Glenn Springs Holdings, Inc.
A subsidiary of Occidental Petroleum

Joe Branch
Project Manager
Direct Dial (231) 670-6809

7601 Old Channel Trail
Montague, MI 49437

October 29, 2021

Reference No. 11230216

Ms. Jaclyn Kondrk
USEPA
Region II, Site Investigation & Compliance Branch
290 Broadway, 20th Floor
New York, NY 10007-1866

Mr. Andrew Zwack
NYSDEC
270 Michigan Avenue
Buffalo, NY 14203-2999

Dear Ms. Kondrk and Mr. Zwack:

Re: Quarterly Operations Report - Third Quarter 2021
Hyde Park Remedial Program
Bedrock and Overburden Monitoring Programs
NYSDEC Site No. 932021

In accordance with the July 2006 "Performance Monitoring Plan" (PMP), the following is the Quarterly Operations Report for the Hyde Park Remedial Program for the period July 1, 2021 through September 30, 2021. The treatment system at the Site has been down since April 26, 2021 for a piping replacement project and aqueous phase liquid (APL) storage tank cleaning. As such, no APL was collected, treated, or discharged during the quarterly monitoring period. No waste was shipped for disposal this quarter. The potentiometric contours are consistent with previous interpretations. Flow Zones 6 and 7 have dewatered areas between the landfill and the gorge face. The current data continue to support the interpretation of effective hydraulic containment and inward gradients.

The performance monitoring data are presented as follows:

- Figures 1-9: Showing the potentiometric surface for the bedrock flow zones and overburden
- Figure 10: Showing continuously recorded water levels at flow zone 9 piezometer PMW-1M-09
- Table 1: Water level elevation summary

All wells were offline from April 26 through the end of the quarter (September 30) for an ongoing piping replacement project and APL Storage Tank cleaning. As such, the water levels in all wells were out of setpoint range for the entire quarterly monitoring period. Cleaning the APL storage tanks involves removal of some non-aqueous phase liquids (NAPL) that have accumulated over time in the two upfront APL storage tanks. Delay in completing the project has been caused by the lack of capacity at incinerators to approve and accept bulk NAPL shipments from these tanks. This has now been addressed and it is anticipated that the project will be completed in November 2021.

The continuously recorded water levels for the flow zone 9 piezometer PMW-1M-09 for the third quarter 2021 are presented in Figure 10. The water level in this piezometer exceeded 526 feet above mean sea level (AMSL) throughout the quarter as a result of the pumping system not being in operation.

If you have any questions, please feel free to contact me at (231) 670-6809 or by email at joseph_branch@oxy.com.

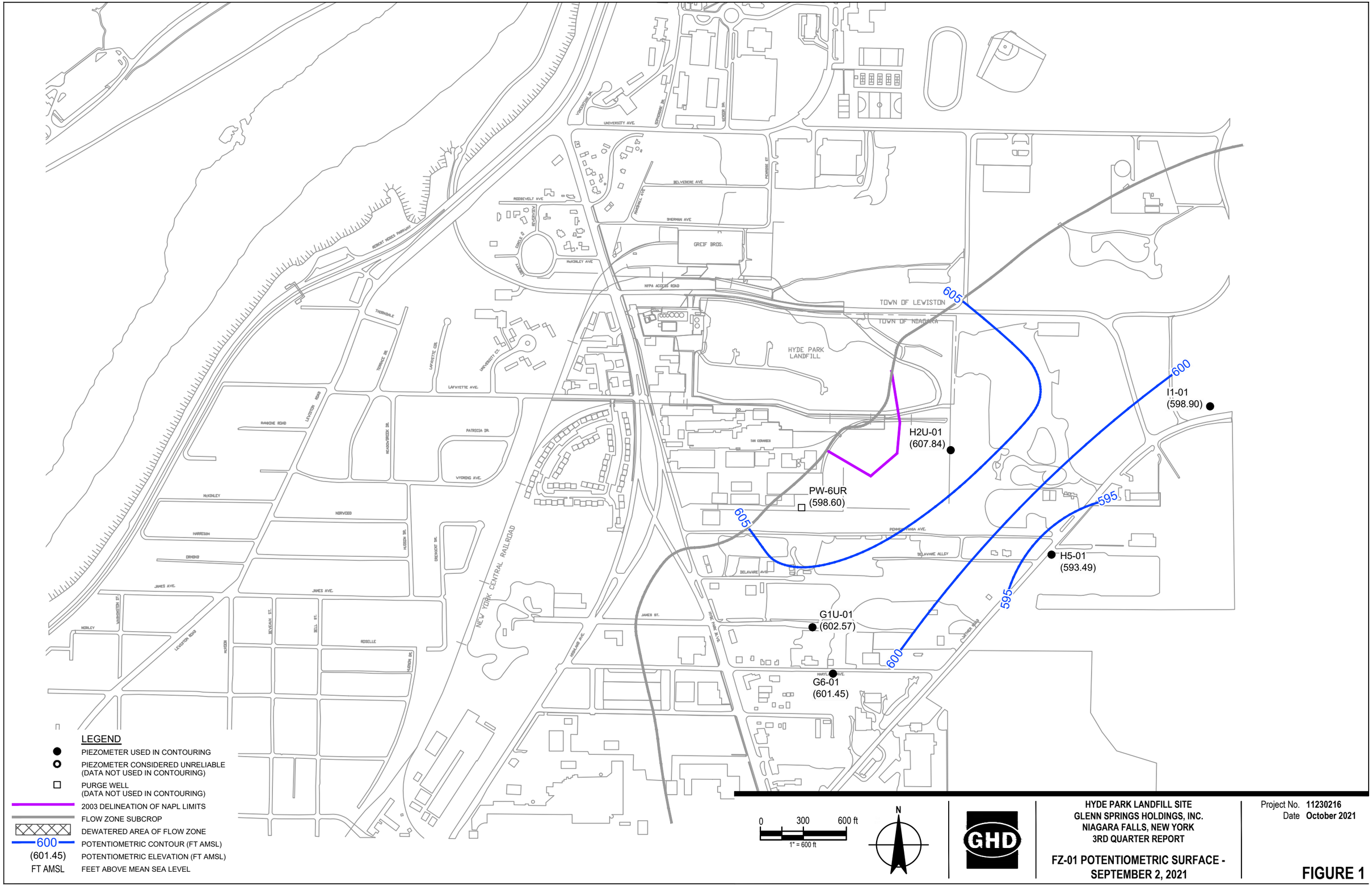
Very truly yours,

GLENN SPRINGS HOLDINGS, INC.

