INTERIM REMEDIAL MEASURE WORK PLAN
for
Petroleum Impacted Soil

BROWNFIELDS CLEANUP PROGRAM
For
140 Chandler Street, LLC
140 Chandler Street Site, Western Portion, 140 Chandler Street, Buffalo, New York 14207
BCP # C915354

Prepared For:
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WGS Project No: 19211

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April 23, 2020

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1.0 INTRODUCTION

1.1 Project Background

This Interim Remedial Measure (IRM) for Petroleum Impacted Soil Removal incorporates remedial activities summarized in a proposed scope of work (Work Plan) to be undertaken at the 140 Chandler Street Site located in the City of Buffalo, New York (Site). The Applicant, 140 Chandler Street, LLC, has been accepted into the Brownfield Cleanup Program (BCP) as a Volunteer.

This IRM Work Plan for Petroleum Impacted Soil Removal presents the planned interim remedial steps that will be implemented at the Site to address areas of petroleum impacted soil contamination recently identified at the site during building demolition work. Following the performance of this IRM, the results will be summarized in a Remedial Investigation, IRM, Alternative Analysis (RI/IRM/AA) Report, and included within the Final Engineering Report (FER) to be submitted to NYSDEC.

2.0 INITIAL INVESTIGATION FINDINGS

Two of the site buildings, identified as Buildings 2 and 3, were formerly utilized for mixing of petroleum products. As such, six mixing bins were present within the two buildings. The mixing bins were emptied, cleaned and temporarily staged on-site. The buildings also contained various containers and materials which were removed and disposed off-site. Additionally, asbestos abatement was completed and Buildings 2 and 3 were recently demolished.

Initial remedial investigation work was completed including completion of seven test pits, in order to collect landfill characterization samples for soil disposal. During test pit work, visual and olfactory indication of petroleum impacted soil was encountered at several locations. Due to impacts identified during initial work, further test pit work was completed. A total of 16 test pits were completed on-site, as well as six soil borings and installation of three monitoring wells. In general, petroleum impacts were identified approximately 1.5 to 4 feet below grade. Remedial investigation analytical soil samples were collected to further characterize the impacts and the site findings. A summary of site investigation location findings is included on Table 1, along with test pit and soil boring logs in Appendix A. Analytical testing results are summarized on Table 2 through 5, and investigation locations are included on Figure 1. In general, analytical results identified limited areas of semi-volatile organic compound (SVOC) and metals impacts exceeding planned commercial use soil clenaup objectives. However, visual and olfactory petroleum impacts were observed throughout many of the remedial investigation locations.

During building demolition work, the contractor started to excavate soil from along the eastern foundation wall. Contractor reported that a grossly impacted black oily silty material was present in the excavation. In order to not spread the impacted material, further foundation removal work was temporarily halted in order to evaluate potential soil and remedial options. Due to the presence of petroleum impact present in several on-site locations, IRM wok is needed to immediately address the concern.

3.0 INTERIM REMEDIAL MEASURES

An IRM will be completed to excavate the petroleum impacted soil for off-site disposal. Due to visual and olfactory petroleum impact, the site cleanup goals is anticipated to be altered to more restrictive unrestricted use soil cleanup objective (UUSCO).

3.1 IRM Tasks

The petroleum impacted soil is both visually and olfactory impacted and appears to be present in a throughout much of the site, approximately 1.5 to 4 feet below grade. Therefore, general excavation and removal of impacted soil/fill materials will be completed to remove the petroleum impacted soil. As the visually and olfactory impacted soil (i.e. staining and/or odor present) was present throughout the site, the soil excavation limits are anticipated to extend to the property limits and/or building foundation, as shown on Figure 2. Currently, approximately 2,800 cubic yards or 4,200-tons of petroleum impacted soil is anticipated to be removed from the site for off-site disposal.

Additionally, during soil sampling activities, one interior location was found to have soil impacts present at concentrations above UUSCO. Remedial work will also include removal soil from this, also shown on Figure 2. An additional 20 cubic yards or 30 tons of soil will be removed for off-site disposal.

The site work was under and extremely strict timeframe for the required for planned construction timing and activities. Therefore, IRM work was initially started on March 9, 2020.

Excavated soil will be directly loaded in a dump truck and disposed at Modern Landfill located in Youngstown, New York.

3.2 Landfill Characterization Analysis and Soil Disposal

Landfill characterization samples were collected during test pit work. The selected characterization analysis were determined based on solid waste landfill requirements, which is Modern Landfill in Youngstown, New York, and included toxicity characteristic leaching procedures (TLCP) VOCs, TCLP SVOCs, TCLP Metals, PCBs, pesticides, herbicides, ignitability, corrosivity, and reactivity. The soil will be disposed based on analytical testing results, and in accordance with applicable State disposal regulations.

3.3 Site Control

To safeguard the health and safety of Site workers and the general public, access to remedial work areas will be restricted. Prior to implementation of these IRM activities, Site control will be completed by establishment of a demarcation identifying work areas. Temporary construction fencing may be erected around staging areas to prevent unauthorized personnel from entering these areas as appropriate.

3.4 Soil Excavation

As discussed above, the current extent of impacted soil is not known, but due to planned site development activities, the IRM work must be completed immediately. An environmental scientist or geologist will be on-site during excavation to screen the removed soil/fill materials for

visual and olfactory observations and for total volatile compounds using an organic vapor meter (OVM) equipped with a photoionization detector (PID). Based on landfill discussions and approvals, grossly impacted soil may be segregated from visually and olfactory impacted soil.

Soil excavations will remain open allowing for NYSDEC inspection and possibly, until receipt of confirmation soil sample results, depending on planned development timing and activities.

3.5 Confirmatory Soil Sample Collection and Analysis

Confirmatory soil samples will be collected from the sidewalls and bottom of the excavation, in accordance with DER-10 requirements. One sample will be collected every 30 linear feet of sidewall and one sample for every 900 square feet of excavation bottom, as listed below.

- approximately 600 linear feet of sidewall, resulting in 20 sidewall samples
- 18,600 square feet of bottom, resulting in 21 bottom samples

Additionally, one bottom and four sidewall samples will be collected from the interior excavation area.

The number of confirmation samples may be reduced based on field conditions, and agreed upon by NYSDEC representative. Based on known contamination, it is anticipated that sidewall and bottom samples will be analyzed for TCL SVOCs and TAL Metals. Additionally, 10 sidewall and 10 bottom samples (or 50%) will also be analyzed for TCL VOC and PCBs; and 5 sidewall and 5 bottom samples (or 25%) will be analyzed for pesticides, herbicides, 1,4-dioxane, and polyfluoroalkyl substances (PFAS). A summary of expected samples is included on Table 1.

3.6 Excavation Backfill

The western portion of the Site will be developed for commercial usage to include a pool as well concrete decking, and the entire property will be covered by impermeable surface. Following soil excavation, the area will be backfilled with appropriate structural fill, as required for construction purposes. The backfill will be approved material in accordance with DER1- and tested, if required.

3.7 Excavation Water Treatment and Disposal

Although the grossly impacted soil may have petroleum product intermixed within the soil, the soil excavation work is anticipated to be above the water table. Due to the shallow depth of expected excavations to be into the native clay, groundwater is not anticipated to be encountered during excavation activities. However, should groundwater management be required, work on the Site will cease and a groundwater management plan developed.

3.8 Personnel Decontamination

The degree of decontamination is a function of both the particular task and the physical environment in which it takes place. Decontamination procedures will remain flexible, thereby allowing the decontamination crew to respond appropriately to changing conditions at the Site.

On-Site sampling activities will be carried out in such a manner as to avoid gross contamination of Site workers and their personal protective equipment and manual sampling equipment.

Upon the completion of the daily field activities, Site workers will proceed to a designated area to be determined. Equipment (e.g., sampling tools, shovels, hand 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 grossly contaminated, disposable boot covers, gloves, and suits, if utilized, will be removed and placed in a drum designated for the disposal of these materials.

Contaminated PPE and disposable sampling equipment and tools (e.g., gloves, clothing, sample sleeves, whirl-packs, etc.) that have been accumulated in a drum will be staged for proper disposal. This drum will be removed from the Site at the end of the IRM activities.

All fluids collected during equipment decontamination will be containerized with the drum(s) being labeled and staged for proper disposal. The drum(s) will be removed from the Site at the end of the IRM activities.

3.9 Decontamination of Equipment

Equipment decontamination efforts will be completed prior to equipment leaving the Site. Trucks and equipment leaving the Site will be broom-cleaned to remove clumped soil and prevent soil tracking off-Site. Standard construction protocols will be utilized, including on-Site designated truck pattern and periodic sweeping of the construction exit areas. Adjacent roads in the designated truck route will be inspected daily to ensure the prevention of soil migration. Roads that have any soil accumulation will be manually scrapped to reduce fugitive dust emissions. On-Site stone haul roads may be constructed as necessary to reduce the amount of soils tracked on the Site.

The decontamination of excavator or other heavy equipment will be undertaken as necessary. Initially, scraping of the equipment will remove heavily caked materials prior to washing, as necessary. Washing will then be accomplished by pressure washing, as needed. Water generated during decontamination activities will be collected, stored in one or more drums, as necessary, and profiled for future off-Site disposal. However, the use of water to clean equipment will be avoided, if possible, to prevent the generation of potentially impacted water.

3.10 Erosion and Stormwater Management

As part of the IRM activities, measures may be needed to limit erosion and manage stormwater. Erosion control and stormwater management will be implemented as needed to limit erosion in disturbed areas during excavation activities. Silt fencing will be the primary sediment control measure used in this area, if deemed necessary. The positioning of the silt fencing will be adjusted as necessary as work proceeds or Site conditions change. Silt fences will be maintained as deemed necessary, and will remain in place until excavation and grading activities are completed.

3.11 Dust Monitoring and Controls

A Community Air Monitoring Plan (CAMP) will be implemented during IRM activities and will include particulate monitoring (Appendix A). CAMP monitors will be positioned at upwind and downwind locations on the perimeter of the Site.

The remediation crew will make all efforts to suppress dust and particulate matter during the handling of contaminated fill materials. Fugitive dust and particulate monitoring will be completed in accordance with DER-10 Appendix 1B. 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.

