



# Glenn Springs Holdings, Inc.

A subsidiary of Occidental Petroleum

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May 2, 2022

Reference No. 11225008

Mr. Benjamin J. McPherson  
New York State Department of Environmental Conservation  
270 Michigan Avenue  
Buffalo, NY 14203-2999

Re: Quarterly Progress Report – First Quarter 2022  
Occidental Chemical Corporation, Buffalo Avenue Plant  
NY Permit Number 9-2911-00112/00167-0  
Module II – Corrective Action Requirements

In accordance with Module II of the Niagara Plant's Resource Conservation and Recovery Act (RCRA)/Part 373 Permit, the following is the quarterly data report for the period of January 1, 2022 to March 31, 2022. Table 1 is a summary of the monitoring tasks by quarter that are performed each year along with completion dates where applicable. Table 2 presents a summary of maintenance activities performed during the quarter.

### **Bedrock Groundwater**

The groundwater system was operational 84.1 percent of the time this quarter. The treatment system downtime was due to low scrubber flow due to solids, pH control issues, repairs to the ductwork immediately upstream of the oxidizer, pH probe calibration, and high oxidizer sump level. Downtime for greater than 72 hours consecutively and/or greater than 120 hours in a month occurred in January associated with the scrubber flow issue/ductwork repair, NYSDEC was notified on January 15, 2022

Downtime for all extraction system wells (or most wells at once) occurred due to some of the issues associated with the treatment system, as well as leak detection at BEW703B and a pump failure at BEW706B and BEW706D. Downtime for greater than 72 hours consecutively and/or greater than 120 hours in a month occurred in January associated with the pump failures in BEW706B and BEW706D, NYSDEC was notified on January 31, 2022, and March 17, 2022, respectively.

Performance monitoring data for the bedrock groundwater system are presented as follows:

Hydraulic Monitoring Locations.....	Figure 1
Chemical Monitoring Locations.....	Figure 2
Recovery Volumes by Zone.....	Tables 3, 4, and 5
Average Monthly Flow Rate Summary .....	Table 6
Groundwater Elevations .....	Table 7
Groundwater Contours (regional containment) by Zone .....	Figures 3, 4, and 5

### **Overburden Groundwater**

The Flow Zone 1 remedial system was operational 83 percent of the time for WW1 and 83 percent of the time for WW2 this quarter. The Flow Zone 3 remedial system (WWB of the Energy Boulevard Drain Tile System) was operational 83 percent of the time this quarter. Downtime occurred due to some of the issues associated with the treatment system. Downtime for greater than 72 hours consecutively and/or greater than 120 hours in a month occurred in January associated with the scrubber flow issue/ductwork repair discussed previously.

Occidental Chemical Corporation (OxyChem) voluntarily operates two additional overburden groundwater collection systems at the Plant. These systems include the abandoned Outfall 005 and adjacent abandoned sanitary sewer in the F- and K-Areas of the Plant (MH159L) and the abandoned D-Area sanitary sewer (MH301).

Performance monitoring data for the overburden groundwater system are presented as follows:

Hydraulic Monitoring Locations.....Figure 6  
 Chemical Monitoring Locations.....Figure 7  
 Weekly Flow Rates ..... Table 8  
 Average Monthly Flow Rate Summary ..... Table 9  
 Groundwater Elevations ..... Table 10  
 Groundwater Contours, Flow Zone 1 ..... Figure 8  
 Groundwater Contours, Flow Zone 3 ..... Figure 9

**Non-aqueous Phase Liquid (NAPL) Monitoring**

In accordance with the letter to the NYSDEC dated February 26, 2009, OxyChem incorporated quarterly NAPL monitoring and collection from six bedrock monitoring wells installed and monitored under the S-Area Remedial Requisite Technology Program into the Niagara Plant Corrective Action Program. Three other wells were added in accordance with the recommendations of the 2009 Annual Performance Evaluation. An additional well was added during the first quarter of 2012 in accordance with the recommendations of the 2011 Annual Performance Evaluation. These bedrock monitoring wells, designated OW229, OW243, OW618, OW619, OW620, OW621, OW634, OW635, OW638, and OW643, are located within, or immediately adjacent to, the N-Area of the Niagara Plant and contain N-Area NAPL. Quarterly NAPL checks and recovery have continued in 2021.

NAPL monitoring and collection data are presented as follows:

Bedrock NAPL Monitoring Locations.....Figure 10  
 Overburden NAPL Monitoring Locations ..... Figure 11  
 Bedrock NAPL Monitoring and Collection ..... Table 11  
 Overburden NAPL Monitoring and Collection..... Table 12

Should you have any questions on the above, please do not hesitate to contact Joseph Branch at 231-670-6809 or email at [joseph\\_branch@oxy.com](mailto:joseph_branch@oxy.com) or Tim Bathory at 716-278-7679 or email at [timothy\\_bathory@oxy.com](mailto:timothy_bathory@oxy.com).

Very truly yours,



Tim Bathory  
Environmental Engineer  
Glenn Springs Holdings, Inc.

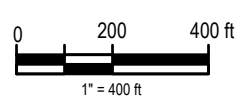
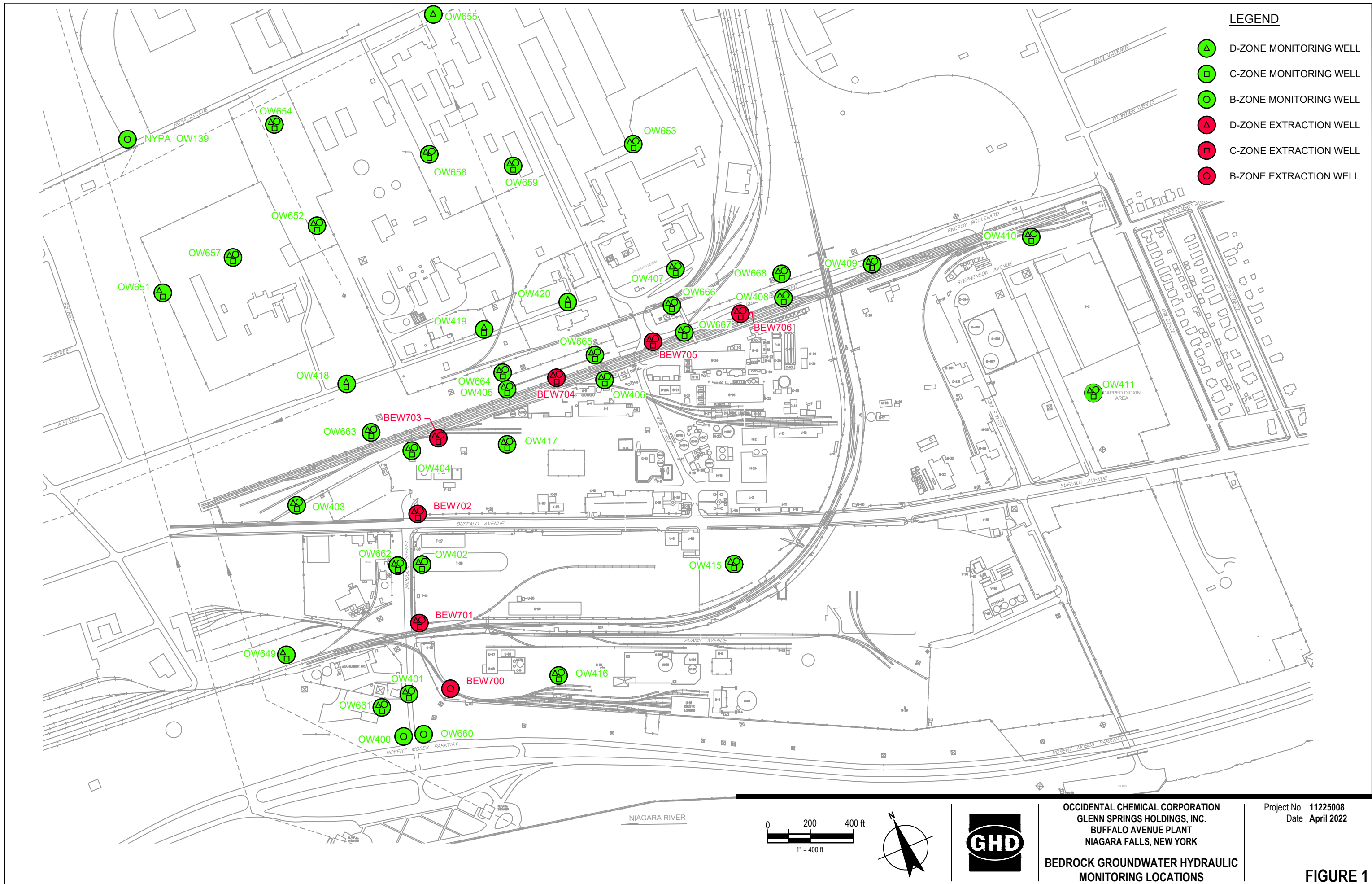


Joseph Branch  
Project Manager  
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JP/kf/3/11225008

Encl.

cc: C. Staniszewski, NYSDEC  
A. Everett, USEPA  
N. Ackerman, OCC  
J. Pentilchuk, GHD

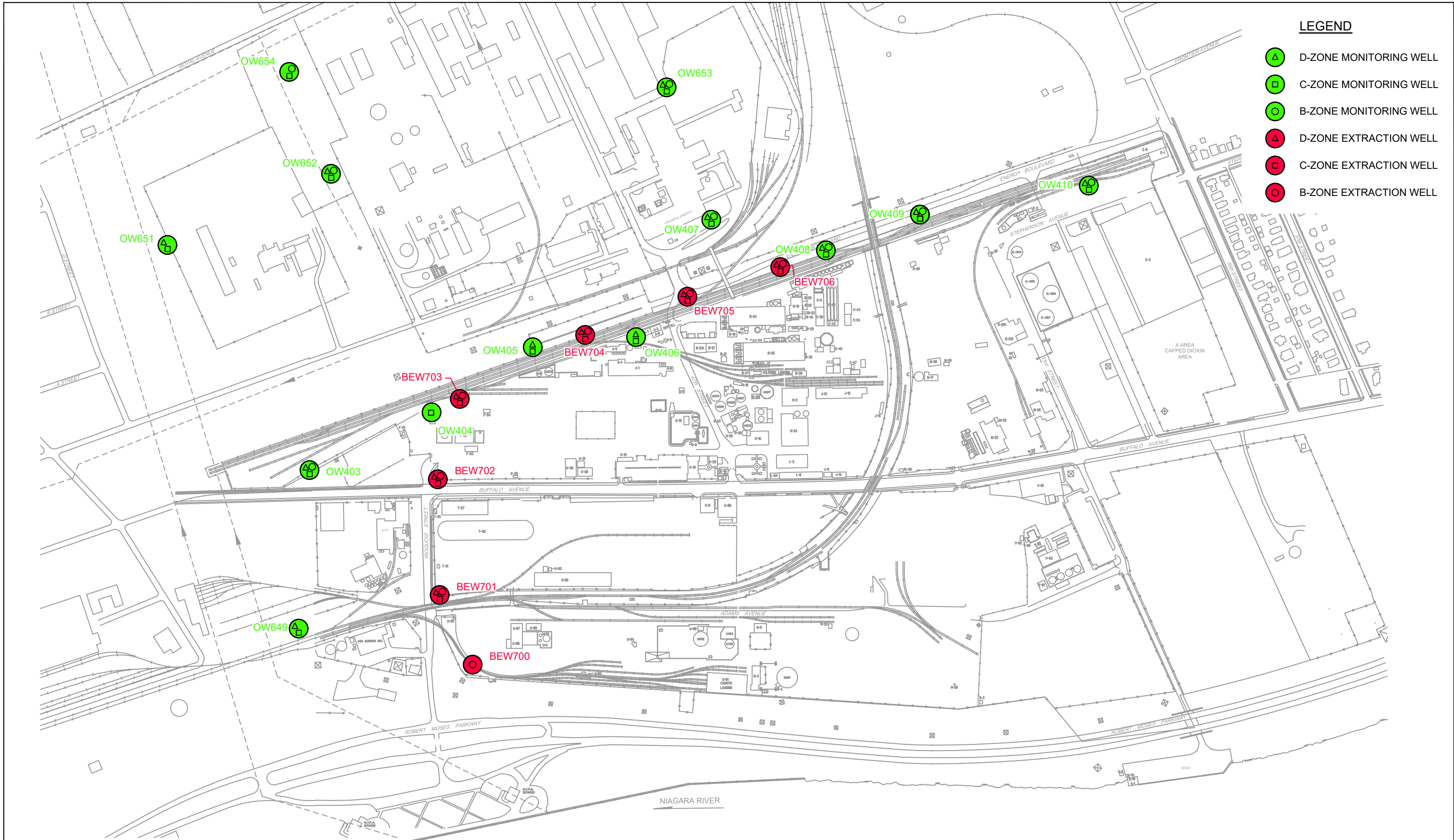


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 GLENN SPRINGS HOLDINGS, INC.  
 BUFFALO AVENUE PLANT  
 NIAGARA FALLS, NEW YORK**

