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POST-CONSTRUCTION MONITORING REPORT FOR JUNE 2022 ANNUAL MONITORING AND SEPTEMBER 2022 STORM-RELATED MONITORING

BURNHAM CANAL SUPERFUND ALTERNATIVE SITE
MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN
MILLER COMPRESSING COMPANY
WDNR BRRTS #: 02-41-552940
EPA ID: WIN000510222

POST-CONSTRUCTION MONITORING REPORT FOR JUNE 2022 ANNUAL MONITORING AND SEPTEMBER 2022 STORM-RELATED MONITORING BURNHAM CANAL SUPERFUND ALTERNATIVE SITE

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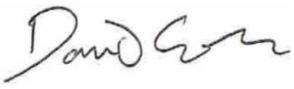

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1. SUMMARY OF CAP OPERATIONS, MAINTENANCE, AND MONITORING PLAN REQUIREMENTS

The project addresses contaminated sediment and other improvements in the Burnham Canal Superfund Alternative Site (Canal) in the City of Milwaukee, Milwaukee County, Wisconsin. The Ramboll Americas Integrated Solutions, Inc.'s (Ramboll's) Wisconsin Department of Natural Resources (WDNR)-approved September 7, 2021 Revised Cap Operations, Maintenance, and Monitoring Plan (COMMP) sets forth the post-construction requirements to monitor, maintain, and properly respond to changes in the capped areas of the Burnham Canal Superfund Alternative Site (Site) that may pose a threat to human health or the environment (Ramboll, 2021a). The COMMP is applicable for the period spanning the completion of the Remedial Subaqueous Aggregate Cap (Cap) and Voluntary Betterment (Betterment) construction (June 8, 2021) to WDNR approval of Site closure under Wis. Admin. Code ch. NR 726. The COMMP addresses the three capped areas that exist at the Site, as described below:

- Paved Engineering Control Area (west of the Burnham Canal, in the historic location of the wire reclamation furnace). The condition of this area will be documented through annual visual inspection by Miller Compressing Company (Miller) or their designated representative in accordance with the existing facility-wide WDNR-approved Cap Maintenance and Hard Surfacing Plan (WDNR, 2009). If issues are noted during the annual inspections or at any other time during the year, repairs will be scheduled as soon as practical.
- Unpaved Engineering Control Area (between the Paved Engineering Control Area and the Subaqueous Engineering Control Area, including the western bank of Burnham Canal above the ordinary high-water mark). Monitoring of portions of this area that are above the Burnham Canal water level during monitoring will consist of visual inspection and focus on erosion control. If needed, the Medium Riprap along the west bank of the Canal will be scheduled for repair as soon as possible. Monitoring of portions of this area that are below the Burnham Canal water level during monitoring will be conducted in the same manner as the monitoring of the Subaqueous Engineering Control Area. Monitoring events will be performed concurrently with those of the Subaqueous Engineering Control Area.
- Subaqueous Engineering Control Area (from the 11th Street Bridge to the west terminus of the Burnham Canal). Monitoring of this area is designed to verify that the Cap remains in place by examining the Betterment. Verification of the presence of the Betterment will confirm that the Cap is in place and, thus, the Record of Decision / Explanation of Significant Differenced (ROD/ESD [USEPA, 2011, 2016]) remedy remains protective of human health and the environment.
  - Poling surveys will be the primary method to demonstrate that the Betterment is intact. Poling surveys are to be conducted at least annually and also after rainfall greater than the 25-year, 24-hour storm event. Storm-related monitoring events will satisfy the annual monitoring event requirement, but if an annual event has already been performed, additional event(s) must be conducted that year if rainfall greater than the 25-year, 24-hour storm event occurs. If poling confirms the presence of Medium Riprap or Select Crushed in the west end of the Canal and the presence of Select Crushed throughout the rest of the Canal, no further action will be taken. If poling indicates the absence of this material, further evaluation or repair will be conducted.

- In addition to poling surveys, bathymetric surveys will be performed and associated isopach maps created three years from the date of the as-built Betterment survey (May 11, 2021), and every five years thereafter. Due to consolidation of the underlying sediment, a post-construction bathymetric survey surface that is lower than the Betterment as-built survey surface is not indicative of a loss of Betterment or Cap material. Bathymetric survey data collected from post-construction monitoring events will be compared to the as-built Cap surface established in Ramboll's WDNR-approved October 5, 2021 Construction Documentation Report (Ramboll, 2021b). If the post-construction bathymetric survey surfaces are above the as-built Cap surface, no further action will be taken. If post-construction bathymetric survey surfaces are below the as-built Cap surface, additional evaluation will be completed as necessary. Additional evaluation will include post-survey poling in these areas to confirm that the riprap or Select Crushed Betterment atop the Cap remains intact. If poling does not decisively indicate that the riprap or Select Crushed Betterment atop the Cap remains intact, coring (push core and/or vibracore) may be attempted to verify the thickness of the Betterment and/or Cap. If exposed underlying Canal sediment is discovered, a Cap repair will be conducted.

The COMMP requirements that are applicable to the current reporting period (June 8, 2021 to the date of this report) include:

- Annual visual inspection of the Paved Engineering Control Area
- Annual visual inspection of the portion of the Unpaved Engineering Control Area above the Burnham Canal Water Level and annual poling of the portion of the Unpaved Engineering Control Area below the Burnham Canal Water Level
- Storm-related visual inspection of the Unpaved Engineering Control Area
- Annual poling of the Subaqueous Engineering Control Area
- Storm-related poling of the Subaqueous Engineering Control Area

2. CAPPED AREA INSPECTION AND POLING RESULTS

The annual inspection and poling activities were conducted on May 27, 2022 and June 9, 2022. On September 11, 2022, the Site received approximately 4.78 inches of rain (NOAA, 2022a). This rainfall exceeded the 25-year, 24-hour storm event of 4.56 inches as defined by the National Oceanic and Atmospheric Administration (NOAA) Precipitation Frequency Data Server (PFDS) (NOAA, 2022b) at the time of the event. As such, storm-related inspection and poling activities were required to be completed within 60 days of the storm event. The storm-related inspection and poling activities were performed on September 16, 2022. Results from each of these events are discussed below.

2.1 Annual Paved Engineering Control Area Inspection

The annual visual inspection of the Paved Engineering Control Area was conducted by Miller on May 27, 2022. As noted on WDNR Form 4400-305 Continuing Obligations Inspection and Maintenance Log, included as **Appendix A**, the pavement of the Paved Engineering Control Area is in good condition and no repair or maintenance activities are necessary at this time. A photo of the Paved Engineering Control Area at the time of annual visual inspection is included in **Appendix A**.

