

2023 NACWA PEAK PERFORMANCE AWARD APPLICATION

NPDES PERMIT REQUIREMENTS AND PLANT DISCHARGE PERFORMANCE RESULTS

* Please indicate the agency and facility names as they should appear on the award certificate

1. Agency Name *: City of Sun Prairie

2. Facility Name *: City of Sun Prairie Wastewater Treatment Facility

3. Facility Address 3040 Bailey Road, Sun Prairie, WI 53590

4. Contact: Jeremy Cramer

5. Phone/Email: (608) 235-9280 / jcramer@cityofsunprairie.com

7. Permit Number: WI 0020478-001

8. Design Capacity: 4.62 MGD

9. Treatment Level : Tertiary Treatment
(e.g. Secondary, Advanced Secondary, Tertiary)

10. Application For (circle/highlight one):

- Platinum Award (see instructions)

- Gold Award

- Silver Award

6. Please Summarize the Facility's Effluent Quality for 2023

2023
Average

Flow 3.4 MGD

BOD 1.6 mg/l

CBOD mg/l

TSS 2.0 mg/l

Ammonia-Nitrogen 0.223 mg/l

Phosphorus 0.054 mg/l



11. Total Permit Violations in 2023 3

12. Total Compliance Points in 2023 1114
(see instructions)

Parameter		Permit Limit	Jan Eff	Feb Eff	Mar Eff	Apr Eff	May Eff	Jun Eff	Jul Eff	Aug Eff	Sep Eff	Oct Eff	Nov Eff	Dec Eff	# of Vio.
Flow (MGD)	Daily Avg.		3.2811	3.6951	4.8528	4.6981	3.8232	3.1091	3.0973	3.1205	2.8353	2.7887	2.6455	2.6501	
BOD (mg/L)	Mo. Avg.	5					0.39	3.86	0.5	0	0.1	0.22			
	Wk. Max	5					0.8	5.6	1.2	0	0.4	1			1
	Mo. Avg.	10	0	0.25	0	0.57							0	0.095	
	Wk. Max	10	0	0.6	0	1.4							0	0	
	Daily														
BOD (lbs/day or kg/day)	Mo. Avg.														
	Wk. Max														
	Daily														
BOD % Removal	Min		99.68	99.54	99.34	99.25	99.44	98.81	99.36	99.60	99.61	99.60	99.66	99.61	
TSS (mg/L)	Mo. Avg.	10	2.1	2	2.4	2	3.7	2.3	0.5	0.5	0.3	0.48	0.14	0.33	
	Wk. Max														
	Daily														
TSS (lbs/day or kg/day)	Mo. Avg.	250	59		95.3		118.9					11.2		7.1	
	Mo. Avg.	277		67.6											
	Mo. Avg.	259				75		50.6					2.9		
* Please indicate the agency and facility names as they should appear on the award certificate															
	Mo. Avg.	228							13.2						

Parameter		Permit	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	# of
		Limit	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Vio.
	Mo. Avg.	191								12.7	7.3				
	Wk. Max	330	67.4		107.9		137.4					32.6		17.1	
	Wk. Max	366		91.6											
	Wk. Max	342				91.5		75.2					0		
	Wk. Max	301							27.4						
	Wk. Max	252								23.3					
	Wk. Max	253									19.6				
	Daily														
TSS % Removal	Min		99.08	99.03	98.80	98.81	98.69	99.13	99.47	99.49	99.47	99.44	99.46	99.46	

Parameter		Permit Limit	Jan Eff	Feb Eff	Mar Eff	Apr Eff	May Eff	Jun Eff	Jul Eff	Aug Eff	Sep Eff	Oct Eff	Nov Eff	Dec Eff	# of Vio.
NH ₃ -N (mg/L)	Mo. Avg.	2.8				0.09									
	Mo. Avg.	1.1					0.42	0.91	0.15	0.09	0.07				
	Mo. Avg.	4.5	0.00	0.65	0.10							0.07	0.03	0.04	
	Wk. Avg.	6.6				0.093									
	Wk. Avg.	2.8					0.411	0.908	0.160	0.088	0.067				
	Wk. Avg.	11	0.002	0.655	0.106							0.068	0.029	0.042	
	Daily Max	Variable	34	38	38	38	34	34	31	31	27	31	31	31	
NH ₃ -N (lbs/day or kg/day)	Mo. Avg.														
	Wk. Max														
	Daily														
TKN (mg/l)	Mo. Avg.														
	Wk. Max														
	Daily														
TKN (lbs/day or kg/day)	Mo. Avg.														
	Wk. Max														
	Daily														
P (mg/L)	Mo. Avg.	0.225	0.035	0.047	0.056	0.082	0.076	0.050	0.051	0.057	0.065	0.050	0.052	0.039	
	6-Mo. Avg.	0.075				0.052						0.058			
	Daily														
P (lbs/day or kg/day)	Mo. Avg.	21.2	0.964												
	Mo. Avg.	27		1.51											
	Mo. Avg.	23			2.25										
	Mo. Avg.	20.8				3.2									
	Mo. Avg.	18.4					2.45								
	Mo. Avg.	16.4						1.33							
	Mo. Avg.	12.8							1.31						
	Mo. Avg.	11.7								1.49					
	Mo. Avg.	13.7									1.57				
	Mo. Avg.	14.5										1.15			
	Mo. Avg.	17.3											0.907		
	Mo. Avg.	18.2												0.8615	
	Wk. Max														
	Daily														
Fecal Coliform/100 ml.	Mo. GeoMean	400					17.6	33.6	22	26.2	14.6				
	Wk. GeoMean	780					20.5	46.9	17.1	3.5	8.1				
	Daily	43													
E.Coli/100 ml.	Mo. Avg.	126					22.38	58.13	47.5	50.17	14.43				
	Daily														
pH	Max	9	7.79	7.53	7.66	7.61	7.79	7.59	7.51	7.56	7.61	7.61	7.73	7.95	
	Min	6	7.19	7.09	7.07	7.07	7.16	7.18	7.27	7.28	7.32	7.23	7.27	7.29	
Cl ₂ Residual	Min														
	Max														

Parameter		Permit	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	# of
		Limit	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Vio.
Dissolved Oxygen	Min	7	10.4	10.6	10.5	10	9.2	8.5	8.3	8	8.1	8.3	9.3	9.8	
Chloride (mg/L)	Wk. Avg.	500	339.5	351	303.8	237.8	289	304	333	317					
	Wk. Avg.	400									310.3	352	348.7	308.3	
Chloride (lbs/day)	Wk. Avg.	14500	9339.5	9013.3	12381	11726	9633.8	8364.5	8193.3	7468.5	7404.8	7884.5	8102	6696.5	
Oil & Grease (mg/L)	Mo. Avg.														
	Wk. Max														
Solids, Settleable	Mo. Avg.														
	Wk. Max														
Arsenic (ug/L)	Mo. Avg.														
	Daily														
Cadmium (ug/L)	Mo. Avg.														
	Daily														
Chromium (ug/L)	Mo. Avg.														
	Daily														

