

APPENDIX C
WELL CONSTRUCTION DIAGRAMS

2015 BCP REMEDIAL INVESTIGATION
HIGHLAND PLAZA BCP SITE
SITE NO. C915293



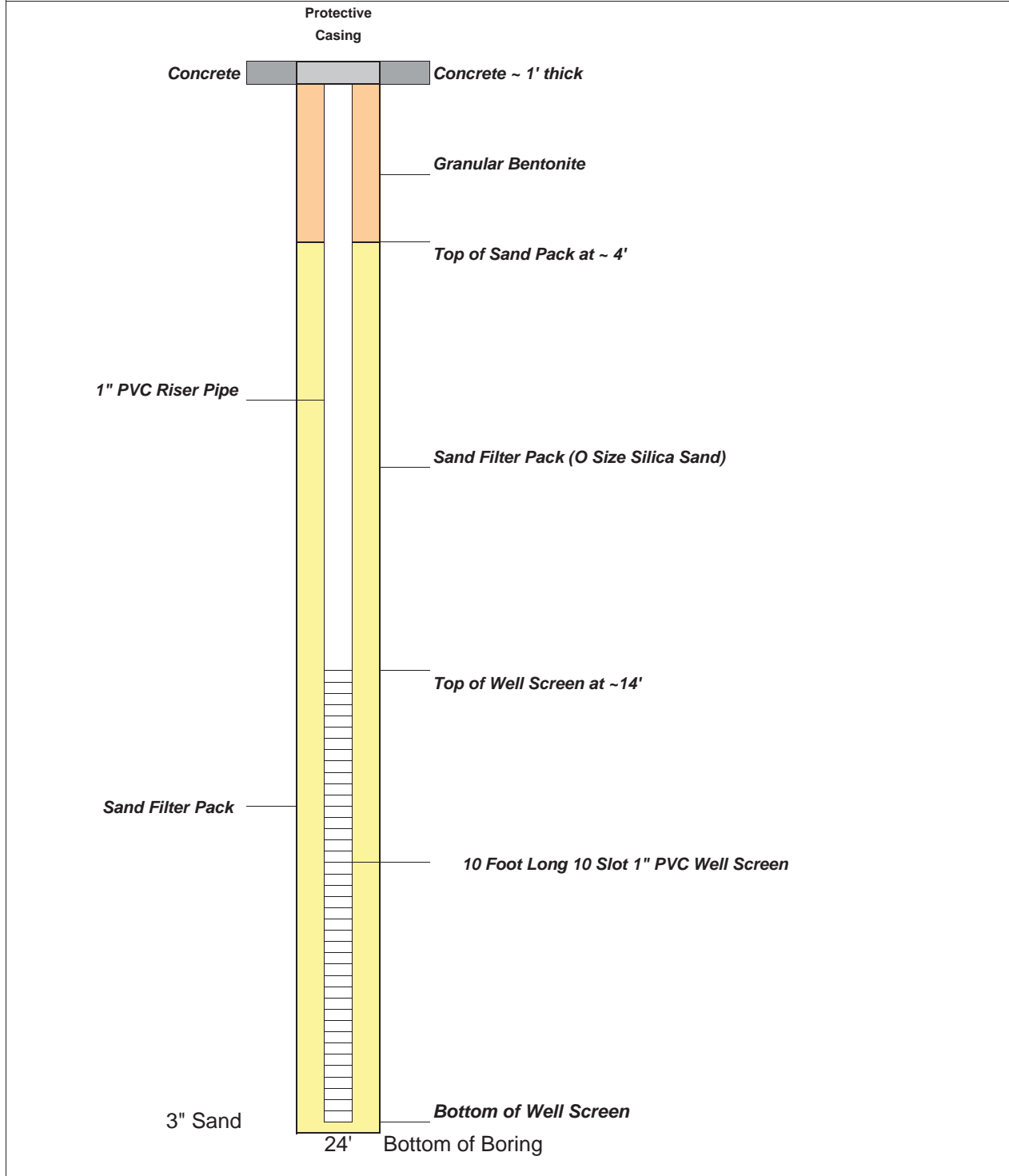
MONITORING WELL CONSTRUCTION DIAGRAM

Start Date: 10/14

End Date: 10/14

Boring No.
MW-1

Project Number:	Geologist: N. Wohlabaugh	Weather: ~50°F, Overcast	
Client: HIGHLAND PLAZA	Project Manager: N. Wohlabaugh	Northing: 23.36' S	Top Riser:
Location (City, State): Tonawanda, New York	Driller: R. Steiner	Easting: 104.45' E	100.51'
Drill Rig Type: GeoProbe 6620 (Track Mounted)	Borehole Diameter (ft.): 0.25		