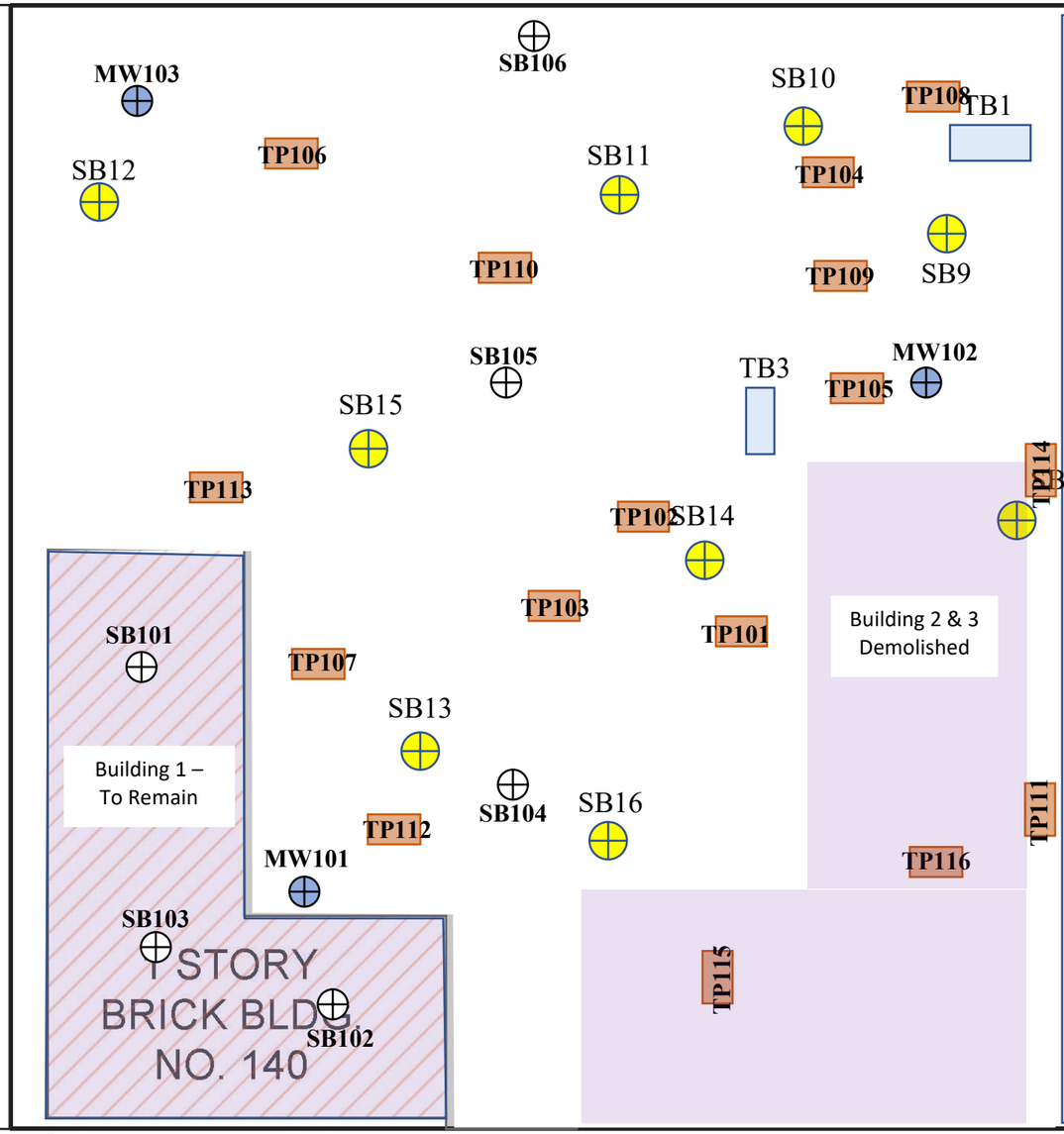
4.0 REPORTING

Upon completion of the field work and receipt of analytical data, the IRM soil excavation work will be summarized in an RI/IRM/AA Report will be submitted to NYSDEC. The report will document field work activities, results of confirmatory analytical sampling results, and contain associated figures, tables, and disposal manifests. The results of the IRM activities will also be included within the FER.

5.0 PROJECT SCHEDULE

The IRM excavation work started on Monday March 9, 2020, continuing until removal of visual and olfactory impacted soil is completed.

FIGURES



Location	Impact Present	OVM (ppm)	Staining (ft)
TP101	staining	1.5	1.5 - 4
TP102	staining	1.5	1.5-3
TP103	staining, odor, limited product	5	1.5-4
TP104	no	1	-
TP105	black oily material; cinders	28	0-2
TP106	no	ND	-
TP107	staining, odor, product	5	3-4
TP108	staining, odor, product	ND	1.5-4
TP109	staining, odor	ND	3-4
TP110	staining, odor	0.8	3-4
TP111	staining, odor	2.5	1.5-2.5
TP112	staining	0.5	1-3
TP113	staining	ND	2-3
TP114	staining, odor, cinders	12	1-3
TP115	odor, cinders	45	1-2
TP116	staining, odor, product	22	1.5-3'

= Soil Boring Location (5/19)

= Geoprobe Location – 12 foot depth

= Test Pit Location

= Test Pit Location (5/19)

= Monitoring Well Location

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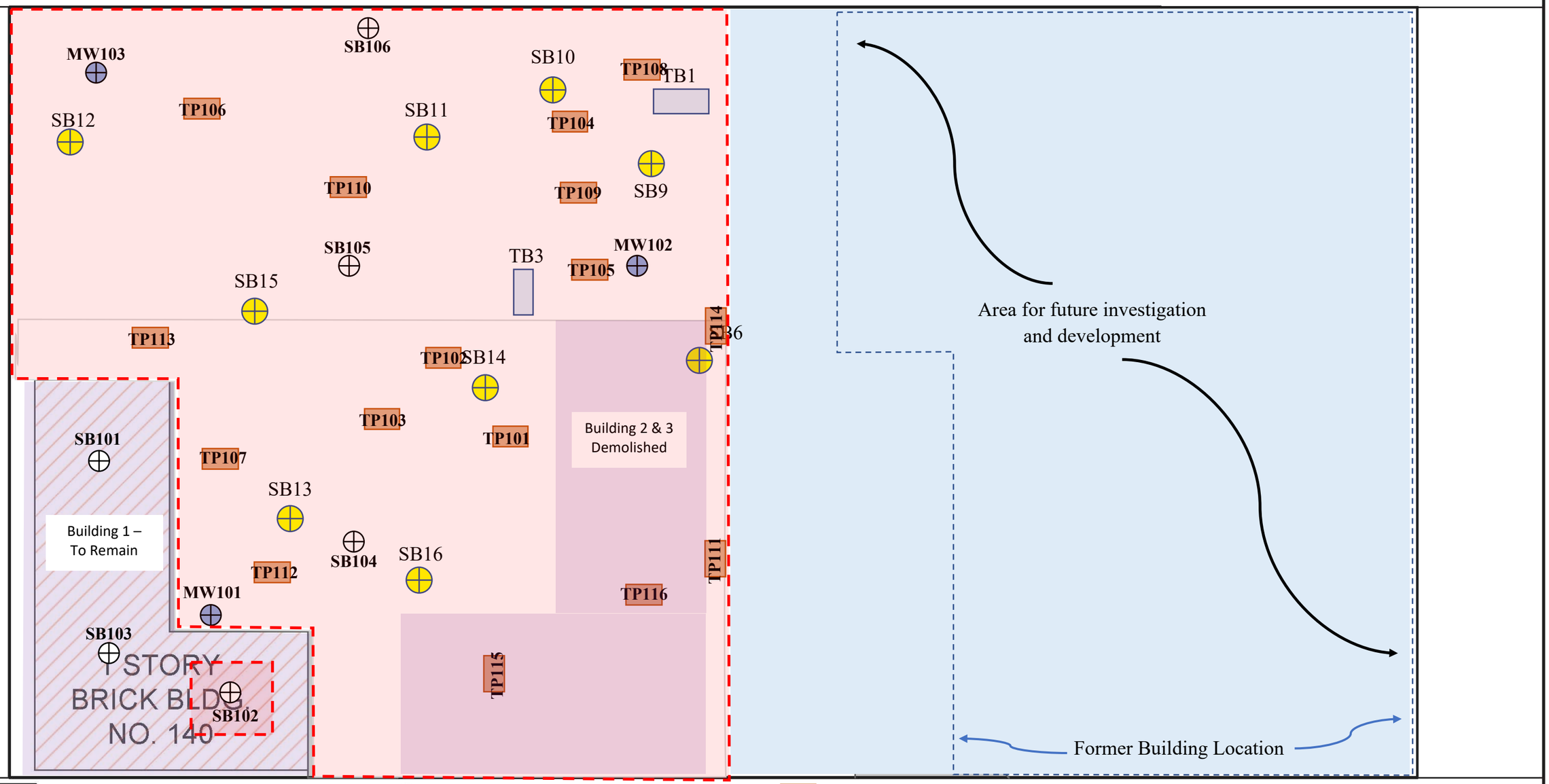
SCALE IN FEET: 1" =20'

0 20

TITLE: Investigation Locations Test Pits Staining/Odor	PROJECT NAME / LOCATION: 140 CHANDLER STREET BUFFALO, NEW YORK	DATE: 03/202	FIGURE: 1
		PROJECT NO.: 19211	DRAWN BY: CMC
			CHECKED BY: MMW



= Soil Boring Location (5/19)

= Test Pit Location (5/19)

= Geoprobe Location

= Monitoring Well Location

= Test Pit Location

= Proposed IRM Excavation Area

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SCALE IN FEET: 1" =20'

0 20

TITLE: IRM Soil Excavation Areas	PROJECT NAME / LOCATION: 140 CHANDLER STREET BUFFALO, NEW YORK	DATE: 04/2020	FIGURE: 2
		PROJECT NO.: 19211	DRAWN BY: CMC
			CHECKED BY: MMW

TABLES

Table 1
Summary of Soil Investigation Findings
140 Chandler Street, Buffalo, NY

Location	Fill Depth (ft)	Debris Present	Evidence of Impact Present	OVM reading (ppm)	Staining Depth (ft)	Clay Depth (ft)	Comments
TP101	0-4	No	staining	1.5	1.5 - 4	6	
TP102	0-6	Concrete	staining	1.5	1.5-3	6	Boulder size concrete from 2-6'; east wall appeared to be concrete footer wall
TP103	0-4	No	staining, odor, limited product	5	1.5-4	4	stained petroleum 1-3'; limited product 3-3.5'
TP104	0-4	No	no	1	-	5	
TP105	0-2 - refusal	No	black oily material; cinders	28	0-2	-	refusal at 2'; black oily material along concrete pad
TP106	0-3.5	No	no	ND	-	3.5	some cinders in fill
TP107	0-4	No	staining, odor, product	5	3-4	4	petro layer 3-4 feet; similar to TP103
TP108	0-4.5	Yes	staining, odor, product	ND	1.5-4	4.5	Discolored layer from 1.5-3'. Petro staining and odor
TP109	0-4.5	No	staining, odor	ND	3-4	4.5	3'bg - pipe found; stained soil below pipe
TP110	0-4	No	staining, odor	0.8	3-4	4	staining and odor at 3-4 fbg
TP111	0-2.5	Yes	staining, odor	2.5	1.5-2.5	refusal at 2.5	Pipe at 0.5' and drain tile at 1.5'. Staining and odor at drain tile; sheen on perched groundwater in pit
TP112	0-3	No	staining	0.5	1-3	3	staining at 1-3'
TP113	0-3	No	staining	ND	2-3	3	staining 2-3'
TP114	0-3	Yes	staining, odor, cinders	12	1-3	3	staning and odor present
TP115	0-2	Yes	odor, cinders	45	1-2	2	odor present
TP116	0-3.5	Yes	staining, odor, product	22	1.5-3'	3.5	odor , staining, limited product present. Drain tile at 3.5'
SB101	0-4	No	No	5	-	4	
SB102	0-2.5	No	No	1.2	-	2.5	
SB103	0-3	No	No	ND	-	3	
SB104	0-4	Concrete, cinders	No	3.5	-	4	cinders, concrete 2-3 ft
SB105	0-4	Brick	No	3.5	-	4	trace brick 1.5-3 ft.
SB106	0-5.5	Concrete	No	5	-	5.5	concrete 0-3 ft
MW101	0-3	No	No	ND	-	3	
MW102	0-4	Concrete, Brick	No	ND	-	4	concrete 1.5-4
MW103	0-4.5	Cinders	No	ND	-	4.5	cinders 1.5-3 ft.