Parameter		Permit	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	# of
		Limit	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Vio.
Copper (ug/L)	Mo. Avg.														
	Daily														
Lead (ug/L)	Mo. Avg.														
	Daily														
Nickel (ug/l)	Mo. Avg.														
	Daily														
Mercury (ng/L)	Quarterly			0.548			0.792		0.786				0.725		
Selenium (ug/L)	Mo. Avg.														
	Daily														
Silver (ug/L)	Mo. Avg.														
	Daily														
Zinc (ug/L)	Mo. Avg.														
	Daily														
Cyanide (ug/L)	Mo. Avg.														
	Daily														
Phenolics (ug/L)	Mo. Avg.														
	Daily														
Whole Effluent Toxicity	Acute	1.0		1.0		1.6									1
	Chronic	1.2		1.4		1.0									1

Notes: Please indicate the agency and facility names as they should appear on the award certificate, also:
 1) Include all parameters specified in NPDES (or other federal/state) permit (add rows if necessary)
 2) If NPDES (or other federal/state) permit includes seasonal limits, indicate and include

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
South Central Region Headquarters
3911 Fish Hatchery Road
Fitchburg, WI 53711-5397

Tony Evers, Governor
Preston D. Cole, Secretary
Telephone (608) 275-3266
Toll Free 1-888-936-7463
TTY Access via relay - 711



Aaron Oppenheimer
City Administrator
CITY OF SUN PRAIRIE
300 East Main Street
Sun Prairie, WI 53590

SUBJECT: Permit Modification Without Public Notice, WPDES Permit No. WI-0020478-10-1

Dear Permittee:

Under the authority in s. 283.53, Stats. and s. NR 203.015, Wis. Adm. Code, the Department may with the consent of the permittee, modify a permit for any action listed in s. 283.53(2d) and NR 203.015(1)-(7) without following public notice procedures. Therefore, the following agreed upon modification(s) have been incorporated into WPDES Permit No. WI-0020478-10-1 originally issued on September 25, 2018.

The Influent Sample Point 701 has been updated to reflect the location change as was requested. No other changes were made to the permit.

Please replace the current permit issued on September 25, 2018 with the attached modified permit. All discharges from this facility and actions or reports relating thereto shall be in accordance with the terms and conditions of the modified permit.

The WPDES permit program has been approved by the Administrator of the U.S. Environmental Protection Agency pursuant to Section 402(b) of the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. Section 1342(b)). Therefore, the permit is subject to enforcement under ss. 283.89 and 283.91, Stats. and Section 309 of the Federal Act (33 U.S.C. Section 1319).

To challenge this decision, s. 283.63, Stats., and ch. NR 203, Wis. Adm. Code require that you file a verified petition for review with the Secretary of the Department of Natural Resources within 60 days of the date this permit modification was issued. This notice is provided pursuant to s. 227.48, Stats.

Sincerely,

Thomas Bauman
Wastewater Field Supervisor

Dated: 12-19-2019

cc: Permit File – Region & Central Office
Amy Garbe
U.S. Fish and Wildlife Service (Electronic Copy via Email)



WPDES PERMIT

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
**PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE
ELIMINATION SYSTEM**

CITY OF SUN PRAIRIE

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility
located at

3040 BAILEY ROAD, SUN PRAIRIE, WISCONSIN

To

SE ¼ of SW ¼, Section 18, T8N, R11E

**KOSHKONONG CREEK (UPPER KOSHKONONG CREEK WATERSHED, LR12 – LOWER ROCK
RIVER BASIN) IN DANE COUNTY**

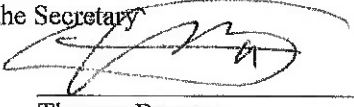
Lat: 43.15102° N / Lon: 89.24044° W

in accordance with the effluent limitations, monitoring requirements and other conditions set
forth in this permit.

The permittee shall not discharge after the date of expiration. If the permittee wishes to continue to discharge after this expiration date an application shall be filed for reissuance of this permit, according to Chapter NR 200, Wis. Adm. Code, at least 180 days prior to the expiration date given below.

State of Wisconsin Department of Natural Resources
For the Secretary

By


Thomas Bauman
Wastewater Field Supervisor

12-19-2019
Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE - October 01, 2018
PERMIT MODIFICATION DATE - January 1, 2020

EXPIRATION DATE - September 30, 2023

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1 Influent Requirements

1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)
701	INFLUENT: 24-hr flow proportional composite samples shall be collected after step screen and prior to grit removal.

1.2 Monitoring Requirements

The permittee shall comply with the following monitoring requirements.

1.2.1 Sampling Point 701 - INFLUENT

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD ₅ , Total		mg/L	5/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	5/Week	24-Hr Flow Prop Comp	
Mercury, Total Recoverable		ng/L	Quarterly	24-Hr Flow Prop Comp	See "Mercury Monitoring" section below.

1.2.1.1 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

2 In-Plant Requirements

2.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
101	In-Plant Monitoring - Collect the mercury field blank using standard sample handling procedures.

2.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

2.2.1 Sampling Point 101 - GEN PLANT (Hg blank)

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Mercury, Total Recoverable		ng/L	Quarterly	Blank	See "Mercury Monitoring" section below.

2.2.1.1 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

3 Surface Water Requirements

3.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
001	Representative composite effluent samples shall be collected at the UV channel and grab samples at the step aerator, prior to discharge to Koshkonong Creek.

3.2 Monitoring Requirements and Effluent Limitations

The permittee shall comply with the following monitoring requirements and limitations.

3.2.1 Sampling Point (Outfall) 001 - EFFLUENT

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD ₅ , Total	Weekly Avg	5.0 mg/L	5/Week	24-Hr Flow Prop Comp	Effective May through October
BOD ₅ , Total	Weekly Avg	10 mg/L	5/Week	24-Hr Flow Prop Comp	Effective November through April
BOD ₅ , Total	Monthly Avg	5.0 mg/L	5/Week	24-Hr Flow Prop Comp	Effective May through October
BOD ₅ , Total	Monthly Avg	10 mg/L	5/Week	24-Hr Flow Prop Comp	Effective November through April
Suspended Solids, Total	Monthly Avg	10 mg/L	5/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Weekly Avg	330 lbs/day	5/Week	Calculated	Effective January, March, May, October, and December
Suspended Solids, Total	Weekly Avg	366 lbs/day	5/Week	Calculated	Effective February
Suspended Solids, Total	Weekly Avg	342 lbs/day	5/Week	Calculated	Effective April, June, and November
Suspended Solids, Total	Weekly Avg	301 lbs/day	5/Week	Calculated	Effective July
Suspended Solids, Total	Weekly Avg	252 lbs/day	5/Week	Calculated	Effective August
Suspended Solids, Total	Weekly Avg	253 lbs/day	5/Week	Calculated	Effective September
Suspended Solids, Total	Monthly Avg	250 lbs/day	5/Week	Calculated	Effective January, March, May, October, and December

