0.163 = 2.73 \text{ gal} = 1 \text{ well vol}$
 DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond. $\frac{SC}{MS/cm}$	Temp. $^{\circ}C$	Turbidity NTU
12:34 pm	0.5 gal	7.04	1.517	15.3	403.98
12:36 pm	1 gal	7.05	1.515	15.6	309.79
12:38 pm	1.5 gal	7.06	1.514	15.6	466.51
12:42 pm	2 gal	7.07	1.510	14.5	292.09
12:44 pm	2.75 gal	7.07	1.509	15.1	293.55

Purge Method: Bailer/~~Submersible Pump~~
 Initial Water Quality fair
 Final Water Quality fair

SAMPLE RECORD

Date: 10/17/18
 Time: 12:45 pm
 Crew: E. Betzold
 Method: Low Flow Pump
 Sample ID: MW102
 Water Quality: fair
 pH: 7.07
 Conductivity: 1.512
 Temperature: 14.8 $^{\circ}C$
 Turbidity: 287.38

Volume: _____
 Analysis: _____
 Chain of Custody #: _____
 Sample Type: _____

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: _____

TOR= Top of Riser
 GS= Ground Surface

Signature: _____

HAZARD EVALUATIONS

Well Data Sheet

Date: 10/17/18 Job #: 36302
 Well ID: MW103
 Crew: E. Betzold
 Well Depth (TOR): 19.82'
 Well Depth (GS): 20.07'
 Initial Water Level (TOR): 12.55'
 Initial Water Level (GS): 12.82'

Volume Calculation: 7.27 x .163 = 1.18 gal (1 well vol.)
 DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond. ^{spc} / cm	Temp. °C	Turbidity NTU
9:32am	0.5gal	6.9	2.428	13.6°C	99.91
9:39am	1.0gal	6.75	2.414	14.5°C	226.79
9:41am	1.2gal	6.68	2.435	14.3°C	233.28

Purge Method: Bailer (Submersible Pump)
 Initial Water Quality: Fair
 Final Water Quality: Fair

SAMPLE RECORD

Date: 10/17/18
 Time: 9:43am
 Crew: E. Betzold
 Method: Low Flow Pump
 Sample ID: MW103
 Water Quality: Fair
 pH: 6.66
 Conductivity: 2.442
 Temperature: 14.3°C
 Turbidity: 222

Volume: 2X
 Analysis: PFAAs, 1,4 Dioxane
 Chain of Custody #: _____
 Sample Type: Continuous

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: _____

TOR= Top of Riser
 GS= Ground Surface

Signature: _____

Groundwater Parameters
 166 Chandler Street
 Buffalo, NY

times	degrees C	mmHg	DO%L	DO mg/l	c-ms/cm	PH	orpmv
10:48:43 AM	15.4	554.3	34.5	2.49	2.295	8.08	57.3
10:49:15 AM	15.4	554.4	34.3	2.48	2.296	8.08	57.9
11:32:50 AM	12	554.4	54	4.22	1.465	7.96	17
11:36:42 AM	11.7	554.4	37.6	2.96	1.573	7.81	4.9
11:39:39AM	12.3	544.4	46.2	3.58	1.543	7.57	29.1
11:49:32AM	11.6	554.4	41.6	3.28	1.659	7.33	55.7
11:52:44AM	11.7	554.3	32.4	2.55	1.656	7.42	32.9
12:35:48 AM	11.6	554.3	33.3	2.63	1.619	7.57	29.1
03:17:33 AM	14.9	553.6	46.6	3.44	0.016	7.91	51
11:48:54 AM	16	554.1	90.3	6.47	1.104	8.4	-95.3
11:49:28 AM	14.1	554.1	69.4	5.14	3.159	8.64	-95
11:50:09 AM	14.4	554.1	57.8	4.25	3.164	8.78	-102.1

APPENDIX E – EXCAVATION WORK PLAN (EWP)

E-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination or breach or alter the site's cover system, the site owner or their representative will notify the NYSDEC contacts listed in the table below. Table 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 B of this SMP.

Table 1: Notifications*

Name	Contact Information
NYSDEC Project Manager Megan Kuczka	(716) 851-7220 Megan.Kuczka@dec.ny.gov
NYSDEC Regional HW Engineer Andrea Caprio	(716) 851-7220 Andrea.Caprio@dec.ny.gov
NYSDEC Site Control Jennifer Hathaway	(518) 402-9543 Jennifer.Hathaway@dec.ny.gov
NYSDOH Public Health Specialist Harolyn Hood	(518) 402-7860 Harolyn.Hood@health.ny.gov

* 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, any modifications of truck routes, 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 H of this SMP;

- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with the required request to import form and all supporting documentation including, but not limited to, chemical testing results.

The NYSDEC project manager will review the notification and may impose additional requirements for the excavation that are not listed in this EWP.

E-2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed during all excavations into known or potentially contaminated material (remaining contamination) or a breach of the cover system. A qualified environmental professional as defined in 6 NYCRR Part 375/DER-10, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a qualified environmental professional or a PE who is licensed and registered in New York State will perform the screening. 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 Sections 6 and 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 as defined in 6 NYCRR Part 375/DER-10, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a qualified environmental professional or a PE who is licensed and registered in New York State will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and remedial party (if applicable) 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 qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site. A site utility stakeout will be completed for all utilities prior to any ground intrusive activities at 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. Material accumulated from the street cleaning and egress cleaning activities will be disposed off-site at a permitted landfill facility in accordance with all applicable local, State, and Federal regulations.

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: Trucks will enter and exit the Site via Chandler Street to Military Road avoid residential areas. All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport;

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 off-site in a permitted facility in accordance with all local, State 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 project manager. Unregulated off-site management of materials from this site will not occur without formal NYSDEC project manager 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, (e.g. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C&D debris recovery facility). Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include, but will not be limited to: 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 consistent with 6 NYCRR Parts 360, 361, 362, 363, 364 and 365. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State C&D debris recovery facility (6 NYCRR Subpart 360-15 registered or permitted facility).

E-7 MATERIALS REUSE ON-SITE

The qualified environmental professional as defined in 6 NYCRR part 375/DER-10 will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material (i.e. contaminated) 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.

Proposed materials for reuse on-site must be sampled for full suite analytical parameters including per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. The sampling frequency will be in accordance with DER-10 Table 5.4(e)10 unless prior approval is obtained from the NYSDEC project manager for modification of the sampling frequency. The analytical results of soil/fill material testing must meet the site use criteria presented in NYSDEC DER-10 Appendix 5 – Allowable Constituent Levels for Imported Fill or Soil for all constituents listed, and the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances [January 2021 or date of current version, whichever is later] guidance values. Approvals for modifications to the analytical parameters must be obtained from the NYSDEC project manager prior to the sampling event.

Soil/fill material for reuse on-site will be segregated and staged as described in Sections E-2 and E-3 of this EWP. The anticipated size and location of stockpiles will be provided in the 15-day notification to the NYSDEC project manager. Stockpile locations will be based on the location of site excavation activities and proximity to nearby site features. Material reuse on-site will comply with requirements of NYSDEC DER-10 Section 5.4(e)4. Any modifications to the requirements of DER-10 Section 5.4(e)4 must be approved by the NYSDEC project manager.

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 off-site at a permitted facility 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.

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 December 2018 decision document. The existing cover system is comprised of a minimum of 12 inches of clean soil or stone, asphalt pavement, concrete-covered sidewalks, and concrete building slabs. The demarcation layer, consisting of black geotextile 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 qualified environmental professional, as defined in 6 NYCRR Part 375, 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, other environmental remediation sites, or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6 NYCRR 375-6.7(d) and DER-10 Appendix 5 for restricted residential use. Soils that meet 'general' fill requirements under 6 NYCRR Part 360.13, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC project manager. Soil material will be sampled for the full suite of analytical parameters, including PFAS and 1, 4-dioxane. 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

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. The NYSDEC project manager will be promptly notified of the discovery.

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 (including 1,4-dioxane), TCL pesticides and PCBs, and PFAS], unless the site history and previous sampling results provide sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC project manager for approval prior to sampling. Any tanks will be closed as per NYSDEC regulations and guidance.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone within two hours 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

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

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

E-14 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used on a routine basis will include covering any stockpiled excavated materials with plastic and limiting the area of any open excavations. 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

Particulate monitoring must be conducted according to the Community Air Monitoring Plan (CAMP) provided in Section E-13. If particulate levels at the site exceed the thresholds listed in the CAMP or if airborne dust is observed on the site or leaving the site, the dust suppression techniques listed below will be employed. The remedial party will also take measures listed below to prevent dust production on the site.

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 using 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.

Attachment A

New York State Department of Health
Generic Community Air Monitoring Plan

Appendix 1A

New York State Department of Health Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent 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 contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical-specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

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

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

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

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and 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 or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities 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.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities 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.

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

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

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. 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.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) 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 $150 \text{ mcg}/\text{m}^3$ above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than $150 \text{ mcg}/\text{m}^3$ 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 $150 \text{ mcg}/\text{m}^3$ of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

Attachment B

Fugitive Dust and Particulate Monitoring

Appendix 1B

Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.
2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.
3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:
 - (a) Objects to be measured: Dust, mists or aerosols;
 - (b) Measurement Ranges: 0.001 to 400 mg/m³ (1 to 400,000 :ug/m³);
 - (c) Precision (2-sigma) at constant temperature: +/- 10 :g/m³ for one second averaging; and +/- 1.5 g/m³ for sixty second averaging;
 - (d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
 - (e) Resolution: 0.1% of reading or 1g/m³, whichever is larger;
 - (f) Particle Size Range of Maximum Response: 0.1-10;
 - (g) Total Number of Data Points in Memory: 10,000;
 - (h) Logged Data: Each data point with average concentration, time/date and data point number
 - (i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
 - (j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
 - (k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
 - (l) Operating Temperature: -10 to 50° C (14 to 122° F);
 - (m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.
4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.
5. The action level will be established at 150 ug/m³ (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m³, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m³ above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m³ continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM₁₀ at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

- (a) Applying water on haul roads;
- (b) Wetting equipment and excavation faces;
- (c) Spraying water on buckets during excavation and dumping;
- (d) Hauling materials in properly tarped or watertight containers;
- (e) Restricting vehicle speeds to 10 mph;
- (f) Covering excavated areas and material after excavation activity ceases; and
- (g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m³ action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

ATTACHMENT C

Allowable Constituent Levels in Backfill From Off- Site Sources

Appendix 5
Allowable Constituent Levels for Imported Fill or Soil
Subdivision 5.4(e)

Source: This table is derived from soil cleanup objective (SCO) tables in 6 NYCRR 375. Table 375-6.8(a) is the source for unrestricted use and Table 375-6.8(b) is the source for restricted use.

