

Compliance Maintenance Annual Report

Waukesha City

Last Updated: Reporting For:
5/23/2023 **2022**

Influent Flow and Loading

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	5.7462	x	300	x	8.34	=	14,359
February	7.2547	x	269	x	8.34	=	16,269
March	7.9096	x	238	x	8.34	=	15,723
April	11.1613	x	206	x	8.34	=	19,151
May	8.7069	x	321	x	8.34	=	23,288
June	7.9020	x	265	x	8.34	=	17,491
July	7.6686	x	224	x	8.34	=	14,301
August	8.2008	x	174	x	8.34	=	11,907
September	11.5371	x	201	x	8.34	=	19,343
October	7.4402	x	309	x	8.34	=	19,192
November	8.4367	x	302	x	8.34	=	21,242
December	8.0779	x	184	x	8.34	=	12,376

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	18.5	x	90	=	16.65
		x	100	=	18.5
Design BOD, lbs/day	29653	x	90	=	26687.7
		x	100	=	29653

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	0	0
March	1	0	0	0	0
April	1	0	0	0	0
May	1	0	0	0	0
June	1	0	0	0	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	0	0
Points		0	0	0	0
Total Number of Points					0

0

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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)

2022-12-21

☐ 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:

Notices of Violation were issued to 2 industrial users for violation of permit limits. These users returned to compliance after resampling. A warning letter was sent to one industrial user for sampling results approaching limits. One industrial user was in Significant Noncompliance for multiple violations and was placed on a compliance schedule. They corrected the cause of the violations and returned to compliance on 10/12/22.

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 2,290,203 gallons

☐ No

Holding Tanks

☒ Yes 1,714,082 gallons

☐ No

Grease Traps

☐ Yes 0 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.

Plant performance was not affected.

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

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

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.

All hauled waste is subject to review by our Pretreatment program for acceptance. Review may include on-site inspections, sampling, and permitting. Hauled waste manifests are screened for potential new sources and inspections conducted if needed. We have a categorical metal finisher, landfill leachate, and a non-categorical printer that are hauled to the plant and permitted as Industrial Users.

Total Points Generated	0
Score (100 - Total Points Generated)	100
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	10	10	0	1	0	0
February	10	10	1	1	0	0
March	10	10	5	1	0	0
April	10	10	3	1	0	0
May	7.9	7.9	0	1	0	0
June	7.9	7.9	1	1	0	0
July	7.9	7.9	1	1	0	0
August	7.9	7.9	0	1	0	0
September	7.9	7.9	1	1	0	0
October	7.9	7.9	0	1	0	0
November	10	10	0	1	0	0
December	10	10	0	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

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)

2022-12-21

- ☐ No

If No, please explain:

3. Treatment Problems

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

None

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

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If Yes, please explain:

Our weekly chloride limit of 620 mg/L was exceeded in March (659.6) and April (669). The weekly limit of 570 mg/L was exceeded in May (656.6), June (575.6), July (598.8), October (605.6), and November (579.2). Duplicate split analysis was done starting in August and October and November were under the limit however with the different EPA analysis method. In April a weekly BOD was exceeded at 10.52 however the monthly was not exceeded.

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	10	10	0	1	0	0
February	10	10	2	1	0	0
March	10	10	5	1	0	0
April	10	10	1	1	0	0
May	10	10	0	1	0	0
June	10	10	0	1	0	0
July	10	10	2	1	0	0
August	10	10	0	1	0	0
September	10	10	2	1	0	0
October	10	10	0	1	0	0
November	10	10	0	1	0	0
December	10	10	0	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

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?

0

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 Exceed ance	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 Exceed ance
January	5		.041	0					
February	5.2		.091	0					
March	6		.212	0					
April	5.6		.423	0					
May	4.9		.023	0					
June	3.1		.039	0					
July	2		.011	0					
August	2.1		0	0					
September	2.9		.045	0					
October	4		.044	0					
November	5.1		.005	0					
December	4.9		.255	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

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?

