



Consulting
Engineers and
Scientists

**Groundwater Monitoring Report
December 2017 (Q4-2017) Annual Sampling Event**

Rockaway Park Former MGP Site

Rockaway Park

Queens County, New York

Order on Consent Index No. D1-0002-98-11

Site No. 2-41-029

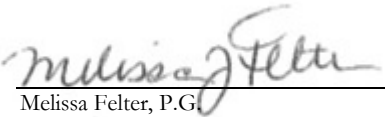
Submitted to:

National Grid
175 East Old Country Road
Hicksville, NY 11801

Submitted by:

GEI Consultants, Inc., P. C.
110 Walt Whitman Road
Huntington Station, NY 11746
631-760-9300

May 2018
Project 093150-4-1408



Melissa Felter, P.G.
Senior Geologist



Matthew O'Neil, P.E.
Senior Engineer

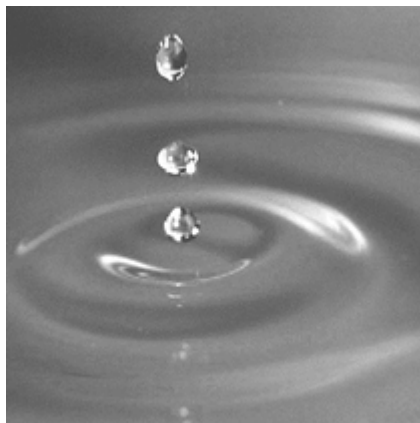


Table of Contents

1. Introduction and Site Background	1
1.1 Site Description	1
1.2 Site History	1
1.3 Site Remedy	2
1.4 Geology	3
1.5 Hydrogeology	4
1.6 Historical Groundwater Monitoring Event Summary	4
2. Rockaway Park Site and Adjacent Off-site Areas	5
2.1 Annual Groundwater Monitoring Event Summary	5
2.2 Monitoring Program	5
2.2.1 Number of Wells	5
2.2.2 Hydrological Data	5
2.2.3 NAPL Gauging	7
2.2.4 Groundwater Analytical Sampling	8
2.2.5 Analytical Results	8
2.3 Future Plans	9

Tables

Attached

- 1 Water Level Measurements and Calculated Groundwater Elevations
- 4 Groundwater Analysis Results

Embedded

- 2a Shallow Groundwater Measurements
- 2b Intermediate Groundwater Measurements
- 2c Deep Groundwater Measurements
- 2d Deep (2) Groundwater Measurements
- 3 DNAPL Gauging Measurements

Figures

- 1 Site Location Map
- 2 Monitoring Well Location Map
- 3 Groundwater Contours (Low Tide)
- 4 Groundwater Contours (High Tide)
- 5 Groundwater Analytical Results

1. Introduction and Site Background

This report presents the December 2017 groundwater monitoring results for the Rockaway Park Former Manufactured Gas Plant (MGP) site located in Rockaway Park, Queens County, New York (the Site) (**Figure 1**). This report has been prepared in accordance with the requirements of Section 6 of *DER-10* (Division of Environmental Remediation) *Technical Guidance for Site Investigation and Remediation*; the Order on Consent, Index No. D1-0002-98-11 signed by National Grid Corporation (National Grid) and the New York State Department of Environmental Conservation (NYSDEC), and the *Draft Site Management Plan* (SMP), *Rockaway Park Former Manufactured Gas Plant, Rockaway Park, New York* prepared by GEI Consultants, Inc. P.C. (GEI), dated March 2017.

1.1 Site Description

The former MGP and former electric substation are identified as Block 16166 and Lot 155 and the majority of Lot 110 on the Queens Tax Map (herein referred to as the “On-Site Property”). The On-Site Property is an approximately 8.9-acre area and is bounded by Beach Channel Drive to the north, Rockaway Freeway to the south, Beach 108th Street to the east, and Rockaway Freeway to the west (see **Figure 2**).

The bulkhead area, which was historically used for off-loading of coal for the former Gas Works, is located North of the On-Site Property. This property, located north of Beach Channel Drive between Rockaway Freeway and Beach 108th Street is identified as Block 16166 Lot 177 on the Queens Tax Map (herein referred to as the “Off-Site Property”). The Off-Site Property is an approximately 1.0-acre area and is bounded by Jamaica Bay to the north, and Beach Channel Drive to the south (see **Figure 2**). National Grid does not own the Off-Site Property.

1.2 Site History

The Rockaway MGP began operations in the late 1870s. The plant was operated by Rockaway Electric Light Co., Town of Hempstead Gas & Electric Company, and later the Queensboro Gas and Electric Company from the late 1870s to 1926. In 1926, Queensboro Gas and Electric Company became a subsidiary of the Long Island Lighting Company (LILCO). LILCO operated the plant from 1926 to approximately 1958, when most of the facilities were demolished. In 1998, KeySpan Corporation acquired the former MGP property through a merger of LILCO and Brooklyn Union Gas Company.

In 1894, the plant consisted of two gas holders, a generator, purifiers and scrubbers. The records indicate that the MGP operated carbureted water gas and coal carbonization processes during early gas production. After 1905, the carbureted water gas process was the only process used during gas production. In 1912, the MGP expanded to the north and east and a portion of the southern property boundary was located beneath the present Rockaway Freeway. The plant now included a half-million cubic foot gas holder, several oxide tanks, generator and boiler buildings, engine room, several oil tanks, and a condenser.

The plant expanded in the mid-1920s to a strip of land to the north of the existing plant. This land was created when Jamaica Bay was filled in during Beach Channel Drive Construction. In 1933, the plant figuration included several additional structures that could allow increased gasification, tar and oil separation and storage, and coke and gas storage. These structures included a 2-million cubic foot gas holder, drip oil tanks, skimming basin, condensers, oxide enclosure, generator ash storage bin, tar separator, tar settling and drying tanks, and tar de-emulsifier. The MGP ceased operations in 1957 and was demolished in 1958.

Five industrial supply wells were formerly located on the MGP property. A mixture of clay, liquid mud, and cement were used to abandon these wells. Three of the wells were abandoned in the 1930s and the abandonment dates of the other two wells are not known.

In October 2002, the NYSDEC approved the National Grid's request to reclassify the northwestern portion of the Rockaway Park former MGP site on the Registry of Inactive Hazardous Waste Disposal Sites. This portion of the Site is the current active substation. It was delisted based on investigation results and a risk assessment which concluded that the construction worker subsurface-soil exposure in the proposed substation area did not pose an unacceptable carcinogenic health threat or non-cancer health hazard.

1.3 Site Remedy

The NYSDEC-approved remedy for the Site involved four components. The following is a summary of the Remedial Actions performed at the Site:

- A shallow excavation was completed to the approximate depth of the water table at 8-feet below grade at the Site. Outside of the shallow excavation limits, the upper 2 feet of material was removed to accommodate the installation of the On-Site Soil Cover System. Approximately 165,292 tons of material was excavated and disposed of off site.
- A composite dense non-aqueous phase liquid (DNAPL) migration barrier was constructed at the Site to contain impacted materials at the Site. The location of composite On-Site DNAPL migration barrier is depicted in **Figure 2** and consists of the following components:
 - A 695-foot long Waterloo Barrier® sheet pile barrier was installed. The Waterloo Barrier® sheet piling was installed to depths of 50-feet on the flanks and 60 feet in the center of the wall.
 - Soil-cement jet grout columns were installed to a depth of approximately 120 feet below ground surface (ft bgs) with a continuous 5-foot wall overlap with the 250-foot long center section of the Waterloo Barrier® sheet piles.
- The Off-Site DNAPL migration barrier consists of a 137-foot long Waterloo Barrier® sheet pile barrier. The Waterloo Barrier® sheet piling was installed to depths of 60 to 70 feet bgs.
- A Cover System was installed on both the On-Site and Off-Site Properties.
 - The On-Site Soil Cover System consists of an 18-inch layer of well graded sandy soil material overlain with 6 inches of 2.5-inch crushed stone and underlain with a fabric demarcation barrier between the On-Site Soil Cover System and the subgrade materials.

- o The Off-Site Composite Cover System consists of either a 24-inch layer of clean fill meeting the Restricted Residential Use SCOs underlain with a fabric demarcation barrier between the Composite Cover System and the subgrade materials or an asphalt/concrete surface, underlain with 6-inches of clean fill and a fabric demarcation barrier.
- Forty-one passive DNAPL recovery wells were installed. One of the recovery wells was destroyed in 2015 and was not replaced with approval from the NYSDEC. The locations of the remaining 40 recovery wells are depicted in **Figure 2**.

In accordance with the Decision Document and the Draft SMP, National Grid began annual post remedy monitoring of the groundwater at the Site in the Fourth Quarter of 2016 (Q4 2016). This data provides a baseline of groundwater analytical results following completion of the remedy to evaluate the overall effectiveness of the remedial action.

1.4 Geology

Three major stratigraphic units were identified during the Remedial Investigation (RI) and Final RI drilling program:

- Recent/post glacial fill
- Barrier island deposits
- Glacial outwash deposits

A general description of the three stratigraphic units is provided below.

Fill Material

Fill material is distributed throughout the site investigation areas and was placed in a series of land area expansions from approximately the 1800s to the 1930s. The Sanborn Fire Insurance maps indicate that approximately the northern two-thirds of the site investigation areas were part of Jamaica Bay in 1894. Retaining wall remnants are still present at the Site and mark former bulkheads that supported these filling activities.

Fill material observed at the site consisted primarily of sand with minor amounts of finer and coarser material. The fill material also includes variable amounts of coal, tar coke, clinkers, slag wood, concrete, brick, ash, glass, and crushed shell fragments. Fill materials were encountered to approximately 10 to 15 ft bgs in most of the site areas. Fill was observed to approximately 30 ft bgs in the bulkhead area.

Barrier Island Deposits

Underlying the fill unit throughout much of the Site are sandy, shell-bearing deposits interpreted as recent near-shore, beach, and dune deposits. These are identified as the barrier island deposits. The barrier island deposits contain minor amounts of silt and clay lenses. In addition, shell-bearing layers ranging from approximately 2 feet to 29 feet thick were observed. These layers sometimes contained coarser sand and gravels. The barrier island deposits were observed through the depths of most

borings in the site investigation areas. The deposits are approximately 55 to 70 feet thick throughout the Site.

Underlying the barrier island deposits at approximately 55 to 70 ft bgs, a distinct color change was observed from gray to brown in borings located throughout the Site. This was interpreted as a transition between the barrier island deposits and the glacial outwash deposits. The transitional zone is approximately 35 to 40 feet thick. Also, a silty sand layer was observed between 65 and 95 ft bgs in this transitional layer.

Glacial Deposits

Underneath the transitional zone, glacial deposits consisting of primarily well-sorted brown outwash sands were encountered. The glacial deposits were encountered at approximately 95 to 105 ft bgs. Some silty sand lenses were observed in the borings at approximately 100 ft bgs in some of the borings.

1.5 Hydrogeology

There is one shallow, unconfined aquifer beneath the Site. Wells were installed at consistent, yet arbitrary, depth intervals in order to evaluate different groundwater zones of the aquifer during the RI. The zones selected are identified as follows: shallow “S” (wells screened at the water table ranging from 2 to 17 feet ft bgs), intermediate “I” (wells screened from 17 to 45 ft bgs), deep “D” (wells screened from 45 to 90 ft bgs), and deep (2) “D2” (wells screened from 90 to 105 ft bgs).

Groundwater depths were collected from all accessible monitoring wells at low and high tides based on the survey tidal mark and tide charts obtained from the National Oceanic and Atmospheric Administration. The water table was observed at approximately 8 ft bgs during monitoring events at the Site.

Three tidal studies have been conducted to confirm the groundwater flow at and adjacent to the Site. In general, groundwater at low tide on the eastern portion of the Site flows northeast towards Jamaica Bay, and shallow groundwater on the western portion of the Site flows northwest towards Jamaica Bay. At high tide, the shallow groundwater contour map depicts the presence of a groundwater divide (or trough) on the Site from the former location of PZ-06 on the southwest corner to the former location of MW-02 on the eastern edge of the Site. This trough is the result of high tidal levels within Jamaica Bay causing shallow groundwater to flow southerly toward the Site during high tide. However, this effect does not “over-ride” the dominant shallow discharge pattern toward Jamaica Bay across the entire Site, thus creating a localized trough. South of the trough, the shallow groundwater still flows north toward Jamaica Bay, even during high tide.

1.6 Historical Groundwater Monitoring Event Summary

Groundwater monitoring events were conducted at the Site in February 2009 and October 2014. The post-remedy baseline sampling was completed in Q4 2016 and annual sampling began in the Fourth Quarter of 2017 (Q4 2017).

2. Rockaway Park Site and Adjacent Off-site Areas

2.1 Annual Groundwater Monitoring Event Summary

Event Dates: December 18-22, 2017, and January 2, 2018

Site Phase: Post Remedial Annual Groundwater Monitoring

Location: Rockaway Park Former MGP Site

2.2 Monitoring Program

2.2.1 Number of Wells

A total of 61 monitoring wells and recovery wells are located at or adjacent to the Site. The monitoring well and recovery well locations are depicted in **Figure 2**. Sixty-three wells are included in the post-remedy annual gauging and sampling plan at the Site described in Section 4.3 of the SMP. Monitoring wells RPMW-02D and RPMW-02D2 were identified as destroyed during the October 2016 baseline groundwater sampling event. A total of 48 monitoring wells and recovery wells were sampled during the annual groundwater sampling event. Monitoring and recovery wells included in Table 6 of the SMP were omitted from annual sampling event due to the presence of non-aqueous phase liquid (NAPL) in the wells.

2.2.2 Hydrological Data

Groundwater levels were measured at 59 monitoring wells and recovery wells on December 18, 2017 at both high and low tides. Two monitoring wells, RPMW-02S and RPMW-11S were not accessible for either the high or low tide measurements. Depth to groundwater and calculated groundwater elevations are provided in **Table 1**. Shallow, intermediate, deep, and deep (2) groundwater contours and elevations for the December 2017 sampling event are depicted in **Figures 3 and 4**. The groundwater flow direction in the shallow zone was generally to the northeast during low tide and southeast during high tide. The groundwater flow direction in the intermediate zone is to the northwest during low tide and west during high tide. The groundwater flow direction in the deep zone is to the northwest during low tide and west during high tide. The groundwater flow direction in the deep (2) zone is to the northeast during low and high tide. The depth to water and water table elevation data for the shallow, intermediate, deep, and deep (2) portions of the aquifer are presented below in **Tables 2a-2d**.

Table 2a – Shallow Groundwater Measurements

Well ID	Low Tide Depth to Water (feet)	Low Tide Water Elevation (feet above MSL)	High Tide Depth to Water (feet)	High Tide Water Elevation (feet above MSL)
RPMW-01S	Not accessible	-	5.78	1.09
RPMW-02S	Not accessible	-	Not accessible	-
RPMW-03S	5.09	1.13	4.89	1.33
RPMW-04S	6.43	5.05	6.33	5.15
RPMW-11S	Not accessible	-	Not accessible	-
RPMW-14S	No water	-	11.47	0.9
RPMW-17S	Not accessible	-	5.23	0.8
RPMW-19S	6.91	1.34	6.22	2.03
RPMW-26S	5.91	1.82	Not accessible	-
RW-05A	9.01	0.23	8.00	1.24
RW-06A	9.04	0.35	8.29	1.1
RW-13A	8.1	0.65	7.45	1.3

Table 2b – Intermediate Groundwater Measurements

Well ID	Low Tide Depth to Water (feet)	Low Tide Water Elevation (feet above MSL)	High Tide Depth to Water (feet)	High Tide Water Elevation (feet above MSL)
RPMW-01I	7.21	-0.52	4.80	1.89
RPMW-02I	11.81	-1.78	5.27	4.76
RPMW-03I	7.61	-1.2	4.71	1.70
RPMW-04I	9.21	1.49	9.02	1.68
RPMW-11I	Not accessible	-	6.30	1.90
RPMW-14I	11.18	0.52	10.60	1.10
RPMW-17I	Not accessible	-	5.47	2.12
RW-03	11.29	-1.09	8.58	1.62
RW-04A	11.10	-1.12	8.46	1.52
RW-05B	9.22	0.21	8.04	1.39
RW-07A	4.48	5.57	9.18	0.87
RW-09	10.23	0.31	9.74	0.80
RW-10	10.91	-0.18	9.93	0.80
RW-11	10.23	0.65	9.43	1.45
RW-12A	9.41	1.26	9.55	1.12
RW-12B	11.37	-0.27	9.56	1.54
RW-14B	8.30	0.32	7.36	1.26
RW-16A	8.00	0.34	7.01	1.33
RW-17A	7.73	0.17	8.21	-0.31
RW-18A	10.21	-1.7	6.51	2.00
RW-02A	11.12	-2.47	9.13	-0.48
RW-02B	9.61	-0.64	6.22	2.74
RW-01A	10.51	-1.96	6.22	2.33
RW-19A	9.61	-1.12	9.80	-1.31
RW-20A	9.19	-0.8	9.55	-1.16

Table 2c – Deep Groundwater Measurements

Well ID	Low Tide Depth to Water (feet)	Low Tide Water Elevation (feet above MSL)	High Tide Depth to Water (feet)	High Tide Water Elevation (feet above MSL)
RPMW-03D	7.41	-0.29	4.63	2.49
RPMW-11D	7.33	0.79	6.10	2.02
RPMW-14D	12.26	0.76	11.73	1.29
RPMW-17D	5.11	2.46	5.41	2.16
RW-04B	11.16	-1.47	9.71	-0.02
RW-05C	9.67	-0.02	8.41	1.24
RW-06B	9.72	0.05	8.40	1.37
RW-07B	10.22	0.1	8.43	1.89
RW-08B	9.62	0.03	9.33	0.32
RW-13B	8.00	1.04	8.01	1.03
RW-15A	8.72	0.15	7.60	1.27
RW-17B	7.52	1.24	7.21	1.55
RW-18B	10.81	-2.28	6.89	1.64
RW-18C	9.16	-0.66	9.99	-1.49
RW-02C	11.71	-2.92	8.92	-0.13
RW-01B	11.31	-2.67	8.08	0.56
RW-01C	11.21	-2.59	8.38	0.24
RW-19B	11.21	-2.68	7.88	0.65
RW-19C	9.22	-0.69	8.20	0.33
RW-20B	11.22	-2.87	7.83	0.52
RW-20C	11.31	-3.10	7.84	0.37

Table 2d – Deep (2) Groundwater Measurements

Well ID	Low Tide Depth to Water (feet)	Low Tide Water Elevation (feet above MSL)	High Tide Depth to Water (feet)	High Tide Water Elevation (feet above MSL)
RPMW-14D2	No Water	-	10.78	0.83
RW-15B	9.02	-0.33	7.60	1.09
RW-16B	8.10	1.14	7.41	1.83

2.2.3 NAPL Gauging

All of the existing wells in the groundwater monitoring network are gauged for the presence of NAPL during each groundwater monitoring event. The thickness measurements recorded during the baseline sampling event are shown below in **Table 3**.