Depth to Water: Not encountered during drilling or well construction.	Comments:	MW-1
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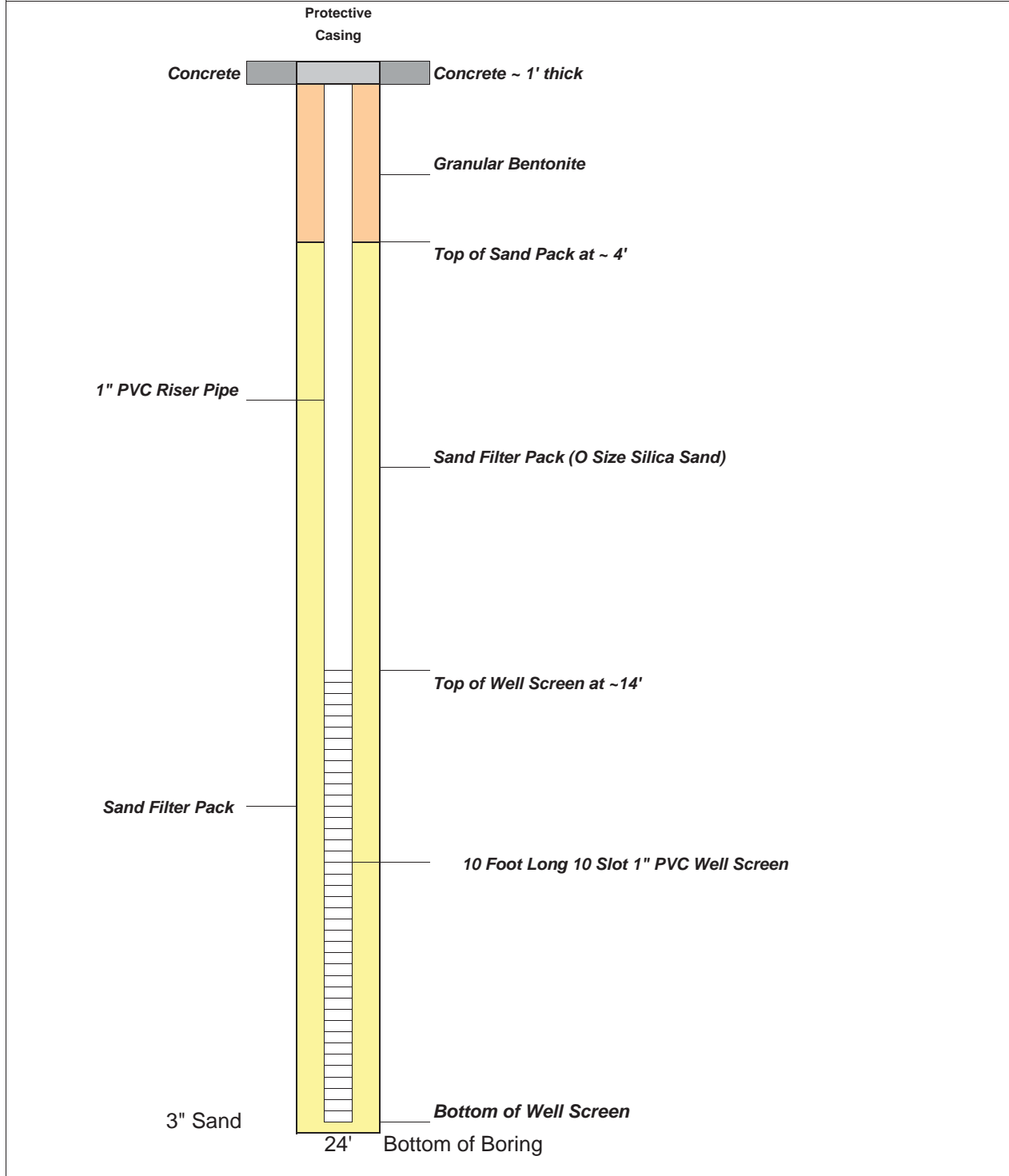
MONITORING WELL CONSTRUCTION DIAGRAM

Start Date: 10/14

End Date: 10/14

Boring No.
MW-2

Project Number:	Geologist: N. Wohlabaugh	Weather: ~50°F, Overcast	
Client: HIGHLAND PLAZA	Project Manager: N. Wohlabaugh	Northing: 23.43' S	Top Riser
Location (City, State): Tonawanda, New York	Driller: R. Steiner	Easting: 216.22' E	100.18'
Drill Rig Type: GeoProbe 6620 (Track Mounted)	Borehole Diameter (ft.): 0.25		



Depth to Water: Not encountered during drilling or well construction.	Comments:	MW-2



