

PI
7-20-15

15-744

2014 Compliance Maintenance Annual Report (CMAR)

The annual CMAR is a permit required document put together to assist municipalities and the DNR in determining the strengths and weaknesses of the sewage treatment facility, land application program, and sanitary collection system and lift stations. This mandatory report has been submitted for many years.

The effluent discharged from the WWTF in February and March did not meet the BOD requirements of the permit and points were assessed to the report. Cold ambient temperatures and inbound sewage temperatures make for a sluggish biomass in the trickling filters. This is not uncommon for fixed film plants in northern climates. All suspended solids limits were met in 2014.

There was 1 daily violation for chlorine residual on 4/12/14 as a result of a rain event.

Points were assessed for over application of nitrogen from biosolids on a field. This is discussed in detail on the last page of the report. All bi monthly sludge results for metals were below the threshold for "high quality" sludge and land application.

Overall the report shows that the plant in most cases, is able to meet effluent permit requirements at this time. Cold weather operations remain difficult and meeting limits in the dead of winter has historically proven to be a challenge.

The CMAR was reviewed and approved by the WWTF Board at their meeting on June 11th. The last step in the submittal process is to have a resolution number placed on it so I can e-file the report. The City Council needs to accept the report and "place on file" so I can report the resolution number on the last page of the document and validate the report. If you have any questions do not hesitate to call.



Brian Helming
(920) 686-3551

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 **2014**

Influent Flow and Loading

1. Monthly Average Flows and (C)BOD Loadings

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

Outfall No. 701	Influent Monthly Average Flow, MGD	x	Influent Monthly Average (C)BOD Concentration mg/L	x	8.34	=	Influent Monthly Average (C)BOD Loading, lbs/day
January	5.1426	x	424	x	8.34	=	18,183
February	4.6998	x	471	x	8.34	=	18,453
March	6.1938	x	359	x	8.34	=	18,545
April	10.9291	x	192	x	8.34	=	17,532
May	8.5623	x	247	x	8.34	=	17,670
June	8.4350	x	262	x	8.34	=	18,410
July	5.9577	x	399	x	8.34	=	19,814
August	5.7010	x	370	x	8.34	=	17,587
September	5.3657	x	442	x	8.34	=	19,783
October	6.0002	x	489	x	8.34	=	24,485
November	5.5385	x	463	x	8.34	=	21,405
December	5.5859	x	424	x	8.34	=	18,183

2. Maximum Month Design Flow and Design (C)BOD Loading

2.1 Verify the design flow and loading for your facility.

Design	Design Factor	x	%	=	% of Design
Max Month Design Flow, MGD	19	x	90	=	17.1
		x	100	=	19
Design (C)BOD, lbs/day	37500	x	90	=	33750
		x	100	=	37500

2.2 Verify the number of times the flow and (C)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 (C)BOD was greater than 90% of design	Number of times (C)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

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

3. Flow Meter

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

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

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:

5. Septage Receiving

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

Septic Tanks Holding Tanks Grease Traps

Yes

Yes

Yes

No

No

No

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

Septic Tanks

Yes gallons

No

Holding Tanks

Yes gallons

No

Grease Traps

Yes gallons

No

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

6. Pretreatment

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

Yes

No

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

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

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.

Landfill leachate is accepted provided analytical data does not exceed local limits in Chapter 25 of the City of Manitowoc Municipal Code.

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

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

Effluent Quality and Plant Performance (BOD/CBOD)

1. Effluent (C)BOD Results

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

Outfall No. 001	Monthly Average Limit (mg/L)	90% of Permit Limit > 10 (mg/L)	Effluent Monthly Average (mg/L)	Months of Discharge with a Limit	Permit Limit Exceedance	90% Permit Limit Exceedance
January	30	27	25	1		
February	30	27	47	1	1	1
March	30	27	42	1	1	1
April	30	27	23	1		
May	30	27	21	1		
June	30	27	13	1		
July	30	27	22	1		
August	30	27	17	1		
September	30	27	18	1		
October	30	27	22	1		
November	30	27	20	1		
December	30	27	18	1		

* Equals limit if limit is <= 10

Months of discharge/yr	12		
Points per each exceedance with 12 months of discharge		7	3
Exceedances		2	2
Points		14	6
Total number of points			20

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?