**BEDROCK GROUNDWATER HYDRAULIC  
 MONITORING LOCATIONS**

Project No. 11225008  
 Date April 2022

**FIGURE 1**



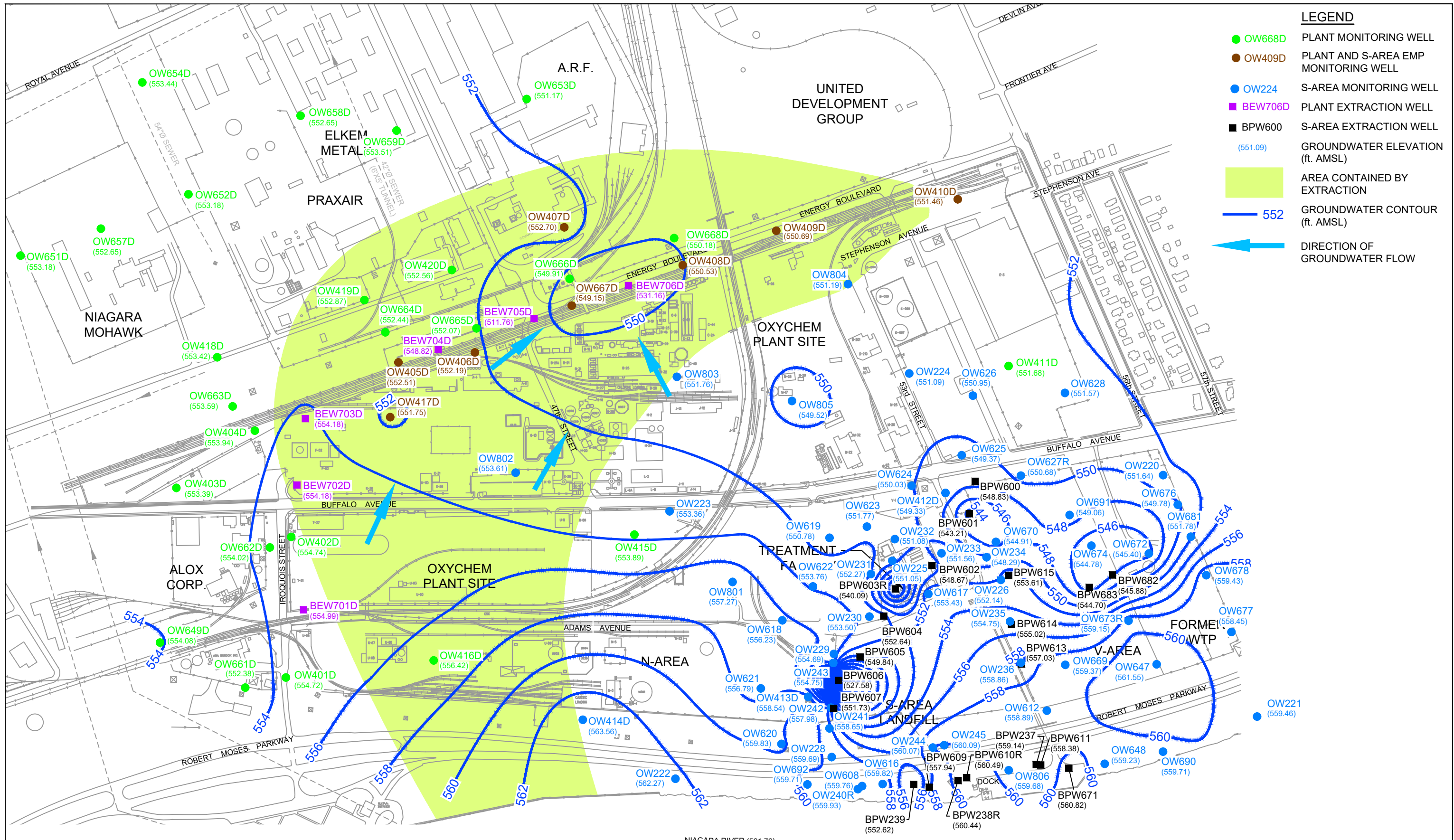
**LEGEND**

- ▲ D-ZONE MONITORING WELL
- C-ZONE MONITORING WELL
- B-ZONE MONITORING WELL
- ▲ D-ZONE EXTRACTION WELL
- C-ZONE EXTRACTION WELL
- B-ZONE EXTRACTION WELL

			<p><b>OCCIDENTAL CHEMICAL CORPORATION</b>  <b>GLENN SPRINGS HOLDINGS, INC.</b>  <b>BUFFALO AVENUE PLANT</b>  <b>NIAGARA FALLS, NEW YORK</b></p> <p><b>BEDROCK GROUNDWATER CHEMICAL</b>  <b>MONITORING LOCATIONS</b></p>	<p>Project No. 11225008          Date April 2022</p>
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**FIGURE 2**

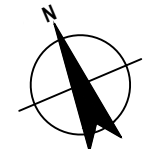
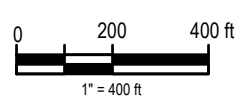
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- LEGEND**
- OW668D PLANT MONITORING WELL
  - OW409D PLANT AND S-AREA EMP MONITORING WELL
  - OW224 S-AREA MONITORING WELL
  - BEW706D PLANT EXTRACTION WELL
  - BPW600 S-AREA EXTRACTION WELL
  - (551.09) GROUNDWATER ELEVATION (ft. AMSL)
  - AREA CONTAINED BY EXTRACTION
  - 552 GROUNDWATER CONTOUR (ft. AMSL)
  - ← DIRECTION OF GROUNDWATER FLOW

**NOTES:**

- CONTOURS REFLECT AN AVERAGE CONDITION OVER THE DATA COLLECTION PERIOD, APPROXIMATELY 4 HOURS. UNLESS OTHERWISE NOTED, CONTOURS RESPECT ALL WATER LEVEL MEASUREMENTS TO THE LEVEL OF UNCERTAINTY ASSOCIATED WITH COLLECTING LEVELS OVER A PERIOD OF SEVERAL HOURS. THAT UNCERTAINTY IS APPROXIMATELY +/-0.5 FEET FOR NYPA WINTER OPERATING CONDITIONS.
- MEASURED ELEVATIONS FOR PLANT EXTRACTION WELLS BEW701D-BEW706D WERE NOT USED FOR CONTOURING.

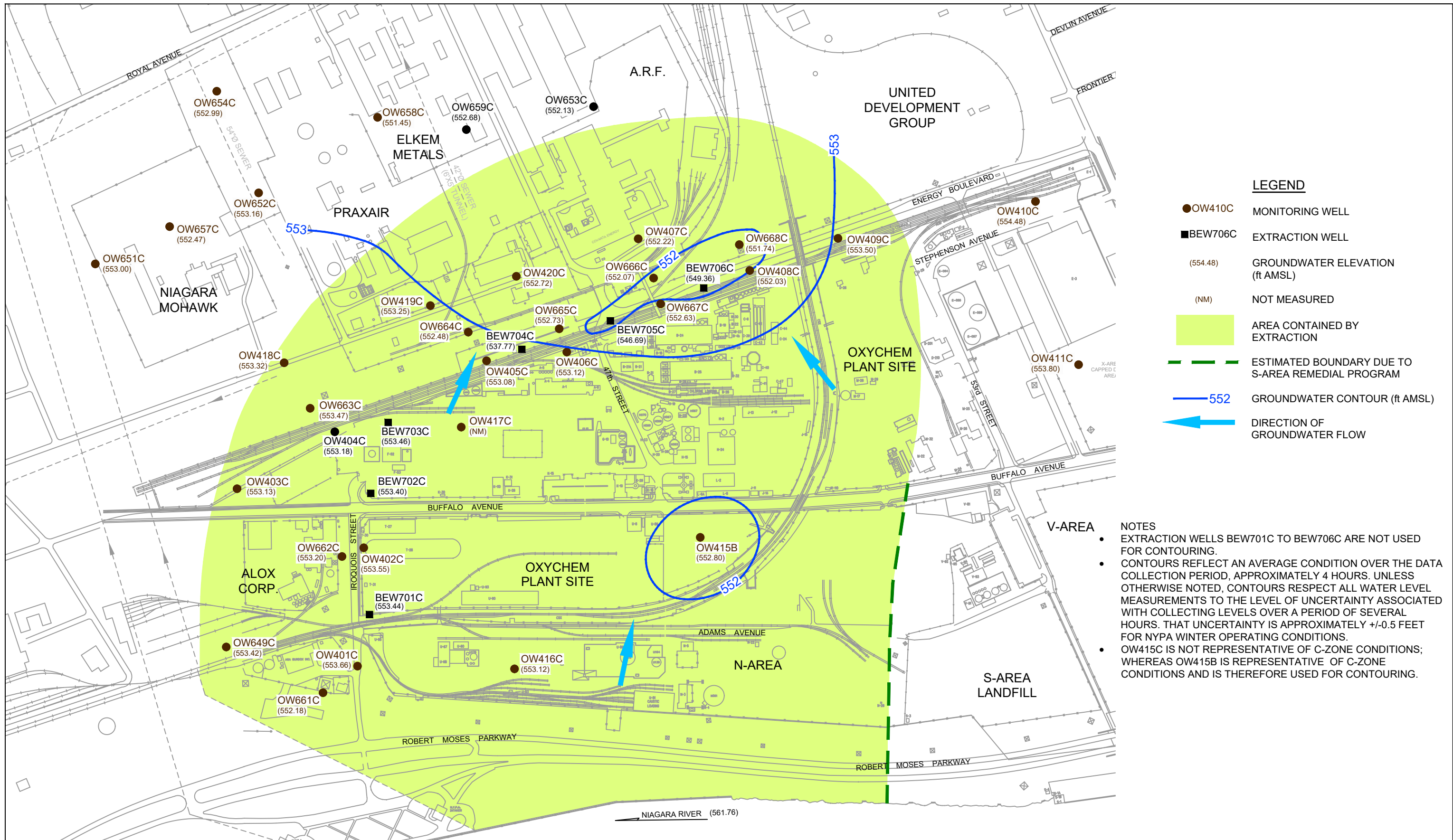


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**D-ZONE BEDROCK GROUNDWATER  
 CONTOURS - MARCH 10, 2022**

Project No. 11225008  
 Date April 2022

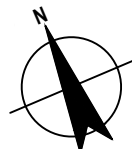
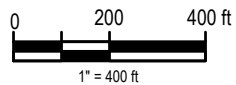
**FIGURE 3**



**LEGEND**

- OW410C MONITORING WELL
- BEW706C EXTRACTION WELL
- (554.48) GROUNDWATER ELEVATION (ft AMSL)
- (NM) NOT MEASURED
- AREA CONTAINED BY EXTRACTION
- ESTIMATED BOUNDARY DUE TO S-AREA REMEDIAL PROGRAM
- 552 GROUNDWATER CONTOUR (ft AMSL)
- ➔ DIRECTION OF GROUNDWATER FLOW

- NOTES**
- EXTRACTION WELLS BEW701C TO BEW706C ARE NOT USED FOR CONTOURING.
  - CONTOURS REFLECT AN AVERAGE CONDITION OVER THE DATA COLLECTION PERIOD, APPROXIMATELY 4 HOURS. UNLESS OTHERWISE NOTED, CONTOURS RESPECT ALL WATER LEVEL MEASUREMENTS TO THE LEVEL OF UNCERTAINTY ASSOCIATED WITH COLLECTING LEVELS OVER A PERIOD OF SEVERAL HOURS. THAT UNCERTAINTY IS APPROXIMATELY +/-0.5 FEET FOR NYPA WINTER OPERATING CONDITIONS.
  - OW415C IS NOT REPRESENTATIVE OF C-ZONE CONDITIONS; WHEREAS OW415B IS REPRESENTATIVE OF C-ZONE CONDITIONS AND IS THEREFORE USED FOR CONTOURING.

