Public Info
6-16-14

14-1275
CONSENT

2013 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. All suspended solid and phosphorus limits were met in 2013. Traditionally these cold weather months are challenging due to the effects of the low temperature on the biomass at the plant. This is not uncommon for fixed film plants in northern climates.

One bypasses of untreated sewage was documented and reported in 2013. This related to a broken pipe and sewer leak into the storm sewer. This line was televised and capped off in concrete.

There was 1 daily violation for chlorine residual.

Several points were also assessed for elevated molybdenum result in our biosolids. This concentration has been not been found in the past and has not been found in the bi monthly tests run since. The concentration is only above the threshold for "high quality" level sludge and is not above the ceiling concentration for land application.

Overall the report shows that the plant in most cases, is able to exceed effluent permit requirements at this time. As the plant ages and equipment fails or becomes obsolete we will attempt to repair or replace controls and equipment to maintain plant reliability and permit required removal efficiency. Cold weather operations remain difficult and meeting limits in the dead of winter is challenging to say the least. Planning is on going for future improvements in the plant that will allow us to maintain reliable service in the future.

The CMAR was reviewed and approved by the WWTF Board at their meeting on May 13th. 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

Brian Helminger
(920) 686-3551

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 5/13/2014	Reporting Year: 2013

Influent Flow and Loading

Questions	
1.	Monthly average flows and (C)BOD loadings.

InFluent 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, pounds/day
January	5.610	X	349	X	8.34	=	16352
February	5.337	X	379	X	8.34	=	16891
March	6.784	X	325	X	8.34	=	18375
April	10.10	X	165	X	8.34	=	13937
May	6.592	X	281	X	8.34	=	15433
June	6.007	X	282	X	8.34	=	14104
July	6.410	X	293	X	8.34	=	15677
August	5.674	X	350	X	8.34	=	16583
September	5.044	X	420	X	8.34	=	17688
October	5.634	X	574	X	8.34	=	26970
November	7.203	X	399	X	8.34	=	23966
December	5.321	X	393	X	8.34	=	17456

2.	Maximum month design flow and design (C)BOD loading.

	Design	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

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 5/13/2014	Reporting Year: 2013

Influent Flow and Loading (Continued)

3. Number of times the flow and (C)BOD exceeded 90% or 100% of design, points earned, and score:

	Months of Influent Flow	Number of times flow was greater than 90% of design	Number of times flow was greater than 100% of design	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 exceedance		2	1	3	2
Exceedances		0	0	0	0
Points		0	0	0	0
Total Number of Points					0

4. Was the influent flow meter calibrated in the last year?

- ● Yes Enter last calibration date, MM/DD/YYYY 06/28/2013
- ○ No -explain

5. Sewer Use Ordinance

5.1 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 describe:

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 5/13/2014	Reporting Year: 2013

Influent Flow and Loading (Continued)

5.2 Was it necessary to enforce?

○ Yes
● No

If Yes, please describe:

6. Septage Receiving

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

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

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

Septic Tanks	Holding Tanks	Grease Traps
● Yes ○ No	● Yes ○ No	○ Yes ● No
1,934,600 gal	2,110,000 gal	0 gal

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

The WWTF is operating well under hydraulic and organic design capacities. Acceptance of hauled waste is limited or eliminated during high flow events due to storms and rain.

7. Pretreatment

7.1 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 situationand your community's response:

7.2 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 plant from the discharge of hauled industrial wastes.

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 5/13/2014	Reporting Year: 2013

Influent Flow and Loading (Continued)

	We accept landfill leachate and high strength waste as long as the analytical data does not exceed local limits of Chapter 25 of the Municipal Code.