Note: For constituents not included in this table, refer to the contaminant for supplemental soil cleanup objectives (SSCOs) in the Commissioner Policy on [Soil Cleanup Guidance](#). If an SSCO is not provided for a constituent, contact the DER PM to determine a site-specific level.

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

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

Volatile Organic Compounds (continued)					
Propylbenzene-n	3.9	3.9	3.9	3.9	NS
Sec-Butylbenzene	11	11	11	11	NS
Tert-Butylbenzene	5.9	5.9	5.9	5.9	NS
Tetrachloroethene	1.3	1.3	1.3	1.3	2
Toluene	0.7	0.7	0.7	0.7	36
Trichloroethene	0.47	0.47	0.47	0.47	2
Trimethylbenzene-1,2,4	3.6	3.6	3.6	3.6	NS
Trimethylbenzene-1,3,5	8.4	8.4	8.4	8.4	NS
Vinyl chloride	0.02	0.02	0.02	0.02	NS
Xylene (mixed)	0.26	1.6	1.6	1.6	0.26

All concentrations are in parts per million (ppm)

NS = Not Specified

Footnotes:

¹ The SCO for Hexavalent or Trivalent Chromium is considered to be met if the analysis for the total species of this contaminant is below the specific SCO for Hexavalent Chromium.

² The SCO is the sum of endosulfan I, endosulfan II and endosulfan sulfate.

³ For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.

⁴ This SCO is derived from data on mixed isomers of BHC.

APPENDIX F – SITE MANAGEMENT FORMS



Enclosure 1
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
 Site Management Periodic Review Report Notice
 Institutional and Engineering Controls Certification Form



	Site Details	Box 1
Site No.		
Site Name		
Site Address:	Zip Code:	
City/Town:		
County:		
Allowable Use(s) (if applicable, does not address local zoning):		
Site Acreage:		
Owner:		
, , NY		
Reporting Period: to		
Verification of Site Details		Box 2
		YES NO
1. Is the information in Box 1 correct?		<input type="checkbox"/> <input type="checkbox"/>
If NO, are changes handwritten above or included on a separate sheet?		<input type="checkbox"/>
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?		<input type="checkbox"/> <input type="checkbox"/>
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?		<input type="checkbox"/>
3. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?		<input type="checkbox"/> <input type="checkbox"/>
If YES, is documentation (or evidence that documentation has been previously submitted) included with this certification?		<input type="checkbox"/>
4. If use of the site is restricted, is the current use of the site consistent with those restrictions?		<input type="checkbox"/> <input type="checkbox"/>
If NO, is an explanation included with this certification?		<input type="checkbox"/>
5. For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?		<input type="checkbox"/> <input type="checkbox"/>
If YES, is the new information or evidence that new information has been previously submitted included with this Certification?		<input type="checkbox"/>
6. For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), are the assumptions in the Qualitative Exposure Assessment still valid (must be certified every five years)?		<input type="checkbox"/> <input type="checkbox"/>
If NO, are changes in the assessment included with this certification?		<input type="checkbox"/>

SITE NO.

Box 3

Description of Institutional Controls

Box 4

Description of Engineering Controls

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

b) 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 is accurate and complete.

YES NO

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

(a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) 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;

(d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES NO

3. If this site has an Operation and Maintenance (O&M) Plan (or equivalent as required in the Decision Document);

I certify by checking "YES" below that the O&M Plan Requirements (or equivalent as required in the Decision Document) are being met.

YES NO

4. If this site has a Monitoring Plan (or equivalent as required in the remedy selection document);

I certify by checking "YES" below that the requirements of the Monitoring Plan (or equivalent as required in the Decision Document) is being met.

YES NO

IC CERTIFICATIONS
SITE NO.

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 2 and/or 3 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 _____ at _____,
print name print business address

am certifying as _____ (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner or Remedial Party Rendering Certification

Date

IC/EC CERTIFICATIONS

Box 7

QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) SIGNATURE

I certify that all information in Boxes 4 and 5 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 _____ at _____,
print name print business address

am certifying as a Qualified Environmental Professional for the _____

(Owner or Remedial Party) for the Site named in the Site Details Section of this form.

Signature of Qualified Environmental Professional, for
the Owner or Remedial Party, Rendering Certification

Stamp (if Required)

Date

Enclosure 2

Certification Instructions

I. Verification of Site Details (Box 1 and Box 2):

Answer the six questions in the Verification of Site Details Section. Questions 5 and 6 only refer to sites in the Brownfield Cleanup Program. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

II. Certification of Institutional / Engineering Controls (Boxes 3, 4, and 5)

1. Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party is to petition the Department requesting approval to remove the control.
2. In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.
3. If you cannot certify "YES" for each Control and/or certify the other SM Plan components that are applicable, continue to complete the remainder of this **Certification** form. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a statement of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) is to be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 6 and Box 7):

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page. Where the only control is an Institutional Control on the use of the property the certification statement in Box 6 shall be completed and may be made by the property owner. Where the site has Institutional and Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional (see table below).

Type of Control	Example of IC/EC	Required Signatures
EC which does not include a treatment system or engineered caps.	Fence, Clean Soil Cover, Individual House Water Treatment System, Vapor Mitigation System	A site or property owner or remedial party, and a QEP. (P.E. license not required)
EC that includes treatment system or an engineered cap.	Pump & Treat System providing hydraulic control of a plume, Part 360 Cap.	A site or property owner or remedial party, and a QEP with a P.E. license.

APPENDIX G – QUALITY ASSURANCE PROJECT PLAN

QUALITY ASSURANCE PROJECT PLAN

BROWNFIELD CLEANUP PROGRAM

For

166 CHANDLER STREET SITE
166 Chandler Street, Buffalo, NY 14207
BCP # C915320

Prepared For:

166 Chandler Holdings, LLC
391 Washington Street, Buffalo, New York 14203
WGS Project No. 18-104

Prepared By:

Wittman GeoSciences, PLLC
3636 North Buffalo Road
Orchard Park, New York 14127
(716) 575-1513

November 15, 2018

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
1.1 QAPP Scope.....	1
1.2 Project Organization	1
2.0 SAMPLE HANDLING AND MANAGEMENT	2
2.1 Sample Label and Identification	2
2.2 Chain of Custody	2
3.0 FIELD DOCUMENTATION	3
4.0 ANALYTICAL LABORATORY QA/QC PROTOCOLS.....	3
4.1 Analytical Methods, Procedures and Calibration	3
4.1.2 Analytical Methods.....	3
4.1.3 Laboratory Instrumentation & Equipment.....	3
4.1.3 Field Equipment.....	3
4.2 Quality Control Samples.....	4
4.3 Corrective Actions	5
5.0 DATA USABILITY	5

LIST OF TABLES

Table 1	Sample Container, Volume, Preservation and Holding Time Requirements
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1.0 INTRODUCTION

This Quality Assurance Project Plan (QAPP) has been developed by Wittman GeoSciences, PLLC) as prepared for the 166 Chandler Street Site, located at 166 Chandler Street in Buffalo, New York. The QAPP was prepared in general accordance with the requirements of Section 2.4 of the NYSDEC DER-10, Technical Guidance for Site Investigation and Remediation, dated May 2010 (DER-10).

The site is addressed as 166 Chandler Street in the City of Buffalo, Erie County, New York and consists of one parcel totaling approximately 0.48 acres of land. The site is bound to the south by Chandler Street, to the west by vacant building and lot, and to the north by railroad line and to the east by a vacant lot used for storage. The property is located within an urban area, utilized for industrial, commercial, and residential purposes.

1.1 QAPP Scope

The QAPP is designed to produce data of the quality necessary to achieve the project objectives. This QAPP was prepared to provide guidelines to be implemented post-remedial activities, including data quality objectives, quality assurance/quality control (QA/QC) procedures and sampling procedures. The objective of the QA/QC protocol and procedures is to ensure the information, data, and decisions associated with the project are technically sound and properly documented.

1.2 Project Organization

A generic organization for sampling activities, roles and responsibilities are summarized below.

NYSDEC and NYSDOH	NYSDEC and NYSDOH will have responsibility and authority to review and approve documentation and assure QAPP was followed; review project documents for completeness and compliance with cleanup objectives.
Site Owner	Site owner, or holder of certificate of completion (COC) will be responsible for complying with QAPP and for monitoring, and work completed as part of cleanup activities, either directly or through designated consultant or attorney. The site owner has authority to select contractors; and is responsible for implementing the project, meeting project objectives and requirements.
Project Manger	Project Manager reports directly to the Site owner and responsibilities include assuring project meeting project objectives, coordinate with NYSDEC/NYDOH, and responsible for project oversight.
Field Supervisor	Field supervisor will have responsibility for specific project task, including field daily tasks, and supervision of field personnel and subcontractors.
Quality	QAO will be responsible for laboratory and data validation subcontractor

Assurance Officer (QAO)	procurement and assignment, as well as data usability reports. The QA may conduct audits of the operations at the site to ensure that work is being performed in accordance with the QAAP.
Laboratory	The selected environmental laboratory certified under the NYSDOH Environmental Laboratory Approval Program (ELAP) will perform the analysis.

2.0 SAMPLE HANDLING and MANAGEMENT

Various environmental samples may be required during site development tasks. The procedures below will assist in documentation and tracing of the various samples. During sampling, field personnel will wear disposable or latex or nitrile gloves. Gloves will be changed and discarded between sampling locations.

Laboratory analysis samples will be placed in new laboratory-grade containers. Appropriate sample preservatives will be added to the sample containers by the laboratory prior to delivery to the project site. The specific volume and preservation of samples, if any, is summarized on Table 1. Samples will be shipped to the laboratory within 48-hours from sample collection. Samples will be kept in coolers, on ice, for shipment to the analytical laboratory.

2.1 Sample Label and Identification

Each field and QC sample will be identified by a self-adhesive, non-removable label placed on the sample containers. The label information will include, at a minimum, client name, site location, date and time of collection, sample identification number, sampler's name, and notes, as needed recorded in waterproof ink. All sample bottles within each shipping container will be individually labeled with the laboratory provided label. Each sample will be labeled with a unique identification.

Quality control (QC) field duplicate samples will be submitted blind to the laboratory; a fictitious sample identification will be created using the same system as the original. The sample identifications (of the original sample and its field duplicate) will be marked in the project specific field book and on the copy of the chain-of-custody kept by the sampler and copied to the project manager.

