AECOM
250 Apollo Drive
Chelmsford, MA 01824

978.905.2100 tel
978.905.2101 fax

Memorandum

To: Scott Deyette - NYSDEC

CC: M. Quinlan, J. Mitchell - National Grid

Subject: Installation of NAPL Recovery Wells and Monitoring Wells on the Off-Site Property, Babylon Former MGP Site

From: M. McCabe

Date: July 29, 2021

Equipment was mobilized to the Off-Site Property (Site) on February 24, 2021 and the recovery well area and monitoring well locations were evaluated for subsurface obstructions by Subsurface Environmental Tech. LLC (SET) using the following equipment:

- a GSSI UtilityScan System with a 350-megahertz (MHz) ground-penetrating radar (GPR) antenna
- a Fisher TW-6 M-Scope and
- an RD7100 radio frequency (RF) device by Radiodetection, Inc.

As illustrated in Figure 1, several buried utilities including a buried electric line, buried storm sewer lines and an unknown line were identified in the area where the recovery wells were to be installed. The four monitoring well locations (MW101 S and D, MW102 S and D) displayed geophysical characteristics which were not indicative of buried utility pipelines or anomalous zones that would adversely affect drilling operations.

Prior to the start of drilling, the property owner expressed concern that the location of the monitoring wells on paved areas could adversely affect building access and traffic flow. National Grid agreed to re-locate the monitoring wells to adjacent “grassy” areas within the NYSDEC approved area, and suggested that the work be delayed until ground conditions, that were impacted by heavy snowfall, improved to minimize damage to the landscaping.

Equipment was re-mobilized to the Site on April 5, 2021 to install the monitoring wells and recovery wells in the locations illustrated on Figure 2.

Monitoring Well Installation

A geophysical evaluation of the revised monitoring well locations was conducted by SET. No obstructions were observed, and the locations were hand-cleared to a depth of 5 feet below ground surface (bgs) by Aquifer Drilling and Testing, Inc. (ADT) staff.

The monitoring wells were installed on April 5th and 6th. Each well was constructed of 2-inch 20-slot PVC well screens and 2-inch flush-threaded PVC riser. MW-101S and MW-102S were screened from 10 to 20 feet bgs and MW-101D and MW-102D were screened from 20 to 30 feet

bgs. These intervals covered the intervals of the highest dissolved phase detections of MGP constituents that were identified in the Remedial Investigation Report. Gravel filter packs were placed around the well screen and the riser from the base of the well screen to two feet above the top of the well screen. The annular space above the filter pack was filled with a bentonite seal (2 feet thick). The annular space above the bentonite seal was filled with a grout mixture utilizing a tremie pipe to fill the annulus from the bentonite seal to one foot below the top of the casing (TOC). The wells were completed at the ground surface in a limited-access flush mounted well vault.

The subsurface media consisted of sand and gravel. No impacts were observed during installation. The boring logs and well construction diagrams are presented in Attachment A.

Recovery Well Installation

The initial recovery well design included the following:

- 4-inch diameter 0.020-inch slot wire wrap stainless steel screen and 4-inch flush-threaded PVC risers
- a 10-foot long, 4-inch diameter, stainless steel sump
- a cement basket at the screen-sump connection and
- a high efficiency glass bead filter pack be placed around the well screen and the riser.

RW-2 was installed during the period from April 6th to April 8th. The location was hand cleared to 5 ft bgs, and the well was drilled with a 5-inch casing then over-drilled with a 7-inch casing to 55 ft. bgs. It was determined that the cement basket would not fit within the 7-inch casing and a larger drill rig was brought on site to drive a 10-inch casing for the wells. RW-2 was completed as follows:

- 4-inch PVC Riser – 0 to10 feet
- 4-inch Stainless Steel Screen – 10 to 45 feet
- Glass Bead Filter Pack – 8 to 45 feet
- Cement Basket
- 4-inch Stainless Steel Sump – 45 to 55 feet

RW-1 and RW-3 were installed during the period from on April 9th to April 13th. The locations were hand-cleared to 5 ft bgs and drilled to 35 ft using a 10-inch casing. The wells were constructed as follows:

- 4-inch PVC Riser – 0 to 10 feet
- 4-inch Stainless Steel Screen – 10 to 25 feet
- Glass Bead Filter Pack – 8 to 25 feet
- Cement Basket
- 4-inch Stainless Steel Sump – 25 to 35 feet

Each of the recovery wells was completed as follows. The annular space above the filter pack was filled with a bentonite seal (2 feet thick), and the annular space above the bentonite seal was filled with a grout mixture utilizing a tremie pipe to fill the annulus from the bentonite seal to one foot below the top of casing (TOC). The wells were completed at the ground surface in a limited-access flush mounted well vault.

The subsurface media consisted of sand and gravel. No impacts were observed during installation. The boring logs and well construction diagrams are presented in Attachment B.

CAMP Monitoring

Air monitoring was conducted during ground intrusive activities. It included real-time monitoring for volatile organic compounds (VOCs), and particulates (i.e., dust) at two (2) locations that were upwind and downwind of the work area. Equipment included a field PID (RAE Systems MiniRAE™) and Dust Trac. A summary of the monitoring results is presented in Table 1. As illustrated, there were no exceedances of the Alert/Action levels described in the NYSDEC G*eneric Community Air Monitoring Plan*. Note that monitoring was not conducted on April 12 and 13 due to rain. Field data will be included as an appendix to the Final Engineering Report (FER) for the Former Babylon MGP Site remediation.

Well Development

The wells were developed on April 12, 2021 using surge and pump procedures to remove drilling fluids and fine-grained material from the sump, well screen, and filter pack. The following quantities of water were removed from the wells:

- MW-101S – 15 gallons
- MW-101D – 20 gallons
- MW-102S – 20 gallons
- MW-102D – 20 gallons
- RW-1 - 40 gallons
- RW-2 - 40 gallons
- RW-3 - 40 gallons

On that date, the following water levels (below TOC) were observed in the wells:

- MW-101S – 6.28 ft.
- MW-101D – 6.57 ft.
- MW-102S – 5.95 ft.
- MW-102D – 5.61 ft.
- RW-1 – 6.63 ft.
- RW-2 – 6.59 ft.
- RW-3 – 6.58 ft.