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Suspended Solids, Total	Monthly Avg	277 lbs/day	5/Week	Calculated	Effective February
Suspended Solids, Total	Monthly Avg	259 lbs/day	5/Week	Calculated	Effective April, June, and November
Suspended Solids, Total	Monthly Avg	228 lbs/day	5/Week	Calculated	Effective July
Suspended Solids, Total	Monthly Avg	191 lbs/day	5/Week	Calculated	Effective August and September
Dissolved Oxygen	Daily Min	7.0 mg/L	5/Week	Grab	
pH Field	Daily Max	9.0 su	5/Week	Grab	
pH Field	Daily Min	6.0 su	5/Week	Grab	
Fecal Coliform	Geometric Mean - Wkly	780 #/100 ml	2/Week	Grab	May 1 through September 30
Fecal Coliform	Geometric Mean - Monthly	400 #/100 ml	2/Week	Grab	May 1 through September 30
Nitrogen, Ammonia Variable Limit		mg/L	5/Week	24-Hr Flow Prop Comp	See daily maximum ammonia variable limits table in Section 3.2.1.4
Nitrogen, Ammonia (NH ₃ -N) Total	Daily Max - Variable	mg/L	5/Week	24-Hr Flow Prop Comp	Report the Ammonia effluent value on the DMR.
Nitrogen, Ammonia (NH ₃ -N) Total	Weekly Avg	6.6 mg/L	5/Week	24-Hr Flow Prop Comp	April 1 through April 30
Nitrogen, Ammonia (NH ₃ -N) Total	Weekly Avg	2.8 mg/L	5/Week	24-Hr Flow Prop Comp	May 1 through September 30
Nitrogen, Ammonia (NH ₃ -N) Total	Weekly Avg	11 mg/L	5/Week	24-Hr Flow Prop Comp	October 1 through March 31
Nitrogen, Ammonia (NH ₃ -N) Total	Monthly Avg	2.8 mg/L	5/Week	24-Hr Flow Prop Comp	April 1 through April 30
Nitrogen, Ammonia (NH ₃ -N) Total	Monthly Avg	1.1 mg/L	5/Week	24-Hr Flow Prop Comp	May 1 through September 30
Nitrogen, Ammonia (NH ₃ -N) Total	Monthly Avg	4.5 mg/L	5/Week	24-Hr Flow Prop Comp	October 1 through March 31
Chloride	Weekly Avg	500 mg/L	4/Month	24-Hr Flow Prop Comp	Interim limit effective through August 31, 2023. See Chloride section below.
Chloride	Weekly Avg	400 mg/L	4/Month	24-Hr Flow Prop Comp	Final WQBEL effective on September 1, 2023. See Chloride section below.

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Chloride	Weekly Avg	14,500 lbs/day	4/Month	Calculated	Calculate the daily mass discharge of chloride in lbs/day on the same days chloride sampling occurs. Limit becomes effective on September 1, 2023. Daily mass (lbs/day) = daily concentration (mg/L) x daily flow (MGD) x 8.34.
Phosphorus, Total	Monthly Avg	1.0 mg/L	5/Week	24-Hr Flow Prop Comp	This is an interim limit effective through September 30, 2022. See the compliance schedule section for more detail.
Phosphorus, Total	Monthly Avg	0.225 mg/L	5/Week	24-Hr Flow Prop Comp	Final WQBEL effective October 1, 2022.
Phosphorus, Total	6-Month Avg	0.075 mg/L	5/Week	24-Hr Flow Prop Comp	Final WQBEL effective October 1, 2022.
Phosphorus, Total	Monthly Avg	21.2 lbs/day	5/Week	Calculated	Limit effective January starting in 2023.
Phosphorus, Total	Monthly Avg	27 lbs/day	5/Week	Calculated	Limit effective February starting in 2023.
Phosphorus, Total	Monthly Avg	23 lbs/day	5/Week	Calculated	Limit effective March starting in 2023.
Phosphorus, Total	Monthly Avg	20.8 lbs/day	5/Week	Calculated	Limit effective April starting in 2023.
Phosphorus, Total	Monthly Avg	18.4 lbs/day	5/Week	Calculated	Limit effective May starting in 2023.
Phosphorus, Total	Monthly Avg	16.4 lbs/day	5/Week	Calculated	Limit effective June starting in 2023.
Phosphorus, Total	Monthly Avg	12.8 lbs/day	5/Week	Calculated	Limit effective July starting in 2023.
Phosphorus, Total	Monthly Avg	11.7 lbs/day	5/Week	Calculated	Limit effective August starting in 2023.
Phosphorus, Total	Monthly Avg	13.7 lbs/day	5/Week	Calculated	Limit effective September starting in 2023.
Phosphorus, Total	Monthly Avg	14.5 lbs/day	5/Week	Calculated	Limit effective October starting in 2022.
Phosphorus, Total	Monthly Avg	17.3 lbs/day	5/Week	Calculated	Limit effective November starting in 2022.
Phosphorus, Total	Monthly Avg	18.2 lbs/day	5/Week	Calculated	Limit effective December starting in 2022.
Mercury, Total Recoverable		ng/L	Quarterly	Grab	
Temperature Maximum		deg F	3/Week	Continuous	Jan. 1, 2022 - Dec. 31, 2022. Monitor Only.

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Nitrogen, Total		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Total Kjeldahl		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Nitrite + Nitrate Total		mg/L	Quarterly	24-Hr Flow Prop Comp	
Acute WET		TU _a	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annually in rotating quarters. See WET Monitoring section below for sample dates & WET requirements.
Chronic WET	Monthly Avg	1.2 TU _c	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annually in rotating quarters. See WET Monitoring section below for sample dates & WET requirements.

3.2.1.1 Annual Average Design Flow

The annual average design flow of the permittee's wastewater treatment facility is 4.4 MGD.

3.2.1.2 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

3.2.1.3 Effluent Temperature Monitoring

For manually measuring effluent temperature, grab samples should be collected at 6 evenly spaced intervals during the 24-hour period. Alternative sampling intervals may be approved if the permittee can show that the maximum effluent temperature is captured during the sampling interval. For monitoring temperature continuously, collect measurements in accordance with s. NR 218.04(13). This means that discrete measurements shall be recorded at intervals of not more than 15 minutes during the 24-hour period. In either case, report the maximum temperature measured during the day on the DMR.

3.2.1.4 Daily Maximum Variable Ammonia Limits

The following table provides daily maximum limits throughout the pH range. Report the daily maximum ammonia limit on the DMR (in the variable limit column) based on the measured pH value. Sampling for pH and ammonia shall occur on the same day.

Effluent pH s.u.	NH ₃ -N Limit mg/L	Effluent pH s.u.	NH ₃ -N Limit mg/L	Effluent pH s.u.	NH ₃ -N Limit mg/L
6.0 < pH ≤ 6.1	63	7.0 < pH ≤ 7.1	38	8.0 < pH ≤ 8.1	8.2

6.1 < pH ≤ 6.2	62	7.1 < pH ≤ 7.2	34	8.1 < pH ≤ 8.2	6.7
6.2 < pH ≤ 6.3	61	7.2 < pH ≤ 7.3	31	8.2 < pH ≤ 8.3	5.5
6.3 < pH ≤ 6.4	59	7.3 < pH ≤ 7.4	27	8.3 < pH ≤ 8.4	4.6
6.4 < pH ≤ 6.5	57	7.4 < pH ≤ 7.5	24	8.4 < pH ≤ 8.5	3.7
6.5 < pH ≤ 6.6	55	7.5 < pH ≤ 7.6	20	8.5 < pH ≤ 8.6	3.1
6.6 < pH ≤ 6.7	53	7.6 < pH ≤ 7.7	17	8.6 < pH ≤ 8.7	2.6
6.7 < pH ≤ 6.8	50	7.7 < pH ≤ 7.8	15	8.7 < pH ≤ 8.8	2.2
6.8 < pH ≤ 6.9	46	7.8 < pH ≤ 7.9	11	8.8 < pH ≤ 8.9	1.9
6.9 < pH ≤ 7.0	43	7.9 < pH ≤ 8.0	10	8.9 < pH ≤ 9.0	1.6

3.2.1.5 Total Maximum Daily Load (TMDL) Limitations

Approved TMDL: The Rock River TMDL Waste Load Allocation (WLA) for Total Suspended Solids & Total Phosphorus was approved by the U.S. Environmental Protection Agency in September 2011. The approved TMDL WLA limits for Total Suspended Solids & Total Phosphorus are below in sections 3.2.1.5 and 3.2.1.6.