Joe Branch
Project Manager
231-670-6809 Cell

JB/eew/1
Encl.

cc: G. May, NYSDEC
J. Robinson, NYSDOH
J. Pentilchuk, GHD
M. Popek, GHD



LEGEND

- PIEZOMETER USED IN CONTOURING
- PIEZOMETER CONSIDERED UNRELIABLE (DATA NOT USED IN CONTOURING)
- PURGE WELL (DATA NOT USED IN CONTOURING)
- 2003 DELINEATION OF NAPL LIMITS
- FLOW ZONE SUBCROP
- DEWATERED AREA OF FLOW ZONE
- 600 — POTENTIOMETRIC CONTOUR (FT AMSL)
- (601.45) FT AMSL — POTENTIOMETRIC ELEVATION (FT AMSL)

0 300 600 ft

1" = 600 ft

N

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HYDE PARK LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC.
NIAGARA FALLS, NEW YORK
3RD QUARTER REPORT

FZ-01 POTENTIOMETRIC SURFACE - SEPTEMBER 2, 2021

Project No. **11230216**
Date **October 2021**

FIGURE 1

Filename: \\ghdnet\ghd\US\Niagara Falls\Projects\564\11230216\Digital_Design\ACAD\Figures\LTR-Kondrk-Zwack001\11230216-GHD-0000-LTR-EN-0101_WA-Kondrk-Zwack001.DWG
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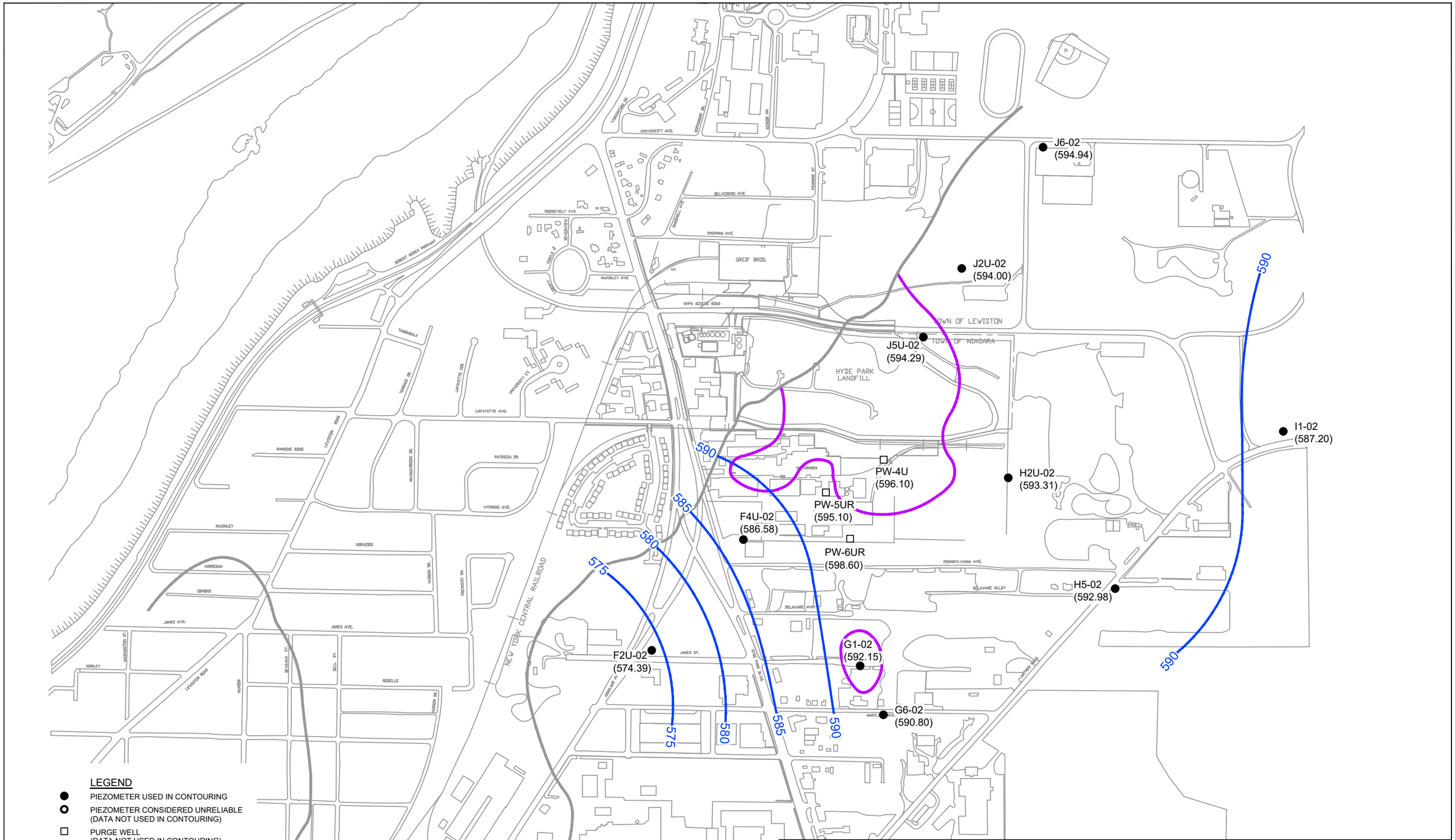

HYDE PARK LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC.
NIAGARA FALLS, NEW YORK
3RD QUARTER REPORT

FZ-02 POTENTIOMETRIC SURFACE - SEPTEMBER 2, 2021

Project No. **11230216**
Date **October 2021**

FIGURE 2

Filename: \\ghdnet\ghd\US\Niagara Falls\Projects\564\11230216\Digital_Design\ACAD\Figures\LTR-Kondrk-Zwack001\11230216-GHD-0000-LTR-EN-0102_WA-Kondrk-Zwack001.DWG
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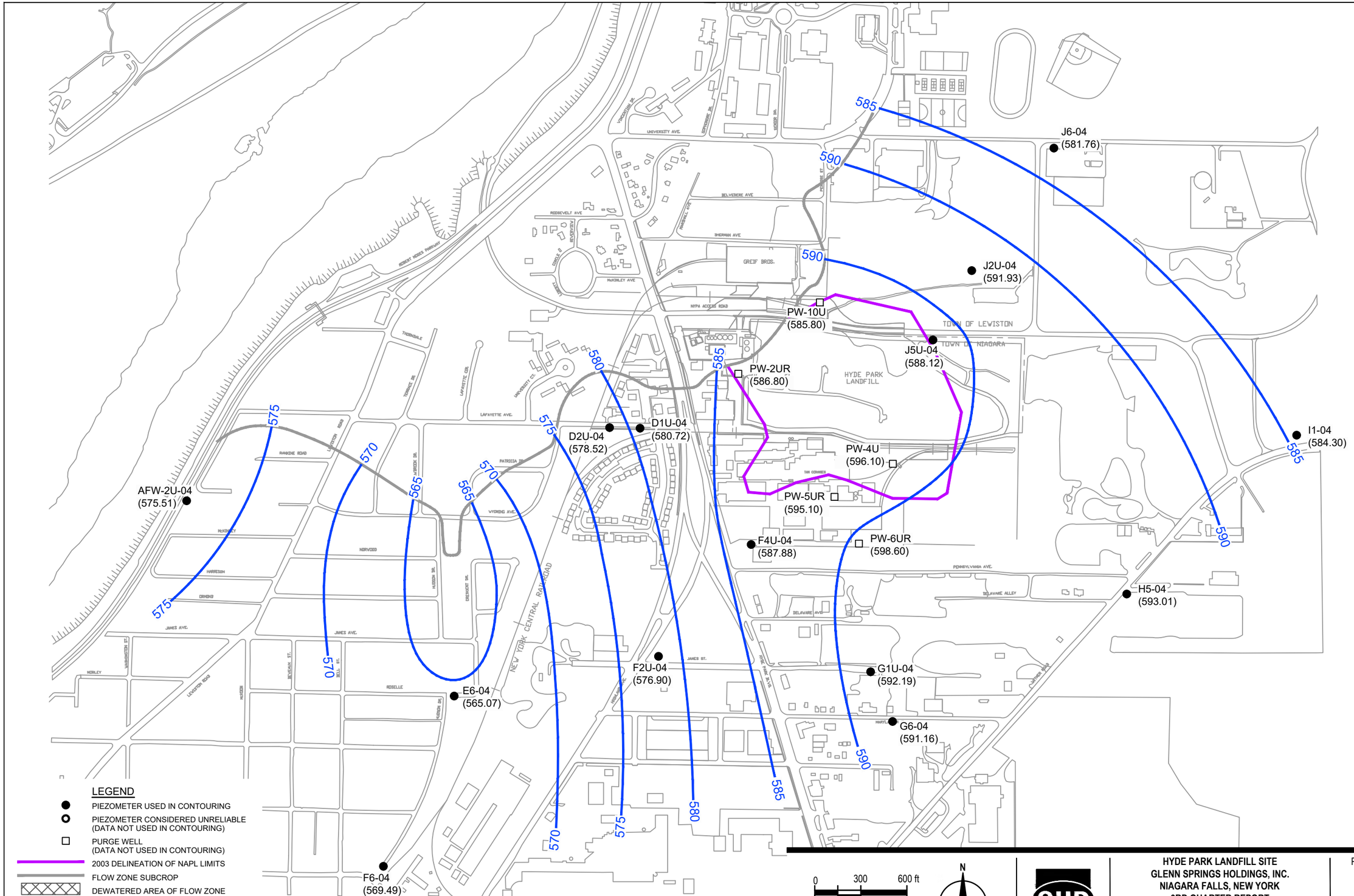

