Compliance Maintenance Annual Report

Milwaukee Metro Sew Dist Combined

Last Updated: 6/2/2025 Reporting For: **2024**

Influent Flow and Loading

SOUTH SHORE

1. Monthly Average Flows and BOD Loadings

1.1 Verify the following monthly flows and BOD loadings to your facility.

Influent No. 702	Influent Monthly Average Flow, MGD	x	Influent Monthly Average BOD Concentration mg/L	x	8.34	=	Influent Monthly Average BOD Loading, lbs/day
January	110.0323	x	241	x	8.34	=	220,951
February	123.0345	x	265	x	8.34	=	272,095
March	141.2581	x	194	x	8.34	=	227,980
April	132.8667	x	226	x	8.34	=	250,506
May	100.7742	x	248	x	8.34	=	208,488
June	117.0000	x	274	x	8.34	=	267,689
July	86.9677	x	347	x	8.34	=	251,683
August	75.3548	x	406	x	8.34	=	255,033
September	69.7000	x	445	x	8.34	=	258,678
October	58.2258	x	420	x	8.34	=	203,797
November	54.2333	x	373	x	8.34	=	168,740
December	58.6452	x	386	x	8.34	=	188,725

2. Maximum Monthly Design Flow and Design BOD Loading

2.1 Verify the design flow and loading for your facility.

Design	Design Factor	x	%	=	% of Design
Max Month Design Flow, MGD	170	x	90	=	153
		x	100	=	170
Design BOD, lbs/day	291000	x	90	=	261900
		x	100	=	291000

2.2 Verify the number of times the flow and BOD exceeded 90% or 100% of design, points earned, and score:

	Months of Influent	Number of times flow was greater than 90% of	Number of times flow was greater than 100% of	Number of times BOD was greater than 90% of design	Number of times BOD was greater than 100% of design
January	1	0	0	0	0
February	1	0	0	1	0
March	1	0	0	0	0
April	1	0	0	0	0
May	1	0	0	0	0
June	1	0	0	1	0
July	1	0	0	0	0
August	1	0	0	0	0
September	1	0	0	0	0
October	1	0	0	0	0
November	1	0	0	0	0
December	1	0	0	0	0
Points per each		2	1	3	2
Exceedances		0	0	2	0
Points		0	0	6	0
Total Number of Points					**6**

6

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3. Flow Meter

3.1 Was the influent flow meter calibrated in the last year?

● Yes Enter last calibration date (MM/DD/YYYY) 2024-11-19

○ No

If No, please explain:

4. Sewer Use Ordinance

4.1 Did your community have a sewer use ordinance that limited or prohibited the discharge of excessive conventional pollutants ((C)BOD, SS, or pH) or toxic substances to the sewer from industries, commercial users, hauled waste, or residences?

● Yes

○ No

If No, please explain:

4.2 Was it necessary to enforce the ordinance?

● Yes

○ No

If Yes, please explain:

Various violations occurred. The District responds to violations according to the Enforcement Response Plan. The semi-annual and annual Pretreatment Program reports summarize the violations and the MMSD response.

5. Septage Receiving

5.1 Did you have requests to receive septage at your facility?

Septic Tanks	Holding Tanks	Grease Traps
○ Yes	○ Yes	○ Yes
● No	● No	● No

5.2 Did you receive septage at your facility? If yes, indicate volume in gallons.

Septic Tanks

○ Yes gallons

● No

Holding Tanks

○ Yes gallons

● No

Grease Traps

○ Yes gallons

● No

5.2.1 If yes to any of the above, please explain if plant performance is affected when receiving any of these wastes.

6. Pretreatment

6.1 Did your facility experience operational problems, permit violations, biosolids quality concerns, or hazardous situations in the sewer system or treatment plant that were attributable to commercial or industrial discharges in the last year?

○ Yes

● No

If yes, describe the situation and your community's response.

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6.2 Did your facility accept hauled industrial wastes, landfill leachate, etc.?

○ Yes

● No

If yes, describe the types of wastes received and any procedures or other restrictions that were in place to protect the facility from the discharge of hauled industrial wastes.

Total Points Generated	6
Score (100 - Total Points Generated)	94
Section Grade	**A**

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Effluent Quality and Plant Performance (BOD/CBOD)

1. Effluent (C)BOD Results

1.1 Verify the following monthly average effluent values, exceedances, and points for BOD or CBOD

Outfall No. 001	Monthly Average Limit (mg/L)	90% of Permit Limit > 10 (mg/L)	Effluent Monthly Average (mg/L)	Months of Discharge with a Limit	Permit Limit Exceedance	90% Permit Limit Exceedance
January	30	27	16	1	0	0
February	30	27	17	1	0	0
March	30	27	18	1	0	0
April	30	27	15	1	0	0
May	30	27	18	1	0	0
June	30	27	19	1	0	0
July	30	27	16	1	0	0
August	30	27	16	1	0	0
September	30	27	14	1	0	0
October	30	27	21	1	0	0
November	30	27	17	1	0	0
December	30	27	17	1	0	0
* Equals limit if limit is <= 10						
Months of discharge/yr				12		
Points per each exceedance with 12 months of discharge					7	3
Exceedances					0	0
Points					0	0
Total number of points						**0**

0

NOTE: For systems that discharge intermittently to state waters, the points per monthly exceedance for this section shall be based upon a multiplication factor of 12 months divided by the number of months of discharge. Example: For a wastewater facility discharging only 6 months of the year, the multiplication factor is 12/6 = 2.0

1.2 If any violations occurred, what action was taken to regain compliance?

2. Flow Meter Calibration

2.1 Was the effluent flow meter calibrated in the last year?

● Yes Enter last calibration date (MM/DD/YYYY)

2024-05-31

○ No

If No, please explain:

Meter 1 & 2 5/31/2024, Meter 3 & 4 4/12/2024

3. Treatment Problems

3.1 What problems, if any, were experienced over the last year that threatened treatment?

Evidence of industrial discharges existed (foam, DO depressions, etc.) that impacted treatment.

