



May 22, 2020

Mr. Jacob Wedesky  
Wastewater Engineer  
Wisconsin Department of Natural Resources  
2300 North Dr Martin Luther King Jr Drive  
Milwaukee, WI 53212-3128

Subject: May 17-19, 2020 Combined Sewer Overflow Event Five-Day Report  
WPDES Permit No. WI-0036820-04-0

Mr. Wedesky:

The following information describes the combined sewer overflow and combined sewer wet weather flow treatment process that occurred May 17-20, 2020. This information complies with the reporting terms and conditions listed in section 4.3.5 and 9.2.9 of MMSD's (District) WPDES permit.

**Reason for Overflow**

The combined sewer overflows occurred due to heavy rain onto saturated ground that began May 17. At 3:45 PM, District rain gauge WS1206 at 3626 W. Fond du Lac Ave measured 3.1" inches of rain and the volume in the Inline Storage System (ISS) was 359 million gallons. With an inflow rate of 2.9 billion gallons a day and another 1-2 inches of rain predicted, the decision was made to close the combined sewer gates to reserve the remaining capacity for separate sewage and prevent basement backups. Total precipitation measured at WS1206 during this wet weather event was 5.57". Please see attached precipitation maps for amounts measured at all District rain gauges.

**Estimated Duration of Combined Sewer Discharge**

Discharges began shortly after the combined sewer gates to the ISS began to close on May 17 at approximately 4:00 PM. All discharges concluded by 9:00 PM on May 19 for a total duration of 53 hours.

**Estimated Volume of Discharge**

The current estimate of the overflow volume is 2,100 MG. This amount includes six 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 the overflow volumes and will report any significant volume revisions.

**Milwaukee Metropolitan Sewerage District**

260 W. Seeboth Street, Milwaukee, WI 53204-1446

414-272-5100 [www.mmsd.com](http://www.mmsd.com) 

### **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 Jones Island Water Reclamation Facility from May 17, 2020 at 11:00 AM until May 20, 2020 at 8:15 AM for a total of 69.25 hours. Total volume for this process is estimated to be 175 million gallons. The use of the Combined Sewer Wet Weather Flow Treatment process complied with Section 3.2.2.1 of the District's WPDES permit.

### **Steps Taken to Prevent another Discharge**

The District's six-year investment plan calls for \$1.4 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. MMSD and Veolia Water Milwaukee will continue to operate the conveyance system, Inline Storage System, Northwest Side Relief Sewer and the water reclamation facilities in a manner to prevent separate sewer overflows and to maximize the capture of combined sewer flow volumes.

For the DNR Compliance Maintenance Annual Report (CMAR), all overflows are assigned to the Jones Island Water Reclamation Facility and the CSO with the highest volume of discharge for this event was CSO 103A at 194 N. Commerce Street.

The following supporting documents are attached:

- WDNR Form 3400-184 – Overflow Notification Summary Report
- Combined Sewer Discharge Points and Receiving Waters Table
- May 17 Precipitation Map at District Rain Gauges
- May 17- 19 Precipitation Map at District Gauges
- Depth Duration Frequency Curve

If you have any questions concerning this report, please contact me at (414) 277-6384.

Sincerely,



Sharon K. Mertens  
Director, Water Quality Protection  
Milwaukee Metropolitan Sewerage District

c: K. Lazarski, MMSD  
T. Nowicki, MMSD  
S. Royer, Veolia Water Milwaukee

Sanitary Sewer Overflow (SSO)  
 Treatment Facility Overflow (TFO)

Notice: An overflow is defined as a release of wastewater from a sewage collection system (SSO) or from a location within a sewage treatment facility (TFO) other than a permitted outfall structure, directly to a water of the state or land surface. Pursuant to s. 283.55(1)(dm), Wis. Stats., s. NR 210.21(4)(5)(6) Wis. Adm. Code and in accordance with reporting requirements in your WPDES permit, permittees shall submit a written report form for each overflow. This record is used to administer the water quality program, and any personally identifiable information may be provided to requesters as required under the Wisconsin Open Records law (ss. 19.31-19.39, Wis. Stats.).