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

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 5/13/2014	Reporting Year: 2013

Effluent Quality and Plant Performance ((C)BOD)

Questions	
1.	Monthly average effluent values, exceedances, and points for (C)BOD:

Outfall No.001	Monthly Average C(BOD) Limit (mg/L)	90% of Permit Limit >10 (mg/L)*	Effluent Monthly Average C(BOD) (mg/L)	Months of Discharge with a Limit	Permit Limit Exceedance	90% Permit Limit Exceedance
January	30	27	17	1	0	0
February	30	27	32	1	1	1
March	30	27	40	1	1	1
April	30	27	18	1	0	0
May	30	27	21	1	0	0
June	30	27	13	1	0	0
July	30	27	15	1	0	0
August	30	27	16	1	0	0
September	30	27	17	1	0	0
October	30	27	24	1	0	0
November	30	27	20	1	0	0
December	30	27	13	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					2	2
Points					14	6
Total Number of Points						20

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

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

The attatched growth biology becomes sluggish and effluent suffers during the winter months. We maximize recirculation and wetting rates in order to extract the best treatment possible from the facility. The permit limit was not met despite removing over 91% and 87% of influent BOD for the months of February and March.

3.	Was the effluent flow meter calibrated in the last year?

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 5/13/2014	Reporting Year: 2013

Effluent Quality and Plant Performance ((C)BOD) (Continued)

	○ Yes - enter last calibration date, MM/DD/YYYY:
	● No - explain:
	Meter taken out of servce in 2009.
4.	What problems, if any, were experienced over the last year that threatened treatment?
	Cold weather and low influent temperatures are constant winter season challenges at this facility.
5.	Other Monitoring and Limits
	5.1 At any time in the past year was there an exceedance of a permit limit for any other pollutants suchas metals, pH, residual chlorine, or fecal coliform? ● Yes ○ No If Yes, please describe: There was one daily chlorine residual violation in 2013.
	5.2 At any time in the past year was there an effluent acute or chronic whole effluent toxicity (WET) test? ● Yes ○ No If Yes, please describe: All permit required WET tests were performed and retests were analyzed when necessary.
	5.3 If the biomonitoring (WET) test did not pass, were steps taken to identify and/or reduce source(s) of toxicity? ● Yes ○ No ○ NA Please explain unless not applicable: We eliminated the accepteance of a waste from a hauler that was believed to be exerting toxicity specifically to the daphnia in the toxicity testing.

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

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 5/13/2014	Reporting Year: 2013

Effluent Quality and Plant Performance (Total Suspended Solids)

Questions	
1.	Monthly average effluent values, exceedances, and points for TSS:

Outfall No.001	Monthly Average TSS Limit (mg/L)	90% of Permit Limit >10 (mg/L)*	Effluent Monthly Average TSS (mg/L)	Months of Discharge with a Limit	Permit Limit Exceedance	90% Permit Limit Exceedance
January	30	27	7	1	0	0
February	30	27	8	1	0	0
March	30	27	10	1	0	0
April	30	27	6	1	0	0
May	30	27	5	1	0	0
June	30	27	4	1	0	0
July	30	27	4	1	0	0
August	30	27	4	1	0	0
September	30	27	9	1	0	0
October	30	27	9	1	0	0
November	30	27	8	1	0	0
December	30	27	9	1	0	0
* Equals limit if limit is <=10						
Months of Discharge/yr				12		
Points per each exceedance with 12 months of discharge:					7	3
Exceedances					0	0
Points					0	0
Total Number of Points						0

NOTE: For systems that discharge intermittently to 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

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

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 5/13/2014	Reporting Year: 2013

Effluent Quality and Plant Performance (Phosphorus)

	Questions
1.	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	0.9	1	0
February	1	0.8	1	0
March	1	0.8	1	0
April	1	0.6	1	0
May	1	0.6	1	0
June	1	0.6	1	0
July	1	0.6	1	0
August	1	0.6	1	0
September	1	0.6	1	0
October	1	0.6	1	0
November	1	0.5	1	0
December	1	0.6	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

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

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 5/13/2014	Reporting Year: 2013

Biosolids Quality and Management

	Questions	Points
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 do not remove biosolids from your system annually, please describe your system type such as lagoons, reed beds, recirculating sand filters, etc, and if biosolids were land applied last year, please also check top box above. **1.1.1** If you checked Other, Please describe:	
2.	Land Application Site:	

Last Year's Approved and Active Land Application Sites	
2.1.1 How many acres did you have?	2.1.2 How many acres did you use?
7290.70 acres	397.2 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?	0
	◉ Yes ○ No (10 points) ○ N/A	
3.	Biosolids Metals	
	Number of biosolids outfalls in your WPDES permit = **2**	
	3.1 For each outfall tested, verify the biosolids metal quality values for your facility during the last calendar year	