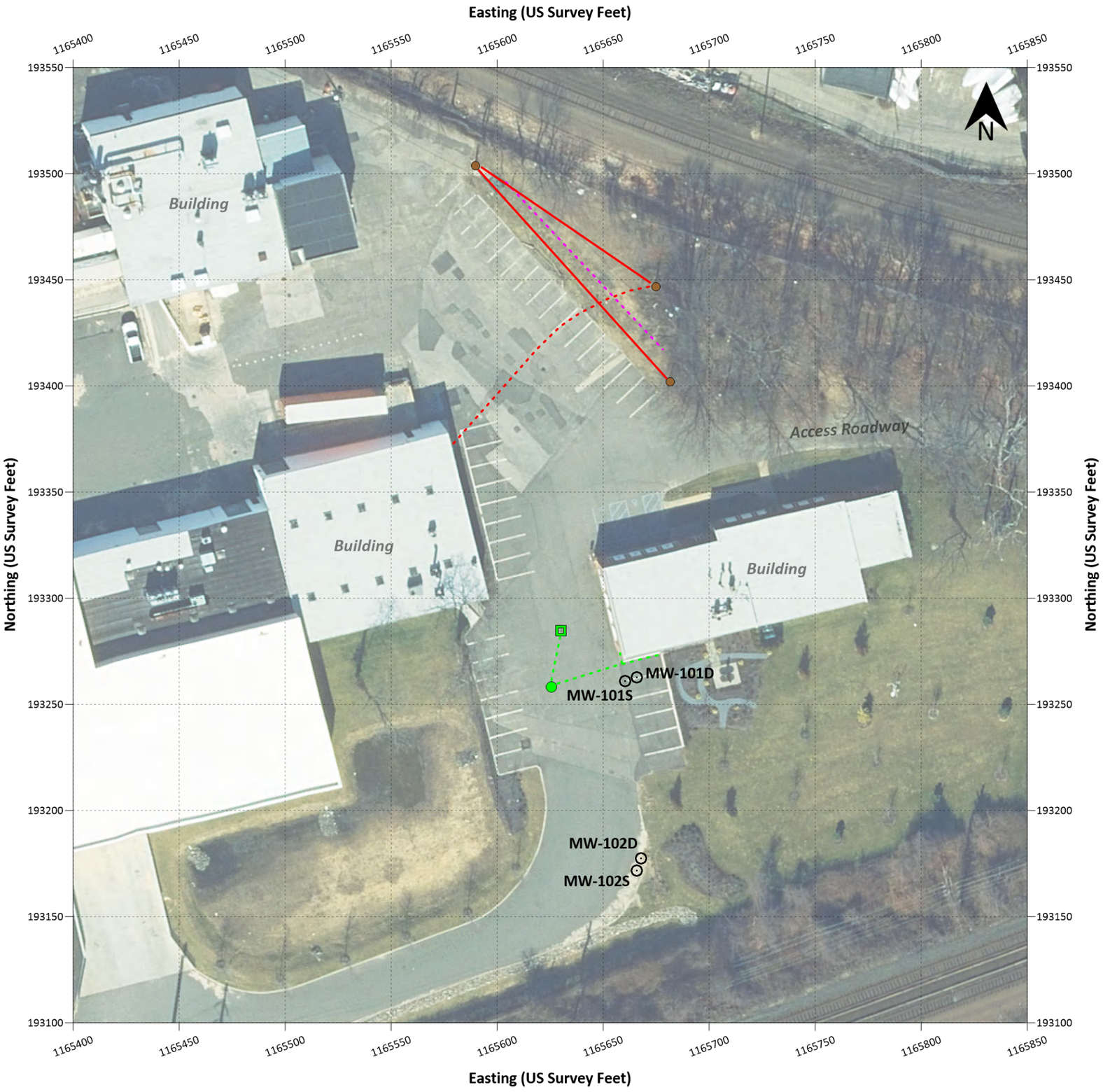
Management of Investigation Derived Waste

Drill cuttings and purge water were containerized in 55-gallon drums. The 4 drums containing soil and 7 drums containing water were transported to the 29 Evergreen St. property and stored in the garage for subsequent management as part of National Grid's Operation and Maintenance (O&M) program. A summary of the analytical results from the waste is provided in Table 2. The laboratory report will be included as an appendix to the FER.

Figures

Grid Babylon Site

230 Great East Neck Road
West Babylon, NY 11704



Drilling Location Coordinates:

Designation	Northing (US survey feet)	Easting (US survey feet)
MW-101S	193261	1165660
MW-101D	193263	1165666
MW-102S	193172	1165666
MW-102D	193178	1165668

Legend:

- Storm Sewer Line
- Electric Line
- Overhead Electric
- Unknown Line
- Storm Sewer Manhole
- Storm Sewer Grate
- Utility Pole
- Proposed Drilling Point

Notes:

(1) The objective of this investigation was to locate potential buried man-made objects such as utility pipelines or anomalies directly below and surrounding four (4) proposed drilling points and within a grassy area on site. These buried features may adversely affect planned drilling events on site. To meet this objective SET used a GSSI UtilityScan System with a 350-megahertz (MHz) ground-penetrating radar (GPR) antenna, a Fisher TW-6 M-Scope and an RD7100 radio frequency (RF) device by Radiodetection, Inc.

(2) SET surveyed a total of four (4) proposed drilling locations. All locations selected as a final drilling point displayed geophysical characteristics which were not indicative of buried utility pipelines or anomalous zones that may adversely affect drilling operations. SET determined these points as final when the RF and M-Scope instrument responses were constant and when GPR responses did not indicate the presence of buried objects. These locations were marked on the ground with spray paint as a white dot inside a white circle.