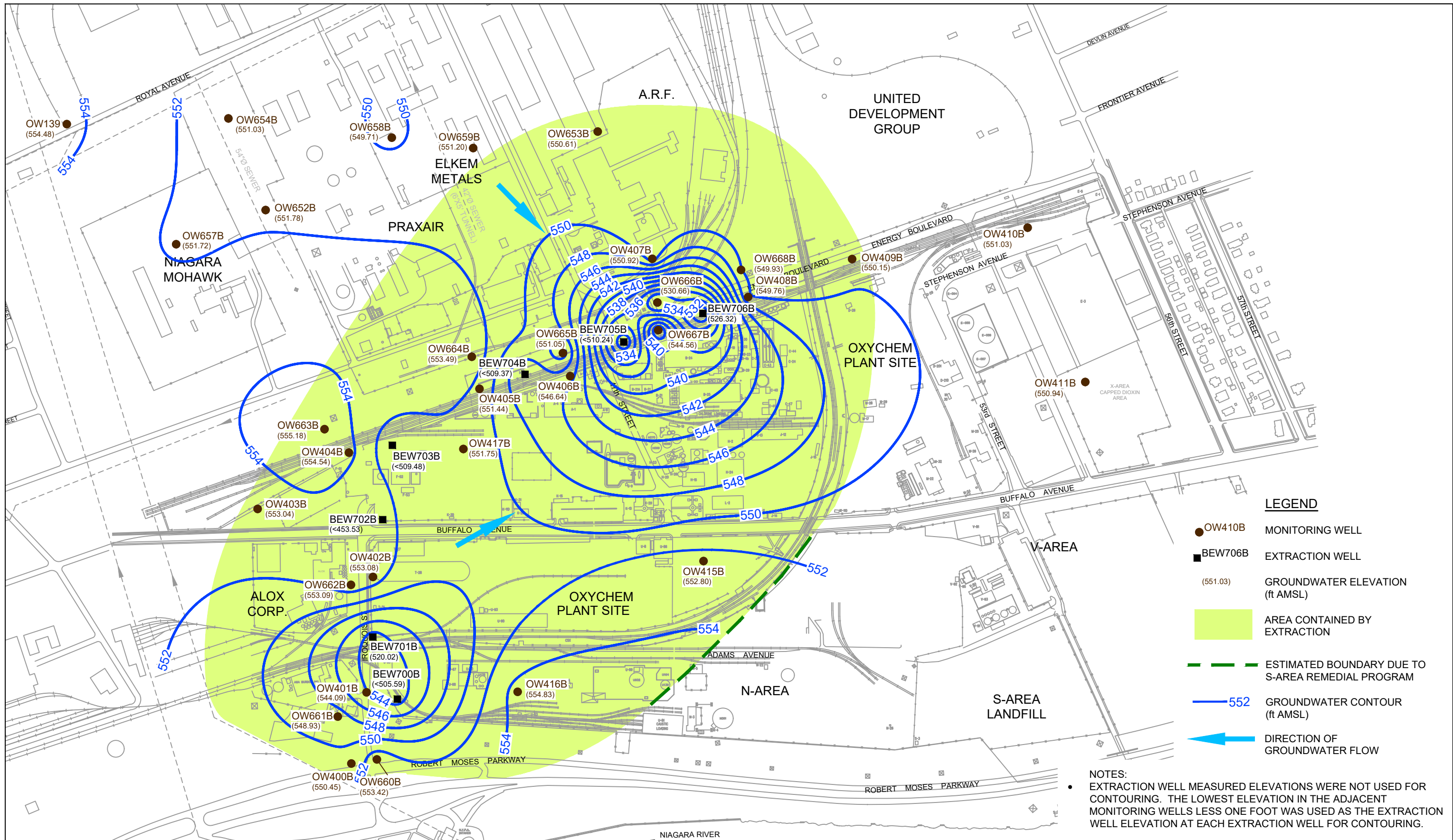


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**C-ZONE BEDROCK GROUNDWATER  
 CONTOURS - MARCH 10, 2022**

Project No. 11225008  
 Date April 2022

**FIGURE 4**



**LEGEND**

- OW410B MONITORING WELL
- BEW706B EXTRACTION WELL
- (551.03) GROUNDWATER ELEVATION (ft AMSL)
- AREA CONTAINED BY EXTRACTION
- ESTIMATED BOUNDARY DUE TO S-AREA REMEDIAL PROGRAM
- 552— GROUNDWATER CONTOUR (ft AMSL)
- ← DIRECTION OF GROUNDWATER FLOW

**NOTES:**

- EXTRACTION WELL MEASURED ELEVATIONS WERE NOT USED FOR CONTOURING. THE LOWEST ELEVATION IN THE ADJACENT MONITORING WELLS LESS ONE FOOT WAS USED AS THE EXTRACTION WELL ELEVATION AT EACH EXTRACTION WELL FOR CONTOURING.