4. Other Monitoring and Limits

4.1 At any time in the past year was there an exceedance of a permit limit for any other pollutants such as chlorides, pH, residual chlorine, fecal coliform, or metals?

○ Yes

● No

If Yes, please explain:

4.2 At any time in the past year was there a failure of an effluent acute or chronic whole effluent toxicity (WET) test?

- ○ Yes
- ● No

If Yes, please explain:

4.3 If the biomonitoring (WET) test did not pass, were steps taken to identify and/or reduce source(s) of toxicity?

- ○ Yes
- ○ No
- ● N/A

Please explain unless not applicable:

Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	**A**

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Effluent Quality and Plant Performance (Total Suspended Solids)

1. Effluent Total Suspended Solids Results

1.1 Verify the following monthly average effluent values, exceedances, and points for TSS:

Outfall No. 001	Monthly Average Limit (mg/L)	90% of Permit Limit >10 (mg/L)	Effluent Monthly Average (mg/L)	Months of Discharge with a Limit	Permit Limit Exceedance	90% Permit Limit Exceedance
January	30	27	11	1	0	0
February	30	27	11	1	0	0
March	30	27	9	1	0	0
April	30	27	8	1	0	0
May	30	27	8	1	0	0
June	30	27	12	1	0	0
July	30	27	10	1	0	0
August	30	27	11	1	0	0
September	30	27	10	1	0	0
October	30	27	10	1	0	0
November	30	27	15	1	0	0
December	30	27	11	1	0	0
* Equals limit if limit is <= 10						
Months of Discharge/yr				12		
Points per each exceedance with 12 months of discharge:					**7**	**3**
Exceedances					0	0
Points					0	0
Total Number of Points						**0**

0

NOTE: For systems that discharge intermittently to state waters, the points per monthly exceedance for this section shall be based upon a multiplication factor of 12 months divided by the number of months of discharge.

Example: For a wastewater facility discharging only 6 months of the year, the multiplication factor is 12/6 = 2.0

1.2 If any violations occurred, what action was taken to regain compliance?

Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	**A**

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Effluent Quality and Plant Performance (Ammonia - NH3)

1. Effluent Ammonia Results

1.1 Verify the following monthly and weekly average effluent values, exceedances and points for ammonia

Outfall No. 001	Monthly Average NH3 Limit (mg/L)	Weekly Average NH3 Limit (mg/L)	Effluent Monthly Average NH3 (mg/L)	Monthly Permit Limit Exceedance	Effluent Weekly Average for Week 1	Effluent Weekly Average for Week 2	Effluent Weekly Average for Week 3	Effluent Weekly Average for Week 4	Weekly Permit Limit Exceedance
January	27	27	.386	0	.39	.97	.097	.156	0
February	27	27	.83	0	.254	.937	.429	1.377	0
March	27	27	1.581	0	1.866	1.986	1.519	1.399	0
April	27	27	1.024	0	.48	.646	1.244	1.73	0
May									0
June									0
July									0
August									0
September									0
October									0
November	27	27	2.501	0	3.266	2.704	3.989	.627	0
December	27	27	1.936	0	.85	3.086	2.629	1.549	0

Points per each exceedance of Monthly average:	10
Exceedances, Monthly:	0
Points:	0
Points per each exceedance of weekly average (when there is no monthly average):	2.5
Exceedances, Weekly:	0
Points:	0
Total Number of Points	**0**

0

NOTE: Limit exceedances are considered for monthly OR weekly averages but not both. When a monthly average limit exists it will be used to determine exceedances and generate points. This will be true even if a weekly limit also exists. When a weekly average limit exists and a monthly limit does not exist, the weekly limit will be used to determine exceedances and generate points.

1.2 If any violations occurred, what action was taken to regain compliance?

Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	**A**

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Effluent Quality and Plant Performance (Phosphorus)

1. Effluent Phosphorus Results

1.1 Verify the following monthly average effluent values, exceedances, and points for Phosphorus

Outfall No. 001	Monthly Average phosphorus Limit (mg/L)	Effluent Monthly Average phosphorus (mg/L)	Months of Discharge with a Limit	Permit Limit Exceedance	
January	1	0.531	1	0	
February	1	0.458	1	0	
March	1	0.323	1	0	
April	1	0.309	1	0	
May	1	0.291	1	0	
June	1	0.415	1	0	
July	1	0.439	1	0	
August	1	0.544	1	0	
September	1	0.519	1	0	
October	1	0.490	1	0	**0**
November	1	0.785	1	0	
December	1	0.435	1	0	
Months of Discharge/yr			12		
Points per each exceedance with 12 months of discharge:				**10**	
Exceedances				0	
Total Number of Points				**0**	

NOTE: For systems that discharge intermittently to waters of the state, the points per monthly exceedance for this section shall be based upon a multiplication factor of 12 months divided by the number of months of discharge.