Table 2 - BCP #C91554
Remedial Investigation - Western Portion of 140 Chandler Street, Buffalo, NY
Soil Analytical Testing Results

LOCATION	UUSCO	RRUSCO	CUSCO	IUSCO	TP102 (1.5-5')	TP103 (1.5-4')	TP103 (1.5-4') DUPLICATE	TP103 (4-7')	TP105 (1.5-2')	SB101 (0.5-3')	SB101 (0.5-3') DUPLICATE	SB102 (3-7')	SB104 (0.5-4')	SB104 (0.5-4')	SB106 (0.5-4')	MW-103 (1-3')	TP 108 (1.5-4')	TP 108 (1.5-4') DUPLICATE	MW-103 (1-3)	TP114 (0.5-3')	TP113 (1-3')	TP115 (1-2')	TP115 (2-5')	TP116 (1.5-4.5')
SAMPLING DATE					1/10/2020	1/10/2020	1/10/2020	1/10/2020	1/10/2020	2/18/2020	2/18/2020	2/18/2020	2/18/2020	2/18/2020	2/18/2020	2/19/2020	3/3/2020	3/3/2020	3/3/2020	3/4/2020	3/4/2020	3/4/2020	3/4/2020	3/4/2020
LAB SAMPLE ID					L2001326-01	L2001326-02	L2001326-03	L2001326-04	L2001326-05	L2007501-01	L2007501-02	L2007501-03	L2007501-04	L2007501-04 R1	L2007501-05	L2007501-06	L2009509-01	L2009509-02	L2009767-01	L2009767-02	L2009767-03	L2009767-04	L2009767-05	L2009767-06
Volatile Organics by EPA 5035 (mg/kg)																								
1,1-Dichloroethane	0.27	26	240	480	0.00089 U	0.06 U	0.058 U	0.00091 U	0.085 U	0.00099 U	0.00089 U	0.00079 U	0.051 U	NT	0.00088 U	0.0015 U	0.0012 U	0.00092 U	NT	0.044 J	0.0012 U	0.078 U	0.00083 U	0.064 U
Benzene	0.06	4.8	44	89	0.00066	0.03 U	0.029 U	0.00046 U	0.042 U	0.0005 U	0.00044 U	0.00039 U	0.026 U	NT	0.00044 U	0.00073 U	0.00059 U	0.00046 U	NT	0.032 J	0.00062 U	0.023 J	0.00041 U	0.032 U
Toluene	0.7	100	500	1000	0.00081 J	0.078	0.046 J	0.00091 U	0.68	0.00099 U	0.00089 U	0.00079 U	0.051 U	NT	0.00088 U	0.0015 U	0.0012 U	0.00092 U	NT	0.17	0.0012 U	0.078 U	0.00083 U	0.064 U
Ethylbenzene	1	41	390	780	0.00015 J	0.022 J	0.019 J	0.00091 U	0.043 J	0.00046 J	0.00019 J	0.00079 U	0.0096 J	NT	0.00088 U	0.0015 U	0.0012 U	0.00092 U	NT	0.085	0.00019 J	0.012 J	0.00083 U	0.064 U
1,2-Dichlorobenzene	1.1	100	500	1000	0.0018 U	0.12 U	0.12 U	0.0018 U	0.17 U	0.002 U	0.0018 U	0.0016 U	0.1 U	NT	0.0018 U	0.0029 U	0.0024 U	0.0018 U	NT	0.86	0.0025 U	0.16 U	0.0016 U	0.13 U
1,3-Dichlorobenzene	2.4	49	280	560	0.0018 U	0.12 U	0.12 U	0.0018 U	0.17 U	0.002 U	0.0018 U	0.0016 U	0.1 U	NT	0.0018 U	0.0029 U	0.0024 U	0.0018 U	NT	0.094 J	0.0025 U	0.16 U	0.0016 U	0.13 U
1,4-Dichlorobenzene	1.8	13	130	250	0.0018 U	0.12 U	0.12 U	0.0018 U	0.17 U	0.002 U	0.0018 U	0.0016 U	0.1 U	NT	0.0018 U	0.0029 U	0.0024 U	0.0018 U	NT	0.11 J	0.0025 U	0.16 U	0.0016 U	0.13 U
Methyl tert butyl ether	0.93	100	500	1000	0.00038 J	0.12 U	0.12 U	0.0018 U	0.17 U	0.002 U	0.0018 U	0.00029 J	0.1 U	NT	0.0018 U	0.0029 U	0.0024 U	0.0018 U	NT	0.15 U	0.0025 U	0.16 U	0.0016 U	0.13 U
p/m-Xylene	0.26	100	500	1000	0.00062 J	0.066 J	0.052 J	0.0018 U	0.19	0.0006 J	0.0018 U	0.0016 U	0.031 J	NT	0.0018 U	0.0029 U	0.0024 U	0.0018 U	NT	0.33	0.00074 J	0.087 J	0.0016 U	0.13 U
o-Xylene	0.26	100	500	1000	0.00048 J	0.064	0.052 J	0.00091 U	0.15	0.00044 J	0.00071 J	0.00079 U	0.051 U	NT	0.00088 U	0.0015 U	0.0012 U	0.00092 U	NT	0.24	0.0012 U	0.097	0.00083 U	0.064 U
Acetone	0.05	100	500	1000	0.046	0.6 U	0.58 U	0.022	0.85 U	0.034	0.02	0.061	0.51 U	NT	0.011	0.059	0.18	0.46 E	NT	0.59 J	0.15	0.52 J	0.012	0.5 J
2-Butanone	0.12	100	500	1000	0.0042 J	0.6 U	0.58 U	0.0091 U	0.85 U	0.0099 U	0.0089 U	0.0079 U	0.51 U	NT	0.0088 U	0.011 J	0.029	0.014	NT	0.74 U	0.024	0.78 U	0.0083 U	0.64 U
Isopropylbenzene	NV	NV	NV	NV	0.00089 U	0.019 J	0.019 J	0.00091 U	0.029 J	0.00021 J	0.00032 J	0.00079 U	0.051 U	NT	0.00088 U	0.0015 U	0.0012 U	0.00092 U	NT	0.055 J	0.00013 J	0.013 J	0.00083 U	0.048 J
1,2,3-Trichlorobenzene	NV	NV	NV	NV	0.0018 U	0.12 U	0.12 U	0.0018 U	0.17 U	0.002 U	0.0018 U	0.0016 U	0.1 U	NT	0.0018 U	0.0029 U	0.0024 U	0.0018 U	NT	0.045 J	0.0025 U	0.16 U	0.0016 U	0.13 U
1,2,4-Trichlorobenzene	NV	NV	NV	NV	0.0018 U	0.12 U	0.12 U	0.0018 U	0.17 U	0.002 U	0.0018 U	0.0016 U	0.1 U	NT	0.0018 U	0.0029 U	0.0024 U	0.0018 U	NT	0.09 J	0.0025 U	0.16 U	0.0016 U	0.13 U
Methyl Acetate	NV	NV	NV	NV	0.0035 U	0.27	0.27	0.0036 U	0.28 J	0.004 U	0.0036 U	0.0032 U	4.6	NT	0.0035 U	0.0059 U	0.0047 U	0.46 U	NT	0.31	0.0049 U	0.28 J	0.0033 U	0.11 J
Cyclohexane	NV	NV	NV	NV	0.0023 J	0.064 J	0.054 J	0.0091 U	0.85 U	0.0099 U	0.0089 U	0.0079 U	0.11 J	NT	0.0024 J	0.015 U	0.0038 J	0.043 J	NT	0.054 J	0.012 U	0.046 J	0.0083 U	0.64 U
Methyl cyclohexane	NV	NV	NV	NV	0.005	0.19 J	0.14 J	0.0036 U	0.087 J	0.004 U	0.0036 U	0.0032 U	0.35	NT	0.0021 J	0.0059 U	0.0041 J	0.087 J	NT	0.18 J	0.0049 U	0.11 J	0.0033 U	0.19 J
Semivolatile Organics by GC/MS (mg/kg)																								
Acenaphthene	20	100	500	1000	0.042 J	0.082 J	0.12 J	0.15 U	0.94 U	0.03 J	0.039 J	0.16 U	0.026 J	0.78 U	0.062 J	2.9	0.14 J	0.07 J	NT	0.85 U	0.048 J	0.085 J	0.16 U	0.12 J
Fluoranthene	100	100	500	1000	0.88	0.69	1.1	0.11 U	0.71 U	0.059 J	0.13	0.056 J	0.73	1.3	0.54	21	5.2	1.5	NT	0.63 J	1	1.7	0.12 U	1.1
Isophorone	NV	NV	NV	NV	0.18 U	0.054 J	0.35 U	0.17 U	1.1 U	0.18 U	0.17 U	0.18 U	0.17 U	0.88 U	0.17 U	2 U	0.18 U	0.18 U	NT	0.95 U	0.21 U	0.17 U	0.18 U	0.18 U
Naphthalene	12	100	500	1000	0.2 U	0.12 J	0.13 J	0.19 U	0.49 J	0.2	0.25	0.2 U	0.19 U	0.98 U	0.53	9	0.12 J	0.1 J	NT	0.44 J	0.06 J	0.2	0.2 U	0.062 J
Butyl benzyl phthalate					0.2 U	0.38 U	0.39 U	0.19 U	1.2 U	0.2 U	0.19 U	0.2 U	0.17 J	0.98 U	0.19 U	2.2 U	0.2 U	0.2 U	NT	1 U	0.23 U	0.19 U	0.2 U	0.2 U
Benzo(a)anthracene	1	1	5.6	11	0.36	0.39	0.59	0.11 U	0.62 J	0.035 J	0.075 J	0.03 J	0.31	0.46 J	0.35	14	2.4	0.76	NT	0.35 J	0.67	1	0.12 U	0.38
Benzo(a)pyrene	1	1	1	1.1	0.29	0.29 J	0.48	0.15 U	0.42 J	0.16 U	0.075 J	0.16 U	0.33	0.51 J	0.44	18	2.8	0.72	NT	0.33 J	0.58	0.95	0.16 U	0.3
Benzo(b)fluoranthene	1	1	5.6	11	0.45	0.45	0.63	0.11 U	0.61 J	0.04 J	0.099 J	0.12 U	0.5	0.71	0.54	24	3.8	1.1	NT	0.47 J	0.87	1.4	0.12 U	0.46
Benzo(k)fluoranthene	0.8	3.9	56	110	0.11 J	0.12 J	0.24	0.11 U	0.25 J	0.12 U	0.038 J	0.12 U	0.14	0.25 J	0.17	6.8	1.2	0.28	NT	0.64 U	0.19	0.32	0.12 U	0.14
Chrysene	1	3.9	56	110	0.34	0.36	0.55	0.11 U	0.65 J	0.03 J	0.071 J	0.025 J	0.34	0.58 J	0.42	15	2.7	0.78	NT	0.4 J	0.71	0.99	0.12 U	0.39
Acenaphthylene	100	100	500	1000	0.16 U	0.3 U	0.062 J	0.15 U	0.94 U	0.16 U	0.15 U	0.16 U	0.15 U	0.78 U	0.15 U	0.74 J	0.093 J	0.1 J	NT	0.85 U	0.044 J	0.11 J	0.16 U	0.16 U
Anthracene	100	100	500	1000	0.1 J	0.13 J	0.24	0.11 U	0.71 U	0.12 U	0.11 U	0.12 U	0.06 J	0.59 U	0.071 J	4.2	0.48	0.42	NT	0.64 U	0.15	0.22	0.12 U	0.18
Benzo(ghi)perylene	100	100	500	1000	0.21	0.24 J	0.38	0.15 U	0.32 J	0.16 U	0.05 J	0.16 U	0.18	0.35 J	0.32	12	1.5	0.46	NT	0.3 J	0.33	0.53	0.16 U	0.18