The tricking filter attached growth biology tends to be come sluggish during the cold weather months which is normal for this type of system. We monitor influent temperatures daily and in 2014 the average temperature for February and March was only 50 degrees. Recirculation rates are maximized and stack filter boom speeds are sped up in winter to maintain the highest level of biomass inventory as possible. With removal rates of 90% and 88% we still exceeded the monthly average since we have a much higher than typical influent BOD level of 471 mg/L and 359 mg/L for the months in question.

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:

There is no effluent meter at the WWTF since 2009.

3. Treatment Problems

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

20

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

As discussed in 1.2 above winter operations with low influent temperatures are a challenge. The barley malting plant resumed operations in 1/2015 and in 2010 the last year it was in full operation, the low influent temperatures measured were 3 degrees higher than in 2014. Any increase in influent temperature will be welcome and can only help winter operations.

4. Other Monitoring and Limits

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

- Yes
- No

If Yes, please explain:

4/12/14 Daily chlorine residual detect - a rain event caused the flow paced chlorine feed system to over take the sodium bisulfite that day. In conjunction with the annual PM and service of the chlorine system in 2015, the manufacturers rep programmed the system to not respond to flow signals resulting in feed rates over 220 pounds per day. This is still more chlorine than is typically fed but represents the highest daily feed rate encountered after reviewing the past few years data.

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:

The 4th quarter acute test result was 1.41 TUa. The north rock filters upper bearing failed in the fall of 2014 and was out of service this winter reducing biological capacity. There is a very long lead time on repair parts and it has since been repaired. A second set of bearings was purchased and will be installed in the South rock filter during the summer of 2015 since both distributors and bearings were last replaced at the same time.

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:

Two toxicity retests were performed in accordance with the discharge permit. Tests conducted on the week of 1/7/15 and 1/28/15 were both toxicity negative.

Total Points Generated	20
Score (100 - Total Points Generated)	80
Section Grade	C

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

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	10	1		
February	30	27	13	1		
March	30	27	13	1		
April	30	27	7	1		
May	30	27	7	1		
June	30	27	5	1		
July	30	27	6	1		
August	30	27	4	1		
September	30	27	5	1		
October	30	27	8	1		
November	30	27	9	1		
December	30	27	8	1		

* Equals limit if limit is <= 10

Months of Discharge/yr	12		
Points per each exceedance with 12 months of discharge:	7	3	
Exceedances	0	0	
Points	0	0	
Total Number of Points		0	

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

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

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

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

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

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?

7400.70 acres

2.1.2 How many acres did you use?

394.7 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

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

30

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

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 **2014**

Outfall No. 002 - 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	22.4		10		10.4		17		19		30.4			0	0
Cadmium		39	85	.68		.91		.86		1.54		.8		1.31			0	0
Copper		1500	4300	662		682		860		1054		938		735			0	0
Lead		300	840	32		26		44.8		41		38		28.9			0	0
Mercury		17	57	.92		.92		.69		5.14		1.34		.787			0	0
Molybdenum	60		75	8.3		8		10.7		16.7		8.8		17.2		0		0
Nickel	336		420	75		58		43		67		83		91.9		0		0
Selenium	80		100	2.4		7.8		3.2		3.5		2		4.28		0		0
Zinc		2800	7500	1596		1500		1102		1979		1984		2650			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, Contact Us.

Outfall Number:	002
Biosolids Class:	B
Bacteria Type and Limit:	F
Sample Dates:	01/01/2014 - 02/28/2014
Density:	168
Sample Concentration Amount:	CFU/G TS
Requirement Met:	Yes
Land Applied:	No
Process:	
Process Description:	

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

Outfall Number:	002
Biosolids Class:	B
Bacteria Type and Limit:	F
Sample Dates:	07/01/2014 - 08/31/2014
Density:	134
Sample Concentration Amount:	CFU/G TS
Requirement Met:	Yes
Land Applied:	No
Process:	
Process Description:	

Outfall Number:	003
Biosolids Class:	B
Bacteria Type and Limit:	F
Sample Dates:	03/01/2014 - 04/30/2014
Density:	243
Sample Concentration Amount:	CFU/G TS
Requirement Met:	Yes
Land Applied:	No
Process:	
Process Description:	

Outfall Number:	003
Biosolids Class:	B
Bacteria Type and Limit:	F
Sample Dates:	05/01/2014 - 06/30/2014
Density:	411
Sample Concentration Amount:	CFU/G TS
Requirement Met:	Yes
Land Applied:	No
Process:	
Process Description:	