Table 3 – DNAPL Gauging Measurements

Well ID	October 2016 DNAPL Thickness (feet)	December 2017 DNAPL Thickness (feet)	Estimated Recovery Rate (feet/day)
RW-03	0.083	0.083	0
RW-05B	5.0	6.583	0.0038
RW-06A	5.5	5.5	0
RW-06B	1.0	1.0	0
RW-07A	0.417	0.667	0.0006
RW-07B	3.5	3.75	0.0006

Well ID	October 2016 DNAPL Thickness (feet)	December 2017 DNAPL Thickness (feet)	Estimated Recovery Rate (feet/day)
RW-13A	0.5	0	-0.0012
RW-15B	0.667	0	-0.0015
RW-16A	0.833	0.083	-0.0017
RW-16B	5.5	5.5	0
RW-17A	0.25	0.25	0

Historically, the recovery rates for DNAPL at recovery wells RW-06A and RW-16B and the recovery rates from former monitoring wells collected in 2003 and 2005 during previous recovery rate evaluations have been approximately 0.04 feet/day. Over the 1-year 2-month period between October 2016 and December 2017, recovery rates ranged between -0.0017 and 0.0038 feet/day.

2.2.4 Groundwater Analytical Sampling

The 2017 groundwater sampling event was performed from December 18 to 22, 2017 and on January 2, 2018 and included all accessible wells on the annual sampling list. If monitoring wells with measurable NAPL thicknesses were identified during the sampling event, they were not be sampled in accordance with the provisions of the SMP. A total of 46 monitoring wells and recovery wells were sampled for the following analytes:

- Volatile organic compounds (VOCs) via Environmental Protection Agency (EPA) Method 8260
- Semi-volatile organic compounds (SVOCs) via EPA Method 8270
- Total Cyanide via EPA Method 9012B
- Free Cyanide via EPA Method 9016

2.2.5 Analytical Results

The discussion below focuses on the analytical results from the current sampling event compared to the baseline sampling event performed in October 2016. The laboratory analytical results for the December 2017 sampling event are included in **Table 4**.

VOCs

VOC detections above the New York State Technical and Operational Guidance Series (TOGS), 1.1.1 – Ambient Water Quality Standards and Guidance Values (AWQS) for Class GA groundwater were generally limited to benzene, toluene, ethylbenzene and xylene (BTEX). Exceptions include detections of acetone in RW-19B and concentrations of isopropylbenzene in 20 samples exceeded the AWQS, ranging from 1.9 to 36 times the AWQS value. The maximum detection of acetone, a contaminant found in laboratory operations, was approximately 73 percent lower than maximum detection from the baseline event. The maximum detection of isopropylbenzene was approximately 12 percent higher than the maximum detection in the baseline event. Total BTEX concentrations ranged from less than method detection limits (ND) in 12 of the 46 wells sampled, to 7,660 micrograms per liter (µg/L) in RW-05C, similar to the maximum detected in the baseline event. Individual BTEX compound concentrations above the AWQS were identified in 27 of the 37 wells with detections. The detections in wells with exceedances of the AWQS are summarized in **Table 4**.

SVOCs

SVOC detections above the AWQS included both PAHs and other SVOCs. Total PAH concentrations ranged from ND in 14 of the 46 wells sampled to 10,573 µg/L in RW-03, 39% higher than the maximum detection in the baseline sampling event. Additionally, concentrations of biphenyl (1,1-biphenyl) and phenol exceeded the AWQS in 11 and 2 of the 48 wells, respectively. Maximum concentrations of biphenyl(1,1-biphenyl) and phenol were approximately 87% higher and 94% lower, respectively, than the maximum concentrations in the baseline event. The detections in wells with concentrations above the AWQS are summarized in **Table 4**.

Cyanides

Total and free cyanide were analyzed in each well sampled during the groundwater monitoring event. Free cyanide was detected in 24 samples, the maximum concentration detected was approximately 73% lower than the 2016 baseline sampling event. Total cyanide was detected in 34 of 48 wells with 9 samples exceeding the AWQS, similar to the range observed in the baseline event.

2.3 Future Plans

- Continue annual post-remedy sampling in Q4 2018 as proposed in the SMP.
- Submit future groundwater data in the Periodic Review Report following approval of the SMP.

Tables

Table 1 - Water Level Measurements and Calculated Groundwater Elevations
Groundwater Monitoring Report Q4 -2017
Rockaway Park Former MGP Site
Rockaway Park, New York

Monitoring Well ID	Well Diameter/Type	Screened Interval (ft bgs)	Total Depth (ft bgs)	Top of Casing Elevation (feet NAVD88)	Location	Low Tide				High Tide			
						Depth To Water	Groundwater Elevation (feet NAVD88)	Time of Water Measurement	DNAPL Thickness	Depth To Water	Groundwater Elevation (feet NAVD88)	Time of Water Measurement	DNAPL Thickness
RPMW-01S	2-inch PVC	5-15	17	6.87	Beach Channel Drive	not accessible	-	-	-	5.78	1.09	720	0
RPMW-01I	2-inch PVC	35-45	47	6.69	Beach Channel Drive	7.21	-0.52	1448	0	4.8	1.89	710	0
RPMW-02S	2-inch PVC	5-15	17	10.04	Beach Channel Drive	not accessible	-	-	-	not accessible	-	-	-
RPMW-02I	2-inch PVC	35-45	47	10.03	Beach Channel Drive	11.81	-1.78	1417	0	5.27	4.76	748	0
RPMW-02D	2-inch PVC	64-74	76	10.01	Beach Channel Drive	Destroyed/CNL	-	-	-	Destroyed/CNL	-	-	-
RPMW-02D2	2-inch PVC	95-105	107	10.07	Beach Channel Drive	Destroyed/CNL	-	-	-	Destroyed/CNL	-	-	-
RPMW-03S	2-inch PVC	5-15	17	6.22	Beach Channel Drive	5.09	1.13	1350	0	4.89	1.33	727	0
RPMW-03I	2-inch PVC	35-45	47	6.41	Beach Channel Drive	7.61	-1.2	1351	0	4.71	1.7	728	0
RPMW-03D	2-inch PVC	65-75	77	7.12	Beach Channel Drive	7.41	-0.29	1352	0	4.63	2.49	729	0
RPMW-04S	2-inch PVC	5-15	17	11.48	Substation	6.43	5.05	1400	0	6.33	5.15	824	0
RPMW-04I	2-inch PVC	35-45	47	10.7	Substation	9.21	1.49	1400	0	9.02	1.68	826	0
RPMW-11S	2-inch PVC	5-15	17	8.18	Beach Channel Drive	not accessible	-	-	-	not accessible	-	-	-
RPMW-11I	2-inch PVC	35-45	47	8.2	Beach Channel Drive	not accessible	-	-	-	6.3	1.9	714	0
RPMW-11D	2-inch PVC	65-75	77	8.12	Beach Channel Drive	7.33	0.79	1445	0	6.1	2.02	716	0
RPMW-14S	2-inch PVC	5-15	17	12.37	On-Site	no water	-	1402	0	11.47	0.9	820	0
RPMW-14I	2-inch PVC	35-45	47	11.7	On-Site	11.18	0.52	1400	0	10.6	1.1	815	0
RPMW-14D	2-inch PVC	66-76	78	13.02	On-Site	12.26	0.76	1407	0	11.73	1.29	810	0
RPMW-14D2	2-inch PVC	95-105	107	11.61	On-Site	no water	-	1406	0	10.78	0.83	805	0
RPMW-17S	2-inch PVC	5-15	17	6.03	Beach 108th Street	not accessible	-	-	-	5.23	0.8	716	0
RPMW-17I	2-inch PVC	35-45	47	7.59	Beach 108th Street	not accessible	-	-	-	5.47	2.12	719	0
RPMW-17D	2-inch PVC	65-75	77	7.57	Beach 108th Street	5.11	2.46	1343	0	5.41	2.16	721	0
RPMW-19S	2-inch PVC	2.3-12.3	12.3	8.25	Beach Channel Drive	6.91	1.34	1347	0	6.22	2.03	725	0
RPMW-26S	1-inch PVC	3-13	13	7.73	Beach 108th Street	5.91	1.82	1339	0	not accessible	-	-	-
RW-03	4-inch PVC	15-25	30	10.2	On-Site	11.29	-1.09	1359	1"	8.58	1.62	705	1"
RW-04A	4-inch PVC	30-40	45	9.98	On-Site	11.1	-1.12	1401	0	8.46	1.52	710	0
RW-04B	4-inch PVC	40-60	65	9.69	On-Site	11.16	-1.47	1402	0	9.71	-0.02	715	0
RW-05A	4-inch PVC	10-20	25	9.24	On-Site	9.01	0.23	1334	0	8	1.24	715	0
RW-05B	4-inch PVC	25-40	45	9.43	On-Site	9.22	0.21	1340	6' 7"	8.04	1.39	720	6' 7"
RW-05C	4-inch PVC	40-50	55	9.65	On-Site	9.67	-0.02	1331	0	8.41	1.24	725	0
RW-06A	4-inch PVC	10-20	25	9.39	On-Site	9.04	0.35	1358	5' 6"	8.29	1.1	730	5' 6"
RW-06B	4-inch PVC	50-60	65	9.77	On-Site	9.72	0.05	1356	1'	8.4	1.37	735	1'
RW-07A	4-inch PVC	10-30	35	10.05	On-Site	4.48	5.57	1403	8"	9.18	0.87	740	9"
RW-07B	4-inch PVC	40-60	65	10.32	On-Site	10.22	0.1	1405	3' 9"	8.43	1.89	745	3' 9"
RW-08B	4-inch PVC	40-60	65	9.65	On-Site	9.62	0.03	1406	0	9.33	0.32	750	0
RW-09	4-inch PVC	5-30	35	10.54	On-Site	10.23	0.31	1408	0	9.74	0.8	755	0
RW-10	4-inch PVC	5-30	35	10.73	On-Site	10.91	-0.18	1409	0	9.93	0.8	800	0
RW-11	4-inch PVC	20-40	45	10.88	On-Site	10.23	0.65	1408	0	9.43	1.45	805	0
RW-12A	4-inch PVC	20-35	40	10.67	On-Site	9.41	1.26	1412	0	9.55	1.12	810	0
RW-12B	4-inch PVC	35-50	55	11.1	On-Site	11.37	-0.27	1410	0	9.56	1.54	815	0
RW-13A	4-inch PVC	5-20	25	8.75	On-Site	8.1	0.65	1420	0	7.45	1.3	804	0
RW-13B	4-inch PVC	55-60	65	9.04	On-Site	8	1.04	1417	0	8.01	1.03	805	0
RW-14B	4-inch PVC	10-30	35	8.62	On-Site	8.3	0.32	1419	0	7.36	1.26	801	0
RW-15A	4-inch PVC	40-60	65	8.87	On-Site	8.72	0.15	1413	0	7.6	1.27	803	0
RW-15B	4-inch PVC	80-100	105	8.69	On-Site	9.02	-0.33	1413	0	7.6	1.09	809	0
RW-16A	4-inch PVC	10-30	35	8.34	On-Site	8	0.34	1417	1"	7.01	1.33	807	0
RW-16B	4-inch PVC	90-110	115	9.24	On-Site	8.1	1.14	1416	5' 6"	7.41	1.83	809	0
RW-17A	4-inch PVC	10-30	35	7.9	On-Site	7.73	0.17	1412	3"	8.21	-0.31	810	0
RW-17B	4-inch PVC	70-90	95	8.76	On-Site	7.52	1.24	1410	0	7.21	1.55	810	0
RW-18A	4-inch PVC	22-32	37	8.51	Beach Channel Drive	10.21	-1.7	1400	0	6.51	2	735	0
RW-18B	4-inch PVC	42-52	57	8.53	Beach Channel Drive	10.81	-2.28	1401	0	6.89	1.64	736	0
RW-18C	4-inch PVC	62-72	77	8.5	Beach Channel Drive	9.16	-0.66	1356	0	9.99	-1.49	733	0
RW-02A*	4-inch PVC	15-25	30	8.65	Beach Channel Drive	11.12	-2.47	1404	0	9.13	-0.48	739	0
RW-02B*	4-inch PVC	35-45	50	8.96	Beach Channel Drive	9.6	-0.64	1407	0	6.22	2.74	740	0
RW-02C*	4-inch PVC	60-70	75	8.79	Beach Channel Drive	11.71	-2.92	1409	0	8.92	-0.13	741	0
RW-01A*	4-inch PVC	22-32	37	8.55	Beach Channel Drive	10.51	-1.96	1423	0	6.22	2.33	746	0
RW-01B*	4-inch PVC	41-51	56	8.64	Beach Channel Drive	11.31	-2.67	1422	0	8.08	0.56	745	0
RW-01C*	4-inch PVC	61-71	76	8.62	Beach Channel Drive	11.21	-2.59	1421	0	8.38	0.24	748	0
RW-19A*	4-inch PVC	19-29	34	8.49	Beach Channel Drive	9.61	-1.12	1427	0	9.8	-1.31	740	0
RW-19B*	4-inch PVC	41-51	56	8.53	Beach Channel Drive	11.21	-2.68	1431	0	7.88	0.65	733	0
RW-19C*	4-inch PVC	61-71	76	8.53	Beach Channel Drive	9.22	-0.69	1434	0	8.2	0.33	736	0
RW-20A*	4-inch PVC	22-32	37	8.39	Beach Channel Drive	9.19	-0.8	1436	0	9.55	-1.16	736	0
RW-20B*	4-inch PVC	41-51	56	8.35	Beach Channel Drive	11.22	-2.87	1439	0	7.83	0.52	730	0
RW-20C*	4-inch PVC	61-71	76	8.21	Beach Channel Drive	11.31	-3.1	1440	0	7.84	0.37	727	0

Table 4. Groundwater Analysis Results
Rockaway Park Former MGP Site
National Grid
Rockaway Park, New York

Location Name Sample Name Sample Date Parent Sample				RPMW-01S RPMW-01S 12/19/2017	RPMW-01I RPMW-01I 12/19/2017	RPMW-02S RPMW-02S 12/20/2017	RPMW-02I RPMW-02I 12/20/2017	RPMW-03S RPMW-03S 12/19/2017	RPMW-03I RPMW-03I 12/19/2017	RPMW-03D RPMW-03D 12/19/2017	RPMW-04S RPMW-04S 12/18/2017	RPMW-04I RPMW-04I 12/18/2017	RPMW-04I DUP-01 12/18/2017 RPMW-04I	RPMW-11S RPMW-11S 12/22/2017	RPMW-11I RPMW-11I 12/22/2017	RPMW-11D RPMW-11D 12/22/2017	RPMW-14S RPMW-14S 12/19/2017
Analyte	Units	CAS No.	NYS AWQS														
BTEX	ug/L																
Benzene		71-43-2	1	1 U	0.18 J	0.14 J	0.099 J	0.9 J	150	1 U	1 U	0.094 J	0.1 J	3.8	590	1 U	800
Toluene		108-88-3	5	1 U	1 U	1 U	1 U	1 U	0.53 J	1 U	1 U	0.26 J	0.27 J	1 U	32	1 U	13
Ethylbenzene		100-41-4	5	1 U	2.3	1 U	1 U	0.88 J	0.93 J	1 U	1 U	40	41	1 U	2300	1 U	2400
o-Xylene		95-47-6	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.48 J	0.46 J	1 U	550	1 U	520
m/p-Xylene		179601-23-1	5	1 U	1 U	1 U	1 U	0.3 J	0.35 J	1 U	1 U	1 U	1 U	1 U	290	1 U	460
Total BTEX (ND=0)		TBTEX_ND0	NE	ND	2.48	0.14	0.099	2.08	151.81	ND	ND	40.834	41.83	3.8	3762	ND	4193
Other VOCs	ug/L																
Acetone		67-64-1	50*	5 U	7.6 B	5 U	5 U	6.8 B	5.3 B	5.9 B	5 U	5 U	5 U	5 U	25 U	5 U	50 U
Bromochloromethane		74-97-5	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
Bromodichloromethane		75-27-4	50*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
Bromoform		75-25-2	50*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
Bromomethane		74-83-9	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
Carbon disulfide		75-15-0	60*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
Carbon tetrachloride		56-23-5	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
Chlorobenzene		108-90-7	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
Chloroethane		75-00-3	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
Chloroform (Trichloromethane)		67-66-3	7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
Chloromethane		74-87-3	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
Cyclohexane		110-82-7	NE	1 U	1 U	1 U	0.59 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
1,2-Dibromo-3-chloropropane		96-12-8	0.04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 U	5 U	1 U	10 U
Dibromochloromethane		124-48-1	50*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
1,2-Dibromoethane (EDB)		106-93-4	0.0006	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
1,2-Dichlorobenzene (o-DCB)		95-50-1	3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
1,3-Dichlorobenzene (m-DCB)		541-73-1	3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
1,4-Dichlorobenzene (p-DCB)		106-46-7	3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
Dichlorodifluoromethane (Freon 12)		75-71-8	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 U	5 U	1 U	10 U
1,1-Dichloroethane		75-34-3	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
1,2-Dichloroethane		107-06-2	0.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
1,1-Dichloroethene		75-35-4	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
cis-1,2-Dichloroethene		156-59-2	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
trans-1,2-Dichloroethene		156-60-5	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
1,2-Dichloropropane		78-87-5	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
cis-1,3-Dichloropropene		10061-01-5	0.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
trans-1,3-Dichloropropene		10061-02-6	0.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
2-Hexanone		591-78-6	50*	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	50 U
Isopropylbenzene		98-82-8	5	1 U	1.1	0.62 J	1 U	9.3	22	1 U	1 U	14	14	1 U	80	1 U	78
Methyl acetate		79-20-9	NE	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	50 U
Methyl ethyl ketone (2-Butanone)		78-93-3	50*	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	50 U
Methyl tert-butyl ether (MTBE)		1634-04-4	10*	1 U	0.46 J	1 U	1 U	1 U	0.27 J	1 U	1 U	1 U	1 U	1 U	7.3	1 U	10 U
4-Methyl-2-pentanone (MIBK)		108-10-1	NE	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	50 U
Methylcyclohexane		108-87-2	NE	1 U	1 U	1 U	0.62 J	1 U	0.24 J	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
Methylene chloride		75-09-2	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
Styrene		100-42-5	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
1,1,2,2-Tetrachloroethane		79-34-5	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U