0 200 400 ft

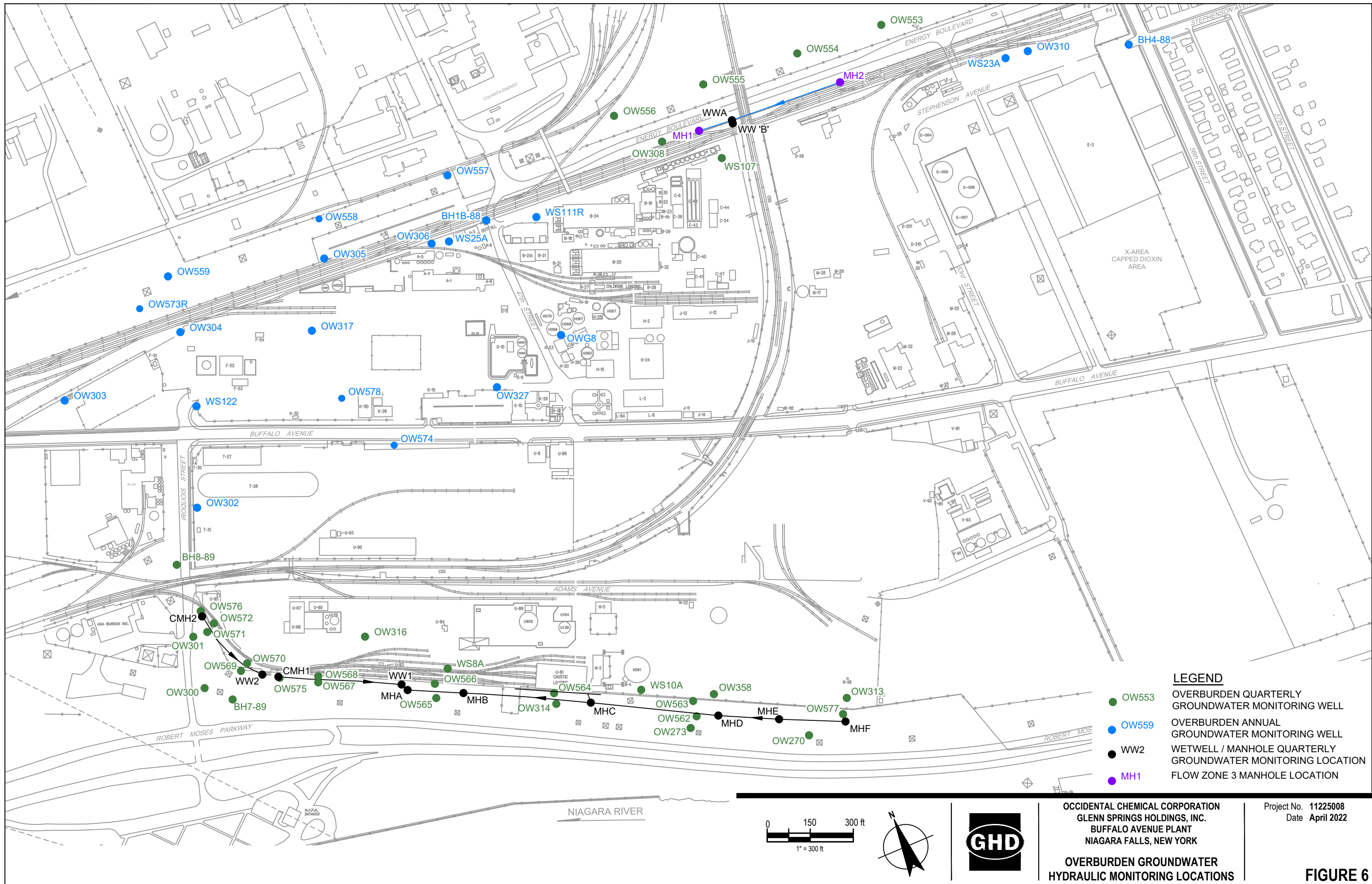
1" = 400 ft

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NIAGARA FALLS, NEW YORK

**B-ZONE BEDROCK GROUNDWATER  
CONTOURS - MARCH 10, 2022**

Project No. 11225008  
Date April 2022

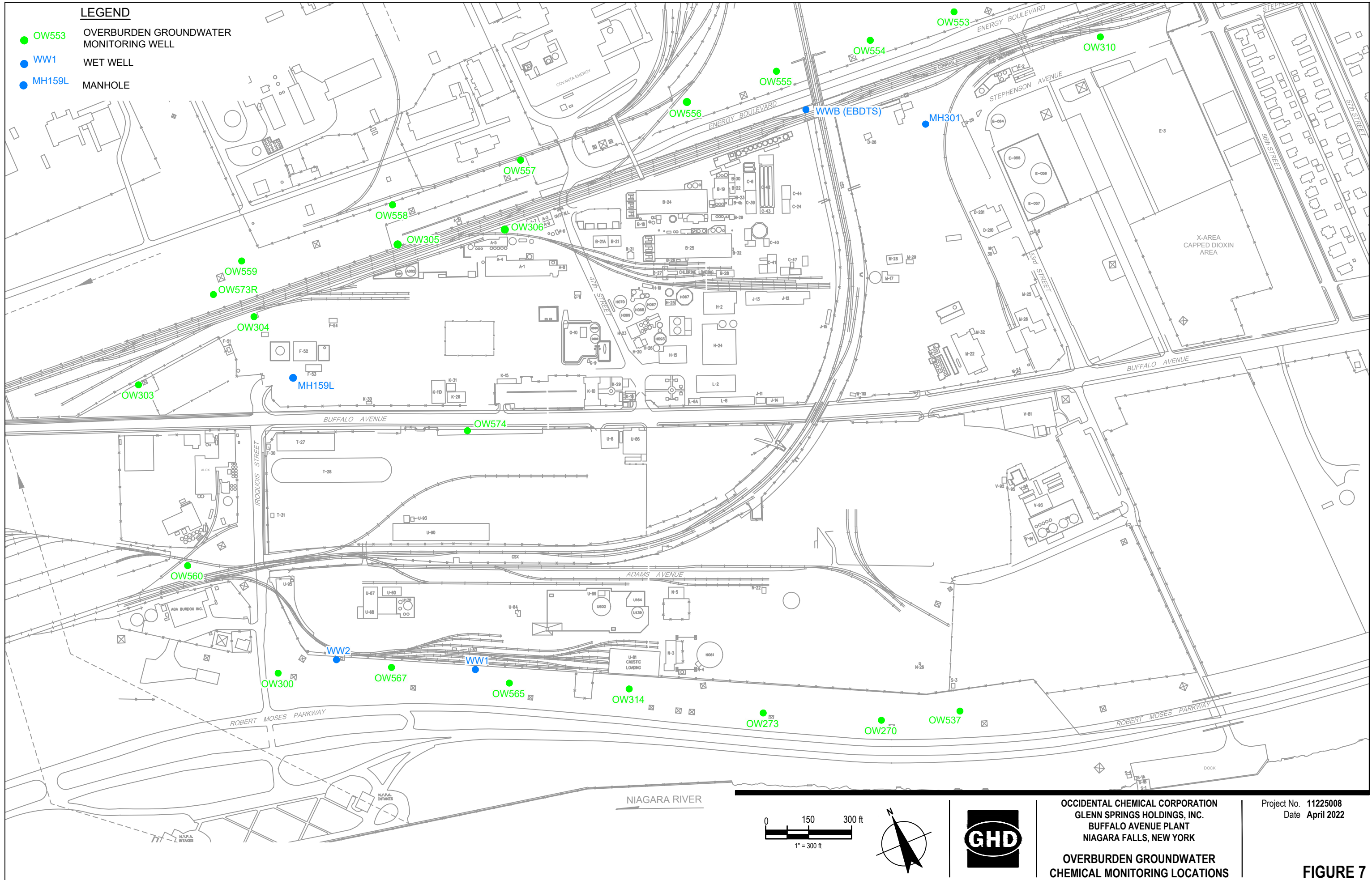
**FIGURE 5**





**LEGEND**

- OW553 OVERBURDEN GROUNDWATER MONITORING WELL
- WW1 WET WELL
- MH159L MANHOLE

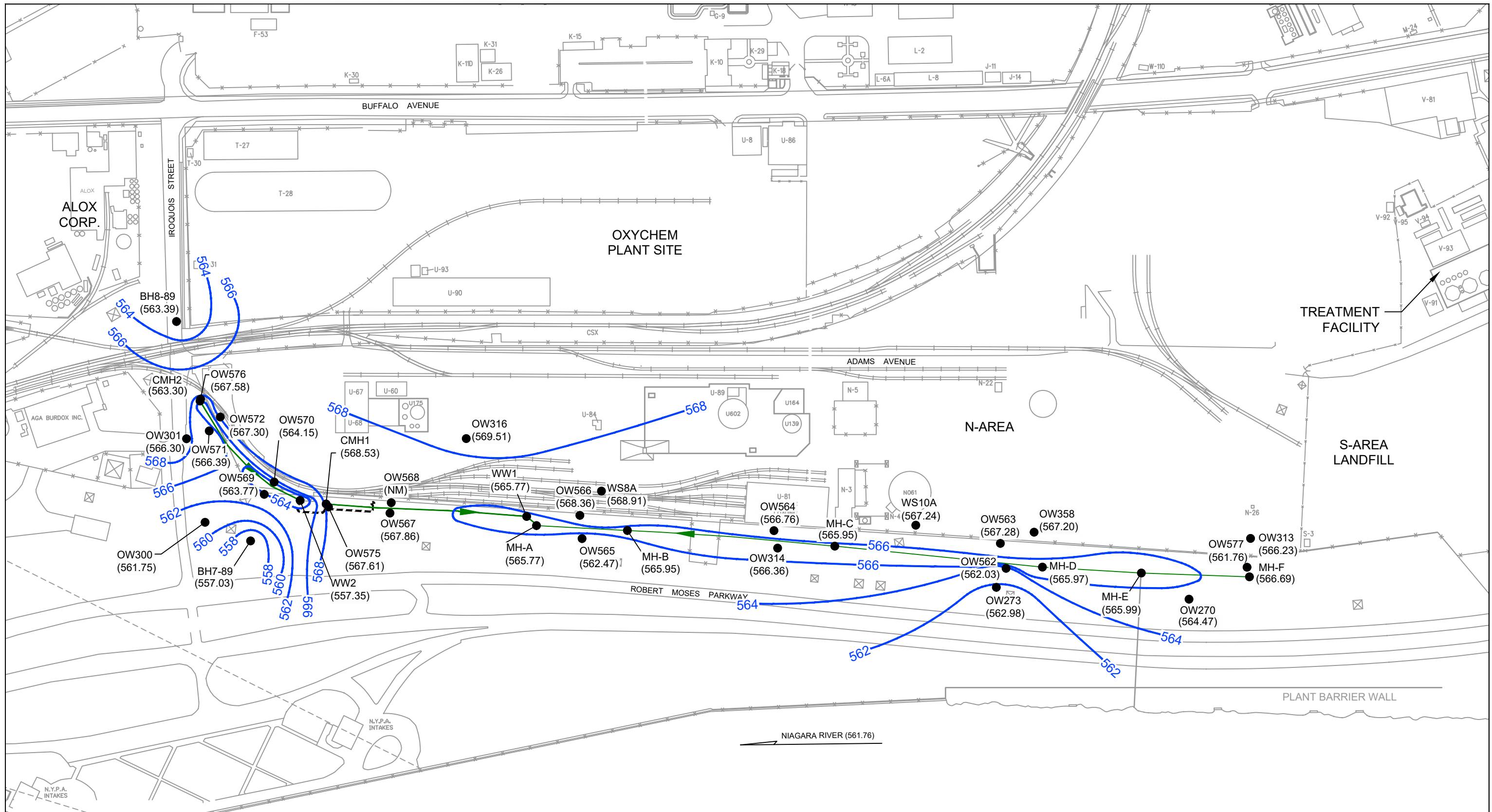


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**OVERBURDEN GROUNDWATER  
CHEMICAL MONITORING LOCATIONS**

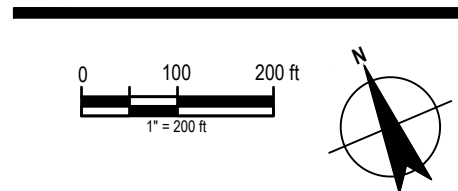
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Date April 2022

**FIGURE 7**



**LEGEND**

- FLOW ZONE 1 COLLECTION SYSTEM
- OW316 EXISTING OVERBURDEN MONITORING WELLS
- (569.51) GROUNDWATER ELEVATION
- (NM) NOT MEASURED
- 566 OVERBURDEN GROUNDWATER CONTOUR (ft AMSL) DASHED WHERE INFERRED

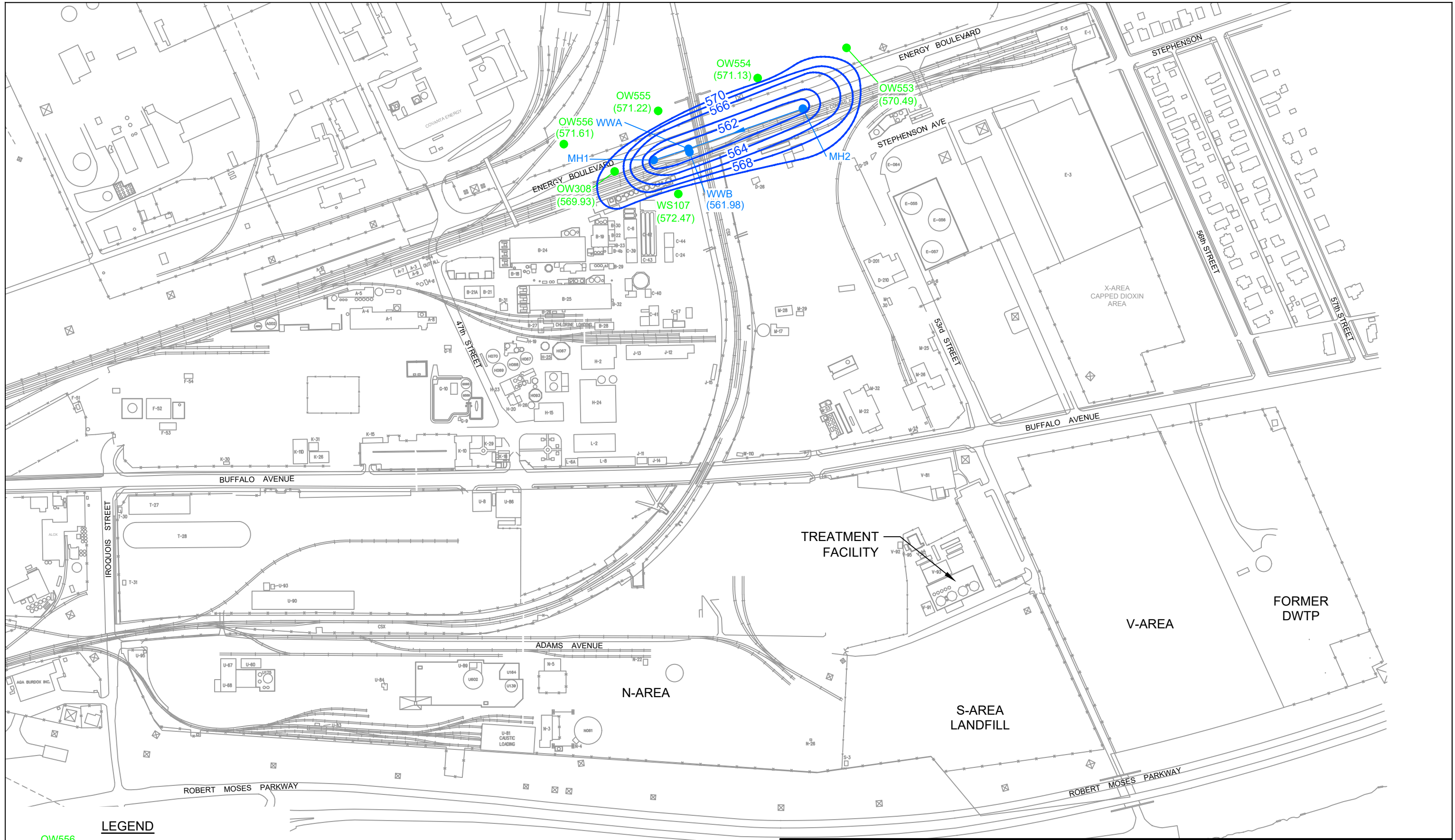


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**FLOW ZONE 1 OVERBURDEN GROUNDWATER  
 CONTOURS - MARCH 7, 2022**

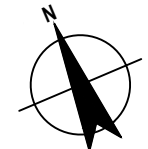
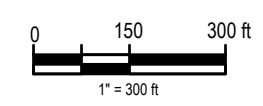
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 Date April 2022

**FIGURE 8**



- LEGEND**
- OW556 OVERBURDEN GROUNDWATER MONITORING WELL
  - (571.61) GROUNDWATER ELEVATION (ft AMSL)
  - 568 GROUNDWATER CONTOUR (ft AMSL)

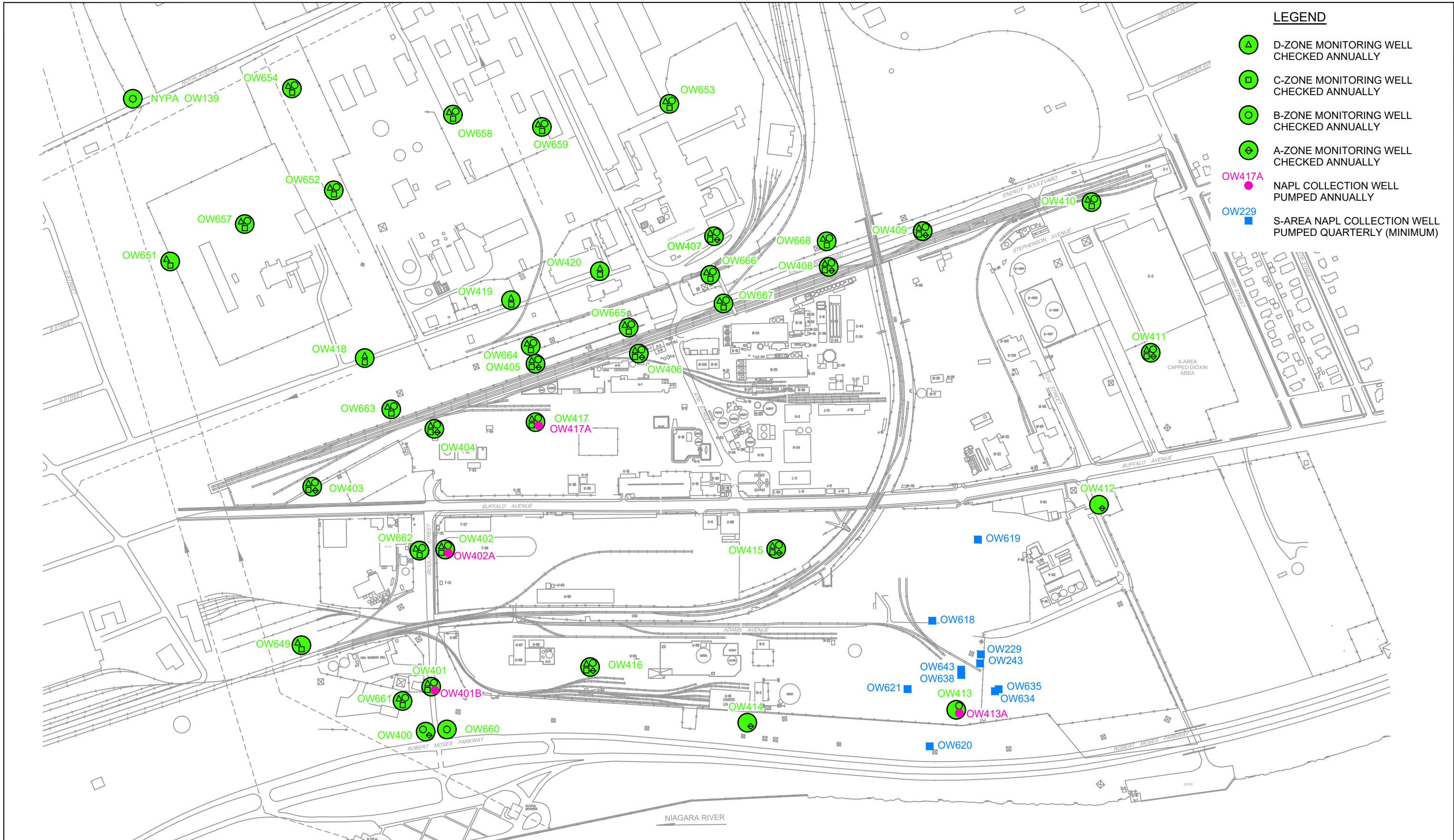
NIAGARA RIVER



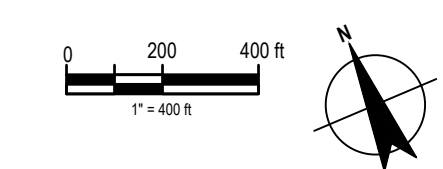
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 BUFFALO AVENUE PLANT  
 NIAGARA FALLS, NEW YORK  
 FLOW ZONE 3 OVERBURDEN GROUNDWATER  
 CONTOURS - MARCH 7, 2022

Project No. 11225008  
 Date April 2022

**FIGURE 9**



- LEGEND**
- ▲ D-ZONE MONITORING WELL CHECKED ANNUALLY
  - ◻ C-ZONE MONITORING WELL CHECKED ANNUALLY
  - B-ZONE MONITORING WELL CHECKED ANNUALLY
  - ⊕ A-ZONE MONITORING WELL CHECKED ANNUALLY
  - OW417A NAPL COLLECTION WELL PUMPED ANNUALLY
  - OW229 S-AREA NAPL COLLECTION WELL PUMPED QUARTERLY (MINIMUM)