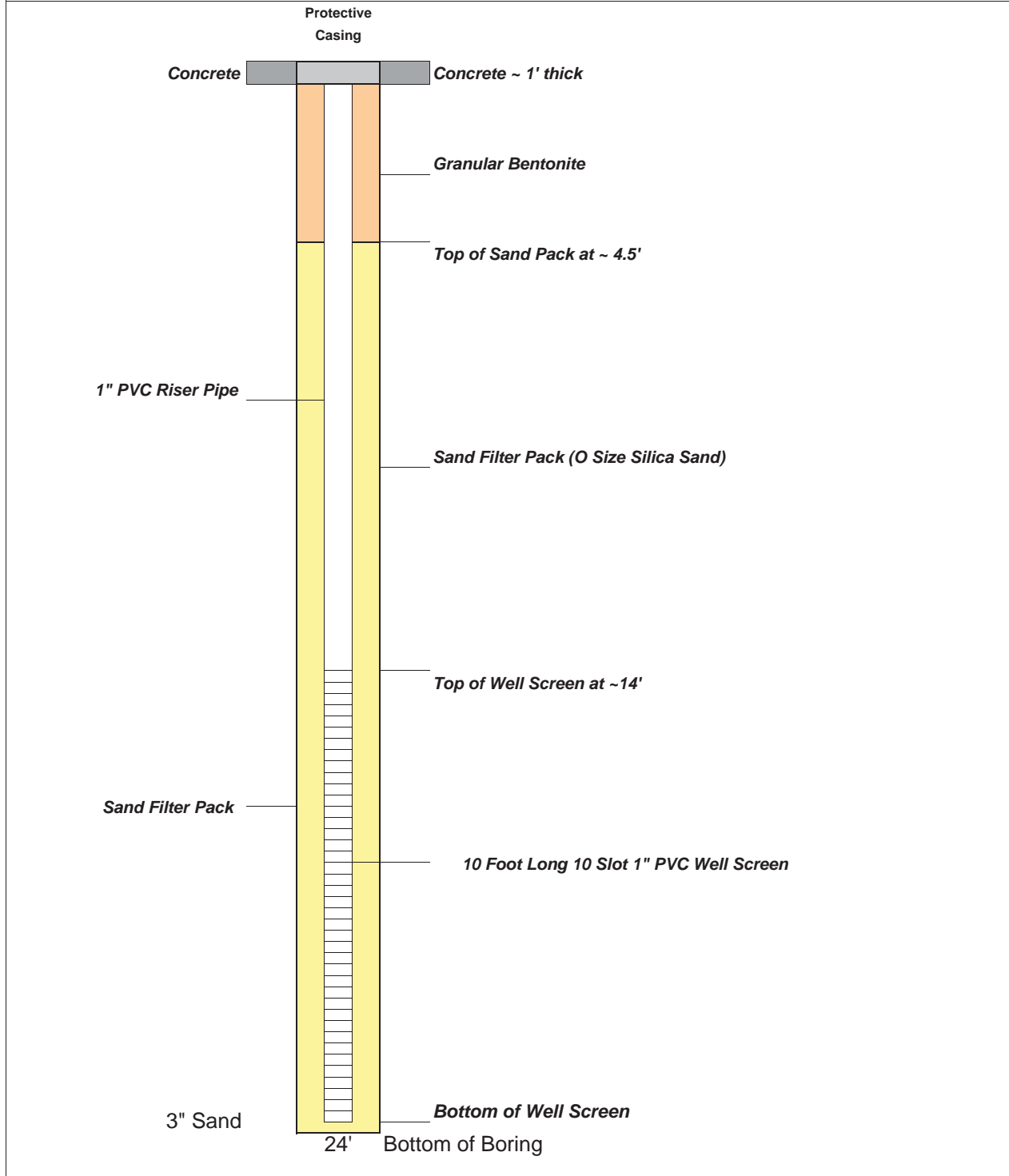
MONITORING WELL CONSTRUCTION DIAGRAM

Start Date: 10/14

End Date: 10/14

Boring No.
MW-3

Project Number:	Geologist: N. Wohlabaugh	Weather: ~50°F, Overcast	
Client: HIGHLAND PLAZA	Project Manager: N. Wohlabaugh	Northing: 24.29' S	Top Riser
Location (City, State): Tonawanda, New York	Driller: R. Steiner	Easting: 282.43' E	100.08'
Drill Rig Type: GeoProbe 6620 (Track Mounted)	Borehole Diameter (ft.): 0.25		