Table 4. Groundwater Analysis Results
Rockaway Park Former MGP Site
National Grid
Rockaway Park, New York

Location Name Sample Name Sample Date Parent Sample				RPMW-01S RPMW-01S 12/19/2017	RPMW-01I RPMW-01I 12/19/2017	RPMW-02S RPMW-02S 12/20/2017	RPMW-02I RPMW-02I 12/20/2017	RPMW-03S RPMW-03S 12/19/2017	RPMW-03I RPMW-03I 12/19/2017	RPMW-03D RPMW-03D 12/19/2017	RPMW-04S RPMW-04S 12/18/2017	RPMW-04I RPMW-04I 12/18/2017	RPMW-04I DUP-01 12/18/2017 RPMW-04I	RPMW-11S RPMW-11S 12/22/2017	RPMW-11I RPMW-11I 12/22/2017	RPMW-11D RPMW-11D 12/22/2017	RPMW-14S RPMW-14S 12/19/2017
Analyte	Units	CAS No.	NYS AWQS														
Tetrachloroethene (PCE)		127-18-4	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		76-13-1	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
1,2,3-Trichlorobenzene		87-61-6	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
1,2,4-Trichlorobenzene		120-82-1	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
1,1,1-Trichloroethane (TCA)		71-55-6	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
1,1,2-Trichloroethane		79-00-5	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
Trichloroethene (TCE)		79-01-6	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
Trichlorofluoromethane (Freon 11)		75-69-4	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
Vinyl chloride		75-01-4	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	10 U
NYSDEC PAH17	ug/L																
Acenaphthene		83-32-9	20*	10 U	6.8 J	21	2.3 J	15	48	10 U	10 U	25	25	10 U	150 J	10 U	17 J
Acenaphthylene		208-96-8	NE	10 U	0.76 J	10 U	8.4 J	10 U	10 U	10 U	10 U	80	79	10 U	250 U	10 U	51 U
Anthracene		120-12-7	50*	10 U	10 U	2.2 J	1.5 J	10 U	10 U	10 U	10 U	1 J	0.94 J	10 U	250 U	10 U	51 U
Benzo(a)anthracene		56-55-3	0.002*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	5.1 U
Benzo(b)fluoranthene		205-99-2	0.002*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	5.1 U
Benzo(k)fluoranthene		207-08-9	0.002*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	5.1 U
Benzo(g,h,i)perylene		191-24-2	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
Benzo(a)pyrene		50-32-8	ND	1 U	1 U	1 U	0.16 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	5.1 U
Chrysene		218-01-9	0.002*	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U	2 U	10 U
Dibenz(a,h)anthracene		53-70-3	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	5.1 U
Fluoranthene		206-44-0	50*	10 U	10 U	3.1 J	2.4 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
Fluorene		86-73-7	50*	10 U	10 U	10 U	12	10 U	10 U	10 U	10 U	2 J	2.1 J	10 U	250 U	10 U	6.6 J
Indeno(1,2,3-cd)pyrene		193-39-5	0.002*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	5.1 U
2-Methylnaphthalene		91-57-6	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	84 J	10 U	16 J
Naphthalene		91-20-3	10*	10 U	10 U	0.97 J	1.4 J	12	3 J	10 U	10 U	1.1 J	1.3 J	10 U	3300	10 U	880
Phenanthrene		85-01-8	50*	10 U	10 U	9.3 J	8.7 J	10 U	2.5 J	10 U	10 U	4.6 J	5 J	10 U	28 J	10 U	5.3 J
Pyrene		129-00-0	50*	10 U	10 U	4.6 J	4.9 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
Total PAH (17) (ND=0)		TPAH17_ND0	NE	ND	7.56	41.17	41.76	27	53.5	ND	ND	113.7	113.34	ND	3562	ND	924.9
NYSDEC PAH17 Other SVOCs	ug/L																
Acetophenone		98-86-2	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	12 J
Atrazine		1912-24-9	7.5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U*	50 U*	2 U*	10 U
Benzaldehyde		100-52-7	NE	10 U	10 U*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U*	250 U*	10 U*	51 U
Biphenyl (1,1-Biphenyl)		92-52-4	5	10 U	10 U	10 U	1.9 J	10 U	10 U	10 U	10 U	2.1 J	2 J	10 U	24 J	10 U	51 U
Bis(2-chloroethoxy)methane		111-91-1	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
Bis(2-chloroethyl)ether		111-44-4	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	5.1 U
2,2-oxybis(1-Chloropropane)		108-60-1	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
Bis(2-ethylhexyl)phthalate		117-81-7	5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U	2 U	10 U
4-Bromophenyl phenyl ether		101-55-3	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
Butyl benzyl phthalate		85-68-7	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
Caprolactam		105-60-2	NE	10 U	10 U*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
Carbazole		86-74-8	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.4 J	1.3 J	10 U	250 U	10 U	51 U
4-Chloro-3-methylphenol		59-50-7	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
4-Chloroaniline		106-47-8	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
2-Chloronaphthalene		91-58-7	10*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
2-Chlorophenol		95-57-8	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U

Table 4. Groundwater Analysis Results
Rockaway Park Former MGP Site
National Grid
Rockaway Park, New York

Location Name Sample Name Sample Date Parent Sample				RPMW-01S RPMW-01S 12/19/2017	RPMW-01I RPMW-01I 12/19/2017	RPMW-02S RPMW-02S 12/20/2017	RPMW-02I RPMW-02I 12/20/2017	RPMW-03S RPMW-03S 12/19/2017	RPMW-03I RPMW-03I 12/19/2017	RPMW-03D RPMW-03D 12/19/2017	RPMW-04S RPMW-04S 12/18/2017	RPMW-04I RPMW-04I 12/18/2017	RPMW-04I DUP-01 12/18/2017 RPMW-04I	RPMW-11S RPMW-11S 12/22/2017	RPMW-11I RPMW-11I 12/22/2017	RPMW-11D RPMW-11D 12/22/2017	RPMW-14S RPMW-14S 12/19/2017
Analyte	Units	CAS No.	NYS AWQS														
4-Chlorophenyl phenyl ether		7005-72-3	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
Dibenzofuran		132-64-9	NE	10 U	10 U	10 U	1.1 J	10 U	0.96 J	10 U	10 U	3.7 J	3.5 J	10 U	250 U	10 U	51 U
3,3-Dichlorobenzidine		91-94-1	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
2,4-Dichlorophenol		120-83-2	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
Diethyl phthalate		84-66-2	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
Dimethyl phthalate		131-11-3	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
2,4-Dimethylphenol		105-67-9	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
Di-n-butyl phthalate		84-74-2	50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
4,6-Dinitro-2-methylphenol		534-52-1	NE	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	500 U	20 U	100 U
2,4-Dinitrophenol		51-28-5	10*	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 UJ	20 UJ	20 U	500 U	20 U	100 U
2,4-Dinitrotoluene		121-14-2	5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U	2 U	10 U
2,6-Dinitrotoluene		606-20-2	5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U	2 U	10 U
Di-n-octyl phthalate		117-84-0	50*	10 U*	10 U	10 U	10 U	10 U	10 U*	10 U*	10 U	10 UJ	10 UJ	10 U	250 U	10 U	51 U
Hexachlorobenzene		118-74-1	0.04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	5.1 U
1,3-Hexachlorobutadiene (C-46)		87-68-3	0.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	5.1 U
Hexachlorocyclopentadiene		77-47-4	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
Hexachloroethane		67-72-1	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	5.1 U
Isophorone		78-59-1	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
2-Methylnaphthalene		91-57-6	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	84 J	10 U	16 J
2-Methylphenol (o-Cresol)		95-48-7	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
4-Methylphenol (p-Cresol)		106-44-5	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
2-Nitroaniline		88-74-4	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
3-Nitroaniline		99-09-2	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
4-Nitroaniline		100-01-6	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
Nitrobenzene		98-95-3	0.4	1 U	1 U	1 U	1 U	1 U*	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	5.1 U*
2-Nitrophenol		88-75-5	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
4-Nitrophenol		100-02-7	NE	20 U	20 U	20 U	20 U	20 U*	20 U	20 U	20 U	20 U	20 U	20 U	500 U	20 U	100 U*
N-Nitrosodiphenylamine (NDFA)		86-30-6	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
N-Nitrosodi-n-propylamine (NDPA)		621-64-7	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	5.1 U
Pentachlorophenol		87-86-5	1	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	500 U	20 U	100 U
Phenol		108-95-2	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
1,2,4,5-Tetrachlorobenzene		95-94-3	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
2,3,4,6-Tetrachlorophenol		58-90-2	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
2,4,5-Trichlorophenol		95-95-4	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
2,4,6-Trichlorophenol		88-06-2	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	51 U
Cyanides	ug/L																
Free Cyanide		FREECN	NE	3.5 J	5 U	2.7 J	1.5 J	5 U	5 U	5 U	3.3 J	5 U	5 U	5 U	5 U	5 U	1.7 J
Total Cyanide		57-12-5	200	281	30.3	307	4.6 J	43.4	33.4	10 U	195 J	10 U	10 U	129	77.7	4.1 J	204

Table 4. Groundwater Analysis Results
Rockaway Park Former MGP Site
National Grid
Rockaway Park, New York

Location Name Sample Name Sample Date Parent Sample				RPMW-14I RPMW-14I 12/21/2017	RPMW-14D RPMW-14D 12/18/2017	RPMW-14D2 RPMW-14D2 1/2/2018	RPMW-17S RPMW-17S 12/19/2017	RPMW-17I RPMW-17I 12/19/2017	RPMW-17D RPMW-17D 12/18/2017	RPMW-19S RPMW-19S 12/21/2017	RPMW-26S RPMW-26S 12/22/2017	RW-01A RW-01A 12/20/2017	RW-01B RW-01B 12/20/2017	RW-01B DUP-02 12/20/2017 RW-01B	RW-01C RW-01C 12/20/2017	RW-02A RW-02A 12/20/2017	RW-02B RW-02B 12/20/2017
Analyte	Units	CAS No.	NYS AWQS														
BTEX	ug/L																
Benzene		71-43-2	1	1 U	1 U	1.2	170	0.95 J	0.092 J	530	1 U	5.4	1 U	0.091 J	0.099 J	5.3	0.56 J
Toluene		108-88-3	5	1 U	1 U	1 U	69	5.1	0.37 J	2	1 U	0.53 J	1 U	1 U	0.3 J	1.4	1 U
Ethylbenzene		100-41-4	5	1 U	1 U	1 U	2900	30	0.99 J	4.3	1 U	3.5	1 U	1 U	1 U	1.2	1 U
o-Xylene		95-47-6	5	1 U	1 U	1 U	680	1.3	1 U	17	1 U	0.35 J	1 U	1 U	1 U	2.4	1 U
m/p-Xylene		179601-23-1	5	1 U	1 U	1 U	190	1.2	1 U	7.7	1 U	0.58 J	1 U	1 U	1 U	3.1	1 U
Total BTEX (ND=0)		TBTEX_ND0	NE	ND	ND	1.2	4009	38.55	1.452	561	ND	10.36	ND	0.091	0.399	13.4	0.56
Other VOCs	ug/L																
Acetone		67-64-1	50*	5 U	5 U	5 U	50 U	5 U	5 U	10 U	5 U	12	5 U	5 U	5 U	8.3	5 U
Bromochloromethane		74-97-5	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane		75-27-4	50*	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform		75-25-2	50*	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane		74-83-9	5	1 U	1 U	1 UJ	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide		75-15-0	60*	1 U	1 U	0.92 J	10 U	1 U	1 U	2 U	1 U	0.57 J	1 U	1 U	5.3	1 U	1 U
Carbon tetrachloride		56-23-5	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene		108-90-7	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane		75-00-3	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform (Trichloromethane)		67-66-3	7	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	0.23 J	1 U	1 U
Chloromethane		74-87-3	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cyclohexane		110-82-7	NE	1 U	1 U	1 U	5.5 J	2.9	1 U	0.82 J	1 U	1 U	0.88 J	0.9 J	1 U	1 U	0.55 J
1,2-Dibromo-3-chloropropane		96-12-8	0.04	1 U	1 UJ	1 U	10 U	1 U	1 UJ	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane		124-48-1	50*	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane (EDB)		106-93-4	0.0006	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene (o-DCB)		95-50-1	3	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene (m-DCB)		541-73-1	3	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene (p-DCB)		106-46-7	3	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane (Freon 12)		75-71-8	5	1 U	1 UJ	1 UJ	10 U	1 U	1 UJ	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane		75-34-3	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane		107-06-2	0.6	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene		75-35-4	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene		156-59-2	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene		156-60-5	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane		78-87-5	1	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene		10061-01-5	0.4	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene		10061-02-6	0.4	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone		591-78-6	50*	5 U	5 U	5 U	50 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene		98-82-8	5	1 U	1 U	1 U	180	110	1 U	110	1 U	1 U	1 U	1 U	1 U	1 U	1.8
Methyl acetate		79-20-9	NE	5 U	5 U	5 U	50 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methyl ethyl ketone (2-Butanone)		78-93-3	50*	5 U	5 U	5 U	50 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methyl tert-butyl ether (MTBE)		1634-04-4	10*	1 U	1 U	1 U	10 U	0.31 J	1 U	0.62 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone (MIBK)		108-10-1	NE	5 U	5 U	5 U	50 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	3.3 J	5 U
Methylcyclohexane		108-87-2	NE	1 U	1 U	1 U	7 J	2.4	1 U	0.93 J	1 U	1 U	1 U	0.62 J	1 U	1 U	0.59 J
Methylene chloride		75-09-2	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene		100-42-5	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane		79-34-5	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Table 4. Groundwater Analysis Results
Rockaway Park Former MGP Site
National Grid
Rockaway Park, New York