HYDE PARK LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC.
NIAGARA FALLS, NEW YORK
3RD QUARTER REPORT

FZ-04 POTENTIOMETRIC SURFACE - SEPTEMBER 2, 2021

Project No. **11230216**
Date **October 2021**

FIGURE 3

Filename: \\ghdnet\ghd\US\Niagara Falls\Projects\564\11230216\Digital_Design\ACAD\Figures\LTR-Kondrk-Zwack001\11230216-GHD-0000-LTR-EN-0103_WA-Kondrk-Zwack001.DWG
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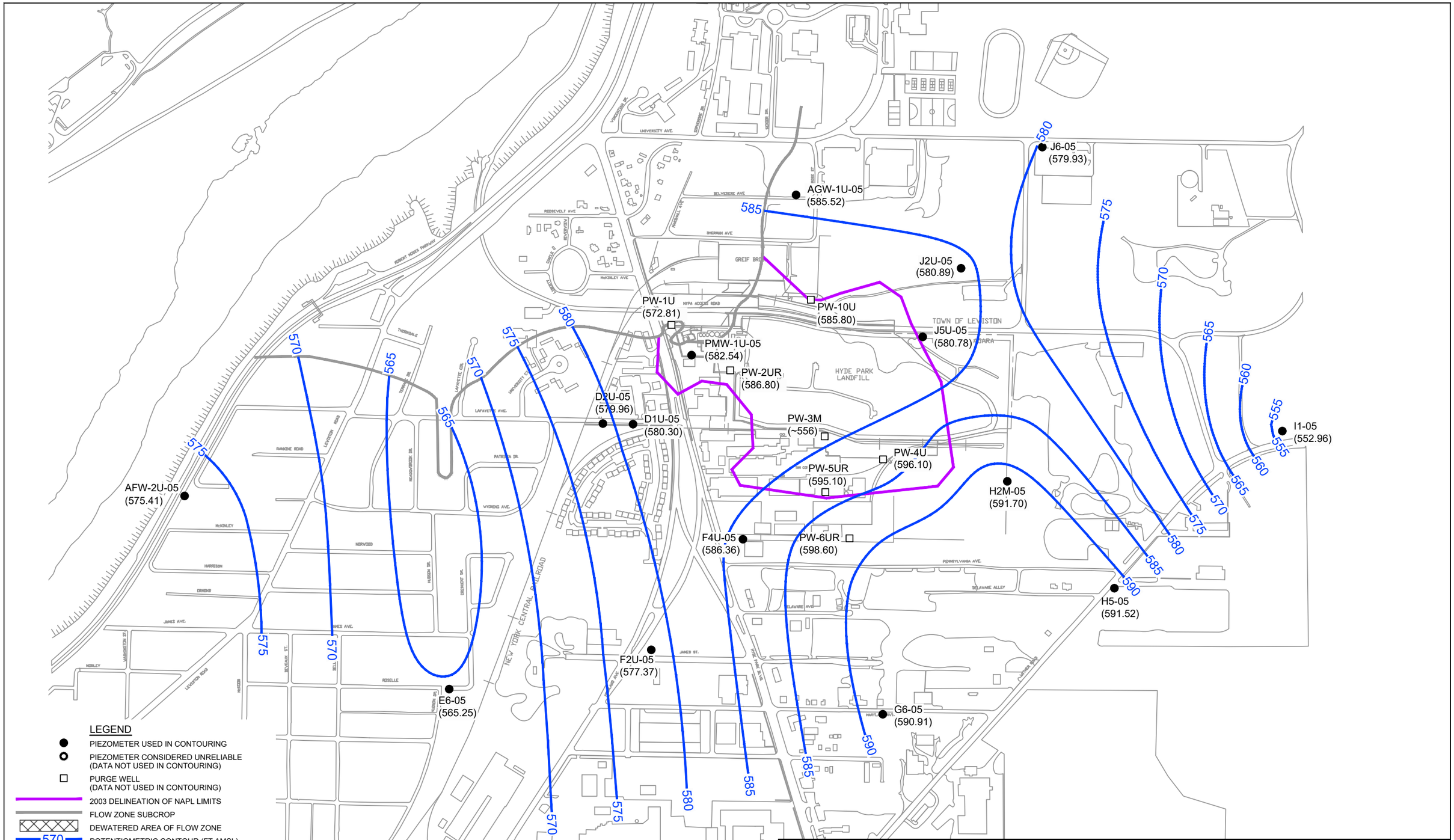

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HYDE PARK LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC.
NIAGARA FALLS, NEW YORK
3RD QUARTER REPORT