3.2.1.6 Total Suspended Solids Limitation(s)

The Rock River TMDL for Total Suspended Solids (TSS) was approved by the Environmental Protection Agency (EPA) in September 2011. The TMDL derived limits are expressed as weekly average and monthly average effluent limits and are effective immediately. The approved total suspended solids TMDL limits for this permittee are included in the following table:

Total Suspended Solids Effluent Limitations

Month	Monthly Ave TSS Effluent Limit (lbs/day)	Weekly Ave TSS Effluent Limit (lbs/day)
Jan	250	330
Feb	277	366
March	250	330
April	259	342
May	250	330
June	259	342
July	228	301
August	191	252
Sept	191	253
Oct	250	330
Nov	259	342
Dec	250	330

3.2.1.7 Phosphorus Limitation(s)

The Rock River TMDL for Total Phosphorus (TP) was approved by the Environmental Protection Agency (EPA) in September 2011. The TMDL derived limits are expressed as monthly average effluent limits and are effective October 1, 2022. The approved total phosphorus TMDL limits for this permittee are included in the following table:

Total Phosphorus Effluent Limitations

Month	Monthly Ave Total P Effluent Limit (lbs/day)
Jan	21.2
Feb	27.0
March	23.0
April	20.8
May	18.4
June	16.4
July	12.8
Aug	11.7
Sept	13.7
Oct	14.5
Nov	17.3
Dec	18.2

3.2.1.8 Whole Effluent Toxicity (WET) Testing

Primary Control Water: Koshkonong Creek

Instream Waste Concentration (IWC): 85%

Dilution series: At least five effluent concentrations and dual controls must be included in each test.

- **Acute:** 100, 50, 25, 12.5, 6.25% and any additional selected by the permittee.
- **Chronic:** 100, 30, 10, 3, 1% and any additional selected by the permittee.

WET Testing Frequency:

Acute tests shall be conducted once each year, in rotating quarters in order to collect seasonal information about the discharge. Tests are required during the following quarters.

- **Acute:** January 1 – March 31, 2019; April 1 – June 30, 2020; July 1 – September 30, 2021; October 1 – December 31, 2022; January 1 – March 31, 2023.

Acute WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required in October 1 – December 31, 2024.

Chronic tests shall be conducted once each year, in rotating quarters in order to collect seasonal information about the discharge. Tests are required during the following quarters.

- **Chronic:** January 1 – March 31, 2019; April 1 – June 30, 2020; July 1 – September 30, 2021; October 1 – December 31, 2022; January 1 – March 31, 2023.

Chronic WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required in October 1 – December 31, 2024.

Testing: WET testing shall be performed during normal operating conditions. Permittees are not allowed to turn off or otherwise modify treatment systems, production processes, or change other operating or treatment conditions during WET tests.

Reporting: The permittee shall report test results on the Discharge Monitoring Report form, and also complete the "Whole Effluent Toxicity Test Report Form" (Section 6, "*State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition*"), for each test. The original, complete, signed version of the Whole Effluent Toxicity Test Report Form shall be sent to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., P.O. Box 7921, Madison, WI 53707-7921, within 45 days of test completion. The Discharge Monitoring Report (DMR) form shall be submitted electronically by the required deadline.

Determination of Positive Results: An acute toxicity test shall be considered positive if the Toxic Unit - Acute (TU_a) is greater than 1.0 for either species. The TU_a shall be calculated as follows: $TU_a = 100 \div LC_{50}$. A chronic toxicity test shall be considered positive if the Toxic Unit - Chronic (TU_c) is greater than 1.2 for either species. The TU_c shall be calculated as follows: $TU_c = 100 \div IC_{25}$.

Additional Testing Requirements: Within 90 days of a test which showed positive results, the permittee shall submit the results of at least 2 retests to the Biomonitoring Coordinator on "Whole Effluent Toxicity Test Report Forms". The 90-day reporting period shall begin the day after the test which showed a positive result. The retests shall be completed using the same species and test methods specified for the original test (see the Standard Requirements section herein).

3.2.1.9 Chloride – Source Reduction Measures

The permittee shall continue to (a) maintain effluent quality at or below the current effluent concentrations, (b) continue to implement chloride source reduction measures and (c) perform the actions listed in the compliance schedule.

3.2.1.10 Chloride Sampling and Calculation of Weekly Average

A sample frequency of 4/month requires that samples be collected on four consecutive days a month. Any four consecutive days of sampling shall be exclusive to one week of a month; where Week 1 is days 1-7, Week 2 is days 8-14, Week 3 is days 15-21, and Week 4 is days 22-28.

4 Land Application Requirements

4.1 Sampling Point(s)

The discharge(s) shall be limited to land application of the waste type(s) designated for the listed sampling point(s) on Department approved land spreading sites or by hauling to another facility.

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
006	Anaerobically digested, Belt Pressed, Cake, Class B. Representative sludge samples shall be collected from the sludge storage building.

4.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

4.2.1 Sampling Point (Outfall) 006 - SLUDGE (Belt Pressed)

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	Jan 1, 2019 - Dec 31, 2019
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	Jan 1, 2019 - Dec 31, 2019
Solids, Total		Percent	Quarterly	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Quarterly	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Quarterly	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Quarterly	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Quarterly	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Quarterly	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Quarterly	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Quarterly	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Quarterly	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Quarterly	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Quarterly	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Quarterly	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Quarterly	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Quarterly	Composite	
Nitrogen, Total Kjeldahl		Percent	Quarterly	Composite	
Nitrogen, Ammonium (NH ₄ -N) Total		Percent	Quarterly	Composite	
Phosphorus, Total		Percent	Quarterly	Composite	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Phosphorus, Water Extractable		% of Tot P	Quarterly	Composite	
Potassium, Total Recoverable		Percent	Quarterly	Composite	

Other Sludge Requirements	
Sludge Requirements	Sample Frequency
List 3 Requirements – Pathogen Control: The requirements in List 3 shall be met prior to land application of sludge.	Quarterly
List 4 Requirements – Vector Attraction Reduction: The vector attraction reduction shall be satisfied prior to, or at the time of land application as specified in List 4.	Quarterly

4.2.1.1 List 2 Analysis

If the monitoring frequency for List 2 parameters is more frequent than "Annual" then the sludge may be analyzed for the List 2 parameters just prior to each land application season rather than at the more frequent interval specified.

4.2.1.2 Changes in Feed Sludge Characteristics

If a change in feed sludge characteristics, treatment process, or operational procedures occurs which may result in a significant shift in sludge characteristics, the permittee shall reanalyze the sludge for List 1, 2, 3 and 4 parameters each time such change occurs.

4.2.1.3 Multiple Sludge Sample Points (Outfalls)

If there are multiple sludge sample points (outfalls), but the sludges are not subject to different sludge treatment processes, then a separate List 2 analysis shall be conducted for each sludge type which is land applied, just prior to land application, and the application rate shall be calculated for each sludge type. In this case, List 1, 3, and 4 and PCBs need only be analyzed on a single sludge type, at the specified frequency. If there are multiple sludge sample points (outfalls), due to multiple treatment processes, List 1, 2, 3 and 4 and PCBs shall be analyzed for each sludge type at the specified frequency.