**Use one form per SSO location.** Submit within five calendar days to your Department wastewater representative. Attach additional information as necessary to explain or document each overflow occurrence. A single SSO may be more than one day if the circumstance causing the overflow results in discharge duration more than 24 hours. If there is a stop and restart of the overflow within 24 hours, but it's caused by the same circumstances, report it as one SSO. If the discharges are separated by more than 24 hours, they should be reported as separate SSOs.

**Notifications**

**Department Notification**

Permittee (Municipality or Facility Name) \_\_\_\_\_ Permit No. WI-0036820-04-0

Milwaukee Metropolitan Sewerage District (MMSD)

Person Who Contacted the DNR \_\_\_\_\_

Sharon Mertens

DNR Person Contacted \_\_\_\_\_ Time of Day  am  pm  
Jacob Wedesky \_\_\_\_\_ Date (mm/dd/yyyy) 05/18/2020 Within 24 hours?  Yes  No

**Public Notification**

Date (mm/dd/yyyy) 05/17/2020 How the Public was Notified \_\_\_\_\_  
MMSD Website

Describe the actual or potential for human exposure or contact with overflowing wastewater

There is potential for human exposure through recreational use of the waterway.

**Other Notifications**

(if applicable) Drinking Water Intake Owner \_\_\_\_\_ Date (mm/dd/yyyy) \_\_\_\_\_  
Cudahy, Milwaukee, North Shore, Oak Creek and South Milw. Waterworks \_\_\_\_\_ Date (mm/dd/yyyy) 05/17/2020  
Regional Wastewater Treatment Facility \_\_\_\_\_  
NA

(Satellite collection permittees are required to submit a copy of this report to the regional plant to which they discharge.)

**Wet Weather Information (if applicable)**

Was this overflow wet weather related?  Yes  No (skip this section)

Rainfall Start: 05/17/2020 2:25 Start Time  am  pm \_\_\_\_\_ inches  
Rainfall Amount

Rainfall End: 05/19/2020 6:00 End Time  am  pm

Contributing Soil or Other Conditions (saturated, frozen, soil type, snowmelt, etc.): Ground was already saturated

**Overflow Details**

Location (Street Address) \_\_\_\_\_

Please see attached table for locations of discharges

Location (GPS coordinates, WGS84 standard coordinate system) \_\_\_\_\_ Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_  
(e.g. 43.075350) (e.g. -89.379770)

Overflow Start: 05/17/2020 4:00 Start Time  am  pm \_\_\_\_\_ hours \_\_\_\_\_ gallons  
Duration

Overflow End: 05/19/2020 9:00 End Time  am  pm \_\_\_\_\_ hours \_\_\_\_\_ gallons  
Duration

Cause: (select all that apply)

- Rain
- Snow Melt
- Flooding
- Power Outage
- Other—Explain: \_\_\_\_\_
- Plugged Pipe
- Broken Pipe
- Equipment Failure
- Contractor Related

Overflow Occurred From: (select only one)

- Lift Station - Name: \_\_\_\_\_
- Manhole - MH#: \_\_\_\_\_
- Gravity Sewer Pipe
- Pressure Sewer Pipe (Forcemain)
- River or Stream Crossing - Select one:  Forcemain  Siphon
- Permanent Overflow Structure
- Treatment Plant Unit or Pipe: \_\_\_\_\_
- Other: \_\_\_\_\_

**Destination:**  Ditch - Name of surface water it drains to: \_\_\_\_\_  
 (select all  Storm sewer - Name of surface water it goes to: \_\_\_\_\_  
 that apply)  Surface water - Name of waterbody: \_\_\_\_\_  
 Ground - Seeps into soil: \_\_\_\_\_  
 Other - Describe: Please see attached table for locations of discharges

**Overflow Explanation** (This includes any information, whether the overflow was unavoidable to prevent loss of life, personal injury, or severe property damage and whether there were feasible alternatives to the overflow.)