2.2 Chain of Custody

A chain-of-custody form will trace the path of sample containers from the project site to the laboratory. The chain-of-custody documentation will accompany the samples from their inception until analysis. Pertinent field information will be included on the chain-of-custody, including client name, project name/location, sampler name, sample identification number, date, time, media, grab/composite, number of containers, analysis required, and preservation.

Samples will be packaged into coolers used for shipment. The cooler will be packed with ice (or equivalent) to maintain sample temperature at 4 °C. The chain of custody forms will be signed and placed in a sealed plastic bag in the cooler. The cooler will be sealed and custody seal placed over the cooler opening, designed to break if opened or disturbed. The

custody seal will be signed and dated. Shipping tape will be wrapped around the cooler and over the custody seal. Sample receipt personnel at the laboratory will document whether the custody seals remained intact upon arrival and lab personnel will sign the chain-of-custody form.

3.0 FIELD DOCUMENTATION

Daily field activities will be recorded in a bound field notebook. The field notebook will include the following daily information for Site activities:

- Date, time of arrival, time of departure, weather conditions.
- Field staff, sub-contractors or other personnel on site.
- Description of field activities and location of work area.
- Equipment used on site
- Field observations and descriptions, such as soil descriptions, evidence of contamination, staining, odors, etc.
- Field measurements (OVM, water quality readings) and calibration
- Sampling locations, depths, identification numbers, time, etc.
- Sampling location measurements.
- Chain of custody information
- Modifications to scope of work or issues encountered.

4.0 ANALYTICAL LABORATORY QA/QC PROTOCOLS

This section describes the analytical methods, principles and procedures that will be used to generate quality data. These protocols include laboratory calibration, field equipment calibration, QC sample collection and analysis, quantitative evaluation of data quality protocols and data qualification, if necessary.

4.1 Analytical Methods, Procedures and Calibration

Chemical analysis for samples collected during the field work will be completed by a laboratory capable of performing project specific analysis as included in this QAAP.

4.1.2 Analytical Methods

Sample analytical analysis will be consistent with the NYSDEC ASP Category B requirements. Specific methods and references for each parameter including sample preservation and holding times are shown on Table 1. Quantification and detection limits for all analysis are those specified under the appropriate test methods.

4.1.3 Laboratory Instrumentation & Equipment

Laboratory instruments and equipment will be calibrated following SW-846 analytical methods protocol and laboratory requirements.

4.1.3 Field Equipment

Various field equipment will be used during the project. Calibration of the field equipment will be complete in accordance with manufacturer's specifications, prior to the start of each day.

Organic Vapor Meter – Real-time monitoring for VOCs will be done with an organic vapor meter (OVM) equipped with a photoionization detector (PID) to evaluate the nature and extent of potential petroleum or solvent impacts at the site. The OVM will be calibrated on a daily basis in accordance with manufacturer's specifications.

Particulate Monitoring Equipment – Particulate air monitoring will be completed during soil excavation activities as part of the IRM as noted in the Community Air Monitoring Program (CAMP). Measurements will be collected along the upwind perimeter of the excavation areas to assess the amount of particulates naturally occurring in the air. The particulate meter will be regularly calibrated in accordance with the manufacturer's specifications.

Additional Field Equipment – Additional field equipment will be used as part of the project including an electric static water level indicator and Horiba U-22 water quality meter that measures pH, specific conductivity, temperature, dissolved oxygen, oxygen reduction potential and turbidity. The meters will be calibrated in accordance with the manufacturer's specifications.

4.2 Quality Control Samples

Analytical methods, summarized on Table 1, to be utilized for laboratory sample analysis address the quality control to be used and the frequency of replicates, blanks and calibration standards for laboratory analytical equipment. Several types of field QC samples will be collected and submitted for laboratory analysis including trip blanks, sample duplicate, matrix spike and matrix spike duplicate.

Trip blanks – A trip blank sample monitors for potential impacts due to handling, transport, cross contamination from other samples during storage or laboratory contamination. The trip blanks, for aqueous VOCs only, will consist of analyte free reagent grade water in VOC sampling containers to be used for the project. Trip blanks will be prepared at the laboratory, sealed, transported to the Site and returned without being opened to assess contamination that may have occurred during transport. Trip blanks will be submitted at a rate of one per cooler when aqueous VOCs are shipped to the laboratory.

Blind duplicates – Blind duplicate samples are used to monitor field and laboratory precision, as well as matrix heterogeneity. The samples are separate aliquots of the same sample, collected from the same location, at the same time, in the same manner as the first, and placed into a separate container. Each duplicate sample will be analyzed for the same parameters as the original sample collected that day. Blind duplicates will be collected at a frequency of 1 per 20 environmental samples of a given matrices (i.e. soil or groundwater).

Matrix spike/matrix spike duplicate (MS/MSD) are used to monitor precision and accuracy of the analytical method on various matrices. The samples are spiked with known quantities of target analytes at the laboratory. The MS/MSD will be collected at a frequency of 1 pair per 20 environmental samples of a given matrices (i.e. soil or groundwater).

Rinsate Blanks – Rinsate blank is used to indicate potential contamination from sample instruments used to collect and/or transfer samples. The rinsate blank will be generated by passing distilled water through and over cleaned sampling equipment. Rinsate blank samples will not be performed when dedicated disposal equipment is used. The rinsate blank will be collected at a frequency of 1 per 20 environmental samples of a given matrices (i.e. soil or groundwater).

4.3 Corrective Actions

If instrument performance or data fall outside acceptable limits, then corrective actions will be taken to resolve problems and restore proper functioning of the analytical system. Actions may include recalibration or standardization of instruments, acquiring new standards, replacing equipment, repairing equipment, and reanalyzing samples or redoing sections of work. Subcontractors providing analytical services should perform their own internal laboratory audits and calibration procedures with data review conducted at a frequency so that errors and problems are detected early, thus avoiding the prospect of redoing large segments of work.

5.0 DATA USABILITY

The main objective of the DUSR is to determine whether the data presented meets the project-specific needs for data quality and data use. Data validation will be performed and a Data Usability Summary Report (DUSR) will be prepared to meet the NYSDEC requirements for analytical data generated during the RI/IRM. The DUSR will be completed in general accordance with Appendix 2B of DER-10. The findings of the DUSR will be incorporated in the RI/IRM/AAR report. Waste characterization samples will not be validated.

TABLES

TABLE 1
Sample Container, Volume, Preserving and Holding Time Requirements
166 Chandler
Buffalo, NY
NYSDEC Brownfield Cleanup Program

PARAMETER DESCRIPTION	MATRIX	METHOD NO.	Quantity/ Bottle Type	Preservation	Holding Time
Soil Samples					
Volatiles, TCL list	Soil	5035/3035A/8260	Encore or Terracore Samplers	Freeze within 48 hours	Freeze within 48 hours 14 days
Semi-Volatiles, TCL list	Soil	8270	(1) 4oz glass jar	Cool, 4 C	14 days
Metals, TAL (no CN)	Soil	6010/7000	(1) 4oz glass jar	none	180 days, Mercury 28 days
PCBs	Soil	8082	(1) 4oz glass jar	Cool, 4 C	365 days/40 days from extraction
Pesticides	Soil	8081	(1) 4oz glass jar	Cool, 4 C	14 days/40 days from extraction
Herbicides	Soil	8151	(1) 4oz glass jar	Cool, 4 C	14 days/40 days from extraction
Monitoring Wells					
Volatiles, TCL list	Water	8260	(3) 40ml vial	Cool, 4 C, HCL	14 days
Semi-Volatiles, TCL list	Water	8270	(2) 1 liter amber	Cool, 4 C	7 days
PCBs	Water	8082	(2) 1 liter amber	Cool, 4 C	7 days/40 days from extraction
Pesticides	Water	8081	(2) 500ml amber	Cool, 4 C	7 days/40 days from extraction
Herbicides	Water	8151	(2) 1 liter amber	Cool, 4 C	7 days/40 days from extraction
Metals, TAL	Water	6010	(1) 250ml plastic	HNO3	180 days
Mercury, Total	Water	7000	(1) 250ml plastic	HNO3	28 days
Metals, TAL (dissolved) field filtered	Water	6010	(1) 250ml plastic	HNO3	180 days
Mercury, Dissolved	Water	7000	(1) 250ml plastic	HNO3	28 days

APPENDIX H – HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

166 CHANDLER HOLDINGS, LLC
166 Chandler Street
Buffalo, NY 14207
Brownfield Cleanup Program Site #C915320



Prepared For:
166 CHANDLER HOLDINGS, LLC
391 Washington Street
Buffalo, NY 14203
EA Project No: 01102

Prepared By:
Environmental Advantage, Inc.
3636 North Buffalo Road
Orchard Park, New York 14127
(716) 667-3130

Original: Hazard Evaluations, Inc., December, 2018
Revised: February 2022

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
2.0 SITE DESCRIPTION AND HISTORY	1
2.1 Site Description	1
2.2 Site History	1
3.0 ASSIGNED RESPONSIBILITIES	4
3.1 Environmental Health & Safety Manager	4
3.2 Project Manager	5
3.3 Site Safety Officer	5
3.4 Site Workers	5
3.5 Subcontractors	5
4.0 TRAINING and SAFETY MEETINGS	6
4.1 Training	6
4.2 Safety Meetings	6
5.0 PERSONAL PROTECTIVE EQUIPMENT	6
6.0 HAZARD ANALYSIS	7
6.1 Chemical Hazards	7
6.2 Physical/General Hazards	8
6.3 Biological Hazards	9
7.0 SITE MONITORING	9
7.1 Soil Borings and Monitoring Wells	9
7.2 Action Levels	10
8.0 SITE ACTIVITY AREAS AND ACCESS CONTROL	10
9.0 DECONTAMINATION PROCEDURES	11
9.1 Prevention of Contamination	11
9.2 Personal Decontamination	11
9.3 Decontamination During Medical Emergencies	12
9.4 Decontamination of Equipment	12
9.5 Disposal of the Contaminated Materials	12
10.0 EMERGENCY RESPONSE	13
10.1 Response Procedures	13
10.2 Communications	13
10.3 Evacuation	13
10.4 Fire or Explosion	13
10.5 Personal Injury	13
10.6 Adverse Weather Conditions	13
10.7 Traffic, Heavy Equipment & Machinery	14
10.8 Utilities	14
10.9 Emergency Contingency Plan	14
10.9.1 Contamination Emergency	14
10.9.2 Spill/Air Release	14
10.9.3 Unknown Drums or USTs	14
10.10 Additional Safety Practices	14
11.0 RECORDS AND REPORTING	15

LIST OF FIGURES

- Figure 1 BCP Location Plan
Figure 2 Map and Directions to Nearest Hospital

LIST OF TABLES

- Table 1 Emergency Contact List
Table 2 Hazard Characteristics of Potential Contaminants of Concern

1.0 INTRODUCTION

This Revised Health & Safety Plan (HASP) has been developed to identify and present appropriate safety procedures to be followed by investigation/remediation workers involved with project activities at the 166 Chandler Holdings, LLC site located at 166 Chandler Street, Buffalo, Erie County, New York (Site) as shown on Figure 1. Such procedures are designed to reduce the risk of remediation worker exposure to the primary substances of concern.

