Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022 Reporting For: **2021**

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	6.3432	x	269	x	8.34	=	14,224
February	6.3118	x	270	x	8.34	=	14,202
March	7.8130	x	243	x	8.34	=	15,836
April	7.6431	x	303	x	8.34	=	19,287
May	7.3545	x	259	x	8.34	=	15,861
June	6.9646	x	232	x	8.34	=	13,501
July	6.7873	x	247	x	8.34	=	13,987
August	7.6828	x	266	x	8.34	=	17,060
September	6.3668	x	287	x	8.34	=	15,234
October	6.3411	x	337	x	8.34	=	17,824
November	5.9667	x	275	x	8.34	=	13,703
December	5.9254	x	306	x	8.34	=	15,111

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

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022 Reporting For: **2021**

3. Flow Meter

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

● Yes Enter last calibration date (MM/DD/YYYY) 12/02/2021

○ 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 3 industrial users for violation of permit limits, and warning letters were sent to 4 for sampling results approaching limits. All users returned to compliance after resampling. A warning letter was issued to a steam cleaner service company for discharge of acid to the collection system. Warning letters were also issued to 11 homeowners for the discharge of grease into the collection system.

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 faclity? If yes, indicate volume in gallons.

Septic Tanks

● Yes 2,088,413 gallons

○ No

Holding Tanks

● Yes 2,130,294 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

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022

Reporting For: **2021**

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 industrial sources, and follow-up inspections conducted if needed. We have a categorical metal Finisher, landfill leachate, and a non-categorical printer that are permitted as Industrial Users that are hauled to the plant.

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

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022 Reporting For: **2021**

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	0	1	0	0
March	10	10	2	1	0	0
April	10	10	4	1	0	0
May	7.9	7.9	2	1	0	0
June	7.9	7.9	0	1	0	0
July	7.9	7.9	0	1	0	0
August	7.9	7.9	2	1	0	0
September	7.9	7.9	1	1	0	0
October	7.9	7.9	1	1	0	0
November	10	10	0	1	0	0
December	10	10	1	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)

12/02/2021

○ 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

If Yes, please explain:

Our weekly Chloride limit of 620 mg/L was exceeded in March of 2021 with a result of 658 mg/L. Our weekly Chloride limit of 570 mg/L was exceeded in May (587), September (570.2), October (574), and November (580.6) These exceedances were reported to DNR

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:

WET testing conducted July18-23, 2021, failed the Chronic portion of the test.

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:

Report was sent to DNR 8/11/2021. Due to plant upgrade construction there were many non-routine process upsets during the sampling event. Two of four primary and tertiary clarifiers were off-line along with two sand filters. We were also accepting contaminated groundwater during the sample period from Lake MI Return Flow pipe construction. And in collection system one of four sewer mains just outside plant was flushed for a lining project. DNR agreed to a delay for resampling until construction was completed.

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

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022

Reporting For: **2021**

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

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022

Reporting For: **2021**

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	5		0	0					
February	5.2		.031	0					
March	6		.003	0					
April	5.6		.007	0					
May	4.9		.066	0					
June	3.1		.003	0					
July	2		.033	0					
August	2.1		.474	0					
September	2.9		.471	0					
October	4		.054	0					
November	5.1		.009	0					
December	4.9		.054	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**

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022 Reporting For: **2021**

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	0.082	1	0	
February	.6	0.088	1	0	
March	.6	0.037	1	0	
April	.6	0.037	1	0	
May	.6	0.068	1	0	
June	.6	0.108	1	0	
July	.6	0.066	1	0	
August	.6	0.253	1	0	
September	.6	0.084	1	0	
October	.6	0.065	1	0	**0**
November	.6	0.036	1	0	
December	.6	0.048	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**

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022

Reporting For: **2021**

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:

2. Land Application Site

2.1 Last Year's Approved and Active Land Application Sites

2.1.1 How many acres did you have?

3311.40 acres

2.1.2 How many acres did you use?

475 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?