Example: For a wastewater facility discharging only 6 months of the year, the multiplication factor is 12/6 = 2.0

1.2 If any violations occurred, what action was taken to regain compliance?

Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	**A**

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Biosolids Quality and Management

1. Biosolids Use/Disposal

1.1 How did you use or dispose of your biosolids? (Check all that apply)

- ☒ Land applied under your permit
- ☐ Publicly Distributed Exceptional Quality Biosolids
- ☐ Hauled to another permitted facility
- ☒ Landfilled
- ☐ Incinerated
- ☐ Other

NOTE: If you did not remove biosolids from your system, please describe your system type such as lagoons, reed beds, recirculating sand filters, etc.

1.1.1 If you checked Other, please describe:

Biosolids from South Shore WRF Outfall 004 are pumped to Jones Island WRF, blended with biosolids from Jones Island WRF, heat dried, and publicly distributed as EQ biosolids. No land application from Outfall 004 in 2024. 538 dry metric tons of cake from Outfall 005 were land applied in 2024. 908 dry metric tons from Outfall 005 were landfilled in 2024.

2. Land Application Site

2.1 Last Year's Approved and Active Land Application Sites

2.1.1 How many acres did you have?

25821.3 acres

2.1.2 How many acres did you use?

185 acres

2.2 If you did not have enough acres for your land application needs, what action was taken?

2.3 Did you overapply nitrogen on any of your approved land application sites you used last year? **0**

- ○ Yes (30 points)
- ● No

2.4 Have all the sites you used last year for land application been soil tested in the previous 4 years?

- ● Yes
- ○ No (10 points)
- ○ N/A

3. Biosolids Metals

Number of biosolids outfalls in your WPDES permit:

3.1 For each outfall tested, verify the biosolids metal quality values for your facility during the last calendar year.

Outfall No. 005 - South Shore Cake Sludge

Parameter	80% of Limit	H.Q. Limit	Ceiling Limit	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	80% Value	High Quality	Ceiling
Arsenic		41	75			<1.2		1.5	6.5	4.067	7.5	6		5.4	5.6		0	0
Cadmium		39	85			.71		.73	1	1.2	0.95	1.1		.98	.99		0	0
Copper		1500	4300			320		290	340	316.67	310	330		320	350		0	0
Lead		300	840			30		30	49	115.67	71	86		38	44		0	0
Mercury		17	57			.35		2.6	.44	1.4	0.41	.42		.27	.68		0	0
Molybdenum	60		75			15		14	14	10.77	18	18		19	22	0		0
Nickel	336		420			37		41	38	54.67	38	39		33	36	0		0
Selenium	80		100			4.5		3.2	3.2	2.467	3	4.3		5	7.1	0		0
Zinc		2800	7500			760		740	670	570	830	920		770	840		0	0

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3.1.1 Number of times any of the metals exceeded the high quality limits OR 80% of the limit for molybdenum, nickel, or selenium = 0

Exceedence Points

- ● 0 (0 Points)
- ○ 1-2 (10 Points)
- ○ > 2 (15 Points)

3.1.2 If you exceeded the high quality limits, did you cumulatively track the metals loading at each land application site? (check applicable box)

- ○ Yes
- ○ No (10 points)
- ● N/A - Did not exceed limits or no HQ limit applies (0 points)
- ○ N/A - Did not land apply biosolids until limit was met (0 points)

3.1.3 Number of times any of the metals exceeded the ceiling limits = 0

Exceedence Points

- ● 0 (0 Points)
- ○ 1 (10 Points)
- ○ > 1 (15 Points)

3.1.4 Were biosolids land applied which exceeded the ceiling limit?

- ○ Yes (20 Points)
- ● No (0 Points)

3.1.5 If any metal limit (high quality or ceiling) was exceeded at any time, what action was taken? Has the source of the metals been identified?

0

4. Pathogen Control (per outfall):

4.1 Verify the following information. If any information is incorrect, use the Report Issue button under the Options header in the left-side menu.

Outfall Number:	**005**
Biosolids Class:	B
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	07/01/2024 - 08/31/2024
Density:	180
Sample Concentration Amount:	MPN/G TS
Requirement Met:	Yes
Land Applied:	No
Process:	Anaerobic Digestion
Process Description:	All seven discrete samples were taken on 8/19/24 and all were below the MDL.

4.2 If exceeded Class B limit or did not meet the process criteria at the time of land application.

4.2.1 Was the limit exceeded or the process criteria not met at the time of land application?

- ○ Yes (40 Points)
- ● No

If yes, what action was taken?

0

5. Vector Attraction Reduction (per outfall):

5.1 Verify the following information. If any of the information is incorrect, use the Report Issue button under the Options header in the left-side menu.

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Outfall Number:	**005**
Method Date:	08/31/2024
Option Used To Satisfy Requirement:	Incorporation when land apply
Requirement Met:	Yes
Land Applied:	No
Limit (if applicable):	
Results (if applicable):	

0

5.2 Was the limit exceeded or the process criteria not met at the time of land application?

- ○ Yes (40 Points)
- ● No

If yes, what action was taken?

6. Biosolids Storage

6.1 How many days of actual, current biosolids storage capacity did your wastewater treatment facility have either on-site or off-site?