The procedures also address several other physical hazards that may be encountered during investigation activities. Recommended safety procedures presented herein may be modified based upon conditions encountered at the Site, with the mutual agreement of Environmental Advantage, Inc. (EA), New York State Department of Environmental Conservation (NYSDEC), New York State Department of Health (NYSDOH), and 166 Chandler Holdings, LLC. A copy of this HASP (including any modifications) will be maintained on-Site during site work to be used as a reference by EA and their subcontractors. An initial safety meeting will be conducted at the Site prior to the initiation of the sampling activities to inform all affected remediation workers of potential exposures and hazards.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Description

The 166 Chandler Street Site located on the north side of Chandler Street approximately 1700 feet east of Military Road in the City of Buffalo, Erie County, New York (Refer to Figure 1 presented in Attachment A). The Site consists of an approximately 0.49-acre area, improved with an approximate 58,000 square-foot four-story building which occupies almost the entirety of the parcel. The Site is zoned commercial and is currently occupied by several commercial occupants including Tappo Pizza, Thin Man Brewery, and Salon in the City Suites.

The properties adjoining the 166 Chandler Street Site and in the neighborhood surrounding the 166 Chandler Street Site primarily include commercial and residential properties. The properties immediately south of the 166 Chandler Street Site include commercial and residential properties; the properties immediately north of the 166 Chandler Street Site include railroad tracks; the properties immediately east of the 166 Chandler Street Site include commercial properties; and the properties to the west of the 166 Chandler Street Site include commercial properties.

2.2 Site History

The Site building was originally constructed in 1907 as a dairy machine manufacturer with additions to the building in 1909, 1919, 1927, and 1931. Former uses at the subject site also included a grocery, Linde Air Products, Sponge Air Seat Co., and Barcalo Manufacturing, a furniture manufacturer. Several fires occurred during the 1980s and 1990s which resulted in demolition of the western portion of the building. The building was vacant for over 20 years.

As further documented in the Final Engineering Report for the Site, 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 166 Chandler Street Site. Full titles for each of the reports referenced below are provided in Section 7.0 of the SMP.

Phase 2 Investigation

A limited investigation was completed in November of 2016 as part of due diligence work prior to property purchase. The Phase II testing identified SVOCs in the fill areas of the vacant lot at concentrations exceeding restricted residential, commercial, and industrial standards. Elevated levels of mercury was also identified within one sample under the building. Historical records identified a possible UST in the southwestern corner of the 166 Chandler Street Site. No record of tank removal or registration was identified.

Interim Remedial Measures

A series of interim remedial measures (IRMs) were performed at the 166 Chandler Street Site in order to remediate the on-site concerns.

- The excavation and off-site disposal of soil/fill exceeding RRSCO. Impacted soil/fill was removed from the western portion, limited interior area (identified as MW102 area), and elevators shaft and pit. The excavations were generally extended into native clay at each area.
- The entire western lot was excavated to the property limits, as shown on Figure 5 of the SMP. The area was occupied by a former building with foundation. A total of 2,157 cubic yards (cy) or 3,235 tons of soil was removed from the western vacant lot, and disposed off-site at Town of Tonawanda landfill. The excavations were completed to and beyond property limits to the north, south and west. Therefore, no on-site sidewall confirmatory soil samples were necessary. The bottom of the excavation extended to a solid concrete floor or excavation continued to the native underlying silty clay soil, generally ranging in depth from 5 to 8 feet below grade. No VOCs, SVOCs, metals, PCBs, herbicides or pesticides were detected in the bottom confirmation samples at concentrations above RRUSCO.
- An old, damaged, approximately 300 gallons in size UST was uncovered in the southwestern corner of the vacant lot. The UST was severely corroded; however limited amount of standing water was present. The minor amount of liquids was initially pumped and disposed off-site, generating approximately one-55-gallon drum of liquid. The cleaned tank remnants were taken off-site for recycling.
- No visual or olfactory evidence of impact was observed in the vicinity of the UST. However, due to the presence of the historical fill, additional excavation extended beyond the limits of the UST. A soil sample was collected from the nearest west wall, south wall and bottom, no contaminant parameters were detected at concentrations exceeding their respective UUSCO.
- Several SVOCs were detected in the soil sample from MW102 (0-4') at concentrations exceeding RRUSCO including benzo(a)anthracene,

benzo(a)pyrene, benzo(k)fluoranthene, and indeno(1,2,3-cd)pyrene. In order to address the presence of SVOC impacts, the concrete floor was removed and an approximate 11-foot by 11-foot excavation was completed in the area of MW102. Approximately 12 cy or 18 tons of soil was removed from the area of MW102, and disposed off-site at Town of Tonawanda landfill. Four sidewall samples and one bottom sample were collected from the excavation area, the analytical testing results did not identify SVOCs at concentrations exceeding UUSCO in the confirmatory samples

- Asbestos survey for asbestos containing materials (ACM) within the roof of the 166 Chandler Street building. Asbestos removal activities were completed at 166 Chandler Street in 2018 and limited to the roof of the existing building.
- Various drums and miscellaneous waste were identified within the building during cleanout activities. The various materials were analyzed, as needed for proper disposal. Waste materials included several enamel based paints and latex paints, generally one to five-gallon size containers, and older fire extinguishers. These materials were collected by Environmental Service Group, Inc. (ESG) and disposed off-site. An elevator shaft is located in the northern portion of the site, with an associated elevator pit. The elevator has been unused for many years, and subsequently the shaft and pit have been filled with rainwater, groundwater, sediment, and miscellaneous debris. A sediment sample was collected from the pit, at the request of the disposal company for disposal characterization, which included VOC, SVOCs, metal, PCBs and the water was also analyzed for PCBs. Analytical results identified one VOC, 1,4-dichlorobenzene, and metal barium, at concentrations that were potentially hazardous. The disposal facility required further analysis for TCLP VOCs and TCLP Metals. The testing results revealed the sediment material was non-hazardous and was therefore accepted by ESG. A total of 1,698 gallons of sludge, shaft water, and wash water were removed from the elevator shaft and pit area. The concrete floors within the basement area were removed due to site development tasks, and disposed as non-hazardous soil. Soil samples taken on the south, west, and east side of the elevator pit and did not identify VOCs or metals at concentrations exceeding UUSCO.

Building Evaluation

Following remedial activities, a new building addition was constructed in the western portion and completed by 2018. Due to the VOCs detected as described above, upon completion of backfilling and compaction, a 6-mil poly-sheeting vapor barrier was installed above the new backfill, and below new concrete floor. The new building addition is an open-floor, open air plan, with new roof heights of over 40 feet tall.

The existing building also underwent significant redevelopment activities. The concrete floor on the main floor was removed, new infrastructure installed, and pre-approved backfill material brought on-site. A 6-mil poly-sheeting vapor barrier was

installed above the new backfill material, and below the new 6-inch concrete flooring. Portions of the western wall of the existing building were removed, allowing the new and existing building to be connected.

Due to considerations associated with depth of contaminated soil, depth of on-site groundwater, competent silty clay native soils, clean backfill material brought on-site, installation of a vapor barrier, ceiling height and building conditions, and required fresh air change outs, no further soil vapor intrusion evaluation was required in the Site building.

Soil Vapor Intrusion Investigation

To evaluate soil vapor intrusion in the existing site building and new building addition, three indoor air sampling events were completed on April 16, 2019, April 20, 2020, and February 18, 2021. The results of these investigations were detailed in the April 2020 Revised Periodic Review Report and the April 2021 Revised Periodic Review Report. In addition to indoor and outdoor air sampling, a site inspection and building questionnaire were conducted as well. Based on the results of these assessments, and as further described in section 4.2 of the SMP, soil vapor intrusion did not appear to be a concern to the health and safety of the Site's occupants; therefore, annual indoor air sampling requirement was discontinued as approved by NYSDEC.

Groundwater

After remedial activities were completed, three groundwater monitoring wells were installed at the Site and sampled on September 12, 2018. The results indicated that the groundwater sample from MW101 located inside the main building detected cis-1,2-dichloroethene (cis-DCE) at a concentration of 8 parts per billion (ppb), and the groundwater sample from MW103 located west and outside of the newly constructed building addition detected 1,1-dichloroethane (DCA) at a concentration of 6.3 ppb. Groundwater depth at MW101 and MW103 ranged from approximately 13 to 16 feet below grade.

On December 20, 2018, NYSDEC issued a Certificate of Completion to 166 Chandler Holdings, LLC, indicating the remedial program at the 166 Chandler Site was satisfactorily completed.

3.0 ASSIGNED RESPONSIBILITIES

Specific safety responsibilities have been established for the performance of the groundwater investigation as indicated below.

3.1 Environmental Health & Safety Manager

The Environmental Health & Safety Manager (EHSM) has the authority to commit any resources necessary to implement an effective safety program, thereby protecting the health of affected Site workers. The EHSM will delegate responsibilities, as necessary, to the Project Manager (PM) in order to facilitate

various aspects of this HASP. The resolution of any on-Site safety issues encountered during investigations will be coordinated by the EHSM.

3.2 Project Manager

The Project Manager (PM) will be responsible for the overall project, including implementation of the HASP. The PM will coordinate with the Site Safety Officer (SSO) to ensure that project goals of the project are met in a manner consistent with the HASP requirements.