Depth to Water: Not encountered during drilling or well construction.	Comments:	MW-3
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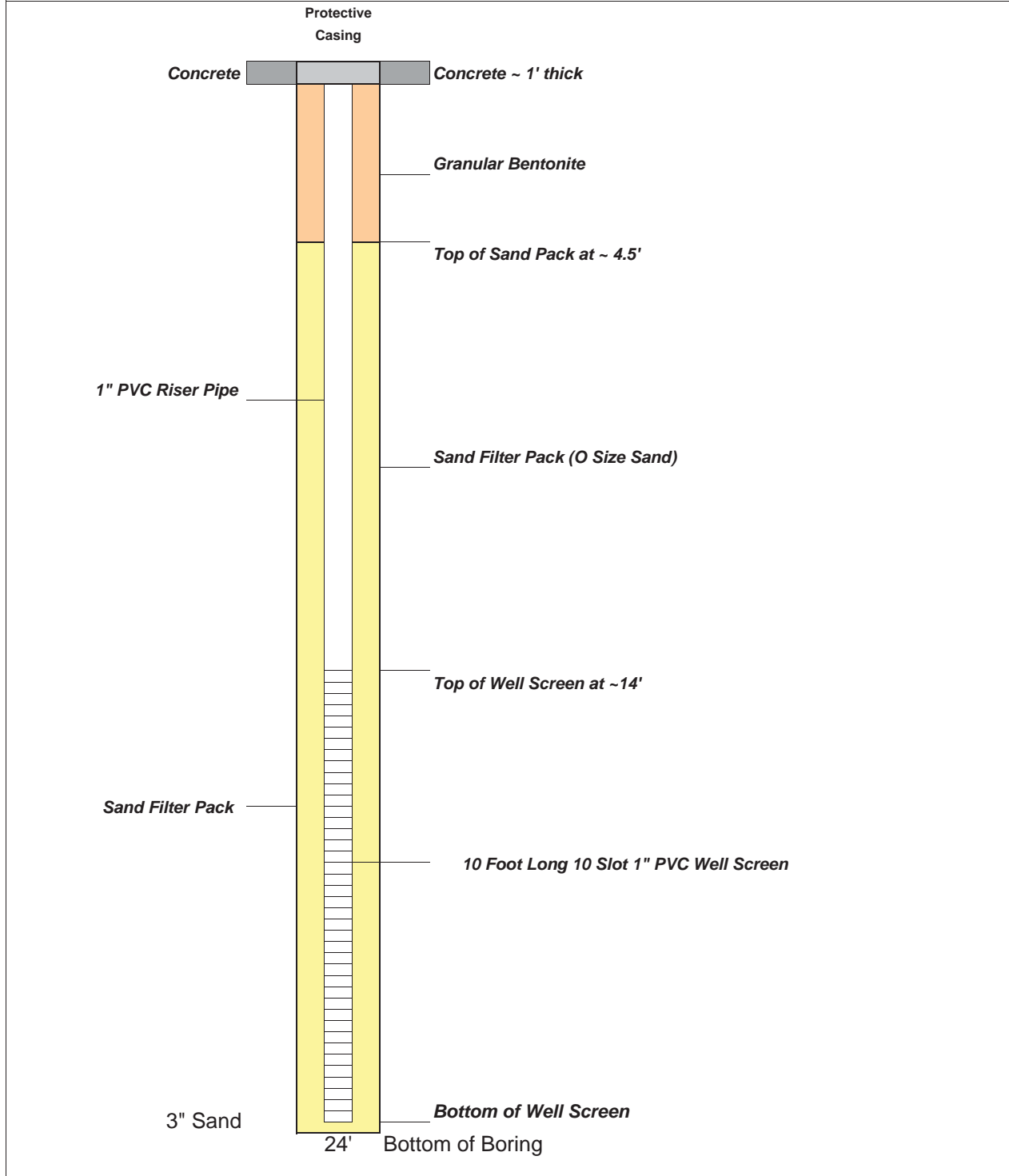
MONITORING WELL CONSTRUCTION DIAGRAM

Start Date: 10/16

End Date: 10/16

Boring No.
MW-4

Project Number:	Geologist: N. Wohlabaugh	Weather: ~50°F, Overcast	
Client: HIGHLAND PLAZA	Project Manager: N. Wohlabaugh	Northing: 119.19' S	Top Riser
Location (City, State): Tonawanda, New York	Driller: R. Steiner	Easting: 274.59' E	101.45'
Drill Rig Type: GeoProbe 6620 (Track Mounted)	Borehole Diameter (ft.): 0.25		