Location Name Sample Name Sample Date Parent Sample				RPMW-14I RPMW-14I 12/21/2017	RPMW-14D RPMW-14D 12/18/2017	RPMW-14D2 RPMW-14D2 1/2/2018	RPMW-17S RPMW-17S 12/19/2017	RPMW-17I RPMW-17I 12/19/2017	RPMW-17D RPMW-17D 12/18/2017	RPMW-19S RPMW-19S 12/21/2017	RPMW-26S RPMW-26S 12/22/2017	RW-01A RW-01A 12/20/2017	RW-01B RW-01B 12/20/2017	RW-01B DUP-02 12/20/2017 RW-01B	RW-01C RW-01C 12/20/2017	RW-02A RW-02A 12/20/2017	RW-02B RW-02B 12/20/2017
Analyte	Units	CAS No.	NYS AWQS														
Tetrachloroethene (PCE)		127-18-4	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		76-13-1	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene		87-61-6	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene		120-82-1	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane (TCA)		71-55-6	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane		79-00-5	1	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene (TCE)		79-01-6	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane (Freon 11)		75-69-4	5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride		75-01-4	2	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
NYSDEC PAH17	ug/L																
Acenaphthene		83-32-9	20*	10 U	10 U	10 U	4 J	10 U	10 U	77	10 U	1.6 J	10 U	10 U	10 U	10 U	15
Acenaphthylene		208-96-8	NE	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	0.74 J	10 U	10 U	0.71 J	10 U
Anthracene		120-12-7	50*	10 U	10 U	10 U	20 U	0.61 J	10 U	50 U	10 U	10 U	10 U	10 U	10 U	0.74 J	10 U
Benzo(a)anthracene		56-55-3	0.002*	1 U	1 U	1 U	2 U	1 U	1 U	5 U	1 U	1 U	0.68 J	1 U	1 U	1 U	1 U
Benzo(b)fluoranthene		205-99-2	0.002*	1 U	1 U	1 U	2 U	1 U	1 U	5 U	1 U	1 U	0.77 J	1 U	1 U	1 U	1 U
Benzo(k)fluoranthene		207-08-9	0.002*	1 U	1 U	1 U	2 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(g,h,i)perylene		191-24-2	NE	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene		50-32-8	ND	1 U	1 U	1 U	2 U	1 U	1 U	5 U	1 U	1 U	0.76 J	1 U	1 U	0.59 J	1 U
Chrysene		218-01-9	0.002*	2 U	2 U	2 U	4 U	2 U	2 U	10 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U
Dibenz(a,h)anthracene		53-70-3	NE	1 U	1 U	1 U	2 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Fluoranthene		206-44-0	50*	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	1.1 J	0.97 J	10 U	10 U	10 U
Fluorene		86-73-7	50*	10 U	10 U	10 U	2.2 J	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene		193-39-5	0.002*	1 U	1 U	1 U	2 U	1 U	1 U	5 U	1 U	1 U	0.51 J	1 U	1 U	0.61 J	1 U
2-Methylnaphthalene		91-57-6	NE	10 U	10 U	10 U	19 J	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene		91-20-3	10*	10 U	10 U	10 U	280	6 J	10 U	290	10 U	3.7 J	10 U	10 U	10 U	10 U	11
Phenanthrene		85-01-8	50*	10 U	10 U	10 U	1.7 J	10 U	10 U	50 U	10 U	0.69 J	10 U	10 U	10 U	10 U	1.5 J
Pyrene		129-00-0	50*	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	4.1 J	3.6 J	10 U	10 U	10 U
Total PAH (17) (ND=0)		TPAH17_ND0	NE	ND	ND	ND	306.9	6.61	ND	367	ND	5.99	8.66	4.57	ND	2.65	27.5
NYSDEC PAH17 Other SVOCs	ug/L																
Acetophenone		98-86-2	NE	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	1.3 J	10 U	10 U	10 U	10 U	10 U
Atrazine		1912-24-9	7.5	2 U	2 U	2 U	4 U	2 U	2 U	10 U	2 U*	2 U	2 U	2 U	2 U	2.1 U	2.1 U
Benzaldehyde		100-52-7	NE	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U*	10 U	10 U	10 U	10 U*	10 U	10 U
Biphenyl (1,1-Biphenyl)		92-52-4	5	10 U	10 U	10 U	3.3 J	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethoxy)methane		111-91-1	5	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether		111-44-4	1	1 U	1 U	1 U	2 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,2-oxybis(1-Chloropropane)		108-60-1	5	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate		117-81-7	5	2 U	2 U	2 U	4 U	2 U	2 U	10 U	2 U	2 U	2 U	2 U	2 U	0.82 J	2.1 U
4-Bromophenyl phenyl ether		101-55-3	NE	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate		85-68-7	50*	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Caprolactam		105-60-2	NE	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U*	10 U	10 U
Carbazole		86-74-8	NE	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol		59-50-7	NE	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline		106-47-8	5	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene		91-58-7	10*	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol		95-57-8	NE	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table 4. Groundwater Analysis Results
Rockaway Park Former MGP Site
National Grid
Rockaway Park, New York

Location Name Sample Name Sample Date Parent Sample				RPMW-14I RPMW-14I 12/21/2017	RPMW-14D RPMW-14D 12/18/2017	RPMW-14D2 RPMW-14D2 1/2/2018	RPMW-17S RPMW-17S 12/19/2017	RPMW-17I RPMW-17I 12/19/2017	RPMW-17D RPMW-17D 12/18/2017	RPMW-19S RPMW-19S 12/21/2017	RPMW-26S RPMW-26S 12/22/2017	RW-01A RW-01A 12/20/2017	RW-01B RW-01B 12/20/2017	RW-01B DUP-02 12/20/2017 RW-01B	RW-01C RW-01C 12/20/2017	RW-02A RW-02A 12/20/2017	RW-02B RW-02B 12/20/2017
Analyte	Units	CAS No.	NYS AWQS														
4-Chlorophenyl phenyl ether		7005-72-3	NE	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran		132-64-9	NE	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3,3-Dichlorobenzidine		91-94-1	5	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol		120-83-2	5	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate		84-66-2	50*	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate		131-11-3	50*	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol		105-67-9	50*	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butyl phthalate		84-74-2	50	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol		534-52-1	NE	20 U	20 U	20 U	40 U	20 U	20 U	100 U	20 U	20 U	20 U	20 U	20 U	21 U	21 U
2,4-Dinitrophenol		51-28-5	10*	20 U	20 UJ	20 U	40 U	20 U	20 UJ	100 U	20 U	20 U	20 U	20 U	20 U	21 U	21 U
2,4-Dinitrotoluene		121-14-2	5	2 U	2 U	2 U	4 U	2 U	2 U	10 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U
2,6-Dinitrotoluene		606-20-2	5	2 U	2 U	2 U	4 U	2 U	2 U	10 U	2 U	2 U	2 U	2 U	2 U	4.3	2.1 U
Di-n-octyl phthalate		117-84-0	50*	10 U	10 UJ	10 U	20 U*	10 U*	10 UJ	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene		118-74-1	0.04	1 U	1 U	1 U	2 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Hexachlorobutadiene (C-46)		87-68-3	0.5	1 U	1 U	1 U	2 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorocyclopentadiene		77-47-4	5	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane		67-72-1	5	1 U	1 U	1 U	2 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isophorone		78-59-1	50*	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene		91-57-6	NE	10 U	10 U	10 U	19 J	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol (o-Cresol)		95-48-7	1	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methylphenol (p-Cresol)		106-44-5	1	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline		88-74-4	5	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline		99-09-2	5	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline		100-01-6	5	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrobenzene		98-95-3	0.4	1 U	1 U	1 U	2 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Nitrophenol		88-75-5	NE	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol		100-02-7	NE	20 U	20 U	20 U	40 U	20 U	20 U	100 U	20 U	20 U	20 U	20 U	20 U	21 U	21 U
N-Nitrosodiphenylamine (NDFA)		86-30-6	50*	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
N-Nitrosodi-n-propylamine (NDPA)		621-64-7	NE	1 U	1 U	1 U	2 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Pentachlorophenol		87-86-5	1	20 U	20 U	20 U	40 U	20 U	20 U	100 U	20 U	20 U	20 U	20 U	20 U	21 U	21 U
Phenol		108-95-2	1	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	5.6 J	10 U	10 U	10 U	0.66 J	10 U
1,2,4,5-Tetrachlorobenzene		95-94-3	5	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,3,4,6-Tetrachlorophenol		58-90-2	NE	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol		95-95-4	NE	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol		88-06-2	NE	10 U	10 U	10 U	20 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cyanides	ug/L																
Free Cyanide		FREECN	NE	5 U	5 U	5 UJ	5 U	5 U	5 U	3.1 J	5 U	2.2 J	4.6 J	7.4	1.5 J	1.9 J	1.9 J
Total Cyanide		57-12-5	200	4 J	10 U	36.9	10 U	10 U	10 U	233	8.8 J	394	3.2 J	2.7 J	2.2 J	348	189

Table 4. Groundwater Analysis Results
Rockaway Park Former MGP Site
National Grid
Rockaway Park, New York

Location Name Sample Name Sample Date Parent Sample				RW-02C RW-02C 12/21/2017	RW-03 RW-03 12/18/2017	RW-04A RW-04A 12/19/2017	RW-04B RW-04B 12/19/2017	RW-05A RW-05A 12/18/2017	RW-05B RW-05B 12/18/2017	RW-05C RW-05C 12/18/2017	RW-12A RW-12A 12/19/2017	RW-12B RW-12B 12/19/2017	RW-13A RW-13A 12/18/2017	RW-13B RW-13B 12/18/2017	RW-18A RW-18A 12/20/2017	RW-18B RW-18B 12/20/2017	RW-18C RW-18C 12/20/2017
Analyte	Units	CAS No.	NYS AWQS														
BTEX	ug/L																
Benzene		71-43-2	1	1.5	980	530	0.32 J	15	2000	4000	110	110	830	1 U	37	0.14 J	1 U
Toluene		108-88-3	5	1.2	15	20	3.1	0.57 J	35	20	7 J	9.4 J	8.4	1 U	20	1 U	1 U
Ethylbenzene		100-41-4	5	2.7	2000	1300	91	7.3	2400	3000	3500	3800	490	1 U	5.5	0.34 J	1 U
o-Xylene		95-47-6	5	2.2	570	310	73	2.5	840	480	890	770	75	1 U	9.3	1 U	1 U
m/p-Xylene		179601-23-1	5	0.54 J	220	99	1.2	1	960	160	560	430	43	1 U	14	0.29 J	1 U
Total BTEX (ND=0)		TBTEX_ND0	NE	8.14	3785	2259	168.62	26.37	6235	7660	5067	5119.4	1446.4	ND	85.8	0.77	ND
Other VOCs	ug/L																
Acetone		67-64-1	50*	5 U	50 U	25 U	5 U	5 U	50 U	100 U	50 U	50 U	25 U	5 U	17	5 U	5 U
Bromochloromethane		74-97-5	5	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
Bromodichloromethane		75-27-4	50*	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
Bromoform		75-25-2	50*	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
Bromomethane		74-83-9	5	1 U	10 UJ	5 U	1 U	1 U	10 UJ	20 U	10 U	10 U	5 UJ	1 U	1 U	1 U	1 U
Carbon disulfide		75-15-0	60*	0.32 J	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
Carbon tetrachloride		56-23-5	5	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
Chlorobenzene		108-90-7	5	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
Chloroethane		75-00-3	5	1 U	10 UJ	5 U	1 U	1 U	10 UJ	20 U	10 U	10 U	5 UJ	1 U	1 U	1 U	1 U
Chloroform (Trichloromethane)		67-66-3	7	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
Chloromethane		74-87-3	5	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
Cyclohexane		110-82-7	NE	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	0.58 J	1 U
1,2-Dibromo-3-chloropropane		96-12-8	0.04	1 U	10 U	5 U	1 U	1 UJ	10 U	20 UJ	10 U	10 U	5 U	1 UJ	1 U	1 U	1 U
Dibromochloromethane		124-48-1	50*	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane (EDB)		106-93-4	0.0006	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene (o-DCB)		95-50-1	3	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene (m-DCB)		541-73-1	3	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene (p-DCB)		106-46-7	3	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane (Freon 12)		75-71-8	5	1 U	10 U	5 U	1 U	1 UJ	10 U	20 UJ	10 U	10 U	5 U	1 UJ	1 U	1 U	1 U
1,1-Dichloroethane		75-34-3	5	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane		107-06-2	0.6	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene		75-35-4	5	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene		156-59-2	5	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene		156-60-5	5	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane		78-87-5	1	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene		10061-01-5	0.4	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene		10061-02-6	0.4	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
2-Hexanone		591-78-6	50*	5 U	50 U	25 U	5 U	5 U	50 U	100 U	50 U	50 U	25 U	5 U	5 U	5 U	5 U
Isopropylbenzene		98-82-8	5	2.9	57	29	46	15	60	76	54	89	32	1 U	1 U	1 U	1 U
Methyl acetate		79-20-9	NE	5 U	50 U	25 U	5 U	5 U	50 U	100 U	50 U	50 U	25 U	5 U	5 U	5 U	5 U
Methyl ethyl ketone (2-Butanone)		78-93-3	50*	5 U	50 U	25 U	5 U	5 U	50 U	100 U	50 U	50 U	25 U	5 U	2.4 J	5 U	5 U
Methyl tert-butyl ether (MTBE)		1634-04-4	10*	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	0.91 J	1 U	0.17 J	1 U	1 U
4-Methyl-2-pentanone (MIBK)		108-10-1	NE	5 U	50 U	25 U	5 U	5 U	50 U	100 U	50 U	50 U	25 U	5 U	11	5 U	5 U
Methylcyclohexane		108-87-2	NE	1 U	10 U	5 U	1 U	0.24 J	10 U	20 U	10 U	10 U	5 U	1 U	1 U	0.66 J	1 U
Methylene chloride		75-09-2	5	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	0.39 J	1 U	1 U
Styrene		100-42-5	5	0.29 J	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1.2	1 U	1 U
1,1,1,2,2-Tetrachloroethane		79-34-5	5	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U

Table 4. Groundwater Analysis Results
Rockaway Park Former MGP Site
National Grid
Rockaway Park, New York

Location Name Sample Name Sample Date Parent Sample				RW-02C RW-02C 12/21/2017	RW-03 RW-03 12/18/2017	RW-04A RW-04A 12/19/2017	RW-04B RW-04B 12/19/2017	RW-05A RW-05A 12/18/2017	RW-05B RW-05B 12/18/2017	RW-05C RW-05C 12/18/2017	RW-12A RW-12A 12/19/2017	RW-12B RW-12B 12/19/2017	RW-13A RW-13A 12/18/2017	RW-13B RW-13B 12/18/2017	RW-18A RW-18A 12/20/2017	RW-18B RW-18B 12/20/2017	RW-18C RW-18C 12/20/2017
Analyte	Units	CAS No.	NYS AWQS														
Tetrachloroethene (PCE)		127-18-4	5	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		76-13-1	5	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene		87-61-6	5	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene		120-82-1	5	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane (TCA)		71-55-6	5	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane		79-00-5	1	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
Trichloroethene (TCE)		79-01-6	5	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane (Freon 11)		75-69-4	5	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
Vinyl chloride		75-01-4	2	1 U	10 U	5 U	1 U	1 U	10 U	20 U	10 U	10 U	5 U	1 U	1 U	1 U	1 U
NYSDEC PAH17	ug/L																
Acenaphthene		83-32-9	20*	8.5 J	250 J	98 J	58	340	300 J	150 J	150 J	270 J	73	10 UJ	4.4 J	10 U	10 U
Acenaphthylene		208-96-8	NE	49	500 U	250 U	320	51 U	1000 U	510 U	250 U	510 U	1.7 J	10 UJ	10 U	10 U	10 U
Anthracene		120-12-7	50*	10 U	500 U	250 U	5.8 J	7.1 J	1000 U	510 U	250 U	510 U	4.7 J	10 UJ	10 U	10 U	10 U
Benzo(a)anthracene		56-55-3	0.002*	1 U	50 U	25 U	5.1 U	5.1 U	100 U	51 U	25 U	51 U	0.7 J	1 UJ	1 U	1 U	1 U
Benzo(b)fluoranthene		205-99-2	0.002*	1 U	50 U	25 U	5.1 U	5.1 U	100 U	51 U	25 U	51 U	1 U	1 UJ	1 U	1 U	1 U
Benzo(k)fluoranthene		207-08-9	0.002*	1 U	50 U	25 U	5.1 U	5.1 U	100 U	51 U	25 U	51 U	1 U	1 UJ	1 U	1 U	1 U
Benzo(g,h,i)perylene		191-24-2	NE	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
Benzo(a)pyrene		50-32-8	ND	1 U	50 U	25 U	5.1 U	5.1 U	100 U	51 U	25 U	51 U	0.41 J	1 UJ	1 U	1 U	1 U*
Chrysene		218-01-9	0.002*	2 U	100 U	50 U	10 U	10 U	200 U	100 U	51 U	100 U	2 U	2.1 UJ	2 U	2 U	2 U
Dibenz(a,h)anthracene		53-70-3	NE	1 U	50 U	25 U	5.1 U	5.1 U	100 U	51 U	25 U	51 U	1 U	1 UJ	1 U	1 U	1 U
Fluoranthene		206-44-0	50*	10 U	500 U	250 U	51 U	11 J	1000 U	510 U	250 U	510 U	3 J	10 UJ	10 U	10 U	10 U
Fluorene		86-73-7	50*	2.4 J	79 J	31 J	6.4 J	140	94 J	48 J	34 J	61 J	33	10 UJ	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene		193-39-5	0.002*	1 U	50 U	25 U	5.1 U	5.1 U	100 U	51 U	25 U	51 U	0.28 J	1 UJ	1 U	1 U	1 U
2-Methylnaphthalene		91-57-6	NE	10 U	670	67 J	51 U	51 U	940 J	610	570	800	20	10 UJ	10 U	10 U	10 U
Naphthalene		91-20-3	10*	15	9500	2700	7.2 J	6.8 J	10000	8400	4000	8000	1.5 J	10 UJ	10	10 U	10 U
Phenanthrene		85-01-8	50*	0.82 J	74 J	25 J	46 J	160	98 J	510 U	22 J	51 J	26	10 UJ	1.1 J	10 U	10 U
Pyrene		129-00-0	50*	10 U	500 U	250 U	51 U	16 J	1000 U	510 U	250 U	510 U	4 J	10 UJ	10 U	10 U	10 U
Total PAH (17) (ND=0)		TPAH17_ND0	NE	75.72	10573	2921	443.4	680.9	11432	9208	4776	9182	168.29	ND	15.5	ND	ND
NYSDEC PAH17 Other SVOCs	ug/L																
Acetophenone		98-86-2	NE	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	4.5 J	10 UJ	10 U	10 U	10 U
Atrazine		1912-24-9	7.5	2 U	100 U	50 U	10 U	10 U	200 U	100 U	51 U	100 U	2 U	2.1 UJ	2 U	2 U	2 U
Benzaldehyde		100-52-7	NE	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
Biphenyl (1,1-Biphenyl)		92-52-4	5	1.1 J	62 J	19 J	5.3 J	38 J	71 J	53 J	36 J	51 J	8.9 J	10 UJ	10 U	10 U	10 U
Bis(2-chloroethoxy)methane		111-91-1	5	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
Bis(2-chloroethyl)ether		111-44-4	1	1 U	50 U	25 U	5.1 U	5.1 U	100 U	51 U	25 U	51 U	1 U	1 UJ	1 U	1 U	1 U
2,2-oxybis(1-Chloropropane)		108-60-1	5	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate		117-81-7	5	2 U	100 U	50 U	10 U	10 U	200 U	100 U	51 U	100 U	2 U	2.1 UJ	2 U	2 U	2 U
4-Bromophenyl phenyl ether		101-55-3	NE	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
Butyl benzyl phthalate		85-68-7	50*	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
Caprolactam		105-60-2	NE	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
Carbazole		86-74-8	NE	10 U	500 U	250 U	12 J	6.7 J	1000 U	510 U	250 U	510 U	7.9 J	10 UJ	10 U	10 U	10 U
4-Chloro-3-methylphenol		59-50-7	NE	10 U	500 U	250 U	51 U	51 UJ	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
4-Chloroaniline		106-47-8	5	10 U*	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
2-Chloronaphthalene		91-58-7	10*	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
2-Chlorophenol		95-57-8	NE	10 U	500 U	250 U	51 U	51 UJ	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U