3.3 Site Safety Officer

The Site Safety Officer (SSO) will be responsible for ensuring that the recommended safety procedures are followed during any field activities. The SSO will supervise EA employees and subcontractors throughout the duration of the field work. The SSO is knowledgeable of general construction safety practices and remediation worker protection techniques. Responsibilities will include:

- Ensuring day-to-day compliance with HASP safety procedures;
- Maintaining adequate personal protective equipment (PPE) supplies;
- Calibration and maintenance of monitoring instruments;
- Authority to stop work activities at any time if unsafe work conditions are identified;
- Implementing personnel decontamination procedures;
- Initiate emergency response procedures;
- Maintain a diary of activities with safety relevance; and
- Establishing and assuring adequate records of all:
 - Occupational injuries and illnesses;
 - Accident investigations;
 - Reports to insurance carrier or state compensation agencies;
 - Records and reports required by local, state and/or federal agencies; and
 - Property or equipment damage.

3.4 Site Workers

Affected Site workers will include EA employees and subcontractor employees. Site workers must comply with all aspects of the HASP and its safety procedures. Personnel entering the Site will have completed training requirements for hazardous waste site operations in accordance with Occupational Safety and Health Administration (OSHA) 29CFR 1910.120(c); 29CFR 1910.146(d); and 29CFR 1910.147(c). Site workers and SSO must have completed appropriate medical surveillance as required by OSHA 29CFR 1910.120(f).

3.5 Subcontractors

Various subcontractors will be utilized on the Site during field activities, such as driller and excavation contractor. Subcontractors are responsible for development of their own HASP that is at least as stringent as this HASP. A copy of this HASP will be provided to the subcontractors for informational purposes. Subcontractors will be

informed of potential health and safety hazards, as well as environmental monitoring data collected during field activities.

4.0 TRAINING AND SAFETY MEETINGS

4.1 Training

Site personnel assigned to the Site will be in compliance with the training requirements of 29 CFR 1910 and 1926 as listed below. Site personnel will have met one of the following requirements prior to the start of on-site activities.

- A 40-hour minimum hazardous materials safety and health course, as stipulated in 29 CFR 1926.65 (e)(3); and
- An eight-hour minimum refresher course per year after the 40-hour minimum training has occurred (29 CFR 1926.65 (e)(8)).

On-site managers and supervisors must be in compliance with the additional supervisory training requirements of 29 CFR 1926.65 (e)(4). Emergency responders must be in compliance with the additional training requirements of 29 CFR 1926.65 (e)(7). Appropriate certificates of participating Site workers' training programs will be maintained at EA offices.

4.2 Safety Meetings

Site workers and subcontractors will be familiar with the Site and facility layout, have an understanding of known and potential hazards, and details within this HASP. On-site safety meetings will occur daily, or as needed to assist site workers and subcontractors in conducting activities safely. Attending personnel must sign an attendance sheet. Site workers must attend a safety meeting prior to being allowed to work on-site.

5.0 PERSONAL PROTECTIVE EQUIPMENT

An important aspect for site worker safety is correct selection of personal protective equipment (PPE). The levels of protection listed below are based on 29 CFR 1910.120. The majority of site activities will be conducted in Level D protection. This level of protection was selected based on the types and measured concentrations of the hazardous substances in the samples previously collected and their associated hazards and/or toxicity; and potential or measured exposure to substances in air, splashes of liquids or other indirect contact with material due to the task being performed.

- o Level D will generally consist of the following:
 - Coveralls or long pants and long sleeve shirt to provide protection from dermal contact with soil;
 - High visibility safety vest;
 - Steel toe work boots;
 - Safety glasses;

- Hard hat; and
- Chemical-resistant gloves.

Additional equipment may be donned at SSO requirement, including disposable boots, hearing protection, safety vest, or disposable outer chemical coveralls (Tyvek suits).

- o Level C will generally consist of the following:
 - Full or half face air purifying respirator (APR) equipped with appropriate organic vapor canisters and/or other chemical cartridges;
 - Chemical resistant clothing, such as Tyvek suit. Suits will be one piece with booties, hood, and elastic wristbands;
 - High visibility safety vest (disposable);
 - Outer chemical-resistant gloves (i.e. nitrile or neoprene) and inner latex gloves;
 - Steel toe work boots; and
 - Hard hat.

- o Level B will generally consist of the following:
 - Self-contained breathing apparatus (SCBA) in a pressure demand mode, or supplied air with escape SCBA;
 - Chemical resistant clothing, such as Tyvek suit. Suits will be one piece with booties, hood, and elastic wristbands;
 - High visibility safety vest (disposable);
 - Outer chemical-resistant gloves (i.e. nitrile or neoprene) and inner latex gloves;
 - Chemical resistant tape over PPE as needed (i.e. at glove/Tyvek location);
 - Steel toe work boots; and
 - Hard hat.

6.0 HAZARD ANALYSIS

Many hazards are associated with environmental work on a site. The hazards listed below deal specifically with those associated with the management of potentially contaminated soil, air, and groundwater including, physical hazards as well as environmental hazards.

6.1 Chemical Hazards

Prior to remediation, the primary contaminants of concern at the Site include semi-volatile organic compounds (SVOCs), specifically polycyclic aromatic hydrocarbons (PAHs), and metals. The list has been developed based on planned activities and potential Site conditions. The most likely routes of chemical exposure during site work include skin absorption and inhalation of airborne dust particles. The information was used to develop the levels of PPE to be used during the duration of

investigation field work on-Site.

6.2 Physical/General Hazards

Based on the proposed scope of work to be completed, the following potential physical hazards have been identified:

- Slip/Trip/Fall – Due to the timing of the project, some areas may have wet surfaces that will increase the possibility of accidental falls. Additionally, good housekeeping practices such as cleaning up garbage and stored materials from the work area are essential to reduce the occurrence of trips and falls.
- Vehicle and machinery in motion hazards – A drill rig will be utilized for soil sample collection. To minimize potential hazards, the drilling subcontractor will be responsible for health and safety of its personnel, equipment and operations. Utilities must be called in via Dig Safely New York and/or Site owner. Cones and flags will be set up around each work area, as necessary. Workers must be aware of pinch points when setting the rig and lowering mast/pull rods. PPE must be worn to prevent eye injury. All body parts, clothing, and manual tools must be kept three to five feet from moving equipment when possible. Gloves and PPE must be worn when working with rods and cleaning equipment. Monitoring of the breathing zone will be completed as necessary to ensure vapors are below action levels. Each worker must have an awareness of muscle strain. All sampling liners must be opened in a motion away from the body and hands. The rig cannot be moved with the mast in a raised position.
- Electrical – Heavy equipment (e.g., excavator, backhoe, drill rig) shall not be operated within ten feet of high voltage lines. Working near wet areas should also be taken into consideration when working with electrical equipment. Surge protectors and ground fault protectors must be used in such conditions.
- Noise – Heavy machinery creates excessive and loud noise levels. Over-exposure can result in hearing damage or loss. Proper hearing protection shall be worn during exposure to noise from heavy equipment.
- Underground utilities – The proper utility clearance will be obtained before conducting any digging or drilling operations.
- Cold Stress – Although not anticipated due to the time of year operations will occur, frostbite and hypothermia can occur quickly and the signs and symptoms of such should be known. Signs of hypothermia include slurred speech, confusion, and an overall warm sensation. Frostbite can be identified by red/frozen skin, numbness, and lack of sensation on the skin. In each case, the victim should be moved to a warm place. With frostbite, the affected area should be placed in warm water and wrapped with a warm towel. Medical attention is necessary after initial treatment.

- Heat stress – Site work is scheduled during the early spring to summer months and therefore warm weather may present hazards. Heat stress is a severe hazard that can result in heat fatigue or even heat stroke. Signs and symptoms of heat stroke include red, dry, and hot skin as well as confusion, a rapid pulse, and nausea. Adequate shade and drinking liquids should be provided to personnel working in hot weather conditions. If a person is suspected to be suffering from heat fatigue or stroke, transport to a cool place and place cold compresses on the neck and armpits. Call 911 immediately.
- Weather (i.e. lightning storm) – On-site personnel shall cease operation at the first sign of a thunderstorm/lightning strike. Workers should seek shelter within a permanent building and stay away from tall structures, trees, telephone poles, and drill rigs/equipment.

6.3 Biological Hazards

Biological hazards can be caused by contact with land animals, birds, insects, and plants. Irritation, illness, and in extreme cases, permanent disability or death can occur. The Site is located in an urban area within the City of Buffalo and field work may occur during any time of the year. Prior to any field activities, the most likely biological hazard at this Site should be identified based on the time of year the field work is proposed.

Contact with rodents, more specifically rats, shall be avoided. If bitten or scratched by any type of rodent or fur-bearing animal, medical treatment should be sought immediately.

Insect bites and stings are a serious threat in the summer. Insect bites and stings can cause irritation and transmit disease. If stung by an insect, apply cold water and soap and immediately apply a cold compress to the area to limit swelling. If the victim is allergic to such bite or sting, immediate medical care may be necessary.

Plants, including poison ivy, are a serious threat in the early spring and summer and should be avoided. If irritation occurs, apply cold water and soap and immediately apply a cold compress to the area to limit swelling. If the victim is allergic to such, immediate medical care may be necessary.

7.0 SITE MONITORING

Air monitoring will be performed on-site, using a Photoionization Detector (PID) equipped with a 10.6 electron volt (eV) lamp, in order to track contamination levels. By knowing these levels, safety is insured for personnel working on-Site.

7.1 Soil Borings and Monitoring Wells

On-Site monitoring will be completed by the SSO or Site worker assigned to oversee drilling operations, soil sampling, and monitoring well installation/sampling.

The PID will be utilized to monitor the breathing zone, the borehole, and subsurface samples for the presence of volatile organic compounds (VOCs). Auger spoils will also be monitored. Fluids produced from monitoring well development and sampling will also be monitored with the PID.

7.2 Action Levels

Work area ambient air monitoring for VOCs will be completed within the breathing zone periodically. Action levels will be based on the PID readings. The action level assumes that background level of organics is close to non-detect. Background VOC readings will be recorded daily. Action levels are listed below.

Sustained PID Reading Above Background	Action
0 to 5 ppm*	None.
5 to 25 ppm	Monitor for 15 minutes; if concentration does not decrease to under 5 ppm, the source of vapors must be identified, corrective actions taken to abate emissions and monitoring continued.
>25 ppm	Activities must be shutdown.

* parts per million

8.0 SITE ACTIVITY AREAS AND ACCESS CONTROL

Prior to the initiation of any investigation, three work zones will be established to facilitate the implementation of the HASP. Prior to commencement of field work, a further definition of these zones will be established. Guidelines for establishing work areas are as follows.