Outfall Number:	003
Biosolids Class:	B
Bacteria Type and Limit:	F
Sample Dates:	09/01/2014 - 10/31/2014
Density:	110
Sample Concentration Amount:	CFU/G TS
Requirement Met:	Yes
Land Applied:	Yes
Process:	
Process Description:	

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 **2014**

Outfall Number:	003
Biosolids Class:	B
Bacteria Type and Limit:	F
Sample Dates:	11/01/2014 - 12/31/2014
Density:	346
Sample Concentration Amount:	CFU/G TS
Requirement Met:	Yes
Land Applied:	Yes
Process:	
Process Description:	

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, Contact Us.

Outfall Number:	002
Method Date:	02/28/2014
Option Used To Satisfy Requirement:	INJ
Requirement Met:	Yes
Land Applied:	No
Limit (if applicable):	
Results (if applicable):	

Outfall Number:	002
Method Date:	08/31/2014
Option Used To Satisfy Requirement:	INJ
Requirement Met:	Yes
Land Applied:	No
Limit (if applicable):	
Results (if applicable):	

Outfall Number:	003
Method Date:	04/30/2014
Option Used To Satisfy Requirement:	INJ
Requirement Met:	Yes
Land Applied:	No
Limit (if applicable):	
Results (if applicable):	

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

Outfall Number:	003		
Method Date:	06/30/2014		
Option Used To Satisfy Requirement:	INJ		
Requirement Met:	Yes		
Land Applied:	No		
Limit (if applicable):			
Results (if applicable):			
Outfall Number:	003		
Method Date:	10/31/2014		
Option Used To Satisfy Requirement:	INJ		
Requirement Met:	Yes		
Land Applied:	Yes		
Limit (if applicable):			
Results (if applicable):			
Outfall Number:	003		
Method Date:	12/31/2014		
Option Used To Satisfy Requirement:	INJ		
Requirement Met:	Yes		
Land Applied:	Yes		
Limit (if applicable):			
Results (if applicable):			
<p>5.2 Was the limit exceeded or the process criteria not met at the time of land application?</p> <p><input type="radio"/> Yes (40 Points)</p> <p><input checked="" type="radio"/> No</p> <p>If yes, what action was taken?</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div>			
<p>6. Biosolids Storage</p> <p>6.1 How many days of actual, current biosolids storage capacity did your wastewater treatment facility have either on-site or off-site?</p> <ul style="list-style-type: none"> <input checked="" type="radio"/> >= 180 days (0 Points) <input type="radio"/> 150 - 179 days (10 Points) <input type="radio"/> 120 - 149 days (20 Points) <input type="radio"/> 90 - 119 days (30 Points) <input type="radio"/> < 90 days (40 Points) <input type="radio"/> N/A (0 Points) <p>6.2 If you checked N/A above, explain why.</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div>			
<p>7. Issues</p> <p>7.1 Describe any outstanding biosolids issues with treatment, use or overall management:</p> <div style="border: 1px solid black; padding: 5px; min-height: 50px;"> <p>There was some biosolids that remained in lagoon #8 after the freeze up last fall. The calculated application rate to field #7330 was 165.9 pounds versus the recommended rate of 165 pounds of N per acre. This is not the norm for us but the CMAR points will be assessed based on the calculated application rate.</p> </div>			

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

Total Points Generated	30
Score (100 - Total Points Generated)	70
Section Grade	D

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

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 Manual 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:

The computerized preventative maintenance work order system is updated and followed each month. All work orders are completed and unscheduled repairs are documented.