Table 4. Groundwater Analysis Results
Rockaway Park Former MGP Site
National Grid
Rockaway Park, New York

Location Name Sample Name Sample Date Parent Sample				RW-02C RW-02C 12/21/2017	RW-03 RW-03 12/18/2017	RW-04A RW-04A 12/19/2017	RW-04B RW-04B 12/19/2017	RW-05A RW-05A 12/18/2017	RW-05B RW-05B 12/18/2017	RW-05C RW-05C 12/18/2017	RW-12A RW-12A 12/19/2017	RW-12B RW-12B 12/19/2017	RW-13A RW-13A 12/18/2017	RW-13B RW-13B 12/18/2017	RW-18A RW-18A 12/20/2017	RW-18B RW-18B 12/20/2017	RW-18C RW-18C 12/20/2017
Analyte	Units	CAS No.	NYS AWQS														
4-Chlorophenyl phenyl ether		7005-72-3	NE	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
Dibenzofuran		132-64-9	NE	10 U	500 U	250 U	7.4 J	16 J	1000 U	510 U	250 U	510 U	4.9 J	10 UJ	10 U	10 U	10 U
3,3-Dichlorobenzidine		91-94-1	5	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
2,4-Dichlorophenol		120-83-2	5	10 U	500 U	250 U	51 U	51 UJ	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
Diethyl phthalate		84-66-2	50*	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
Dimethyl phthalate		131-11-3	50*	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
2,4-Dimethylphenol		105-67-9	50*	10 U	500 U	250 U	51 U	51 UJ	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
Di-n-butyl phthalate		84-74-2	50	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol		534-52-1	NE	20 U	1000 U	500 U	100 U	100 UJ	2000 U	1000 U	510 U	1000 U	20 U	21 UJ	20 U	20 U	20 U
2,4-Dinitrophenol		51-28-5	10*	20 U	1000 U	500 U	100 U	100 UJ	2000 U	1000 U	510 U	1000 U	20 UJ	21 UJ	20 U	20 U	20 U
2,4-Dinitrotoluene		121-14-2	5	2 U	100 U	50 U	10 U	10 U	200 U	100 U	51 U	100 U	2 U	2.1 UJ	2 U	2 U	2 U
2,6-Dinitrotoluene		606-20-2	5	2 U	100 U	50 U	10 U	10 U	200 U	100 U	51 U	100 U	2 U	2.1 UJ	2 U	2 U	2 U
Di-n-octyl phthalate		117-84-0	50*	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 UJ	10 UJ	10 U	10 U	10 U
Hexachlorobenzene		118-74-1	0.04	1 U	50 U	25 U	5.1 U	5.1 U	100 U	51 U	25 U	51 U	1 U	1 UJ	1 U	1 U	1 U
1,3-Hexachlorobutadiene (C-46)		87-68-3	0.5	1 U	50 U	25 U	5.1 U	5.1 U	100 U	51 U	25 U	51 U	1 U	1 UJ	1 U	1 U	1 U
Hexachlorocyclopentadiene		77-47-4	5	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
Hexachloroethane		67-72-1	5	1 U	50 U	25 U	5.1 U	5.1 U	100 U	51 U	25 U	51 U	1 U	1 UJ	1 U	1 U	1 U
Isophorone		78-59-1	50*	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
2-Methylnaphthalene		91-57-6	NE	10 U	670	67 J	51 U	51 U	940 J	610	570	800	20	10 UJ	10 U	10 U	10 U
2-Methylphenol (o-Cresol)		95-48-7	1	10 U	500 U	250 U	51 U	51 UJ	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
4-Methylphenol (p-Cresol)		106-44-5	1	10 U	500 U	250 U	51 U	51 UJ	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
2-Nitroaniline		88-74-4	5	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
3-Nitroaniline		99-09-2	5	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
4-Nitroaniline		100-01-6	5	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
Nitrobenzene		98-95-3	0.4	1 U	50 U	25 U*	5.1 U*	5.1 U	100 U	51 U	25 U*	51 U*	1 U	1 UJ	1 U	1 U	1 U
2-Nitrophenol		88-75-5	NE	10 U	500 U	250 U	51 U	51 UJ	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
4-Nitrophenol		100-02-7	NE	20 U	1000 U	500 U*	100 U*	100 UJ	2000 U	1000 U	510 U*	1000 U*	20 U	21 UJ	20 U	20 U	20 U
N-Nitrosodiphenylamine (NDFA)		86-30-6	50*	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
N-Nitrosodi-n-propylamine (NDPA)		621-64-7	NE	1 U	50 U	25 U	5.1 U	5.1 U	100 U	51 U	25 U	51 U	1 U	1 UJ	0.96 J	1 U	1 U
Pentachlorophenol		87-86-5	1	20 U	1000 U	500 U	100 U	100 UJ	2000 U	1000 U	510 U	1000 U	20 U	21 UJ	20 U	20 U	20 U
Phenol		108-95-2	1	10 U*	500 U	250 U	51 U	51 UJ	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
1,2,4,5-Tetrachlorobenzene		95-94-3	5	10 U	500 U	250 U	51 U	51 U	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
2,3,4,6-Tetrachlorophenol		58-90-2	NE	10 U	500 U	250 U	51 U	51 UJ	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
2,4,5-Trichlorophenol		95-95-4	NE	10 U	500 U	250 U	51 U	51 UJ	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
2,4,6-Trichlorophenol		88-06-2	NE	10 U	500 U	250 U	51 U	51 UJ	1000 U	510 U	250 U	510 U	10 U	10 UJ	10 U	10 U	10 U
Cyanides	ug/L																
Free Cyanide		FREECN	NE	5 U	5 U	5 U	5 U	1.5 J	5 U	8.2	1.5 J	5 U	3.1 J	5 U	5 U	8.9	2.4 J
Total Cyanide		57-12-5	200	10 U	10 U	107	23.5	10 U	10 U	10 U	46.6	29.8	152 J	10 U	22.2	4 J	3.2 J

Table 4. Groundwater Analysis Results
Rockaway Park Former MGP Site
National Grid
Rockaway Park, New York

Location Name Sample Name Sample Date Parent Sample				RW-19A RW-19A 12/20/2017	RW-19B RW-19B 12/21/2017	RW-19C RW-19C 12/21/2017	RW-19C Dup-03 12/21/2017 RW-19C	RW-20A RW-20A 12/21/2017	RW-20B RW-20B 12/21/2017	RW-20C RW-20C 12/21/2017
Analyte	Units	CAS No.	NYS AWQS							
BTEX	ug/L									
Benzene		71-43-2	1	8.8	450	1 U	1 U	0.16 J	850	13
Toluene		108-88-3	5	2.7	6.1	1 U	1 U	1 U	7.6	0.65 J
Ethylbenzene		100-41-4	5	0.66 J	680	1 U	1 U	1 U	1200	1.8
o-Xylene		95-47-6	5	1.6	63	1 U	1 U	1 U	95	0.62 J
m/p-Xylene		179601-23-1	5	1.3	28	1 U	1 U	1 U	43	1.5
Total BTEX (ND=0)		TBTEX_ND0	NE	15.06	1227.1	ND	ND	0.16	2195.6	17.57
Other VOCs	ug/L									
Acetone		67-64-1	50*	5 U	56	5 U	5 U	5 U	25 U	42
Bromochloromethane		74-97-5	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
Bromodichloromethane		75-27-4	50*	1 U	5 U	1 U	1 U	1 U	5 U	1 U
Bromoform		75-25-2	50*	1 U	5 U	1 U	1 U	1 U	5 U	1 U
Bromomethane		74-83-9	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
Carbon disulfide		75-15-0	60*	1.4	1.3 J	1 U	1 U	1 U	5 U	1 U
Carbon tetrachloride		56-23-5	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
Chlorobenzene		108-90-7	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
Chloroethane		75-00-3	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
Chloroform (Trichloromethane)		67-66-3	7	1 U	5 U	1 U	1 U	1 U	5 U	1 U
Chloromethane		74-87-3	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
Cyclohexane		110-82-7	NE	1 U	5 U	0.45 J	0.47 J	1 U	5 U	1 U
1,2-Dibromo-3-chloropropane		96-12-8	0.04	1 U	5 U	1 U	1 U	1 U	5 U	1 U
Dibromochloromethane		124-48-1	50*	1 U	5 U	1 U	1 U	1 U	5 U	1 U
1,2-Dibromoethane (EDB)		106-93-4	0.0006	1 U	5 U	1 U	1 U	1 U	5 U	1 U
1,2-Dichlorobenzene (o-DCB)		95-50-1	3	1 U	5 U	1 U	1 U	1 U	5 U	1 U
1,3-Dichlorobenzene (m-DCB)		541-73-1	3	1 U	5 U	1 U	1 U	1 U	5 U	1 U
1,4-Dichlorobenzene (p-DCB)		106-46-7	3	1 U	5 U	1 U	1 U	1 U	5 U	1 U
Dichlorodifluoromethane (Freon 12)		75-71-8	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
1,1-Dichloroethane		75-34-3	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
1,2-Dichloroethane		107-06-2	0.6	1 U	5 U	1 U	1 U	1 U	5 U	1 U
1,1-Dichloroethene		75-35-4	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
cis-1,2-Dichloroethene		156-59-2	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
trans-1,2-Dichloroethene		156-60-5	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
1,2-Dichloropropane		78-87-5	1	1 U	5 U	1 U	1 U	1 U	5 U	1 U
cis-1,3-Dichloropropene		10061-01-5	0.4	1 U	5 U	1 U	1 U	1 U	5 U	1 U
trans-1,3-Dichloropropene		10061-02-6	0.4	1 U	5 U	1 U	1 U	1 U	5 U	1 U
2-Hexanone		591-78-6	50*	5 U	25 U	5 U	5 U	5 U	25 U	5 U
Isopropylbenzene		98-82-8	5	1 U	40	1 U	1 U	1 U	58	4.6
Methyl acetate		79-20-9	NE	5 U	25 U	5 U	5 U	5 U	25 U	5 U
Methyl ethyl ketone (2-Butanone)		78-93-3	50*	5 U	25 U	5 U	5 U	5 U	25 U	5 U
Methyl tert-butyl ether (MTBE)		1634-04-4	10*	0.71 J	5 U	1 U	1 U	1 U	5 U	1 U
4-Methyl-2-pentanone (MIBK)		108-10-1	NE	4.7 J	25 U	5 U	5 U	5 U	25 U	5 U
Methylcyclohexane		108-87-2	NE	1 U	5 U	0.34 J	0.3 J	1 U	5 U	1 U
Methylene chloride		75-09-2	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
Styrene		100-42-5	5	3	5 U	1 U	1 U	1 U	5 U	1 U
1,1,2,2-Tetrachloroethane		79-34-5	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U

Table 4. Groundwater Analysis Results
Rockaway Park Former MGP Site
National Grid
Rockaway Park, New York

Location Name Sample Name Sample Date Parent Sample				RW-19A RW-19A 12/20/2017	RW-19B RW-19B 12/21/2017	RW-19C RW-19C 12/21/2017	RW-19C Dup-03 12/21/2017 RW-19C	RW-20A RW-20A 12/21/2017	RW-20B RW-20B 12/21/2017	RW-20C RW-20C 12/21/2017
Analyte	Units	CAS No.	NYS AWQS							
Tetrachloroethene (PCE)		127-18-4	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		76-13-1	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
1,2,3-Trichlorobenzene		87-61-6	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
1,2,4-Trichlorobenzene		120-82-1	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
1,1,1-Trichloroethane (TCA)		71-55-6	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
1,1,2-Trichloroethane		79-00-5	1	1 U	5 U	1 U	1 U	1 U	5 U	1 U
Trichloroethene (TCE)		79-01-6	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
Trichlorofluoromethane (Freon 11)		75-69-4	5	1 U	5 U	1 U	1 U	1 U	5 U	1 U
Vinyl chloride		75-01-4	2	1 U	5 U	1 U	1 U	1 U	5 U	1 U
NYSDEC PAH17	ug/L									
Acenaphthene		83-32-9	20*	10 U	45 J	10 U	10 U	10 U	120 J	10 U
Acenaphthylene		208-96-8	NE	10 U	200 U	10 U	10 U	10 U	200 U	1 J
Anthracene		120-12-7	50*	10 U	200 U	10 U	10 U	10 U	200 U	10 U
Benzo(a)anthracene		56-55-3	0.002*	1 U	20 U	1 U	1 U	1 U	20 U	1 U
Benzo(b)fluoranthene		205-99-2	0.002*	1 U	20 U	1 U	1 U	1 U	20 U	1 U
Benzo(k)fluoranthene		207-08-9	0.002*	1 U	20 U	1 U	1 U	1 U	20 U	1 U
Benzo(g,h,i)perylene		191-24-2	NE	10 U	200 U	10 U	10 U	10 U	200 U	10 U
Benzo(a)pyrene		50-32-8	ND	1 U	20 U	1 U	1 U	1 U	20 U	1 U
Chrysene		218-01-9	0.002*	2.1 U	40 U	2 U	2 U	2 U	41 U	2 U
Dibenz(a,h)anthracene		53-70-3	NE	1 U	20 U	1 U	1 U	1 U	20 U	1 U
Fluoranthene		206-44-0	50*	10 U	200 U	10 U	10 U	10 U	200 U	10 U
Fluorene		86-73-7	50*	10 U	200 U	10 U	10 U	10 U	29 J	10 U
Indeno(1,2,3-cd)pyrene		193-39-5	0.002*	1 U	20 U	1 U	1 U	1 U	20 U	1 U
2-Methylnaphthalene		91-57-6	NE	10 U	58 J	10 U	10 U	10 U	210	10 U
Naphthalene		91-20-3	10*	1.7 J	2600	10 U	10 U	10 U	3500	20
Phenanthrene		85-01-8	50*	10 U	200 U	10 U	10 U	10 U	25 J	10 U
Pyrene		129-00-0	50*	10 U	200 U	2.3 J	2.3 J	1.5 J	200 U	2.5 J
Total PAH (17) (ND=0)		TPAH17_ND0	NE	1.7	2703	2.3	2.3	1.5	3884	23.5
NYSDEC PAH17 Other SVOCs	ug/L									
Acetophenone		98-86-2	NE	1.6 J	200 U	10 U	10 U	10 U	200 U	10 U
Atrazine		1912-24-9	7.5	2.1 U	40 U	2 U	2 U	2 U	41 U	2 U
Benzaldehyde		100-52-7	NE	10 U	200 U	10 U	10 U	10 U	200 U	10 U
Biphenyl (1,1-Biphenyl)		92-52-4	5	10 U	200 U	10 U	10 U	10 U	21 J	10 U
Bis(2-chloroethoxy)methane		111-91-1	5	10 U	200 U	10 U	10 U	10 U	200 U	10 U
Bis(2-chloroethyl)ether		111-44-4	1	1 U	20 U	1 U	1 U	1 U	20 U	1 U
2,2-oxybis(1-Chloropropane)		108-60-1	5	10 U	200 U	10 U	10 U	10 U	200 U	10 U
Bis(2-ethylhexyl)phthalate		117-81-7	5	0.79 J	40 U	2 U	2 U	2 U	41 U	2 U
4-Bromophenyl phenyl ether		101-55-3	NE	10 U	200 U	10 U	10 U	10 U	200 U	10 U
Butyl benzyl phthalate		85-68-7	50*	10 U	200 U	10 U	10 U	10 U	200 U	10 U
Caprolactam		105-60-2	NE	10 U	200 U	10 U	10 U	10 U	200 U	10 U
Carbazole		86-74-8	NE	10 U	200 U	10 U	10 U	10 U	200 U	10 U
4-Chloro-3-methylphenol		59-50-7	NE	10 U	200 U	10 U	10 U	10 U	200 U	10 U
4-Chloroaniline		106-47-8	5	10 U	200 U*	10 U*	10 U*	10 U*	200 U*	10 U*
2-Chloronaphthalene		91-58-7	10*	10 U	200 U	10 U	10 U	10 U	200 U	10 U
2-Chlorophenol		95-57-8	NE	10 U	200 U	10 U	10 U	10 U	200 U	10 U

Table 4. Groundwater Analysis Results
Rockaway Park Former MGP Site
National Grid
Rockaway Park, New York