4.2.1.4 Sludge Which Exceeds the High Quality Limit

Cumulative pollutant loading records shall be kept for all bulk land application of sludge which does not meet the high quality limit for any parameter. This requirement applies for the entire calendar year in which any exceedance of Table 3 of s. NR 204.07(5)(c), is experienced. Such loading records shall be kept for all List 1 parameters for each site land applied in that calendar year. The formula to be used for calculating cumulative loading is as follows:

$$[(\text{Pollutant concentration (mg/kg)} \times \text{dry tons applied/ac}) \div 500] + \text{previous loading (lbs/acre)} = \text{cumulative lbs pollutant per acre}$$

When a site reaches 90% of the allowable cumulative loading for any metal established in Table 2 of s. NR 204.07(5)(b), the Department shall be so notified through letter or in the comment section of the annual land application report (3400-55).

4.2.1.5 Sludge Analysis for PCBs

The permittee shall analyze the sludge for Total PCBs one time during 2019. The results shall be reported as "PCB Total Dry Wt". Either congener-specific analysis or Aroclor analysis shall be used to determine the PCB concentration. The permittee may determine whether Aroclor or congener specific analysis is performed. Analyses shall be performed in accordance with Table EM in s. NR 219.04, Wis. Adm. Code and the conditions specified in Standard Requirements of this permit. PCB results shall be submitted by January 31, following the specified year of analysis.

4.2.1.6 Lists 1, 2, 3, and 4

List 1 TOTAL SOLIDS AND METALS	
See the Monitoring Requirements and Limitations table above for monitoring frequency and limitations for the List 1 parameters	
Solids, Total (percent)	
Arsenic, mg/kg (dry weight)	
Cadmium, mg/kg (dry weight)	
Copper, mg/kg (dry weight)	
Lead, mg/kg (dry weight)	
Mercury, mg/kg (dry weight)	
Molybdenum, mg/kg (dry weight)	
Nickel, mg/kg (dry weight)	
Selenium, mg/kg (dry weight)	
Zinc, mg/kg (dry weight)	

List 2 NUTRIENTS	
See the Monitoring Requirements and Limitations table above for monitoring frequency for the List 2 parameters	
Solids, Total (percent)	
Nitrogen Total Kjeldahl (percent)	
Nitrogen Ammonium (NH ₄ -N) Total (percent)	
Phosphorus Total as P (percent)	
Phosphorus, Water Extractable (as percent of Total P)	
Potassium Total Recoverable (percent)	

List 3**PATHOGEN CONTROL FOR CLASS B SLUDGE**

The permittee shall implement pathogen control as listed in List 3. The Department shall be notified of the pathogen control utilized and shall be notified when the permittee decides to utilize alternative pathogen control.

The following requirements shall be met prior to land application of sludge.

Parameter	Unit	Limit
Fecal Coliform*	MPN/gTS or CFU/gTS	2,000,000
OR, ONE OF THE FOLLOWING PROCESS OPTIONS		
Aerobic Digestion		Air Drying
Anaerobic Digestion		Composting
Alkaline Stabilization		PSRP Equivalent Process
* The Fecal Coliform limit shall be reported as the geometric mean of 7 discrete samples on a dry weight basis.		

List 4**VECTOR ATTRACTION REDUCTION**

The permittee shall implement any one of the vector attraction reduction options specified in List 4. The Department shall be notified of the option utilized and shall be notified when the permittee decides to utilize an alternative option.

One of the following shall be satisfied prior to, or at the time of land application as specified in List 4.

Option	Limit	Where/When it Shall be Met
Volatile Solids Reduction	≥38%	Across the process
Specific Oxygen Uptake Rate	≤1.5 mg O ₂ /hr/g TS	On aerobic stabilized sludge
Anaerobic bench-scale test	<17 % VS reduction	On anaerobic digested sludge
Aerobic bench-scale test	<15 % VS reduction	On aerobic digested sludge
Aerobic Process	>14 days, Temp >40°C and Avg. Temp > 45°C	On composted sludge
pH adjustment	>12 S.U. (for 2 hours) and >11.5 (for an additional 22 hours)	During the process
Drying without primary solids	>75 % TS	When applied or bagged
Drying with primary solids	>90 % TS	When applied or bagged
Equivalent Process	Approved by the Department	Varies with process
Injection	-	When applied
Incorporation	-	Within 6 hours of application

4.2.1.7 Daily Land Application Log

Daily Land Application Log		
Discharge Monitoring Requirements and Limitations		
The permittee shall maintain a daily land application log for biosolids land applied each day when land application occurs. The following minimum records must be kept, in addition to all analytical results for the biosolids land applied. The log book records shall form the basis for the annual land application report requirements.		
Parameters	Units	Sample Frequency
DNR Site Number(s)	Number	Daily as used
Outfall number applied	Number	Daily as used
Acres applied	Acres	Daily as used
Amount applied	As appropriate */day	Daily as used
Application rate per acre	unit */acre	Daily as used
Nitrogen applied per acre	lb/acre	Daily as used
Method of Application	Injection, Incorporation, or surface applied	Daily as used

*gallons, cubic yards, dry US Tons or dry Metric Tons

5 Schedules

5.1 Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus

The permittee shall comply with the WQBELs for Phosphorus as specified. No later than 14 days following each compliance date, the permittee shall notify the Department in writing of its compliance or noncompliance. If a submittal is required, a timely submittal fulfills the notification requirement.

Required Action	Due Date
Final Plans and Specifications: The permittee shall submit final construction plans to the Department for approval pursuant to s. 281.41, Stats., specifying treatment plant upgrades that must be constructed to achieve compliance with final phosphorus WQBELs, and a schedule for completing construction of the upgrades by the complete construction date specified below.	09/30/2019
Treatment Plant Upgrade to Meet WQBELs: The permittee shall initiate construction of the upgrades. The permittee shall obtain approval of the final construction plans and schedule from the Department pursuant to s. 281.41, Stats. Upon approval of the final construction plans and schedule by the Department pursuant to s. 281.41, Stats., the permittee shall construct the treatment plant upgrades in accordance with the approved plans and specifications.	12/31/2019
Construction Upgrade Progress Report #1: The permittee shall submit a progress report on construction upgrades.	12/31/2020
Construction Upgrade Progress Report #2: The permittee shall submit a progress report on construction upgrades.	12/31/2021
Complete Construction: The permittee shall complete construction of wastewater treatment system upgrades.	09/30/2022
Achieve Compliance: The permittee shall achieve compliance with final phosphorus WQBELs.	10/01/2022

5.2 Water Quality Based Effluent Limits (WQBELs) for Chloride

The permittee shall comply with the WQBELs for Chloride as specified.