- ○ Yes (30 points)
- ● No

0

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 - Liquid 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														0	0
Cadmium		39	85														0	0
Copper		1500	4300														0	0
Lead		300	840														0	0
Mercury		17	57														0	0
Molybdenum	60		75													0		0
Nickel	336		420													0		0
Selenium	80		100													0		0
Zinc		2800	7500														0	0

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022 Reporting For: **2021**

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	<5.6			<4.9			<4.8			5.9				0	0
Cadmium		39	85	1			.78			.61			.5				0	0
Copper		1500	4300	722			571			668			611				0	0
Lead		300	840	25.7			23.6			25.1			26.3				0	0
Mercury		17	57	.54			.32			.45			.54				0	0
Molybdenum	60		75	15.7			18.2			17.1			17.2			0		0
Nickel	336		420	46.7			52			68			42.5			0		0
Selenium	80		100	8.8			8.4			8.6			5.6			0		0
Zinc		2800	7500	1020			803			916			962				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?

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:	**002**
Biosolids Class:	B
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	01/01/2021 - 03/31/2021
Density:	132,000
Sample Concentration Amount:	CFU/G TS
Requirement Met:	Yes
Land Applied:	No
Process:	Anaerobic Digestion
Process Description:	Centrifuge samples. Lab Certification Number: 460024950

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022

Reporting For: **2021**

Outfall Number:	**002**
Biosolids Class:	B
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	04/01/2021 - 06/30/2021
Density:	6,870
Sample Concentration Amount:	CFU/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:	04/01/2021 - 06/30/2021
Density:	89,400
Sample Concentration Amount:	CFU/G TS
Requirement Met:	Yes
Land Applied:	Yes
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:	07/01/2021 - 09/30/2021
Density:	897,000
Sample Concentration Amount:	CFU/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:	10/01/2021 - 12/31/2021
Density:	341
Sample Concentration Amount:	CFU/G TS
Requirement Met:	Yes
Land Applied:	Yes
Process:	Anaerobic Digestion
Process Description:	Storage pile samples. Lab Certification Number: 399089350

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022 Reporting For: **2021**

Outfall Number:	**002**
Biosolids Class:	B
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	10/01/2021 - 12/31/2021
Density:	5,200
Sample Concentration Amount:	CFU/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?

○ 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:	03/31/2021
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:	06/30/2021
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:	09/30/2021
Option Used To Satisfy Requirement:	Incorporation when land apply
Requirement Met:	Yes
Land Applied:	No
Limit (if applicable):	
Results (if applicable):	

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022

Reporting For: **2021**

Outfall Number:	**002**
Method Date:	12/31/2021
Option Used To Satisfy Requirement:	Incorporation when land apply
Requirement Met:	Yes
Land Applied:	Yes
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:

None

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

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022

Reporting For: **2021**

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 with more new equipment continued in 2021.

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022

Reporting For: **2021**

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

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022 Reporting For: **2021**

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?

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022

Reporting For: **2021**

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**

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022 Reporting For: **2021**

Financial Management

1. Provider of Financial Information

Name: Jamie Strobl

Telephone: 262-524-3556 (XXX) XXX-XXXX

E-Mail Address (optional): JStrobl@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: 2021

- ● 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: 2021

- ● 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		$ 3,545,977.31
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		$ 3,545,977.31
3.2.4 Additions to Fund (e.g. portion of User Fee, earned interest, etc.)	+	$ 250,000.00

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022 Reporting For: **2021**

3.2.5 Subtractions from Fund (e.g., equipment replacement, major repairs - use description box 3.2.6.1 below*) - $ 214,453.46

3.2.6 Ending Balance as of December 31st for CMAR Reporting Year $ 3,581,523.85

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.

Primary sludge pump replacement/rebuild $77,526.36
Emergency blower major rebuild $21,700
Thickener pump replacement$21,472.40
UV Lamp replacement $67,816.84
Gas meter replacements $9,930.63
Scum pump replacement $16,007.23

0

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

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	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.	14000000	2022
2	Facility Plan 11-15 yr. upgrades. Continued upgrades to motor control centers, sludge drying, and biogas utilization.	16000000	2024
3	Replace 110/140 bldg. emergency generators	4000000	2024
4	replace bldg. 510 emergency generators	1500000	2025
5	Replacement of diffusers and piping in aeration basins 1-3	500000	2024
6	Rebuild/replace bio-solids conveyor	400000	2024
7	Add generator switchgear to blower building	350000	2025

5. Financial Management General Comments

ENERGY EFFICIENCY AND USE

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022 Reporting For: **2021**

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: 35

	Electricity Consumed (kWh)	Natural Gas Consumed (therms)
January	80,263	20
February	78,239	15
March	59,796	15
April	75,044	14
May	80,067	27
June	62,035	15
July	66,366	15
August	189,653	41
September	59,769	26
October	45,085	27
November	38,207	22
December	48,303	22
Total	**882,827**	**259**
Average	**73,569**	**22**

6.1.2 Comments:

Gas consumption is from 3 onsite emergency generators which are exercised weekly. We have 4 small grinder stations that are not metered separately, adding in the averages for 3 of the same that are would increase the 882,827 kWh total by 3,353 for a total of 886,180 kWh for all stations.