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

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

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

Operator Certification and Education

<p>1. Operator-In-Charge</p> <p>1.1 Did you have a designated operator-in-charge during the report year?</p> <ul style="list-style-type: none"> ● Yes (0 points) ○ No (20 points) <p>Name <input style="width: 300px;" type="text" value="BRIAN M HELMINGER"/></p> <p>Certification No: <input style="width: 150px;" type="text" value="28032"/></p>	
<p>2. Certification Requirements</p> <p>2.1 In accordance with Chapter NR 114.08 and 114.09, Wisconsin Administrative Code, what grade and subclass(es) were required for the operator-in-charge to operate the wastewater treatment plant and what grade and subclass(es) were held by the operator-in-charge?</p> <p>Required:</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>4 - ABEFGHIJ; A - PRIMARY SETTLING; B - TRICKLING FILTER/RBC; E - DISINFECTION; F - ANAEROBIC DIGESTION; G - MECHANICAL SLUDGE; H - FILTRATION; I - PHOSPHORUS REMOVAL; J - LABORATORY</p> </div> <p>Held:</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>4 - ABCEFGHIJ; T - D; 4 - A=PRIMARY SETTLING GRADE 4; B=TRICKLING FILTER/RBC GRADE 4; C=ACTIVATED SLUDGE GRADE 4; E=DISINFECTION GRADE 4; F=ANAEROBIC DIGESTION GRADE 4; G=MECHANICAL SLUDGE GRADE 4; H=FILTRATION GRADE 4; I=PHOSPHORUS REMOVAL GRADE 4; J=LABORATORY GRADE 4; T - D=PONDS/AERATED LAGOONS GRADE T</p> </div> <p>2.2 Was the operator-in-charge certified at the appropriate level to operate this plant?</p> <ul style="list-style-type: none"> ● Yes (0 points) ○ No (20 points) 	
<p>3. Succession Planning</p> <p>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)?</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> One or more additional certified operators on staff <input type="checkbox"/> An arrangement with another certified operator <input type="checkbox"/> An arrangement with another community with a certified operator <input type="checkbox"/> An operator on staff who has an operator-in-training certificate for your plant and is expected to be certified within one year <input type="checkbox"/> A consultant to serve as your certified operator <input type="checkbox"/> None of the above (20 points) <p>If "None of the above" is selected, please explain:</p> <div style="border: 1px solid black; height: 20px; margin-top: 5px;"></div>	
<p>4. Continuing Education Credits</p> <p>4.1 If you had a designated operator-in-charge, was the operator-in-charge earning Continuing Education Credits at the following rates?</p> <p>Grades T, 1, and 2:</p> <ul style="list-style-type: none"> ○ Averaging 6 or more CECs per year. ○ Averaging less than 6 CECs per year. <p>Grades 3 and 4:</p> <ul style="list-style-type: none"> ● 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