0

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	.6	0.035	1	0
February	.6	0.098	1	0
March	.6	0.177	1	0
April	.6	0.074	1	0
May	.6	0.044	1	0
June	.6	0.051	1	0
July	.225	0.062	1	0
August	.225	0.045	1	0
September	.225	0.086	1	0
October	.225	0.045	1	0
November	.225	0.039	1	0
December	.225	0.056	1	0
Months of Discharge/yr			12	
Points per each exceedance with 12 months of discharge:				10
Exceedances				0
Total Number of Points				0

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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Outfall No. 002 - 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	<5.2			<5			<5.2			<8.7				0	0
Cadmium		39	85	1.4			.64			2.2			<.79				0	0
Copper		1500	4300	667			481			573			561				0	0
Lead		300	840	25.8			21.9			22.6			58.7				0	0
Mercury		17	57	.48			.31			.21			1				0	0
Molybdenum	60		75	17.5			14.8			13.3			12.4			0		0
Nickel	336		420	41.9			41			53.5			52.5			0		0
Selenium	80		100	7			5.9			6.6			<7.8			0		0
Zinc		2800	7500	1050			750			898			954				0	0

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?

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:	002
Biosolids Class:	B
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	01/01/2022 - 03/31/2022
Density:	69,500
Sample Concentration Amount:	MPN/G TS
Requirement Met:	Yes
Land Applied:	No
Process:	Anaerobic Digestion
Process Description:	Centrifuge samples.
	Lab Certification Number: 399089350

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Outfall Number:	002
Biosolids Class:	B
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	04/01/2022 - 06/30/2022
Density:	954
Sample Concentration Amount:	MPN/G TS
Requirement Met:	Yes
Land Applied:	Yes
Process:	Anaerobic Digestion
Process Description:	Storage pile samples. Lab Certification Number: 399089350

Outfall Number:	002
Biosolids Class:	B
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	04/01/2022 - 06/30/2022
Density:	488
Sample Concentration Amount:	MPN/G TS
Requirement Met:	Yes
Land Applied:	Yes
Process:	Anaerobic Digestion
Process Description:	Storage pile and centrifuge samples. Lab Certification Number: 399089350

Outfall Number:	002
Biosolids Class:	B
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	07/01/2022 - 09/30/2022
Density:	57,500
Sample Concentration Amount:	MPN/G TS
Requirement Met:	Yes
Land Applied:	No
Process:	Anaerobic Digestion
Process Description:	Centrifuge samples. Lab Certification Number: 399089350

Outfall Number:	002
Biosolids Class:	B
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	10/01/2022 - 12/31/2022
Density:	23
Sample Concentration Amount:	MPN/G TS
Requirement Met:	Yes
Land Applied:	Yes
Process:	Anaerobic Digestion
Process Description:	Storage pile samples. Lab Certification Number: 399089350

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Outfall Number:	002
Biosolids Class:	B
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	10/01/2022 - 12/31/2022
Density:	243,000
Sample Concentration Amount:	MPN/G TS
Requirement Met:	Yes
Land Applied:	Yes
Process:	Anaerobic Digestion
Process Description:	Centrifuge samples. Lab Certification Number: 399089350

0

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?

o Yes (40 Points)

● No

If yes, what action was taken?

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.

Outfall Number:	002
Method Date:	03/31/2022
Option Used To Satisfy Requirement:	Incorporation when land apply
Requirement Met:	Yes
Land Applied:	No
Limit (if applicable):	
Results (if applicable):	

Outfall Number:	002
Method Date:	06/30/2022
Option Used To Satisfy Requirement:	Incorporation when land apply
Requirement Met:	Yes
Land Applied:	Yes
Limit (if applicable):	
Results (if applicable):	

Outfall Number:	002
Method Date:	09/30/2022
Option Used To Satisfy Requirement:	Incorporation when land apply
Requirement Met:	Yes
Land Applied:	No
Limit (if applicable):	
Results (if applicable):	