BIOSOLIDS METALS CHARACTERISTICS

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility **Last Updated: 5/13/2014** **Reporting Year: 2013**

Biosolids Quality and Management (Continued)

Outfall:003 - Cake Sludge

Parameter	80% of Limit	H.Q. Limit	Ceiling Limit	mg/kg on a dry weight basis												Times Exceeded		
				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

Outfall:002 - Liquid Sludge

Parameter	80% of Limit	H.Q. Limit	Ceiling Limit	mg/kg on a dry weight basis												Times Exceeded		
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	80% Value	High Quality	Ceiling
arsenic		41	75	4.4		7.6		28		28.6		9.4			31.6		0	0
cadmium		39	85	.59		1.1		.19		1.07		1.8			1.13		0	0
copper		1500	4300	573		646		64		668		731			677		0	0
lead		300	840	26		29		46		37.4		29			21		0	0
mercury		17	57	1.2		.89		.96		1.34		.59			9		0	0
molybdenum	60		75	16		15		21		73.8		18			6.3	1		0
nickel	336		420	45		49		48		56.2		61			64	0		0
selenium	80		100	3.7		2.8		5.4		5.6		2.4			1.8	0		0
zinc		2800	7500	1245		1136		133		1470		1345			1523		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 = 10 — 10

Exceedance 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 loadings at each land application site? (check applicable box) — 0

● Yes
○ No (10 points)

COMPLIANCE MAINTENANCE ANNUAL REPORT

Biosolids Quality and Management (Continued)

	○ NA. Did not exceed limits or no HQ limit applies (0 points) ○ NA. 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	0
	Exceedance Points ● 0 — 0 Points ○ 1 — 10 Points ○ > 1 — 15 Points	
	3.1.4 Were biosolids land applied which exceeded the ceiling limit?	0
	○ 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 identifed?	
	There was no molybdenum source identified and from all appearances the July molybdenum value is an anomoly.	
4.	Pathogen Control(per outfall):	

Outfall Number:	002
Biosolids Class:	B
Bacteria Type and Limit	F
Sample Dates:	01/01/2013 12:00:00 AM - 02/28/2013 12:00:00 AM
Density:	621
Sample Concentratinor Amount:	CFU/G TS
Process:	
Process Description:	

COMPLIANCE MAINTENANCE ANNUAL REPORT

Biosolids Quality and Management (Continued)

Outfall Number:	002
Biosolids Class:	B
Bacteria Type and Limit	F
Sample Dates:	03/01/2013 12:00:00 AM - 04/30/2013 12:00:00 AM
Density:	2309
Sample Concentratinor Amount:	CFU/G TS
Process:	
Process Description:	

Outfall Number:	002
Biosolids Class:	B
Bacteria Type and Limit	F
Sample Dates:	09/01/2013 12:00:00 AM - 10/31/2013 12:00:00 AM
Density:	251
Sample Concentratinor Amount:	CFU/G TS
Process:	
Process Description:	

Outfall Number:	002
Biosolids Class:	B
Bacteria Type and Limit	F
Sample Dates:	11/01/2013 12:00:00 AM - 12/31/2013 12:00:00 AM
Density:	243
Sample Concentratinor Amount:	CFU/G TS
Process:	
Process Description:	

COMPLIANCE MAINTENANCE ANNUAL REPORT

Biosolids Quality and Management (Continued)

Outfall Number:	003
Biosolids Class:	B
Bacteria Type and Limit	F
Sample Dates:	01/01/2013 12:00:00 AM - 12/31/2013 12:00:00 AM
Density:	573
Sample Concentratinor Amount:	CFU/G TS
Process:	
Process Description:	

Outfall Number:	003
Biosolids Class:	B
Bacteria Type and Limit	F
Sample Dates:	05/01/2013 12:00:00 AM - 06/30/2013 12:00:00 AM
Density:	275
Sample Concentratinor Amount:	CFU/G TS
Process:	
Process Description:	

Outfall Number:	003
Biosolids Class:	B
Bacteria Type and Limit	F
Sample Dates:	07/01/2013 12:00:00 AM - 08/31/2013 12:00:00 AM
Density:	573
Sample Concentratinor Amount:	CFU/G TS
Process:	
Process Description:	

4.1 If exceeded Class B limit or did not meet the process criteria at the time of land application(40 Points)

4.1.1 Was the limit exceeded or the process criteria not met at any time?

- ○ Yes
- ◉ No

If yes, what action was taken?