- ● >= 180 days (0 Points)
- ○ 150 - 179 days (10 Points)
- ○ 120 - 149 days (20 Points)
- ○ 90 - 119 days (30 Points)
- ○ < 90 days (40 Points)
- ○ N/A (0 Points)

0

6.2 If you checked N/A above, explain why.

7. Issues

7.1 Describe any outstanding biosolids issues with treatment, use or overall management:

Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	**A**

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Staffing and Preventative Maintenance (All Treatment Plants)

1. Plant Staffing

1.1 Was your wastewater treatment plant adequately staffed last year?

- ● Yes
- ○ No

If No, please explain:

Could use more help/staff for:

1.2 Did your wastewater staff have adequate time to properly operate and maintain the plant and fulfill all wastewater management tasks including recordkeeping?

- ● Yes
- ○ No

If No, please explain:

2. Preventative Maintenance

2.1 Did your plant have a documented AND implemented plan for preventative maintenance on major equipment items?

- ● Yes (Continue with question 2)
- ○ No (40 points)

If No, please explain, then go to question 3:

2.2 Did this preventative maintenance program depict frequency of intervals, types of lubrication, and other tasks necessary for each piece of equipment?

- ● Yes
- ○ No (10 points)

2.3 Were these preventative maintenance tasks, as well as major equipment repairs, recorded and filed so future maintenance problems can be assessed properly?

- ● Yes
  - ○ Paper file system
  - ● Computer system
  - ○ Both paper and computer system
- ○ No (10 points)

0

3. O&M Manual

3.1 Does your plant have a detailed O&M and Manufacturer Equipment Manuals that can be used as a reference when needed?

- ● Yes
- ○ No

4. Overall Maintenance /Repairs

4.1 Rate the overall maintenance of your wastewater plant.

- ○ Excellent
- ● Very good
- ○ Good
- ○ Fair
- ○ Poor

Describe your rating:

Maintenance work is addressed on a priority system in a timely manner.

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Score (100 - Total Points Generated)	100
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Operator Certification and Education

1. Operator-In-Charge

1.1 Did you have a designated operator-in-charge during the report year?

- ● Yes (0 points)
- ○ No (20 points)

Name: BRETT P KELLY

Certification No: 34528

0

2. Certification Requirements

2.1 In accordance with Chapter NR 114.56 and 114.57, Wisconsin Administrative Code, what level and subclass(es) were required for the operator-in-charge (OIC) to operate the wastewater treatment plant and what level and subclass(es) were held by the operator-in-charge?

Sub Class	SubClass Description	WWTP	OIC		
		Advanced	OIT	Basic	Advanced
A1	Suspended Growth Processes	X			X
A2	Attached Growth Processes				
A3	Recirculating Media Filters				
A4	Ponds, Lagoons and Natural		X		
A5	Anaerobic Treatment Of Liquid				
B	Solids Separation	X			X
C	Biological Solids/Sludges	X			X
P	Total Phosphorus	X			X
N	Total Nitrogen				
D	Disinfection	X			X
L	Laboratory				
U	Unique Treatment Systems				
SS	Sanitary Sewage Collection	X	NA	NA	NA

2.2 Was the operator-in-charge certified at the appropriate level and subclass(es) to operate this plant? (Note: Certification in subclass SS is required 5 years after permit reissuance.)

- ● Yes (0 points)
- ○ No (20 points)

2.3 For wastewater treatment facilities with a registered or certified laboratory, is at least one operator that works in the laboratory certified at the basic level in the laboratory (L) subclass?

- ● Yes
- ○ No
- ○ N/A – Wastewater treatment facility does not have a registered or certified laboratory

2.4 For wastewater treatment facilities that own and operate a sanitary sewage collection system, has at least one operator been designated the OIC for sanitary sewage collection system and certified at the basic level in the sanitary sewage collection system (SS) subclass?

- ● Yes
- ○ No
- ○ N/A – Owner of the Wastewater treatment facility does not own and operate a sanitary sewage collection system

0

3. Succession Planning

3.1 In the event of the loss of your designated operator-in-charge, did you have a contingency plan to ensure the continued proper operation and maintenance of the plant that includes one or more of the following options (check all that apply)?

- ☒ One or more additional certified operators on staff

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☐ An arrangement with another certified operator ☐ An arrangement with another community with a certified operator ☐ An operator on staff who has an operator-in-training certificate for your plant and is expected to be certified within one year ☐ A consultant to serve as your certified operator ☐ None of the above (20 points) If "None of the above" is selected, please explain:	**0**
4. Continuing Education Credits 4.1 If you had a designated operator-in-charge, was the operator-in-charge earning Continuing Education Credits at the following rates? OIT and Basic Certification: ○ Averaging 6 or more CECs per year. ○ Averaging less than 6 CECs per year. Advanced Certification: ● Averaging 8 or more CECs per year. ○ Averaging less than 8 CECs per year.	

Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	**A**

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Financial Management

1. Provider of Financial Information

Name: Alex Klosterman

Telephone: (414) 225-2060 (XXX) XXX-XXXX

E-Mail Address (optional): aklosterman@mmsd.com

2. Treatment Works Operating Revenues

2.1 Are User Charges or other revenues sufficient to cover O&M expenses for your wastewater treatment plant AND/OR collection system ?

- ● Yes (0 points)
- ○ No (40 points)

If No, please explain:

2.2 When was the User Charge System or other revenue source(s) last reviewed and/or revised?

Year: 2024

- ● 0-2 years ago (0 points)
- ○ 3 or more years ago (20 points)
- ○ N/A (private facility)

2.3 Did you have a special account (e.g., CWFP required segregated Replacement Fund, etc.) or financial resources available for repairing or replacing equipment for your wastewater treatment plant and/or collection system?

