Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

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. 701	Influent Monthly Average Flow, MGD	x	Influent Monthly Average BOD Concentration mg/L	x	8.34	=	Influent Monthly Average BOD Loading, lbs/day
January	12.3265	x	284	x	8.34	=	29,145
February	9.1025	x	310	x	8.34	=	23,534
March	16.7932	x	282	x	8.34	=	39,496
April	18.4947	x	190	x	8.34	=	29,307
May	17.7303	x	154	x	8.34	=	22,723
June	13.9250	x	222	x	8.34	=	25,782
July	11.1923	x	200	x	8.34	=	18,669
August	9.0926	x	300	x	8.34	=	22,750
September	14.5013	x	325	x	8.34	=	39,245
October	15.8355	x	102	x	8.34	=	13,471
November	13.9123	x	242	x	8.34	=	28,079
December	14.5626	x	116	x	8.34	=	14,088

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	24.4	x	90	=	21.96
		x	100	=	24.4
Design BOD, lbs/day	40900	x	90	=	36810
		x	100	=	40900

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	1	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	1	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

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

3. Flow Meter

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

● Yes Enter last calibration date (MM/DD/YYYY): 2019-07-10

○ 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:

Infractions occurred that exceeded the industrial limits for pH and chromium. All industries demonstrated a return to compliance for these infractions. The AWWTP did not experience an upset as a result of the discharges.

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 214,640 gallons

○ No

Holding Tanks

● Yes 960,172 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.

Plant performance is not affected by these discharges.

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.

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.

AWWTP receives food processing wastes and landfill leachate. All wastes are tested prior to acceptance. Acceptance is based on toxicity and loading potential. Once waste has been screened and approved by AWWTP staff, it is discharged to the headworks or digestion for treatment.

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

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

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	25	22.5	8	1	0	0
February	25	22.5	13	1	0	0
March	25	22.5	13	1	0	0
April	25	22.5	7	1	0	0
May	25	22.5	5	1	0	0
June	25	22.5	4	1	0	0
July	25	22.5	5	1	0	0
August	25	22.5	4	1	0	0
September	25	22.5	5	1	0	0
October	25	22.5	5	1	0	0
November	25	22.5	7	1	0	0
December	25	22.5	5	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)

● No

If No, please explain:

Our effluent outfall wasn't designed for installation of a flowmeter. Influent flow is used in place of an effluent flowmeter.

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

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

- ● 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**

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

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	5	1	0	0
February	30	27	16	1	0	0
March	30	27	6	1	0	0
April	30	27	3	1	0	0
May	30	27	2	1	0	0
June	30	27	2	1	0	0
July	30	27	2	1	0	0
August	30	27	1	1	0	0
September	30	27	3	1	0	0
October	30	27	3	1	0	0
November	30	27	3	1	0	0
December	30	27	3	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

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

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	10		1.371935484	0					
February	10		3.575	0					
March	10		11.12483871	1					
April	11		5.109	0					
May	11		2.874516129	0					
June	4.4		1.459	0					
July	4.4		1.854516129	0					
August	4.4		1.607419355	0					
September	4.4		2.337333333	0					
October	18		1.977741935	0					
November	18		2.906	0					
December	18		3.646774194	0					

Points per each exceedance of Monthly average:	10
Exceedances, Monthly:	1
Points:	10
Points per each exceedance of weekly average (when there is no monthly average):	2.5
Exceedances, Weekly:	0
Points:	0
Total Number of Points	**10**

10

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?

• Effluent ammonia monthly average limit of 10 mg/l was exceeded in March with an average concentration of 11.12 mg/l reported. A temporary shutdown of the BFP filtrate line was required in March to facilitate piping modifications. This work was necessitated by excessive struvite formation (hard mineral scale) that restricted flow through the pipe. Ammonia rich (average 450 mg/l) filtrate flow was redirected to a point in the liquids process that is not as effective at removing ammonia. BFP filtrate flow was redirected back to the normal process addition point following the successful completion of the piping work on April 10, 2019.

Total Points Generated	10
Score (100 - Total Points Generated)	90
Section Grade	**B**

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

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	0.232	1	0	
February	1	0.458	1	0	
March	1	0.248	1	0	
April	1	0.155	1	0	
May	1	0.127	1	0	
June	1	0.150	1	0	
July	1	0.144	1	0	
August	1	0.176	1	0	
September	1	0.167	1	0	
October	1	0.157	1	0	**0**
November	1	0.130	1	0	
December	1	0.128	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

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

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?