FZ-05 POTENTIOMETRIC SURFACE - SEPTEMBER 2, 2021

Project No. **11230216**
Date **October 2021**

FIGURE 4

Filename: \\ghdnet\ghd\US\Niagara Falls\Projects\564\11230216\Digital_Design\ACAD\Figures\LTR-Kondrk-Zwack001\11230216-GHD-0000-LTR-EN-0104_WA-Kondrk-Zwack001.DWG
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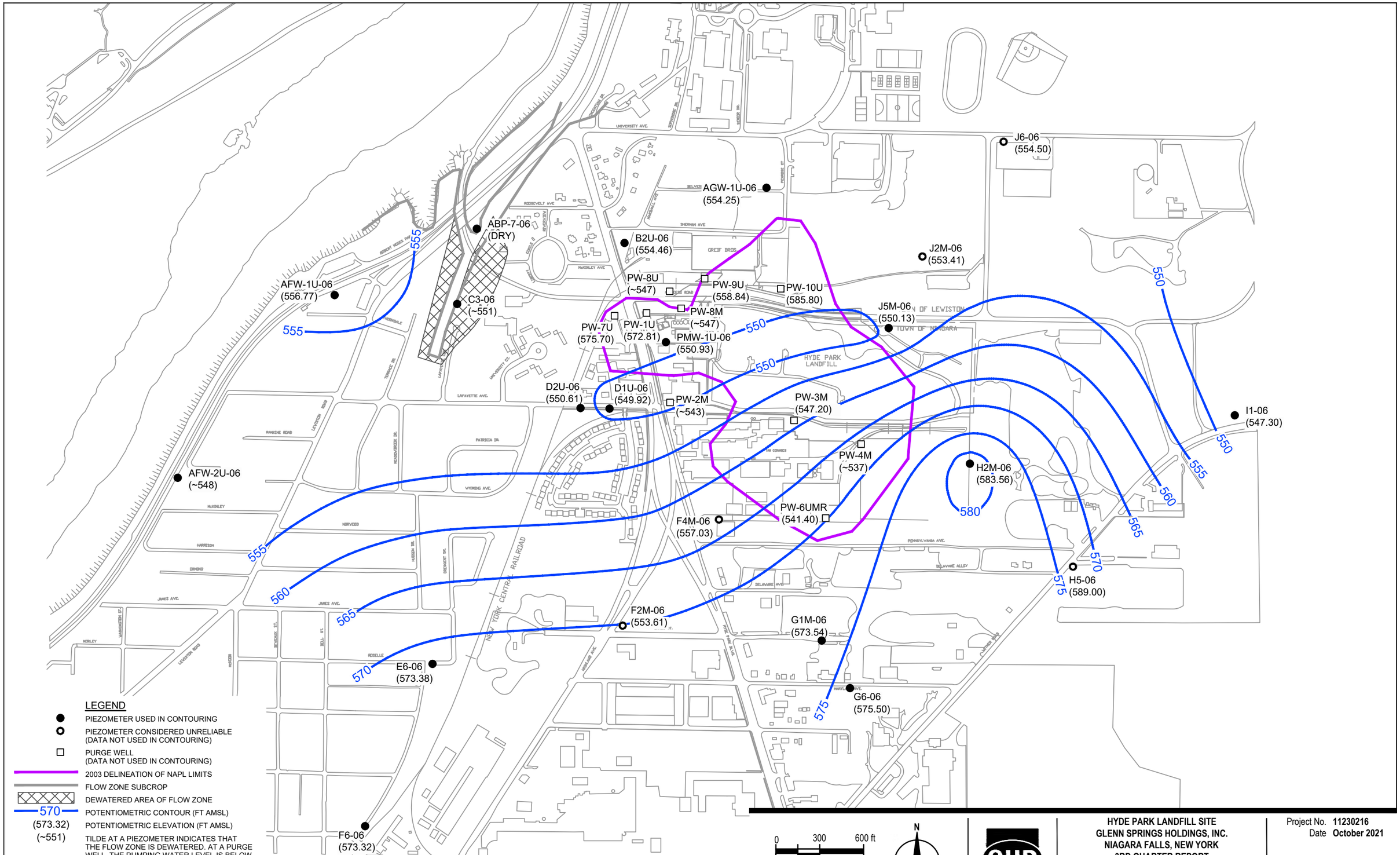

HYDE PARK LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC.
NIAGARA FALLS, NEW YORK
3RD QUARTER REPORT

FZ-06 POTENTIOMETRIC SURFACE - SEPTEMBER 2, 2021

Project No. **11230216**
Date **October 2021**

FIGURE 5

Filename: \\ghdnet\ghd\US\Niagara Falls\Projects\564\11230216\Digital_Design\ACAD\Figures\LTR-Kondrk-Zwack001\11230216-GHD-0000-LTR-EN-0105_WA-Kondrk-Zwack001.DWG
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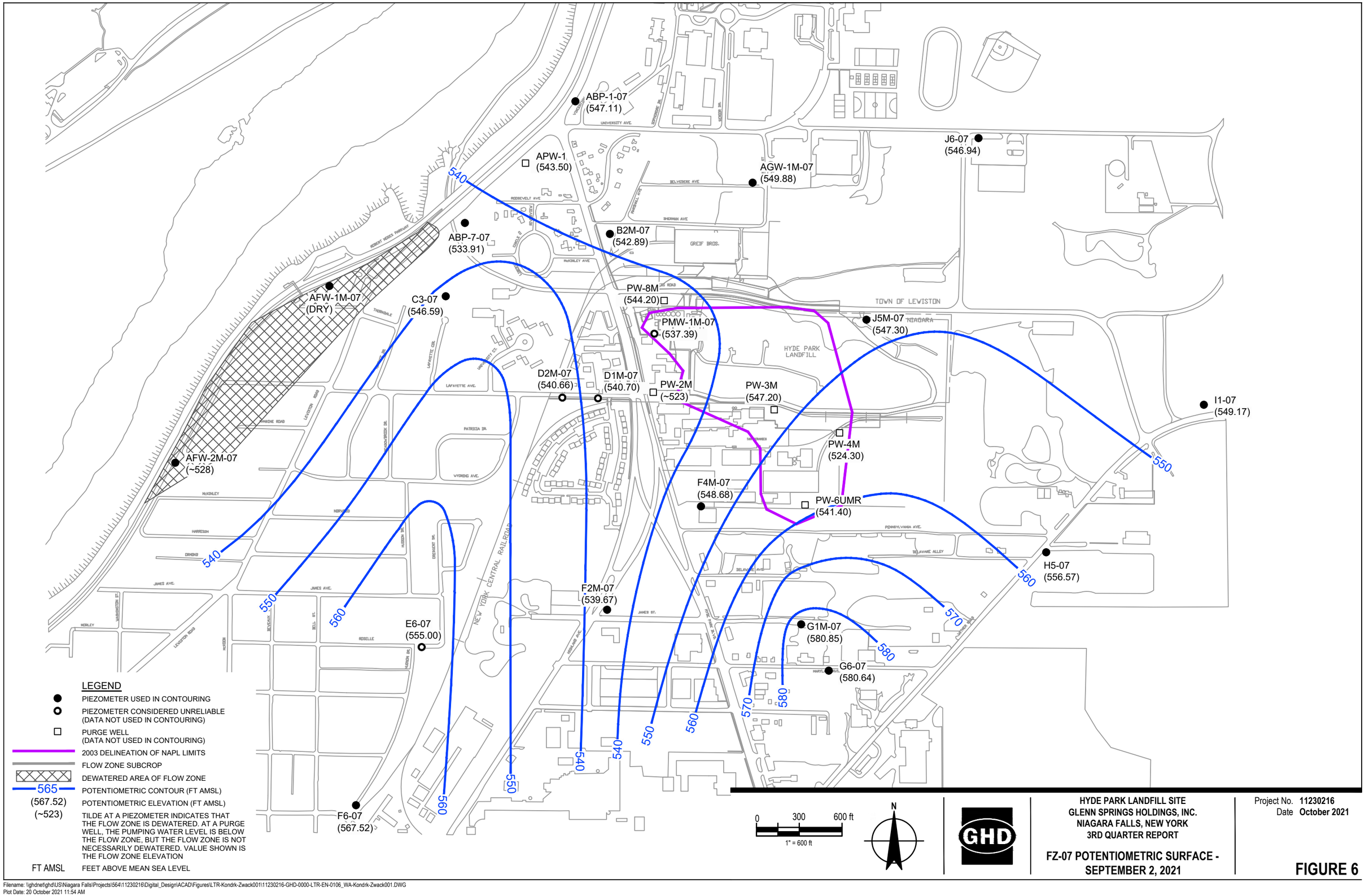