The combined sewer overflows occurred due to heavy rain onto saturated ground that began May 17. At 3:45 PM, District rain gauge WS1206 at 3626 W. Fond du Lac Ave measured 3.1" inches of rain and the volume in the Inline Storage System (ISS) was 359 million gallons. With an inflow rate of 2.9 billion gallons a day and another 1-2 inches of rain predicted, the decision was made to close the combined sewer gates to reserve the remaining capacity for separate sewage and prevent basement backups. Total precipitation during this wet weather event measured at WS1206 was 5.6".

**Immediate Corrective Action and Steps Taken to Reduce this Overflow Volume and Impacts**

MMSD and Veolia Water Milwaukee will continue to operate the conveyance system, Inline Storage System, Northwest Side Relief Sewer and the water reclamation facilities in a manner to prevent separate sewer overflows and to maximize the capture of combined sewer flow volumes.

**Long Term Plan to Reduce, Eliminate, Prevent Reoccurrence of this Overflow**

The District's six-year investment plan calls for \$1.4 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. MMSD and Veolia Water Milwaukee will continue to operate the conveyance system, Inline Storage System, Northwest Side Relief Sewer and the water reclamation facilities in a manner to prevent separate sewer overflows and to maximize the capture of combined sewer flow volumes.

**Building Backups**

Number of building backups occurring during this time in Area of Overflow: \_\_\_\_\_

Locations of Building Backups: Tributary municipalities record and respond to backups.  
 (list each one)

**Certification**

Authorized Representative Name	Authorized Representative Title
Sharon K. Mertens	Water Quality Protection Division Director
Email Address	Phone Number
smertens@mmsd.com	(414) 277-6384

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

*Sharon K. Mertens*  
 Signature of Authorized Representative 5/22/2020  
 Signed Date (mm/dd/yyyy)

**Note: Submit this form to your DNR wastewater representative. Permittees who are required to submit monthly Discharge Monitoring Reports (DMRs) shall report this overflow on the DMR.**

**DNR Follow-Up Action  
(DNR Use Only)**



# MMSD Reported Overflows

## CSO Event: 5/17/20 - 5/19/20

Event Type	Event Date Range	Volume (MG)	Event Reason						
CSO Event	5/17/20 - 5/19/20	2,100	Conveyance Capacity, ISS Gate Closures						
Dropshaft/ Structure	Point No	Serial No	Date	Volume (MG)	Duration (Hrs)	Waterway	Latitude	Longitude	Location
CT02	113	184	5/17/20	7.6	4	Menomonee River	43.04260	-87.98286	N. Hawley Road
CT3/4	114	182	5/17/20	34.9	7	Menomonee River	43.04116	-87.96752	N. 43rd Street
CT5/6	115	182A	5/17/20	8.1	7		43.04131	-87.96758	4251 W. State Street
		176	5/18/20	164.8	11	Menomonee River	43.03271	-87.94498	N. 25th Street
		177	5/17/20	126.8	7				
		177	5/18/20	128.8	11		43.03252	-87.94573	N. 26th Street
		178	5/17/20	103.1	7				
		178	5/18/20	39.0	11		43.02792	-87.94793	S. 27th Street at Menomonee River (West outfall)
CT07	116	172	5/17/20	30.3	7				
		172	5/17/20	17.0	6	Menomonee River	43.03255	-87.92886	N. Ember Lane (East outfall)
		173	5/17/20	39.5	6		43.03293	-87.93152	N. 15th Street (East outfall)
		174	5/17/20	14.5	6			-87.93162	N. 15th Street (West outfall)
		175	5/17/20	10.0	6		43.03294	-87.93414	N. 17th Street
		185	5/17/20	2.4	6		43.03229	-87.92287	N. 9th Street extended
		189	5/17/20	0.3	6		43.02621	-87.92243	S. 9th Street (East outfall)
		190	5/17/20	1.0	6		43.02619	-87.92248	S. 9th Street (West outfall)
		191	5/17/20	0.5	6		43.02620	-87.92523	S. 11th Street
		193	5/17/20	1.4	6		43.02623	-87.92788	S. 13th Street
		194	5/17/20	2.3	6		43.02648	-87.93094	S. Muskego Avenue
KK02	119	163	5/17/20	0.1	1	Kinnickinnic River	42.99730	-87.91221	S. Chase Avenue (North bank)
		164	5/17/20	1.0	1		42.99704		S. Chase Avenue (South bank)
LMN	122	195	5/17/20	13.4	1	Lake Michigan	43.00825	-87.89198	E. Bay Street
NS04	104	091	5/19/20	0.1	1	Milwaukee River	43.08192	-87.89150	E. Edgewood Avenue
			5/18/20	3.2	12				
			5/17/20	15.5	8				
NS05	105	094	5/17/20	1.3	1	Milwaukee River	43.07467	-87.89295	E. Burleigh Street
NS06	106	097A	5/19/20	0.2	2	Milwaukee River	43.06736	-87.89444	E. Park Place
			5/18/20	1.2	9				
			5/17/20	8.8	8				
		098	5/19/20	0.2	2		43.06375	-87.89234	E. Bradford Avenue
			5/18/20	0.6	9				
			5/17/20	5.9	8				