14016 acres

2.1.2 How many acres did you use?

1,124 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. 010 - Biosolids- Compost Class A

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

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

Outfall No. 003 - 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	2.57		<3.36		<3.57		5.73		2.3		<7.45			0	0
Cadmium		39	85	<.13		<.388		<.414		<.498		<.129		<.352			0	0
Copper		1500	4300	30		72.5		72.8		67.6		71.2		71			0	0
Lead		300	840	2.2		3.83		3.7		5.02		3.93		5.74			0	0
Mercury		17	57	.03		<.116		<.153		<.107		<.136		.194			0	0
Molybdenum	60		75	1.1		6.7		2.95		2.24		4		2.77		0		0
Nickel	336		420	1.3		6.49		6.9		7.22		<.112		8.94		0		0
Selenium	80		100	2.5		<7.3		<7.78		<9.36		<2.4		<6.58		0		0
Zinc		2800	7500	48		116		157		132		129		135			0	0

Outfall No. 009 - Biosolids- Compost Class B

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						4.1								0	0
Cadmium		39	85						<.482								0	0
Copper		1500	4300						61.3								0	0
Lead		300	840						14.2								0	0
Mercury		17	57						<.57								0	0
Molybdenum	60		75						1.76							0		0
Nickel	336		420						9.14							0		0
Selenium	80		100						1.23							0		0
Zinc		2800	7500						132								0	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.

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020

Reporting For: **2019**

Outfall Number:	**003**
Biosolids Class:	B
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	01/01/2019 - 02/28/2019
Density:	15,529
Sample Concentration Amount:	CFU/G TS
Requirement Met:	Yes
Land Applied:	No
Process:	Anaerobic Digestion
Process Description:	Anaerobic digestion with a 38-day HRT as verified by the Van Kleeck Method

Outfall Number:	**003**
Biosolids Class:	B
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	03/01/2019 - 04/30/2019
Density:	11,299
Sample Concentration Amount:	CFU/G TS
Requirement Met:	Yes
Land Applied:	Yes
Process:	Anaerobic Digestion
Process Description:	Anaerobic digestion with a 38-day HRT as verified by the Van Kleeck Method

Outfall Number:	**003**
Biosolids Class:	B
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	05/01/2019 - 06/30/2019
Density:	21,242
Sample Concentration Amount:	CFU/G TS
Requirement Met:	Yes
Land Applied:	Yes
Process:	Anaerobic Digestion
Process Description:	Anaerobic digestion with a 38-day HRT as verified by the Van Kleeck Method

Outfall Number:	**003**
Biosolids Class:	B
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	07/01/2019 - 08/31/2019
Density:	16,318
Sample Concentration Amount:	CFU/G TS
Requirement Met:	Yes
Land Applied:	Yes
Process:	Anaerobic Digestion
Process Description:	Anaerobic digestion with a 38-day HRT as verified by the Van Kleeck Method

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

Outfall Number:	**003**
Biosolids Class:	B
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	09/01/2019 - 10/31/2019
Density:	18,901
Sample Concentration Amount:	CFU/G TS
Requirement Met:	Yes
Land Applied:	Yes
Process:	Anaerobic Digestion
Process Description:	Anaerobic digestion with a 38-day HRT as verified by the Van Kleeck Method

Outfall Number:	**003**
Biosolids Class:	B
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	11/01/2019 - 12/31/2019
Density:	13,230
Sample Concentration Amount:	CFU/G TS
Requirement Met:	Yes
Land Applied:	Yes
Process:	Anaerobic Digestion
Process Description:	Anaerobic digestion with a 38-day HRT as verified by the Van Kleeck Method

Outfall Number:	**009**
Biosolids Class:	B
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	04/01/2019 - 06/30/2019
Density:	0
Sample Concentration Amount:	CFU/G TS
Requirement Met:	Yes
Land Applied:	Yes
Process:	Composting
Process Description:	The composting material did not maintain a temperature of 55 degrees C or higher for 15 days or longer. Therefore, it is considered class B biosolids compost and will be used on capping projects for the Outagamie County Recycling and Solid Waste.