2.2 Annual Unpaved Engineering Control Area Inspection and Poling

The annual visual inspection of the portion of the Unpaved Engineering Control Area above the Burnham Canal water level was conducted by Ramboll on June 9, 2022. The water elevation was 0.3 City of

Milwaukee Datum (CMD) feet at the time of the inspection. As shown in the photo log included as **Appendix B**, the riprap placed along the west bank of the Burnham Canal is in good condition. No evidence of erosion was observed, and no repair or maintenance activities are necessary at this time.

The annual poling of the portion of the Unpaved Engineering Control Area below the Burnham Canal water level (0.3 CMD feet) was conducted by Ramboll on June 9, 2022. Post-construction as-built Betterment surface contours in **Figure 1** and aerial imagery in **Figure 2a** were both overlaid with as-built poling locations from the June 2022 inspection event. Poling location 125 was included in the poling event to represent Approval Unit 1 and the submerged portion of the Unpaved Engineering Control Area. Poling observations and measurements are summarized in **Table 1** and indicate that riprap is present in the portion of the Unpaved Engineering Control Area below the Burnham Canal water level. Per the COMMP (Ramboll, 2021a), no further action is required as a result of the annual poling based on the confirmation of the presence of riprap.

2.3 Storm-Related Unpaved Engineering Control Area Inspection

During the storm-related inspection conducted by Ramboll on September 16, 2022, the entire Unpaved Engineering Control Area was either above the Burnham Canal Water level (0.2 CMD) or was visible beneath shallow water. As shown in the photo log included as **Appendix B**, the riprap placed along the west bank of the Burnham Canal and other portions of the Unpaved Engineering Control Area is in good condition. No evidence of erosion was observed, and no repair or maintenance activities are necessary at this time.

Additionally, Ramboll used a global positioning system (GPS) to measure the surface elevation of poling location 125, which was above the water surface at the time of the inspection. Location 125 was included in the poling network to represent Approval Unit 1 and, when applicable at times of higher water levels and limited visibility beneath the water surface, the submerged portion of the Unpaved Engineering Control Area. Post-construction as-built Betterment surface contours in **Figure 1** and aerial imagery in **Figure 2b** were both overlaid with as-built poling locations from the September 2022 inspection event. Poling observations and measurements are summarized in **Table 2** and results from location 125 indicate that, in addition to riprap being visually present, the surface elevation of the Unpaved Engineering Control Area on September 16, 2022 is generally the same as its as-built elevation. Per the COMMP (Ramboll, 2021a), no further action is required at this time based on the confirmation of the presence of riprap.

2.4 Annual Subaqueous Engineering Control Area Poling

The annual poling of the Subaqueous Engineering Control Area was conducted by Ramboll on June 9, 2022. Post-construction as-built Betterment surface contours in **Figure 1** and aerial imagery in **Figure 2a** were both overlaid with as-built poling locations from the June 2022 poling event. Poling locations 101 through 124 are in the Subaqueous Engineering Control Area and were selected based on proposed verification locations provided on Figure 3 of the COMMP (Ramboll, 2021a). As described in the previous section, poling location 125 was included in the poling event to represent Approval Unit 1 and the submerged portion of the Unpaved Engineering Control Area. Poling location 126 is in the Subaqueous Engineering Control Area and was included in the poling event to evaluate conditions near the pipe outlet of combined sewer outfall (CSO)-194 (formerly CSO-211).

Prior to the poling event, target coordinates for each poling location were loaded onto a GPS. The GPS was used to navigate to the target locations and log actual poling locations. The actual poling locations are similar to the target locations but generally offset by a few feet due to GPS accuracy limitations and challenges navigating to and remaining at the exact coordinates due to wind and water flow. As such, while the target locations included at least one location in each Approval Unit, the actual locations do not include Approval Unit 9. However, given the density of poling locations throughout the Subaqueous Engineering Control Area and proximity of poling locations 110 and 111 to Approval Unit 9, the poling locations are representative of the condition of the entire Subaqueous Engineering Control Area.

As summarized in **Table 1**, the presence of riprap or select crushed (Betterment) was confirmed at all poling locations in the Subaqueous Engineering Control Area. As such, per the COMMP (Ramboll, 2021a), no further action is required as a result of the annual poling.

While the poling criteria for further evaluation and/or repair is the absence of riprap or select crushed, which was not observed during the poling event, the COMMP (Ramboll, 2021a) also requires an estimation of the elevation of the top of the Betterment at the poling locations and comparison to the elevations provided in the bathymetric survey completed previously in the same or similar locations. For informational purposes only, a summary of water depth above the Betterment surface subtracted from the Burnham Canal water elevation at the time of poling (0.3 CMD feet) is provided in **Table 1** as an estimate of the Betterment surface elevation at the poling locations. The approximate as-built top of aggregate (Betterment) elevation (from surface generated from as-built Betterment bathymetric survey data) is then subtracted from the estimate of the Betterment surface elevation at the poling locations, resulting in an estimate of the post-construction elevation change.

Post-construction elevation change summary statistics are provided at the bottom of **Table 1**. The approximated average change in the Low-Profile Betterment area, Full-Thickness Betterment area, and at all poling locations is an approximate decrease of 0.5 feet (6 inches), 0.8 feet (10 inches), and 0.7 feet (9 inches), respectively. The maximum approximate elevation increase (1.3 feet [15 inches]) was noted at poling location 120 and the maximum approximate elevation decrease (2.0 feet [24 inches]) was noted at poling location 117. Poling locations 120 and 117 are both located in the Full-Thickness Betterment area. All approximate elevation decreases are within the range of probable settlement of 1.8 feet (22 inches) in the Low-Profile Betterment area and 2.6 feet (32 inches) in the Full-Thickness Betterment area. Furthermore, due to the accuracy limitations noted above, these estimates should be used for informational purposes only for general characterization of the anticipated settlement. Additionally, note that many locations at which elevation increases are indicated are on slopes where an accuracy limitation of a few lateral feet could be the cause of apparent elevation increases or exaggerated decreases rather than an actual change in elevation.

2.5 Storm-Related Subaqueous Engineering Control Area Poling

The storm-related poling of the Subaqueous Engineering Control Area was conducted by Ramboll on September 16, 2022. Post-construction as-built Betterment surface contours in **Figure 1** and aerial imagery in **Figure 2b** were both overlaid with as-built poling locations from the September 2022 poling event. Poling locations 101 through 124 are in the Subaqueous Engineering Control Area and were selected based on proposed verification locations provided on Figure 3 of the COMMP (Ramboll, 2021a). As described in previous sections, poling location 125 was included in the poling network to represent Approval Unit 1 and the Unpaved Engineering Control Area. Poling location 126 is in the Subaqueous

Engineering Control Area and was included in the poling event to evaluate conditions near the pipe outlet of combined sewer outfall (CSO)-194 (formerly CSO-211).