Depth to Water: Not encountered during drilling or well construction.	Comments:	MW-4
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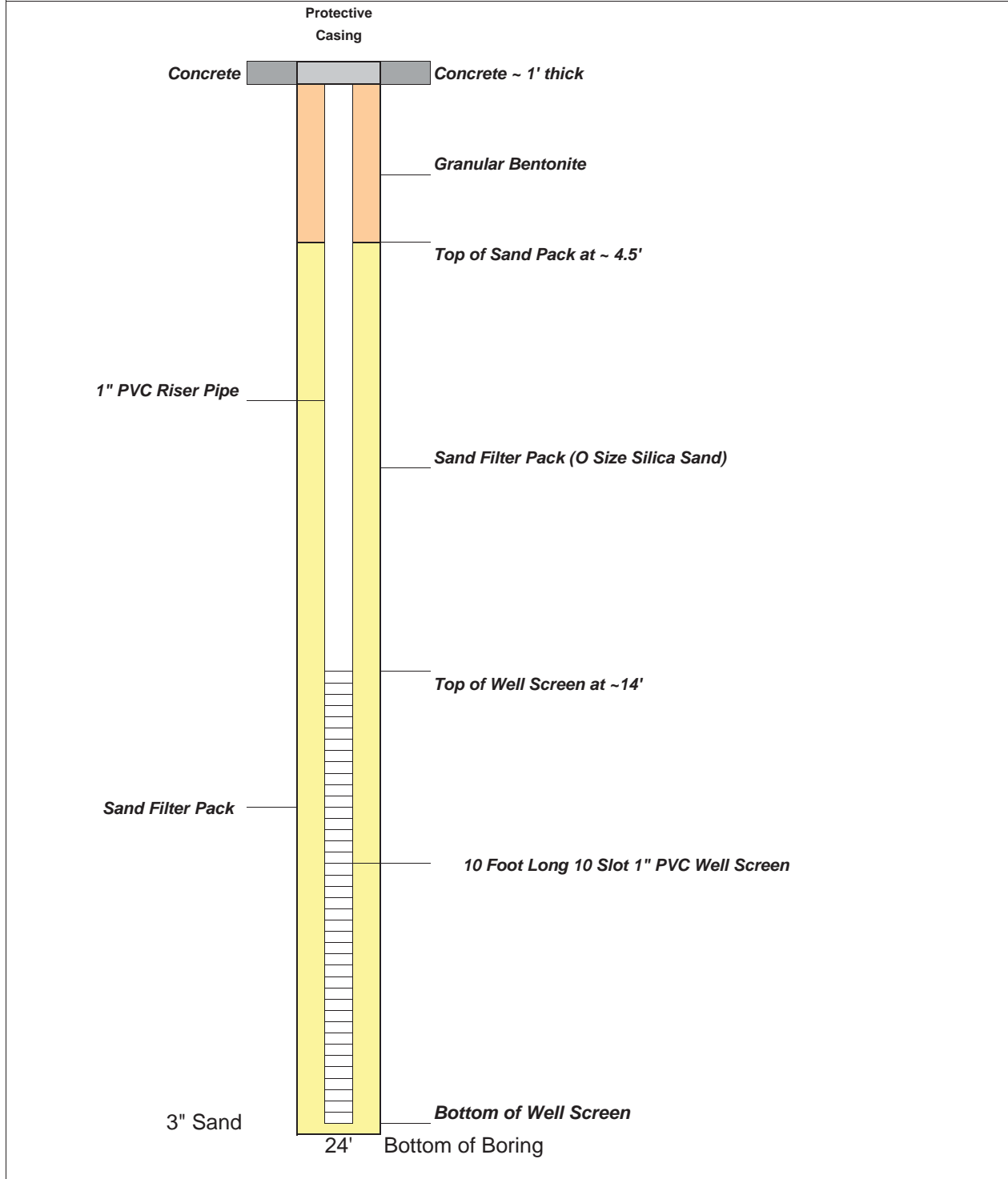
MONITORING WELL CONSTRUCTION DIAGRAM