COMPLIANCE MAINTENANCE ANNUAL REPORT

Biosolids Quality and Management (Continued)

5. Vector Attraction Reduction(per outfall):0

Outfall Number:	002
Method Date:	02/28/2013 12:00:00 AM
Option Used To Satisfy Requirement:	INJ
Limit (if applicable):	
Results (if applicable):	

Outfall Number:	002
Method Date:	04/30/2013 12:00:00 AM
Option Used To Satisfy Requirement:	INJ
Limit (if applicable):	
Results (if applicable):	

Outfall Number:	002
Method Date:	10/31/2013 12:00:00 AM
Option Used To Satisfy Requirement:	INJ
Limit (if applicable):	
Results (if applicable):	

Outfall Number:	002
Method Date:	12/31/2013 12:00:00 AM
Option Used To Satisfy Requirement:	INJ
Limit (if applicable):	
Results (if applicable):	

Outfall Number:	003
Method Date:	12/31/2013 12:00:00 AM
Option Used To Satisfy Requirement:	INJ
Limit (if applicable):	
Results (if applicable):	

Outfall Number:	003

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 5/13/2014	Reporting Year: 2013

Biosolids Quality and Management (Continued)

Method Date:	06/30/2013 12:00:00 AM
Option Used To Satisfy Requirement:	INJ
Limit (if applicable):	
Results (if applicable):	

Outfall Number:	003
Method Date:	08/31/2013 12:00:00 AM
Option Used To Satisfy Requirement:	INJ
Limit (if applicable):	
Results (if applicable):	

5.1 If the limit or criteria was exceeded at the time of land application, 40 point 0

5.1.1 Was the limit exceeded or the process criteria not met at any time?

- ○ Yes
- ● No

If yes, what action was taken?

6. Biosolids Storage:0

6.1 How many days of actual,current biosolids storage capacity did your wastewater treatment facility have either on-site or off-site? 0

- ● >+ 180 days (0 points)
- ○ 150 - 179 days (10 points)
- ○ 120 - 149 days (20 points)
- ○ 90 - 119 days (30 points)
- ○ < 90 days (40 points)
- ○ Not Applicable (0 points)

6.2 If you check Not Applicable above, explain why.

7. Issues:

7.1 Describe any outstanding biosolids issues with treatment, use or overall mgt?

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 5/13/2014	Reporting Year: 2013

Biosolids Quality and Management (Continued)

	Due to frequent rains and wet field conditions the lagoons did not get emptied in 2013.		

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

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility | **Last Updated: 5/13/2014** | **Reporting Year: 2013**

Staffing and Preventative Maintenance (All Treatment Plants)

	Questions	Points
1.	Was your wastewater treatment plant adequately staffed last year?	
	● Yes ○ No If No, please describe: Could use more help/staff for:	
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. Explain	
3.	Did your plant have a documented AND implemented plan for preventative maintenance on major equipment items?	0
	● Yes (Continue with questions below) ○ No (40 points and go to question 6) If No, explain:	
4.	Did this preventative maintenance program depict frequency of intervals, types of lubrication, and other tasks necessary for each piece of equipment?	0
	● Yes ○ No (10 points)	
5.	Were these preventative maintenance tasks, as well as major equipment repairs, recorded and filed so future maintenance problems can be assessed properly?	0
	● Yes ○ (Paper file system) ○ (Computer program) ● (Both Paper and Computer) ○ No (10 points)	
6.	Did your plant have a detailed O&M Manual that was used as a reference when needed?	

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 5/13/2014	Reporting Year: 2013

Staffing and Preventative Maintenance (All Treatment Plants) (Continued)

	● Yes ○ No	
7.	Rate the overall maintenance of your wastewater plant.	
	○ Excellent ● Very Good ○ Good ○ Fair ○ Poor	
	Describe your rating: All work orders and preventative maintenance is completed. A stack filter pump was removed and rebuilt, along with several VFD's that reached the end of their useful life being replaced.	