Prior to the poling event, target coordinates for each poling location were loaded onto a GPS. The GPS was used to navigate to the target locations and log actual poling locations. The actual poling locations are similar to the target locations but generally offset by a few feet due to GPS accuracy limitations and challenges navigating to and remaining at the exact coordinates due to wind and water flow. At least one actual poling location is located within each Approval Unit. As such, the poling locations are representative of the condition of the entire Subaqueous Engineering Control Area.

As summarized in **Table 2**, the presence of riprap or select crushed (Betterment) was confirmed at all poling locations in the Subaqueous Engineering Control Area. As such, per the COMMP (Ramboll, 2021a), no further action is required at this time.

While the poling criteria for further evaluation and/or repair is the absence of riprap or select crushed, which was not observed during the poling event, the COMMP (Ramboll, 2021a) also requires an estimation of the elevation of the top of the Betterment at the poling locations and comparison to the elevations provided in the bathymetric survey completed previously in the same or similar locations. For informational purposes only, a summary of water depth above the Betterment surface subtracted from the Burnham Canal water elevation at the time of poling (0.2 CMD feet) is provided in **Table 2** as an estimate of the Betterment surface elevation at the poling locations. The approximate as-built top of aggregate (Betterment) elevation (from surface generated from as-built Betterment bathymetric survey data) is then subtracted from the estimate of the Betterment surface elevation at the poling locations, resulting in an estimate of the post-construction elevation change.

Post-construction elevation change summary statistics are provided at the bottom of **Table 2**. The approximated average change in the Low-Profile Betterment area, Full-Thickness Betterment area, and at all poling locations is an approximate decrease of 0.3 feet (4 inches), 0.7 feet (8 inches), and 0.6 feet (7 inches), respectively. The maximum approximate elevation increase (1.0 feet [12 inches]) was noted at poling location 106 and the maximum approximate elevation decrease (1.3 feet [15 inches]) was noted at poling location 113. Poling location 106 is in the Low-Profile Betterment area and location 113 is in the Full-Thickness Betterment area. All approximate elevation decreases are within the range of probable settlement of 1.8 feet (22 inches) in the Low-Profile Betterment area and 2.6 feet (32 inches) in the Full-Thickness Betterment area. Furthermore, due to the accuracy limitations noted above, these estimates should be used for informational purposes only for general characterization of the anticipated settlement. Additionally, note that many locations at which elevation increases are indicated, including location 106, are on slopes where an accuracy limitation of a few lateral feet could be the cause of apparent elevation increases or exaggerated decreases rather than an actual change in elevation.

3. CONCLUSIONS AND RECOMMENDATIONS

Annual visual inspection indicated that the pavement of the Paved Engineering Control is in good condition and annual and storm-related visual inspection indicated that the riprap of the Unpaved Engineering Control Area above the water surface is in good condition with no evidence of erosion. Annual and storm-related poling indicated that riprap or select crushed is present in the submerged portion of the Unpaved Engineering Control Area and throughout the Subaqueous Engineering Control

Area. Poling elevation estimates for informational purposes only suggest that consolidation of sediment beneath the Cap and Betterment is occurring as anticipated. Per the requirements of the COMMP (Ramboll, 2021a), no further evaluation, maintenance, or repair of any area of the Site is necessary at this time.

If the COMMP (Ramboll, 2021a) remains applicable or requirements of the COMMP (Ramboll, 2021a) are included in superseding documents, the 2022 annual post-construction monitoring activities described herein will be conducted again in a similar manner in 2023. In addition, poling of the Subaqueous Engineering Control Area, visual inspection of the Unpaved Engineering Control Area, and, if applicable, poling of the submerged portion of the Unpaved Engineering Control Area will be conducted following rainfall events greater than the 25-year, 24-hour storm event as defined by NOAA PFDS (NOAA, 2022b) at the time of the event (currently greater than 4.56 inches of rainfall within 24 hours). If necessary, storm-related monitoring events conducted in 2023 will be performed in a similar manner as the 2022 storm-related monitoring events described herein. Storm-related monitoring events conducted in 2023 will satisfy the annual monitoring event requirement but if the 2023 annual event has already been performed, additional event(s) must be conducted if the criteria triggering a storm-related monitoring event are met.

Aggregate surface elevation comparisons to as-built aggregate surface elevations will be performed with greater accuracy than that achieved by poling methods when bathymetric surveys are performed and associated isopach maps are created three years from the date of the as-built Betterment survey (approximately May 11, 2024), and every five years thereafter.

4. REFERENCES

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TABLES

Table 1. June 2022 Post-Construction Poling (Annual) Summary

Post-Construction Monitoring Report
Miller Compressing Company
Burnham Canal Superfund Alternative Site
1640 W. Bruce St. Milwaukee, Wisconsin
BRRTS#: 02-41-552940 USEPA#: WIN000510222