(3) SET Identified a buried electric line and a buried unknown line within the grassy investigation area shown on Figure 1. Buried storm sewer lines were identified within the area of the proposed drilling locations. All detected buried utility lines were marked in the field with spray paint and/or pin flags and annotated on Figures 1 and 2 following the American Public Works Association (APWA) uniform color code standards for utility mark-outs.

(4) The positions of buried pipelines and buried features should be considered approximate. This map is an annotated georeferenced orthophoto. Refer to field markings for actual positions.

(5) The items on this figure may not be all inclusive. SET does not warrant the fact that additional buried features may be present at this site.

Approximate Scale

0 — 100 — 200

(1 inch = 50 U.S. survey feet)

SET GEOPHYSICS & DRILLING SERVICES
SUBSURFACE ENVIRONMENTAL TECH., LLC.
230 U.S. ROUTE 130
BORDENTOWN, NJ 08505

GRID BABYLON SITE
ANNOTATED GEOREFERENCED ORTHOPHOTO SHOWING PROPOSED DRILLING LOCATIONS, BURIED UTILITIES & SITE FEATURES

ADDRESS: 230 GREAT EAST NECK RD, WEST BABYLON, NY 11704

CLIENT: AECOM - MARK MCCABE

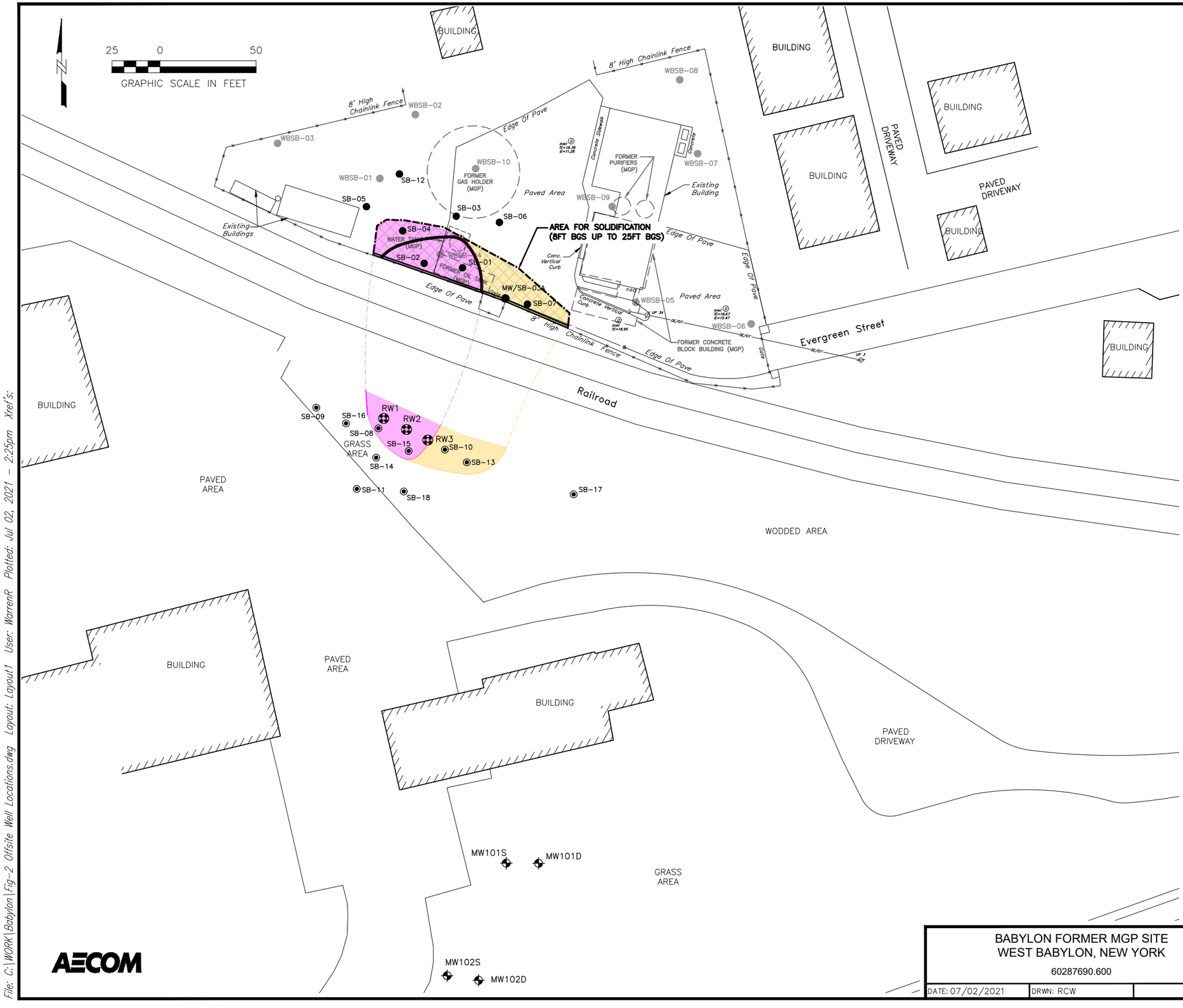
PROJECT: 21-050G

SUBSURFACE ENVIRONMENTAL TECHNOLOGIES, LLC.

FIGURE DATE: MARCH 1, 2021

DRAWN BY: G. BRENNAN, PG, STAFF GEOPHYSICIST

FIGURE 1



LEGEND

- PSA SOIL SAMPLE LOCATION
- RI SOIL SAMPLE LOCATION
- RI SOIL/GROUNDWATER SAMPLE LOCATION
- RECOVERY WELL LOCATION
- MONITORING WELL LOCATION
- FORMER MGP STRUCTURE
- FORMER FUEL TANK STRUCTURE
- UTILITY POLE
- DRAIN
- CLEAN OUT
- FENCE
- VALVE
- GUY WIRE
- UNDERGROUND ELECTRIC
- OVERHEAD ELECTRIC/TELEPHONE
- TREE LINE
- ELECTRIC BOX
- POST
- AREA FOR SOLIDIFICATION
- MGP CONSTITUENT CONCENTRATIONS GREATER THAN NYSDEC COMMERCIAL CRITERIA
- VISIBLE EVIDENCE OF IMPACTS - LENSES
- VISIBLE EVIDENCE OF IMPACTS - STRINGERS/BLEBS
- * DASHED BOUNDARIES WHERE INFERRED