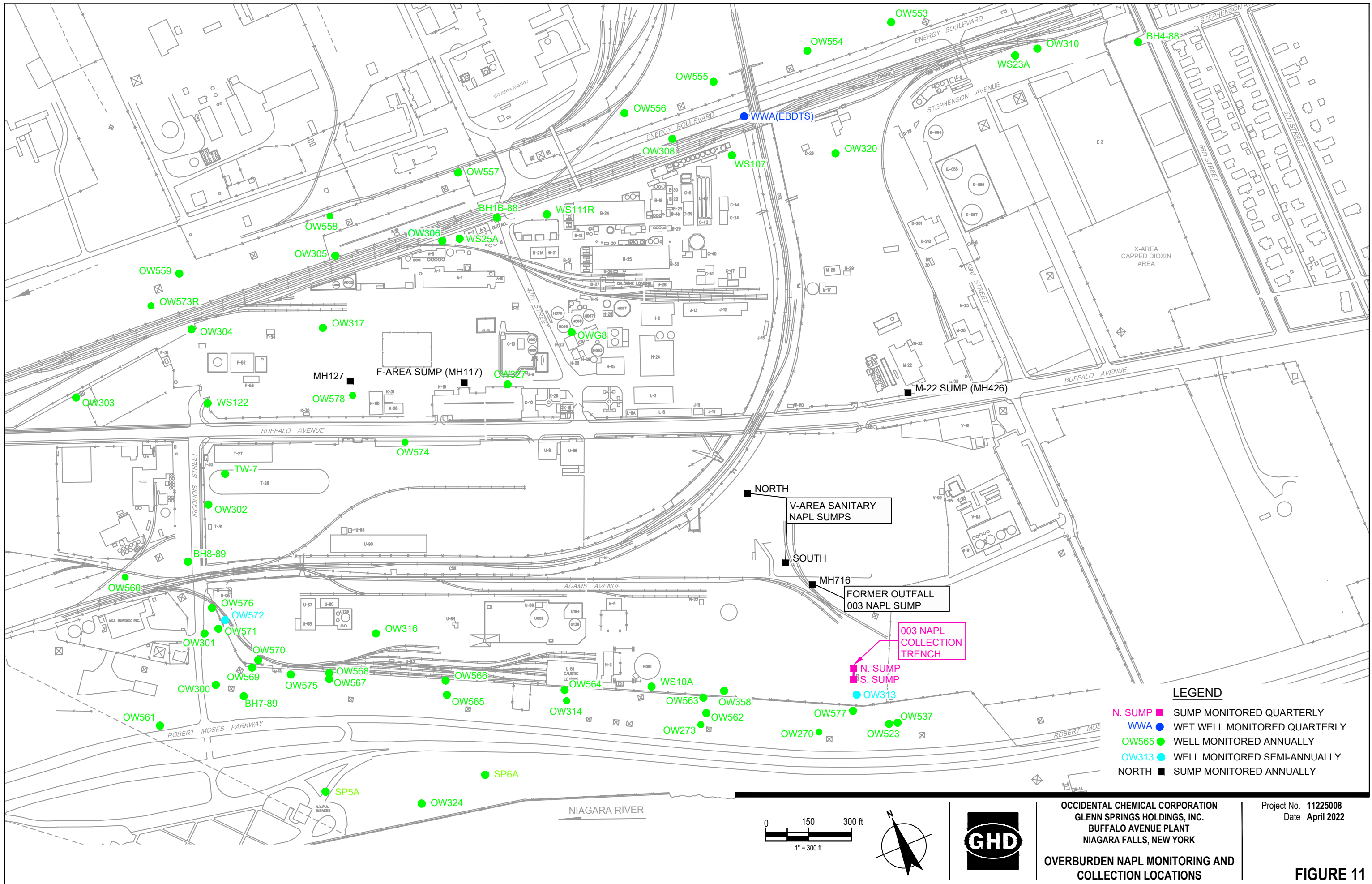
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 NIAGARA FALLS, NEW YORK

**BEDROCK NAPL MONITORING AND COLLECTION LOCATIONS**

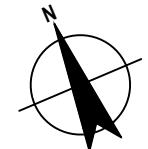
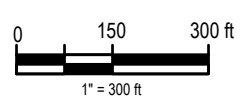
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**FIGURE 10**

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- LEGEND**
- N. SUMP ■ SUMP MONITORED QUARTERLY
  - WWA ● WET WELL MONITORED QUARTERLY
  - OW565 ● WELL MONITORED ANNUALLY
  - OW313 ● WELL MONITORED SEMI-ANNUALLY
  - NORTH ■ SUMP MONITORED ANNUALLY



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 BUFFALO AVENUE PLANT  
 NIAGARA FALLS, NEW YORK

**OVERBURDEN NAPL MONITORING AND  
 COLLECTION LOCATIONS**

Project No. 11225008  
 Date April 2022

**FIGURE 11**

Table 1

**Summary of Monitoring Tasks and Associated Completion Dates  
First Quarter 2022  
Buffalo Avenue Plant**

Quarter	Program	Task	Date(s) Task was Completed (2022)
First	Bedrock Groundwater	Weekly Flow Measurements	1/3, 1/10, 1/17, 1/24, 1/31, 2/7, 2/14, 2/21, 2/28, 3/7, 3/14, 3/21, 3/28
		Quarterly Hydraulic Monitoring	3/10
		Annual Chemical Monitoring	
	Overburden Groundwater	Weekly Flow Measurements	1/3, 1/10, 1/17, 1/24, 1/31, 2/7, 2/14, 2/21, 2/28, 3/7, 3/14, 3/21, 3/28
		Quarterly Hydraulic Monitoring - Flow Zones 1 and 3	3/7
	NAPL Monitoring	Quarterly NAPL Monitoring/Collection in 003 Collection Trench	3/7
		Quarterly NAPL Monitoring/Collection - N-Area Bedrock Wells	3/11
		Quarterly NAPL Monitoring/Collection of EBDTS	1/24
		Annual NAPL Monitoring/Collection of Overburden Monitoring Wells	3/7
Second	Bedrock Groundwater	Weekly Flow Measurements	
		Quarterly Hydraulic Monitoring	
	Overburden Groundwater	Weekly Flow Measurements	
		Quarterly Hydraulic Monitoring - Flow Zones 1 and 3	
		Annual Chemical Monitoring - Mercury Cell Area (OW304, OW305, OW306, and OW574) Annual Chemical Monitoring - Plant Wells	
	NAPL Monitoring	Quarterly NAPL Monitoring/Collection in 003 Collection Trench	
		Quarterly NAPL Monitoring/Collection - N-Area Bedrock Wells	
		Quarterly NAPL Monitoring/Collection of EBDTS	
Third	Bedrock Groundwater	Weekly Flow Measurements	
		Quarterly Hydraulic Monitoring	
	Overburden Groundwater	Weekly Flow Measurements	
		Quarterly Hydraulic Monitoring - Flow Zones 1 and 3	
		Annual Hydraulic Monitoring - Other Areas	
	NAPL Monitoring	Quarterly NAPL Monitoring/Collection in 003 Collection Trench	
		Quarterly NAPL Monitoring/Collection of EBDTS	
		Quarterly NAPL Monitoring/Collection - N-Area Bedrock Wells	
		Semiannual NAPL Monitoring/Collection of Overburden Monitoring Wells	
Annual NAPL Check - OW401B, OW402A, OW413A, and OW417A Annual Sump/Manhole NAPL Checks			
Fourth	Bedrock Groundwater	Weekly Flow Measurements	
		Quarterly Hydraulic Monitoring	
		Annual Well Inspections	
	Overburden Groundwater	Weekly Flow Measurements	
		Quarterly Hydraulic Monitoring - Flow Zones 1 and 3	
		Semiannual Chemical Monitoring - Mercury Cell Area (OW574) Annual Well Inspections	
	NAPL Monitoring	Quarterly NAPL Monitoring/Collection in 003 Collection Trench	
		Quarterly NAPL Monitoring/Collection of EBDTS	
		Quarterly NAPL Monitoring/Collection - N-Area Bedrock Wells	

Notes:

(1) - To be completed in the next quarter

**Table 2**  
**Summary of Maintenance Activities**  
**First Quarter 2022**  
**Buffalo Avenue Plant**

<b>Date</b>	<b>Location</b>	<b>Maintenance Activity</b>
1/3	F-Area	Cleaned scrubber strainer
1/4	F-Area	Repaired city water pipe leak
1/8	F-Area	Cleaned scrubber strainer and spray nozzles
1/12	F-Area	Reoriented duct valve, cleaned scrubber strainer
1/14	F-Area	Cleaned scrubber pump
1/14-1/25	F-Area	Repaired ductwork
1/31	F-Area	Drained knockout pot
2/1	F-Area	Replaced BEW706B pump
2/2	F-Area	Repaired oxidizer level controls
2/7	F-Area	Drained knockout pot
3/16	F-Area	Investigated BEW706D pump fault
3/28	F-Area	Investigated MH-301 pump fault
3/30	F-Area	Installed new pump in BEW706D

Table 3

D-Zone Extraction Well Flow Rates  
 First Quarter 2022  
 Buffalo Avenue Plant

Date	BEW701D		BEW702D		BEW703D		BEW704D		BEW705D		BEW706D	
	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)
1/3/2022							381000	40.45	223000	23.67	250000	26.54
1/10/2022							332000	40.39	198000	24.09	242000	29.66
1/17/2022							0	0.00	0	0.00	0	0.00
1/24/2022							116000	41.13	70000	24.82	87000	30.21
1/31/2022							341000	41.48	208000	25.30	260000	31.86
2/7/2022							375000	40.85	226000	24.62	285000	31.05
2/14/2022							411000	40.77	246000	24.40	309000	30.65
2/21/2022							404000	41.06	235000	23.88	304000	30.71
2/28/2022							412000	40.87	239000	23.71	303000	30.06
3/7/2022							411000	40.77	237000	23.51	301000	29.86
3/14/2022							407000	40.62	233000	23.25	292000	29.32
3/21/2022							412000	41.12	240000	23.95	77000	27.90
3/28/2022							409000	41.06	244000	24.50	0	0.00

Notes:

GPM - gallons per minute  
 BEW701D, 702D, and 703D were shut down on October 9, 2008 following NYSDEC approval.  
 Target rates for BEW704D, 705D, and 706D are 40 GPM each.



**Table 4**  
**C-Zone Extraction Well Flow Rates**  
**First Quarter 2022**  
**Buffalo Avenue Plant**

Date	BEW701C		BEW702C		BEW703C		BEW704C		BEW705C		BEW706C	
	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)
1/3/2022							994000	105.52	993000	105.41	860000	91.30
1/10/2022							864000	105.11	856000	104.14	722000	87.83
1/17/2022							0	0.00	0	0.00	0	0.00
1/24/2022							299000	106.03	297000	105.32	243000	86.17
1/31/2022							872000	106.08	863000	104.99	709000	86.25
2/7/2022							970000	105.66	960000	104.58	771000	83.99
2/14/2022							1069000	106.05	1057000	104.86	836000	82.94
2/21/2022							1038000	105.49	1026000	104.27	816000	82.93
2/28/2022							1055000	104.66	1038000	102.98	851000	84.42
3/7/2022							1055000	104.66	1042000	103.37	832000	82.54
3/14/2022							1041000	104.52	1030000	103.41	793000	79.14
3/21/2022							1052000	104.37	1047000	104.49	793000	79.14
3/28/2022							1050000	105.42	1049000	104.69	794000	79.72

Notes:

GPM - gallons per minute.

BEW701C, 702C, and 703C were shut down on May 22, 2007 following NYSDEC approval.

Target rates for BEW704C, 705C, and 706C are 100 GPM each.

(1) The totalizer for BEW706C malfunctioned the week of January 27, 2020. The average flow of the weeks before and after was used.

**Table 5**  
**B-Zone Extraction Well Flow Rates**  
**First Quarter 2022**  
**Buffalo Avenue Plant**

Date	BEW700B		BEW701B		BEW702B		BEW703B		BEW704B		BEW705B		BEW706B	
	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)
1/3/2022	32000	3.40	12000	1.27	21	0.002	42	0.004	80000	8.49	33000	3.50	34000	3.61
1/10/2022	24000	3.25	9000	1.23	14	0.001	23	0.002	71000	8.64	29000	3.53	30000	3.65
1/17/2022	0	0.00	0	0.00	10	0.001	40	0.004	0	0.00	0	0.00	0	0.00
1/24/2022	10000	3.55	3000	1.06	20	0.002	32	0.003	25000	8.87	11000	3.82	10000	3.55
1/31/2022	29000	3.53	10000	1.22	18	0.002	24	0.002	78000	9.49	29000	3.55	0	0.00
2/7/2022	30000	3.27	11000	1.20	24	0.002	42	0.004	85000	9.26	32000	3.49	0	0.00
2/14/2022	34000	3.37	12000	1.19	25	0.002	40	0.004	92000	9.13	33000	3.27	0	0.00
2/21/2022	34000	3.37	12000	1.19	12	0.001	17	0.002	87000	8.84	31000	3.15	21000	2.13
2/28/2022	34000	3.37	10000	0.99	11	0.001	14	0.001	87000	8.63	31000	3.08	43000	4.27
3/7/2022	31000	3.09	9000	0.89	11	0.001	14	0.001	86000	8.53	30000	2.98	44000	4.37
3/14/2022	30000	2.99	10000	1.00	20	0.002	32	0.003	83000	8.28	30000	2.99	45000	4.49
3/21/2022	29000	2.88	9000	0.90	22	0.002	30	0.003	83000	8.28	31000	3.09	60000	5.99
3/28/2022	24000	2.41	9000	0.90	24	0.002	39	0.004	84000	8.38	30000	2.99	64000	6.43

Notes:

GPM - gallons per minute.