Approval Unit ID	Poling Location ID	Date	X Coordinates (Wisconsin County Coordinate System - Milwaukee County)	Y Coordinates (Wisconsin County Coordinate System - Milwaukee County)	Water Elevation[1] (CMD ft.)	Depth to Aggregate from Water Surface (ft.)	Top of Aggregate Elevation (CMD ft.)	Approximate As-Built Top of Aggregate Elevation (CMD ft.)	Approximate Post-Construction Elevation Change (ft.)	Soft Push[2] (ft.)	Hard Push[3] (ft.)	Total Push Penetration Depth (ft.)	Comments (Riprap, Select Crushed, or Other Present)
1	125	6/9/2022	600195.7335	295139.3364	0.3	5.56	-5.26	-5.65	0.39	0.00	0.00	0.00	Hard, riprap present
2	101	6/9/2022	600233.7955	295105.2725	0.3	9.52	-9.22	-8.33	-0.89	0.00	0.00	0.00	Hard, riprap present
2	102	6/9/2022	600229.3064	295127.8372	0.3	9.90	-9.60	-8.12	-1.48	0.00	0.00	0.00	Hard, riprap present
2	104	6/9/2022	600252.0155	295154.2359	0.3	2.36	-2.06	-2.33	0.27	0.00	0.00	0.00	Hard, riprap present
2	126	6/9/2022	600217.238	295151.528	0.3	7.75	-7.45	-6.73	-0.72	0.00	0.10	0.10	Hard, smaller riprap directly in front of CSO invert
3	103	6/9/2022	600256.4478	295128.6817	0.3	9.08	-8.78	-8.99	0.21	0.00	0.00	0.00	Hard, potentially select crushed with smaller riprap
4	105	6/9/2022	600302.8941	295137.9653	0.3	6.38	-6.08	-5.75	-0.33	0.00	0.00	0.00	Hard, select crushed present
5	106	6/9/2022	600387.8873	295173.3753	0.3	5.47	-5.17	-4.31	-0.86	0.00	0.00	0.00	Hard, select crushed present
5	107	6/9/2022	600415.9393	295082.6882	0.3	8.57	-8.27	-7.23	-1.04	0.00	0.00	0.00	Hard, select crushed present
6	108	6/9/2022	600492.1738	295159.9505	0.3	9.30	-9.00	-7.65	-1.35	0.00	0.00	0.00	Hard, select crushed present
7	109	6/9/2022	600577.3669	295143.4924	0.3	12.43	-12.13	-10.97	-1.16	0.00	0.00	0.00	Hard, select crushed present
8	110	6/9/2022	600637.9409	295088.4574	0.3	12.28	-11.98	-11.35	-0.63	0.00	0.00	0.00	Hard, select crushed present
10	111	6/9/2022	600755.4687	295161.7839	0.3	7.92	-7.62	-7.27	-0.35	0.00	0.00	0.00	Hard, select crushed present
11	112	6/9/2022	600831.1902	295098.205	0.3	12.56	-12.26	-11.23	-1.03	0.00	0.00	0.00	Hard, select crushed present
12	113	6/9/2022	600905.326	295098.3058	0.3	12.15	-11.85	-11.11	-0.74	0.00	0.00	0.00	Hard, select crushed present
13	114	6/9/2022	600977.7738	295169.793	0.3	10.26	-9.96	-9.55	-0.41	0.00	0.15	0.15	Hard, select crushed present
13	115	6/9/2022	601050.461	295090.5133	0.3	11.77	-11.47	-10.82	-0.65	0.00	0.00	0.00	Hard, select crushed present
14	116	6/9/2022	601092.8527	295147.2172	0.3	14.68	-14.38	-12.84	-1.54	0.00	0.00	0.00	Hard, select crushed present
15	117	6/9/2022	601159.2101	295083.0167	0.3	9.64	-9.34	-7.33	-2.01	0.00	0.00	0.00	Hard, select crushed present
16	118	6/9/2022	601274.8517	295160.294	0.3	12.79	-12.49	-10.77	-1.72	0.00	0.00	0.00	Hard, select crushed present
17	119	6/9/2022	601308.1172	295076.5876	0.3	10.32	-10.02	-9.26	-0.76	0.00	0.00	0.00	Hard, select crushed present
18	124	6/9/2022	601420.2272	295084.6202	0.3	9.68	-9.38	-8.41	-0.97	0.00	0.00	0.00	Hard, select crushed present
19	120	6/9/2022	601445.7089	295171.8914	0.3	7.02	-6.72	-7.97	1.25	0.00	0.10	0.10	Hard, select crushed present
20	121	6/9/2022	601569.7184	295158.7882	0.3	11.36	-11.06	-10.16	-0.90	0.00	0.00	0.00	Hard, select crushed present
21	122	6/9/2022	601604.021	295140.2649	0.3	13.89	-13.59	-12.45	-1.14	0.00	0.00	0.00	Hard, select crushed present
22	123	6/9/2022	601683.393	295081.2036	0.3	6.20	-5.90	-5.75	-0.15	0.00	0.00	0.00	Hard, select crushed present

Avg Low-Profile Change (ft.)	-0.5
Avg Full-Thickness Change (ft.)	-0.8
Avg Change (ft.)	-0.7
Max Change (ft.)	1.3
Min Change (ft.)	-2.0

(O: ABB 6/14/22, U: 6/20/2022, C: MDW 6/22/2022)

Notes:
1. Water elevation is approximated using the onsite staff gauge and recorded prior to poling data collection.
2. Soft push poling is performed with nominal strength supplied by the sampler's extended arms only.
3. Hard push poling is performed with nominal strength and body weight supplied by the sampler's arms and torso.
CMD = City of Milwaukee Datum
ft. = feet

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Table 2. September 2022 Post-Construction Poling (Storm-Related) Summary

Post-Construction Monitoring Report
Miller Compressing Company
Burnham Canal Superfund Alternative Site
1640 W. Bruce St. Milwaukee, Wisconsin
BRRTS#: 02-41-552940 USEPA#: WIN000510222