Required Action	Due Date
Annual Chloride Progress Report: Submit an annual chloride progress report. The annual chloride progress report shall: Indicate which chloride source reduction measures or activities have been implemented; Include an analysis of the trends in weekly, monthly and annual average chloride concentrations and total mass discharge of chloride base don chloride sampling and flow data; and Include an analysis of how effluent chloride varies with time and with significant loadings of chloride such as loads from industries and road salt intrusion in the collection system. The first annual chloride progress report is to be submitted by the Date Due.	03/31/2019
Annual Chloride Progress Report #2: Submit the chloride progress report as defined above.	03/31/2020
Annual Chloride Progress Report #3: Submit the chloride progress report as defined above.	03/31/2021
Annual Chloride Progress Report #4: Submit the chloride progress report as defined above.	03/31/2022
Final Chloride Report: Submit the chloride progress report as defined above.	03/31/2023

6 Standard Requirements

NR 205, Wisconsin Administrative Code: The conditions in ss. NR 205.07(1) and NR 205.07(2), Wis. Adm. Code, are included by reference in this permit. The permittee shall comply with all of these requirements. Some of these requirements are outlined in the Standard Requirements section of this permit. Requirements not specifically outlined in the Standard Requirement section of this permit can be found in ss. NR 205.07(1) and NR 205.07(2).

6.1 Reporting and Monitoring Requirements

6.1.1 Monitoring Results

Monitoring results obtained during the previous month shall be summarized and reported on a Department Wastewater Discharge Monitoring Report. The report may require reporting of any or all of the information specified below under 'Recording of Results'. This report is to be returned to the Department no later than the date indicated on the form. A copy of the Wastewater Discharge Monitoring Report Form or an electronic file of the report shall be retained by the permittee.

Monitoring results shall be reported on an electronic discharge monitoring report (eDMR). The eDMR shall be certified electronically by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

If the permittee monitors any pollutant more frequently than required by this permit, the results of such monitoring shall be included on the Wastewater Discharge Monitoring Report.

The permittee shall comply with all limits for each parameter regardless of monitoring frequency. For example, monthly, weekly, and/or daily limits shall be met even with monthly monitoring. The permittee may monitor more frequently than required for any parameter.

6.1.2 Sampling and Testing Procedures

Sampling and laboratory testing procedures shall be performed in accordance with Chapters NR 218 and NR 219, Wis. Adm. Code and shall be performed by a laboratory certified or registered in accordance with the requirements of ch. NR 149, Wis. Adm. Code. Groundwater sample collection and analysis shall be performed in accordance with ch. NR 140, Wis. Adm. Code. The analytical methodologies used shall enable the laboratory to quantitate all substances for which monitoring is required at levels below the effluent limitation. If the required level cannot be met by any of the methods available in NR 219, Wis. Adm. Code, then the method with the lowest limit of detection shall be selected. Additional test procedures may be specified in this permit.

6.1.3 Recording of Results

The permittee shall maintain records which provide the following information for each effluent measurement or sample taken:

- the date, exact place, method and time of sampling or measurements;
- the individual who performed the sampling or measurements;
- the date the analysis was performed;
- the individual who performed the analysis;
- the analytical techniques or methods used; and
- the results of the analysis.

6.1.4 Reporting of Monitoring Results

The permittee shall use the following conventions when reporting effluent monitoring results:

- Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 0.1 mg/L, report the pollutant concentration as < 0.1 mg/L.
- Pollutant concentrations equal to or greater than the limit of detection, but less than the limit of quantitation, shall be reported and the limit of quantitation shall be specified.
- For purposes of calculating NR 101 fees, the 2 mg/l lower reporting limits for BOD₅ and Total Suspended Solids shall be considered to be limits of quantitation
- For the purposes of reporting a calculated result, average or a mass discharge value, the permittee may substitute a 0 (zero) for any pollutant concentration that is less than the limit of detection. However, if the effluent limitation is less than the limit of detection, the department may substitute a value other than zero for results less than the limit of detection, after considering the number of monitoring results that are greater than the limit of detection and if warranted when applying appropriate statistical techniques.

6.1.5 Compliance Maintenance Annual Reports

Compliance Maintenance Annual Reports (CMAR) shall be completed using information obtained over each calendar year regarding the wastewater conveyance and treatment system. The CMAR shall be submitted and certified by the permittee in accordance with ch. NR 208, Wis. Adm. Code, by June 30, each year on an electronic report form provided by the Department.

In the case of a publicly owned treatment works, a resolution shall be passed by the governing body and submitted as part of the CMAR, verifying its review of the report and providing responses as required. Private owners of wastewater treatment works are not required to pass a resolution; but they must provide an Owner Statement and responses as required, as part of the CMAR submittal.

The CMAR shall be certified electronically by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The certification verifies that the electronic report is true, accurate and complete.

6.1.6 Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings or electronic data records for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit for a period of at least 3 years from the date of the sample, measurement, report or application. All pertinent sludge information, including permit application information and other documents specified in this permit or s. NR 204.06(9), Wis. Adm. Code shall be retained for a minimum of 5 years.

6.1.7 Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or correct information to the Department.

6.1.8 Reporting Requirements – Alterations or Additions

The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is only required when:

- The alteration or addition to the permitted facility may meet one of the criteria for determining whether a facility is a new source.
- The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification requirement applies to pollutants which are not subject to effluent limitations in the existing permit.
- The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use of disposal sites not reported during the permit application process nor reported pursuant to an approved land application plan. Additional sites may not be used for the land application of sludge until department approval is received.

6.2 System Operating Requirements

6.2.1 Noncompliance Reporting

Sanitary sewer overflows and sewage treatment facility overflows shall be reported according to the 'Sanitary Sewer Overflows and Sewage Treatment Facility Overflows' section of this permit.

The permittee shall report the following types of noncompliance by a telephone call to the Department's regional office within 24 hours after becoming aware of the noncompliance:

- any noncompliance which may endanger health or the environment;
- any violation of an effluent limitation resulting from a bypass;
- any violation of an effluent limitation resulting from an upset; and
- any violation of a maximum discharge limitation for any of the pollutants listed by the Department in the permit, either for effluent or sludge.

A written report describing the noncompliance shall also be submitted to the Department's regional office within 5 days after the permittee becomes aware of the noncompliance. On a case-by-case basis, the Department may waive the requirement for submittal of a written report within 5 days and instruct the permittee to submit the written report with the next regularly scheduled monitoring report. In either case, the written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

A scheduled bypass approved by the Department under the 'Scheduled Bypass' section of this permit shall not be subject to the reporting required under this section.

NOTE: Section 292.11(2)(a), Wisconsin Statutes, requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the Department of Natural Resources **immediately** of any discharge not authorized by the permit. **The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call DNR's 24-hour HOTLINE at 1-800-943-0003.**

6.2.2 Flow Meters

Flow meters shall be calibrated annually, as per s. NR 218.06, Wis. Adm. Code.

6.2.3 Raw Grit and Screenings

All raw grit and screenings shall be disposed of at a properly licensed solid waste facility or picked up by a licensed waste hauler. If the facility or hauler are located in Wisconsin, then they shall be licensed under chs. NR 500-555, Wis. Adm. Code.

6.2.4 Sludge Management

All sludge management activities shall be conducted in compliance with ch. NR 204 "Domestic Sewage Sludge Management", Wis. Adm. Code.

6.2.5 Prohibited Wastes

Under no circumstances may the introduction of wastes prohibited by s. NR 211.10, Wis. Adm. Code, be allowed into the waste treatment system. Prohibited wastes include those:

- which create a fire or explosion hazard in the treatment work;
- which will cause corrosive structural damage to the treatment work;
- solid or viscous substances in amounts which cause obstructions to the flow in sewers or interference with the proper operation of the treatment work;
- wastewaters at a flow rate or pollutant loading which are excessive over relatively short time periods so as to cause a loss of treatment efficiency; and
- changes in discharge volume or composition from contributing industries which overload the treatment works or cause a loss of treatment efficiency.