Start Date: 10/16

End Date: 10/16

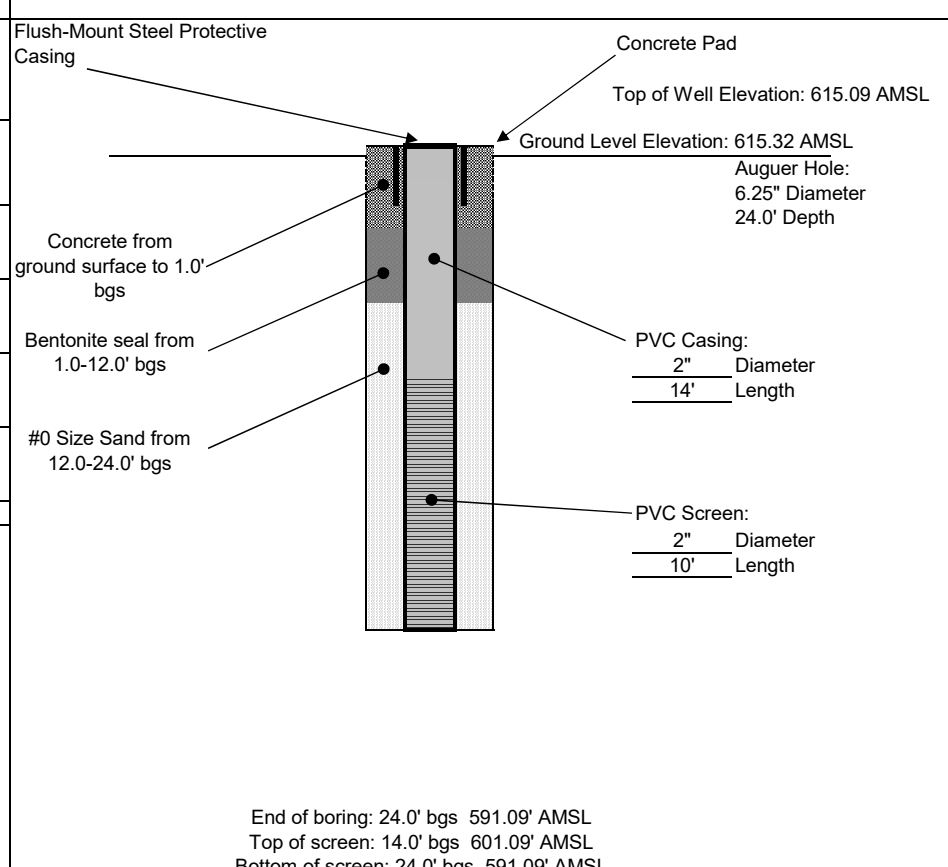

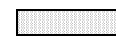



Boring No.
MW-5

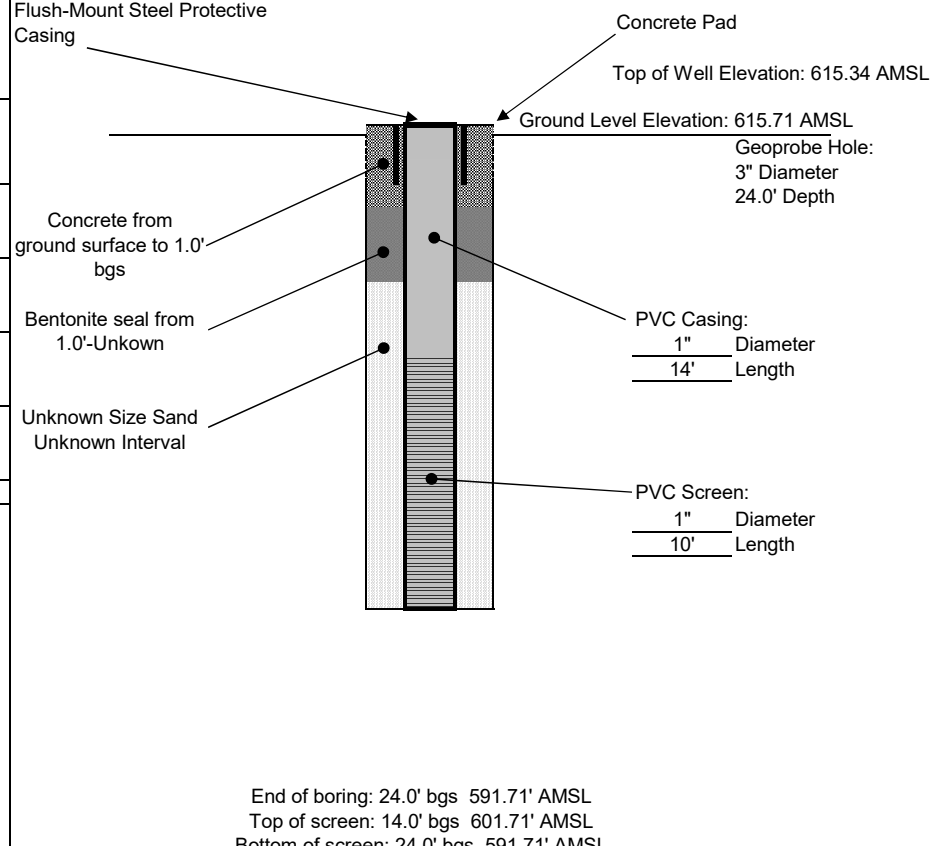
Project Number:	Geologist: N. Wohlabaugh	Weather: ~50°F, Overcast	
Client: HIGHLAND PLAZA	Project Manager: N. Wohlabaugh	Northing: 120.15' S	Top Riser
Location (City, State): Tonawanda, New York	Driller: R. Steiner	Easting: 176.13' E	102.06'
Drill Rig Type: GeoProbe 6620 (Track Mounted)	Borehole Diameter (ft.): 0.25		