(1) Totalizer malfunction occurred for BEW706B. The average flow of the weeks before and after was used.

Table 6

**Bedrock Extraction System Monthly Flow Rate Summary  
First Quarter 2022  
Buffalo Avenue Plant**

	Target Flow Rates (gpm)	Month			Quarterly Average (gpm)
		Jan-22 (gpm)	Feb-22 (gpm)	Mar-22 (gpm)	
<b><u>System Component</u></b>					
B-Zone	40	16	18	20	18
C-Zone	300	239	293	289	274
D-Zone	120	76	96	86	86
Operational Average	460	331	333	396	378
<b><u>Treatment Plant</u></b>					
Operational Average		421	478	430	443
Operating Time		55.5%	97.4%	99.4%	84.1%
<b>Quarterly Average Operating Time =</b>		84.1%			
<b>Total Volume Treated in Quarter =</b>		46,769,760 gallons			

## Notes:

GPM - gallons per minute.

Flow rates shown are the average flow rate while the pump/treatment system is operational.

Table 7

**Bedrock Groundwater Elevation Summary  
First Quarter 2022  
Buffalo Avenue Plant**

Well	Top of Riser Elevation	Ground Surface Elevation	Date of Installation	Riser Diameter (inches)	Monitored Interval				Well Bottom		Water Level Data	
					Top (AMSL)	Bottom (AMSL)	Top (BGS)	Bottom (BGS)	Elev. of (AMSL)	Depth to (BGS)	3/10/2022 (ft BTOC)	(ft AMSL)
BEW700B	565.59	568.69	12/2/1994	8	457.1	- 414.0	111.6	- 154.7	414.0	154.7	>60	<505.59
BEW701B	566.18	569.15	12/9/1994	8	458.8	- 413.8	110.4	- 155.4	413.8	155.4	46.16	520.02
BEW701C	566.33	569.60	11/17/1994	8	498.4	- 460.9	71.2	- 108.7	460.9	108.7	12.89	553.44
BEW701D	565.86	569.03	12/7/1994	8	545.9	- 500.9	23.1	- 68.1	500.9	68.1	10.87	554.99
BEW702B	568.83	572.24	8/15/1994	8	452.9	- 415.9	119.3	- 156.3	415.9	156.3	>115.3	<453.53
BEW702C	568.86	571.95	8/8/1994	8	496.4	- 455.9	75.6	- 116.1	455.9	116.1	15.46	553.40
BEW702D	569.20	572.17	7/6/1994	8	548.6	- 499.4	23.6	- 72.8	499.4	72.8	15.02	554.18
BEW703B	569.48	572.57	9/8/1994	8	450.8	- 410.8	121.8	- 161.8	410.8	161.8	>60	<509.48
BEW703C	569.00	572.10	9/15/1994	8	501.8	- 453.7	70.3	- 118.4	453.7	118.4	15.54	553.46
BEW703D	569.87	572.77	9/16/1994	8	550.0	- 504.2	22.8	- 68.6	504.2	68.6	15.69	554.18
BEW704B	569.37	573.41	10/14/1994	8	452.3	- 417.3	121.1	- 156.1	417.3	156.1	>60	<509.37
BEW704C	569.24	573.31	10/14/1994	8	498.3	- 454.3	75.0	- 119.0	454.3	119.0	31.47	537.77
BEW704D	570.24	573.10	9/30/1994	8	546.3	- 501.3	26.8	- 71.8	501.3	71.8	21.42	548.82
BEW705B	570.24	573.26	10/11/1994	8	453.7	- 416.0	119.6	- 157.3	416.0	157.3	>60	<510.24
BEW705C	570.06	573.15	9/30/1994	8	502.0	- 456.5	71.2	- 116.7	456.5	116.7	23.37	546.69
BEW705D	570.66	573.65	10/10/1994	8	550.2	- 505.2	23.4	- 68.4	505.2	68.4	58.90	511.76
BEW706B	569.58	572.69	9/19/1994	8	452.9	- 416.4	119.8	- 156.3	416.4	156.3	43.26	526.32
BEW706C	568.97	571.9	10/11/1994	8	504.1	- 455.6	67.8	- 116.3	455.6	116.3	19.61	549.36
BEW706D	569.46	572.49	9/26/1994	8	550.7	- 504.2	21.8	- 68.3	504.2	68.3	38.30	531.16
OW139	570.63	569.08	1958	12	559.2	435.2	9.9	- 133.9	435.2	133.9	16.15	554.48
OW400B	579.25	579.61	5/10/1989	4	454.6	- 424.5	125.0	- 155.1	424.5	155.1	28.80	550.45
OW401B	568.54	568.95	5/24/1989	4	462.9	- 413.9	106.1	- 155.1	413.9	155.1	24.45	544.09
OW401C	568.55	568.94	5/25/1989	4	492.3	- 462.8	76.6	- 106.1	462.8	106.1	14.89	553.66
OW401D	568.42	568.87	5/26/1989	6.25	545.9	- 507.9	23.0	- 61.0	507.9	61.0	13.70	554.72
OW402B	569.46	570.33	6/28/1989	4	473.8	- 409.9	96.5	- 160.4	409.9	160.4	16.38	553.08
OW402C	569.48	570.3	6/26/1989	4	488.5	- 473.8	81.8	- 96.5	473.8	96.5	15.93	553.55
OW402D	569.22	570.01	6/29/1989	6.25	544.7	- 518.8	25.3	- 51.2	518.8	51.2	14.48	554.74
OW403B	570.04	570.48	5/16/1989	4	457.8	- 427.8	112.7	- 142.7	427.8	142.7	17.00	553.04
OW403C	570.02	570.26	5/22/1989	4	487.3	- 457.7	83.0	- 112.6	457.7	112.6	16.89	553.13
OW403D	570.08	570.31	5/23/1989	6.25	546.8	- 502.8	23.5	- 67.5	502.8	67.5	16.69	553.39
OW404B	571.03	571.53	6/9/1989	4	438.3	- 404.8	133.2	- 166.7	404.8	166.7	16.49	554.54
OW404C	570.82	571.38	6/7/1989	4	498.5	- 468.2	72.9	- 103.2	468.2	103.2	17.64	553.18

Table 7

**Bedrock Groundwater Elevation Summary**  
**First Quarter 2022**  
**Buffalo Avenue Plant**

Well	Top of Riser Elevation	Ground Surface Elevation	Date of Installation	Riser Diameter (inches)	Monitored Interval				Well Bottom		Water Level Data			
					Top (AMSL)	Bottom (AMSL)	Top (BGS)	Bottom (BGS)	Elev. of (AMSL)	Depth to (BGS)	3/10/2022 (ft BTOC)	(ft AMSL)		
OW404D	570.45	571.85	6/23/1989	6.25	549.3	-	498.0	22.6	-	73.9	498.0	73.9	16.51	553.94
OW405B	572.78	573.14	3/27/1989	4	453.3	-	408.3	119.8	-	164.8	408.3	164.8	21.34	551.44
OW405C	572.7	573.07	5/31/1989	4	501.2	-	453.2	71.9	-	119.9	453.2	119.9	19.62	553.08
OW405D	572.6	573.11	6/9/1989	6.25	545.6	-	501.2	27.5	-	71.9	501.2	71.9	20.09	552.51
OW406B	571.52	571.77	6/8/1989	4	467.9	-	404.4	103.9	-	167.4	404.4	167.4	24.88	546.64
OW406C	571.44	571.73	6/14/1989	4	497.6	-	467.8	74.1	-	103.9	467.8	103.9	18.32	553.12
OW406D	571.81	572.1	6/16/1989	6.25	548.6	-	497.2	23.5	-	74.9	497.2	74.9	19.62	552.19
OW407B	572.05	572.46	5/2/1989	4	465.4	-	450.4	107.1	-	122.1	450.4	122.1	21.13	550.92
OW407C	571.27	572.12	5/1/1989	4	479.8	-	465.2	92.3	-	106.9	465.2	106.9	19.05	552.22
OW407D	571.32	571.72	5/4/1989	6.25	552.9	-	510.4	18.8	-	61.3	510.4	61.3	18.62	552.70
OW408B	575.04	571.98	7/20/1989	4	445.2	-	403.6	126.8	-	168.4	403.6	168.4	25.28	549.76
OW408C	575.68	572.71	7/11/1989	4	494.5	-	445.9	78.2	-	126.8	445.9	126.8	23.65	552.03
OW408D	576.2	573.12	7/6/1989	6.25	552.1	-	525.0	21.0	-	48.1	525.0	48.1	25.67	550.53
OW409B	575.7	572.79	6/20/1989	3	461.8	-	415.9	111.0	-	156.9	415.9	156.9	25.55	550.15
OW409C	575.57	572.95	6/26/1989	4	510.1	-	462.0	62.9	-	111.0	462.0	111.0	22.07	553.50
OW409D	575.46	575.76	6/28/1989	6.25	552.0	-	509.8	23.8	-	66.0	509.8	66.0	24.77	550.69
OW410B	572.32	572.62	6/26/1989	4	441.4	-	407.7	131.2	-	164.9	407.7	164.9	21.29	551.03
OW410C	572.57	572.72	7/17/1989	4	486.5	-	471.5	86.2	-	101.2	471.5	101.2	18.09	554.48
OW410D	571.96	572.64	6/27/1989	6.25	547.1	-	516.3	25.5	-	56.3	516.3	56.3	20.50	551.46
OW411B	574.08	574.82	4/4/1989	4	454.9	-	406.6	119.9	-	168.2	406.6	168.2	23.14	550.94
OW411C	574.39	574.78	4/11/1989	4	500.0	-	470.0	74.8	-	104.8	470.0	104.8	20.59	553.80
OW411D	574.51	574.84	4/14/1989	6.25	546.7	-	515.2	28.1	-	59.6	515.2	59.6	22.83	551.68
OW415B	571.38	571.73	5/31/1989	4	482.1	-	467.1	89.6	-	104.6	467.1	104.6	18.58	552.80
OW415C	571.26	571.56	5/30/1989	4	511.9	-	497.1	59.7	-	74.5	497.1	74.5	17.68	553.58
OW415D	571.3	571.6	5/31/1989	6.25	548.7	-	511.8	22.9	-	59.8	511.8	59.8	17.41	553.89
OW416B	570	570.69	5/22/1989	6.25	470.8	-	455.8	99.9	-	114.9	455.8	114.9	15.17	554.83
OW416C	569.9	570.57	~5/22/1989	6.25	500.7	-	470.7	69.9	-	99.9	470.7	99.9	16.78	553.12
OW416D	569.68	570.32	~5/22/1989	6.25	539.6	-	500.5	30.7	-	69.8	500.5	69.8	13.26	556.42
OW417B	572.93	572.7	~5/19/1989	6.25	461.1	-	412.6	111.6	-	160.1	412.6	160.1	21.18	551.75
OW417C	572.23	572.9	~5/19/1989	6.25	490.1	-	460.8	82.8	-	112.1	460.8	112.1	-	-
OW417D	572.26	572.5	~5/19/1989	6.25	545.5	-	505.9	27.0	-	66.6	505.9	66.6	20.51	551.75
OW418C	569.62	570.08	5/29/2003	4	501.0	-	458.7	69.1	-	111.4	458.7	111.4	16.30	553.32