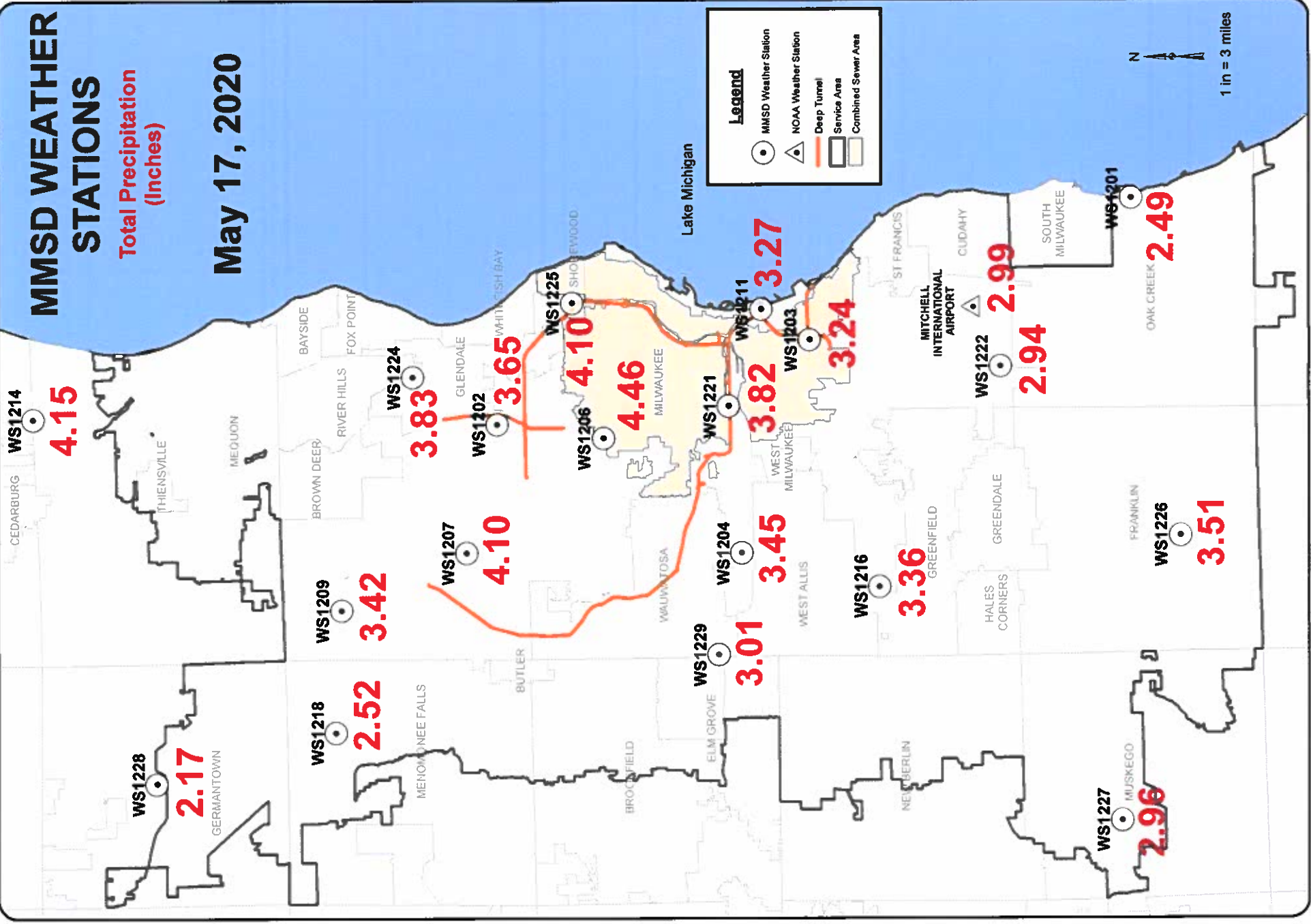
**MMSD Reported Overflows**  
**CSO Event: 5/17/20 - 5/19/20**