- ● Yes (0 points)
- ○ No (40 points)

0

REPLACEMENT FUNDS [PUBLIC MUNICIPAL FACILITIES SHALL COMPLETE QUESTION 3]

3. Equipment Replacement Funds

3.1 When was the Equipment Replacement Fund last reviewed and/or revised?

Year: 2024

- ● 1-2 years ago (0 points)
- ○ 3 or more years ago (20 points)
- ○ N/A

If N/A, please explain:

3.2 Equipment Replacement Fund Activity

3.2.1 Ending Balance Reported on Last Year's CMAR		$ 16,426,775.00
3.2.2 Adjustments - if necessary (e.g. earned interest, audit correction, withdrawal of excess funds, increase making up previous shortfall, etc.)		$ 0.00
3.2.3 Adjusted January 1st Beginning Balance		$ 16,426,775.00
3.2.4 Additions to Fund (e.g. portion of User Fee, earned interest, etc.)	+	$ 150,000.00

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3.2.5 Subtractions from Fund (e.g., equipment replacement, major repairs - use description box 3.2.6.1 below*) - $ 0.00

3.2.6 Ending Balance as of December 31st for CMAR Reporting Year $ 16,576,775.00

All Sources: This ending balance should include all Equipment Replacement Funds whether held in a bank account(s), certificate(s) of deposit, etc.

3.2.6.1 Indicate adjustments, equipment purchases, and/or major repairs from 3.2.5 above.

3.3 What amount should be in your Replacement Fund? $ 16,424,637.00

0

Please note: If you had a CWFP loan, this amount was originally based on the Financial Assistance Agreement (FAA) and should be regularly updated as needed. Further calculation instructions and an example can be found by clicking the SectionInstructions link under Info header in the left-side menu.

3.3.1 Is the December 31 Ending Balance in your Replacement Fund above, (#3.2.6) equal to, or greater than the amount that should be in it (#3.3)?

- ● Yes
- ○ No

If No, please explain.

4. Future Planning

4.1 During the next ten years, will you be involved in formal planning for upgrading, rehabilitating, or new construction of your treatment facility or collection system?

- ● Yes - If Yes, please provide major project information, if not already listed below.
- ○ No

Project #	Project Description	Estimated Cost	Approximate Construction Year
1	South Shore Water Reclamation Facility: 39 Projects	$433,475,100	2034
2	Conveyance Projects: See Jones Island CMAR, Financial Management, Item 4.1	$0	0
3	Jones Island Water Reclamation Facility and Pipelines: See Jones Island CMAR, Financial Management, Item 4.1	$0	0

5. Financial Management General Comments

Response #4 above represents planned spending for Conveyance (Collection System) and Water Reclamation Facility (Jones Island, Pipelines, and South Shore) projects for the District's ten-year planning cycle beginning in 2025. Jones Island and Pipeline project counts and costs have been combined. Additional projects, i.e. Watercourse Improvement and other projects, as well as debt service during the same ten year period will total $2.2 billion. For a complete listing of all projects and expenditures planned for the period 2025 to 2034, refer to the MMSD 2025 Capital Budget.

ENERGY EFFICIENCY AND USE

6. Collection System

6.1 Energy Usage

6.1.1 Enter the monthly energy usage from the different energy sources:

COLLECTION SYSTEM PUMPAGE: Total Power Consumed

Number of Municipally Owned Pump/Lift Stations: 18

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	Electricity Consumed (kWh)	Natural Gas Consumed (therms)
January	481,533	52,301
February	431,610	27,620
March	441,187	0
April	596,519	24,543
May	400,290	15,906
June	426,477	12,863
July	393,065	7,170
August	407,601	6,814
September	356,622	6,384
October	518,408	15,990
November	141,041	0
December	364,317	20,616
Total	**4,958,670**	**190,207**
Average	**413,223**	**19,021**

6.1.2 Comments:

6.2 Energy Related Processes and Equipment

6.2.1 Indicate equipment and practices utilized at your pump/lift stations (Check all that apply):

- ☒ Comminution or Screening
- ☒ Extended Shaft Pumps
- ☒ Flow Metering and Recording
- ☒ Pneumatic Pumping
- ☒ SCADA System
- ☒ Self-Priming Pumps
- ☒ Submersible Pumps
- ☒ Variable Speed Drives
- ☒ Other:

Gate control motors, heaters

6.2.2 Comments:

6.3 Has an Energy Study been performed for your pump/lift stations?

- ○ No
- ● Yes

Year: 2018

By Whom: WE Energies

Describe and Comment:

A level 1 energy assessment was done in 2018 for the Port Washington Pumping Station by WE Energies. The assessment delivered a report that outlined opportunities for reducing energy. Project M03109, Energy Plan for MMSD Facilities, includes some high level evaluation of pumping stations and was completed in 2023 by Greeley & Hansen.

6.4 Future Energy Related Equipment

6.4.1 What energy efficient equipment or practices do you have planned for the future for your pump/lift stations?

From 2021 through 2024 the District evaluated the various sites for opportunities to improve our energy efficiency and renewable energy profile through the M03109 Energy Plan, in addition to evaluating energy efficiency during rehabilitation projects. Improved power monitoring, controls, and the installation of energy efficient devices such as VFDs continue to be practiced by the District.