Fluorene	30	100	500	1000	0.056 J	0.15 J	0.22 J	0.19 U	0.31 J	0.02 J	0.028 J	0.2 U	0.035 J	0.98 U	0.099 J	2.5	0.24	0.11 J	NT	0.15 J	0.05 J	0.083 J	0.2 U	0.2
Phenanthrene	100	100	500	1000	0.53	0.47	0.84	0.11 U	0.71 U	0.049 J	0.096 J	0.039 J	0.36	0.74	0.54	16	2.3	0.94	NT	0.48 J	0.54	0.92	0.12 U	1.2
Dibenzo(a,h)anthracene	0.33	0.33	0.56	1.1	0.051 J	0.054 J	0.094 J	0.11 U	0.71 U	0.12 U	0.11 U	0.12 U	0.045 J	0.59 U	0.078 J	2.9	0.4	0.1 J	NT	0.64 U	0.082 J	0.14	0.12 U	0.038 J
Indeno(1,2,3-cd)pyrene	0.5	0.5	5.6	11	0.24	0.25 J	0.4	0.15 U	0.34 J	0.16 U	0.054 J	0.16 U	0.2	0.38 J	0.3	13	1.7	0.49	NT	0.27 J	0.35	0.6	0.16 U	0.2
Pyrene	100	100	500	1000	0.68	0.62	0.97	0.11 U	1.2	0.05 J	0.12	0.048 J	0.59	1	0.55	19	4.6	1.3	NT	0.65	1.2	1.4	0.12 U	0.81
Biphenyl	NV	NV	NV	NV	0.45 U	0.87 U	0.88 U	0.43 U	2.7 U	0.46 U	0.43 U	0.45 U	0.44 U	2.2 U	0.087 J	0.99 J	0.47 U	0.45 U	NT	2.4 U	0.53 U	0.44 U	0.45 U	0.47 U
Dibenzofuran	7	59	350	1000	0.025 J	0.38 U	0.11 J	0.19 U	1.2 U	0.2 U	0.19 U	0.2 U	0.019 J	0.98 U	0.15 J	2.3	0.12 J	0.072 J	NT	0.12 J	0.03 J	0.065 J	0.2 U	0.099 J
2-Methylnaphthalene	NV	NV	NV	NV	0.24 U	0.23 J	0.21 J	0.23 U	0.28 J	0.08 J	0.097 J	0.24 U	0.23 U	1.2 U	0.82	4	0.082 J	0.078 J	NT	0.5 J	0.035 J	0.15 J	0.24 U	0.25
2,4-Dimethylphenol	NV	NV	NV	NV	0.2 U	0.38 U	0.39 U	0.19 U	1.2 U	0.2 U	0.19 U	0.2 U	0.19 U	0.98 U	0.19 U	2.2 U	0.2 U	0.2 U	NT	1 U	0.23 U	0.19	0.2 U	0.2 U
3-Methylphenol/4-Methylphenol	NV	NV	NV	NV	0.29 U	0.55 U	0.56 U	0.27 U	1.7 U	0.29 U	0.27 U	0.28 U	0.28 U	1.4 U	0.091 J	0.49 J	0.032 J	0.28 U	NT	1.5 U	0.33 U	0.12 J	0.28 U	0.3 U
Carbazole	NV	NV	NV	NV	0.097 J	0.38 U	0.11 J	0.19 U	1.2 U	0.2 U	0.19 U	0.2 U	0.059 J	0.1 J	0.048 J	2.4	0.44	0.14 J	NT	1 U	0.058 J	0.1 J	0.2 U	0.16 J
Total Metals (mg/kg)																								
Aluminum, Total	NV	NV	NV	NV	5570	4510	5780	7030	6990	6930	10300	7280	7880	NT	5720	3430	7900	7990	NT	8790	11400	7820	12200	12200
Antimony, Total	NV	NV	NV	NV	4.61 U	4.55 U	4.44 U	4.59 U	0.909 J	3.11 U	3.48 U	3.16 U	3.83 U	NT	0.565 J	5.02	4.83 U	4.74 U	NT	2.6 J	5.43 U	4.49 U	4.72 U	4.77 U
Arsenic, Total	13	16	16	16	4.75	9.35	6.31	2.86	8.18	2.39	3.35	3.98	2.08	NT	4.43	12.8	7.6	5.46	NT	11.5	4.12	10	5.59	5.04
Barium, Total	350	400	400	10000	47.7	64.3	50.2	80.4	213	58	84.1	44.7	46.7	NT	67.7	69.5	82	77.9	NT	184	95.4	91.4	110	110
Beryllium, Total	7.2	72	590	2700	0.433 J	0.273 J	0.328 J	0.239 J	0.471 J	0.385	0.92	0.335	1.91	NT	0.351 J	0.294 J	0.386 J	0.379 J	NT	0.777	0.564	0.449	0.585	0.592
Cadmium, Total	2.5	4.3	9.3	60	1.01	0.764 J	0.923	0.863 J	1.66	0.286 J	0.404 J	0.322 J	0.766 U	NT	0.394 J	2.02	0.656 J	0.53 J	NT	3.32	0.358 J	1.01	0.396 J	0.468 J
Calcium, Total	NV	NV	NV	NV	42400	137000	40500	59500	14500	17300	18600	68700	81300	NT	43900	12800	30100	30800	NT	12100	55900	16700	63500	63800
Chromium, Total	NV	NV	NV	NV	12	42.3	21.8	12.5	18.2	8.82	14.4	13	6.22	NT	97.4	22.3	15.9	14.9	NT	25.6	15.1	16.8	20.4	20.6
Cobalt, Total	NV	NV	NV	NV	5.54	3.58	5.26	7.94	5.81	2.36	16.4	8.29	0.804 J	NT	5.92	6.38	7.09	6.25	NT	8.63	3.1	4.68	10.9	11
Copper, Total	50	270	270	10000	20.4	17.8	21.1	16.6	43.1	13.8	16.6	16.6	1.55	NT	22.4	100	34.5	19.5	NT	127	13.1	65.7	19.8	22.3
Iron, Total	NV	NV	NV	NV	12000	11600	13500	15900	19800	10600	18500	15100	2810	NT	14800	21200	21800	17200	NT	29400	12300	16800	21300	21200
Lead, Total	63	400	1000	3900	39.7	29.3	28	8.82	104	11.6	10.3	8.87	2.18 J	NT	26.9	159	62.1	36.2	NT	830	30.6	100	12.1	19.9
Magnesium, Total	NV	NV	NV	NV	7910	6790	9540	13300	3970	7360	8540	13900	11700	NT	8600	2210	8020	5960	NT	4940	19200	4880	14200	16200
Manganese, Total	1600	2000	10000	10000	384	1100	341	381	389	134	176	656	1810	NT	308	213	451	473	NT	533	251	383	550	541
Mercury, Total	0.18	0.81	2.8	5.7	0.082 U	0.084 U	0.08 U	0.092 U	0.109 U	0.055 J	0.073 U	0.075 U	0.075 U	NT	0.08	0.355	0.102	0.061 J	NT	0.423	0.098 J	0.166	0.095 U	0.085 U
Nickel, Total	30	310	310	10000	15.6	9.68	15.5	17	13	5.98	15.3	15.8	2.1	NT	15.4	21.2	15.5	12	NT	22.6	9.51	10.2	24	24.6
Potassium, Total	NV	NV	NV	NV	517	380	472	827	654	775	933	887	565	NT	672	292	822	700	NT	749	1240	878	1460	1420
Selenium, Total	3.9	180	1500	6800	1.84 U	1.82 U	1.77 U	1.84 U	2.19 U	0.683 J	1.03 J	0.689 J	1.61	NT	1.01 J	2.32	0.376 J	0.407 J	NT	1.97 U	2.17 U	0.62 J	1.89 U	1.91 U
Sodium, Total	NV	NV	NV	NV	189	189	178	136 J	77.9 J	198	106 J	168 J	224	NT	105 J	126 J	119 J	101 J	NT	106 J	275	160 J	184 J	270
Thallium, Total	NV	NV	NV	NV	1.84 U	1.82 U	1.77 U	1.84 U	2.19 U	1.24 U	1.39 U	1.26 U	2.22	NT	1.71 U	1.68 U	1.93 U	0.445 J	NT	1.97 U	2.17 U	1.8 U	1.89 U	1.91 U
Vanadium, Total	NV	NV	NV	NV	11.6	18.1	13.2	16.7	21.9	14.1	19.2	17.4	3.3	NT	13	18.1	20.3	19.6	NT	34.9	17.4	24.8	26.8	26.3
Zinc, Total	109	10000	10000	10000	92.7	83.2	73.4	50.8	286	43.5	62.5	49.3	4.48	NT	60.4	496	107	90	NT	298	70.5	215	64.4	81.2
Polychlorinated Biphenyls by GC (mg/kg)																								
Aroclor 1248	0.1	1	1	25	0.00941 J	0.00749 J	0.0201 J	0.0377 U	0.0455 U	0.0411 U	0.0377 U	0.038 U	NT	NT	NT	NT	0.04 U	0.0386 U	0.05 U	0.042 U	0.0452 U	0.0378 U	0.039 U	0.0407 U
Aroclor 1254	0.1	1	1	25	0.0161 J	0.00965 J	0.0255 J	0.0377 U	0.216	0.0411 U	0.0377 U	0.038 U	NT	NT	NT	NT	0.0103 J	0.00764 J	0.05 U	0.042 U	0.0144 J	0.0378 U	0.039 U	0.0407 U
Aroclor 1260	0.1	1	1	25	0.0106 J	0.039 U	0.0376 U	0.0377 U	0.0455 U	0.0411 U	0.0377 U	0.038 U	NT	NT	NT	NT	0.04 U	0.0124 J	0.05 U	0.042 U	0.0452 U	0.0378 U	0.039 U	0.0407 U
PCBs, Total	0.1	1	1	25	0.0361 J	0.0171 J	0.0456 J	0.0377 U	0.216	0.0411 U	0.0377 U	0.038 U	NT	NT	NT	NT	0.0103 J	0.02 J	0.05 U	0.042 U	0.0144 J	0.0378 U	0.039 U	0.0407 U
Chlorinated Herbicides by GC (mg/kg)																								
					NT				NT				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Organochlorine Pesticides by GC (mg/kg)																								
Lindane	0.1	1.3	9.2	23	NT	0.00742 U	0.00759 U	0.000744 U	NT	0.0164 U	0.0149 J	0.000759 U	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Alpha-BHC	0.02	0.48	3.4	6.8	NT	0.00742 U	0.00759 U	0.000744 U	NT	0.0122 JP	0.012 JP	0.000759 U	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
4,4'-DDE	0.0033	8.9	62	120	NT	0.00428 J	0.00659 J	0.00179 U	NT	0.0395 U	0.0364 U	0.00182 U	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
trans-Chlordane	NV	NV	NV	NV	NT	0.0391 IP	0.113 IP	0.00223 U	NT	0.0493 U	0.0456 U	0.00228 U	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