AECOM

BABYLON FORMER MGP SITE
WEST BABYLON, NEW YORK
60287690.600

OFF-SITE WELL LOCATIONS

DATE: 07/02/2021 | DRWN: RCW | **FIGURE 2**

File: C:\WORK\Babylon\Fig-2 Offsite Well Locations.dwg Layout: Layout1 User: WarrenR Plotted: Jul 02, 2021 - 2:25pm Xref's:

Tables

Table 1
Summary of Air Monitoring Results
Installation of Recovery and Monitoring Results - Off-Site Property
Babylon Former MGP Site

Respirable Particulate Matter					
Test Date	**April 5, 2021**	**April 6, 2021**	**April 7, 2021**	**April 8, 2021**	**April 9, 2021**
Upwind Location					
Test Start Time	8:47:42 AM	8:45:22 AM	8:11:08 AM	8:40:01 AM	7:56:14 AM
Test Length [D:H:M]	0:05:28	0:03:13	0:01:24	0:05:57	0:04:15
Number of Samples	328	193	84	357	255
Mass Average [mg/m3]	0.007	0.001	0.008	0.0	0.002
Mass Minimum [mg/m3]	0.003	<0.01	<0.01	<0.01	<0.01
Mass Maximum [mg/m3]	0.064	0.029	0.023	0.069	0.044
Alert Level Exceedances (0.150 mg/m3)	0	0	0	0	0
Downwind Location					
Test Start Time	8:49:59 AM	8:47:32 AM	8:10:13 AM	8:40:32 AM	7:57:43 AM
Test Length [D:H:M]	0:05:25	0:03:20	0:01:21	0:07:19	0:04:13
Number of Samples	325	200	78	354	253
Mass Average [mg/m3]	0.016	0.003	0.011	0.005	0.002
Mass Minimum [mg/m3]	0.005	<0.1	<0.1	<0.1	<0.1
Mass Maximum [mg/m3]	0.06	0.012	0.039	0.069	0.008
Alert Level Exceedances (0.150 mg/m3)	0	0	0	0	0
Total Volatile Organic Compounds					
Test Date	**April 5, 2021**	**April 6, 2021**	**April 7, 2021**	**April 8, 2021**	**April 9, 2021**
Upwind Location					
Begin	2:16:37 PM	8:50:58 AM	8:14:19 AM	8:43:34 AM	7:59:17 AM
End	3:23:12 PM	3:17:00 PM	9:38:29 AM	2:44:31 PM	12:17:21 PM
Number of Records	66	195	84	360	258
Peak (ppm)	<0.1	<0.1	0.1	0.4	<0.1
Min (ppm)	<0.1	<0.1	<0.1	<0.1	<0.1
Average (ppm)	<0.1	<0.1	<0.1	<0.1	<0.1
Alert Level Exceedances (5 ppm)	0	0	0	0	0
Downwind Location					
Begin	2:16:40 PM	8:51:16 AM	8:15:03 AM	8:44:59 AM	8:01:17 AM
End	3:24:54 PM	3:24:00 PM	9:38:43 AM	2:43:14 PM	12:16:44 PM
Number of Records	68	200	83	358	255
Peak (ppm)	<0.1	0.1	0.6	0.7	<0.1
Min (ppm)	<0.1	<0.1	<0.1	<0.1	<0.1
Average (ppm)	<0.1	0.1	0.1	<0.1	<0.1
Alert Level Exceedances (5 ppm)	0	0	0	0	0

Table 2
Summary of Analyical Results - Waste Disposal
Installation of Recovery and Monitoring Results - Off-Site Property
Babylon Former MGP Site

Parameters	Soil Cuttings	
	Soil-1	Soil-2
PCBs (ug/kg)		
PCB-1016 (Aroclor 1016)	<37.5	<37.3
PCB-1221 (Aroclor 1221)	<37.5	<37.3
PCB-1232 (Aroclor 1232)	<37.5	<37.3
PCB-1242 (Aroclor 1242)	<37.5	<37.3
PCB-1248 (Aroclor 1248)	<37.5	<37.3
PCB-1254 (Aroclor 1254)	<37.5	<37.3
PCB-1260 (Aroclor 1260)	<37.5	<37.3
Metals TCLP (mg/L)		
Arsenic	<0.050	<0.050
Barium	<1.0	<1.0
Cadmium	<0.012	<0.012
Chromium	<0.050	<0.050
Lead	**0.086**	**0.099**
Selenium	<0.050	<0.050
Silver	<0.050	<0.050
Mercury	<0.00020	<0.00020
Volatile Organic Compounds TCLP (mg/L)		
Benzene	<0.010	<0.010
2-Butanone (MEK)	<0.025	<0.025
Carbon tetrachloride	<0.010	<0.010
Chlorobenzene	<0.010	<0.010
Chloroform	<0.010	<0.010
1,2-Dichloroethane	<0.010	<0.010
1,1-Dichloroethene	<0.010	<0.010
Tetrachloroethene	<0.010	<0.010
Trichloroethene	<0.010	<0.010
Vinyl chloride	<0.010	<0.010
Percent Moisture (%)	**12.2**	**12.1**

Table 2 (Cont.)
Summary of Analyical Results - Waste Disposal
Installation of Recovery and Monitoring Results - Off-Site Property
Babylon Former MGP Site

Parameter	Groundwater GW-1	GW-2
PCBs (ug/L)		
PCB-1016 (Aroclor 1016)	<0.94	<0.94
PCB-1221 (Aroclor 1221)	<0.94	<0.94
PCB-1232 (Aroclor 1232)	<0.94	<0.94
PCB-1242 (Aroclor 1242)	<0.94	<0.94
PCB-1248 (Aroclor 1248)	<0.94	<0.94
PCB-1254 (Aroclor 1254)	<0.94	<0.94
PCB-1260 (Aroclor 1260)	<0.94	<0.94
Total Metals (ug/L)		
Arsenic	<10.0	<10.0
Barium	<200	<200
Cadmium	<2.5	<2.5
Chromium	**54.2**	**51.6**
Lead	<5.0	<5.0
Selenium	<10.0	<10.0
Silver	<10.0	<10.0
Mercury	<0.20	<0.20