7. Treatment Facility

7.1 Energy Usage

7.1.1 Enter the monthly energy usage from the different energy sources:

TREATMENT PLANT: Total Power Consumed/Month

	Electricity Consumed (kWh)	Total Influent Flow (MG)	Electricity Consumed/ Flow (kWh/MG)	Total Influent BOD (1000 lbs)	Electricity Consumed/ Total Influent BOD (kWh/1000lbs)	Natural Gas Consumed (therms)
January	3,804,816	3,411.00	1,115	6,849.48	555	113,516
February	3,738,391	3,568.00	1,048	7,890.76	474	80,141
March	4,063,296	4,379.00	928	7,067.38	575	40,913
April	3,726,778	3,986.00	935	7,515.18	496	85,700
May	3,908,618	3,124.00	1,251	6,463.13	605	14,394
June	4,104,436	3,510.00	1,169	8,030.67	511	55,463
July	3,968,476	2,696.00	1,472	7,802.17	509	44,690
August	3,999,425	2,336.00	1,712	7,906.02	506	6,062
September	3,577,555	2,091.00	1,711	7,760.34	461	2,866
October	3,652,321	1,805.00	2,023	6,317.71	578	11,797
November	3,673,271	1,627.00	2,258	5,062.20	726	42,580
December	3,871,636	1,818.00	2,130	5,850.48	662	54,475
Total	**46,089,019**	**34,351.00**		**84,515.52**		**552,597**
Average	**3,840,752**	**2,862.58**	**1,479**	**7,042.96**	**555**	**46,050**

7.1.2 Comments:

7.2 Energy Related Processes and Equipment

7.2.1 Indicate equipment and practices utilized at your treatment facility (Check all that apply):

- ☐ Aerobic Digestion
- ☒ Anaerobic Digestion
- ☐ Biological Phosphorus Removal
- ☒ Coarse Bubble Diffusers
- ☒ Dissolved O2 Monitoring and Aeration Control

☒ Effluent Pumping
☒ Fine Bubble Diffusers
☐ Influent Pumping
☒ Mechanical Sludge Processing
☒ Nitrification
☒ SCADA System
☐ UV Disinfection
☒ Variable Speed Drives
☒ Other:

Gravity belt thickeners, plate and frame presses, RAS pumping, sludge pumping, DAF thickeners

7.2.2 Comments:

7.3 Future Energy Related Equipment

7.3.1 What energy efficient equipment or practices do you have planned for the future for your treatment facility?

The 2024 Energy Plan recommended a variety of projects that have been added to the capital budget.
Planned:
*S06060 Engine Generator System Upgrade
*S06063 Digester Gas Cleaning, Storage, and Interplant Pipeline
*Electrification of some natural gas assets to allow of the use of renewable energy.
In Planning or Preliminary Engineering:
*S04041 High Strength Waste System Improvements
*S06059 Solar Panel Installation
In Design:
*S01013 Primary Clarification System Improvements, incentives or funding could influence implementation.
*S04029 Digester Mixing Phase II
*S04034 High Strength Waste Mixing Improvements
*S04039 Gravity Thickening & Acid Phase Digestion
*S04040 Dewatering and Drying Facility, incentives or funding could influence implementation.
*S06050 Bldg. 378 HVAC System Upgrade
In Construction:
*S02015 Aeration System Upgrade
*S02017 Process Air Header Improvements
*S03004 Effluent Pump MCC and VFD upgrade

8. Biogas Generation

8.1 Do you generate/produce biogas at your facility?

○ No
● Yes

If Yes, how is the biogas used (Check all that apply):

☒ Flared Off
☒ Building Heat
☒ Process Heat
☒ Generate Electricity

☐ Other:

9. Energy Efficiency Study

9.1 Has an Energy Study been performed for your treatment facility?

○ No

● Yes

☒ Entire facility

Year: 2017

By Whom: University of Wisconsin - Milwaukee Industrial Assessment Center

Describe and Comment:

Assessment covered equipment drives, lighting, and lubricant use throughout the entire facility.

☒ Part of the facility

Year: 2015

By Whom: Short Elliot Hendrickson and Poyry

Describe and Comment:

MACT assessment was completed of the boilers. Many other processes throughout the facility have been assessed and are monitored for efficiency internally.

Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	**A**

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Sanitary Sewer Collection Systems

1. Capacity, Management, Operation, and Maintenance (CMOM) Program

1.1 Do you have a CMOM program that is being implemented?

- ● Yes
- ○ No

If No, explain:

1.2 Do you have a CMOM program that contains all the applicable components and items according to Wisc. Adm Code NR 210.23 (4)?

- ● Yes
- ○ No (30 points)
- ○ N/A

If No or N/A, explain:

1.3 Does your CMOM program contain the following components and items? (check the components and items that apply)

☒ Goals [NR 210.23 (4)(a)]

Describe the major goals you had for your collection system last year:

The MMSD CMOM goals related to the conveyance and storage system as presented in the CMOM Program Annual Self-Audit for 2023 (2024 Self-Audit will be completed after the 2024 CMAR scores are received, as this is a performance metric) are:
1. Continue the support of the CMOM Program within the District organizational structure.
2. Communicate the goals and objectives of the CMOM Program to internal and external stakeholders, monitor the CMOM Program, and institute program modifications.
3. Continue to maintain adequate financial planning.
4. Continue to comply with regulatory requirements.
5. Continue to support and monitor the regional CMOM program.
6. Continue to maintain a safe work environment and facilities and also sustain a competent workforce.
7. Establish CMOM program elements specific to minimizing the number and volume of CSOs.
8. Continue to implement and support the Wet Weather Peak Flow Management Program.
9. Where possible, establish additional practices to prevent sanitary sewer overflows (SSOs), maintain or improve system performance, and avoid preventable failures.
10. Continue to establish and document level of protection, design, and performance standards for new conveyance assets constructed in the District service area, and consider documented and predicted changes in climate.
11. Minimize the cost of conveyance asset ownership while maintaining necessary stewardship of assets and achieving defined protection levels.
12. Enhance District level of knowledge and understanding of wet weather flows and system response to precipitation and other factors.
13. Promptly and accurately respond to customer inquiries.