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:

Three pump stations have onsite emergency natural gas generators.

6.2.2 Comments:

Continued I&I reduction should reduce electrical consumption. We also have another gravity consolidation project underway that will eliminate two pump stations.

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

○ No
● Yes

Year: 2021

By Whom: Donohue

Describe and Comment:

A feasibility study was done for the elimination or upgrading of six lift stations on the south side of the city. Energy consumption was a factor in deciding to consolidate via gravity to one new more efficient station.

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 and continued I&I reductions. We have partnered with a firm from Finland for sampling and modeling of I&I in our system.

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	835,864	196.64	4,251	440.94	1,896	37,794
February	882,140	176.73	4,991	397.66	2,218	44,041
March	971,893	242.20	4,013	490.92	1,980	30,744
April	1,349,750	229.29	5,887	578.61	2,333	18,599
May	853,259	227.99	3,743	491.69	1,735	11,237
June	822,826	208.94	3,938	405.03	2,032	2,146
July	945,410	210.41	4,493	433.60	2,180	1,838
August	721,311	238.17	3,029	528.86	1,364	1,445
September	793,537	191.00	4,155	457.02	1,736	1,718
October	839,276	196.57	4,270	552.54	1,519	5,331
November	649,827	179.00	3,630	411.09	1,581	24,788
December	815,729	183.69	4,441	468.44	1,741	32,617
Total	**10,480,822**	**2,480.63**		**5,656.40**		**212,298**
Average	**873,402**	**206.72**	**4,237**	**471.37**	**1,860**	**17,692**

7.1.2 Comments:

We have two natural gas accounts for the plant. One covers six emergency stand-by generators which totaled 5,317 therms. The other account has two emergency back-up generators on it in addition to building heat. The generator portion of that account would estimate to be 1,772 therms resulting in a total of 7,089 therms used for generators and 205,209 therms for building heat. Process heat was 100% from bio-gas.

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022 Reporting For: **2021**

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 back-up 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?

The primary influent and effluent pumps were replaced with newer high efficiency pumps. A leaking underground air line for our activated sludge was replaced as was half of the aeration basin diffusers. Beneficial bio-gas reuse continues to be examined.

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

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022

Reporting For: **2021**

☒ Entire facility

Year: 2020

By Whom: UW Milwaukee Industrial Assessment Center

Describe and Comment:

This was a student project sponsored by the US Dept. of Energy. There was a recommendation to replace the DAFT air system which we are looking at through the budget process, and also a Solar Panel system to offset electrical costs. There were a few other minor recommendations but for the most part they found we are being energy conscious. Some of the costs were unrealistic so we are researching further. Pilot testing was done on bio-gas srubbing for reuse.

☐ Part of the facility

Year:

By Whom:

Describe and Comment:

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

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022

Reporting For: **2021**

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: 11,971 LF mainline, 3,466 LF laterals, rehabilitate 287 manholes.
Clean 30% of sewers.
Televise 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 2022

☒ 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) 03/20/2018

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:

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022 Reporting For: **2021**

☒ 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)]☐☐

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 city acceptance of sanitary infrastructure.

0

☒ 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:

Evaluation of cost for interceptor vs. pump stion/force main upgrade for 6 stations.

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	87	% of system/year
Root removal	1	% of system/year
Flow monitoring	0	% of system/year
Smoke testing	0	% of system/year
Sewer line televising	1	% of system/year
Manhole inspections	5	% of system/year
Lift station O&M	50	# per L.S./year
Manhole rehabilitation	5	% of manholes rehabbed
Mainline rehabilitation	1	% of sewer lines rehabbed

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022 Reporting For: **2021**

Private sewer inspections	1	% of system/year
Private sewer I/I removal	1	% of private services
River or water crossings	100	% of pipe crossings evaluated or maintained

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

There were 64 after hours call in alarms for lift stations in 2021. 4 of those were communications related, 18 were due to power outages, and 42 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. Fifty-one calls were received from residents regarding sewer issues, all complaints were investigated, none were fault of city.