Parameter	Groundwater GW-1	GW-2	Parameter	GW-1	GW-2
Total Volatile Organic Compounds (ug/L)					
Acetone	<5.0	<5.0	2,2-Dichloropropane	<1.0	<1.0
Benzene	<1.0	<1.0	1,1-Dichloropropene	<1.0	<1.0
Bromobenzene	<1.0	<1.0	cis-1,3-Dichloropropene	<1.0	<1.0
Bromochloromethane	<1.0	<1.0	trans-1,3-Dichloropropene	<1.0	<1.0
Bromodichloromethane	<1.0	<1.0	1,4-Diethylbenzene	<1.0	<1.0
Bromoform	<1.0	<1.0	Ethanol	<250	<250
Bromomethane	<1.0	<1.0	Ethylbenzene	<1.0	<1.0
2-Butanone (MEK)	<5.0	<5.0	Hexachloro-1,3-butadiene	<1.0	<1.0
n-Butylbenzene	<1.0	<1.0	2-Hexanone	<5.0	<5.0
sec-Butylbenzene	<1.0	<1.0	Isopropylbenzene (Cumene)	<1.0	<1.0
tert-Butylbenzene	<1.0	<1.0	p-Isopropyltoluene	4.7	4.2
Carbon disulfide	<1.0	<1.0	Methylene Chloride	<1.0	<1.0
Carbon tetrachloride	<1.0	<1.0	4-Methyl-2-pentanone (MIBK)	<5.0	<5.0
Chlorobenzene	<1.0	<1.0	Methyl-tert-butyl ether	<1.0	<1.0
Chlorodifluoromethane	<1.0	<1.0	Naphthalene	<1.0	<1.0
Chloroethane	<1.0	<1.0	n-Propylbenzene	<1.0	<1.0
Chloroform	<1.0	<1.0	Styrene	<1.0	<1.0
Chloromethane	<1.0	<1.0	1,1,1,2-Tetrachloroethane	<1.0	<1.0
2-Chlorotoluene	<1.0	<1.0	1,1,2,2-Tetrachloroethane	<1.0	<1.0
4-Chlorotoluene	<1.0	<1.0	Tetrachloroethene	<1.0	<1.0
Dibromochloromethane	<1.0	<1.0	1,2,4,5-tetramethylbenzene	<1.0	<1.0
1,2-Dibromoethane (EDB)	<1.0	<1.0	Toluene	<1.0	<1.0
Dibromomethane	<1.0	<1.0	1,2,3-Trichlorobenzene	<1.0	<1.0
1,2-Dichlorobenzene	<1.0	<1.0	1,2,4-Trichlorobenzene	<1.0	<1.0
1,3-Dichlorobenzene	<1.0	<1.0	1,1,1-Trichloroethane	<1.0	<1.0
1,4-Dichlorobenzene	<1.0	<1.0	1,1,2-Trichloroethane	<1.0	<1.0
trans-1,4-Dichloro-2-butene	<1.0	<1.0	Trichloroethene	<1.0	<1.0
Dichlorodifluoromethane	<1.0	<1.0	Trichlorofluoromethane	<1.0	<1.0
1,1-Dichloroethane	<1.0	<1.0	1,2,3-Trichloropropane	<1.0	<1.0
1,2-Dichloroethane	<1.0	<1.0	1,2,4-Trimethylbenzene	<1.0	<1.0
1,1-Dichloroethene	<1.0	<1.0	1,3,5-Trimethylbenzene	<1.0	<1.0
cis-1,2-Dichloroethene	<1.0	<1.0	Vinyl chloride	<1.0	<1.0
trans-1,2-Dichloroethene	<1.0	<1.0	Xylene (Total)	<3.0	<3.0
1,2-Dichloropropane	<1.0	<1.0	m&p-Xylene	<2.0	<2.0
1,3-Dichloropropane	<1.0	<1.0	o-Xylene	<1.0	<1.0

Attachment A

Boring Logs and Well Construction Diagrams

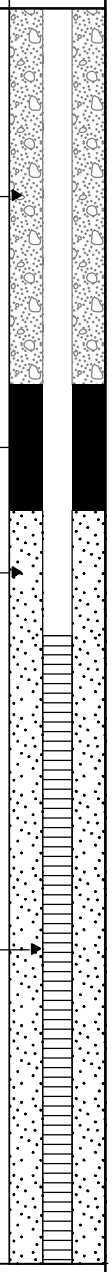
Monitoring Wells

Boring and Well Construction Log

BORING #: MW-101S

Client: National Grid		**Logged By:** SW
Location: Babylon Former MGP	**Northing:** **Easting:**	**Drilling Company:** ADT
Project #: 60286790	**Ground Elevation (ft NAVD88):**	**Depth to Water (ft bgs):** 7
Start Date: 4/6/2021	**Drilling Method:** Sonic	**Well Screen Interval (ft bgs):** 10-20
Finish Date: 4/6/2021	**Borehole Diameter:** 5	**Total Depth (ft):** 20.0

Depth (ft bgs)	Blowcounts	PID	Percent Recovery	Geo Unit	USCS Code	Soil Description Classification Scheme: USCS
0					SP	Grass
2		0			SP	Dark brown f-m SAND, some f-c Gravel, Cobble, trace brick fragments, moist, no odor
4	NA	0	NA			
6		0				
8		0			SP	Brown f-m SAND, little f-c Gravel, moist, no odor
10	NA	0	38			
12		0			GW	Brown f-c GRAVEL, little fine Sand, Cobble, wet, no odor
14		0				
16	NA	0	36		GW	Brown f-c GRAVEL, little fine Sand, Cobble, wet, no odor
18		0				
20	NA	0	32			