Notes:
1. 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.
2. ug/kg = parts per billion; mg/kg = parts per million.
3. ND = not detected above method detection limit; NT = not tested; NV = no value.
4. Analytical results compared to NYSDEC Part 375-6; Remedial Program Soil Cleanup Objectives, Table 375-6.8 (a)
Unrestricted Use Soil Cleanup Objective; and Table 375-6.8(b): Restricted Use Soil Cleanup
5. * = Concentration of analyte exceeded range of the calibration curve, which required a re-analysis at a higher dilution factor.
6. E = Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
7. J = Estimated value. The target analyte is below the reporting limit (RL), but above the method dectection limit (MDL).
8. P = The RPD between the results for the two columns exceeds the method-specified criteria.
9. Shading indicates: exceeds UUSCO - Unrestriced Use Soil Cleanup Objective; exceeds RUSCO - Restricted Residential Use Soil Cleanup Objective; exceeds CUSCO - Commercial Use Soil Cleanup Objective; exceeds IUSCO - Industrial Use Soil Cleanup Objective

Table 3
Groundwater Sample Results
140 Chandler Street, Buffalo, NY

LOCATION	Class GA	MW-102	MW-102 (DUPLICATE)	MW-103	MW-101
SAMPLING DATE		2/24/2020	2/24/2020	2/24/2020	2/24/2020
LAB SAMPLE ID		L2008162-01	L2008162-02	L2008162-03	L2008162-04
Volatile Organics by GC/MS (ug/l)					
Methylene chloride	5	2.5 U	2.5 U	2.5 U	1.2 J
Acetone	50	18	15	14	13
2-Butanone	50	1.9 J	5 U	1.9 J	5 U
Semivolatile Organics by GC/MS (ug/l)					
Di-n-butylphthalate	50	0.41 J	5 U	2.2 J	5 U
Diethyl phthalate	50	0.54 J	5 U	1.4 J	5 U
Acetophenone	NV	5 U	5 U	0.78 J	5 U
Semivolatile Organics by GC/MS-SIM (ug/l)					
Acenaphthene	20	0.1 U	0.1 U	0.14	0.07 J
Fluoranthene	50	0.09 J	0.06 J	0.08 J	1.7
Naphthalene	10	0.06 J	0.1 U	0.14	0.1 U
Benzo(a)anthracene	0.002	0.03 J	0.1 U	0.06 J	0.83
Benzo(a)pyrene	0	0.02 J	0.1 U	0.04 J	0.99
Benzo(b)fluoranthene	0.002	0.03 J	0.1 U	0.06 J	1.4
Benzo(k)fluoranthene	0.002	0.01 J	0.1 U	0.02 J	0.44
Chrysene	0.002	0.03 J	0.1 U	0.03 J	0.87
Anthracene	50	0.04 J	0.1 U	0.02 J	0.13
Benzo(ghi)perylene	NV	0.02 J	0.1 U	0.03 J	0.7
Fluorene	50	0.1 U	0.1 U	0.25	0.06 J
Phenanthrene	50	0.1	0.05 J	1.2	0.55
Dibenzo(a,h)anthracene	NV	0.1 U	0.1 U	0.1 U	0.16
Indeno(1,2,3-cd)pyrene	0.002	0.02 J	0.1 U	0.04 J	0.76
Pyrene	50	0.05 J	0.03 J	0.05 J	1.5
2-Methylnaphthalene	NV	0.03 J	0.1 U	0.23	0.03 J
Pentachlorophenol	1	0.8 U	0.8 U	0.8 U	0.15 J
Total Metals (ug/l)					
Aluminum, Total	NV	78.7	91.6	453	11400
Antimony, Total	3	4 U	4 U	4 U	0.72 J
Arsenic, Total	25	1.61	1.85	1.09	8.35
Barium, Total	1000	186.9	188.9	23.47	187.1
Beryllium, Total	3	0.5 U	0.5 U	0.5 U	0.59
Cadmium, Total	5	0.2 U	0.2 U	0.2 U	0.37
Calcium, Total	NV	194000	192000	129000	213000
Chromium, Total	50	0.82 J	0.95 J	2.01	20.47
Cobalt, Total	NV	0.8	0.76	2.38	12.06
Copper, Total	200	3.05	3.27	4.67	29.1
Iron, Total	300	110	120	1630	21100
Lead, Total	25	1 U	1 U	2.99	29.46
Magnesium, Total	35000	292000	274000	328000	149000
Manganese, Total	300	137.8	139.7	180	642.9
Nickel, Total	100	1.63 J	1.42 J	4.42	28.89
Potassium, Total	NV	16200	16400	6770	13000
Selenium, Total	10	2.71 J	3.05 J	5 U	4.75 J
Sodium, Total	20000	176000	177000	140000	72800
Thallium, Total	0.5	0.5 U	0.5 U	0.14 J	0.23 J
Vanadium, Total	NV	1.81 J	1.69 J	5 U	25.88
Zinc, Total	2000	10 U	10 U	19.15	93.41
Dissolved Metals (ug/l)					
Aluminum, Dissolved	NV	5.83 J	5.74 J	6.71 J	12
Antimony, Dissolved	3	0.85 J	0.71 J	4 U	1.73 J
Arsenic, Dissolved	25	1.68	1.67	0.59	1.51
Barium, Dissolved	1000	193.7	184.2	18.49	72.29
Calcium, Dissolved	NV	174000	176000	122000	141000
Chromium, Dissolved	50	0.88 J	0.79 J	0.37 J	0.28 J
Cobalt, Dissolved	NV	0.67	0.66	1.82	0.72
Copper, Dissolved	200	3.7	3.16	1.93	2.5
Iron, Dissolved	300	30.2 J	83.2	50 U	43.8 J
Magnesium, Dissolved	35000	231000	244000	313000	132000
Manganese, Dissolved	300	126.9	125.3	167.6	61.49
Mercury, Dissolved	0.7	0.12 J	0.2 U	0.2 U	0.12 J
Nickel, Dissolved	100	1.44 J	1.66 J	2.9	2.23
Potassium, Dissolved	NV	15400	15400	7250	11200
Selenium, Dissolved	10	3.12 J	2.82 J	5 U	5 U
Sodium, Dissolved	20000	173000	171000	138000	73700
Thallium, Dissolved	0.5	0.81	0.32 J	0.18 J	0.18 J
Polychlorinated Biphenyls by GC (ug/l)					
PCBs, Total		0.083 U	0.083 U	0.083 U	0.083 U
Organochlorine Pesticides by GC (ug/l)					
		0.014 U	0.014 U	0.014 U	0.014 U
Chlorinated Herbicides by GC (ug/l)					
		10 U	10 U	10 U	10 U

Notes:
1. 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.
2. ug/L = parts per billion; mg/L = parts per million.
3. U = not detected; NT = not tested; NV = no value.
4. 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.
5. * = Concentration of analyte exceeded range of the calibration curve, which required a re-analysis at a higher dilution factor.
6. Shading indicates: exceeds NYSDEC groundwater standards

Table 4
Emergent Contaminant Soil Sample Results
Western Portion of 140 Chandler Street Site, Site No: 915354, Buffalo, NY

PARAMETER	MW-103 (1-3')	MW-103 (1-3') DUPLICATE	TP103 (1.5-4')	TP103 (4-7')
SAMPLING DATE	**3/2/2020**	**3/2/2020**	**3/2/2020**	**3/2/2020**
LAB SAMPLE ID	**L2009287-01**	**L2009287-02**	**L2009287-03**	**L2009287-04**
Semivolatile Organics by GC/MS (mg/kg)				
1,4-Dioxane	0.18 U	0.17 U	0.031 U	0.03 U
Perfluorinated Alkyl Acids by Isotope Dilution (mg/kg)				
Perfluorobutanoic Acid (PFBA)	0.000478 J	0.000446 J	0.000142 J	0.00109 U
Perfluoropentanoic Acid (PFPeA)	0.00339	0.00331	0.000805 J	0.00109 U
Perfluorobutanesulfonic Acid (PFBS)	0.000162 J	0.000174 J	0.0011 U	0.00109 U
Perfluorohexanoic Acid (PFHxA)	0.0019	0.00191	0.000375 J	0.000057 J
Perfluoroheptanoic Acid (PFHpA)	0.000639 J	0.000603 J	0.000091 J	0.00109 U
Perfluorohexanesulfonic Acid (PFHxS)	0.00252	0.00278	0.000084 J	0.00109 U
Perfluorooctanoic Acid (PFOA)	0.000537 J	0.000463 J	0.000146 J	0.00109 U
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.00379	0.00349	0.00486	0.00109 U
Perfluoroheptanesulfonic Acid (PFHpS)	0.000219 J	0.00131 U	0.0011 U	0.00109 U
Perfluorononanoic Acid (PFNA)	0.000455 J	0.000438 J	0.0011 U	0.00109 U
Perfluorooctanesulfonic Acid (PFOS)	0.0407	0.0388	0.00351	0.00109 U
Perfluorodecanoic Acid (PFDA)	0.000449 J	0.00041 J	0.000087 J	0.00109 U
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.00129 U	0.00131 U	0.00307	0.00109 U
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	0.00129 U	0.00131 U	0.0011 U	0.00109 U
Perfluoroundecanoic Acid (PFUnA)	0.00129 U	0.00131 U	0.0011 U	0.00109 U
Perfluorodecanesulfonic Acid (PFDS)	0.00129 U	0.00131 U	0.0011 U	0.00109 U
Perfluorooctanesulfonamide (FOSA)	0.00129 U	0.00131 U	0.0011 U	0.00109 U
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.00129 U	0.00131 U	0.000121 J	0.00109 U
Perfluorododecanoic Acid (PFDoA)	0.00129 U	0.00131 U	0.0011 U	0.00109 U
Perfluorotridecanoic Acid (PFTrDA)	0.00129 U	0.00131 U	0.0011 U	0.00109 U
Perfluorotetradecanoic Acid (PFTA)	0.00129 U	0.00131 U	0.0011 U	0.00109 U
PFOA/PFOS, Total	0.0412 J	0.0393 J	0.00366 J	0.00109 U

Notes:
1. 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.
2. ug/kg = parts per billion; mg/kg = parts per million.
3. U = not detected; "-" = not tested; NV = no value.
4. 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.
5. * = Concentration of analyte exceeded range of the calibration curve, which required a re-analysis at a higher dilution factor.
6. E = Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
7. J = Estimated value. The target analyte is below the reporting limit (RL), but above the method dectection limit (MDL).
8. P = The RPD between the results for the two columns exceeds the method-specified criteria.