Table 7

**Bedrock Groundwater Elevation Summary**  
**First Quarter 2022**  
**Buffalo Avenue Plant**

Well	Top of Riser Elevation	Ground Surface Elevation	Date of Installation	Riser Diameter (inches)	Monitored Interval				Well Bottom		Water Level Data			
					Top (AMSL)	Bottom (AMSL)	Top (BGS)	Bottom (BGS)	Elev. of (AMSL)	Depth to (BGS)	3/10/2022 (ft BTOC)	(ft AMSL)		
OW418D	569.72	570.14	1/11/2002	6	547.0	-	504.3	23.1	-	65.8	504.3	65.8	16.30	553.42
OW419C	570.4	570.7	6/4/2003	4	502.7	-	455.7	68.0	-	115.0	455.7	115.0	17.15	553.25
OW419D	570.22	570.75	1/10/2002	6	550.3	-	505.6	20.5	-	65.2	505.6	65.2	17.35	552.87
OW420C	571.03	571.28	6/2/2003	4	500.3	-	452.5	71.0	-	118.8	452.5	118.8	18.31	552.72
OW420D	570.67	571.24	1/4/2002	6	548.7	-	503.1	22.5	-	68.1	503.1	68.1	18.11	552.56
OW649C	567.52	568.04	~10/31/1991	4	488.5	-	458.1	79.6	-	110.0	458.1	110.0	14.10	553.42
OW649D	568.29	568.35	10/31/1991	4	549.2	-	510.4	19.1	-	57.9	510.4	57.9	14.21	554.08
OW651C	568.62	568.91	10/10/1991	4	507.9	-	477.6	61.1	-	91.3	477.6	91.3	15.62	553.00
OW651D	568.53	568.72	~9/16/1991	6	553.2	-	507.7	15.5	-	61.0	507.7	61.0	15.35	553.18
OW652B	570.48	570.83	~9/16/1991	4	473.8	-	443.8	97.1	-	127.1	443.8	127.1	18.70	551.78
OW652C	570.18	570.64	2/5/1993	4	509.4	-	477.4	61.3	-	93.3	477.4	93.3	17.02	553.16
OW652D	569.98	570.25	9/16/1991	4	552.7	-	509.7	17.6	-	60.6	509.7	60.6	16.80	553.18
OW653B	572.19	572.55	~2/12/1993	4	475.4	-	451.4	97.2	-	121.2	451.4	121.2	21.58	550.61
OW653C	572.12	572.49	2/12/1993	4	503.1	-	478.1	69.4	-	94.4	478.1	94.4	19.99	552.13
OW653D	572	572.38	9/10/1991	6	552.1	-	503.7	20.3	-	68.7	503.7	68.7	20.83	551.17
OW654B	569.53	569.91	~8/27/1991	4	478.8	-	444.3	91.1	-	125.6	444.3	125.6	18.50	551.03
OW654C	570.14	570.39	~8/27/1991	4	509.7	-	481.8	60.7	-	88.6	481.8	88.6	16.80	552.99
OW654D	570.16	570.41	8/27/1991	6	556.0	-	510.7	14.4	-	59.7	510.7	59.7	16.72	553.44
OW655D	571.23	571.46	8/22/1991	6	552.7	-	507.4	18.8	-	64.1	507.4	64.1	19.09	552.14
OW657B	570.22	570.59	~4/9/1993	4	472.9	-	439.5	97.7	-	131.1	439.5	131.1	18.50	551.72
<b>OW657C</b>	570.42	570.83	~4/9/1993	4	503.7	-	475.7	67.2	-	95.2	475.7	95.2	1795.00	-1224.58
OW657D	571.65	570.21	~4/9/1993	4	553.6	-	507.6	16.6	-	62.6	507.6	62.6	19.00	552.65
OW658B	570.48	570.93	~4/6/1993	4	473.4	-	439.9	97.6	-	131.1	439.9	131.1	20.77	549.71
OW658C	570.66	570.94	~4/6/1993	4	502.9	-	475.8	68.0	-	95.1	475.8	95.1	19.21	551.45
OW658D	570.75	571.1	~4/6/1993	4	552.6	-	506.1	18.6	-	65.1	506.1	65.1	18.10	552.65
OW659B	570.02	570.49	~3/30/1993	4	474.0	-	440.4	96.5	-	130.1	440.4	130.1	18.82	551.20
OW659C	570	570.41	~3/30/1993	4	503.9	-	475.8	66.5	-	94.6	475.8	94.6	17.32	552.68
OW659D	570.01	570.29	~3/30/1993	4	549.7	-	505.8	20.6	-	64.5	505.8	64.5	16.50	553.51
OW660B	579.42	579.85	10/19/1994	4	454.8	-	409.5	125.0	-	170.3	409.5	170.3	26.00	553.42
OW661B	568.63	569.05	12/15/1994	4	451.0	-	419.0	118.1	-	150.1	419.0	150.1	19.70	548.93
OW661C	568.87	569.22	10/24/1994	4	502.2	-	454.2	67.0	-	115.0	454.2	115.0	16.69	552.18
OW661D	568.88	569.25	11/1/1994	4	546.9	-	505.1	22.3	-	64.1	505.1	64.1	16.50	552.38

Table 7

**Bedrock Groundwater Elevation Summary  
First Quarter 2022  
Buffalo Avenue Plant**

Well	Top of Riser Elevation	Ground Surface Elevation	Date of Installation	Riser Diameter (inches)	Monitored Interval				Well Bottom		Water Level Data			
					Top (AMSL)	Bottom (AMSL)	Top (BGS)	Bottom (BGS)	Elev. of (AMSL)	Depth to (BGS)	3/10/2022 (ft BTOC) (ft AMSL)			
OW662B	569.79	570.08	7/6/1994	4	456.1	-	415.1	114.0	-	155.0	415.1	155.0	16.70	553.09
OW662C	569.75	570.02	7/5/1994	4	501.0	-	459.0	69.0	-	111.0	459.0	111.0	16.55	553.20
OW662D	569.92	570.24	7/1/1994	4	546.1	-	503.2	24.1	-	67.0	503.2	67.0	15.90	554.02
OW663B	571.79	572.15	8/9/1994	4	452.7	-	413.6	119.5	-	158.6	413.6	158.6	16.61	555.18
OW663C	572.08	572.37	8/10/1994	4	501.4	-	455.9	71.0	-	116.5	455.9	116.5	18.61	553.47
OW663D	572.21	572.33	8/9/1994	4	549.5	-	504.5	22.8	-	67.8	504.5	67.8	18.62	553.59
OW664B	571.53	571.85	12/14/1994	4	449.9	-	418.9	122.0	-	153.0	418.9	153.0	18.04	553.49
OW664C	571.5	571.84	12/5/1994	4	499.8	-	452.8	72.0	-	119.0	452.8	119.0	19.02	552.48
OW664D	571.56	571.9	12/12/1994	4	548.1	-	502.9	23.8	-	69.0	502.9	69.0	19.12	552.44
OW665B	573.06	573.37	7/22/1994	4	450.0	-	415.0	123.4	-	158.4	415.0	158.4	22.01	551.05
OW665C	573.04	573.33	7/25/1994	4	498.9	-	453.4	74.4	-	119.9	453.4	119.9	20.31	552.73
OW665D	573.13	573.42	7/22/1994	4	547.0	-	502.3	26.4	-	71.2	502.3	71.2	21.06	552.07
OW666B	571.37	571.59	1/12/1995	4	453.2	-	410.2	118.4	-	161.4	410.2	161.4	40.71	530.66
OW666C	571.29	571.69	1/10/1995	4	504.7	-	456.2	67.0	-	115.5	456.2	115.5	19.22	552.07
OW666D	571.2	571.57	1/10/1995	4	552.5	-	507.1	19.1	-	64.5	507.1	64.5	21.29	549.91
OW667B	576.28	573.48	10/6/1994	4	453.4	-	413.4	120.1	-	160.1	413.4	160.1	31.72	544.56
OW667C	575.78	572.97	10/5/1994	4	503.8	-	456.2	69.2	-	116.8	456.2	116.8	23.15	552.63
OW667D	576.31	573.48	10/6/1994	4	552.2	-	506.2	21.3	-	67.3	506.2	67.3	27.16	549.15
OW668B	570.86	571.29	1/4/1995	4	454.3	-	420.8	117.0	-	150.5	420.8	150.5	20.93	549.93
OW668C	570.95	571.2	1/4/1995	4	502.9	-	457.7	68.3	-	113.5	457.7	113.5	19.21	551.74
OW668D	571.1	571.25	12/23/1994	4	551.0	-	506.0	20.3	-	65.3	506.0	65.3	20.92	550.18
River	568.91	N/A	N/A	N/A	N/A	-	N/A	N/A	-	N/A	N/A	N/A	7.15	561.76

## Notes:

ft BTOC – feet below top of casing

ft AMSL – feet above mean sea level

NM - Not measured

NC - Not calculated

N/A - Not applicable

(1) - Well buried under stone

(2) - Water level measured on June 15, 2020

(3) - Water level measured on September 21, 2020

**Table 8**  
**Overburden Weekly Flow Rates**  
**First Quarter 2022**  
**Buffalo Avenue Plant**

Date	Flow Zone 1						Flow Zone 3		Abandoned Outfall 005		Abandoned D-Area Sanitary Sewer	
	System Total		Wet Well 2		Wet Well 1		WWB		MH159L		MH301	
	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)
1/3/2022	413000	43.84	13000	1.38	400000	42.46	59000	6.18	21000	2.08	34000	3.56
1/10/2022	323000	47.16	11000	5.56	312000	41.60	49000	5.83	14000	1.39	26000	3.10
1/17/2022	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
1/24/2022	6000	1.96	6000	1.96	0	0.00	22000	5.82	0	0.00	12000	3.17
1/31/2022	8000	5.07	7000	5.07	1000	0.00	41000	4.99	11000	1.09	19000	2.78
2/7/2022	61000	80.37	9000	1.58	52000	78.79	32000	3.49	19000	1.88	21000	2.29
2/14/2022	38000	0.95	4000	0.95	34000	0.00	87000	8.63	21000	2.08	58000	5.75
2/21/2022	107000	11.11	14000	11.11	93000	0.00	175000	17.78	21000	2.08	100000	9.92
2/28/2022	157000	2.27	3000	2.27	154000	0.00	180000	17.86	20000	1.98	100800	10 <sup>(2)</sup>
3/7/2022	173000	0.37	2000	0.37	171000	0.00	69000	6.85	19000	1.88	100800	10 <sup>(2)</sup>
3/14/2022	168000	0.10	1000	0.10	167000	0.00	76000	7.58	19000	1.88	100800	10 <sup>(2)</sup>
3/21/2022	311000	0.10	1000	0.10	310000	0.00	58000	5.79	20000	1.98	100800	10 <sup>(2)</sup>
3/28/2022	213000	79.10	12000	1.20	201000	77.91	74000	7.43	24000	2.38	100800	10 <sup>(2)</sup>

Notes:

GPM - gallons per minute.

Flow rates shown are the average flow rate while the pump is operational.

(1) Totalizer malfunction occurred for MH301. The average flow of the weeks before and after was used.

(2) Flow meter malfunction, flow rates are estimated.



Table 9

**Overburden Performance Summary  
First Quarter 2022  
Buffalo Avenue Plant**

**Flow Rate Summary**

System Component	Average Flow				Quarterly Total (gallons)
	Jan-22	Feb-22	Mar-22	Quarterly	
<b><u>Flow Zone 1</u></b>					
Wet Well 1	16.8	19.7	19.5	18.7	1,895,000
Wet Well 2	0.7	0.7	0.4	0.63	83,000
<b>TOTAL</b>	<b>17.5</b>	<b>20.4</b>	<b>19.9</b>	<b>50.3</b>	<b>1,978,000</b>
<b><u>Flow Zone 3</u></b>					
WWB	4.6	11.9	6.9	7.8	922,000
<b><u>Abandoned Outfall 005</u></b>					
MH159L	0.9	2.0	2.0	1.7	209,000
<b><u>Abandoned D-Area Sanitary Sewer</u></b>					
MH301	2.5	14.2	10.0	8.9	774,000

**Operating Time Summary**

System Component	Average Percent Operational			
	Jan-22	Feb-22	Mar-22	Quarterly
<b><u>Flow Zone 1</u></b>				
Wet Well 1	51.3%	98.0%	99.8%	83.0%
Wet Well 2	51.3%	98.0%	99.7%	83.0%
<b><u>Flow Zone 3</u></b>				
WWB	51.3%	98.0%	99.7%	83.0%
<b><u>Abandoned Outfall 005</u></b>				
MH159L	51.3%	98.0%	99.7%	83.0%
<b><u>Abandoned D-Area Sanitary Sewer</u></b>				
MH301	51.3%	98.0%	93.3%	80.9%

Notes:

GPM - gallons per minute.