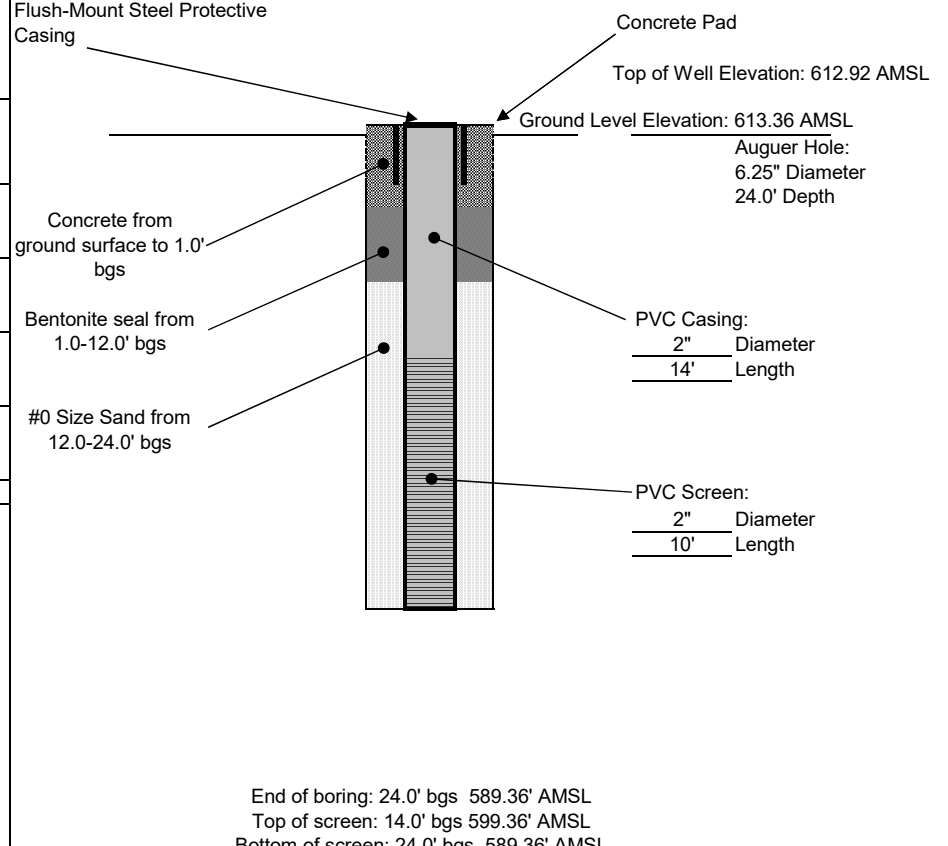
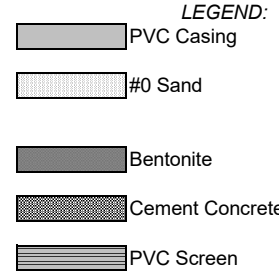


Depth to Water: Not encountered during drilling or well construction.	Comments:	MW-5

**2023 NYSDEC PHASE II
REMEDIAL INVESTIGATION
HIGHLAND PLAZA OFF-SITE AREA
SITE NO. C915293A**

DRILLING SUMMARY		MONITORING WELL CONSTRUCTION LOG		
LiRo Geologist: Jason Kryszak		 <p>Concrete Pad Top of Well Elevation: 615.09 AMSL Ground Level Elevation: 615.32 AMSL Auger Hole: 6.25" Diameter 24.0' Depth</p> <p>Concrete from ground surface to 1.0' bgs</p> <p>Bentonite seal from 1.0-12.0' bgs</p> <p>#0 Size Sand from 12.0-24.0' bgs</p> <p>PVC Casing: 2" Diameter 14' Length</p> <p>PVC Screen: 2" Diameter 10' Length</p> <p>End of boring: 24.0' bgs 591.09' AMSL Top of screen: 14.0' bgs 601.09' AMSL Bottom of screen: 24.0' bgs 591.09' AMSL</p>		
Drilling Company: NW Contracting				
Driller: Steve Gingrich				
Rig Make/Model: Diedrich D-120				
Date: 10/3/2023				
GEOLOGIC LOG				
Depth (ft.)	Description			
	See boring log			
WELL DESIGN		NOT TO SCALE		
CASING MATERIAL		SCREEN MATERIAL	FILTER MATERIAL	
Surface: Steel Flush Mount Casing		Type: 2.0" Flush Joint - Schedule 40 PVC with threaded flush joint bottom cap	Type: No. 0 SAND Setting: 12'-24' bgs	
Riser: 2.0" Dia. Flush Joint - Schedule 40 PVC		Slot Size: 0.010"	SEAL MATERIAL	
			Type: Bentonite Chips Setting: 1'- 12' bgs	
			Type: Concrete Setting: 0' - 1' bgs	
COMMENTS:		LEGEND:		
The contractor was directed to install the borehole to a total depth of 24.0' bgs.		 PVC Casing		
All soils were screened with a PID meter and checked for olfactory and visual evidence of chlorinated product contamination. All PID readings were noted. A well was constructed of schedule 40 PVC riser and 0.010" slot size screen, with a sand pack from 24.0 to 12.0 feet, and bentonite chip seal from 12.0 to 1.0 feet to ground surface. The well was completed at grade with a steel flush-mount protective casing. One (1) 4-inch dia. steel bollard was installed adjacent to the well at a depth of 4.0 feet bgs and 3.0 feet above ground surface for protection against snow plow activities. The bollards were set in a grout slurry and filled with concrete to the top of the bollard and painted bright yellow. No water in MW 24 hrs after completion.		 #0 Sand		
		 Bentonite		
		 Cement Concrete		
		 PVC Screen		
CLIENT: NYSDEC		LOCATION: Highland Plaza - C915293A	Project No. 17-013-0289 WO-016	
LiRo Engineers, Inc.		Monitoring Well Construction Details	Well Number: MW-5R	