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Outfall Number:	002	0
Method Date:	12/31/2022	
Option Used To Satisfy Requirement:	Incorporation when land apply	
Requirement Met:	Yes	
Land Applied:	Yes	
Limit (if applicable):		
Results (if applicable):		
5.2 Was the limit exceeded or the process criteria not met at the time of land application? o 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) o 150 - 179 days (10 Points) o 120 - 149 days (20 Points) o 90 - 119 days (30 Points) o < 90 days (40 Points) o N/A (0 Points) 6.2 If you checked N/A above, explain why. 		0
7. Issues 7.1 Describe any outstanding biosolids issues with treatment, use or overall management: Weather is always a challenge for land application.		

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: Facility Plan upgrades continued in 2022	

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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:

JEFF T HARENDA

Certification No:

31618

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				X
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	X			X
U	Unique Treatment Systems				
SS	Sanitary Sewage Collection	X	NA	X	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)

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
- ☐ 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?

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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.	
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Total Points Generated	0
Score (100 - Total Points Generated)	100
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Financial Management

1. Provider of Financial Information

Name:

joseph Ciurro

Telephone:

262-524-3851

(XXX) XXX-XXXX

E-Mail Address
(optional):

jciurro@waukesha-wi.gov

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:

2022

● 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., CWP 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:

2022

● 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

\$ 3,581,523.85

3.2.2 Adjustments - if necessary (e.g. earned interest, audit correction, withdrawal of excess funds, increase making up previous shortfall, etc.)

+

\$ 93,018.32

3.2.3 Adjusted January 1st Beginning Balance

\$ 3,674,542.17

3.2.4 Additions to Fund (e.g. portion of User Fee, earned interest, etc.)

+

\$ 0.00

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

- \$ 172,565.13

3.2.6 Ending Balance as of December 31st for CMAR Reporting Year

\$ 3,501,977.04

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.

150 pump rebuilds \$4,445.15
Man basket for fall protection \$7,304.72
Scale load cells \$20,306.06
140 sampler \$7,581.00
UV hydraulics \$11,238.21
220 Blower #3 rebuild \$27,152.00
240 pump rebuild \$6,030.49
430 gantry crane \$15,270.00
Centrifuge rebuild \$55,255.00
110 Muffin Monster replace \$17,982.50

0

3.3 What amount should be in your Replacement Fund? \$ 1,698,128.00

Please note: If you had a CWFPP 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	Eliminate two lift stations on the south side of city consolidating by gravity into another station which will be completely rebuilt. The complete rebuild of another existing station and upgrades of two other existing stations.	\$14,000,000	2023
2	Facility Plan 11-15 yr. upgrades. Continued upgrades to motor control centers, sludge drying, and biogas utilization.	\$16,000,000	2024
3	Replace 110/140 bldg. emergency generators	\$4,000,000	2024
4	replace bldg. 510 emergency generators	\$1,500,000	2024
5	Replacement of diffusers and piping in aeration basins 1-3	\$500,000	2024
6	Rebuild/replace bio-solids conveyor	\$400,000	2024
7	Add generator switchgear to blower building	\$450,000	2025

5. Financial Management General Comments

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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:

	Electricity Consumed (kWh)	Natural Gas Consumed (therms)
January	78,785	18
February	87,949	21
March	64,745	145
April	55,047	22
May	65,583	53
June	63,556	177
July	54,610	52
August	50,853	82
September	66,709	94
October	72,050	96
November	90,407	86
December	87,290	96
Total	837,584	942
Average	69,799	79

6.1.2 Comments:

Gas consumption is from 4 onsite emergency generators which are exercised weekly. We have 4 small grinder stations that are not metered separately, adding the averages of the 3 that are would increase total of 837,584 by 3,092 for a total of 840,676 kWh.

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:

Four pump stations have onsite natural gas emergency generators.

6.2.2 Comments:

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Continued I&I reduction along with consolidation/elimination of lift stations should reduce electrical consumption.