Table 5
Emergent Contaminant Groundwater Sample Results
Western Portion of 140 Chandler Street Site; Site No: C915354, Buffalo, NY

PARAMETER	MW-102	MW-102 (DUPLICATE)	MW-103	MW-101	RB-2 (022420)	TB-2 (022420)	FB-1 (022420)	FB-2 (030220)	RB-3 (030220)
SAMPLING DATE	**2/24/2020**	**2/24/2020**	**2/24/2020**	**2/24/2020**	**2/24/2020**	**2/24/2020**	**2/24/2020**	**3/2/2020**	**3/2/2020**
LAB SAMPLE ID	**L2008162-01**	**L2008162-02**	**L2008162-03**	**L2008162-04**	**L2008162-05**	**L2008162-06**	**L2008162-07**	**L2009287-05**	**L2009287-06**
1,4 Dioxane by 8270D-SIM (ug/l)									
1,4-Dioxane	0.152	0.167	0.15 U	0.205	0.15 U	- -	- -	- -	0.144 U
Perfluorinated Alkyl Acids by Isotope Dilution (ug/l)									
Perfluorobutanoic Acid (PFBA)	0.14	0.127	0.0667	0.333	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
Perfluoropentanoic Acid (PFPeA)	1.16	1.06	0.357	1.87	0.000377 J	0.00037 J	0.00188 U	0.00179 U	0.00182 U
Perfluorobutanesulfonic Acid (PFBS)	0.0114	0.0118	0.00559	0.0237	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
Perfluorohexanoic Acid (PFHxA)	0.308	0.281	0.163	0.798	0.000344 J	0.000381 J	0.000428 J	0.000398 J	0.000334 J
Perfluoroheptanoic Acid (PFHpA)	0.0701	0.0696	0.0413	0.235	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
Perfluorohexanesulfonic Acid (PFHxS)	0.0712	0.0567	0.0226	0.158	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
Perfluorooctanoic Acid (PFOA)	0.0338	0.0296	0.00908	0.109	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.0848	0.0628	0.011	0.346	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
Perfluoroheptanesulfonic Acid (PFHpS)	0.00186 U	0.00123 J	0.00181 U	0.0016 J	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
Perfluorononanoic Acid (PFNA)	0.00988	0.00827	0.000605 J	0.0136	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
Perfluorooctanesulfonic Acid (PFOS)	0.151	0.138	0.00777	0.0694	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
Perfluorodecanoic Acid (PFDA)	0.00742	0.00557	0.00181 U	0.00277	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.00871	0.00723	0.00181 U	0.0029	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	0.00186 U	0.00184 U	0.00181 U	0.00194 U	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
Perfluoroundecanoic Acid (PFUnA)	0.000632 J	0.000342 J	0.00181 U	0.00194 U	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
Perfluorodecanesulfonic Acid (PFDS)	0.00186 U	0.00184 U	0.00181 U	0.00194 U	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
Perfluorooctanesulfonamide (FOSA)	0.00186 U	0.00184 U	0.00181 U	0.00194 U	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.00186 U	0.00184 U	0.00181 U	0.00194 U	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
Perfluorododecanoic Acid (PFDoA)	0.00186 U	0.00184 U	0.00181 U	0.00194 U	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
Perfluorotridecanoic Acid (PFTrDA)	0.00186 U	0.00184 U	0.00181 U	0.00194 U	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
Perfluorotetradecanoic Acid (PFTA)	0.00186 U	0.00184 U	0.00181 U	0.00194 U	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U
PFOA/PFOS, Total	0.185	0.168	0.0169	0.178	0.00181 U	0.00183 U	0.00188 U	0.00179 U	0.00182 U

1. 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.
2. ug/L = parts per billion
3. U = not detected
4. 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 and Groundwater Effluent Limitations.
5. * = Concentration of analyte exceeded range of the calibration curve, which required a re-analysis at a higher dilution factor.
6. E = Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
7. J = Estimated value. The target analyte is below the reporting limit (RL), but above the method dectection limit (MDL).
8. P = The RPD between the results for the two columns exceeds the method-specified criteria.
9. B = Analyte detected above reporting limit in the associated method blank

TABLE 6
Analytical Testing Program Summary - IRM Confirmatory Soil Samples
Western Portion - 140 Chandler Street Site
140 Chandler, Buffalo, NY
NYSDEC Brownfield Cleanup Program - #C915354

Location	Number of Proposed Locations	Matrix	TCL VOCS	TCL SVOCs	TAL METALS Total	TAL METALS dissolved	PCBs	Pest/ Herbs	VOC TO-15	1,4-dioxane	PFAS
Sidewall Samples											
Sidewall Samples	20	Soil	10	20	20	-	10	5	-	5	5
Duplicate		Soil	1	1	1	-	1	1	-	1	1
MS/MSD		Soil	2	2	2	-	2	2	-	2	2
Rinsate		Water	1	1	1	-	1	1	-	1	1
Total			**14**	**24**	**24**	**0**	**14**	**9**	**0**	**9**	**9**
Bottom Samples											
Bottom Samples	20	Soil	10	20	20	-	10	5	-	5	5
Duplicate		Soil	1	1	1	-	1	1	-	1	1
MS/MSD		Soil	2	2	2	-	2	2	-	2	2
Rinsate		Water	1	1	1	-	1	1	-	1	1
Total			**14**	**24**	**24**	**0**	**14**	**9**	**0**	**9**	**9**
Interior Confirmatory Samples											
Bottom Sample	1	Soil	1	1	1	-	-	-	-	-	-
Sidewall Samples	4	Soil	4	4	4	-	-	-	-	-	-
Duplicate		Soil	1	1	1	-	-	-	-	-	-
MS/MSD		Soil	2	2	2	-	-	-	-	-	-
Rinsate		Water	1	1	1	-	-	-	-	-	-
Total			**8**	**8**	**8**	**0**	**0**	**0**	**0**	**0**	**0**

	VOCs	SVOCs	METALS	METALS	PCBs	Pest/ Herbs	VOC - TO-15	1,4-dioxane	PFAS
TOTAL SAMPLES	**36**	**56**	**56**	**0**	**28**	**18**	**0**	**18**	**18**

Notes:

TCL VOCs - Target Compound List Volatile Organic Compounds.
TCL SVOCs - Target Compound List Semi-volatile Organic Compounds.
TAL Metals - Target Analyte List Metals.
TCL PCBs - Target Compound List Polychlorinated Biphenyls.
PFAS - Polyfluoroalkyl Substances

APPENDIX A

TEST PIT AND SOIL BORING LOGS

WITTMAN GeoSciences, PLLC
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716-574-1513

Test Pit No: TP101

Project Name & Location	140 Chandler Street, Buffalo, NY			WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211			WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	1/10/2020	End Date	1/10/2020	Contractor	Lazarus Industries
GW Depth in Excavation	7.5 fbg			Equipment	Track Excavator

Sample Depth (ft)	Sample No.	Sample Depth (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
	1	0-1.5	ND	Brown Gravel, some f/c Sand, little Silt, wet (FILL)
1				
	2	1.5-3	1.5	Grades to:…some Silt, stained, odor
2				Dk. Brown Clay & Silt, little Gravel, little f/c Sand, wet, stained (FILL)
			1.5	
3				
	3	3-6	0.2	
4				Grades to:…brown
			ND	Red/brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist
5				
			ND	
6				
	4	6-8	ND	
7				
			ND	Grades to:…saturated
8				
				Bottom of Excavation - 8 fbg
9				
10				
11				
12				
13				
14				
15				

Notes: 1) Organic vapor meter used to field screen and headspace soil samples
2) ND = non detect on the OVM

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 excavation. 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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Test Pit No: TP102

Project Name & Location	140 Chandler Street, Buffalo, NY			WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211			WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	1/10/2020	End Date	1/10/2020	Contractor	Lazarus Industries
GW Depth in Excavation	NWAC			Equipment	Track Excavator

Sample Depth (ft)	Sample No.	Sample Depth (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
	1	0-1.5	ND	Brown Gravel, some f/c Sand, little Silt, wet (FILL)
1				
	2	1.5-3	1.5	
2				Dk. Brown Clay & Silt, some Gravel, some f/c Sand, tr. Concrete, moist (FILL)
			1.5	Grades to:…some boulder size concrete pieces, saturated, stained
3				
	3	3-6	0.2	Grades to:…no staining
4				
			ND	
5				
			ND	Grades to:…tr. Steel Pieces, tr. Wood
6				
	4	6-8	ND	Red/brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist
7				
			ND	
8				
				Bottom of Excavation - 8 fbg
9				
10				
11				
12				
13				
14				
15				

Notes: 1) Organic vapor meter used to field screen and headspace soil samples
2) ND = non detect on the OVM

Concrete footer present along eastern test pit wall.
Boulder sized concrete pieces from 2-6 fbg

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 excavation. 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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Test Pit No: TP103

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	1/10/2020	End Date 1/10/2020	Contractor Lazarus Industries
GW Depth in Excavation	NWAC		Equipment Track Excavator

Sample Depth (ft)	Sample No.	Sample Depth (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
	1	0-1.5	ND	Brown Gravel, some f/c Sand, little Silt, wet (FILL)
1				
	2	1.4-4	0.5	Brown Clay & Silt, little f/c Sand, little Gravel, wet, stained (FILL)
2				
			2	
3				Grades to:…some Cobbles, odor and staining
			5	
4				
	3	4-6	ND	Red/brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist
5				
			ND	
6				
	4	6-8	ND	
7				
			ND	
8				
				Bottom of Excavation - 8 fbg
9				
10				
11				
12				
13				
14				
15				

Notes: 1) Organic vapor meter used to field screen and headspace soil samples
2) ND = non detect on the OVM

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 excavation. 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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Test Pit No: TP104

Project Name & Location	140 Chandler Street, Buffalo, NY			WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211			WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	1/10/2020	End Date	1/10/2020	Contractor	Lazarus Industries
GW Depth in Excavation	NWAC			Equipment	Track Excavator

Sample Depth (ft)	Sample No.	Sample Depth (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-1.5	ND	Brown f/c Sand, some Gravel, little Silt, tr. Concrete, moist (FILL)
2	2	1.5-4	ND	Brown Clay & Silt, little f/c Sand, little Gravel, wet (FILL)
3			ND	
4	3	4-7	1	
5			1	Grades to:…saturated
6			ND	Red/brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist
7			ND	
8				Bottom of Excavation - 7 fbg
9				
10				
11				
12				
13				
14				
15				

Notes: 1) Organic vapor meter used to field screen and headspace soil samples
2) ND = non detect on the OVM

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 excavation. 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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716-574-1513

Test Pit No: TP105

Project Name & Location	140 Chandler Street, Buffalo, NY			WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211			WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	1/10/2020	End Date	1/10/2020	Contractor	Lazarus Industries
GW Depth in Excavation	NWAC			Equipment	Track Excavator

Sample Depth (ft)	Sample No.	Sample Depth (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
	1	0-1.5	ND	Brown f/c Sand, some Gravel, little Silt, tr. Concrete, moist (FILL_
1				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, wet, odor and heavy staining observed (FILL)
	2	1.5-2	ND	Grades to:…little Cinders
2				Concrete pad/excavator refusal at 2 fbg
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes: 1) Organic vapor meter used to field screen and headspace soil samples
2) ND = non detect on the OVM

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 excavation. 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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716-574-1513

Test Pit No: TP106

Project Name & Location	140 Chandler Street, Buffalo, NY			WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211			WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	1/10/2020	End Date	1/10/2020	Contractor	Lazarus Industries
GW Depth in Excavation	NWAC			Equipment	Track Excavator