Table 10

Overburden Groundwater Elevation Summary  
 First Quarter 2022  
 Buffalo Avenue Plant

Well	Top of Riser Elevation	Ground Surface Elevation	Date of Installation	Riser Diameter (inches)	Screened Interval				Well Bottom		Water Level Data	
					Top (ft AMSL)	Bottom (ft AMSL)	Top (ft BGS)	Bottom (ft BGS)	Elev. of (ft AMSL)	Depth to (ft BGS)	3/7/2022 (ft BTOC) (ft AMSL)	
BH1B-88 <sup>(1)</sup>	572.53	572.70	12/20/1988	2	568.8	- 557.8	3.9	- 14.9	557.8	14.9	(1)	(1)
BH4-88 <sup>(1)</sup>	572.12	572.45	12/9/1988	2	568.2	- 565.2	4.3	- 7.3	565.2	7.3	(1)	(1)
BH7-89	572.32	572.67	5/24/1989	2	560.6	- 553.2	12.1	- 19.5	553.2	19.5	15.29	557.03
BH8-89	568.00	568.23	1/6/1989	2	563.4	- 549.4	4.8	- 18.8	549.4	18.8	4.61	563.39
CMH1	569.50	568.53	1997	NA	NA	- 558.0	NA	- 10.5	558.0	10.5	.97	568.53
CMH2	569.42	568.49	1997	NA	NA	- 562.5	NA	- 6.0	562.5	6.0	6.12	563.30
MH-A	568.89	569.85	Unknown	NA	NA	- 556.5	NA	- 13.4	556.5	13.4	3.12	565.77
MH-B	568.87	568.72	Unknown	NA	NA	- 556.5	NA	- 12.2	556.5	12.2	2.92	565.95
MH-C	568.88	568.59	Unknown	NA	NA	- 557.0	NA	- 11.6	557.0	11.6	2.93	565.95
MH-D	569.89	568.50	Unknown	NA	NA	- 556.3	NA	- 12.2	556.3	12.2	3.92	565.97
MH-E	568.81	567.48	Unknown	NA	NA	- 555.8	NA	- 11.7	555.8	11.7	2.82	565.99
MH-F	568.90	567.83	1998	NA	NA	- 553.5	NA	- 14.4	553.5	14.4	2.21	566.69
OW270	571.55	570.88	10/16/1987	2	564.5	- 545.5	6.4	- 25.4	545.5	25.4	7.08	564.47
OW273	570.00	570.28	10/20/1987	2	563.5	- 551.5	6.8	- 18.8	551.5	18.8	7.02	562.98
OW300	567.07	567.56	5/25/1989	2	560.5	- 545.0	7.1	- 22.6	545.0	22.6	5.32	561.75
OW301	568.38	568.95	7/24/1989	2	564.8	- 557.8	4.2	- 11.2	557.8	11.2	2.08	566.30
OW302 <sup>(1)</sup>	569.98	570.10	10/26/1988	2	565.6	- 563.6	4.5	- 6.5	563.6	6.5	(1)	(1)
OW303 <sup>(1)</sup>	570.81	570.10	11/2/1988	2	566.3	- 562.3	3.8	- 7.8	562.3	7.8	(1)	(1)
OW304 <sup>(1)</sup>	571.50	571.40	10/20/1988	2	565.3	- 560.3	6.1	- 11.1	560.3	11.1	(1)	(1)
OW305 <sup>(1)</sup>	572.75	573.20	10/31/1988	2	569.4	- 564.4	3.8	- 8.8	564.4	8.8	(1)	(1)
OW306 <sup>(1)</sup>	571.85	571.90	11/15/1988	2	567.9	- 564.9	4.0	- 7.0	564.9	7.0	(1)	(1)
OW308	574.24	571.40	11/17/1988	2	567.6	- 564.6	3.8	- 6.8	564.6	6.8	4.31	569.93
OW310 <sup>(1)</sup>	572.28	572.80	11/22/1988	2	569.3	- 564.3	3.5	- 8.5	564.3	8.5	(1)	(1)
OW313	569.26	568.70	10/13/1988	2	550.8	- 545.8	17.9	- 22.9	545.8	22.9	3.03	566.23
OW314	569.04	568.90	6/12/1989	2	565.4	- 553.4	3.5	- 15.5	553.4	15.5	2.68	566.36
OW316	569.77	570.10	11/9/1988	2	566.1	- 559.1	4.0	- 11.0	559.1	11.0	.26	569.51
OW317 <sup>(1)</sup>	572.60	572.50	9/26/1988	2	568.8	- 563.8	3.7	- 8.7	563.8	8.7	(1)	(1)
OW327 <sup>(1)</sup>	570.75	571.40	2/9/1990	2	567.4	- 565.4	4.0	- 6.0	565.4	6.0	(1)	(1)
OW358	571.49	569.02	9/26/1989	2	563.9	- 550.9	5.1	- 18.1	550.9	18.1	4.29	567.20
OW553	573.51	573.77	8/27/1991	2	570.1	- 565.1	3.7	- 8.7	565.1	8.7	3.02	570.49
OW554	573.83	572.35	9/3/1991	2	568.4	- 563.4	4.0	- 9.0	563.4	9.0	2.70	571.13
OW555	571.51	571.65	9/3/1991	2	568.5	- 563.5	3.2	- 8.2	563.5	8.2	.29	571.22
OW556	571.73	571.93	8/30/1991	2	567.8	- 562.8	4.1	- 9.1	562.8	9.1	.12	571.61
OW557 <sup>(1)</sup>	571.69	572.16	5/16/1991	2	567.5	- 562.5	4.7	- 9.7	562.5	9.7	(1)	(1)
OW558 <sup>(1)</sup>	571.28	571.21	5/16/1991	2	567.4	- 562.4	3.8	- 8.8	562.4	8.8	(1)	(1)
OW559 <sup>(1)</sup>	569.73	570.35	9/10/1991	2	566.7	- 561.7	3.7	- 8.7	561.7	8.7	(1)	(1)
OW562	568.49	568.48	12/9/1996	2	555.2	- 550.2	13.3	- 18.3	550.2	18.3	6.46	562.03
OW563	567.67	568.02	12/5/1996	2	560.6	- 555.6	7.4	- 12.4	555.6	12.4	.39	567.28

Table 10

Overburden Groundwater Elevation Summary  
 First Quarter 2022  
 Buffalo Avenue Plant

Well	Top of Riser Elevation	Ground Surface Elevation	Date of Installation	Riser Diameter (inches)	Screened Interval				Well Bottom		Water Level Data 3/7/2022	
					Top (ft AMSL)	Bottom (ft AMSL)	Top (ft BGS)	Bottom (ft BGS)	Elev. of (ft AMSL)	Depth to (ft BGS)	(ft BTOC)	(ft AMSL)
OW564	569.05	569.58	12/11/1996	2	560.4	- 555.4	9.2	- 14.2	555.4	14.2	2.29	566.76
OW565	568.89	569.53	12/10/1996	2	557.0	- 552.0	12.5	- 17.5	552.0	17.5	6.42	562.47
OW566	568.55	568.83	12/5/1996	2	559.4	- 554.4	9.4	- 14.4	554.4	14.4	.19	568.36
OW567	569.12	569.15	4/23/1998	2	560.1	- 555.1	9.0	- 14.0	555.1	14.0	1.26	567.86
OW568	568.26	568.95	4/23/1998	2	560.3	- 555.3	8.7	- 13.7	555.3	13.7		
OW569	567.20	567.74	4/23/1998	2	562.7	- 559.7	5.0	- 8.0	559.7	8.0	3.43	563.77
OW570	568.46	568.70	4/23/1998	2	563.6	- 560.6	5.1	- 8.1	560.6	8.1	4.31	564.15
OW571	567.80	568.52	4/24/1998	2	566.2	- 561.2	2.3	- 7.3	561.2	7.3	1.41	566.39
OW572	567.95	568.30	4/24/1998	2	565.9	- 560.9	2.4	- 7.4	560.9	7.4	.65	567.30
OW573R <sup>(1)</sup>	573.02	573.48	6/29/2004	2	569.0	- 564.0	4.5	- 9.5	564.0	9.5	<sup>(1)</sup>	<sup>(1)</sup>
OW574 <sup>(1)</sup>	571.16	571.24	11/15/1999	2	560.8	- 555.8	10.4	- 15.4	555.8	15.4	<sup>(1)</sup>	<sup>(1)</sup>
OW575	568.40	568.45	1/15/2002	1	564.6	- 559.8	3.9	- 8.7	559.8	8.7	.79	567.61
OW576	568.32	568.52	1/15/2002	1	565.6	- 560.9	2.9	- 7.6	560.9	7.6	.74	567.58
OW577	567.53	567.59	1/15/2002	1	563.3	- 558.0	4.3	- 9.6	558.0	9.6	5.77	561.76
OW578 <sup>(1)</sup>	572.21	572.48	6/6/2002	1	568.6	- 564.6	3.9	- 7.9	564.6	7.9	<sup>(1)</sup>	<sup>(1)</sup>
OWG8 <sup>(1)</sup>	570.66	571.10	6/3/1986	2	566.2	- 564.2	4.9	- 6.9	564.2	6.9	<sup>(1)</sup>	<sup>(1)</sup>
WS107	573.18	573.73	7/30/1980	1.5	565.6	- 563.6	8.1	- 10.1	563.6	10.1	.71	572.47
WS10A	572.58	569.78	1/16/1979	1.5	567.9	- 552.9	1.9	- 16.9	552.9	16.9	5.34	567.24
WS111R <sup>(1)</sup>	572.35	572.70	6/6/2002	1	568.2	- 565.2	4.5	- 7.5	565.2	7.5	<sup>(1)</sup>	<sup>(1)</sup>
WS122 <sup>(1)</sup>	571.57	572.25	7/7/1980	1.5	564.6	- 562.6	7.7	- 9.7	562.6	9.7	<sup>(1)</sup>	<sup>(1)</sup>
WS23A <sup>(1)</sup>	572.30	572.74	1/29/1979	1.5	570.5	- 565.5	2.2	- 7.2	565.5	7.2	<sup>(1)</sup>	<sup>(1)</sup>
WS25A <sup>(1)</sup>	571.10	571.67	1/26/1979	1.5	569.3	- 564.3	2.4	- 7.4	564.3	7.4	<sup>(1)</sup>	<sup>(1)</sup>
WS8A	570.10	570.20	3/19/1979	1.5	566.3	- 551.3	3.9	- 18.9	551.3	18.9	1.19	568.91
WW1	570.30	569.26	1997	NA	NA	- 545.3	NA	- 24.0	545.3	24.0	4.53	565.77
WW2	569.27	568.82	1997	NA	NA	- 553.8	NA	- 15.0	553.8	15.0	11.92	557.35
WWB	573.74	572.68	1980	NA	NA	- 556.7	NA	- 16.0	556.7	16.0	11.76	561.98

Notes:

- ft BGS - Feet below ground surface
- ft BTOC - Feet below top of casing
- ft AMSL - Feet above mean sea level
- MH - Manhole chamber
- NA - Not applicable
- NM - Not measured
- "-" Not measured per monitoring schedule
- (1) - Annual measurements only
- (2) - Dry

Table 11

**Summary of Bedrock NAPL Monitoring and Collection  
First Quarter 2022  
Buffalo Avenue Plant**

Date	Bedrock A-Wells				S-Area Bedrock Wells in the N-Area									
	OW402A (Gallons)	OW413A (Gallons)	OW417A (Gallons)	OW401B (Gallons)	Shallow				Intermediate		Deep			
					OW229 (Gallons)	OW243 (Gallons)	OW618 (Gallons)	OW619 (Gallons)	OW620 (Gallons)	OW621 (Gallons)	OW634 (Gallons)	OW638 (Gallons)	OW635 (Gallons)	OW643 (Gallons)
March 11, 2022	--	--	--	--	0.75	1.5	NR	ND	ND	1.5	NR	1	ND	ND
Cumulative Volume (as of September 30, 2021)	6160.05	579.75	<40.80	6.00	11.40	56.30	21.45	0.00	0.00	33.75	5.50	144.05	8.75	242.70
Cumulative Volume (as of December 31, 2021)	6160.05	579.75	<40.80	6.00	12.15	57.80	21.45	0.00	0.00	35.25	5.50	144.05	8.75	242.70
Monitoring Frequency <sup>(1)</sup>	Annual	Annual	Annual	Annual	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly

## Notes:

-- Not checked per schedule.

ND None detected.

NR Not recoverable

<sup>(1)</sup> Frequency revised in second quarter 2010 to reflect NYSDEC's May 4, 2010 letter.

Table 12

**Summary of Overburden NAPL Monitoring and Collection  
First Quarter 2022  
Buffalo Avenue Plant**

<b>Date</b>	<b>003 NAPL Collection Trench (Gallons)</b>	<b>OW313 (Gallons)</b>	<b>OW572 (Gallons)</b>	<b>OW317 (Gallons)</b>	<b>OW320 (Gallons)</b>	<b>OW358 (Gallons)</b>	<b>OW523 (Gallons)</b>	<b>OW562 (Gallons)</b>	<b>OW563 (Gallons)</b>	<b>TW-7 (Gallons)</b>	<b>OW306 (Gallons)</b>	<b>BH8-89 (Gallons)</b>	<b>OW564 (Gallons)</b>	<b>OW537 (Gallons)</b>	<b>OW577 (Gallons)</b>	<b>Energy Boulevard Drain Tile System (Gallons)</b>
January 24, 2022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND
March 7, 2022	0.25	0.1	0.25	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	--
Subtotal (First Quarter)	0.25	0.10	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumulative volume (as of December 31, 2021)	959.75	46.40	39.03	0.21	1.50	0.50	0.30	0.00	9.00	0.56	0.00	0.00	0.00	0.00	0.25	6011.25
Cumulative volume (as of March 31, 2022)	950.00	46.50	39.28	0.21	1.50	0.50	0.30	0.00	9.00	0.56	0.00	0.00	0.00	0.00	0.25	6011.25
Monitoring Frequency <sup>(1)</sup>	Quarterly	Semiannual	Semiannual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Quarterly

## Notes:

-- Not checked per schedule.

ND - None detected.

NR - Not recoverable.

<sup>(1)</sup> Frequency revised in second quarter 2010 to reflect NYSDEC's May 4, 2010 letter.