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

Financial Management

<p>1. Provider of Financial Information</p> <p>Name: <input style="width: 150px;" type="text" value="Brian Helminger"/></p> <p>Telephone: <input style="width: 150px;" type="text" value="(920) 686-3550"/> (XXX) XXX-XXXX</p> <p>E-Mail Address (optional): <input style="width: 300px;" type="text" value="bhelminger@manitowoc.org"/></p>																									
<p>2. Treatment Works Operating Revenues</p> <p>2.1 Are User Charges or other revenues sufficient to cover O&M expenses for your wastewater treatment plant AND/OR collection system ?</p> <p><input checked="" type="radio"/> Yes (0 points)</p> <p><input type="radio"/> No (40 points)</p> <p>If No, please explain:</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p>2.2 When was the User Charge System or other revenue source(s) last reviewed and/or revised?</p> <p>Year: <input style="width: 50px;" type="text" value="2014"/></p> <p><input checked="" type="radio"/> 0-2 years ago (0 points)</p> <p><input type="radio"/> 3 or more years ago (20 points)</p> <p><input type="radio"/> N/A (private facility)</p> <p>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?</p> <p><input checked="" type="radio"/> Yes (0 points)</p> <p><input type="radio"/> No (40 points)</p>	0																								
REPLACEMENT FUNDS [PUBLIC MUNICIPAL FACILITIES SHALL COMPLETE QUESTION 3]																									
<p>3. Equipment Replacement Funds</p> <p>3.1 When was the Equipment Replacement Fund last reviewed and/or revised?</p> <p>Year: <input style="width: 50px;" type="text" value="2014"/></p> <p><input checked="" type="radio"/> 1-2 years ago (0 points)</p> <p><input type="radio"/> 3 or more years ago (20 points)</p> <p><input type="radio"/> N/A</p> <p>If N/A, please explain:</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p>3.2 Equipment Replacement Fund Activity</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">3.2.1 Ending Balance Reported on Last Year's CMAR</td> <td style="width: 5%;"></td> <td style="width: 5%; text-align: right;">\$</td> <td style="width: 30%; text-align: right;"><input style="width: 100%;" type="text" value="8,952,826.00"/></td> </tr> <tr> <td>3.2.2 Adjustments - if necessary (e.g. earned interest, audit correction, withdrawal of excess funds, increase making up previous shortfall, etc.)</td> <td style="text-align: center;">+</td> <td style="text-align: right;">\$</td> <td style="text-align: right;"><input style="width: 100%;" type="text" value="409,905.00"/></td> </tr> <tr> <td>3.2.3 Adjusted January 1st Beginning Balance</td> <td></td> <td style="text-align: right;">\$</td> <td style="text-align: right;"><input style="width: 100%;" type="text" value="9,362,731.00"/></td> </tr> <tr> <td>3.2.4 Additions to Fund (e.g. portion of User Fee, earned interest, etc.)</td> <td style="text-align: center;">+</td> <td style="text-align: right;">\$</td> <td style="text-align: right;"><input style="width: 100%;" type="text" value="0.00"/></td> </tr> <tr> <td>3.2.5 Subtractions from Fund (e.g., equipment replacement, major repairs - use description box 3.2.6.1 below*)</td> <td style="text-align: center;">-</td> <td style="text-align: right;">\$</td> <td style="text-align: right;"><input style="width: 100%;" type="text" value="0.00"/></td> </tr> <tr> <td>3.2.6 Ending Balance as of December 31st for CMAR Reporting Year</td> <td></td> <td style="text-align: right;">\$</td> <td style="text-align: right;"><input style="width: 100%;" type="text" value="9,362,731.00"/></td> </tr> </table>	3.2.1 Ending Balance Reported on Last Year's CMAR		\$	<input style="width: 100%;" type="text" value="8,952,826.00"/>	3.2.2 Adjustments - if necessary (e.g. earned interest, audit correction, withdrawal of excess funds, increase making up previous shortfall, etc.)	+	\$	<input style="width: 100%;" type="text" value="409,905.00"/>	3.2.3 Adjusted January 1st Beginning Balance		\$	<input style="width: 100%;" type="text" value="9,362,731.00"/>	3.2.4 Additions to Fund (e.g. portion of User Fee, earned interest, etc.)	+	\$	<input style="width: 100%;" type="text" value="0.00"/>	3.2.5 Subtractions from Fund (e.g., equipment replacement, major repairs - use description box 3.2.6.1 below*)	-	\$	<input style="width: 100%;" type="text" value="0.00"/>	3.2.6 Ending Balance as of December 31st for CMAR Reporting Year		\$	<input style="width: 100%;" type="text" value="9,362,731.00"/>	
3.2.1 Ending Balance Reported on Last Year's CMAR		\$	<input style="width: 100%;" type="text" value="8,952,826.00"/>																						
3.2.2 Adjustments - if necessary (e.g. earned interest, audit correction, withdrawal of excess funds, increase making up previous shortfall, etc.)	+	\$	<input style="width: 100%;" type="text" value="409,905.00"/>																						
3.2.3 Adjusted January 1st Beginning Balance		\$	<input style="width: 100%;" type="text" value="9,362,731.00"/>																						
3.2.4 Additions to Fund (e.g. portion of User Fee, earned interest, etc.)	+	\$	<input style="width: 100%;" type="text" value="0.00"/>																						
3.2.5 Subtractions from Fund (e.g., equipment replacement, major repairs - use description box 3.2.6.1 below*)	-	\$	<input style="width: 100%;" type="text" value="0.00"/>																						
3.2.6 Ending Balance as of December 31st for CMAR Reporting Year		\$	<input style="width: 100%;" type="text" value="9,362,731.00"/>																						

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

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.

There were no withdrawals or additional deposits in 2014.