Remark: Boring Terminated (ft): 20.0

AECOM
3101 Wilson Boulevard Suite 900
Arlington VA 22201
Phone: 703-682-4900
Fax: 703-682-4901

AECOM

Boring and Well Construction Log

BORING #: MW-101D

Client: National Grid		**Logged By:** SW
Location: Babylon Former MGP	**Northing:** **Easting:**	**Drilling Company:** ADT
Project #: 60286790	**Ground Elevation (ft NAVD88):**	**Depth to Water (ft bgs):** 7
Start Date: 4/6/2021	**Drilling Method:** Sonic	**Well Screen Interval (ft bgs):** 20-30
Finish Date: 4/6/2021	**Borehole Diameter:** 5	**Total Depth (ft):** 30.0

Depth (ft bgs)	Blowcounts	PID	Percent Recovery	Geo Unit	USCS Code	Soil Description Classification Scheme: USCS	Well Construction Details	Well Construction
0					SP	Grass		
2		0			SP	Dark brown f-m SAND, some f-c Gravel, Cobble, trace brick fragments, moist, no odor		
4	NA	0	NA					
6		0			SP	Brown f-m SAND, little f-c Gravel, moist, no odor		
8		0					Grout	
10	NA	0	38		GW	Brown f-c GRAVEL, little fine Sand, Cobble, wet, no odor		
12		0						
14	NA	0	36		GW	Brown f-c GRAVEL, little fine Sand, Cobble, wet, no odor		
16		0					Seal	
18	NA	0	32		GW			
20		0					Filter Pack	

Remark: Boring Terminated (ft): 30.0

AECOM
3101 Wilson Boulevard Suite 900
Arlington VA 22201
Phone: 703-682-4900
Fax: 703-682-4901

(Continued Next Page)

Boring and Well Construction Log

BORING #: MW-101D

Client: National Grid		**Logged By:** SW
Location: Babylon Former MGP	**Northing:** **Easting:**	**Drilling Company:** ADT
Project #: 60286790	**Ground Elevation (ft NAVD88):**	**Depth to Water (ft bgs):** 7
Start Date: 4/62021	**Drilling Method:** Sonic	**Well Screen Interval (ft bgs):** 20-30
Finish Date: 4/6/2021	**Borehole Diameter:** 5	**Total Depth (ft):** 30.0

Depth (ft bgs)	Blowcounts	PID	Percent Recovery	Geo Unit	USCS Code	Soil Description Classification Scheme: USCS	Well Construction Details	Well Construction
20								
22	NA	0	32		SP	Light brown fine SAND, little f-c Gravel, wet, no odor	Screen	
24	NA	0	38		SP	Light brown fine SAND, little f-c Gravel, wet, no odor		
26		0						
28	NA	0	30		SP			
30		0						

Remark: Boring Terminated (ft): 30.0

AECOM
3101 Wilson Boulevard Suite 900
Arlington VA 22201
Phone: 703-682-4900
Fax: 703-682-4901

Boring and Well Construction Log

BORING #: MW-102S

Client: National Grid		**Logged By:** SW
Location: Babylon Former MGP	**Northing:** **Easting:**	**Drilling Company:** ADT
Project #: 60286790	**Ground Elevation (ft NAVD88):**	**Depth to Water (ft bgs):** 7
Start Date: 4/5/2021	**Drilling Method:** Sonic	**Well Screen Interval (ft bgs):** 10-20
Finish Date: 4/5/2021	**Borehole Diameter:** 5	**Total Depth (ft):** 20.0

Depth (ft bgs)	Blowcounts	PID	Percent Recovery	Geo Unit	USCS Code	Soil Description Classification Scheme: USCS
0					FILL	Grass
2		0			FILL	Dark brown f-m SAND, some f-c Gravel, concrete fragment @ 1', dry, no odor
4		0				
6	NA	0	NA		SP	Light brown fine SAND, little f-c Gravel, moist, no odor
8		0			SP	Light brown fine SAND, little f-c Gravel, moist, no odor
10	NA	0	26			
12		0			SP	Light brown fine SAND, some f-c Gravel, wet, no odor
14		0				
16	NA	0	39		SW	Light brown f-c SAND, some f-c Gravel, wet, no odor
18		0				
20	NA	0	36		SP	Light brown fine SAND, trace f-c Gravel, wet, no odor

Well Construction Details: Grout; Seal; Filter Pack; Screen

Well Construction

Remark: Boring Terminated (ft): 20.0

AECOM
3101 Wilson Boulevard Suite 900
Arlington VA 22201
Phone: 703-682-4900
Fax: 703-682-4901

AECOM

Boring and Well Construction Log

BORING #: MW-102D

Client: National Grid		**Logged By:** SW
Location: Babylon Former MGP	**Northing:** **Easting:**	**Drilling Company:** ADT
Project #: 60286790	**Ground Elevation (ft NAVD88):**	**Depth to Water (ft bgs):** 7
Start Date: 4/5/2021	**Drilling Method:** Sonic	**Well Screen Interval (ft bgs):** 20-30
Finish Date: 4/5/2021	**Borehole Diameter:** 5	**Total Depth (ft):** 30.0

Depth (ft bgs)	Blowcounts	PID	Percent Recovery	Geo Unit	USCS Code	Soil Description Classification Scheme: USCS	Well Construction Details	Well Construction
0					FILL	Grass		
2		0			FILL	Dark brown f-m SAND, some f-c Gravel, concrete fragment @ 1', dry, no odor		
4	NA	0	NA		SP	Light brown fine SAND, little f-c Gravel, moist, no odor		
6		0			SP	Light brown fine SAND, little f-c Gravel, moist, no odor		
8		0					Grout	
10	NA	0	26		SP	Light brown fine SAND, some f-c Gravel, wet, no odor		
12		0						
14	NA	0	39		SP	Light brown fine SAND, trace f-c Gravel, wet, no odor		
16		0					Seal	
18	NA	0	36		SW	Light brown f-c SAND, some f-c Gravel, wet, no odor	Filter Pack	
20		0						