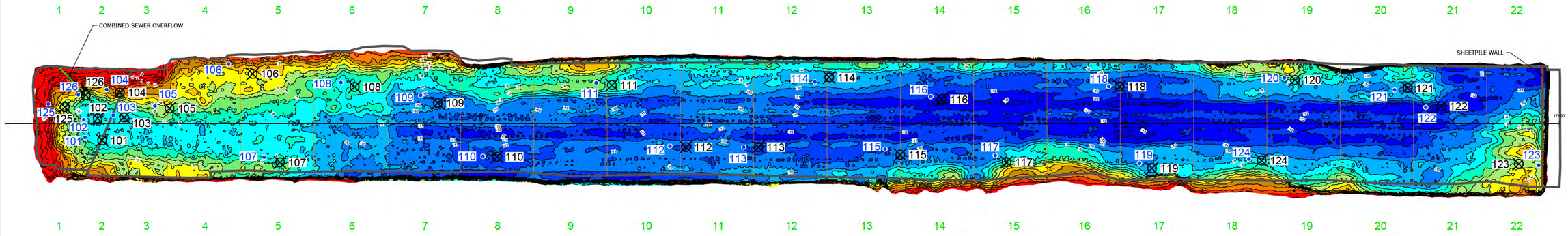
Approval Unit ID	Poling Location ID	Date	X Coordinates (Wisconsin County Coordinate System - Milwaukee County)	Y Coordinates (Wisconsin County Coordinate System - Milwaukee County)	Water Elevation[1] (CMD ft.)	Depth to Aggregate from Water Surface (ft.)	Top of Aggregate Elevation (CMD ft.)	Approximate As-Built Top of Aggregate Elevation (CMD ft.)	Approximate Post-Construction Elevation Change (ft.)	Soft Push[2] (ft.)	Hard Push[3] (ft.)	Total Push Penetration Depth (ft.)	Comments (Riprap, Select Crushed, or Other Present)
1	125	9/16/2022	600178.789	295142.572	0.2	--	1.15	1.08	0.07	0.00	0.00	0.00	Above current water elevation, visual observation shows betterment is in good condition.
2	101	9/16/2022	600216.3703	295108.1722	0.2	8.15	-7.95	-7.63	-0.32	0.00	0.00	0.00	Hard, riprap present
2	102	9/16/2022	600215.1449	295126.3999	0.2	8.79	-8.59	-8.00	-0.59	0.00	0.00	0.00	Hard, riprap present
2	103	9/16/2022	600245.3478	295131.0893	0.2	9.39	-9.19	-8.73	-0.46	0.00	0.00	0.00	Hard, select crushed and riprap present
2	104	9/16/2022	600238.5552	295157.2516	0.2	4.49	-4.29	-3.23	-1.06	0.00	0.00	0.00	Hard, riprap with select crushed present
2	126	9/16/2022	600209.5133	295152.0333	0.2	5.62	-5.42	-4.96	-0.46	0.00	0.00	0.00	Hard, riprap present
3	105	9/16/2022	600287.9484	295140.4932	0.2	6.16	-5.96	-5.44	-0.52	0.00	0.60	0.60	Hard, select crushed present
4	106	9/16/2022	600363.1853	295183.3851	0.2	2.50	-2.30	-3.30	1.00	0.00	0.00	0.00	Hard, select crushed present
5	107	9/16/2022	600399.6193	295088.131	0.2	9.22	-9.02	-8.31	-0.71	0.00	0.10	0.10	Hard, select crushed present
6	108	9/16/2022	600478.2058	295164.5446	0.2	9.26	-9.06	-8.41	-0.65	0.10	0.05	0.15	Hard, select crushed present
7	109	9/16/2022	600559.7501	295151.4367	0.2	11.27	-11.07	-10.54	-0.53	0.10	0.00	0.10	Hard, select crushed present
8	110	9/16/2022	600623.4977	295088.9217	0.2	12.84	-12.64	-11.45	-1.19	0.00	0.00	0.00	Hard, select crushed present
9	111	9/16/2022	600739.4597	295164.0963	0.2	8.48	-8.28	-7.00	-1.28	0.05	0.20	0.25	Hard, select crushed present
10	112	9/16/2022	600814.8672	295099.3444	0.2	12.18	-11.98	-10.72	-1.26	0.20	0.25	0.45	Hard, select crushed present
11	113	9/16/2022	600890.3844	295098.3524	0.2	12.58	-12.38	-11.09	-1.29	0.25	0.05	0.30	Hard, select crushed present
12	114	9/16/2022	600963.231	295165.1245	0.2	10.03	-9.83	-9.03	-0.80	0.00	0.20	0.20	Hard, select crushed present
13	115	9/16/2022	601035.0328	295096.2972	0.2	12.03	-11.83	-11.12	-0.71	0.00	0.55	0.55	Hard, select crushed present
14	116	9/16/2022	601081.7926	295150.0593	0.2	13.11	-12.91	-11.96	-0.95	0.00	0.00	0.00	Hard, select crushed present
15	117	9/16/2022	601147.623	295089.8353	0.2	10.42	-10.22	-9.82	-0.40	0.00	0.05	0.05	Hard, select crushed present
16	118	9/16/2022	601263.9266	295160.5379	0.2	11.70	-11.50	-10.49	-1.01	0.20	0.05	0.25	Hard, select crushed present
17	119	9/16/2022	601295.2849	295081.8542	0.2	10.88	-10.68	-10.53	-0.15	0.00	0.00	0.00	Hard, select crushed present
18	124	9/16/2022	601407.3318	295086.2511	0.2	9.70	-9.50	-8.74	-0.76	0.25	0.00	0.25	Hard, select crushed present
19	120	9/16/2022	601443.4341	295169.3426	0.2	8.08	-7.88	-7.50	-0.38	0.00	0.10	0.10	Hard, select crushed present
20	121	9/16/2022	601556.2706	295156.9833	0.2	10.15	-9.95	-9.84	-0.11	0.00	0.00	0.00	Hard, select crushed present
21	122	9/16/2022	601588.2499	295139.1503	0.2	12.91	-12.71	-12.08	-0.63	0.10	0.00	0.10	Hard, select crushed present
22	123	9/16/2022	601703.8122	295079.6298	0.2	5.60	-5.40	-5.90	0.50	0.40	0.15	0.55	Sand at surface, select crushed at bottom of hard push. Aggregate placement beneath and east of 11th St. Bridge by others occurred from April through August 2022.

(O: ABB 9/16/2022, C: MDW 11/16/22)

Avg Low-Profile Change (ft.)	-0.3
Avg Full-Thickness Change (ft.)	-0.7
Avg Change (ft.)	-0.6
Max Change (ft.)	1.0
Min Change (ft.)	-1.3

Notes:
1. Water elevation is approximated using the onsite staff gauge and recorded prior to poling data collection.
2. Soft push poling is performed with nominal strength supplied by the sampler's extended arms only.
3. Hard push poling is performed with nominal strength and body weight supplied by the sampler's arms and torso.
CMD = City of Milwaukee Datum
ft. = feet

FIGURES



AS-BUILT BETTERMENT
SURFACE ELEVATION (CMD)

- >=0.00
- -1.00 - -0.01
- -2.00 - -1.01
- -3.00 - -2.01
- -4.00 - -3.01
- -5.00 - -4.01
- -6.00 - -5.01
- -7.00 - -6.01
- -8.00 - -7.01
- -9.00 - -8.01
- -10.00 - -9.01
- -11.00 - -10.01
- -12.00 - -11.01
- -13.00 - -12.01
- -14.00 - -13.01
- -15.00 - -14.01
- <-15.00

-10- CANAL BOTTOM MAJOR CONTOUR
1 APPROVAL UNIT
COMBINED SEWER OVERFLOW
POST-CONSTRUCTION MONITORING POLING LOCATIONS (JUNE 2022)
POST-CONSTRUCTION MONITORING POLING LOCATIONS (SEPT. 2022)

N

0 25 50 100
SCALE IN FEET

NOTES:
1. Contours shown within the canal are based on Cap surface elevation in City of Milwaukee (vertical) Datum (CMD).
2. The vertical datum (CMD) is equal to the National Geodetic Vertical Datum of 1929 (NGVD 1929) elevation minus 580.603.

RAMBOLL

WDNR BRRTS #: 02-41-552940
EPA ID: WIN000510222

PROJECT NO. 1950075954	AS-BUILT BETTERMENT SURFACE CONTOURS AND POST-CONSTRUCTION MONITORING POLING LOCATIONS
DRAWN BY: CNH/MSB	BURNHAM CANAL POST-CONSTRUCTION MONITORING REPORT BURNHAM CANAL SUPERFUND ALTERNATIVE SITE MILLER COMPRESSING COMPANY MILWAUKEE, WI
CHECKED BY: MDW	
APPROVED BY: MDW	FIGURE 1

Y:\GIS\Projects\181856\MXD\COMMP\Figure 2a - June 2022 COMMP Poling Locations.mxd

PROJECT: 169000XXXX | DATED: 10/26/2022 | DESIGNER: galarnmc

- POST-CONSTRUCTION MONITORING POLING LOCATION
- LOCATION WITH LOWER ELEVATION POST-CONSTRUCTION
- LOCATION WITH HIGHER ELEVATION POST-CONSTRUCTION
- APPROXIMATE CAP AND BETTERMENT CONSTRUCTION EXTENT
- APPROVAL UNIT BOUNDARY
- APPROXIMATE UNPAVED ENGINEERING CONTROL AREA BOUNDARY
- APPROXIMATE PAVED ENGINEERING CONTROL AREA
- APPROXIMATE FULL-THICKNESS BETTERMENT
- APPROXIMATE LOW-PROFILE BETTERMENT - SELECT CRUSHED
- APPROXIMATE LOW-PROFILE BETTERMENT - MEDIUM RIPRAP