- Exclusion Zone (EZ) – Primary exclusion zones will be established around each intrusive field activity, such as soil boring or excavation area. Locations will be identified by the placement of orange cones. Site workers in these areas must wear appropriate PPE. Upon leaving the EZ, if PPE becomes contaminated, Site workers must remove and dispose of gloves and any other disposable PPE. After removing the PPE, Site workers should thoroughly wash their hands. Access to the EZ will be limited to Site workers only for both safety and data integrity purposes.
- Contamination Reduction Zone (CRZ) – A CRZ will be established between the EZ and property limit, and provides an area for decontamination of Site equipment. The specific location of this pad will be field determined, but will be out of the way of Site activities and sampling activities. Portable wash stations will be set up in the CRZ and will consist of a potable water supply,

hand soap and disposable towels. An Alconox solution will be available to decontaminate equipment used in the sampling locations. The SSO will monitor equipment cleaning procedures to ensure their effectiveness. Equipment will be adequately cleaned and Site workers will remove contaminated PPE prior to either entering the Support Zone or leaving the Site for the day once sampling activities have been completed. A fire extinguisher and first aid kit will be located in this area.

- Support Zone (SZ) – The SZ is considered to be clean, and PPE are not required. The SZ will be an area on-site adjacent to the CRZ in which supplies or equipment are stored and maintained. PPE is donned in the SZ prior to entering the CRZ.

9.0 DECONTAMINATION PROCEDURES

Decontamination procedures for personnel and equipment will be implemented when exiting the work area. Decontamination involves physically removing contaminants and generally includes the removal of contamination, avoiding spreading contamination from the work zone, and avoiding exposure of unprotected personnel outside of the work zone to contaminants.

9.1 Prevention of Contamination

The first step in decontamination is to establish standard operating procedures that minimize contact with hazardous substances, and thereby the potential for contamination. Site workers should be aware of the importance of minimizing contact with hazardous substances and the use of appropriate practices and procedures for Site operations. EA utilizes this approach by ensuring Site workers:

- Stress work practices that minimize contact with hazardous substances (e.g., do not walk through areas of obvious contamination, do not directly touch potentially hazardous substances, etc.);
- Protect sampling instruments from gross contamination by bagging and making openings in the bag for sample ports and sensors that contact site materials; and
- Wear disposable outer garments and use disposable equipment where appropriate.

9.2 Personal Decontamination

The degree of contamination exposure is a function of both a particular task and the physical environment in which it takes place. The following decontamination procedures will remain flexible, thereby allowing the decontamination crew to respond appropriately to changing conditions at the Site. It is expected that Site workers will be exposed to soil/fill potentially contaminated with metals compounds. On-site sampling activities will be carried out in such a manner as to avoid contamination of Site workers, personal protective equipment, machinery and equipment.

Between sampling locations (or sometimes between samples at one sampling location), and upon the completion of the daily field activities, Site workers will proceed to the CRZ. Equipment (e.g., sampling tubes, shovels, tools, etc.) will be decontaminated in this area. Prior to leaving the Site for breaks, at the end of the work shift, or when PPE has been contaminated, gloves will be removed and placed in a plastic bag designated for the disposal of these materials. After removing PPE, each Site worker will wash with soap and fresh water prior to donning new PPE or leaving the site for the day. All wash-water and rinse-water will be collected and disposed of in accordance with appropriate regulations.

9.3 Decontamination During Medical Emergencies

In the event of a minor, non-life-threatening injury or medical problem, Site workers should follow the decontamination procedures as defined above and then administer first aid. If prompt, live-saving first aid is required, decontamination procedures should be omitted and immediate first aid should be administered, unless the environmental conditions are considered Immediately Dangerous to Life or Health (IDLH). In this case, the victim should be moved to a clean area and life-saving care should be instituted immediately without considering decontamination.

Outside garments can be removed (depending on the weather) if they do not cause delays, interfere with treatment or aggravate the problem. Respirators and backpacks must always be removed. Chemical-resistant clothing can be cut away. If the outer contaminated garments cannot be safely removed, the individual should be wrapped in plastic, rubber or blankets to help prevent contaminating the insides of ambulances and medical personnel. Outside garments will then be removed at the medical facility. No attempt should be made to wash or rinse the victim at the site. One exception would be if an individual is known to have been contaminated with an extremely toxic or corrosive material which could cause severe injury or loss of life.

9.4 Decontamination of Equipment

Decontamination efforts will be conducted in the CRZ. Gross contamination will first be removed with plastic scrapers or other appropriate tools. The equipment will be decontaminated at a temporary equipment decontamination pad in the CRZ via hand washing or pressure washing. Alconox and water will then be used to wash the equipment with a cleaning brush. The equipment will then be rinsed with deionized water and allowed to air dry for a sufficient time prior to reuse or removal from the Site. Downhole tools and augers can be hand washed or pressure washed.

The decontamination of the direct push drilling rig will be undertaken (if necessary) when all on-site activities have been completed. Initially, scraping of the equipment will remove heavily caked materials prior to washing. Washing will then be accomplished with Alconox and water or pressure washing.

9.5 Disposal of the Contaminated Materials

Potentially contaminated materials (i.e., gloves, clothing, sample sleeves etc.) will be bagged and segregated for proper disposal. Investigation derived waste will be managed in accordance with NYSDEC guidance.

10.0 EMERGENCY RESPONSE

In the event of an emergency, the SSO will coordinate on-site emergency response activities. Appropriate authorities will be immediately notified of the nature and extent of the emergency. The emergency contact list is included on Table 2. The route and directions to the hospital are included as Figure 2.

10.1 Response Procedures

In the event of an emergency or acute exposure symptom, remediation workers will signal distress to the SSO. The SSO will be responsible for the response to emergencies and must:

- Have available a summary of the project's associated risk potential so it can be provided to authorities or response personnel in the event of an emergency;
- Maintain an Emergency Contact List (Table 1) and post it in a visible location;
- Maintain a map detailing directions to the nearest hospital (Figure 2); and
- Ensure appropriate safety equipment is available at the site.

10.2 Communications

Cell phones will be the primary means of communicating with emergency support services/facilities.

10.3 Evacuation

In the event of an emergency situation, such as fire, explosion, etc., all personnel will evacuate and assemble in a designated assembly area. The SSO will contact outside services (i.e. police, fire, etc.) as required. Under no circumstances will personnel be allowed to re-enter the area once the emergency signal has been given. The SSO must see that emergency equipment is available and emergency personnel are notified.

10.4 Fire or Explosion

In the event of a fire or explosion, the SSO will immediately evacuate the Site. The Buffalo Fire Department will then be notified immediately, and advised of the situation and the identification of any hazardous materials involved.

10.5 Personal Injury

Only basic emergency first aid will be applied on-site as deemed necessary. The SSO will supply available chemical specific information to appropriate medical personnel, as requested. First Aid kits supplied by EA and its subcontractors will conform to Red Cross and other applicable good health standards, and will consist of a weatherproof container with individually sealed packages for each type of item. First Aid kits will be fully equipped before being sent to the Site.

10.6 Adverse Weather Conditions

In the event of adverse weather conditions, the SSO will determine if work can

continue without sacrificing the safety of remediation workers. Some of the items to

be considered prior to determining if work should continue are the potential for heat stress, inclement weather-related working conditions (heavy snow) and the operation of field instruments.

10.7 Traffic, Heavy Equipment & Machinery

Site workers must remain aware of the heavy equipment and machinery being used during investigation activities. Site workers will be required to wear a high visibility safety vest during on-site work activities.

10.8 Utilities

Prior to the beginning of Site activities, all available drawings of the facility will be examined to determine the presence of underground or sub-slab utilities. EA anticipates that a magnetic pipe and cable locator will be effective in the prevention of encountering underground utilities.

10.9 Emergency Contingency Plan

In the case of a spill emergency (e.g., tank/drum release, spill, fire, etc.), this section will describe the procedures to be followed during the event.

10.9.1 Contamination Emergency

It is unlikely that a contamination emergency will occur; however, if such an emergency does occur, the specific work area shall be shut down and immediately secured. The area in which the contamination occurred shall not be entered until the arrival of trained personnel who are properly equipped with the appropriate PPE and monitoring instrumentation.

10.9.2 Spill/Air Release

In the event of a spill or air release of hazardous materials on-site, the specific area of the spill or release shall be shut down and immediately secured. The area in which the spill or release occurred shall not be entered until the cause can be determined and Site safety can be evaluated. The NYSDEC Spill Response unit shall be notified immediately. The spilled material shall be immediately contained.

10.9.3 Unknown Drums or USTs

In the event that unidentified containerized substances, including USTs, are discovered during soil sampling or soil excavation, work will be ceased immediately until hazards are addressed. The SSO will then visually assess the situation and identify any leaks or releases from the container. If leaking is identified, the spilled material shall be immediately contained. Upon visual assessment of any releases and safety precautions, properly trained personnel will then sample and remove/dispose of the waste/container.

10.10 Additional Safety Practices

The following are important safety precautions and practices that will be enforced during the field activities:

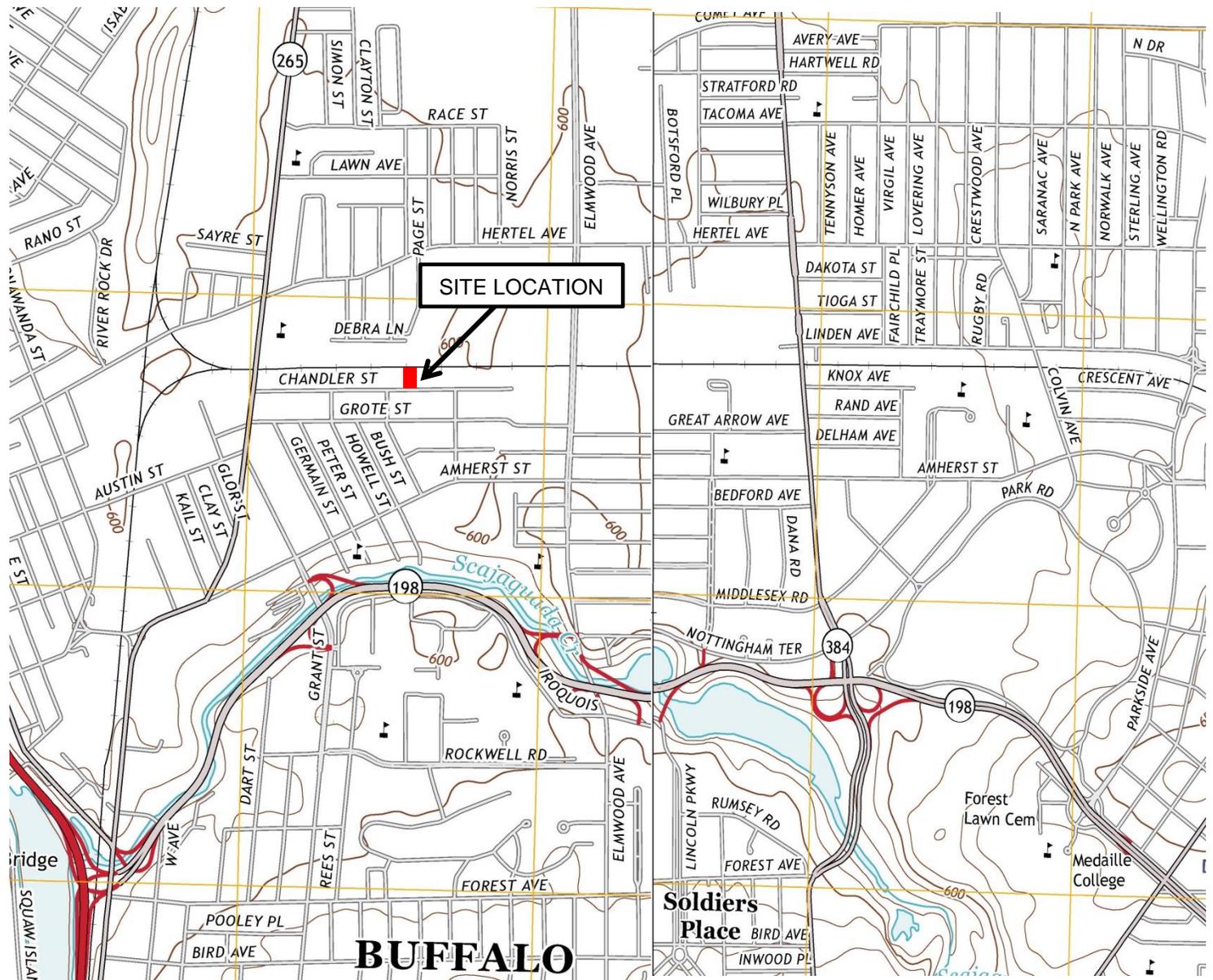
- Eating, drinking, smoking, chewing gum or tobacco or any activity that increases the probability of hand-to mouth transfer and ingestion of hazardous substances is prohibited during the investigation activities;
- Remediation worker hands and face must be thoroughly washed before leaving the CRZ or before eating, drinking or other activity;
- Contact with potentially contaminated surfaces should be avoided whenever possible;
- The number of remediation workers and the amount of equipment should be minimized; and
- Alcoholic beverages will not be consumed during work hours by Site personnel. Personnel using prescription drugs may be limited in performing specific tasks (i.e. operating heavy equipment) without written authorization from a physician.

11.0 RECORDS AND REPORTING

The SSO will be responsible for establishing and maintaining adequate records of activities which take place at the Site. The records will pertain to Site workers involved in the project, regardless of their employer, as well as any agency personnel. A basic list of the information to be maintained is as follows:

- Occupational injuries or illnesses;
- Accident investigations;
- Reports to insurance carrier or State Compensation agencies;
- Records and reports required by local, state and federal agencies;
- Property or equipment damage;
- Third party injury or damage claims;
- Environmental testing logs;
- Explosive and hazardous substances inventories and records;
- Records of inspections and citations;
- Related correspondence; and
- Safety training level.

FIGURES

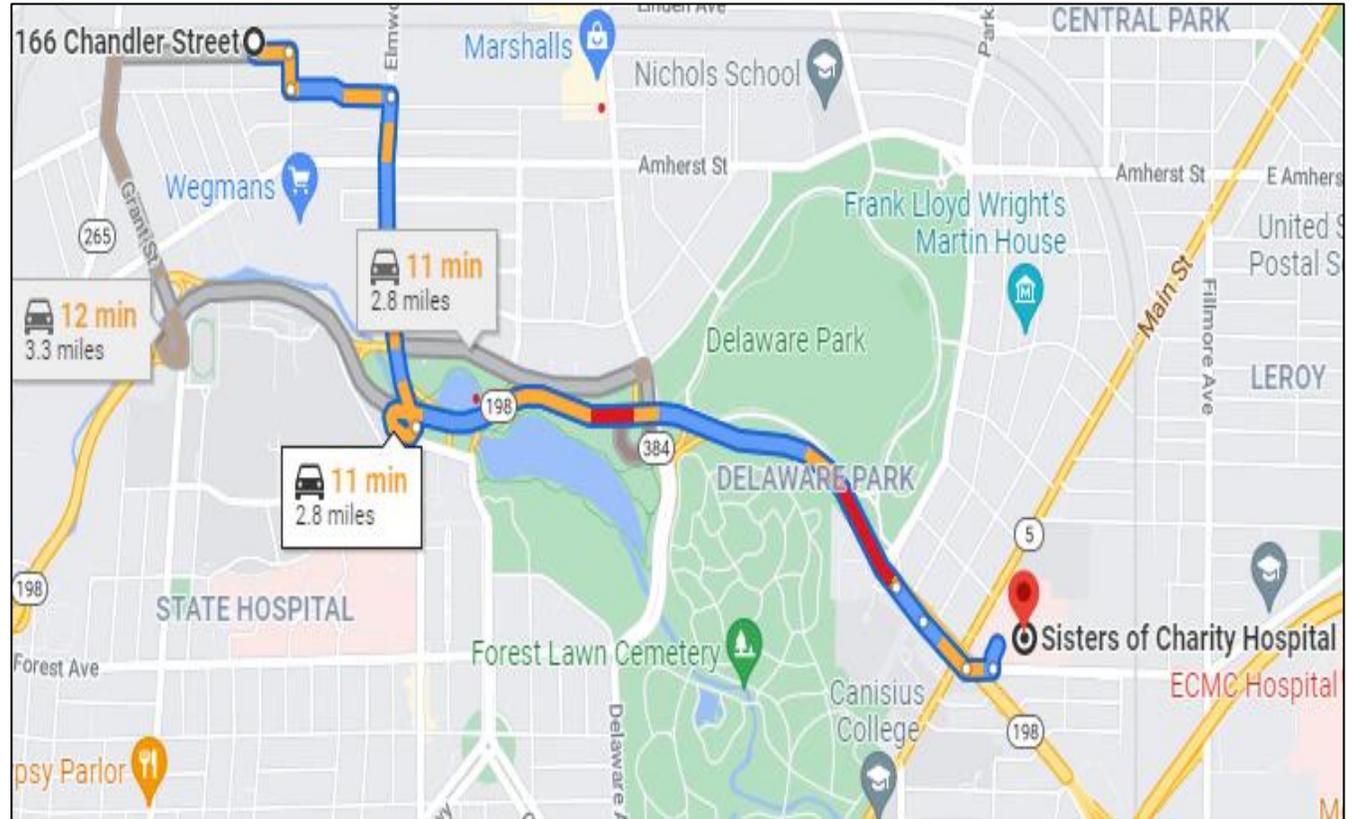


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AND WAS ADAPTED FROM USGS, BUFFALO NE & NW, NEW YORK 2013 QUADRANGLE

ENVIRONMENTAL ADVANTAGE, INC. <i>Regulatory Compliance – Site Investigations – Facility Inspections</i>		
SITE LOCATION MAP 166 CHANDLER STREET BUFFALO, NEW YORK		
166 CHANDLER HOLDINGS, LLC BUFFALO, NEW YORK		
DRAWN BY: MS	SCALE: NOT TO SCALE	PROJECT: 01104
CHECKED BY: CMH	DATE: 11/2021	HASP FIGURE NO: 1



A 166 Chandler St, Buffalo, NY 14207		
↑	1. Head east on Chandler St toward Bridgeman St	476 ft
↘	2. Turn right onto Bridgeman St	344 ft
↙	3. Turn left onto Grote St	0.2 mi
↘	4. Turn right onto Elmwood Ave	0.6 mi
🛣️	Take the ramp on the right and follow signs for NY-198 East	1.5 mi
	▲ <i>Serious Congestion</i>	
↑	Take the ramp on the right for Humboldt Pkwy and head toward Main St / NY 5	0.1 mi
↙	7. Turn left onto NY-5 / Main St	0.1 mi
	▲ <i>Minor Congestion</i>	
↘	8. Turn right	200 ft
↘	9. Turn right	243 ft
	Arrive at your destination on the left	
10.	The last intersection before your destination is NY-5 / Main St If you reach Kensington Ave, you've gone too far	



ENVIRONMENTAL ADVANTAGE, INC.		
<i>Regulatory Compliance – Site Investigations – Facility Inspections</i>		
MAP AND DIRECTIONS TO NEAREST HOSPITAL (SISTERS OF CHARITY HOSPITAL)		
2157 MAIN STREET BUFFALO, NEW YORK		
DRAWN BY: MS	SCALE: NOT TO SCALE	PROJECT: 01104
CHECKED BY: CMH	DATE: 11/2021	HASP FIGURE NO: 2

TABLES

**Table 1
Emergency Contact List**

Contact	Contact Information
Emergency Buffalo Police	911
Emergency Buffalo Fire/First Aid	911
Emergency Ambulance	911
National Response Center	(800) 424-8802
Poison Control Hotline	(800) 222-1222
Center for Disease Control	(800) 311-3435
Hospital Sisters of Charity Hospital 2157 Main Street, Buffalo, NY 14214	(716) 862-1000
NYSDOH Harolyn Hood Empire State Plaza Corning Tower Room 1787, Albany, NY 12237	Harolyn.Hood@health.ny.gov (518) 402-7860
NYSDEC Megan Kuczka 270 Michigan Avenue, Buffalo, NY 14203	Megan.Kuczka@dec.ny.gov (716) 851-7220
NYSDEC SPILL Hotline	(800) 457-7362
Environmental Advantage, Inc. Mark Hanna 3636 N. Buffalo Rd., Orchard Park, NY 14127	mhanna@envadvantage.com Office: (716) 667-3130 Cell: (716) 998-3130
166 Chandler Holdings, LLC Rocco Termini 391 Washington Street, Buffalo, NY 14203	rtermini@wnylofts.com (716) 842-1938