Event Type	Event Date Range		Volume (MG)		Event Reason					
	5/17/20	5/19/20	2,100	Conveyance Capacity, ISS Gate Closures						
CSO Event	Dropshaft/ Structure	Point No	Serial No	Date	Volume (MG)	Duration (Hrs)	Waterway	Latitude	Longitude	Location
	NS07	107	099	5/19/20	36.7	11	Milwaukee River	43.05740	-87.89420	E. Boylston Street
				5/18/20	63.5	24				
			101	5/17/20	22.1	7		43.05677	-87.89750	N. Pulaski Street
			102	5/17/20	0.2	7		43.05736	-87.89773	N. Humboldt Avenue
			103	5/17/20	0.3	7		43.05614	-87.90120	N. Marshall Street
			103A	5/19/20	5.3	11		43.05678	-87.90121	1944 N. Commerce Street
				5/18/20	9.2	24				
				5/17/20	3.5	7				
			104	5/19/20	155.8	11		43.05456	-87.90463	N. Holton Street
				5/18/20	268.9	24				
				5/17/20	89.2	7				
	NS11	111	089	5/19/20	3.6	11	Milwaukee River	43.08932	-87.89910	E. Capitol Drive
				5/18/20	0.4	5				
	NS12	112	145	5/17/20	6.5	7	Lincoln Creek	43.09681	-87.95634	N. 35th Street and W. Congress Street
	Non-Trib	CSO-015	015	5/17/20	4.4	2	Milwaukee River	43.05617	-87.90115	N. Marshall Street extended at the Milwaukee River
				5/17/20	0.3	0.7				
			016	5/17/20	0.8	0.7	Milwaukee River	43.04782	-87.91305	W. Vliet Street extended, east of N. 3rd Street
	CS0-197	197	197	5/19/20	0.8	12	Lincoln Creek	43.10509	-87.95225	W. Hampton Avenue at N. 32nd St
				5/18/20	6.5	20				
			262	5/17/20	11.3	8	Menomonee River	43.04229	-87.98661	N. 59th Street and W. State Street
				5/19/20	50.3	17.5				
				5/18/20	127.1	24				
			230	5/17/20	70.1	7.15		43.09654	-87.90702	N Richards St at E Congress St
	BS0501			5/18/20	0.7	1.5				
			260	5/17/20	5.2	7		42.99501	-87.91759	S 6th St and W Oklahoma Ave
				5/19/20	107.1	22				
				5/18/20	168.2	24				
				5/17/20	79.2	8				

# MMSD WEATHER STATIONS

Total Precipitation (Inches)