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

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility | **Last Updated: 5/13/2014** | **Reporting Year: 2013**

Operator Certification and Education

	Questions	Points
1.	Did you have a designated operator-in-charge during the report year?	0
	● Yes (0 point) ○ No (20 points) Name: BRIAN M HELMINGER Certification No: 28032	
2.	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?	
	Required: 4 - ABEFGHIJ; A - PRIMARY SETTLING; B - TRICKLING FILTER/RBC; E - DISINFECTION; F - ANAEROBIC DIGESTION; G - MECHANICAL SLUDGE; H - FILTRATION; I - PHOSPHORUS REMOVAL; J - LABORATORY Held: 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/AEREATED LAGOONS GRADE T	
3.	Was the operator-in-charge certified at the appropriate level to operate this plant?	0
	● Yes (0 point) ○ No (20 points)	
4.	In the event of the loss of your designated operator-in-charge, did you have a contingency plan to ensure the continued proper operation & maintenance of the plant that includes one or more of the following options (check all that apply):	0
	4.1 ☒ one or more additional certified operators on staff 4.2 ☐ an arrangement with another certified operator 4.3 ☐ an arrangement with another community with a certified operator 4.4	

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 5/13/2014	Reporting Year: 2013

Operator Certification and Education (Continued)

	☐ an operator on staff who has an operator-in-training certificate for your plant and is expected be certified within one year 4.5 ☐ a consultant to serve as your certified operator 4.6 ☐ None of the above (20 points) Explain: The Assistant Superintendent and Chemist are both fully certified at the Grade 4 level for this fcility.	
5.	If you had a designated operator-in-charge, was the operator-in-charge earning continuing education credits at the following rates?	
	Grades T, 1, and 2: ○ Averaging 6 or more CEUs per year ○ Averaging less than 6 CEUs per year Grades 3 and 4: ● Averaging 8 or more CEUs per year ○ Averaging less than 8 CEUs per year Not applicable: ○ See Question 1.	

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

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 6/11/2014	Reporting Year: 2013

Financial Management

	Questions	Points
1.	Person Providing This Financial Information	
	Name: Brian Helminger Telephone: (920) 686-3550 E-Mail Address(optional): bhelminger@manitowoc.org	
2.	Are User Charge or other Revenues sufficient to cover O&M Expenses for your wastewater treatment plant AND/OR collection system ?	0
	● Yes (0 points) ○ No (40 points) If No, please explain:	
3.	When was the User Charge System or other revenue source(s) last reviewed and/or revised? Year: 2013	0
	● 0-2 years ago (0 points) ○ 3 or more years ago (20 points) ○ Not Applicable (Private Facility)	
4.	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?	0
	● Yes ○ No (40 points)	
	REPLACEMENT FUNDS(PUBLIC MUNICIPAL FACILITIES SHALL COMPLETE QUESTION 5)	
5.	Equipment Replacement Funds	
	5.1 When was the Equipment Replacement Fund last reviewed and/or revised? Year: 2013	0
	● 1-2 years ago (0 points) ○ 3 or more years ago (20 points) ○ Not Applicable Explain:	
	5.2 What amount is in your Replacement Fund? **Equipment Replacement Fund Activity**	
	5.2.1 Ending Balance Reported on Last Year's CMAR: $8542921	

COMPLIANCE MAINTENANCE ANNUAL REPORT

Financial Management (Continued)

5.2.2	*Adjustments* if necessary (e.g., earned interest, audit correction, withdrawal of excess funds, increase making up previous shortfall, etc.)	+	$409,905.00
5.2.3	**Adjusted January 1st Beginning Balance**		$8,952,826.00
5.2.4	*Additions* to Fund (e.g., portion of User Fee, earned interest, etc.)	+	$0.00
5.2.5	*Subtractions* from Fund (e.g., equipment replacement, major repairs - use description box 5.2.5.1 below*.)	-	$0.00
5.2.6	**Ending Balance as of December 31st for CMAR Reporting Year**		$8,952,826.00

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

*5.2.5.1. Indicate adjustments, equipment purchases and/or major repairs from 5.2.5 above

Fund balance as reported on the CAFER report for the year ended 2013.