Did you accomplish them?

- ● Yes
- ○ No

If No, explain:

☒ Organization [NR 210.23 (4) (b)]

Does this chapter of your CMOM include:

☒ Organizational structure and positions (eg. organizational chart and position descriptions)

☒ Internal and external lines of communication responsibilities

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☒ Person(s) responsible for reporting overflow events to the department and the public

☒ Legal Authority [NR 210.23 (4) (c)]

What is the legally binding document that regulates the use of your sewer system?

MMSD Rules

If you have a Sewer Use Ordinance or other similar document, when was it last reviewed and revised? (MM/DD/YYYY) 2020-02-24

Does your sewer use ordinance or other legally binding document address the following:

☒ Private property inflow and infiltration

☒ New sewer and building sewer design, construction, installation, testing and inspection

☒ Rehabilitated sewer and lift station installation, testing and inspection

☒ Sewage flows satellite system and large private users are monitored and controlled, as necessary

☒ Fat, oil and grease control

☒ Enforcement procedures for sewer use non-compliance

☒ Operation and Maintenance [NR 210.23 (4) (d)]

Does your operation and maintenance program and equipment include the following:

☒ Equipment and replacement part inventories

☒ Up-to-date sewer system map

☒ A management system (computer database and/or file system) for collection system information for O&M activities, investigation and rehabilitation

☒ A description of routine operation and maintenance activities (see question 2 below)

☒ Capacity assessment program

☒ Basement back assessment and correction

☒ Regular O&M training

☒ Design and Performance Provisions [NR 210.23 (4) (e)] **0**

What standards and procedures are established for the design, construction, and inspection of the sewer collection system, including building sewers and interceptor sewers on private property?

☒ State Plumbing Code, DNR NR 110 Standards and/or local Municipal Code Requirements

☒ Construction, Inspection, and Testing

☐ Others:

☒ Overflow Emergency Response Plan [NR 210.23 (4) (f)]

Does your emergency response capability include:

☒ Responsible personnel communication procedures

☒ Response order, timing and clean-up

☒ Public notification protocols

☒ Training

☒ Emergency operation protocols and implementation procedures

☒ Annual Self-Auditing of your CMOM Program [NR 210.23 (5)]

☒ Special Studies Last Year (check only those that apply):

☐ Infiltration/Inflow (I/I) Analysis

☐ Sewer System Evaluation Survey (SSES)

☐ Sewer Evaluation and Capacity Managment Plan (SECAP)

☐ Lift Station Evaluation Report

☒ Others:

MIS Renewal and Infiltration Reduction Strategy

2. Operation and Maintenance

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2.1 Did your sanitary sewer collection system maintenance program include the following maintenance activities? Complete all that apply and indicate the amount maintained.

Cleaning	0.97	% of system/year
Root removal	0	% of system/year
Flow monitoring	85	% of system/year
Smoke testing	0	% of system/year
Sewer line televising	6.63	% of system/year
Manhole inspections	1.01	% of system/year
Lift station O&M	100	# per L.S./year
Manhole rehabilitation	0	% of manholes rehabbed
Mainline rehabilitation	0	% of sewer lines rehabbed
Private sewer inspections	0.05	% of system/year
Private sewer I/I removal	0.2	% of private services
River or water crossings	0	% of pipe crossings evaluated or maintained

Please include additional comments about your sanitary sewer collection system below:

3. Performance Indicators

3.1 Provide the following collection system and flow information for the past year.

38.76	Total actual amount of precipitation last year in inches
34.57	Annual average precipitation (for your location)
302	Miles of sanitary sewer
18	Number of lift stations
0	Number of lift station failures
0	Number of sewer pipe failures
0	Number of basement backup occurrences
3	Number of complaints
93	Average daily flow in MGD (if available)
141	Peak monthly flow in MGD (if available)
240	Peak hourly flow in MGD (if available)

3.2 Performance ratios for the past year:

0.00	Lift station failures (failures/year)
0.00	Sewer pipe failures (pipe failures/sewer mile/yr)
0.01	Sanitary sewer overflows (number/sewer mile/yr)
0.00	Basement backups (number/sewer mile)
0.01	Complaints (number/sewer mile)
1.5	Peaking factor ratio (Peak Monthly:Annual Daily Avg)
2.6	Peaking factor ratio (Peak Hourly:Annual Daily Avg)

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4. Overflows

LIST OF SANITARY SEWER (SSO) AND TREATMENT FACILITY (TFO) OVERFLOWS REPORTED **				
	Date	Location	Cause	Estimated Volume
None reported				

** If there were any SSOs or TFOs that are not listed above, please contact the DNR and stop work on this section until corrected.

5. Infiltration / Inflow (I/I)

5.1 Was infiltration/inflow (I/I) significant in your community last year?

- ● Yes
- ○ No

If Yes, please describe:

Yes; Infiltration and inflow (I/I) in satellite municipal collection systems is the primary contributor of peak flows from the separate sewer area of the MMSD conveyance system and is one of the primary causes of separate sewer overflows from the MMSD system.