**Table 2
Hazard Characteristics of Potential Contaminants of Concern**

Potential / Previously Identified Contaminant	Potentially Impacted Media	Carcinogenicity / Symptoms of Acute Exposure	Occupational Exposure Values* ACGIH TLV OSHA PEL NIOSH IDLH
Chlorinated Organic Compounds	Soil, Groundwater	Exposure to the vapors of many chlorinated organic compounds such as vinyl chloride, tetrachloroethylene, 1,1,1-trichloroethane, trichloroethylene and 1,2-dichloroethylene and other chlorinated hydrocarbons may result in various symptoms including irritation of the eyes, nose and throat, drowsiness, dizziness, headache, blurred vision, uncoordination, mental confusion, flushed skin, tremors, nausea, vomiting, fatigue and cardiac arrhythmia. The liquid if splashed in the eyes, may cause burning irritation and damage. Repeated or prolonged skin contact with the liquid may cause dermatitis. Some of these compounds are considered to be potential human carcinogens.	Refer to 29 CFR 1910.1017 for exposure values
Polynuclear Aromatic Hydrocarbons (PAH's)	Soil, Groundwater	Many PAH's found in fuel oil and coal tar pitch volatiles (creosote) are confirmed human carcinogens. Symptoms include dermatitis and bronchitis.	Some PAH's have no established exposure values. Others considered coal tar pitch volatiles have an ACGIH TLV and OSHA PEL value of 0.2 mg/m ³ .
Mercury	Soil	Insufficient data from carcinogenic studies to classify substance as a potential carcinogen. Symptoms include irritation to eyes, skin; cough; chest pain; difficulty breathing; irritability; indecision; headache; fatigue; weakness; salivation.	PEL - 0.025 mg/m ³ (acceptable ceiling concentration); IDLH - 2 mg/m ³ ; TLV - 0.025 mg/m ³ (elemental/inorganic)

ACGIH TLV – American Conference of Governmental Industrial Hygienists Threshold Limit Value; Concentrations in ppm or mg/m³ based on an 8-hour TWA

OSHA PEL – Occupational Safety and Health Administration Permissible Exposure Limits; Concentrations are shown in parts per million (ppm) or milligrams per cubic meter (mg/m³) based on an 8-hour time weighted average (TWA)

NIOSH IDLH – National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health; Concentrations in ppm or mg/m³

OSHA STEL - Short Term Exposure Limit

COMMUNITY AIR MONITORING PLAN

BROWNFIELDS CLEANUP PROGRAM

For

166 Chandler Street
166 Chandler Street, Buffalo, New York
14207 BCP # C915320



Prepared For:
166 Chandler Holdings, LLC
391 Washington Street, Buffalo, New York 14203
WGS Project No: P18-104

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April 12, 2018



TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION.....	1
2.0 VOLATILE ORGANIC COMPOUND AIR MONITORING	1
3.0 PARTICULATE AIR MONITORING	2
4.0 DOCUMENTATION.....	3
5.0 WIND DIRECTION	3

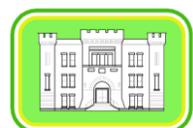
LIST OF FIGURES

Figure 1 Potential Air Monitoring Device Locations

LIST OF ATTACHMENTS

Attachment A NYSDEC DER-10 Appendix 1A, New York State Department of Health, Generic Community Air Monitoring Plan

Attachment B NYSDEC DER-10 Appendix 1B, Fugitive Dust and Particulate Monitoring



1.0 INTRODUCTION

This Community Air Monitoring Plan (CAMP) has been developed for the Remedial Investigation/Interim Remedial Measures/Alternatives Analysis Report (RI/IRM/AAR) Work Plan to be completed by Wittman GeoSciences (WGS), Hazard Evaluations, Inc. (HEI) and Schenne & Associates (S&A) for 166 Chandler Street at 166 Chandler Street, Buffalo, Erie County, New York, on behalf of 166 Chandler Holdings, LLC (Applicant) as part of the Brownfield Cleanup Program (BCP).

The CAMP requires real-time monitoring of volatile organic compounds (VOCs) and particulates (dust) at downwind perimeter of each designated work area. The CAMP will be implemented during the excavation and removal of soils from the courtyard and vacant lot areas of the subject site. This CAMP will be completed in general accordance with NYSDEC DER-10 Appendix 1A, as included in Attachment A. A figure showing proposed monitoring points is included as Figure 1.

2.0 VOLATILE ORGANIC COMPOUND AIR MONITORING

VOCs will be monitored at the downwind perimeter of the work area on a continuous basis and periodically during non-intrusive activities. VOC monitoring will be done using an organic vapor meter (OVM) equipped with a photoionization detector (PID) to provide real-time recordable air monitoring data.

VOCs will also be monitored and recorded at the downwind perimeter of the immediate work area(s). Upwind concentrations will be measured at the beginning of each day before activities begin and periodically throughout the day to establish background conditions. The downwind VOC monitoring device will also be checked periodically throughout the day to assess emissions and the need for corrective action. VOC monitoring action levels as per *DER-10 Technical Guidance for Site Investigations and Remediation* is 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 the organic vapor level at the perimeter of the work area 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 take 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 than that 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 shut down.

3.0 PARTICULATE AIR MONITORING

The remediation crew will make all efforts to suppress dust and particulate matter during the handling of contaminated soil. Fugitive dust and particulate monitoring will be completed in accordance with DER-10 Appendix 1B, as included in Attachment B. The following techniques have been shown to be effective for the controlling the generation and migration of dust during construction activities:

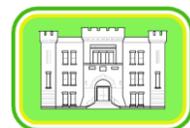
- (a) Applying water on haul roads;
- (b) Wetting equipment and excavation faces;
- (c) Spraying water on buckets during excavation and dumping;
- (d) Hauling materials in properly tarped or watertight containers;
- (e) Restricting vehicle speeds to 10 mph;
- (f) Covering excavated areas and material after excavation activity ceases; and/or
- (g) Reducing the excavation size and/or number of excavations.

Care will be taken not to use excess water, which can result in unacceptably wet site conditions. Use of atomizing sprays will prevent overly wet conditions, conserve water and provide an effective means of suppressing fugitive dust.

Weather conditions will be evaluated during remedial work. When extreme wind conditions make dust control ineffective, as a last resort, remedial actions may need to be suspended.

Dust and particulate monitoring will be conducted near approximate upwind and downwind perimeters of the work area, when possible. If visual evidence of dust is apparent in other locations, monitoring equipment will be placed where necessary. Dust monitoring may be suspended during period of precipitation and snow cover.

Particulate air monitoring will be done with a DataRAM-4 (or similar), which will be capable of reading particles less than 10 micrometers in size (PM-10) and equipped with an audible alarm feature which will indicate exceedances. Dust monitoring devices will be recorded periodically throughout the day to assess emissions and the need for corrective actions. Particulate monitoring action levels as per *DER-10 Technical Guidance for Site Investigations and Remediation* is as follows:



- If the downwind PM-10 particulate level is 100 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) greater than background 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 ($\mu\text{g}/\text{m}^3$) 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 ($\mu\text{g}/\text{m}^3$) 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 mcg/m³ of the upwind level and in preventing visible dust migration.

4.0 DOCUMENTATION

All 15-minute readings will be recorded and be available for or State (NYSDEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

5.0 WIND DIRECTION

Prevailing wind direction will be recorded at the beginning of each work day by visual observations of an on-site windsock. As wind direction may change throughout the work day, direction will be reestablished if a significant change in direction is observed. The wind direction results will be utilized to determine the placement of the monitoring equipment.



Figures



KEY



Down-wind site perimeter monitoring location stations



Up-wind site perimeter monitoring location stations



Site limits

WITTMAN GEOSCIENCES

POTENTIAL AIR MONITORING DEVICE LOCATIONS
166 CHANDLER STREET
BUFFALO, NEW YORK

DRAWN BY: GB

SCALE: NOT TO SCALE

PROJECT: 18-104

CHECKED BY: MW

DATE: 04/18

FIGURE NO: 1

Attachment A

**NYSDEC DER-10 Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan**

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent 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 contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical-specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

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

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

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

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and 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 or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities 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.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities 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.

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

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

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. 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.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) 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 $150 \text{ mcg}/\text{m}^3$ above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than $150 \text{ mcg}/\text{m}^3$ 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 $150 \text{ mcg}/\text{m}^3$ of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

Attachment B

**NYSDEC DER-10 Appendix 1B
Fugitive Dust and Particulate Monitoring**

Appendix 1B

Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.
2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.
3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:
 - (a) Objects to be measured: Dust, mists or aerosols;
 - (b) Measurement Ranges: 0.001 to 400 mg/m³ (1 to 400,000 :ug/m³);
 - (c) Precision (2-sigma) at constant temperature: +/- 10 :g/m³ for one second averaging; and +/- 1.5 g/m³ for sixty second averaging;
 - (d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
 - (e) Resolution: 0.1% of reading or 1g/m³, whichever is larger;
 - (f) Particle Size Range of Maximum Response: 0.1-10;
 - (g) Total Number of Data Points in Memory: 10,000;
 - (h) Logged Data: Each data point with average concentration, time/date and data point number
 - (i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
 - (j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
 - (k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
 - (l) Operating Temperature: -10 to 50° C (14 to 122° F);
 - (m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.
4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.
5. The action level will be established at 150 ug/m³ (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m³, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m³ above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m³ continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM₁₀ at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

- (a) Applying water on haul roads;
- (b) Wetting equipment and excavation faces;
- (c) Spraying water on buckets during excavation and dumping;
- (d) Hauling materials in properly tarped or watertight containers;
- (e) Restricting vehicle speeds to 10 mph;
- (f) Covering excavated areas and material after excavation activity ceases; and
- (g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m³ action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

Appendix 1C

DEC Permits Subject to Exemption

In accordance with section 1.10, exemptions from the following permit programs may be granted to the person responsible for conducting the remedial programs undertaken pursuant to section 1.2:

- Air - Title 5 permits
- Air - State permits
- Air - Registrations
- Ballast Discharge
- Chemical Control
- Coastal Erosion Hazard Areas
- Construction of Hazardous Waste Management Facilities
- Construction of Solid Waste Management Facilities
- Dams
- Excavation and Fill in Navigatable Waters (Article 15)
- Flood Hazard Area Development
- Freshwater Wetland
- Hazardous Waste
- Long Island Wells
- Mined Land Reclamation
- Navigation Law - Docks
- Navigation Law - Floating Objects
- Navigation Law - Marinas
- Non-Industrial Waste Transport
- Operation of Solid Waste Management Facilities
- Operation of Hazardous Waste Management Facilities
- State Pollution Discharge Elimination Systems (SPDES)
- Stream Disturbance
- Tidal Wetlands
- Water Quality Certification
- Water Supply
- Wild, Scenic and Recreational Rivers