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):

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020

Reporting For: **2019**

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:	**003**
Method Date:	01/14/2019
Option Used To Satisfy Requirement:	Volatile Solids Reduction
Requirement Met:	Yes
Land Applied:	No
Limit (if applicable):	>=38
Results (if applicable):	49.10

Outfall Number:	**003**
Method Date:	03/11/2019
Option Used To Satisfy Requirement:	Volatile Solids Reduction
Requirement Met:	Yes
Land Applied:	Yes
Limit (if applicable):	>=38
Results (if applicable):	49.90

Outfall Number:	**003**
Method Date:	05/13/2019
Option Used To Satisfy Requirement:	Volatile Solids Reduction
Requirement Met:	Yes
Land Applied:	Yes
Limit (if applicable):	>=38
Results (if applicable):	45.40

Outfall Number:	**003**
Method Date:	07/15/2019
Option Used To Satisfy Requirement:	Volatile Solids Reduction
Requirement Met:	Yes
Land Applied:	Yes
Limit (if applicable):	>=38
Results (if applicable):	47.90

Outfall Number:	**003**
Method Date:	09/16/2019
Option Used To Satisfy Requirement:	Volatile Solids Reduction
Requirement Met:	Yes
Land Applied:	Yes
Limit (if applicable):	>=38
Results (if applicable):	39.30

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

Outfall Number:	**003**
Method Date:	11/18/2019
Option Used To Satisfy Requirement:	Volatile Solids Reduction
Requirement Met:	Yes
Land Applied:	Yes
Limit (if applicable):	>=38
Results (if applicable):	47.90

Outfall Number:	**009**
Method Date:	06/30/2019
Option Used To Satisfy Requirement:	Aerobic Composting Process
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:

Land application sites were removed from inventory because of incompatible soil types and will no longer be used for spreading biosolids.

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

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

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:

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020

Reporting For: **2019**

Operations/maintenance staff are knowledgeable and dedicated to repairing immediate needs, while also planning ahead for future maintenance and capital improvement projects.

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

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

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: RYAN RICE

Certification No: 35598

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				
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, N and A5 not required in 2019; subclass SS is basic level only.)

- ● 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

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020

Reporting For: **2019**

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**

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

Financial Management

1. Provider of Financial Information

Name: Kelli Rindt

Telephone: (920) 832-6316 (XXX) XXX-XXXX

E-Mail Address (optional): kelli.rindt@appleton.org

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: 2019

- ● 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: 2019

- ● 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		$ 3,672,491.95
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		$ 3,672,491.95
3.2.4 Additions to Fund (e.g. portion of User Fee, earned interest, etc.)	+	$ 151,409.19

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

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 $ 3,823,901.14

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? $ 2,433,362.00

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	Sludge Storage Improvements	8,750,000	2023
2	Receiving Station Improvements	330,000	2021
3	Belt filter press upgrades	5,550,000	2021
4	Multi-Year Electrical Equipment Upgrade	7,233,777	2020
5	Multi-year HVAC Upgrades	2,680,482	2020
6	PLC & SCADA Upgrades	60,000	2021
7	Marshall Heights Lift Station Improvements	200,000	2022
8	Process Improvements - (Filtrate tank/piping, RAS pumps, WGB, Blended Sludge HEX, Effluent Pumps, Primary Clarifier Drives)	2,663,940	2020
9	Water Lateral Replacement	453,331	2020
10	Multi-year Lighting Upgrades	250,000	2022
11	Roof Replacements	400000	2022
12	Multi-Year Driveway and Walkway Replacements	1,163,788	2020
13	Glacier Ridge Lift Station	400,000	2023
14	#1 Aeration Tank Blower Replacement	535,000	2022
15	Radioactive Source Replacements	130,000	2023

5. Financial Management General Comments

ENERGY EFFICIENCY AND USE

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

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: 13

	Electricity Consumed (kWh)	Natural Gas Consumed (therms)
January	38,446	257
February	31,756	390
March	27,922	275
April	27,349	92
May	24,168	16
June	22,090	9
July	19,390	1
August	14,654	3
September	17,958	8
October	20,992	141
November	25,180	309
December	29,539	357
Total	**299,444**	**1,858**
Average	**24,954**	**155**

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:

6.2.2 Comments:

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

- ○ No
- ● Yes

Year: 2009

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

By Whom:

Donohue & Associates, McMahon Engineers

Describe and Comment:

In the last five years the following lift stations have been reviewed and new designs, some including new energy efficient pumps, VFDs, etc., have been completed through construction projects: Briarcliff LS, Midways Rd LS, Spartan Dr LS, and Scarlet Oak LS. Maintaining a lift station inventory that is energy efficient is a City of Appleton objective.

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?

Future lift station pump and motor upgrades will replace less efficient equipment with more energy efficient pumps and motors.

