August 15, 2025

Mr. Jacob Van Susteren-Wedesky
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Wisconsin Department of Natural Resources
1027 W. St. Paul Ave.
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Subject: August 9 – 13, 2025, Storm Event Five-Day Report: Combined Sewer Overflow, Sanitary Sewer Overflow, Sewage Treatment Facility Overflow, and South Shore Effluent Limits Violation
WPDES Permit No. WI-0036820-04-0

Mr. Van Susteren-Wedesky:

This letter consolidates reporting for multiple permit-required notifications arising from the extreme storm event in the District's service area from August 9 – 13, 2025. The following information is provided in compliance with the conditions listed in:

- Section 4.3.5 and 9.2.9 of MMSD's (District) WPDES permit for combined sewage overflows
- Section 9.3.1.3 of MMSD's (District) WPDES permit for sanitary sewage overflows and sewage treatment facility overflows
- Wis. Admin. Code § NR 210.21 regarding sewage treatment facility overflows

Heavy rainfall across the District's service area began at 4:55 PM on Saturday, August 9, 2025. By 11:55 PM the same evening, the service-wide average precipitation was 4.56 inches. The most intense precipitation was observed on the northwest side of Milwaukee where District rain gauge WS1207 (8135 W. Florist Ave, Milwaukee) measured 7.62 inches, consistent with a 1,000-year storm event. At WS1207, the 24-hour precipitation total (Aug 9 – 10) reached 14.55 inches.

The District initiated wet weather operations, aiming to reserve the Inline Storage System (ISS) capacity for separate sewage and to prevent basement backups. To minimize the volume of combined sewer overflows, the Combined Sewer Wet Weather Flow Treatment process was utilized at the Jones Island Water Reclamation Facility.

The storm event caused multiple Sanitary Sewer Overflows, a Sewage Treatment Facility Overflow at the South Shore Water Reclamation Facility, and a Total Suspended Solids effluent violation at the South Shore Water Reclamation Facility.

Below is an outline describing the information for compliance with the conditions in WPDES permit sections 4.3.5, 9.2.9, 9.3.1.3, and Wis. Admin. Code § NR 210.21.

1. Combined Sewer Overflow and Combined Sewer Wet Weather Flow Treatment – WPDES Sections 4.3.5 and 9.2.9

Reason for Overflow

The historic August 9 – 10, 2025, rainfall overwhelmed the ISS leading to combined sewer overflows. At 8:50 PM on August 9, the ISS was storing 231 million gallons with an inflow rate of 6,287 million gallons per day. By 9:55 PM the same day, the tunnel volume had reached 389 million gallons. With the status of the ISS, high tunnel inflow rates, and additional precipitation forecasted, the decision was made to close the combined sewer gates to reserve the remaining capacity for separate sewage and to prevent basement backups.

An additional 0.95 inches of rain was recorded at WS1211 (Jones Island Water Reclamation Facility) on August 13 (service area average of 0.70 inches), further extending the event and increasing the amount of sanitary sewage flows requiring treatment.

Estimated Duration of Combined Sewer Discharge

Discharges began shortly after the combined sewer gates closed to the ISS on August 9 at approximately 10:00 PM. The last combined sewer gate to close was Lake Michigan South on August 9 at 11:15 PM. All combined sewage discharges concluded by 3:55 AM on August 13 for a total duration of 78 hours.

Estimated Volume of Discharge

The current estimate of the combined sewage overflow is 5.01 billion gallons. This amount includes nine combined sewer overflows not tributary to the ISS. See attached Combined Sewer Discharge Points and Receiving Waters Table. The District will continue its analysis of overflow volumes and report any significant volume revisions. Discharges were estimated using MMSD model CSOLOG Version 3.1.

Combined Sewer Wet Weather Flow Treatment Process

To minimize the volume of combined sewer overflows, the Combined Sewer Wet Weather Flow Treatment process was utilized at the Jones Island Water Reclamation Facility on August 9 from 9:10 PM to 7:50 AM on August 13 for a duration of 83 hours. Total volume for this process was 247 MG. The use of the Combined Sewer Wet Weather Flow Treatment process complied with Section 3.2.2.1 of the District's WPDES permit.