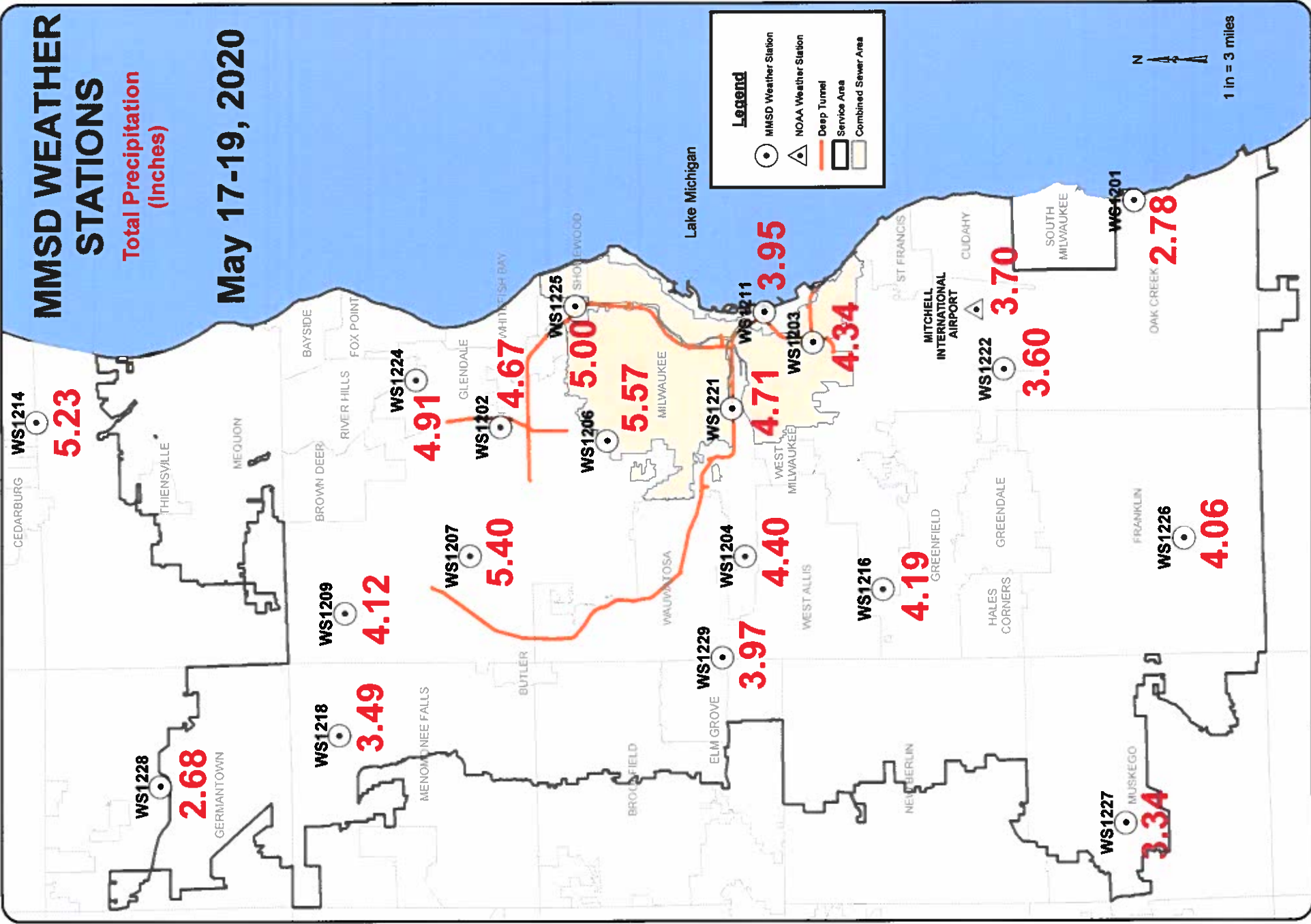
May 17, 2020



# MMSD WEATHER STATIONS

Total Precipitation (Inches)

May 17-19, 2020





# Depth Duration Frequency Curve

Based on NOAA Atlas 14, Vol. 8, Ver. 2

With Rainfall Data from Gauge **WS1206** Reported to MMSD  
05/17 - 05/19/20