Location Name Sample Name Sample Date Parent Sample				RW-19A RW-19A 12/20/2017	RW-19B RW-19B 12/21/2017	RW-19C RW-19C 12/21/2017	RW-19C Dup-03 12/21/2017 RW-19C	RW-20A RW-20A 12/21/2017	RW-20B RW-20B 12/21/2017	RW-20C RW-20C 12/21/2017
Analyte	Units	CAS No.	NYS AWQS							
4-Chlorophenyl phenyl ether		7005-72-3	NE	10 U	200 U	10 U	10 U	10 U	200 U	10 U
Dibenzofuran		132-64-9	NE	10 U	200 U	10 U	10 U	10 U	200 U	10 U
3,3-Dichlorobenzidine		91-94-1	5	10 U	200 U	10 U	10 U	10 U	200 U	10 U
2,4-Dichlorophenol		120-83-2	5	10 U	200 U	10 U	10 U	10 U	200 U	10 U
Diethyl phthalate		84-66-2	50*	10 U	200 U	10 U	10 U	10 U	200 U	10 U
Dimethyl phthalate		131-11-3	50*	10 U	200 U	10 U	10 U	10 U	200 U	10 U
2,4-Dimethylphenol		105-67-9	50*	10 U	200 U	10 U	10 U	10 U	200 U	10 U
Di-n-butyl phthalate		84-74-2	50	10 U	200 U	10 U	10 U	10 U	200 U	10 U
4,6-Dinitro-2-methylphenol		534-52-1	NE	21 U	400 U	20 U	20 U	20 U	410 U	20 U
2,4-Dinitrophenol		51-28-5	10*	21 U	400 U	20 U	20 U	20 U	410 U	20 U
2,4-Dinitrotoluene		121-14-2	5	2.1 U	40 U	2 U	2 U	2 U	41 U	2 U
2,6-Dinitrotoluene		606-20-2	5	2.9	40 U	2 U	2 U	2 U	41 U	2 U
Di-n-octyl phthalate		117-84-0	50*	10 U	200 U	10 U	10 U	10 U	200 U	10 U
Hexachlorobenzene		118-74-1	0.04	1 U	20 U	1 U	1 U	1 U	20 U	1 U
1,3-Hexachlorobutadiene (C-46)		87-68-3	0.5	1 U	20 U	1 U	1 U	1 U	20 U	1 U
Hexachlorocyclopentadiene		77-47-4	5	10 U	200 U	10 U	10 U	10 U	200 U	10 U
Hexachloroethane		67-72-1	5	1 U	20 U	1 U	1 U	1 U	20 U	1 U
Isophorone		78-59-1	50*	10 U	200 U	10 U	10 U	10 U	200 U	10 U
2-Methylnaphthalene		91-57-6	NE	10 U	58 J	10 U	10 U	10 U	210	10 U
2-Methylphenol (o-Cresol)		95-48-7	1	10 U	200 U	10 U	10 U	10 U	200 U	10 U
4-Methylphenol (p-Cresol)		106-44-5	1	0.92 J	200 U	10 U	10 U	10 U	200 U	10 U
2-Nitroaniline		88-74-4	5	10 U	200 U	10 U	10 U	10 U	200 U	10 U
3-Nitroaniline		99-09-2	5	10 U	200 U	10 U	10 U	10 U	200 U	10 U
4-Nitroaniline		100-01-6	5	10 U	200 U	10 U	10 U	10 U	200 U	10 U
Nitrobenzene		98-95-3	0.4	1 U	20 U	1 U	1 U	1 U	20 U	1 U
2-Nitrophenol		88-75-5	NE	10 U	200 U	10 U	10 U	10 U	200 U	10 U
4-Nitrophenol		100-02-7	NE	21 U	400 U	20 U	20 U	20 U	410 U	20 U
N-Nitrosodiphenylamine (NDFA)		86-30-6	50*	10 U	200 U	10 U	10 U	10 U	200 U	10 U
N-Nitrosodi-n-propylamine (NDPA)		621-64-7	NE	1 U	20 U	1 U	1 U	1 U	20 U	1 U
Pentachlorophenol		87-86-5	1	21 U	400 U	20 U	20 U	20 U	410 U	20 U
Phenol		108-95-2	1	14	200 U*	10 U*	10 U*	10 U*	200 U*	10 U*
1,2,4,5-Tetrachlorobenzene		95-94-3	5	10 U	200 U	10 U	10 U	10 U	200 U	10 U
2,3,4,6-Tetrachlorophenol		58-90-2	NE	10 U	200 U	10 U	10 U	10 U	200 U	10 U
2,4,5-Trichlorophenol		95-95-4	NE	10 U	200 U	10 U	10 U	10 U	200 U	10 U
2,4,6-Trichlorophenol		88-06-2	NE	10 U	200 U	10 U	10 U	10 U	200 U	10 U
Cyanides	ug/L									
Free Cyanide		FREECN	NE	2.4 J	1.6 J	5	10.2	5 U	5.3	3.8 J
Total Cyanide		57-12-5	200	831	288	10 U	10 U	164	692	3.2 J

Table 4. Groundwater Analysis Results
Rockaway Park Former MGP Site
National Grid
Rockaway Park, New York

Notes:
Analytes in blue are not detected in any sample
ug/L = micrograms per liter or parts per billion (ppb)

BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes
PAH = Polycyclic Aromatic Hydrocarbon

Total BTEX and Total PAHs are calculated using detects only.
Total PAH16 is calculated using the EPA16 list of analytes: Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Chrysene, Dibenz[a,h]anthracene, Fluoranthene, Fluorene, Indeno[1,2,3-cd]pyrene, Naphthalene, Phenanthrene, and Pyrene
Total PAH17 is calculated using the EPA16 list of analytes plus 2-Methylnaphthalene

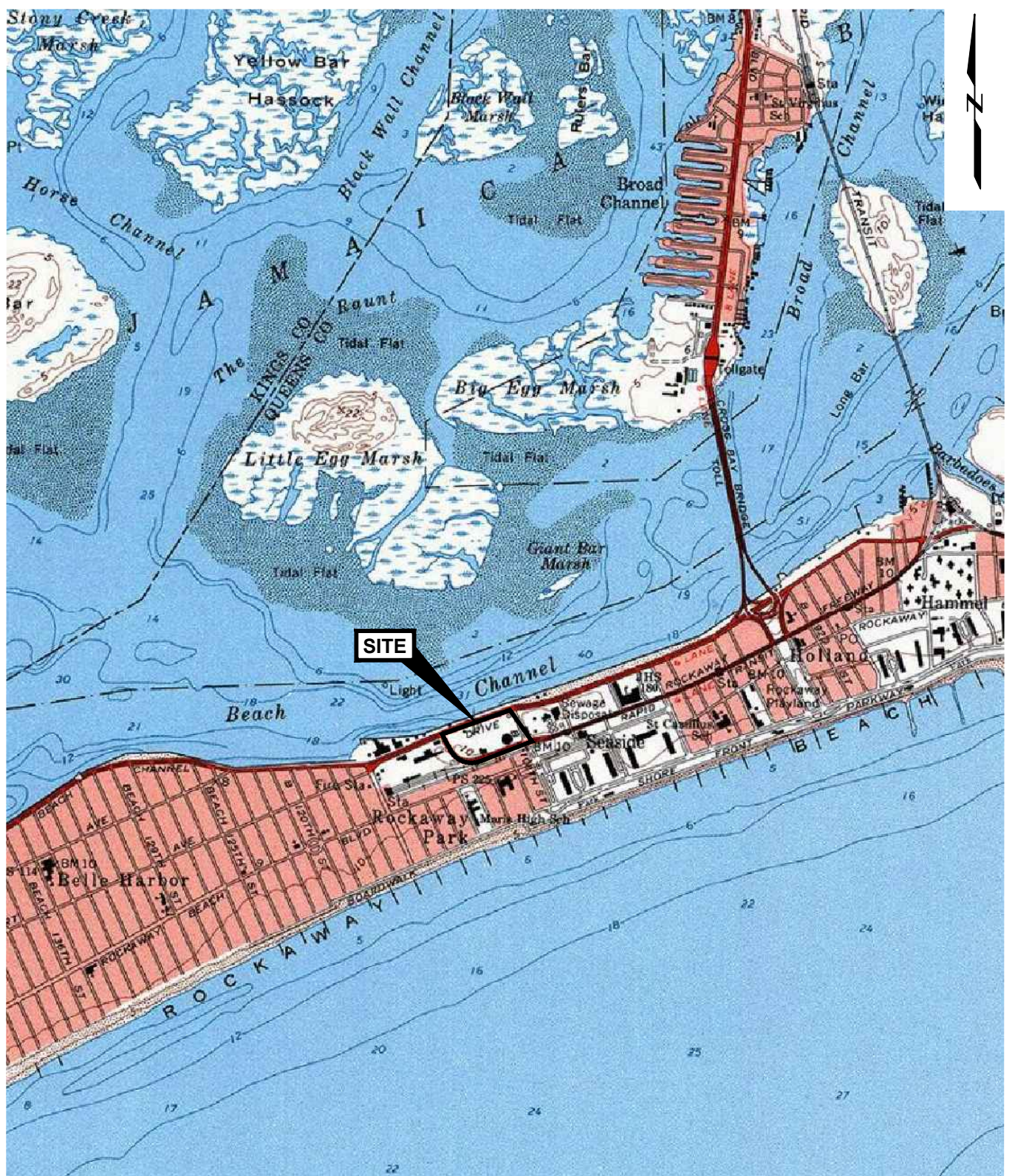
NYS AWQS = New York State Ambient Water Quality Standards and Guidance Values for GA groundwater
* indicates the value is a guidance value and not a standard

CAS No. = Chemical Abstracts Service Number
MGP = Manufactured Gas Plant
NA = Not Analyzed
ND = Not Detected
NE = Not Established
NYSDEC = New York State Department of Environmental Conservation

Bolding indicates a detected result concentration
Gray shading and bolding indicates that the detected result value exceeds the NYS AWQS

Data Qualifiers:
* = The duplicate result was not within control limits.
B - Analyte detected in the associated method blank.
J = The result is an estimated value.
U = The result was not detected above the reporting limit.
UJ = The result was not detected at or above the reporting limit shown and the reporting limit is estimated.

Figures



SOURCE: Map created with TOPO!® © 2001 National Geographic
 (www.nationalgeographic.com/topo)

0 2000 4000
 SCALE: 1" = 2000'

Groundwater Monitoring Report
 Rockaway Park Former MGP Site
 Rockaway Park, New York

nationalgrid

GEI Consultants

SITE LOCATION MAP

Project 093150

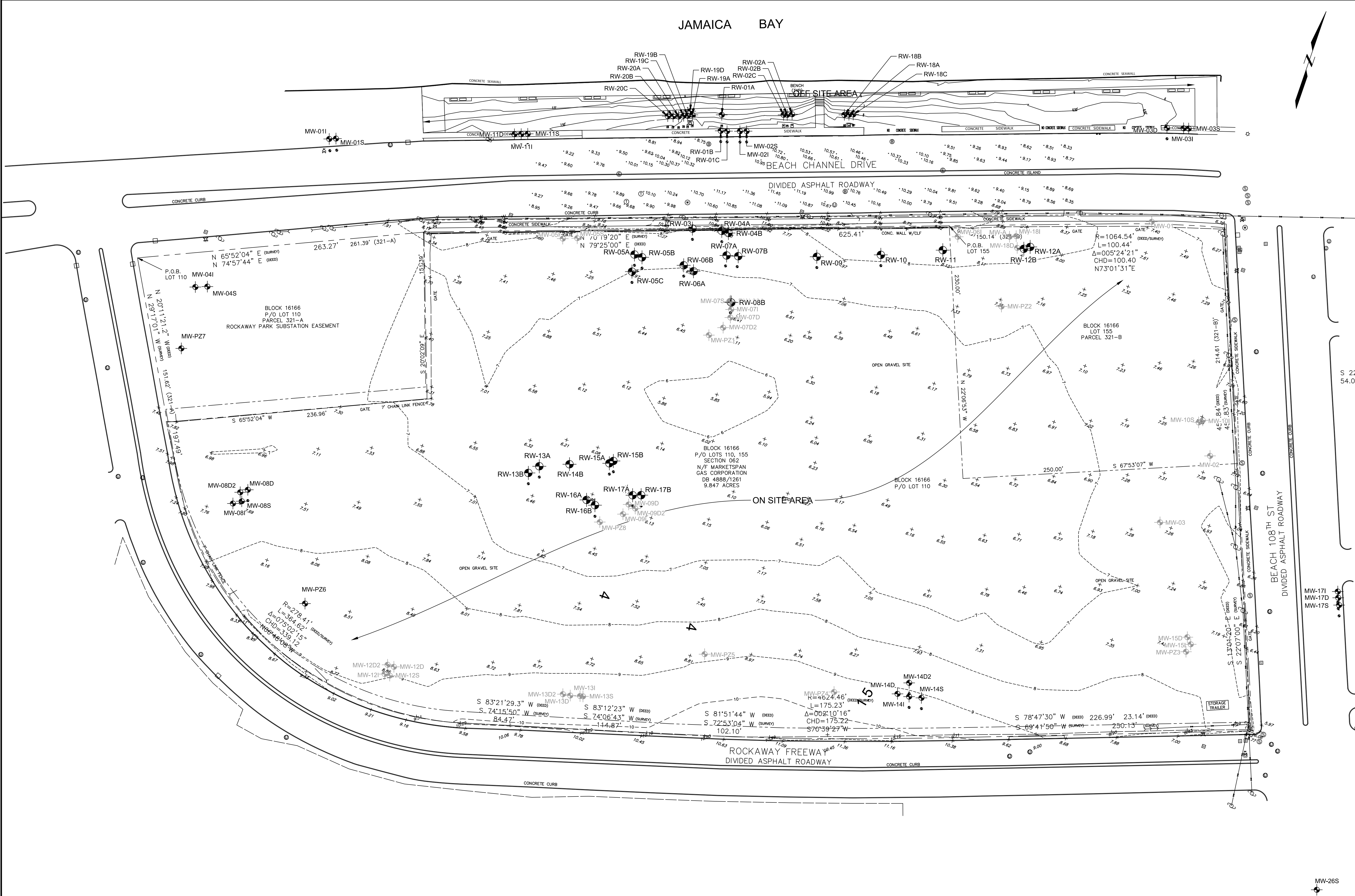
May 2018

Fig. 1

JAMAICA BAY

LEGEND:

	DNAPL MONITORING WELL
	EXISTING GROUNDWATER MONITORING WELL
	ABANDONED DESTROYED WELLS
	PROPERTY BOUNDARY
	GROUND SURFACE MINOR CONTOUR
	GROUND SURFACE MAJOR CONTOUR
	FENCE
	EXISTING STRUCTURE
	HISTORIC STRUCTURE
	SHEET PILE BARRIER WALL
	GAS LINE
	ELECTRIC LINE
	OVERHEAD ELECTRIC LINE
	OVERHEAD LINE
	STORM SEWER LINE
	WATER LINE
	LIGHT POLE
	MANHOLE
	UTILITY POLE
	VALVE

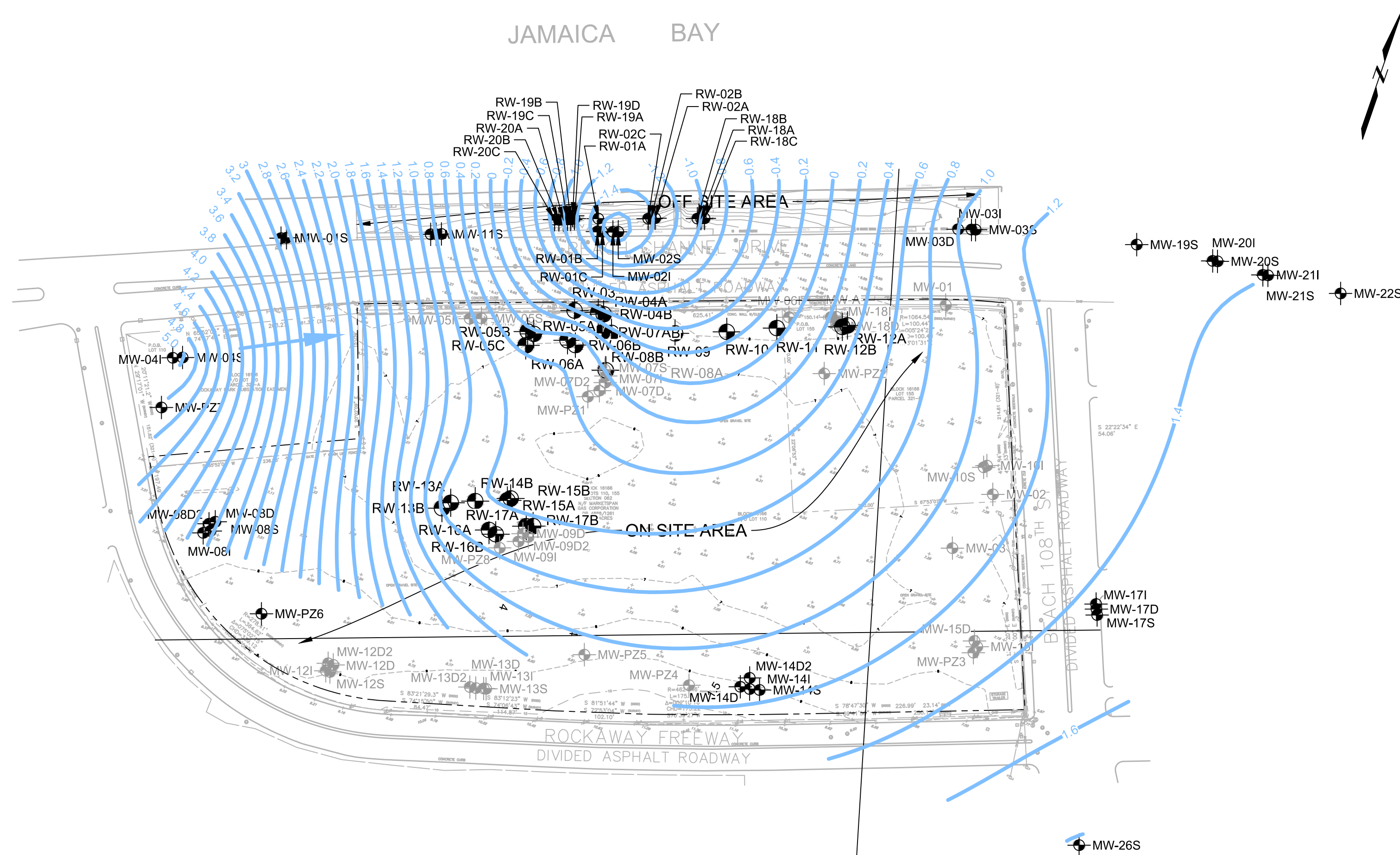


NOTE:
1. MONITOR WELL LOCATION AND ELEVATION TAKEN AT NORTH EDGE OF PVC PIPE. ELEVATION DATUM FOR ALL MONITOR WELLS IS BOROUGH OF QUEENS DATUM.