2. Sanitary Sewer Overflows (SSO) – WPDES Permit Section 9.3.1.3

The earliest sanitary sewer overflow began on August 9th at 10:25 PM. All sanitary sewer overflows were concluded by 5:57 PM on August 11th. The locations of the overflows are:

- SSO206 – 9523 N Broadmoor Road in Bayside
- SSO220 – South Howell Avenue, South of East Grange Avenue in Milwaukee
- SSO225 – West Manitoba Street and South 35th Street in Milwaukee
- SSO226 – West Roosevelt Drive and North 35th St in Milwaukee
- SSO231 – North Range Line Road and Milwaukee River in River Hills

- SSO232 – South Kinnickinnic Avenue and East St. Francis Avenue in St Francis
- SSO233 – West Fisher Parkway at North 106th Street in Wauwatosa
- SSO234 – North Honey Creek Parkway and West Portland Avenue in Wauwatosa
- SSO242 – South 79th Street and West Dickinson Street in Wauwatosa
- SSO243 – South 43rd Street and West Lincoln Avenue in Milwaukee
- SSO247 – South 74th Street & W Oklahoma Avenue in Milwaukee
- SSO263 – North River Road and West Greentree Road in River Hills
- SSO264 – North Lake Drive and East Ravine Lane in Bayside
- SSO265 – 4701 North Estabrook Parkway in Milwaukee
- SSO266 – 200 East River Woods Parkway in Glendale

The current estimate of the total volume of these sanitary overflows is 131 million gallons. See the attached notification summary forms for details on each overflow.

3. Sewage Treatment Facility Overflow – NR 210.21 and WPDES Section 9.3.1.3

At approximately 2:00 AM on Sunday, August 10, 2025, it was observed that the influent flow at the South Shore Water Reclamation facility overtopped the South Shore influent structure, overwhelming preliminary treatment and spilling onto the treatment facility grounds. The overflow lasted until 7:00 PM Sunday, August 10, 2025, for a total duration of approximately 17 hours. Operations staff took all possible steps to store wastewater at the South Shore Water Reclamation Facility. The volume of overflow at the South Shore Water Reclamation facility is unknown.

This temporary overflow was caused by factors beyond the District's reasonable control. The District conducts ongoing maintenance of its facilities to prevent such occurrences as much as possible. The potential risk of human exposure and contact with wastewater is through recreational use of Lake Michigan.

4. South Shore Water Reclamation Facility Effluent Violations – Total Suspended Solids, Biochemical Oxygen Demand

A Total Suspended Solids (TSS) effluent limit exceedance occurred at the South Shore Water Reclamation Facility during the August 9 – 13 wet weather event. Section 5.2.1 of the District's WPDES permit outlines a weekly average limit of 45 mg/l. The limit was exceeded for week 2 (August 8-14).

- Date of violation: August 8-14, 2025
- Outfall ID: 001
- Limit exceeded: Weekly Average TSS (mg/L)
- Measured value: 75 mg/L
- Duration (samples/period): 7 days; 24-Hr daily flow proportional composite

A Biochemical Oxygen Demand (BOD) weekly average exceedance is likely to occur at the South Shore Water Reclamation Facility due to the same wet weather event. The limit will most likely be exceeded during week two (August 8-14.) Due to the laboratory processes, that information won't be available for five days. We will notify the DNR when we have the data.

5. DNR Compliance Maintenance Annual Report (CMAR)

Combined Sewer Overflows

For the DNR Compliance Maintenance Annual Report (CMAR), all combined sewer overflows are assigned to the Jones Island Water Reclamation Facility and the CSO outfall with the highest volume of discharge for this event was CSO 260 at 6th Street and West Oklahoma Avenue.

Sanitary Sewer Overflows

For the DNR Compliance Maintenance Annual Report (CMAR), all sanitary sewer overflows are assigned to the South Shore Water Reclamation Facility except for SSO226, SSO265, and SSO266. Those three overflows are assigned to the Jones Island Water Reclamation Facility.

6. Steps Taken to Prevent Another Discharge

The District's 10-year investment plan calls for $2.1 billion in improvements to regional water reclamation facilities and sewers to reduce the risk of overflows and basement backups. Part of that spending includes the Private Property Inflow and Infiltration Reduction Program throughout our service area. The plan also calls for additional wetland protections through MMSD's Greenseams® program which is currently at more than 5,400 acres of land that can capture and store more than 3 billion gallons of rain and melting snow. One inch of rain on MMSD's service area equals 7.1 billion gallons of rain and melting snow. The District and Veolia Water Milwaukee will continue to operate the conveyance system, Inline Storage System, Northwest Side Relief Sewer and water reclamation facilities in a manner to prevent separate sewer overflows and to maximize the capture of combined sewer flow volumes.

7. Attachments

The following supporting documents are attached:

- WDNR Form 3400-184 – Overflow Notification Summary Report
- Combined Sewer Discharge Points and Receiving Waters Table
- WDNR Form 3400-184 – Fifteen Sanitary Sewer Overflow Notification Summary Reports
- WDNR Form 3400-184 – Sewage Treatment Facility Overflow Notification Summary Report
- Precipitation Map at District Rain Gauges: August 9 –10 and August 12, 2025
- District Rain Gauge Recurrence Intervals: August 9 – 10

If you have any questions concerning this report, please contact me at (414) 225-2178.

Sincerely,

Micki Klappa-Sullivan
Director, Water Quality Protection
Milwaukee Metropolitan Sewerage District

c: K. Lazarski, MMSD
D. Raines, MMSD
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