Sample Depth (ft)	Sample No.	Sample Depth (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
	1	0-1.5	ND	Dk. Gray Cobbles, little Gravel, tr. f/c Sand, tr. Silt, moist (FILL)
1				
	2	1.5-2	ND	Brown f. Sand (possible casting sand), moist
2	3	2-3.5	ND	Brown Clay & Silt, little f/c Sand, little Gravel, moist (FILL)
			ND	Grades to:…Dk. Brown, some Cinders, some f/c Sand
3				Grades to Brown, tr. Cinders
	4	3.5-6	ND	Red/brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist
4				
			1	
5				
			ND	
6				
				Bottom of Excavation - 6 fbg
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes: 1) Organic vapor meter used to field screen and headspace soil samples
2) ND = non detect on the OVM

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 excavation. 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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Test Pit No: TP107

Project Name & Location	140 Chandler Street, Buffalo, NY			WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211			WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	1/10/2020	End Date	1/10/2020	Contractor	Lazarus Industries
GW Depth in Excavation	NWAC			Equipment	Track Excavator

Sample Depth (ft)	Sample No.	Sample Depth (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-3	ND	Brown Gravel, some f/c Sand, little Silt, moist (FILL)
2			ND	
3			ND	Grades to:… some Silt
4	2	3-4	5	Brown Clay & Silt, little f/c Sand, tr. Gravel, saturated, odor, heavy staining (FILL)
5	3	4-6	5	
				Red/brown CLAY & SILT, tr. f/c Sand, tr. Gravel, wet
6			ND	
				Grades to:…wet
7				Bottom of Excavation - 6 fbg
8				
9				
10				
11				
12				
13				
14				
15				

Notes: 1) Organic vapor meter used to field screen and headspace soil samples
2) ND = non detect on the OVM

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 excavation. 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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Test Pit No: TP108

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	3/3/2020 End Date 3/3/2020	Contractor	Lazarus Industries
GW Depth in Excavation	NWAC	Equipment	Track Excavator

Sample Depth (ft)	Sample No.	Sample Depth (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
	1	0-1.5	ND	Gray/brown f/c Sand and Gravel, some cobble sized Concrete, little Silt, moist (FILL)
1				
	2	1.5-4	ND	Grades to:…little Gravel, little cobble sized Concrete
2				
			ND	Brown Clay & Silt, lttle Gravel, tr. f/c Sand, wet, odor and staining observed (FILL)
3				Grades to:…tr. Cinders
			ND	Grades to:…minor staining
4				
	3	4-6	ND	
5				
			ND	Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist
6				
				Bottom of Excavation - 6 fbg
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes: 1) Organic vapor meter used to field screen and headspace soil samples
2) ND = non detect on the OVM

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 excavation. 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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Test Pit No: TP109

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	3/3/2020	End Date 3/3/2020	Contractor Lazarus Industries
GW Depth in Excavation	NWAC		Equipment Track Excavator

Sample Depth (ft)	Sample No.	Sample Depth (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-3	ND	Brown Clay & Silt, little f/c Sand, little Gravel, moist (FILL)
2			ND	
3			ND	
4	2	3-4	0.2	Grades to:…Dk. Gray, odor and staining observed
5	3	4-6	ND	Red/brown CLAY & SILT, tr. f/s Cand, tr. Gravel, moist
6			ND	
7				Bottom of Excavation - 6 fbg
8				
9				
10				
11				
12				
13				
14				
15				

Notes:
1) Organic vapor meter used to field screen and headspace soil samples
2) ND = non detect on the OVM

3 fbg - a 2.5" diameter pipe was present. Approximate 1-ft layer of stained soil present below the pipe.

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 excavation. 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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Test Pit No: TP110

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	3/3/2020 End Date 3/3/2020	Contractor	Lazarus Industries
GW Depth in Excavation	NWAC	Equipment	Track Excavator

Sample Depth (ft)	Sample No.	Sample Depth (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-3	ND	Brown Clay & Silt, some Gravel, little f/c Sand, wet (FILL)
2			ND	
3			ND	Grades to:…little Gravel
4	2	3-4	0.8	Grades to:…Dk. Gray, odor and staining observed
5	3	4-6	ND	Red/brown CLAY & SILT, tr. f/s Cand, tr. Gravel, moist
6			ND	
7				Bottom of Excavation - 6 fbg
8				
9				
10				
11				
12				
13				
14				
15				

Notes: 1) Organic vapor meter used to field screen and headspace soil samples
2) ND = non detect on the OVM

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 excavation. 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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Test Pit No: TP111

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	3/3/2020	End Date 3/3/2020	Contractor Lazarus Industries
GW Depth in Excavation	NWAC		Equipment Track Excavator

Sample Depth (ft)	Sample No.	Sample Depth (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-1	ND	Brown f/c Sand, some Gravel, little Silt, wet (FILL)
2	2	1-1.5	2.5	Black Gravel, some Clay & Silt, lttiel f/c Sand, saturated, odor and staining observed (FILL)
3	3	1.5-2.5	ND	Red/brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist
4				Bottom of Excavation - 2.5 fbg
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes:
1) Organic vapor meter used to field screen and headspace soil samples
2) ND = non detect on the OVM

0.5 fbg - a 2" diameter pipe was present.
1.5 fbg - 4" drain tile was observed. Stained soil was present around and under the drain tile
Sheen was observed on water within the bottom of excavation

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 excavation. 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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Test Pit No: TP112

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	3/3/2020 End Date 3/3/2020	Contractor	Lazarus Industries
GW Depth in Excavation	NWAC	Equipment	Track Excavator

Sample Depth (ft)	Sample No.	Sample Depth (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-1	ND	Gray Gravel, some f/c Sand, little Silt, saturated (FILL)
2	2	1-3	0.5	Gray Clay & Silt, little f/c Sand, little Gravel, wet, stained (FILL)
3			0.5	
4	3	3-5	ND	Red/brown CLAY & SILT, tr. f/s Cand, tr. Gravel, moist
5			ND	
6				Bottom of Excavation - 5 fbg
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes: 1) Organic vapor meter used to field screen and headspace soil samples
2) ND = non detect on the OVM

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 excavation. 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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Test Pit No: TP113

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	3/3/2020	End Date 3/3/2020	Contractor Lazarus Industries
GW Depth in Excavation	NWAC		Equipment Track Excavator

Sample Depth (ft)	Sample No.	Sample Depth (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-2	ND	Brown f/c Sand and Gravel, some Silt, wet (FILL)
2	2	2-3	ND	Dk. Gray Clay & Silt, little Gravel, tr. f/c Sand, wet, staining observed (FILL)
3	3	3-5	ND	Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist
4			ND	
5				Bottom of Excavation - 5 fbg
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes:
1) Organic vapor meter used to field screen and headspace soil samples
2) ND = non detect on the OVM

Staining not observed at northwest area of the excavation

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 excavation. 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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Test Pit No: TP114

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	3/3/2020 End Date 3/3/2020	Contractor	Lazarus Industries
GW Depth in Excavation	NWAC	Equipment	Track Excavator

Sample Depth (ft)	Sample No.	Sample Depth (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
	1	0-2	11	Black f/c Sand, little Cinders, little Gravel, moist, odor and staining observed (FILL)
1				
			11	Gray Clay & Silt, tr. f/c Sand, tr. Gravel, moist, odor (FILL)
2				
	2	2-3	12	Black Gravel, some f/c Sand, some Cinders, saturated, heavy staining observed
3				
	3	3-5	ND	Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist
4				
			ND	
5				
				Bottom of Excavation - 5 fbg
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes: 1) Organic vapor meter used to field screen and headspace soil samples
2) ND = non detect on the OVM

1 1/2" verticle pipe present in excvation; heavy stained soil presen in vicinity of pipe

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 excavation. 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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Test Pit No: TP115

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	3/3/2020	End Date 3/3/2020	Contractor Lazarus Industries
GW Depth in Excavation	NWAC		Equipment Track Excavator

Sample Depth (ft)	Sample No.	Sample Depth (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-1	ND	Brown f/c Sand, some Silt, tr. Gravel, moist (FILL)
2	2	1-2	45	Dk. Brown Silt & Clay, some f/c Sand, little Cinders, tr. Gravel, slight odor
3	3	2-5	ND	Red/brown CLAY & SILT, tr. f/s Cand, tr. Gravel, moist
4			ND	
5				Bottom of Excavation - 5 fbg
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes:
1) Organic vapor meter used to field screen and headspace soil samples
2) ND = non detect on the OVM

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 excavation. 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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Test Pit No: TP116

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	3/3/2020 End Date 3/3/2020	Contractor	Lazarus Industries
GW Depth in Excavation	NWAC	Equipment	Track Excavator

Sample Depth (ft)	Sample No.	Sample Depth (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
	1	0-0.5	ND	Brown Clay & Silt, some Gravel, little f/c Sand, wet (FILL)
1	2	0.5-1.5	11	Black Gravel, some Cinders, tr. f/c Sand, saturated, odor and heavy staining observed (FILL)
			20	
2	3	1.5-3.5		Gray Clay & Silt, tr. f/c Sand, tr. Gravel, wet, odor and staining observed (FILL)
			22	
3				
			22	
4	4	3.5-7.5		Red/brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist, odor
			22	
5				
			15	
6				
			5	Grades to:…limited odor
7				
			ND	
8				Bottom of Excavation - 7.5 fbg
9				
10				
11				
12				
13				
14				
15				

Notes: 1) Organic vapor meter used to field screen and headspace soil samples
2) ND = non detect on the OVM

4" drain tile observed 3.5 fbg

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 excavation. 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	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	2/18/2020 End Date 2/18/2020	Drilling Contractor	Trec Environmental
GW Depth While Drilling	NWWD	Type of Drill Rig	Track Mounted Geoprobe
GW Depth at Completion	NWAC	Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (%)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	70	Brown f/c Sand, some Gravel, little Silt, wet (FILL)	
1					ND
				Grades to:…and Gravel	
2					5
				Dk. Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist (FILL)	
3					5
4				Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist	ND
	2	4-8	75		
5					ND
6					ND
7					ND
8					ND
	3	8-12	85	Grades to:…wet	
9					ND
10					ND
11					ND
12					ND
	4	12-16	100		
13					ND
14					ND
15					ND
16					ND
	5	16-20	85	Grades to:…little Gravel	
18					ND
20					ND
				Bottom of Boring - 20 fbg	
22					
24					

Notes:	1) Organic vapor meter used to field screen and headspace soil samples. 2) ND - non detect on OVM
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: MW102

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	2/18/2020 End Date 2/18/2020	Drilling Contractor	Trec Environmental
GW Depth While Drilling	NWWD	Type of Drill Rig	Track Mounted Geoprobe
GW Depth at Completion	NWAC	Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (%)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	70	Brown Clay & Silt, little f/c Sand, little Gravel, tr. Brick, moist (FILL)	
1					ND
2				Grades to:…and Concrete	5
3					5
4					ND
	2	4-8	75	Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist	
5					ND
6					ND
7					ND
8					ND
	3	8-12	85	Grades to:…wet/saturated	
9					ND
10					ND
11					ND
12					ND
	4	12-15	100		
13					ND
14					ND
15					ND
				Spoon refusal - 15 fbg	
16					
18					
20					
22					
24					

Notes:	1) Organic vapor meter used to field screen and headspace soil samples. 2) ND - non detect on OVM
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: MW103