3. Performance Indicators

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

32.7	Total actual amount of precipitation last year in inches
34.62	Annual average precipitation (for your location)
269	Miles of sanitary sewer
35	Number of lift stations
0	Number of lift station failures
1	Number of sewer pipe failures
0	Number of basement backup occurrences
51	Number of complaints
7.189	Average daily flow in MGD (if available)
11.227	Peak monthly flow in MGD (if available)
19.164	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)
0.00	Basement backups (number/sewer mile)
0.19	Complaints (number/sewer mile)
1.6	Peaking factor ratio (Peak Monthly:Annual Daily Avg)
2.7	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	6/15/2021 5:00:00 PM - 6/15/2021 5:15:00 PM	2520 Broken Hill Ct.	Broken Sewer, Broken Sewer	1,000
1	7/21/2021 10:30:00 AM - 7/21/2021 11:30:00 AM	2064 S. West Ave. Waukesha	Broken Sewer, Broken Sewer	40,000

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022 Reporting For: **2021**

2	2/4/2021 2:00:00 PM - 2/4/2021 5:00:00 PM	1154 Burr Oak Blvd. Waukesha, W1 53189	Broken Sewer, Broken Sewer	89,328
3	9/7/2021 10:30:00 AM - 9/7/2021 11:00:00 AM	810 W College Ave	Other causes	3,800
4	9/10/2021 12:45:00 PM - 9/10/2021 1:00:00 PM	2751 Pebble Valley Road	Equipment Failure	21,000

** 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 occurences in the future?

Frame Park lift station was replaced in 2021. Pebble Valley force main was lined in 2021 and lift station upgraded,(that construction project caused two SSOs listed above). The Burr Oak lift station is planned to be eliminated via gravity along with Sunset lift station. Two stations will be completely rebuilt while two others will be upgraded, all four will have on-site emergency generators.

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:

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

For 2021, the average monthly difference in Clean Water Plant (CWP) influent versus Water Utility pumping was 1.383 MGD. This is lower than the historical (2005-2010) monthly average difference of 3.390 MGD by 2.007 MGD. This marks the first time since yearly comparisons began in 2010 where the average monthly difference was lower than the historical monthly average difference for each month of the year. The plant inflow recorded also includes approximately 25 million gallons of contaminated groundwater from the Lake Michigan return flow piping project discharged into the plant in May, June, and July.

We continue to see lower pumping times at our Pebble Valley pump station which we attribute to the extensive sewer lining work conducted in the Pebble Valley area in 2020. This area was recognized as contributing a significant level of I/I to the system in our Sanitary Sewer Master Plan. In 2021, the sewer along the Fox River and on Sentry Dr was lined and many leaks were found, including a major leak near the plant entrance.

The precipitation for the year was 4.74 inches below the historical annual total. This marks the second time in five years that the precipitation fell below the historical average precipitation.

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

Continued lining or re-laying of mainline sewer, lining or re-laying of laterals in the ROW, grouting of individual leaks in the sewers, chimney seals on rehabilitated manholes, continue budgeting for lining of concrete sewers and televising for suspected clear water discharges.

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022

Reporting For: **2021**

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

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022

Reporting For: **2021**

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)

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022

Reporting For: **2021**

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)

Of the five SSO's reported in 2021 two were the result of a force main lining and associated lift station upgrade construction project. These upgrades will minimize future risk of SSO's for this station and force main. The third of five was the result of an I&I minimization construction project which lined a major gravity sewer line. The contractors bypass pumping failed. This line should now be rehabilitated for the future. The fourth was due to construction crews from another project accidentally breaking a gravity sewer line they were working around when their trench collapsed. The fifth was due to the failure of a force main. The associated pump station for that failure is planned to be eliminated by a gravity line eliminating potential future failures.

ACTIONS SET FORTH BY THE GOVERNING BODY OR OWNER RELATING TO THE OVERALL GRADE POINT AVERAGE AND ANY GENERAL COMMENTS

Compliance Maintenance Annual Report

Waukesha City

Last Updated: 5/9/2022

Reporting For: **2021**

(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