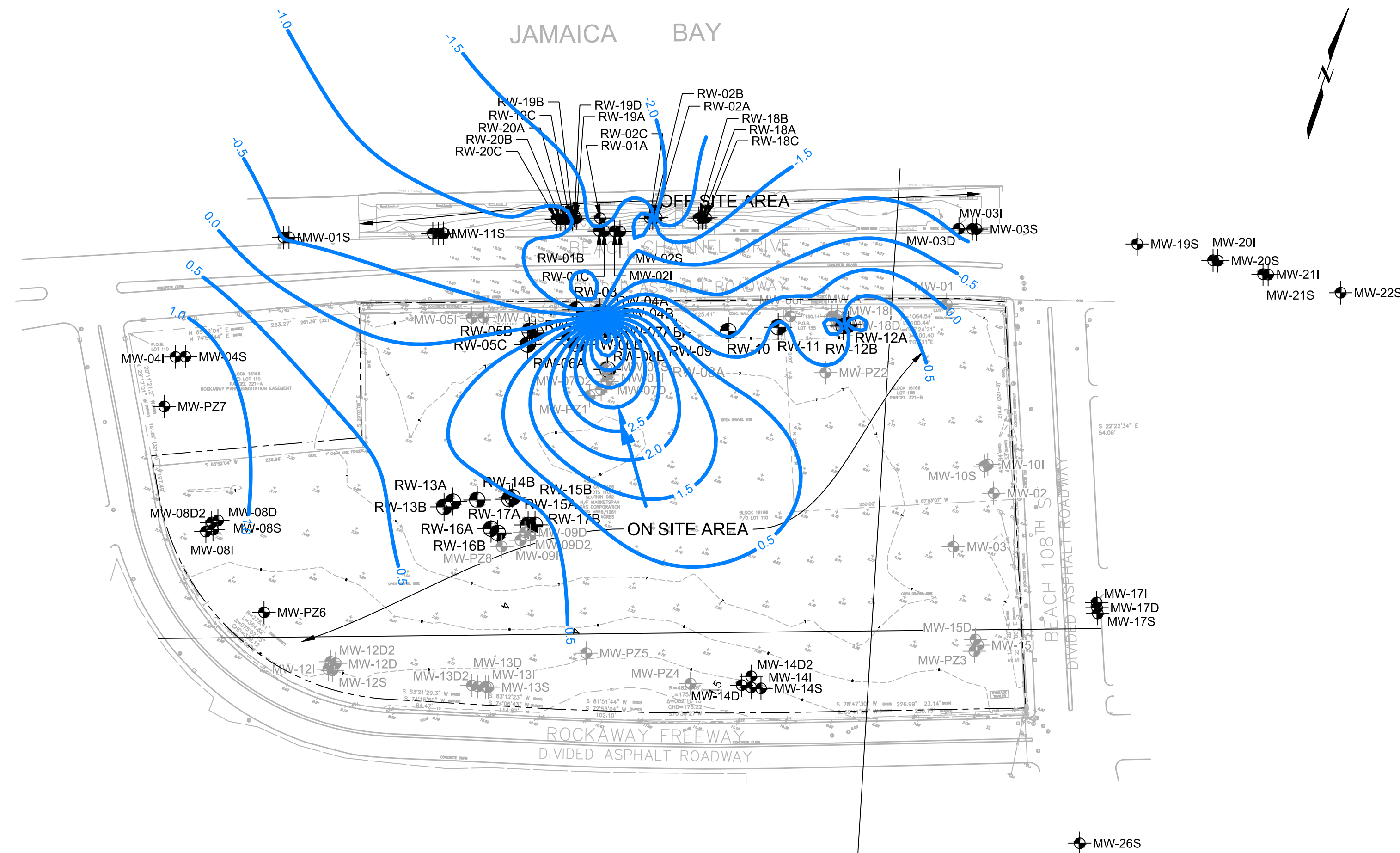
SOURCE:
1. BOUNDARY SURVEY, SECTION 062 - BLOCK 16166 - LOTS 110 & 155, ROCKAWAY PARK, QUEENS COUNTY, NEW YORK, PREPARED BY KENNON SURVEYING SERVICES INC., SCALE: 1" = 40', DATE: NOVEMBER 2016.



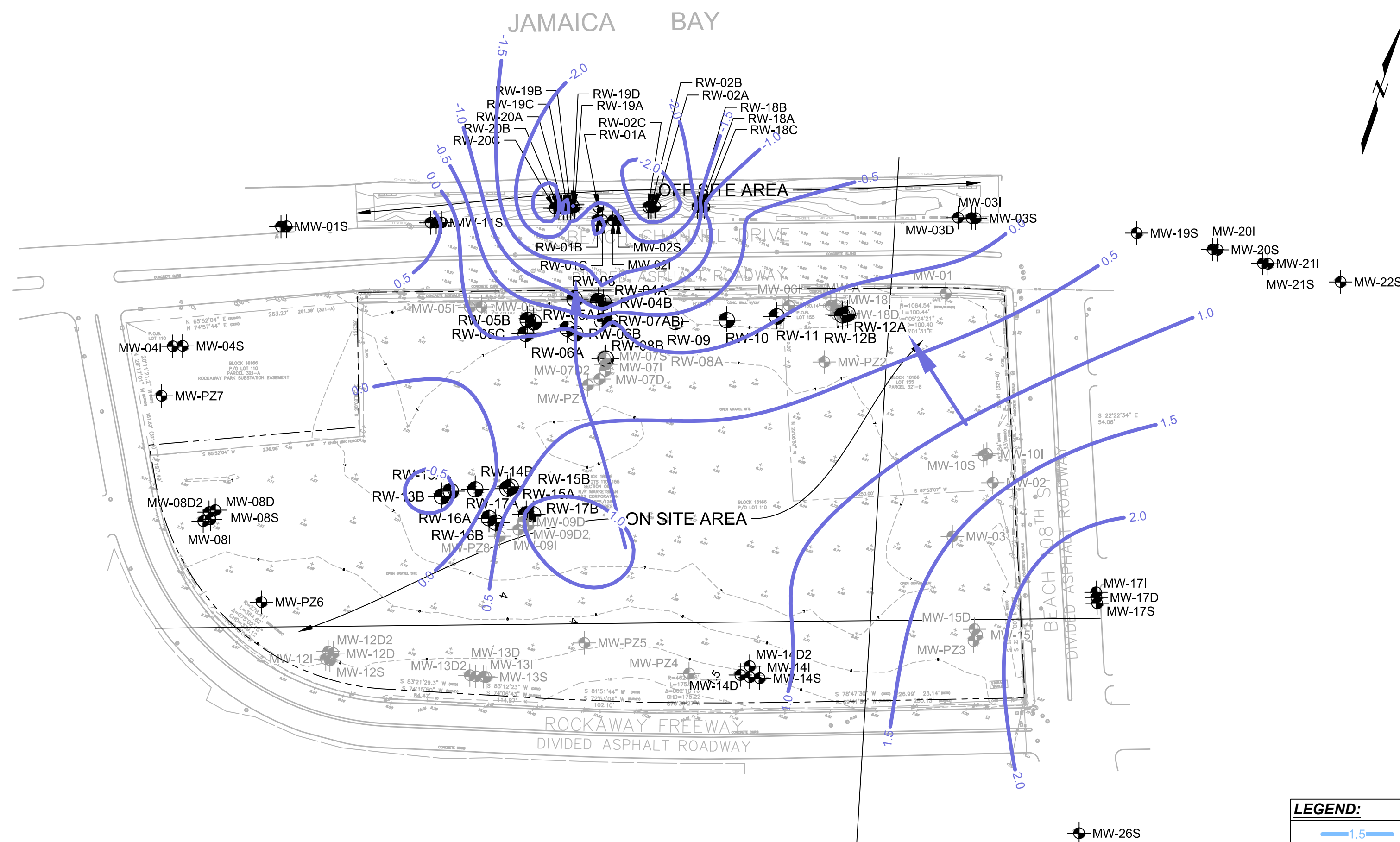
Groundwater Monitoring Report Rockaway Park Former MGP Site Rockaway Park, New York		MONITORING WELL LOCATION MAP
	Project 093150	May 2018
		Fig. 2



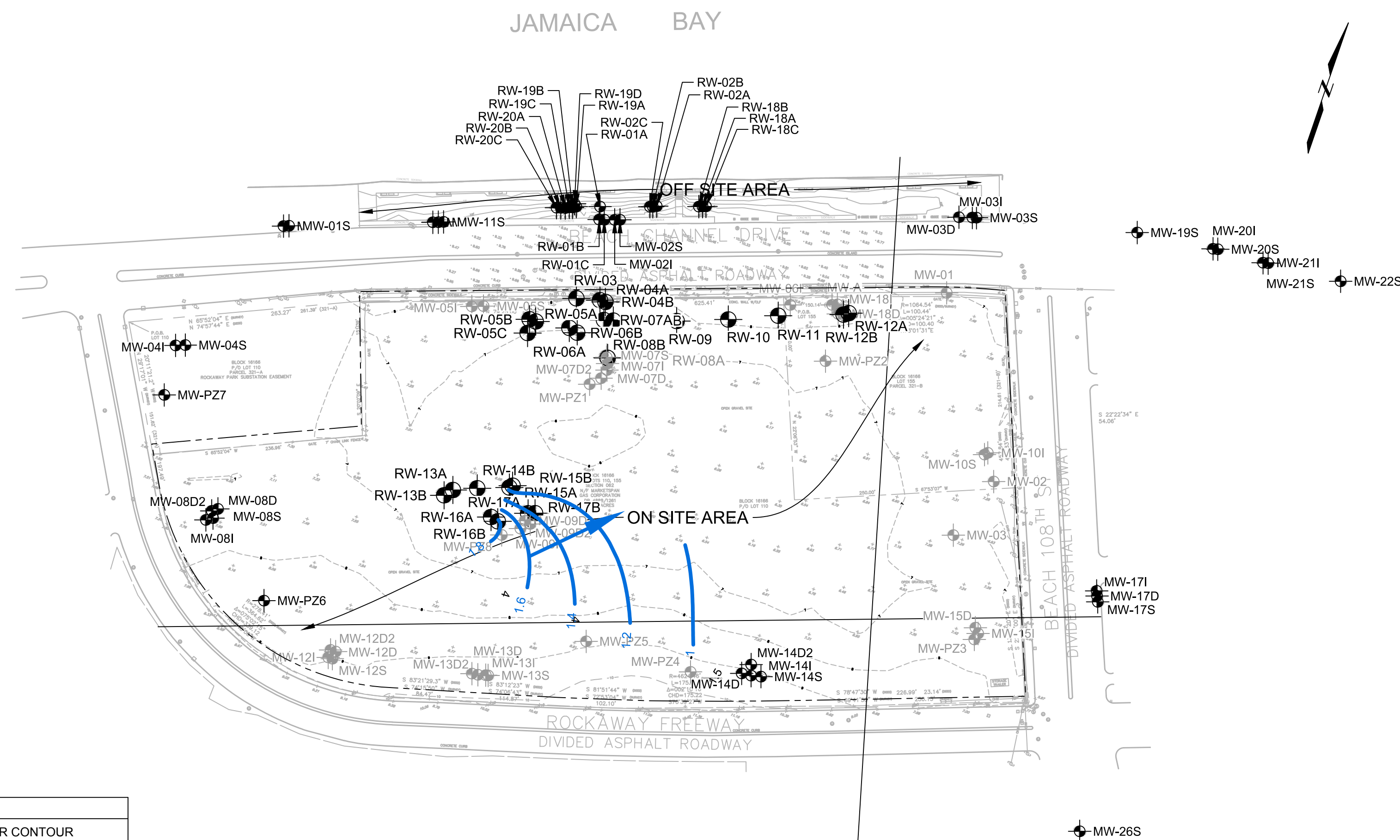
SHALLOW LOW TIDE
(SCREENED INTERVAL: 2 - 17 ft bgs)



INTERMEDIATE LOW TIDE
(SCREENED INTERVAL: 17 - 45 ft bgs)



DEEP LOW TIDE
(SCREENED INTERVAL: 45 - 90 ft bgs)

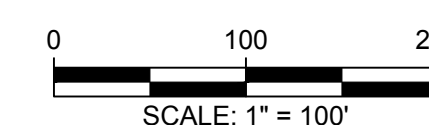


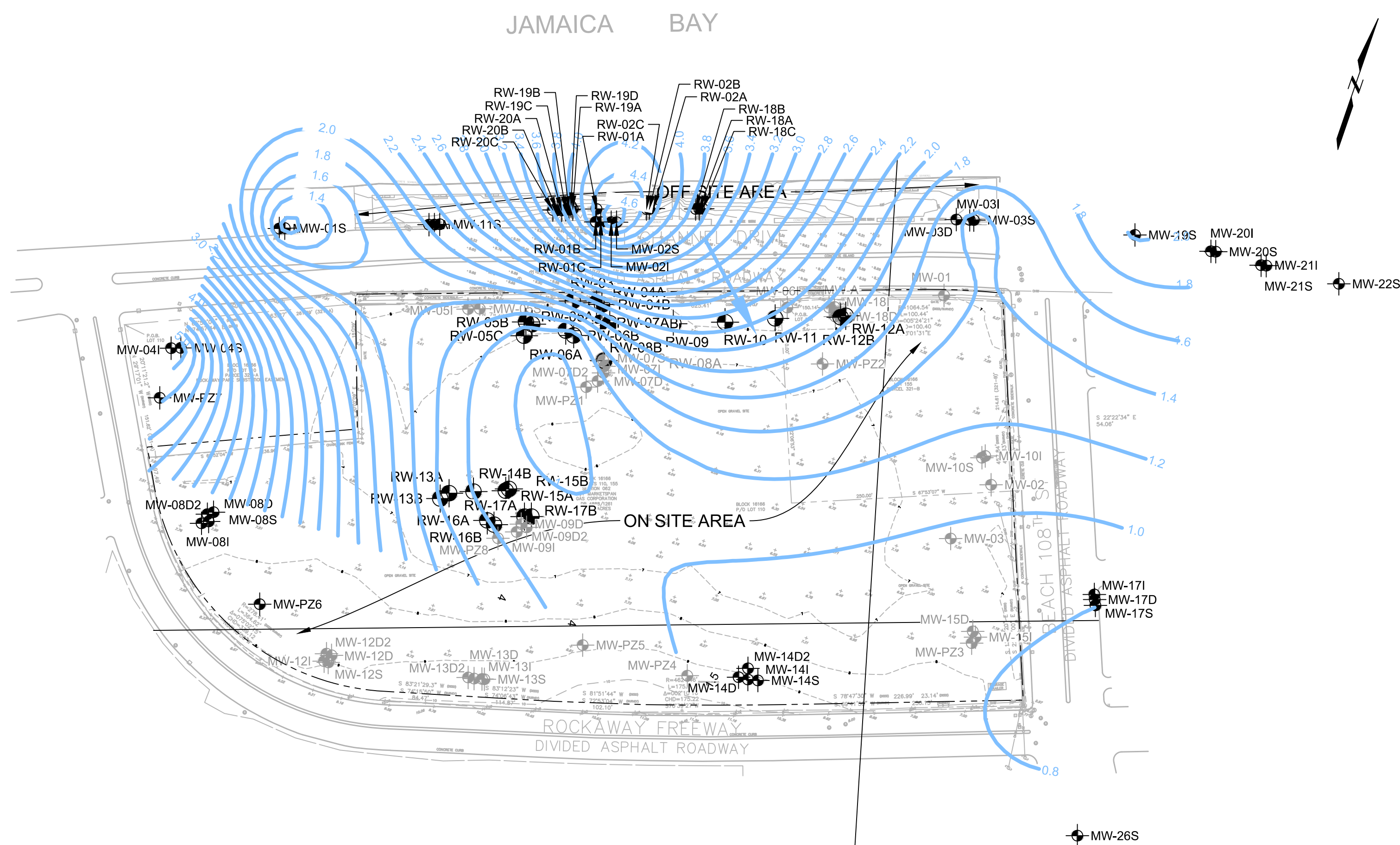
DEEP 2 LOW TIDE
(SCREENED INTERVAL: 90 - 105 ft bgs)

NOTE:
1. CONTOURS ARE BASED ON THE DECEMBER 2017 SAMPLING EVENT.