3.3 What amount should be in your Replacement Fund? \$ 7,636,225.00

Please note: If you had a CWF 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 HELP link under Info 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	Lakeside Blvd liftstation upgrade- replace liftstation and relocate the existing forcemain	373536.7	2006
2	2006 Sewer relay projects Sewer relay - Holly Drive - E. Magnolia to East Cedar Ave. Sewer relay - E. Magnolia Ave - to Memorial Drive - to Holly Drive Project total 2194 ft.	413660	2006
3	North 40th and Archer liftstation/forcemain/discharge reroute - Complete replacement of existing liftstation, replacement and upsize of under river forcemain, reroute of sewage flow via forcemain and gravity line.	2304764.6	2009
4	2006 Relining of Sewers WU-06-7 Reline of sanitary sewers consisting of: 4735 LF of 8" sanitary sewer, 210 LF of 10" sanitary sewer, 1255 LF of 18" sanitary sewer, and 1262 LF of 20" sanitary sewer.	295897	2006
5	2007 Relining of Sewers WU-07-7 Reline of sanitary sewers consisting of 3551 LF of 8" sanitary sewer and 1706 LF of 10" sanitary sewer.	118135	2007
6	2007 Sewer Relay projects - South 18th Street from Grand Ave to Dewey Street, Rankin from N 18th Street to North 21st, and North 11th from Waldo Blvd to School Street	244754	2007
7	WWTF SCADA upgrade - replacement computers and update of control software. Custom programming and addition of historical trending.	25573	2007
8	Replacement WWTF Utility/Plow truck	24349	2007
9	Chlorination system improvements - vacuum chlorine withdrawal manifold added and replacement gas leak detection equipment	6361	2007
10	Tertiary Filter Improvements - removal and disposal of existing media, remove and clean air scour laterals, repair and anchor air scour piping, replace main air supply connections, install new filtration media	172250	2008

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

11	South 35th & Meadow Lane Reroute of the 40th and Archer liftstation discharge flow. Installation of 1649 feet of 16 inch PVC forcemain and 1876 feet of 18 inch PVC sewer pipe with manholes and steel casing for rail road crossing.	229283	2008
12	2008 Sanitary Sewer Relay Project - Madison St to South 10th Street, South 8th Street to Madison Street Abandon existing and install a total of 1830 feet of 6" sanitary building sewer, 173 feet of 8" sanitary sewer, 90 feet of 10" sanitary sewer, and 833 feet of 15" sanitary sewer pipe.	84131.52	2008
13	2008 New and Relay Sanitary Sewer Wisconsin Ave, Hecker Road, and South 6th and Jay street projects Abandon and replace various sewers, replace manholes and casting and covers	77914.68	2008
14	2008 Re-lining of Sanitary Sewers Reline of 3079 feet of 8" sanitary sewer, 1554 feet of 12" sanitary sewer, and 2126 feet of 15" sanitary sewer	222302.25	2008
15	Replacement of Wastewater Utility passenger vehicle	17267	2009
16	2009 Relining sanitary sewers - Furnish and install 1234 feet CIPP 8" sewer, 3144 feet CIPP 10" sewer, and 279 feet of CIPP 12" sewer	124303	2009
17	South 10th Street Sanitary Sewer Relay - Remove, Supply, Install, Relay of 2658 feet 8" sewer, 1063 feet 10" sewer, 293 feet of 15" sewer and 45 feet of 18" sewer.	395787.81	2009
18	2009 New & Relay Sanitary Sewers - Reed Avenue - E. Crescent Drive - MacArthur Drive - E. Linden Avenue - Arden Lane - S. 15th Street	285715.57	2009
19	Step Screens and Washer Compactors - removal of existing coarse bar screens(2) and replacement with Vulcan 1/8" fine step screens(2) each mated with Vulcan screenings washer/compactors	678715	2010
20	2010 Relining Sanitary Sewers - furnish and install CIPP for 4359 feet of 8" sanitary sewer and 2090 feet of 10" sanitary sewer	155456.5	2010
21	2010 Relay Sanitary Sewers - Macarther Drive, Iris Drive, E. Linden Avenue - Remove, replace, and restore 1556 feet of 8" sanitary sewer line	409346.4	2010
22	Sanitary sewer capacity study	128200	2010
23	2011 Relining of Sanitary Sewers - Furnish and install CIPP for 5028 feet of 8 inch lines, 921 feet of 10 inch sewer, 1398 feet of 15 inch sewer, and 622 feet of 20 inch sewer lines.	238180	2011
24	2012 Relining of Sanitary Sewers - Furnish and install CIPP for 2077 feet of 8 inch lines, 961 feet of 10 inch sewer, 696 feet of 12 inch sewer, 870 feet of 15 inch sewer. Includes mobilization, traffic control, and lateral reinstatement.	138527	2012
25	WWTF Operational Needs Review - Consultant to be hired to evaluate the existing facility and make recommendations for future capital projects based on current and anticipated future NPDES permit requirements. The RFP's from prospective consultants are due 7/3/12	54500	2012
26	Hot water pipe replacement - WWTF Piping failed requiring replacement. Complete design, purchase, excavation, and replacement of supply and return underground hydronic piping from Building 800 to Building 100 and Building 930.	196777	2011
27	Remove leaking existing membrane roof and insulation and replace with new insulation and built up asphaltic roofing system on the mid level roof of building 500 - Stack Filter building.	57000	2013
28	2013 Relining of Sanitary Sewers - Furnish and install CIPP for 3324 feet of 8 inch lines, 101 feet of 10 inch lines, 1674 feet of 12 inch lines, 396 feet of 15 inch lines, and 722 feet of 21 inch sewer lines. Includes mobilization, traffic control, and lateral reinstatement.	242742	2013
29	2013 Sanitary Sewer Construction Furnish and relay 737 ft of 8" sewer, 53 ft of 10" sewer, 24 ft of 12" sewer and 31 ft of 15" sewer.	146365.87	2013
30	2014 Relining of Sanitary Sewers - Furnish and install CIPP for 9086 feet of 8 inch, 867 feet of 10 inch, 365 feet of 12 inch, to include mobilization, traffic control, and lateral reinstatement.	284057	2014
31	Influent Screw Pump Improvements - Project removes existing aluminum covers to expose corroded pump deflector plates. New stainless steel deflector plates to be installed with stainless steel anchors in off set hole pattern. Concrete pour joints and areas of degradation to be cleaned and repaired. Aluminum covers to be reinstalled at completion.	101,675	2015