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

☐ No

☒ Yes

Year:

2021

By Whom:

Donohue

Describe and Comment:

A study was done to consider elimination/consolidation of six lift stations on the south side of City. Energy consumption was factored into this study. Two lift stations will be eliminated by consolidation.

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?

Continued upgrades to lift stations which include VFD's and continued I&I reduction to reduce volume pumped.

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	815,729	178.13	4,579	445.13	1,833	45,636
February	1,700,385	203.13	8,371	455.53	3,733	33,133
March	780,076	245.20	3,181	487.41	1,600	26,893
April	799,887	334.84	2,389	574.53	1,392	10,443
May	748,585	269.91	2,773	721.93	1,037	1,567
June	853,415	237.06	3,600	524.73	1,626	1,595
July	826,187	237.73	3,475	443.33	1,864	1,921
August	742,083	254.22	2,919	369.12	2,010	833
September	860,892	346.11	2,487	580.29	1,484	943
October	741,440	230.65	3,215	594.95	1,246	6,490
November	830,033	253.10	3,279	637.26	1,303	18,554
December	711,404	250.41	2,841	383.66	1,854	41,260
Total	10,410,116	3,040.49		6,217.87		189,268
Average	867,510	253.37	3,592	518.16	1,749	15,772

7.1.2 Comments:

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We have two natural gas accounts for the plant. One covers six emergency stand-by generators which totaled 6,287 therms. The other account has two emergency stand-by generators on it, in addition to all building heating. The generator portion of that account would estimate to be 2,095 therms resulting in a total of 8,382 therms used for generators and 180,886 therms used for building heat. Process heating was 100% from biogas.

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:

Eight 300kw natural gas emergency generators which are exercised weekly.

7.2.2 Comments:

Our primary influent and our primary effluent is pumped.

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?

We are looking at installing a biogas scrubbing system to produce pipeline quality gas for resale or reuse. We are also doing a feasibility study for supplemental solar.

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:

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9. Energy Efficiency Study

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

☐ No

☒ Yes

☒ Entire facility

Year:

2020

By Whom:

UW Milwaukee Industrial Assessment Center

Describe and Comment:

A student study sponsored by the US Dept. of Energy. They did look at solar in this study and we are looking deeper into that potential.

☒ Part of the facility

Year:

2022

By Whom:

Strand Associates

Describe and Comment:

Biogas reuse was further evaluated to compile a Facility Amendment Plan.

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:

Maintain assets through rehabilitation and replacement program-rehabilitated/replaced: 14,237 LF mainline, 4,583 LF laterals, rehabilitate 131 manholes.
Clean 30% of sewers. Televis 10% of sewers. Inspect all pump stations weekly.

Did you accomplish them?

- ☐ Yes
- ☒ No

If No, explain:

All accomplished except televising work due to scheduling, moving to 2023.

- ☒ 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
- ☒ 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?

Chapter 29

If you have a Sewer Use Ordinance or other similar document, when was it last reviewed and revised? (MM/DD/YYYY) 2022-08-16

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

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- ☒ 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)] ☐ ☐

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:

Sanitary Infrastructure Field Verification & Acceptance Request forms must be submitted and approved prior to acceptance of sanitary infrastructure by the city.

- ☒ 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 Management Plan (SECAP)
- ☒ Lift Station Evaluation Report
- ☒ Others:

Redesign of four lift stations

0

2. Operation and Maintenance

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	72	% of system/year
Root removal	1	% of system/year
Flow monitoring	0	% of system/year
Smoke testing	0	% of system/year
Sewer line televising	5	% of system/year
Manhole inspections	25	% of system/year
Lift station O&M	50	# per L.S./year
Manhole rehabilitation	2	% of manholes rehabbed
Mainline rehabilitation	1	% of sewer lines rehabbed
Private sewer inspections	0	% of system/year

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Private sewer I/I removal % of private services

River or water crossings % of pipe crossings evaluated or maintained

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

17% of river crossings were lined. There were 42 after hours call in alarms for lift stations in 2022. 5 of those were communications related, 12 were due to power outages, and 25 were mechanical or controls related issues. All of these were resolved in the field with no failure of the station. Lift Station O&M involves weekly inspections to test equipment and pump down wet wells. Preventative mechanical maintenance and wet well flushing are performed at least annually. 51 calls were received from residents regarding sewer issues, all complaints were investigated, two were fault of city.