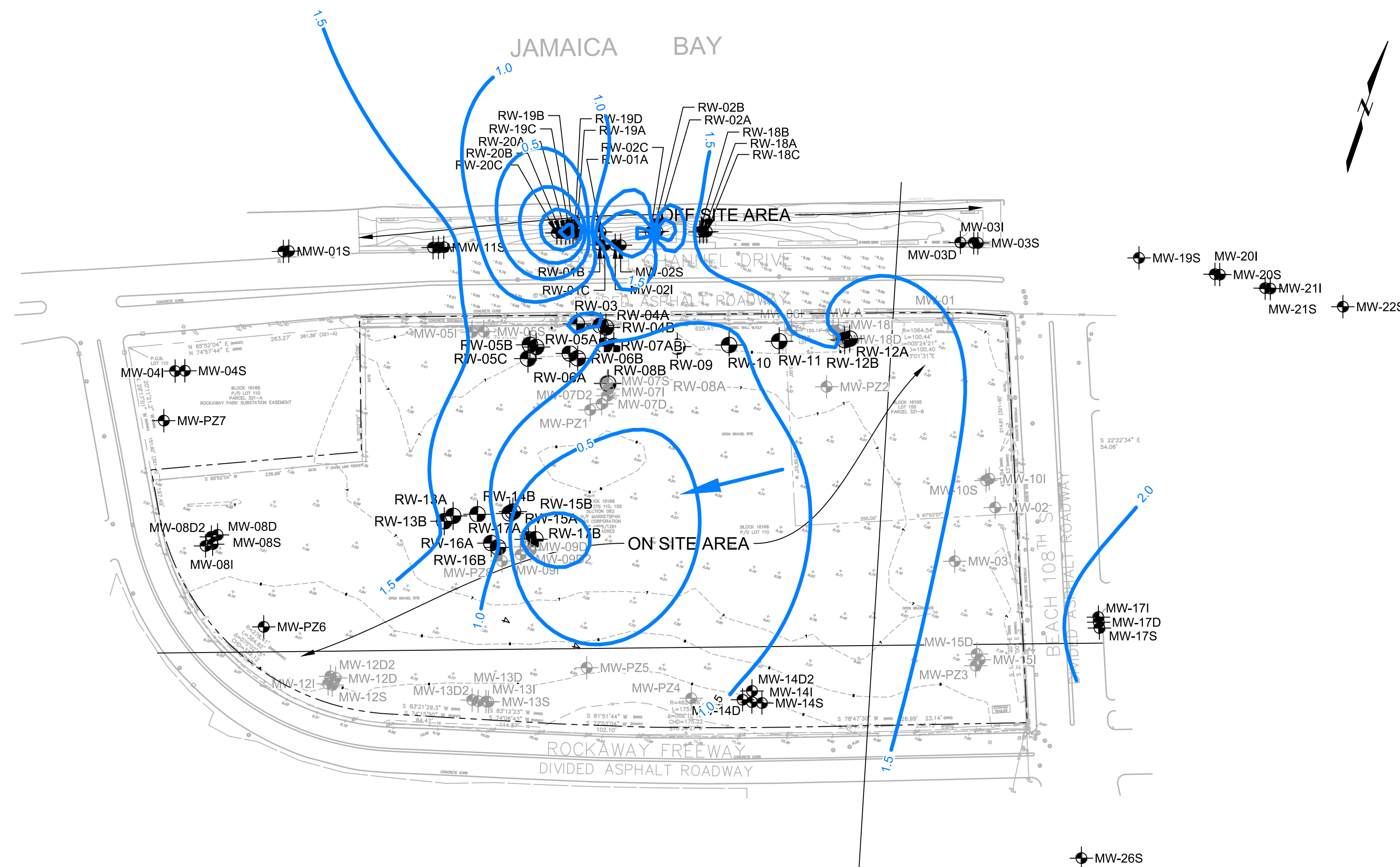
SOURCE:
1. BOUNDARY SURVEY, SECTION 062 - BLOCK 16166 - LOTS 110 & 155, ROCKAWAY PARK, QUEENS COUNTY, NEW YORK, PREPARED BY KENNON SURVEYING SERVICES INC., SCALE: 1" = 40', DATE: NOVEMBER 2016.

LEGEND:	
	GROUNDWATER CONTOUR
	GROUNDWATER FLOW DIRECTION
	PROPERTY BOUNDARY
	FENCE
	EXISTING STRUCTURE
	HISTORIC STRUCTURE
	SHEET PILE BARRIER WALL
ft bgs	FEET BELOW GROUND SURFACE

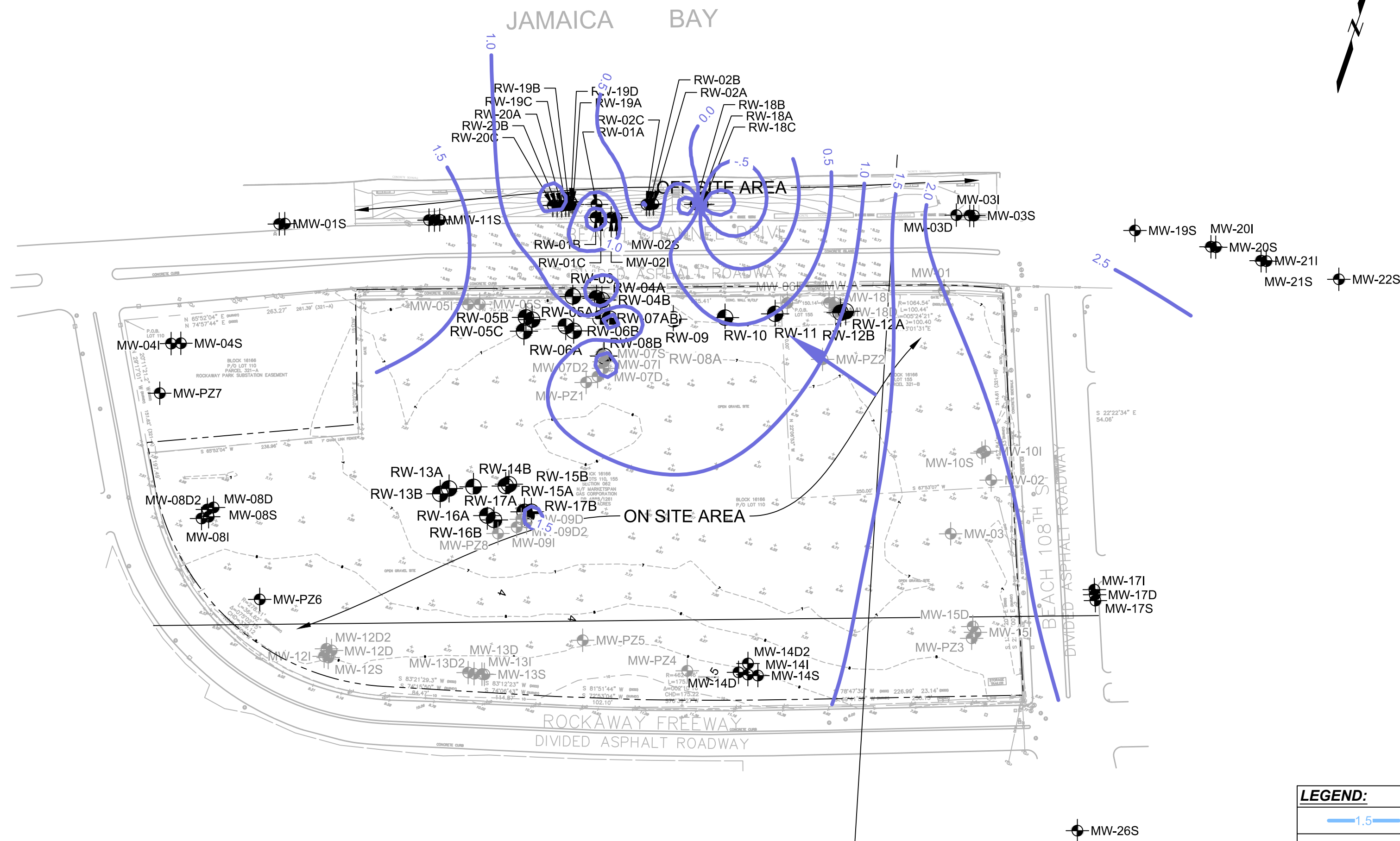




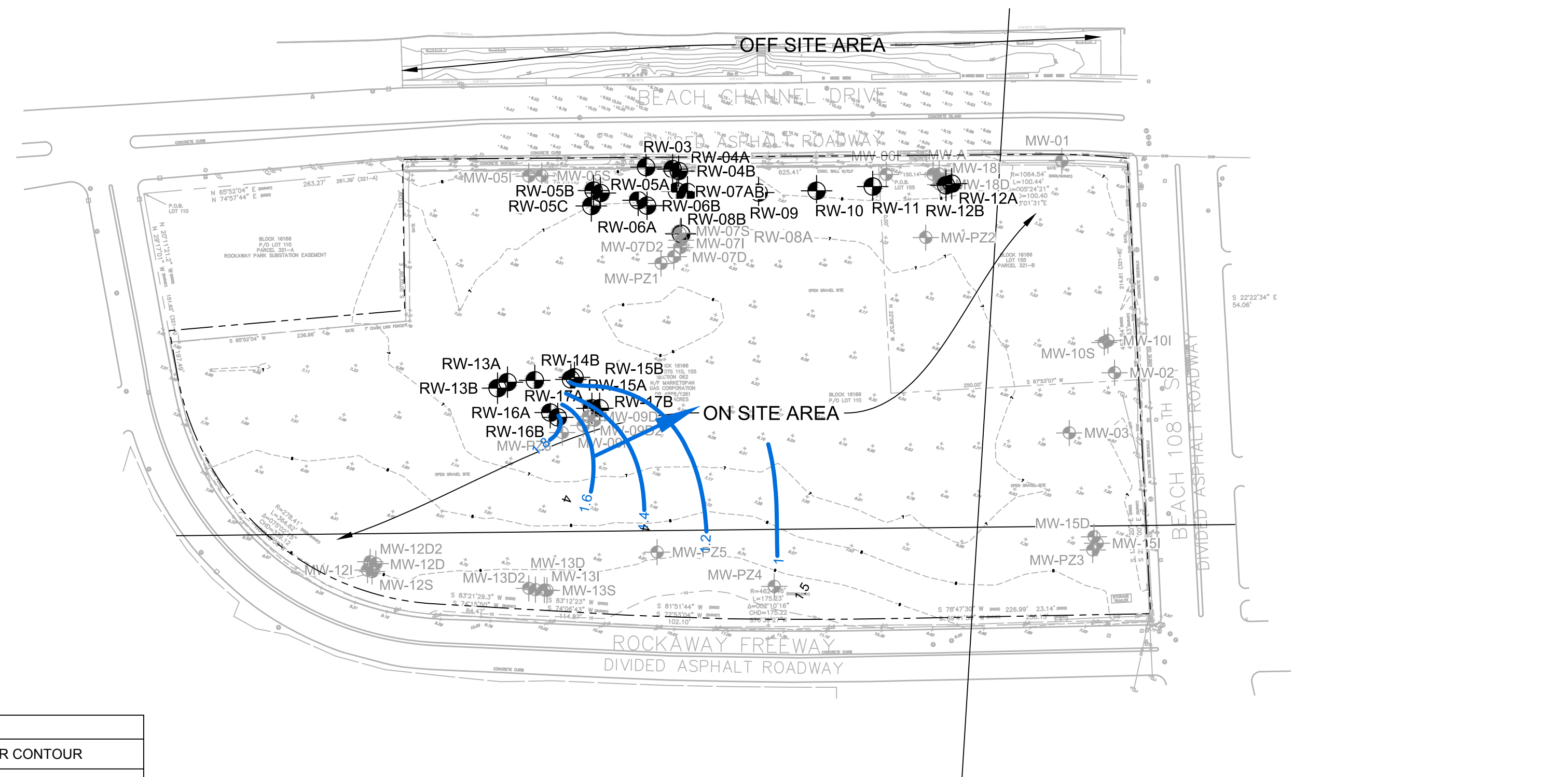
SHALLOW HIGH TIDE
(SCREENED INTERVAL: 2 - 17ft bgs)



INTERMEDIATE HIGH TIDE
(SCREENED INTERVAL: 17 - 45 ft bgs)



DEEP HIGH TIDE
(SCREENED INTERVAL: 45 - 90 ft bgs)

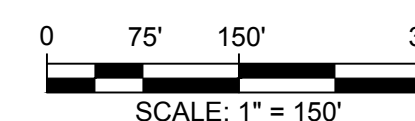


DEEP 2 HIGH TIDE
(SCREENED INTERVAL: 90 - 105 ft bgs)

NOTE:
1. CONTOURS ARE BASED ON THE DECEMBER 2017 SAMPLING EVENT.

SOURCE:
1. BOUNDARY SURVEY, SECTION 062 - BLOCK 16166 - LOTS 110 & 155, ROCKAWAY PARK, QUEENS COUNTY, NEW YORK, PREPARED BY KENNON SURVEYING SERVICES INC., SCALE: 1" = 40', DATE: NOVEMBER 2016.

LEGEND:	
	GROUNDWATER CONTOUR
	GROUNDWATER FLOW DIRECTION
	PROPERTY BOUNDARY
	FENCE
	EXISTING STRUCTURE
	HISTORIC STRUCTURE
	SHEET PILE BARRIER WALL
ft bgs	FEET BELOW GROUND SURFACE



Groundwater Monitoring Report
Rockaway Park Former MGP Site
Rockaway Park, New York

nationalgrid

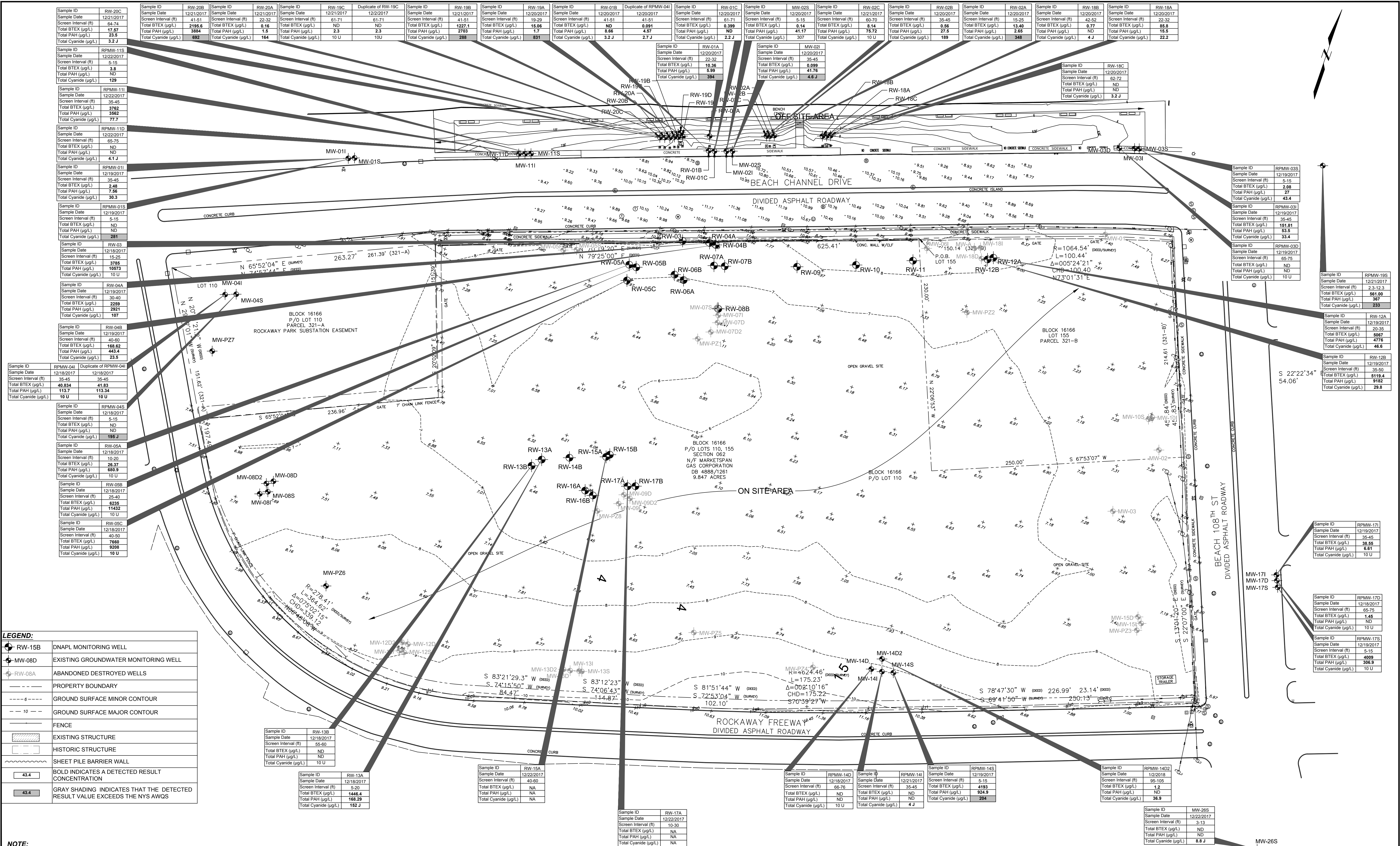


Project 093150

GROUNDWATER CONTOURS
(HIGH TIDE)

May 2018

Fig. 4



LEGEND:

- RW-15B DNAPL MONITORING WELL
- MW-08D EXISTING GROUNDWATER MONITORING WELL
- RW-08A ABANDONED DESTROYED WELLS
- PROPERTY BOUNDARY
- GROUND SURFACE MINOR CONTOUR
- GROUND SURFACE MAJOR CONTOUR
- FENCE
- EXISTING STRUCTURE
- HISTORIC STRUCTURE
- SHEET PILE BARRIER WALL
- BOLD INDICATES A DETECTED RESULT CONCENTRATION
- GRAY SHADING INDICATES THAT THE DETECTED RESULT VALUE EXCEEDS THE NYS AWQS

NOTE:
1. MONITOR WELL LOCATION AND ELEVATION TAKEN AT NORTH EDGE OF PVC PIPE. ELEVATION DATUM FOR ALL MONITOR WELLS IS BOROUGH OF QUEENS DATUM.

SOURCE:
1. BOUNDARY SURVEY, SECTION 062 - BLOCK 16166 - LOTS 110 & 155. ROCKAWAY PARK, QUEENS COUNTY, NEW YORK, PREPARED BY KENNON SURVEYING SERVICES INC., SCALE: 1" = 40', DATE: NOVEMBER 2016.