5.3 What amount <u>should</u> be in your replacement fund? $7,058,091.00

(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 HELP option button.)

5.3.1 Is the Dec. 31 Ending Balance in your Replacement Fund above (#5.2.6) equal to or greater than the amount that should be in it(#5.3)?

- (●) Yes
- ( ) No Explain:

6. Future Planning

6.1 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 Description	Estimated Cost	Approximate Construction Year
Lakeside Blvd liftstation upgrade- replace liftstation and relocate the existing forcemain	$373536.7	2006
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

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 6/11/2014	Reporting Year: 2013

Financial Management (Continued)

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
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
2007 Relining of Sewers WU-07-7 Reline of sanitary sewers consiting of 3551 LF of 8" sanitary sewer and 1706 LF of 10" sanitary sewer.	$118135	2007
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
WWTF SCADA upgrade - replacement computers and update of control software. Custom programming and addition of historical trending.	$25573	2007
Replacement WWTF Utility/Plow truck	$24349	2007
Chlorination system improvments - vacuum chlorine withdrawl manifold added and replacement gas leak detection equipment	$6361	2007
Tertiary Filter Improvements - removal and disposal of existing media, remove and clean air scour laterals, repair and ancohor air scour piping, replace main air supply connections, install new filtration media	$172250	2008
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
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
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
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
Replacement of Wastewater Utility passenger vehicle	$17267	2009
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
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
2009 New & Relay Sanitary Sewers - Reed Avenue - E. Crescent Drive - MacAurther Drive - E. Linden Avenue - Arden Lane - S. 15th Street	$285715.57	2009

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 6/11/2014	Reporting Year: 2013

Financial Management (Continued)

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
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
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
Sanitary sewer capacity study	$128200	2010
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
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 reinstatment.	$138527	2012
WWTF Operational Needs Review - Consultant to be hired to evaluate the existing facility and make recommendations for future capital projects based on current and anticpated future NPDES permit requirements. The RFP's from prospective consultants are due 7/3/12	$54500	2012
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
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
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 reinstatment.	$242742	2013
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
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.	$284,057.00	2014

7. Financial Management General Comments:

Planning for a WWTF upgrade with design work to start second half 2015 and completion by mid 2018.

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 6/11/2014	Reporting Year: 2013

Financial Management (Continued)

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 6/11/2014	Reporting Year: 2013

Financial Management (Continued)

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

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 6/11/2014	Reporting Year: 2013

Sanitary Sewer Collection Systems

	Questions	Points
1.	Do you have a Capacity, Management, Operation & Maintenance(CMOM) requirement in your WPDES permit?	
	○ Yes ● No	
2.	Did you have a documented (written records/files, computer files, video tapes, etc.) sanitary sewer collection system operation & maintenance or CMOM program last calendar year?	0
	● Yes (go to question 3) ○ No (30 points) (go to question 4)	
3.	Check the elements listed below that are included in your Operation and Maintenance (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 you have): ☒ 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 MM/DD/YYYY 01/20/2014 ☒ 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: details in Question 4** ☒ **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	

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 6/11/2014	Reporting Year: 2013

Sanitary Sewer Collection Systems (Continued)

☐ **Overflow Emergency Response Plan:** Does your emergency response capability include (check only those that you have):

- ☐ 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
- ☒ 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 SSO's
- ☒ 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 if applicable):**

- ☐ Infiltration/Inflow (I/I) Analysis
- ☐ Sewer System Evaluation Survey (SSES)
- ☐ Sewer Evaluation and Capacity Managment Plan (SECAP)
- ☐ Lift Station Evaluation Report
- ☐ Others:

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

Cleaning	100	% of system/year
Root Removal	5	% of system/year
Flow Monitoring	0	% of system/year
Smoke Testing	0	% of system/year
Sewer Line Televising	7.5	% of system/year
Manhole Inspections	100	% of system/year

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 6/11/2014	Reporting Year: 2013

Sanitary Sewer Collection Systems (Continued)

Lift Station O&M	14	# per L.S/year
Manhole Rehabilitation	1	% of manholes rehabed
Mainline Rehabilitation	1	% of sewer lines rehabed
Private Sewer Inspections	0	% of system/year
Private Sewer I/I Removal	0	% of private services

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

The 100% value reported above for cleaning applies to sewer pipes 12 inches in diameter ansmaller. there 58 emergency sewer calls in 2013 which 49 ended up being blocked laterals and 9 were for blocked main lines. The manhole inspections are done in conjunction with sewer jetting operations.