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

32	Horseshoe Drive Pump Station Rehabilitation - Provision and construction of replacement submersible pump station and emergency generator, new electrical service, and SCADA modifications and integration.	309,000	2015
33	2015 Re-lining of Sanitary Sewers Project includes mobilization and traffic control. Furnish and reline with CIPP of 11,073 feet of 8 inch sewers lines. Furnish and install CIPP of 774 feet of 15 inch sewer lines plus all lateral reinstatement.	257,505	2015
34	2015 Sanitary Sewer construction - Various tasks to include removal and rebury of 98 feet of 8" sewer and 62 feet of 12" sewer lines. Provision of manholes, reconnection of 7 laterals, with restoration of site with specified base materials, concrete pavement, and televised completed repairs.	143,849	2015

5. Financial Management General Comments

ITA and PERF forms submitted for a \$7.75M Clean Water Fund loan to fund a plant upgrade. Additional fund are available in the ERF as the balance is higher than what is required.

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

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

Sanitary Sewer Collection Systems

1. CMOM Program

1.1 Do you have a Capacity, Management, Operation & Maintenance (CMOM) requirement in your WPDES permit?

- Yes
- No

1.2 Did you have a documented (written records/files, computer files, video tapes, etc.) sanitary sewer collection system operation & maintenance (O&M) or CMOM program last calendar year?

- Yes (Continue with question 1)
- No (30 points) (Go to question 2)

1.3 Check the elements listed below that are included in your O&M or CMOM program.

Goals

Describe the specific goals you have for your collection system:

Organization

Do you have the following written organizational elements (check only those that apply)?

- Ownership and governing body description
- Organizational chart
- Personnel and position descriptions
- Internal communication procedures
- Public information and education program

Legal Authority

Do you have the legal authority for the following (check only those that apply)?

- Sewer use ordinance Last Revised Date (MM/DD/YYYY)
- Pretreatment/industrial control Programs
- Fat, oil and grease control
- Illicit discharges (commercial, industrial)
- Private property clear water (sump pumps, roof or foundation drains, etc.)
- Private lateral inspections/repairs
- Service and management agreements

Maintenance Activities (provide details in question 2)

Design and Performance Provisions

How do you ensure that your sewer system is designed and constructed properly?

- State plumbing code
- DNR NR 110 standards
- Local municipal code requirements
- Construction, inspection, and testing
- Others:

Wisconsin Sewer and Water Standard Specifications

Overflow Emergency Response Plan:

Does your emergency response capability include (check only those that apply)?

- Alarm system and routine testing
- Emergency equipment
- Emergency procedures
- Communications/notifications (DNR, internal, public, media, etc.)

Capacity Assurance:

How well do you know your sewer system? Do you have the following?

- Current and up-to-date sewer map
- Sewer system plans and specifications

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

- Manhole location map
- Lift station pump and wet well capacity information
- Lift station O&M manuals

Within your sewer system have you identified the following?