0 100 200 Feet

JUNE 2022 POST-CONSTRUCTION MONITORING

POST-CONSTRUCTION MONITORING REPORT 2022
BURNHAM CANAL SUPERFUND ALTERNATIVE SITE
MILLER COMPRESSING COMPANY
WDNR BRRTS #:02-41-552940
EPA ID: WIN000510222

FIGURE 2a

RAMBOLL US CORPORATION
A RAMBOLL COMPANY

RAMBOLL

PROJECT: 169000XXXX | DATED: 11/16/2022 | DESIGNER: BARTELAB

Y:\GIS\Projects\181856\MXD\COMMP\Figure 2b - COMMP Poling Locations_20220916.mxd

- POST-CONSTRUCTION MONITORING POLING LOCATION
- LOCATION WITH LOWER ELEVATION POST-CONSTRUCTION
- LOCATION WITH HIGHER ELEVATION POST-CONSTRUCTION
- APPROXIMATE CAP AND BETTERMENT CONSTRUCTION EXTENT

0 100 200 Feet

- APPROVAL UNIT BOUNDARY
- APPROXIMATE UNPAVED ENGINEERING CONTROL AREA BOUNDARY
- APPROXIMATE PAVED ENGINEERING CONTROL AREA
- APPROXIMATE FULL-THICKNESS BETTERMENT
- APPROXIMATE LOW-PROFILE BETTERMENT - SELECT CRUSHED
- APPROXIMATE LOW-PROFILE BETTERMENT - MEDIUM RIPRAP

SEPTEMBER 2022 POST-CONSTRUCTION MONITORING EVENT

POST-CONSTRUCTION MONITORING REPORT 2022
BURNHAM CANAL SUPERFUND ALTERNATIVE SITE
MILLER COMPRESSING COMPANY
WDNR BRRTS #:02-41-552940
EPA ID: WIN000510222

FIGURE 2b

RAMBOLL US CORPORATION
A RAMBOLL COMPANY

RAMBOLL

APPENDIX A
WDNR FORM 4400-305 CONTINUING OBLIGATIONS INSPECTION AND MAINTENANCE LOG

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Continuing Obligations Inspection and Maintenance Log

Form 4400-305 (R 7/20)

Directions: In accordance with s. NR 727.05 (1) (b) 3., Wis. Adm. Code, use of this form for documenting the inspections and maintenance of certain continuing obligations is required. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Public Records law [ss. 19.31-19.39, Wis. Stats.]. When using this form, identify the condition that is being inspected. See the closure approval letter for this site for requirements regarding the submittal of this form to the Department of Natural Resources. A copy of this inspection log is required to be maintained either on the property, or at a location specified in the closure approval letter. Do NOT delete previous inspection results. This form was developed to provide a continuous history of site inspection results. The Department of Natural Resources project manager is identified in the closure letter. The project manager may also be identified from the database, BRRTS on the Web, at http://dnr.wi.gov/botw/SetUpBasicSearchForm.do, by searching for the site using the BRRTS ID number, and then looking in the "Who" section.

Activity (Site) Name	BRRTS No.
MILLER COMPRESSING (BURNHAM CANAL) (ALT SF)	02-41-552940

Inspections are required to be conducted (see closure approval letter):

- (●) annually
- ( ) semi-annually
- ( ) other – specify _____

When submittal of this form is required, submit the form electronically to the DNR project manager. An electronic version of this filled out form, or a scanned version may be sent to the following email address (see closure approval letter):

Inspection Date	Inspector Name	Item	Describe the condition of the item that is being inspected	Recommendations for repair or maintenance	Previous recommendations implemented?	Photographs taken and attached?
05/27/2022	Chris Berray	☐ monitoring well ☐ cover/barrier for soil ☐ sediment cap ☒ other: paved engineering control area	Condition of asphalt is in good condition	At this time no repair or maintenance activities need to be addressed	( ) Y (●) N	(●) Y ( ) N
		☐ monitoring well ☐ cover/barrier for soil ☐ sediment cap ☐ other:			( ) Y ( ) N	( ) Y ( ) N
		☐ monitoring well ☐ cover/barrier for soil ☐ sediment cap ☐ other:			( ) Y ( ) N	( ) Y ( ) N
		☐ monitoring well ☐ cover/barrier for soil ☐ sediment cap ☐ other:			( ) Y ( ) N	( ) Y ( ) N
		☐ monitoring well ☐ cover/barrier for soil ☐ sediment cap ☐ other:			( ) Y ( ) N	( ) Y ( ) N

Continuing Obligations Inspection and Maintenance Log

Inspection Date	Inspector Name	Item	Describe the condition of the item that is being inspected	Recommendations for repair or maintenance	Previous recommendations implemented?	Photographs taken and attached?
		☐ monitoring well ☐ cover/barrier for soil ☐ sediment cap ☐ other:			◯ Y ◯ N	◯ Y ◯ N

{Click to Add/Edit Image} Date added: 05/27/2022

Title: Paved Engineering Control Area

{Click to Add/Edit Image} Date added:

Title:

{Click to Add/Edit Image} Date added:

Title:

APPENDIX B
PHOTO LOG

2022 Post-Construction Monitoring Photographic Log

Client: Miller Compressing Company	**Project: Burnham Canal Post-Construction Monitoring**	
Site Name: Burnham Canal SAS	**Site Location: Milwaukee, Wisconsin**	
Photograph ID: 1	**Date:** 6/9/2022	**Comments:** View of the Unpaved Engineering Control Area, looking west.

Photograph ID: 2	**Date:** 6/9/2022	**Comments:** View of medium riprap along northeastern portion of Unpaved Engineering Control Area, looking northwest.

Photograph ID: 3	**Date:** 9/16/2022	**Comments:** View of medium riprap along northeastern portion of Unpaved Engineering Control Area, looking east.

Photograph ID: 4	**Date:** 6/9/2022	**Comments:** View of medium riprap along eastern portion of Unpaved Engineering Control Area, looking north.

Photograph ID: 5	**Date:** 9/16/2022	**Comments:** View of select crushed aggregate beneath water surface adjacent to north bank east of the Unpaved Engineering Control Area, looking north.

Photograph ID: 6	**Date:** 6/9/2022	**Comments:** View of medium riprap in the Unpaved Engineering Control Area near CSO-194, looking northwest.