6.2.6 Bypass

This condition applies only to bypassing at a sewage treatment facility that is not a scheduled bypass, approved blending as a specific condition of this permit, a sewage treatment facility overflow or a controlled diversion as provided in the sections titled 'Scheduled Bypass', 'Blending' (if approved), 'SSO's and Sewage Treatment Facility Overflows' and 'Controlled Diversions' of this permit. Any other bypass at the sewage treatment facility is prohibited and the Department may take enforcement action against a permittee for such occurrences under s. 283.89, Wis. Stats. The Department may approve a bypass if the permittee demonstrates all the following conditions apply:

- The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance. When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, costs and affordability of implementation and risks to public health, the environment and, where the permittee is a municipality, the welfare of the community served; and
- The bypass was reported in accordance with the Noncompliance Reporting section of this permit.

6.2.7 Scheduled Bypass

Whenever the permittee anticipates the need to bypass for purposes of efficient operations and maintenance and the permittee may not meet the conditions for controlled diversions in the 'Controlled Diversions' section of this permit,

the permittee shall obtain prior written approval from the Department for the scheduled bypass. A permittee's written request for Department approval of a scheduled bypass shall demonstrate that the conditions for bypassing specified in the above section titled 'Bypass' are met and include the proposed date and reason for the bypass, estimated volume and duration of the bypass, alternatives to bypassing and measures to mitigate environmental harm caused by the bypass. The department may require the permittee to provide public notification for a scheduled bypass if it is determined there is significant public interest in the proposed action and may recommend mitigation measures to minimize the impact of such bypass.

6.2.8 Controlled Diversions

Controlled diversions are allowed only when necessary for essential maintenance to assure efficient operation. Sewage treatment facilities that have multiple treatment units to treat variable or seasonal loading conditions may shut down redundant treatment units when necessary for efficient operation. The following requirements shall be met during controlled diversions:

- Effluent from the sewage treatment facility shall meet the effluent limitations established in the permit. Wastewater that is diverted around a treatment unit or treatment process during a controlled diversion shall be recombined with wastewater that is not diverted prior to the effluent sampling location and prior to effluent discharge;
- A controlled diversion does not include blending as defined in s. NR 210.03(2e), Wis. Adm. Code, and as may only be approved under s. NR 210.12. A controlled diversion may not occur during periods of excessive flow or other abnormal wastewater characteristics;
- A controlled diversion may not result in a wastewater treatment facility overflow; and
- All instances of controlled diversions shall be documented in sewage treatment facility records and such records shall be available to the department on request.

6.2.9 Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training as required in ch. NR 114, Wis. Adm. Code, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

6.2.10 Operator Certification

The wastewater treatment facility shall be under the direct supervision of a state certified operator. In accordance with s. NR 114.53, Wis. Adm. Code, every WPDES permitted treatment plant shall have a designated operator-in-charge holding a current and valid certificate. The designated operator-in-charge shall be certified at the level and in all subclasses of the treatment plant, except laboratory. Treatment plant owners shall notify the department of any changes in the operator-in-charge within 30 days. Note that s. NR 114.52(22), Wis. Adm. Code, lists types of facilities that are excluded from operator certification requirements (i.e. private sewage systems, pretreatment facilities discharging to public sewers, industrial wastewater treatment that consists solely of land disposal, agricultural digesters and concentrated aquatic production facilities with no biological treatment).

6.3 Sewage Collection Systems

6.3.1 Sanitary Sewage Overflows and Sewage Treatment Facility Overflows

6.3.1.1 Overflows Prohibited

Any overflow or discharge of wastewater from the sewage collection system or at the sewage treatment facility, other than from permitted outfalls, is prohibited. The permittee shall provide information on whether any of the following conditions existed when an overflow occurred:

- The sanitary sewer overflow or sewage treatment facility overflow was unavoidable to prevent loss of life, personal injury or severe property damage;
- There were no feasible alternatives to the sanitary sewer overflow or sewage treatment facility overflow such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or preventative maintenance activities;
- The sanitary sewer overflow or the sewage treatment facility overflow was caused by unusual or severe weather related conditions such as large or successive precipitation events, snowmelt, saturated soil conditions, or severe weather occurring in the area served by the sewage collection system or sewage treatment facility; and
- The sanitary sewer overflow or the sewage treatment facility overflow was unintentional, temporary, and caused by an accident or other factors beyond the reasonable control of the permittee.

6.3.1.2 Permittee Response to Overflows

Whenever a sanitary sewer overflow or sewage treatment facility overflow occurs, the permittee shall take all feasible steps to control or limit the volume of untreated or partially treated wastewater discharged, and terminate the discharge as soon as practicable. Remedial actions, including those in NR 210.21 (3), Wis. Adm. Code, shall be implemented consistent with an emergency response plan developed under the CMOM program.

6.3.1.3 Permittee Reporting

Permittees shall report all sanitary sewer overflows and sewage treatment overflows as follows:

- The permittee shall notify the department by telephone, fax or email as soon as practicable, but no later than 24 hours from the time the permittee becomes aware of the overflow;
- The permittee shall, no later than five days from the time the permittee becomes aware of the overflow, provide to the department the information identified in this paragraph using department form number 3400-184. If an overflow lasts for more than five days, an initial report shall be submitted within 5 days as required in this paragraph and an updated report submitted following cessation of the overflow. At a minimum, the following information shall be included in the report:
 - The date and location of the overflow;
 - The surface water to which the discharge occurred, if any;
 - The duration of the overflow and an estimate of the volume of the overflow;
 - A description of the sewer system or treatment facility component from which the discharge occurred such as manhole, lift station, constructed overflow pipe, or crack or other opening in a pipe;
 - The estimated date and time when the overflow began and stopped or will be stopped;
 - The cause or suspected cause of the overflow including, if appropriate, precipitation, runoff conditions, areas of flooding, soil moisture and other relevant information;
 - Steps taken or planned to reduce, eliminate and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;
 - A description of the actual or potential for human exposure and contact with the wastewater from the overflow;
 - Steps taken or planned to mitigate the impacts of the overflow and a schedule of major milestones for those steps;
 - To the extent known at the time of reporting, the number and location of building backups caused by excessive flow or other hydraulic constraints in the sewage collection system that occurred

concurrently with the sanitary sewer overflow and that were within the same area of the sewage collection system as the sanitary sewer overflow; and

• The reason the overflow occurred or explanation of other contributing circumstances that resulted in the overflow event. This includes any information available including whether the overflow was unavoidable to prevent loss of life, personal injury, or severe property damage and whether there were feasible alternatives to the overflow.

NOTE: A copy of form 3400-184 for reporting sanitary sewer overflows and sewage treatment facility overflows may be obtained from the department or accessed on the department's web site at <http://dnr.wi.gov/topic/wastewater/SSOreport.html>. As indicated on the form, additional information may be submitted to supplement the information required by the form.

- The permittee shall identify each specific location and each day on which a sanitary sewer overflow or sewage treatment facility overflow occurs as a discrete sanitary sewer overflow or sewage treatment facility overflow occurrence. An occurrence may be more than one day if the circumstances causing the sanitary sewer overflow or sewage treatment facility overflow results in a discharge duration of greater than 24 hours. If there is a stop and restart of the overflow at the same location within 24 hours and the overflow is caused by the same circumstance, it may be reported as one occurrence. Sanitary sewer overflow occurrences at a specific location that are separated by more than 24 hours shall be reported as separate occurrences; and
- A permittee that is required to submit wastewater discharge monitoring reports under NR 205.07 (1) (r) shall also report all sanitary sewer overflows and sewage treatment facility overflows on that report.