DRILLING SUMMARY		MONITORING WELL CONSTRUCTION LOG	
LiRo Geologist: Jason Kryszak		 <p>Concrete Pad Top of Well Elevation: 615.34 AMSL Ground Level Elevation: 615.71 AMSL Geoprobe Hole: 3" Diameter 24.0' Depth</p> <p>Concrete from ground surface to 1.0' bgs</p> <p>Bentonite seal from 1.0'-Unkown</p> <p>Unknown Size Sand Unknown Interval</p> <p>PVC Casing: 1" Diameter 14' Length</p> <p>PVC Screen: 1" Diameter 10' Length</p> <p>End of boring: 24.0' bgs 591.71' AMSL Top of screen: 14.0' bgs 601.71' AMSL Bottom of screen: 24.0' bgs 591.71' AMSL</p>	
Drilling Company: MW Installed by SJB Flush-Mount Casing - NW			
Driller: Steve Gingrich - NW			
Rig Make/Model: Installed via Geoprobe			
Date: Installed 5/03/2017 Surface Completed 10/03/2023			
GEOLOGIC LOG			
Depth (ft.)	Description		
WELL DESIGN		NOT TO SCALE	
CASING MATERIAL		SCREEN MATERIAL	
Surface: Steel Flush Mount Casing	Type: 1.0" Flush Joint - Schedule 40 PVC	Type: Sand Setting: Unkown	
Riser: 1.0" Dia. Flush Joint - Schedule 40 PVC	Slot Size: 0.010"	SEAL MATERIAL Type: Bentonite Chips Setting: Unknown Type: Concrete Setting: 0' - 1' bgs	
COMMENTS:		LEGEND:	
MW-6 was initially installed on 5/03/2017 by SJB via Geoprobe type rig. GES field notes indicated that soil was screened with a PID meter and checked for olfactory and visual evidence of chlorinated product contamination. A 1" dia. well was installed constructed of schedule 40 PVC riser and 0.010" slot size screen, with a sand pack of unknown interval, and bentonite seal of unkown interval to 1.0' bgs. The well was initially unfinished at surfac with an approximate 1.2' stickup with no protective casing or j-plug noted by LiRo. NW Contracting completed the installation of a flush-mount protective casing on 10/03/2023. Additionally, one (1) 4-inch dia. steel bollard was installed adjacent to the well at a depth of 4.0' bgs and 3.0' above grade. The bollard was painted yellow for visability.		PVC Casing #0 Sand Bentonite Cement Concrete PVC Screen	
CLIENT: NYSDEC	LOCATION: Highland Plaza - C915293A	Project No. 17-013-0289 WO-016	
LiRo Engineers, Inc.		Monitoring Well Construction Details Well Number: MW-6	

DRILLING SUMMARY		MONITORING WELL CONSTRUCTION LOG		
LiRo Geologist: Jason Kryszak		 <p>Concrete Pad Top of Well Elevation: 612.92 AMSL Ground Level Elevation: 613.36 AMSL Auger Hole: 6.25" Diameter 24.0' Depth</p> <p>Concrete from ground surface to 1.0' bgs</p> <p>Bentonite seal from 1.0-12.0' bgs</p> <p>#0 Size Sand from 12.0-24.0' bgs</p> <p>PVC Casing: 2" Diameter 14' Length</p> <p>PVC Screen: 2" Diameter 10' Length</p> <p>End of boring: 24.0' bgs 589.36' AMSL Top of screen: 14.0' bgs 599.36' AMSL Bottom of screen: 24.0' bgs 589.36' AMSL</p>		
Drilling Company: NW Contracting				
Driller: Steve Gingrich				
Rig Make/Model: Diedrich D-120				
Date: 10/4/2023				
GEOLOGIC LOG				
Depth (ft.)	Description			
	See boring log			
WELL DESIGN		NOT TO SCALE		
CASING MATERIAL		SCREEN MATERIAL	FILTER MATERIAL	
Surface: Steel Flush Mount Casing		Type: 2.0" Flush Joint - Schedule 40 PVC with threaded flush joint bottom cap	Type: No. 0 SAND Setting: 12'-24' bgs	
Riser: 2.0" Dia. Flush Joint - Schedule 40 PVC		Slot Size: 0.010"	SEAL MATERIAL	
			Type: Bentonite Chips Setting: 1'- 12' bgs	
			Type: Concrete Setting: 0' - 1' bgs	
COMMENTS: The contractor was directed to install the borehole to a total depth of 24.0' bgs. All soils were screened with a PID meter and checked for olfactory and visual evidence of chlorinated product contamination. All PID readings were noted. A well was constructed of schedule 40 PVC riser and 0.010" slot size screen, with a sand pack from 24.0 to 12.0 feet, and bentonite chip seal from 12.0 to 1.0 feet to ground surface. The well was completed at grade with a steel flush-mount protective casing. No water in MW 24 hrs after completion.		LEGEND: 		
CLIENT: NYSDEC		LOCATION: Highland Plaza - C915293A	Project No. 17-013-0289 WO-016	
LiRo Engineers, Inc.		Monitoring Well Construction Details	Well Number: MW-7	