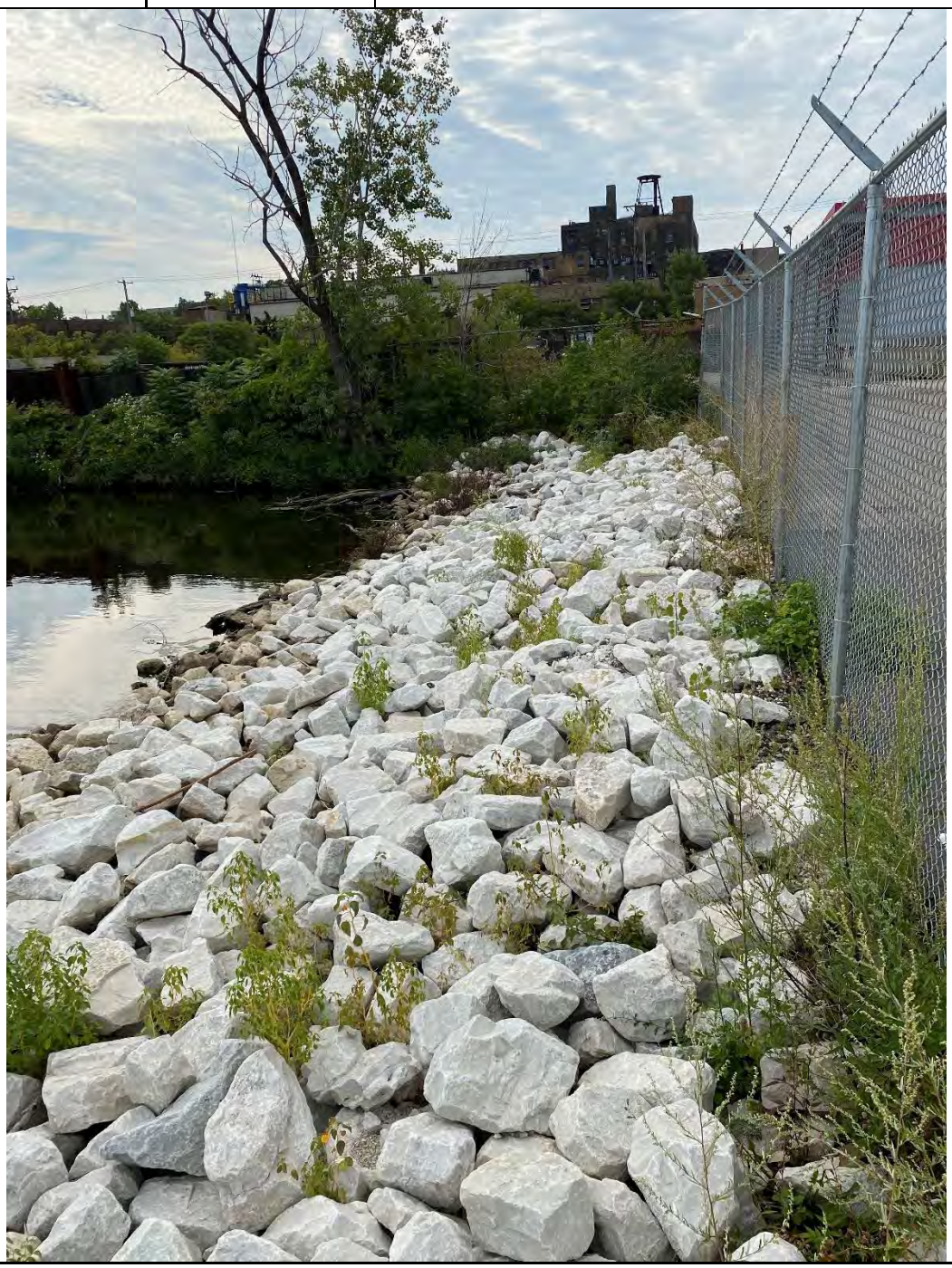
Photograph ID: 7	**Date:** 9/16/2022	**Comments:** View of medium riprap in the Unpaved Engineering Control Area near CSO-194, looking northwest.

Photograph ID: 8	**Date:** 6/9/2022	**Comments:** View of medium riprap along western portion of Unpaved Engineering Control Area, looking west.

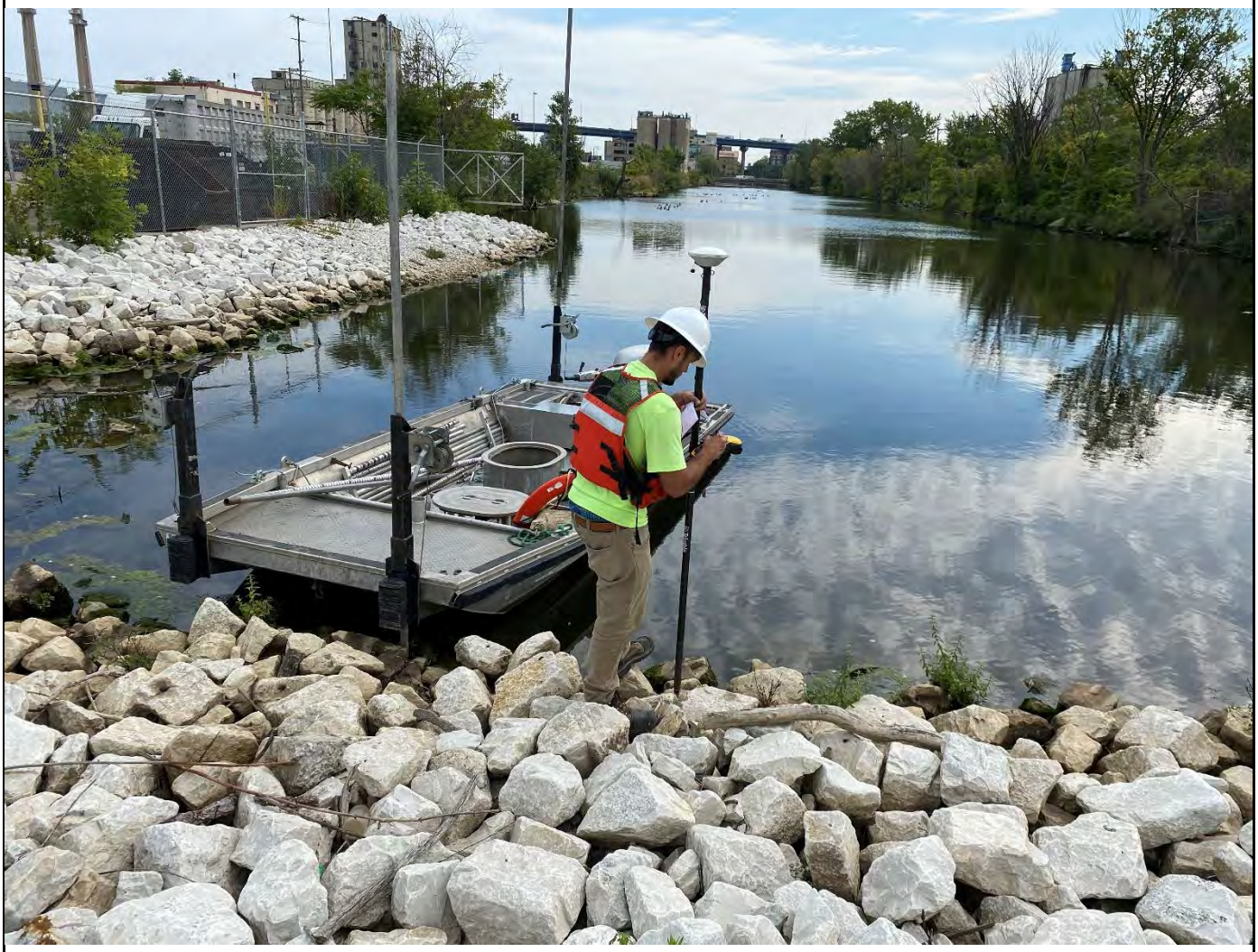
Photograph ID: 9	**Date:** 9/16/2022	**Comments:** View of medium riprap along western portion of Unpaved Engineering Control Area, looking west.