- Areas with flat sewers
- Areas with surcharging
- Areas with bottlenecks or constrictions
- Areas with chronic basement backups or SSOs
- Areas with excess debris, solids, or grease accumulation
- Areas with heavy root growth
- Areas with excessive infiltration/inflow (I/I)
- Sewers with severe defects that affect flow capacity
- Adequacy of capacity for new connections
- Lift station capacity and/or pumping problems
- Annual Self-Auditing of your O&M/CMOM Program to ensure above components are being implemented, evaluated, and re-prioritized as needed
- Special Studies Last Year (check only those that apply):
 - Infiltration/Inflow (I/I) Analysis
 - Sewer System Evaluation Survey (SSES)
 - Sewer Evaluation and Capacity Management Plan (SECAP)
 - Lift Station Evaluation Report
 - Others:

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	<input type="text" value="100"/>	% of system/year
Root removal	<input type="text" value="5"/>	% of system/year
Flow monitoring	<input type="text" value="0"/>	% of system/year
Smoke testing	<input type="text" value="0"/>	% of system/year
Sewer line televising	<input type="text" value="7.5"/>	% of system/year
Manhole inspections	<input type="text" value="100"/>	% of system/year
Lift station O&M	<input type="text" value="14"/>	# per L.S./year
Manhole rehabilitation	<input type="text" value="0"/>	% of manholes rehabbed
Mainline rehabilitation	<input type="text" value="1"/>	% of sewer lines rehabbed
Private sewer inspections	<input type="text" value="0"/>	% of system/year
Private sewer I/I removal	<input type="text" value="0"/>	% of private services

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

The 100% figure reported above for cleaning applies to sewer line that are 12 inches in diameter and smaller.

3. Performance Indicators

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

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

37.49	Total actual amount of precipitation last year in inches
30.5	Annual average precipitation (for your location)
189.75	Miles of sanitary sewer
14	Number of lift stations
0	Number of lift station failures
14	Number of sewer pipe failures
14	Number of basement backup occurrences
58	Number of complaints
6.512	Average daily flow in MGD (if available)
10.921	Peak monthly flow in MGD (if available)
	Peak hourly flow in MGD (if available)

3.2 Performance ratios for the past year:

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

4. Overflows

LIST OF SANITARY SEWER (SSO) AND TREATMENT FACILITY (TFO) OFERFLOWS 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)

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

- Yes
- No

If Yes, please describe:

As a mature community with many old sewers in use, I/I is present in the community but does not create frequent problems for the WWTF.

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:

No changes for 2014. The annual slip lining and sewer construction contracts were bid out and completed as in previous years.

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

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

There is an annual and consistent effort made in televising, spot sewer repairs, root cutting and jetting and flushing of the sewers. to maintain the system and minimize sewer back ups.

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

Compliance Maintenance Annual Report

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

Grading Summary

WPDES No: 0024601

SECTIONS	LETTER GRADE	GRADE POINTS	WEIGHTING FACTORS	SECTION POINTS
Influent	A	4	3	12
BOD/CBOD	C	2	10	20
TSS	A	4	5	20
Biosolids	D	1	5	5
Staffing/PM	A	4	1	4
OpCert	A	4	1	4
Financial	A	4	1	4
Collection	A	4	3	12
TOTALS			29	81
GRADE POINT AVERAGE (GPA) = 2.79				

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

Manitowoc Wastewater Treatment Facility

Last Updated: Reporting For:
6/12/2015 2014

Resolution or Owner's Statement

Name of Governing Body or Owner:	City of Manitowoc Common Council
Date of Resolution or Action Taken:	7-20-15
Resolution Number:	DOC # 15-744
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. Regardless of grade, required for Collection Systems if SSOs were reported):	
Influent Flow and Loadings: Grade = A	
<input type="text"/>	
Effluent Quality: BOD: Grade = C	
<input type="text"/>	
Effluent Quality: TSS: Grade = A	
<input type="text"/>	
Biosolids Quality and Management: Grade = D	
As discussed in the data section, one field out of the 29 application sites in 2014 calculated out to an over application of just 0.9 pounds per acre. Thirty points are assessed regardless as the CMAR form asks a simple yes or no to if you have over applied to any sites. Based upon the D grade for the section it would appear that many deficiencies were identified when in actuality the land application program is one of the largest and most well managed in the state.	
Staffing: Grade = A	
<input type="text"/>	
Operator Certification: Grade = A	
<input type="text"/>	
Financial Management: Grade = A	
<input type="text"/>	
Collection Systems: Grade = A	
<input type="text"/>	
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. = 2.79	
<input type="text"/>	