5.2 Has infiltration/inflow and resultant high flows affected performance or created problems in your collection system, lift stations, or treatment plant at any time in the past year?

- ○ Yes
- ● No

If Yes, please describe:

5.3 Explain any infiltration/inflow (I/I) changes this year from previous years:

MMSD believes that I/I has been reduced over the past year. Twenty-four of the twenty-eight member municipalities have PPI/I reduction projects completed or in progress in the first 15 years of the PPI/I Program. Many of the municipalities also completed public sector I/I reduction projects. MMSD has adopted peak flow performance standards in its Chapter 3 revisions which require tributary municipalities to reduce I/I. As of December 31, 2024, there are 37 metersheds in nine municipalities with a non-compliant status. In 2024, analyses were performed on 39 metershed areas. Seven metersheds were found to be non-compliant with section 3.201 based on the most recent metershed flow evaluation. Three municipalities have been notified of the non-compliant metershed areas. Work plans for these areas have been requested and are expected in 2025. Municipalities with non-compliant metersheds must submit a report to MMSD every year detailing progress and future plans to combat I/I in those metersheds.

5.4 What is being done to address infiltration/inflow in your collection system?

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MMSD continues sewer rehab through Operation and Maintenance, and Capital programs. MMSD is continuing to work with satellite municipalities to reduce inflow and infiltration with the wet weather peak flow management program. Throughout 2024 the District collected data from 191 permanent meters and 200 portable meters and also 137 surcharge level indicators in strategically selected sanitary sewers within its service area to more accurately measure wastewater flows under both dry and wet weather conditions. Measured peak flows at the 127 permanent monitoring locations included in the Wet Weather Peak Flow Management Program are compared to the allowable peak flows listed in Chapter 3 of the District rules. Action will be taken for any metersheds that are identified as exceeding the allowable peak flows. MMSD implemented the Private Property Inflow and Infiltration (PPI/I) Reduction Program in 2011 to support municipal work in reducing I/I from local private property sources. Twenty-four of the twenty-eight member municipalities have PPI/I reduction projects completed or in progress in the 15th year of the PPI/I Program. MMSD completed and implemented the MMSD CMOM program in 2007 and has continued implementation annually. MMSD completed and implemented the MMSD CMOM program in 2007 and has continued implementation annually. In addition, all municipalities have developed and implemented CMOM and Asset Management programs. MMSD also has a Green Infrastructure (GI) initiative that is aimed at capturing 740 million gallons of water every time it rains by the year 2035. In 2024 MMSD had eight active green infrastructure programs under this initiative: 1. Green Infrastructure Partnership Program, 2. Fresh Coast Green Solutions, 3. Green Schools Milwaukee, 4. Neighborhood Green Infrastructure Outreach, 5. Reforestation and Wetland Restoration, 6. Green Highways, 7. Community Based Green Infrastructure, and 8. Fresh Coast Works Ambassadors. In 2024, the District's GI programs netted 6.16 million gallons of stormwater capture. The Fresh Coast Resource Center run by District staff conducted 22 workshops on rain barrel and rain garden installation that had 2167 attendees. In 2024, MMSD completed 18 projects through the new Reforestation and Wetland Restoration Program, through these projects more than 26,000 trees were planted and 45 acres of wetlands were restored or enhanced. The total gallons of green infrastructure capacity in the District's Regional Database was 154.1 million gallons, 66.2 million gallons that were directly funded by MMSD (2004-2024).

Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	**A**

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Grading Summary

WPDES No: 0036820

SECTIONS	LETTER GRADE	GRADE POINTS	WEIGHTING FACTORS	SECTION POINTS
Influent	A	4	3	12
BOD/CBOD	A	4	10	40
TSS	A	4	5	20
Ammonia	A	4	5	20
Phosphorus	A	4	3	12
Biosolids	A	4	5	20
Staffing/PM	A	4	1	4
OpCert	A	4	1	4
Financial	A	4	1	4
Collection	A	4	3	12
TOTALS			**37**	**148**
GRADE POINT AVERAGE (GPA) = 4.00				

Notes:
A = Voluntary Range (Response Optional)
B = Voluntary Range (Response Optional)
C = Recommendation Range (Response Required)
D = Action Range (Response Required)
F = Action Range (Response Required)

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Resolution or Owner's Statement

Name of Governing Body or Owner:

Date of Resolution or Action Taken:

Resolution Number:

Date of Submittal:

ACTIONS SET FORTH BY THE GOVERNING BODY OR OWNER RELATING TO SPECIFIC CMAR SECTIONS (Optional for grade A or B. Required for grade C, D, or F):

Influent Flow and Loadings: Grade = A

Effluent Quality: BOD: Grade = A

Effluent Quality: TSS: Grade = A

Effluent Quality: Ammonia: Grade = A

Effluent Quality: Phosphorus: Grade = A

Biosolids Quality and Management: Grade = A

Staffing: Grade = A

Operator Certification: Grade = A

Financial Management: Grade = A

Collection Systems: Grade = A
(Regardless of grade, response required for Collection Systems if SSOs were reported)

ACTIONS SET FORTH BY THE GOVERNING BODY OR OWNER RELATING TO THE OVERALL GRADE POINT AVERAGE AND ANY GENERAL COMMENTS
(Optional for G.P.A. greater than or equal to 3.00, required for G.P.A. less than 3.00)
G.P.A. = 4.00