Remark: Boring Terminated (ft): 30.0

AECOM
3101 Wilson Boulevard Suite 900
Arlington VA 22201
Phone: 703-682-4900
Fax: 703-682-4901

(Continued Next Page)

Boring and Well Construction Log

BORING #: MW-102D

Client: National Grid		**Logged By:** SW
Location: Babylon Former MGP	**Northing:** **Easting:**	**Drilling Company:** ADT
Project #: 60286790	**Ground Elevation (ft NAVD88):**	**Depth to Water (ft bgs):** 7
Start Date: 4/5/2021	**Drilling Method:** Sonic	**Well Screen Interval (ft bgs):** 20-30
Finish Date: 4/5/2021	**Borehole Diameter:** 5	**Total Depth (ft):** 30.0

Depth (ft bgs)	Blowcounts	PID	Percent Recovery	Geo Unit	USCS Code	Soil Description Classification Scheme: USCS	Well Construction Details	Well Construction
20								
22	NA	0	36		SP	Brown fine SAND, little f-c Gravel, wet, no odor	Screen	
24	NA	0	30					
26		0						
28	NA	0	36		SP	Brown fine SAND, little f-c Gravel, wet, no odor		
30		0						

Remark: Boring Terminated (ft): 30.0

AECOM
3101 Wilson Boulevard Suite 900
Arlington VA 22201
Phone: 703-682-4900
Fax: 703-682-4901

Attachment B

Boring Logs and Well Construction Diagrams

NAPL Recovery Wells

Boring and Well Construction Log

BORING #: RW-1

Client: National Grid		**Logged By:** SW
Location: Babylon Former MGP	**Northing:** **Easting:**	**Drilling Company:** ADT
Project #: 60286790	**Ground Elevation (ft NAVD88):**	**Depth to Water (ft bgs):** 7
Start Date: 4/12/2021	**Drilling Method:** Sonic	**Well Screen Interval (ft bgs):** 10-25
Finish Date: 4/13/2021	**Borehole Diameter:** 10	**Total Depth (ft):** 35.0

Depth (ft bgs)	Blowcounts	PID	Percent Recovery	Geo Unit	USCS Code	Soil Description Classification Scheme: USCS
0					FILL	Grass
2		0			FILL	Dark brown f-m SAND, some f-c Gravel, Cobbles, dry, no odor
4	NA	0	NA		SP	Light brown fine SAND, little f-c Gravel, moist, no odor
6		0			SP	Light brown fine SAND, little f-c Gravel, moist, no odor
8		0			SP	Brownish gray fine SAND, trace fine Gravel, moist, no odor
10	NA	0			SP	Brown fine SAND, little f-c Gravel, moist, no odor
12		0			SP	Brown f-c SAND, some f-c Gravel, wet, no odor
14	NA	0				
16		0			SP	Brown f-c SAND, some f-c Gravel, wet, no odor
18	NA	0				
20		0				

Well Construction Details: Grout; Seal; Glass Bead Filter Pack; Screen

Well Construction

Remark: Boring Terminated (ft): 35.0

AECOM
3101 Wilson Boulevard Suite 900
Arlington VA 22201
Phone: 703-682-4900
Fax: 703-682-4901

(Continued Next Page)

AECOM

Boring and Well Construction Log

BORING #: RW-1

Client: National Grid		**Logged By:** SW
Location: Babylon Former MGP	**Northing:** **Easting:**	**Drilling Company:** ADT
Project #: 60286790	**Ground Elevation (ft NAVD88):**	**Depth to Water (ft bgs):** 7
Start Date: 4/12/2021	**Drilling Method:** Sonic	**Well Screen Interval (ft bgs):** 10-25
Finish Date: 4/13/2021	**Borehole Diameter:** 10	**Total Depth (ft):** 35.0

Depth (ft bgs)	Blowcounts	PID	Percent Recovery	Geo Unit	USCS Code	Soil Description Classification Scheme: USCS	Well Construction Details	Well Construction
20								
22	NA	0	NA		SP	Brown fine SAND, litte f-c Gravel, wet, no odor		
24	NA	0	36					
26	NA	0				Brown fine SAND, litte f-c Gravel, wet, no odor	Cement Basket	
28	NA	0			SP			
30	NA	0	26			Brown fine SAND, litte f-c Gravel, wet, no odor	Stainless Steel Sump	
32	NA	0			SP			
34	NA	0	40					

Remark: Boring Terminated (ft): 35.0

AECOM
3101 Wilson Boulevard Suite 900
Arlington VA 22201
Phone: 703-682-4900
Fax: 703-682-4901

AECOM

Boring and Well Construction Log

BORING #: RW-2

Client: National Grid		**Logged By:** SW
Location: Babylon Former MGP	**Northing:** **Easting:**	**Drilling Company:** ADT
Project #: 60286790	**Ground Elevation (ft NAVD88):**	**Depth to Water (ft bgs):** 7
Start Date: 4/6/2021	**Drilling Method:** Sonic	**Well Screen Interval (ft bgs):** 10-45
Finish Date: 4/8/2021	**Borehole Diameter:** 10	**Total Depth (ft):** 55.0

Depth (ft bgs)	Blowcounts	PID	Percent Recovery	Geo Unit	USCS Code	Soil Description Classification Scheme: USCS
0					FILL	Grass
2		0			FILL	Dark brown f-c SAND, some f-c Gravel, Cobbles, dry, no odor
4		0			SP	Brown fine SAND, little f-c Gravel, dry, no odor
6	NA	0	NA		SP	Brown fine SAND, little f-c Gravel, dry, no odor
8		0			SW	Brown f-m SAND, some f-c Gravel, moist, no odor
10	NA	0	42			
12		0			SW	Brown f-m SAND, some f-c Gravel, moist, no odor
14		0				
16	NA	0	36		GW	Brown f-c GRAVEL, little f-m Sand, wet, no odor
18		0				
20	NA	0	24			

Well Construction Details: Grout; Seal; Sand Pack

Well Construction

Remark: Boring Terminated (ft): 55.0

AECOM
3101 Wilson Boulevard Suite 900
Arlington VA 22201
Phone: 703-682-4900
Fax: 703-682-4901