HYDE PARK LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC.
NIAGARA FALLS, NEW YORK
3RD QUARTER REPORT

FZ-07 POTENTIOMETRIC SURFACE - SEPTEMBER 2, 2021

Project No. **11230216**
Date **October 2021**

FIGURE 6

Filename: \\ghdnet\ghd\US\Niagara Falls\Projects\564\11230216\Digital_Design\ACAD\Figures\LTR-Kondrk-Zwack001\11230216-GHD-0000-LTR-EN-0106_WA-Kondrk-Zwack001.DWG
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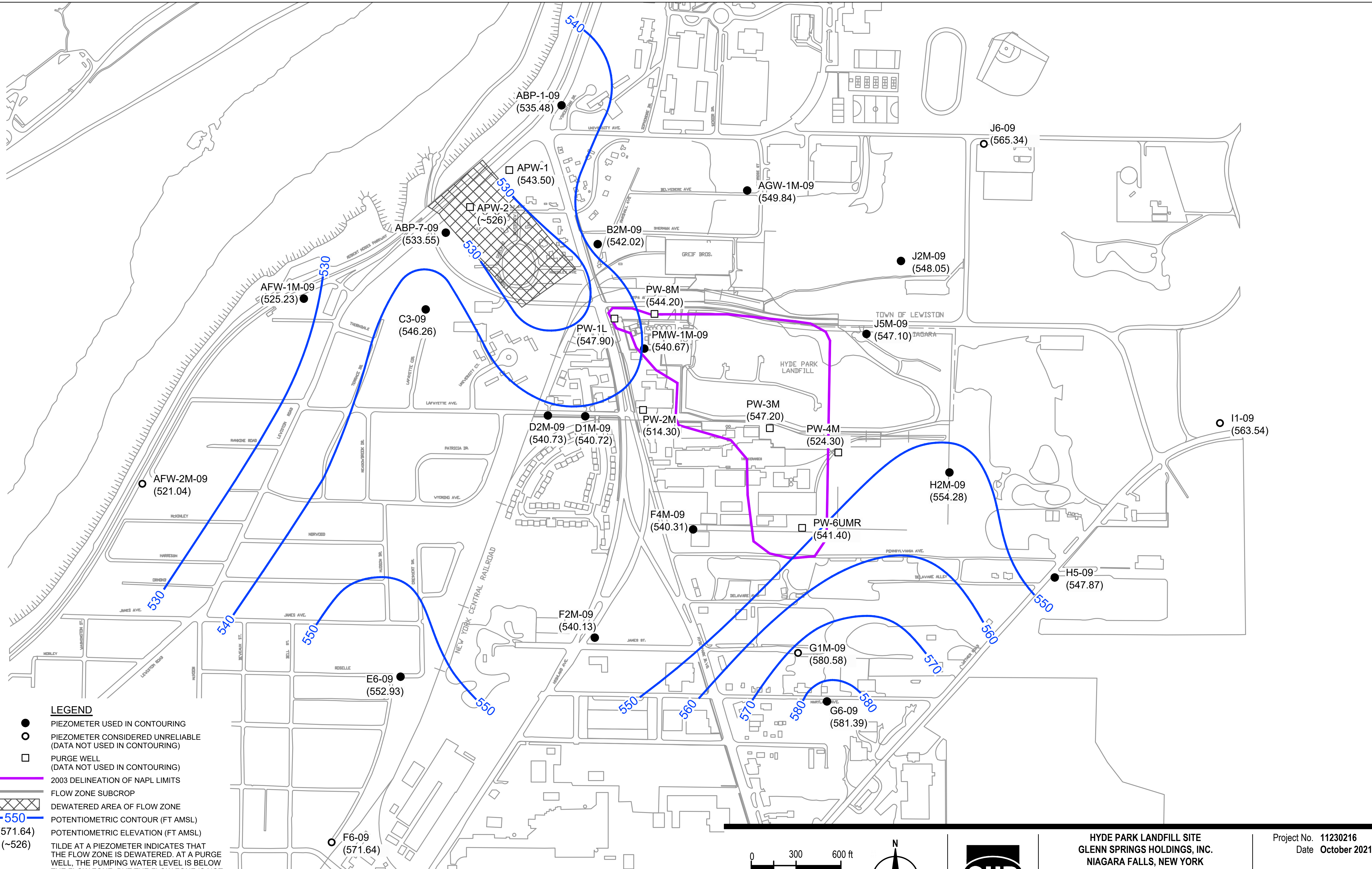

LEGEND

- ● PIEZOMETER USED IN CONTOURING
- ○ PIEZOMETER CONSIDERED UNRELIABLE (DATA NOT USED IN CONTOURING)
- □ PURGE WELL (DATA NOT USED IN CONTOURING)
- 2003 DELINEATION OF NAPL LIMITS
- FLOW ZONE SUBCROP
- DEWATERED AREA OF FLOW ZONE
- 550 POTENTIOMETRIC CONTOUR (FT AMSL)
- (571.64) POTENTIOMETRIC ELEVATION (FT AMSL)
- (~526) TILDE AT A PIEZOMETER INDICATES THAT THE FLOW ZONE IS DEWATERED. AT A PURGE WELL, THE PUMPING WATER LEVEL IS BELOW THE FLOW ZONE, BUT THE FLOW ZONE IS NOT NECESSARILY DEWATERED. VALUE SHOWN IS THE FLOW ZONE ELEVATION
- FT AMSL FEET ABOVE MEAN SEA LEVEL

0 300 600 ft

1" = 600 ft

N

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HYDE PARK LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC.
NIAGARA FALLS, NEW YORK
3RD QUARTER REPORT