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	841,347	382.12	2,202	903.50	931	41,764
February	812,276	254.87	3,187	658.95	1,233	43,167
March	928,491	520.59	1,784	1,224.38	758	30,949
April	898,586	554.84	1,620	879.21	1,022	18,279
May	931,934	549.64	1,696	704.41	1,323	18,279
June	791,423	417.75	1,894	773.46	1,023	13,961
July	886,177	346.96	2,554	578.74	1,531	10,252
August	655,825	281.87	2,327	705.25	930	10,730
September	819,954	435.04	1,885	1,177.35	696	13,764
October	921,153	490.90	1,876	417.60	2,206	15,408
November	919,212	417.37	2,202	842.37	1,091	23,437
December	886,602	451.44	1,964	436.73	2,030	7,662
Total	**10,292,980**	**5,103.39**		**9,301.95**		**247,652**
Average	**857,748**	**425.28**	**2,099**	**775.16**	**1,231**	**20,638**

7.1.2 Comments:

Biogas boiler and compression system start up in 4th quarter 2019.

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:

7.2.2 Comments:

Effluent pumping is an as-needed process dependent on WWTP inflow and river levels.

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?

Equipment replacement with energy efficient pumps and motors as well as optimization of process controls.
Biogas boiler heating system optimization to increase biogas utilization and heating system efficiency.

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: 2004

By Whom: Joe Cantwell - Focus on Energy

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020

Reporting For: **2019**

Describe and Comment:

Every project has an energy component. The City reviews projects by completing a conditions assessment followed by a review of alternatives. The City chooses the alternative with the least overall project cost (operating and capital). A number of projects resulted in decreased energy usage. A project was completed in last quarter of 2019 to install a third biogas boiler. This boiler provides heat to the half of the plant not heated by two previously installed boilers.

☐ 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

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

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:

Major Goals:
Reconstruction is performed based on existing condition and expected useful life of sanitary sewer infrastructure. Budget constraints limit the amount of sewer infrastructure that can be replaced annually to an amount less than which meets our reconstruction criteria. In 2019, $2,500,000 was budgeted for sewer reconstruction and $480,000 was budgeted for maintenance.

Specific 2019 goals included: System cleaning: 50%; Defects to correct: 25; televising & root control: 11%; Spot repairs: 22; Trouble call responses: 30; Blockages removed: 3; Cross-connections identified: 55; Protruding taps removed: 5; General reduction in I/I through clear water inspection program. These goals are consistent with the 2019 budget for the collection system.

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
- ☒ 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?

Sewer Use Ordinance

If you have a Sewer Use Ordinance or other similar document, when was it last reviewed and revised? (MM/DD/YYYY) 2011-03-08

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

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

☐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)]☐☐

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:

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:

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	40.8	% of system/year
Root removal	1.5	% of system/year
Flow monitoring	1.8	% of system/year
Smoke testing	0.0	% of system/year
Sewer line televising	14.7	% of system/year
Manhole inspections	14.2	% of system/year

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

Lift station O&M	12	# per L.S./year
Manhole rehabilitation	.46	% of manholes rehabbed
Mainline rehabilitation	.73	% of sewer lines rehabbed
Private sewer inspections	1.08	% of system/year
Private sewer I/I removal	0.0001	% 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.

43.78	Total actual amount of precipitation last year in inches
31	Annual average precipitation (for your location)
327	Miles of sanitary sewer
13	Number of lift stations
0	Number of lift station failures
0	Number of sewer pipe failures
25	Number of basement backup occurrences
25	Number of complaints
14.0	Average daily flow in MGD (if available)
18.5	Peak monthly flow in MGD (if available)
53.2	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)
0.00	Sanitary sewer overflows (number/sewer mile/yr)
0.08	Basement backups (number/sewer mile)
0.08	Complaints (number/sewer mile)
1.3	Peaking factor ratio (Peak Monthly:Annual Daily Avg)
3.8	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 (MG)
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)

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020 Reporting For: **2019**

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

- ● Yes
- ○ No

If Yes, please describe:

Rain events combined with spring snow melt runoff resulted in higher than normal flows in the months of April and May.

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:

Average daily and monthly flows increased over 2018, due to rainfall of 43.78 inches in 2019.

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

The following activities are being performed to address inflow/infiltration:
a. 870 manhole inspections
b. 28 manholes rehabilitated
c. 48 miles of sanitary mains televised
d. 2.38 miles of sewer pipe rehabilitated
e. 56 sanitary manhole seals installed
f. 235 laterals replaced
g. 270 basement inspections in conjunction with plumbing inspections and waster meter maintenance, to identify and eliminate illegal clear water connections to the sanitary system. Two violations were found and corrected.

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

Compliance Maintenance Annual Report

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020

Reporting For: **2019**

Grading Summary

WPDES No: 0023221

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	B	3	5	15
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**	**143**
GRADE POINT AVERAGE (GPA) = 3.86				

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

Appleton Wastewater Treatment Facility

Last Updated: 6/15/2020

Reporting For: **2019**

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 = B

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. = 3.86