3. Performance Indicators

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

45.81	Total actual amount of precipitation last year in inches
34.62	Annual average precipitation (for your location)
251	Miles of sanitary sewer
35	Number of lift stations
0	Number of lift station failures
1	Number of sewer pipe failures
8	Number of basement backup occurrences
51	Number of complaints
8.580	Average daily flow in MGD (if available)
36.348	Peak monthly flow in MGD (if available)
50.882	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)
0.02	Sanitary sewer overflows (number/sewer mile/yr)
0.03	Basement backups (number/sewer mile)
0.20	Complaints (number/sewer mile)
4.2	Peaking factor ratio (Peak Monthly:Annual Daily Avg)
5.9	Peaking factor ratio (Peak Hourly:Annual Daily Avg)

4. Overflows

LIST OF SANITARY SEWER (SSO) AND TREATMENT FACILITY (TFO) OVERFLOWS REPORTED **

	Date	Location	Cause	Estimated Volume
0	9/12/2022 12:30:00 AM - 9/12/2022 1:10:00 AM	600 Sentry Dr.	Rain, Equipment Failure	1,300,000
1	9/15/2022 12:30:00 PM - 9/16/2022 10:00:00 AM	3001 MacArthur Rd. Waukesha WI 53188	Plugged Sewer, Other causes	6,000
2	9/15/2022 12:30:00 PM - 9/16/2022 10:00:00 AM	3001 MacArthur Rd. Waukesha WI 53188	Plugged Sewer, Other causes	12,000

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3	10/15/2022 9:00:00 AM - 10/19/2022 9:00:00 AM	827 Silvernail Road	Broken Sewer, Broken Sewer	3,000
4	12/24/2022 1:30:00 AM - 12/24/2022 11:00:00 AM	600 Sentry Drive. Waukesha, WI 53186	Broken Sewer, Broken Sewer	57,000

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

What actions were taken, or are underway, to reduce or eliminate SSO or TFO occurrences in the future?

Bolt down covers in remote areas to prevent vandalism. Gasketed and bolt down covers near river. Corrected programming of plant primary influent pumps. Add evaluation of underground piping at plant to next Facility Plan Study.

5. Infiltration / Inflow (I/I)

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

☐ Yes

☒ No

If Yes, please describe:

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:

Heavy rainfall 9/12/22 caused the river to rise above the construction level during a lining project of a river siphon. Inflow caused two basement backups and the surge caused an equipment failure at the CWP which resulted in a TFO.

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

For 2022, the average monthly difference in Clean Water Plant (CWP) influent versus Water Utility pumping was 2.487 MGD. This is lower than the historical (2005-2010) monthly average difference of 3.390 MGD by 0.903 MGD. Continuing the trend from 2021, the average monthly difference was lower than the historical monthly average difference for 9 months of the year. This is all despite a contractor related incident on a project near the Fox River which permitted a significant amount of river water to enter the system in September and a year in which the precipitation was 11.07 inches above the historical annual total.

The plant accepted approximately 207 million gallons of contaminated groundwater from the Lake Michigan return flow piping project from February to September. These amounts have been subtracted off the reported influent flows for these I&I calculations.

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

Funds are annually budgeted for lining sewers, manhole rehabilitation, and grouting as necessary.

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

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Grading Summary

WPDES No: 0029971

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:

City of Waukesha

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)

Use of bolt down covers in remote areas to prevent vandalism. Gasketed and bolt down covers to be used near river. Programming adjustment of new plant primary influent pumps has improved reliability. An evaluation of underground piping at plant will be added to scope of next Facility Plan Study.

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