FZ-09 POTENTIOMETRIC SURFACE - SEPTEMBER 2, 2021

Project No. **11230216**
Date **October 2021**

FIGURE 7

Filename: \\ghdnet\ghd\US\Niagara Falls\Projects\564\11230216\Digital_Design\ACAD\Figures\LTR-Kondrk-Zwack001\11230216-GHD-0000-LTR-EN-0107_WA-Kondrk-Zwack001.DWG
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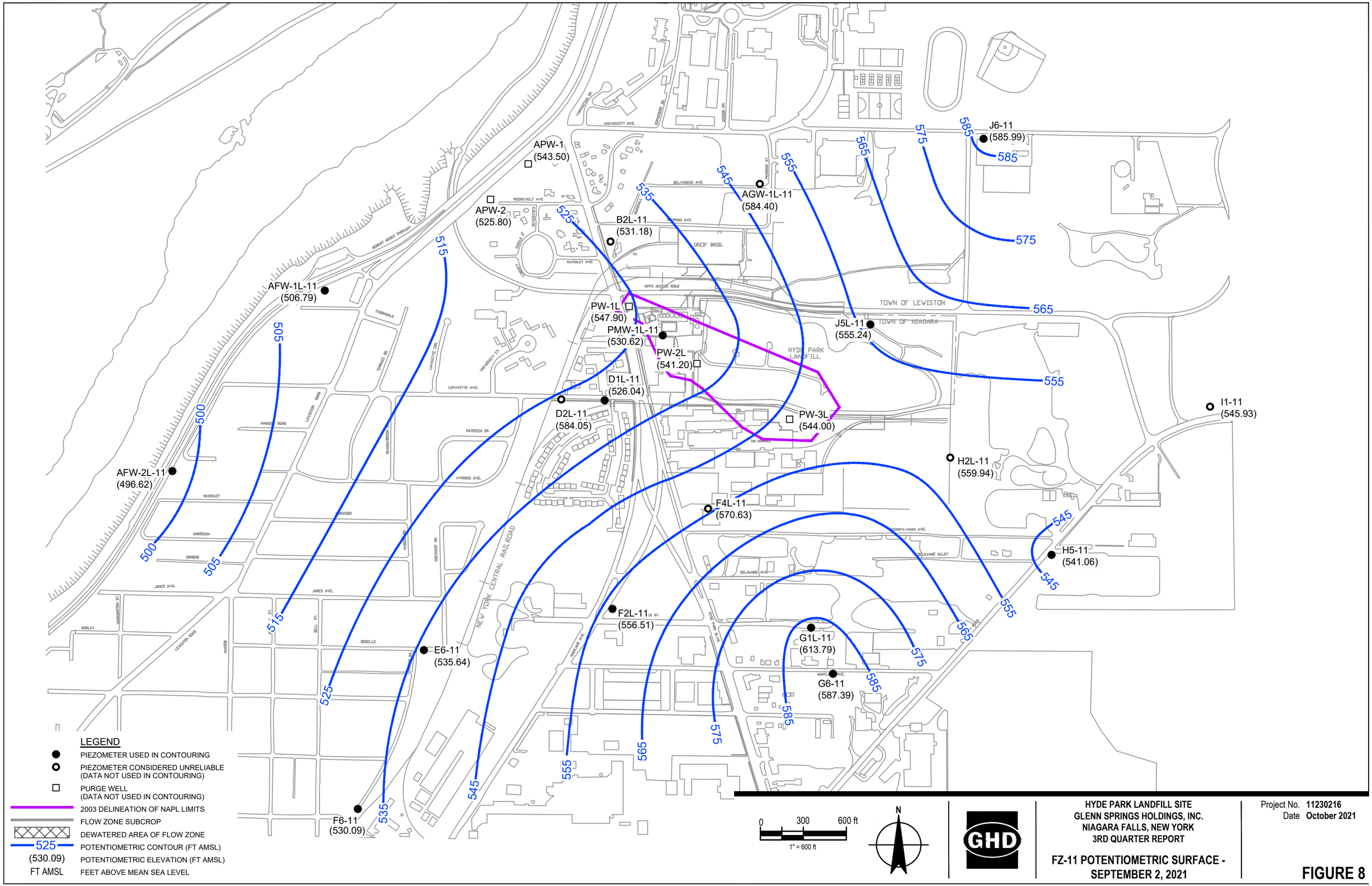

HYDE PARK LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC.
NIAGARA FALLS, NEW YORK
3RD QUARTER REPORT

FZ-11 POTENTIOMETRIC SURFACE - SEPTEMBER 2, 2021

Project No. **11230216**
Date **October 2021**

FIGURE 8

Filename: \\ghdnet\ghd\US\Niagara Falls\Projects\564\11230216\Digital_Design\ACAD\Figures\LTR-Kondrk-Zwack001\11230216-GHD-0000-LTR-EN-0108_WA-Kondrk-Zwack001.DWG
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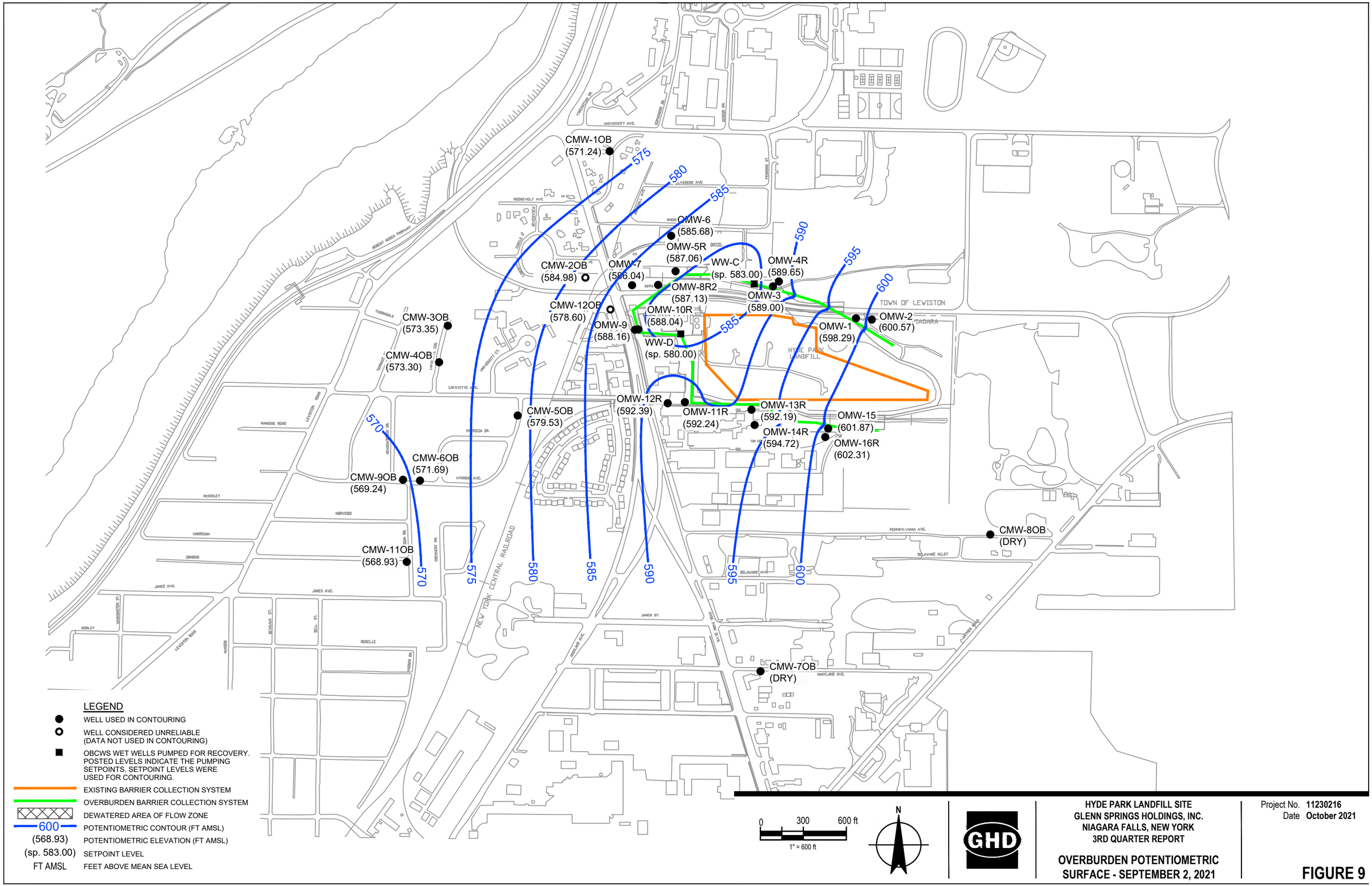

LEGEND

- WELL USED IN CONTOURING
- WELL CONSIDERED UNRELIABLE (DATA NOT USED IN CONTOURING)
- OBCWS WET WELLS PUMPED FOR RECOVERY. POSTED LEVELS INDICATE THE PUMPING SETPOINTS. SETPOINT LEVELS WERE USED FOR CONTOURING.
- EXISTING BARRIER COLLECTION SYSTEM
- OVERBURDEN BARRIER COLLECTION SYSTEM
- DEWATERED AREA OF FLOW ZONE
- 600 — POTENTIOMETRIC CONTOUR (FT AMSL)
- (568.93) — POTENTIOMETRIC ELEVATION (FT AMSL)
- (sp. 583.00) — SETPOINT LEVEL
- FT AMSL — FEET ABOVE MEAN SEA LEVEL