Photograph ID: 10	**Date:** 6/9/2022	**Comments:** View of medium riprap along southwestern portion of Unpaved Engineering Control Area looking southwest.

Photograph ID: 11	**Date:** 9/16/2022	**Comments:** View of medium riprap along western portion of Unpaved Engineering Control Area looking south.



Photograph ID: 12	**Date:** 9/16/2022	**Comments:** GPS measurement of Unpaved Engineering Control Area surface elevation at poling location 125 (above water surface), looking east.



Photograph ID: 13	**Date:** 6/9/2022	**Comments:** Burnham Canal project area, looking east from the boat near the western project limits

Photograph ID: 14	**Date:** 9/16/2022	**Comments:** Burnham Canal project area, looking east from the boat near the western project limits

Photograph ID: 15	**Date:** 6/9/2022	**Comments:** Burnham Canal project area, looking west from the approximate middle of the canal.

Photograph ID: 16	**Date:** 9/16/2022	**Comments:** Burnham Canal project area, looking west from the approximate middle of the canal.

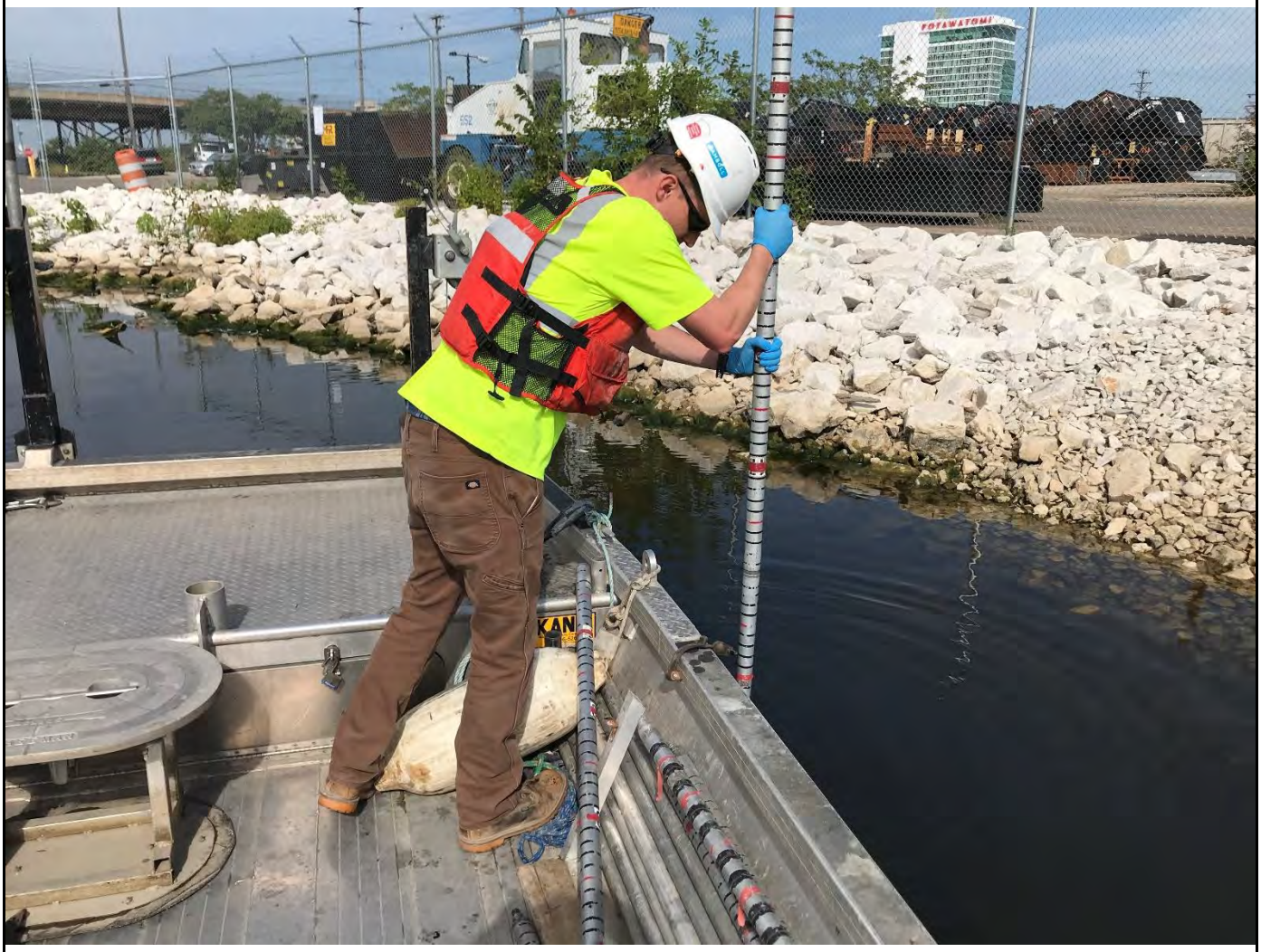
Photograph ID: 17	**Date:** 6/9/2022	**Comments:** Burnham Canal project area, looking west from the boat near the eastern project limits

Photograph ID: 18	**Date:** 6/9/2022	**Comments:** Burnham Canal project area, looking east from the approximate middle of the canal.

Photograph ID: 19	**Date:** 9/16/2022	**Comments:** Locating poling locations with GPS unit. Looking northeast.

Photograph ID: 20	**Date:** 9/16/2022	**Comments:** Locating poling locations with GPS unit. Looking southwest.

Photograph ID: 21	Date: 9/16/2022	Comments: Performing poling. Looking northwest.



Photograph ID: 22	Date: 9/16/2022	Comments: Performing poling. Looking east.