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	2/19/2020 End Date 2/19/2020	Drilling Contractor	Trec Environmental
GW Depth While Drilling	NWWD	Type of Drill Rig	Track Mounted Geoprobe
GW Depth at Completion	NWAC	Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (%)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	70	Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist (FILL)	
1					ND
				Dk. Brown f/c Sand, some Silt, litte Cinders, tr. Gravel, moist (FILL)	
2					ND
3					ND
				Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist	
4					ND
	2	4-8	100	Grades to:…saturated	
5					ND
				Red/brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	
6					ND
7					ND
8					ND
	3	8-12	80	Grades to:…wet/saturated	
9					ND
10					ND
11					ND
12					ND
	4	12-16	80	Grades to:…wet	
13					ND
14					ND
15					ND
16					ND
	5	16-20	25		
18					ND
20					ND
	6	20-24	70		
22					ND
				Grades to:…saturated	
24					ND
				Bottom of Boring - 24 fbg	

Notes:	1) Organic vapor meter used to field screen and headspace soil samples. 2) ND - non detect on OVM
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: SB101

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	2/18/2020 End Date 2/18/2020	Drilling Contractor	Trec Environmental
GW Depth While Drilling	NWWD	Type of Drill Rig	Track Mounted Geoprobe
GW Depth at Completion	NWAC	Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (%)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	75	Concrete	
1				Brown f/c Sand, little Silt, tr. Gravel, moist (FILL)	ND
2				Dk. Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist (FILL)	5
3				Grades to:…brown	5
4					ND
	2	4-8	50	Red/brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist	
5					ND
6					ND
7					ND
8					ND
	3	8-12	50	Brown f/c SAND, some Silt, tr. Gravel, saturated	
9					ND
10				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist	ND
11					ND
12					ND
	4	12-16	75		
13					ND
14					ND
15					ND
16					ND
				Bottom of Boring - 16 fbg	
18					
20					
22					
24					

Notes:	1) Organic vapor meter used to field screen and headspace soil samples. 2) ND - non detect on OVM
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: SB102

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	2/18/2020 End Date 2/18/2020	Drilling Contractor	Trec Environmental
GW Depth While Drilling	NWWD	Type of Drill Rig	Track Mounted Geoprobe
GW Depth at Completion	NWAC	Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (%)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	50	Concrete	
1				Brown f/c Sand, little Silt, little Gravel, moist (FILL)	ND
				Grades to:… some Gravel, tr. Brick	
2				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist (FILL)	5
3				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist	5
4					ND
	2	4-8	75	Grades to:…brown	
5					ND
6					ND
7					ND
8					ND
	3	8-12	75		
9					ND
10					ND
11					ND
12					ND
				Bottom of Boring - 12 fbg	
13					ND
14					ND
15					ND
16					ND
18					
20					
22					
24					

Notes:	1) Organic vapor meter used to field screen and headspace soil samples. 2) ND - non detect on OVM
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: SB103

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	2/18/2020 End Date 2/18/2020	Drilling Contractor	Trec Environmental
GW Depth While Drilling	NWWD	Type of Drill Rig	Track Mounted Geoprobe
GW Depth at Completion	NWAC	Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (%)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	50	Concrete	
1				Brown f/c Sand, little Silt, little Gravel, moist (FILL)	0.5
				Grades to:… wet	
2					0.5
				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist (FILL)	
3					ND
				Gray/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist	
4					ND
	2	4-8	75	Grades to:…brown	
5					ND
6					ND
7					ND
8					ND
	3	8-12	75		
9					ND
10					ND
11					ND
12					ND
				Bottom of Boring - 12 fbg	
13					ND
14					ND
15					ND
16					ND
18					
20					
22					
24					

Notes:	1) Organic vapor meter used to field screen and headspace soil samples. 2) ND - non detect on OVM
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: SB104

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	2/18/2020 End Date 2/18/2020	Drilling Contractor	Trec Environmental
GW Depth While Drilling	NWWD	Type of Drill Rig	Track Mounted Geoprobe
GW Depth at Completion	NWAC	Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (%)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	50	Brown f/c Sand, some Gravel, some Silt, wet (FILL)	
1					0.5
				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist (FILL)	
2				Grades to:…little Cinders	0.5
				Grades to:..and Concrete	
3					ND
				Dk. Brown f/c Sand, little Silt, tr. Cinders, moist (FILL)	
4					ND
	2	4-8	75	Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist	
5					ND
6					ND
7					ND
8					ND
	3	8-12	75	Grades to:…wet/saturated.	
9					ND
10					ND
11					ND
12					ND
				Bottom of Boring - 12 fbg	
13					ND
14					ND
15					ND
16					ND
18					
20					
22					
24					

Notes:	1) Organic vapor meter used to field screen and headspace soil samples. 2) ND - non detect on OVM
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: SB105

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	2/18/2020 End Date 2/18/2020	Drilling Contractor	Trec Environmental
GW Depth While Drilling	NWWD	Type of Drill Rig	Track Mounted Geoprobe
GW Depth at Completion	NWAC	Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (%)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	70	Brown Clay & sSilt, little f/c Sand, little Gravel, moist (FILL)	
1					1
				Grades to:…tr. Brick	
2					3.5
				Grades to:…Dk. Brown	
3					3.5
4					3.5
	2	4-8	100	Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist	
5					ND
6					ND
7					ND
8					ND
	3	8-12	100		
9					ND
10					ND
11					ND
12					ND
				Bottom of Boring - 12 fbg	
13					ND
14					ND
15					ND
16					ND
18					
20					
22					
24					

Notes:	1) Organic vapor meter used to field screen and headspace soil samples. 2) ND - non detect on OVM
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: SB106

Project Name & Location	140 Chandler Street, Buffalo, NY	WGS Representative:	E. Betzold/HEI
WGS Project Number:	19211	WGS Reviewed & Approved by:	M. Wittman, P.G.
Start Date	2/18/2020 End Date 2/18/2020	Drilling Contractor	Trec Environmental
GW Depth While Drilling	NWWD	Type of Drill Rig	Track Mounted Geoprobe
GW Depth at Completion	NWAC	Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Depth (feet)	Recovery (%)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	70	Brown f/c Sand and Gravel, some Concrete, saturated (FILL)	
1					5
2					5
3					5
4				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, wet (FILL)	5
	2	4-8	100		
5					2.5
6				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist	ND
7					ND
8					ND
	3	8-12	100	Grades to:…wet/saturated	
9					ND
10					ND
11					ND
12					ND
				Bottom of Boring - 12 fbg	
13					ND
14					ND
15					ND
16					ND
18					
20					
22					
24					

Notes:	1) Organic vapor meter used to field screen and headspace soil samples. 2) ND - non detect on OVM
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

Hole No.: MW-101
Sheet 1 of 1

Date started: 2/20/2020
Date Finished: 2/20/2020

Client: 140 Chandler Street LLC

Location: 140 Chandler Street

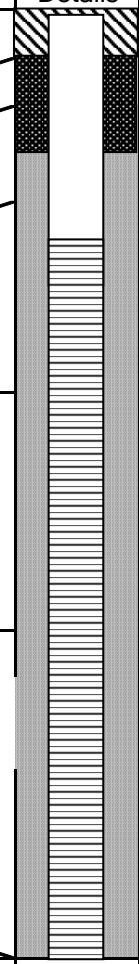
Method of Investigation: Advance 3.25" hollow-stem tubes to depth of boring. Set 2-inch well at total depth of boring.

Project No.: 19211
Project Manager: Michele Wittman, PG
Site Technician: Eric Betzold

Drilling Co.: TREC Env.
Driller: Eric
Drill Rig: Geoprobe 6620DT

Weather: Cloudy 40F

Depth (ft.)	Sample No.	Sample Depth (ft.)	Blows/6"	Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	1	0-4	N/A: Well Completed with Geoprobe drill rig	Flush mount road box with Cement/grout (0-1')			
				Bentonite pellets (1-3')			
4	2	4-8		2" sch. 40 PVC riser (0'-5')			
8	3	8-12		2" sch. 40 PVC 0.10 slot screen (5-20')			
12	4	12-16		#0 sand (3-20')			
16	5	16-20		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

Wittman GeoSciences, PLLC

Hole No.: MW-102
Sheet 1 of 1

Date started: 2/19/2020
Date Finished: 2/19/2020

Client: 140 Chandler Street LLC

Location: 140 Chandler Street

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

Project No.: 19211
Project Manager: Michele Wittman, PG
Site Technician: Eric Betzold

Drilling Co.: TREC Env.
Driller: Eric
Drill Rig: Geoprobe 6620DT

Weather: Cloudy 40F

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

Wittman GeoSciences, PLLC

Hole No.: MW-103
Sheet 1 of 1

Date started: 2/19/2020
Date Finished: 2/19/2020

Client: 140 Chandler Street LLC

Location: 140 Chandler Street

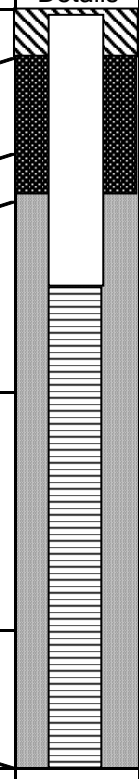
Method of Investigation: Advance 3.25" hollow-stem tubes to depth of boring. Set 2-inch well at total depth of boring.

Project No.: 19211
Project Manager: Michele Wittman, PG
Site Technician: Eric Betzold

Drilling Co.: TREC Env.
Driller: Eric
Drill Rig: Geoprobe 6620DT

Weather: Cloudy 40F

Depth (ft.)	Sample No.	Sample Depth (ft.)	Blows/6"	Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	1	0-4	N/A: Well Completed with Geoprobe drill rig	Aboveground protective casing with Cement/grout (0-1')			
4	2	4-8		Bentonite pellets (1-4')			
				2" sch. 40 PVC riser (0'-6')			
8	3	8-12		2" sch. 40 PVC 0.10 slot screen (6-16')			
12	4	12-16		#0 sand (4-16')			
				Bottom of screen 16' bg			
16	5	16-20		Bottom of borehole 16' bg			
20							
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

APPENDIX B

COMMUNITY AIR MONITORING PLAN

COMMUNITY AIR MONITORING PLAN

BROWNFIELD CLEANUP PROGRAM
For
140 Chandler Street, LLC
Western Portion of 140 Chandler Street Site, 140 Chandler Street, Buffalo, New York 14207
BCP # C915354

Prepared For:
140 Chandler Street, LLC
391 Washington Street, Buffalo, New York 14203
WGS Project No: 19211

Prepared By:
Wittman GeoSciences, PLLC
3636 North Buffalo Road
Orchard Park, New York 14127
716-574-1513

January 9, 2020 rev March 30, 2020

WITTMAN
GeoSciences, PLLC

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1.0 INTRODUCTION

This Community Air Monitoring Plan (CAMP) has been developed for the Remedial Investigation /Alternatives Analysis Report (RI/AAR) Work Plan to be completed by Wittman GeoSciences, PLLC (WGS) for Western Portion of 140 Chandler Street Site located at 140 Chandler Street, Buffalo, Erie County, New York, on behalf of 140 Chandler Street, 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 are 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 ($\mu g/m^3$) 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 ($\mu g/m^3$) 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 ($\mu g/m^3$) 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

Up-wind site perimeter monitoring location

WITTMAN GEOSCIENCES, PLLC	Date: 03/2020	**Potential Air Monitoring Device Locations**	Project: 19211
	Scale: not to scale	C915354, 140 Chandler Street, Buffalo, NY	Figure: 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 mcg/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 mcg/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/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^{o} C (14 to 122^{o} 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