0 300 600 ft

1" = 600 ft

N

GHD

HYDE PARK LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC.
NIAGARA FALLS, NEW YORK
3RD QUARTER REPORT

OVERBURDEN POTENTIOMETRIC SURFACE - SEPTEMBER 2, 2021

Project No. **11230216**
Date **October 2021**

FIGURE 9

Filename: \\ghdnet\ghd\US\Niagara Falls\Projects\564\11230216\Digital_Design\ACAD\Figures\LTR-Kondrk-Zwack001\11230216-GHD-0000-LTR-EN-0109_WA-Kondrk-Zwack001.DWG
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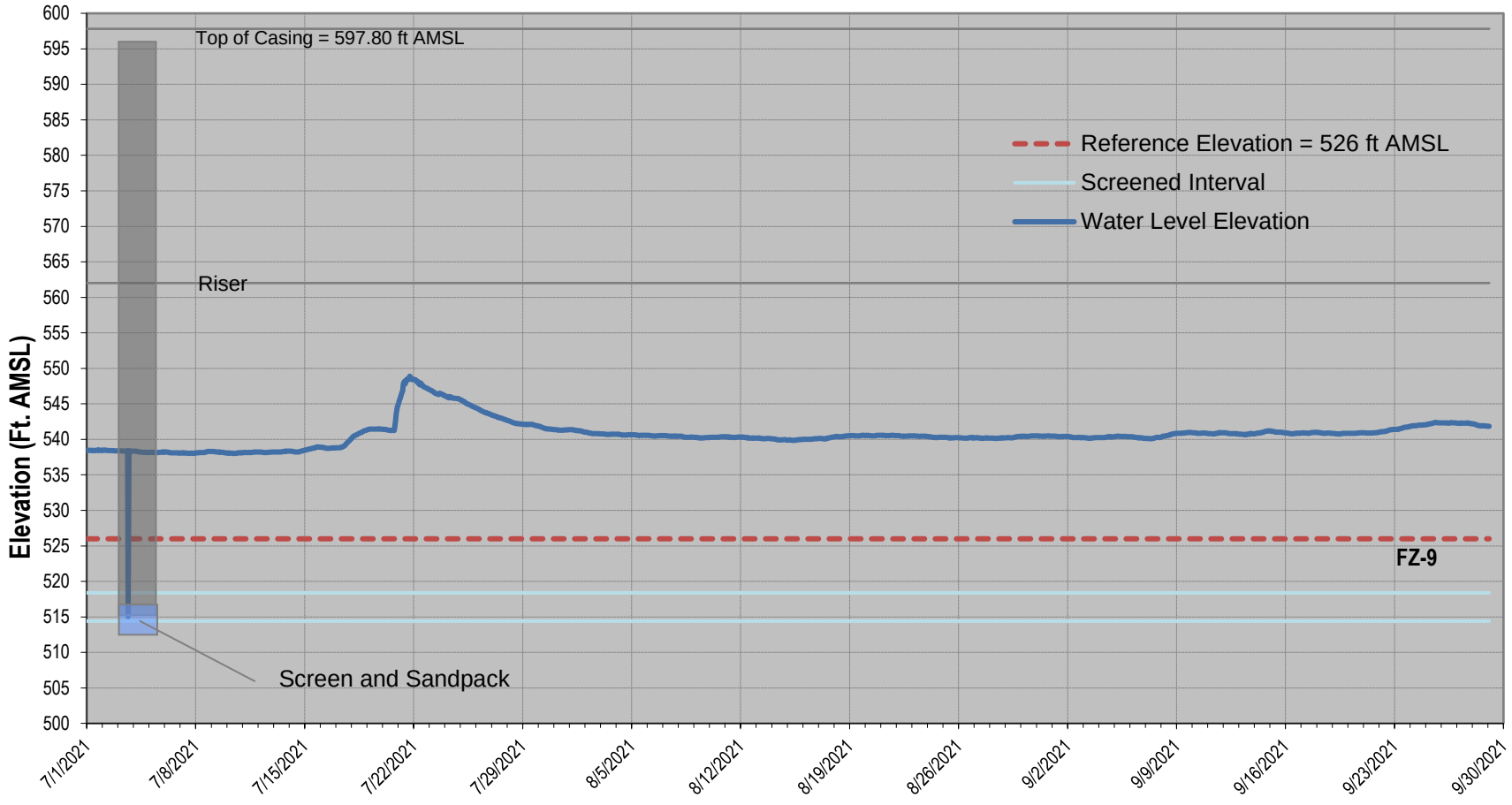

figure 10

PMW-1M-09 3rd Quarter 2021 - Hourly Water Level Elevation
3rd Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.

Glenn Springs Holdings, Inc.
A subsidiary of Occidental Petroleum

Table 1

Water Level Elevation Summary
Third Quarter - 2021
Hyde Park RRT Program

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Water Level Elevation (ft AMSL)
Overburden			
CMW-2OB	590.79	5.81	584.98
CMW-3OB	582.13	8.78	573.35
CMW-4OB	574.28	0.98	573.30
CMW-5OB	583.43	3.90	579.53
CMW-6OB	571.89	0.20	571.69
CMW-7OB	611.00	DRY	-
CMW-8OB	616.11	DRY	-
CMW-9OB	571.76	2.52	569.24
CMW-1OB	576.80	5.56	571.24
CMW-11OB	572.85	3.92	568.93
CMW-12OB	594.74	16.14	578.60
MH20	605.87	4.66	601.21
MH21	599.77	6.11	593.66
MH22	593.37	DRY	-
MH23	587.05	10.41	576.64
MH24	582.57	3.73	578.84
MH25	583.82	3.36	580.46
MH26	584.48	4.91	579.57
MH27	586.12	8.14	577.98
MH28	585.23	8.07	577.16
MH29	604.58	10.12	594.46
MH30	599.49	9.99	589.50
MH31	590.10	9.63	580.47
MH32	592.01	9.63	582.38
MH33	592.51	8.74	583.77
MH34	598.34	7.15	591.19
MH35	605.69	6.56	599.13
MH35A	605.69	7.38	598.31
OMW-1	605.28	6.99	598.29
OMW-2	605.99	5.42	600.57
OMW-3	598.63	9.63	589.00
OMW-4R	601.17	11.52	589.65
OMW-5R	591.31	4.25	587.06
OMW-6	587.62	1.94	585.68
OMW-7	592.74	6.70	586.04
OMW-8R2	594.67	7.54	587.13
OMW-9	595.27	7.11	588.16
OMW-10R	595.13	7.09	588.04
OMW-11R	597.52	5.28	592.24
OMW-12R	596.71	4.32	592.39
OMW-13R	601.50	9.31	592.19
OMW-14R	599.64	4.92	594.72
OMW-15	607.48	5.61	601.87
OMW-16R	607.62	5.31	602.31
SC-2	625.61	22.92	602.69
SC-3	638.72	40.67	598.05
SC-4	639.35	39.16	600.19
SC-5	634.07	31.63	602.44
SC-6	631.15	19.31	611.84