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

32.18	Total Actual Amount of Precipitation Last Year
30.5	Annual Average Precipitation (for your location)
189.75	Miles of Sanitary Sewer
14	Number of Lift Stations
0	Number of Lift Station Failure
9	Number of Sewer Pipe Failures
9	Number of Basement Backup Occurrences
58	Number of Complaints
6.309	Average Daily Flow in MGD
10.102	Peak Monthly Flow in MGD(if available)
	Peak Hourly Flow in MGD(if available)

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility **Last Updated: 6/11/2014** **Reporting Year: 2013**

Sanitary Sewer Collection Systems (Continued)

LIST OF SANITARY SEWER OVERFLOWS (SSO) REPORTED

	Date	Location	Cause	Estimated Volume (MG)
1.	08/29/2013 12:00:00 AM to 09/13/2013 12:00:00 AM	Stormwater outfall on South Water Street	Broken Sewer, Broken Sewer	0.17

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

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

The sewer line that leaked was no longer active and was capped off and concreted shut the same day it was televised and verified.

PERFORMANCE INDICATORS

0.00	Lift Station Failures(failures/ps/year)
0.05	Sewer Pipe Failures(pipe failures/sewer mile/yr)
0.01	Sanitary Sewer Overflows (number/sewer mile/yr)
0.05	Basement Backups(number/sewer mile)
0.31	Complaints (number/sewer mile)
1.6	Peaking Factor Ratio (Peak Monthly:Annual Daily Average)
0.0	Peaking Factor Ratio(Peak Hourly:Annual daily Average)

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

○ Yes
● No

If Yes, please describe:

I/I is present in the community but not to the extent to which it has caused overflows from the sewer system.

7. 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:

8. Explain any infiltration/inflow(I/I) changes this year from previous years?

The city has purchased 5 portable flowmeters to monitor questionable areas of the sewer system.

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

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility	Last Updated: 6/11/2014	Reporting Year: 2013

Sanitary Sewer Collection Systems (Continued)

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

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

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility **Last Updated:** **Reporting Year: 2013**

WPDES No.0024601

GRADING SUMMARY				
SECTION	LETTER GRADE	GRADE POINTS	WEIGHTING FACTORS	SECTION POINTS
Influent Loadings	A	4.0	3	12
Effluent Quality:BOD	C	2.0	10	20
Effluent Quality:TSS	A	4.0	5	20
Effluent Quality:P	A	4.0	3	12
Biosolids Mgt.	B	3.0	5	15
Prev.Maintenance Staffing	A	4.0	1	4
Operator Certification	A	4.0	1	4
Financial Management	A	4.0	1	4
Collection Systems	A	4.0	3	12
TOTALS			32	103
GRADE POINT AVERAGE(GPA)=3.22		3.22		

Notes:

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

COMPLIANCE MAINTENANCE ANNUAL REPORT

Facility Name: Manitowoc Wastewater Treatment Facility **Last Updated:** **Reporting Year: 2013**

Resolution or Owner's Statement

NAME OF GOVERNING BODY OR OWNER	DATE OF RESOLUTION OR ACTION TAKEN
City of Manitowoc Common Council	6-16-14
RESOLUTION NUMBER	
14- 1275	
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 SSO's were reported):	
Influent Flow and Loadings: Grade=A	
Effluent Quality: BOD: Grade=C	
Effluent quality and the biomass on the fixed film process is greatly effected by cold weather and low influent temperatures. The same is true of any fixed film process in a northern climate.	
Effluent Quality: TSS: Grade=A	
Effluent Quality: Phosphorus: Grade=A	
Biosolids Quality and Management: Grade=B	
Staffing: Grade=A	
Operator Certification: Grade=A	
Financial Management: Grade=A	
Collection Systems: Grade=A	
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. = 3.22**	