(Continued Next Page)

Boring and Well Construction Log

BORING #: RW-2

Client: National Grid		**Logged By:** SW
Location: Babylon Former MGP	**Northing:** **Easting:**	**Drilling Company:** ADT
Project #: 60286790	**Ground Elevation (ft NAVD88):**	**Depth to Water (ft bgs):** 7
Start Date: 4/6/2021	**Drilling Method:** Sonic	**Well Screen Interval (ft bgs):** 10-45
Finish Date: 4/8/2021	**Borehole Diameter:** 10	**Total Depth (ft):** 55.0

Depth (ft bgs)	Blowcounts	PID	Percent Recovery	Geo Unit	USCS Code	Soil Description Classification Scheme: USCS	Well Construction Details	Well Construction
20								
22	NA	0	24		SP	Brown fine SAND, trace coarse Sand, trace f-c Gravel, wet, no odor		
24	NA	0	12		SP			
26	NA	0	12		SP			
28	NA	0	33		SW	Brown f-c SAND, little f-c Gravel, wet, no odor	Screen	
30	NA	0	33		SW			
32	NA	0	30		SW	Brown f-c SAND, little f-c Gravel, wet, no odor		
34	NA	0	30		SW			
36	NA	0	36		SP	Brown fine SAND, trace f-c Gravel, wet, no odor		
38	NA	0	36		SP			
40	NA	0	36		SP			

Remark: Boring Terminated (ft): 55.0

AECOM
3101 Wilson Boulevard Suite 900
Arlington VA 22201
Phone: 703-682-4900
Fax: 703-682-4901

(Continued Next Page)

Boring and Well Construction Log

BORING #: RW-2

Client: National Grid		**Logged By:** SW
Location: Babylon Former MGP	**Northing:** **Easting:**	**Drilling Company:** ADT
Project #: 60286790	**Ground Elevation (ft NAVD88):**	**Depth to Water (ft bgs):** 7
Start Date: 4/6/2021	**Drilling Method:** Sonic	**Well Screen Interval (ft bgs):** 10-45
Finish Date: 4/8/2021	**Borehole Diameter:** 10	**Total Depth (ft):** 55.0

Depth (ft bgs)	Blowcounts	PID	Percent Recovery	Geo Unit	USCS Code	Soil Description Classification Scheme: USCS	Well Construction Details	Well Construction
40								
42	NA	0	36		SP	Brown fine SAND, trace f-c Gravel, wet, no odor		
44	NA	0	42					
46		0					Cement Basket	
48	NA	0	38		SP	Brown fine SAND, trace f-c Gravel, wet, no odor		
50		0					Stainless Steel Sump	
52	NA	0	40		SP	Brown fine SAND, trace f-c Gravel, wet, no odor		
54		0						

Remark: Boring Terminated (ft): 55.0

AECOM
3101 Wilson Boulevard Suite 900
Arlington VA 22201
Phone: 703-682-4900
Fax: 703-682-4901

Boring and Well Construction Log

BORING #: RW-3

Client: National Grid		**Logged By:** SW
Location: Babylon Former MGP	**Northing:** **Easting:**	**Drilling Company:** ADT
Project #: 60286790	**Ground Elevation (ft NAVD88):**	**Depth to Water (ft bgs):** 7
Start Date: 4/9/2021	**Drilling Method:** Sonic	**Well Screen Interval (ft bgs):** 10-25
Finish Date: 4/12/2021	**Borehole Diameter:** 10	**Total Depth (ft):** 35.0

Depth (ft bgs)	Blowcounts	PID	Percent Recovery	Geo Unit	USCS Code	Soil Description Classification Scheme: USCS
0					FILL	Grass
2		0			FILL	Dark brown f-c SAND, some f-c Gravel, trace Silt, Cobble, dry, no odor
4	NA	0	NA		SP	Light brown fine SAND, little f-c Gravel, moist, no odor
6		0			SP	Brown fine SAND, little f-c Gravel, moist, no odor
8		0				
10	NA	0	38		SW	Brown f-c SAND, some f-c Gravel, wet, no odor
12		0				
14	NA	0	36		GW	Brown f-c Gravel, little f-c Sand, wet, no odor
16		0				
18	NA	0	33		SP	Brown fine SAND, little f-c Gravel, wet, no odor
20		0				

Well Construction Details: Grout; Seal; Glass Bead Filter Pack; Screen

Remark: Boring Terminated (ft): 35.0

AECOM
3101 Wilson Boulevard Suite 900
Arlington VA 22201
Phone: 703-682-4900
Fax: 703-682-4901

(Continued Next Page)

Boring and Well Construction Log

BORING #: RW-3

Client: National Grid		**Logged By:** SW
Location: Babylon Former MGP	**Northing:** **Easting:**	**Drilling Company:** ADT
Project #: 60286790	**Ground Elevation (ft NAVD88):**	**Depth to Water (ft bgs):** 7
Start Date: 4/9/2021	**Drilling Method:** Sonic	**Well Screen Interval (ft bgs):** 10-25
Finish Date: 4/12/2021	**Borehole Diameter:** 10	**Total Depth (ft):** 35.0

Depth (ft bgs)	Blowcounts	PID	Percent Recovery	Geo Unit	USCS Code	Soil Description Classification Scheme: USCS
20						
22	NA	0	33		SP	Brown fine SAND, trace fine Gravel, wet, no odor
24	NA	0	36		SP	Brown fine SAND, little f-c Gravel, wet, no odor
26		0				
28	NA	0	38		SP	Brown fine SAND, little f-c Gravel, wet, no odor
30		0				
32	NA	0	27		SP	Brown fine SAND, little f-c Gravel, wet, no odor
34		0				

Well Construction Details: Cement Basket; Stainless Steel Sump

Well Construction

Remark: Boring Terminated (ft): 35.0

AECOM
3101 Wilson Boulevard Suite 900
Arlington VA 22201
Phone: 703-682-4900
Fax: 703-682-4901