Table 1

Water Level Elevation Summary
Third Quarter - 2021
Hyde Park RRT Program

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Water Level Elevation (ft AMSL)
Shallow Bedrock			
CMW-1SH	576.11	13.09	563.02
CMW-2SH	590.51	17.58	572.93
CMW-3SH	581.91	28.01	553.90
CMW-4SH	574.16	7.57	566.59
CMW-5SH	583.36	8.34	575.02
CMW-6SH	572.05	10.50	561.55
CMW-7SH	610.58	12.62	597.96
CMW-8SH	615.95	8.72	607.23
CMW-9SH	571.96	11.95	560.01
CMW-11SH	573.21	8.46	564.75
CMW-12SH	597.02	22.89	574.13
Flow Zone 1			
G1U-01	617.08	14.51	602.57
G6-01	609.24	7.79	601.45
H2U-01	620.92	13.08	607.84
H5-01	617.61	24.12	593.49
I1-01	625.58	26.68	598.90
Flow Zone 2			
F2U-02	599.89	25.50	574.39
F4U-02	602.32	15.74	586.58
G1-02	616.86	24.71	592.15
G6-02	608.65	17.85	590.80
H2U-02	620.88	27.57	593.31
H5-02	617.47	24.49	592.98
I1-02	625.47	38.27	587.20
J2U-02	609.66	15.66	594.00
J5U-02	606.21	11.92	594.29
J6-02	609.23	14.29	594.94
Flow Zone 4			
AFW-2U-04	593.48	17.97	575.51
D1U-04	593.77	13.05	580.72
D2U-04	590.65	12.13	578.52
E6-04	578.23	13.16	565.07
F2U-04	599.76	22.86	576.90
F4U-04	602.19	14.31	587.88
F6-04	588.06	18.57	569.49
G1U-04	616.96	24.77	592.19
G6-04	609.15	17.99	591.16
H5-04	617.40	24.39	593.01
I1-04	625.30	41.00	584.30
J2U-04	609.42	17.49	591.93
J5U-04	606.05	17.93	588.12
J6-04	609.12	27.36	581.76

Table 1

Water Level Elevation Summary
Third Quarter - 2021
Hyde Park RRT Program

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Water Level Elevation (ft AMSL)
Flow Zone 5			
AFW-2U-05	593.33	17.92	575.41
AGW-1U-05	591.80	6.28	585.52
D1U-05	593.51	13.21	580.30
D2U-05	590.56	10.60	579.96
E6-05	578.04	12.79	565.25
F2U-05	599.64	22.27	577.37
F4U-05	602.06	15.70	586.36
F6-05	587.85	18.45	569.40
G6-05	609.13	18.22	590.91
H2M-05	621.59	29.89	591.70
H5-05	617.31	25.79	591.52
I1-05	625.25	72.29	552.96
J2U-05	609.30	28.41	580.89
J5U-05	605.87	25.09	580.78
J6-05	609.02	29.09	579.93
PMW-1U-05	598.00	15.46	582.54
Flow Zone 6			
ABP-7-06	575.78	DRY	-
AFW-1U-06	571.83	15.06	556.77
AFW-2U-06	593.22	48.14	545.08
AGW-1U-06	591.66	37.41	554.25
B2U-06	589.29	34.83	554.46
C3-06	585.78	37.41	548.37
D1U-06	593.25	43.33	549.92
D2U-06	590.38	39.77	550.61
E6-06	577.99	4.61	573.38
F2M-06	599.06	45.45	553.61
F4M-06	602.05	45.02	557.03
F6-06	587.84	14.52	573.32
G1M-06	616.75	43.21	573.54
G6-06	609.09	33.59	575.50
H2M-06	621.42	37.86	583.56
H5-06	617.17	28.17	589.00
I1-06	625.15	77.85	547.30
J2M-06	608.94	55.53	553.41
J5M-06	606.22	56.09	550.13
J6-06	608.93	54.43	554.50
PMW-1U-06	597.92	46.99	550.93

Table 1

Water Level Elevation Summary
Third Quarter - 2021
Hyde Park RRT Program

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Water Level Elevation (ft AMSL)
Flow Zone 7			
ABP-1-07	575.20	28.09	547.11
ABP-7-07	575.73	41.82	533.91
AFW-1M-07	571.41	DRY	-
AFW-2M-07	593.44	66.43	527.01
AGW-1M-07	592.91	43.03	549.88
B2M-07	589.52	46.63	542.89
C3-07	585.62	39.03	546.59
D1M-07	594.15	53.45	540.70
D2M-07	590.77	50.11	540.66
E6-07	577.91	22.91	555.00
F2M-07	598.91	59.24	539.67
F4M-07	601.91	53.23	548.68
F6-07	587.68	20.16	567.52
G1M-07	616.68	35.83	580.85
G6-07	609.06	28.42	580.64
H5-07	617.05	60.48	556.57
I1-07	625.14	75.97	549.17
J5M-07	606.07	58.77	547.30
J6-07	608.85	61.91	546.94
PMW-1M-07	598.50	61.11	537.39
Flow Zone 9			
ABP-1-09	575.19	39.71	535.48
ABP-7-09	575.67	42.12	533.55
AFW-1M-09	571.12	45.89	525.23
AFW-2M-09	593.32	72.28	521.04
AGW-1M-09	592.75	42.91	549.84
B2M-09	589.34	47.32	542.02
C3-09	585.00	38.74	546.26
D1M-09	594.02	53.30	540.72
D2M-09	590.66	49.93	540.73
E6-09	577.82	24.89	552.93
F2M-09	598.71	58.58	540.13
F4M-09	601.79	61.48	540.31
F6-09	587.53	15.89	571.64
G1M-09	616.58	36.00	580.58
G6-09	608.98	27.59	581.39
H2M-09	621.32	67.04	554.28
H5-09	616.93	69.06	547.87
I1-09	624.91	61.37	563.54
J2M-09	608.77	60.72	548.05
J5M-09	605.82	58.72	547.10
J6-09	608.76	43.42	565.34
PMW-1M-09	598.34	57.67	540.67

Table 1

Water Level Elevation Summary
Third Quarter - 2021
Hyde Park RRT Program

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Water Level Elevation (ft AMSL)
Flow Zone 11			
AFW-1L-11	572.10	65.31	506.79
AFW-2L-11	593.43	96.81	496.62
AGW-1L-11	592.71	8.31	584.40
B2L-11	589.65	58.47	531.18
D1L-11	593.80	67.76	526.04
D2L-11	590.21	6.16	584.05
E6-11	577.72	42.08	535.64
F2L-11	598.94	42.43	556.51
F4L-11	602.22	31.59	570.63
F6-11	587.40	57.31	530.09
G1L-11	616.84	3.05	613.79
G6-11	608.89	21.50	587.39
H2L-11	620.73	60.79	559.94
H5-11	616.81	75.75	541.06
I1-11	624.75	78.82	545.93
J5L-11	607.20	51.96	555.24
J6-11	608.68	22.69	585.99
PMW-1L-11	598.84	68.22	530.62
Purge Wells			
APW-1	564.98	21.48	543.50
APW-2	569.89	44.09	525.80
PW-1L	593.16	45.26	547.90
PW-1U	593.50	20.69	572.81
PW-2L	597.29	56.09	541.20
PW-2M	596.61	82.31	514.30
PW-2UR	594.75	7.95	586.80
PW-3L	599.05	55.05	544.00
PW-3M	597.79	50.59	547.20
PW-4M	606.93	82.63	524.30
PW-4U	604.85	8.75	596.10
PW-5UR	601.31	6.21	595.10
PW-6UMR	609.31	67.91	541.40
PW-6UR	608.47	9.87	598.60
PW-7U	592.47	16.77	575.70
PW-8M	592.67	48.47	544.20
PW-8U	589.27	51.47	537.80
PW-9U	587.47	28.63	558.84
PW-10U	593.54	7.74	585.80

Notes:

- - Not applicable
ft AMSL - Feet above mean sea level
Dry - No water present at the time of measurement