6.3.1.4 Public Notification

The permittee shall notify the public of any sanitary sewer and sewage treatment facility overflows consistent with its emergency response plan required under the CMOM (Capacity, Management, Operation and Maintenance) section of this permit and s. NR 210.23 (4) (f), Wis. Adm. Code. Such public notification shall occur promptly following any overflow event using the most effective and efficient communications available in the community. At minimum, a daily newspaper of general circulation in the county(s) and municipality whose waters may be affected by the overflow shall be notified by written or electronic communication.

6.3.2 Capacity, Management, Operation and Maintenance (CMOM) Program

- The permittee shall have written documentation of the Capacity, Management, Operation and Maintenance (CMOM) program components in accordance with s. NR 210.23(4), Wis. Adm. Code. Such documentation shall be available for Department review upon request. The Department may request that the permittee provide this documentation or prepare a summary of the permittee's CMOM program at the time of application for reissuance of the WPDES permit.
- The permittee shall implement a CMOM program in accordance with s. NR 210.23, Wis. Adm. Code.
- The permittee shall at least annually conduct a self-audit of activities conducted under the permittee's CMOM program to ensure CMOM components are being implemented as necessary to meet the general standards of s. NR 210.23(3), Wis. Adm. Code.

6.3.3 Sewer Cleaning Debris and Materials

All debris and material removed from cleaning sanitary sewers shall be managed to prevent nuisances, run-off, ground infiltration or prohibited discharges.

- Debris and solid waste shall be dewatered, dried and then disposed of at a licensed solid waste facility.
- Liquid waste from the cleaning and dewatering operations shall be collected and disposed of at a permitted wastewater treatment facility.

- Combination waste including liquid waste along with debris and solid waste may be disposed of at a licensed solid waste facility or wastewater treatment facility willing to accept the waste.

6.4 Surface Water Requirements

6.4.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit

For pollutants with water quality-based effluent limits below the Limit of Quantitation (LOQ) in this permit, the LOQ calculated by the permittee and reported on the Discharge Monitoring Reports (DMRs) is incorporated by reference into this permit. The LOQ shall be reported on the DMRs, shall be the lowest quantifiable level practicable, and shall be no greater than the minimum level (ML) specified in or approved under 40 CFR Part 136 for the pollutant at the time this permit was issued, unless this permit specifies a higher LOQ.

6.4.2 Appropriate Formulas for Effluent Calculations

The permittee shall use the following formulas for calculating effluent results to determine compliance with average concentration limits and mass limits and total load limits:

Weekly/Monthly/Six-Month/Annual Average Concentration = the sum of all daily results for that week/month/six-month/year, divided by the number of results during that time period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Weekly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the week.

Monthly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the month.

Six-Month Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the six-month period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Annual Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the entire year.

Total Monthly Discharge: = monthly average concentration (mg/L) x total flow for the month (MG/month) x 8.34.

Total Annual Discharge: = sum of total monthly discharges for the calendar year.

12-Month Rolling Sum of Total Monthly Discharge: = the sum of the most recent 12 consecutive months of Total Monthly Discharges.

6.4.3 Effluent Temperature Requirements

Weekly Average Temperature – The permittee shall use the following formula for calculating effluent results to determine compliance with the weekly average temperature limit (as applicable): Weekly Average Temperature = the sum of all daily maximum results for that week divided by the number of daily maximum results during that time period.

Cold Shock Standard – Water temperatures of the discharge shall be controlled in a manner as to protect fish and aquatic life uses from the deleterious effects of cold shock. ‘Cold Shock’ means exposure of aquatic organisms to a rapid decrease in temperature and a sustained exposure to low temperature that induces abnormal behavior or physiological performance and may lead to death.

Rate of Temperature Change Standard – Temperature of a water of the state or discharge to a water of the state may not be artificially raised or lowered at such a rate that it causes detrimental health or reproductive effects to fish or aquatic life of the water of the state.

6.4.4 Visible Foam or Floating Solids

There shall be no discharge of floating solids or visible foam in other than trace amounts.

6.4.5 Surface Water Uses and Criteria

In accordance with NR 102.04, Wis. Adm. Code, surface water uses and criteria are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all surface waters including the mixing zone meet the following conditions at all times and under all flow and water level conditions:

- a) Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.
- b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.
- c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.
- d) Substances in concentrations or in combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

6.4.6 Percent Removal

During any 30 consecutive days, the average effluent concentrations of BOD₅ and of total suspended solids shall not exceed 15% of the average influent concentrations, respectively. This requirement does not apply to removal of total suspended solids if the permittee operates a lagoon system and has received a variance for suspended solids granted under NR 210.07(2), Wis. Adm. Code.

6.4.7 Fecal Coliforms

The weekly and monthly limit(s) for fecal coliforms shall be expressed as a geometric mean.

6.4.8 Seasonal Disinfection

Disinfection shall be provided from May 1 through September 30 of each year. Monitoring requirements and the limitation for fecal coliforms apply only during the period in which disinfection is required. Whenever chlorine is used for disinfection or other uses, the limitations and monitoring requirements for residual chlorine shall apply. A dechlorination process shall be in operation whenever chlorine is used.

6.4.9 Whole Effluent Toxicity (WET) Monitoring Requirements

In order to determine the potential impact of the discharge on aquatic organisms, static-renewal toxicity tests shall be performed on the effluent in accordance with the procedures specified in the *"State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition"* (PUB-WT-797, November 2004) as required by NR 219.04, Table A, Wis. Adm. Code). All of the WET tests required in this permit, including any required retests, shall be conducted on the *Ceriodaphnia dubia* and fathead minnow species. Receiving water samples shall not be collected from any point in contact with the permittee's mixing zone and every attempt shall be made to avoid contact with any other discharge's mixing zone.

6.4.10 Whole Effluent Toxicity (WET) Identification and Reduction

Within 60 days of a retest which showed positive results, the permittee shall submit a written report to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., PO Box 7921, Madison, WI 53707-7921, which details the following:

- A description of actions the permittee has taken or will take to remove toxicity and to prevent the recurrence of toxicity;
- A description of toxicity reduction evaluation (TRE) investigations that have been or will be done to identify potential sources of toxicity, including some or all of the following actions:
 - (a) Evaluate the performance of the treatment system to identify deficiencies contributing to effluent toxicity (e.g., operational problems, chemical additives, incomplete treatment)
 - (b) Identify the compound(s) causing toxicity
 - (c) Trace the compound(s) causing toxicity to their sources (e.g., industrial, commercial, domestic)
 - (d) Evaluate, select, and implement methods or technologies to control effluent toxicity (e.g., in-plant or pretreatment controls, source reduction or removal)
- Where corrective actions including a TRE have not been completed, an expeditious schedule under which corrective actions will be implemented;
- If no actions have been taken, the reason for not taking action.

The permittee may also request approval from the Department to postpone additional retests in order to investigate the source(s) of toxicity. Postponed retests must be completed after toxicity is believed to have been removed.

6.4.11 Whole Effluent Toxicity (WET) and Chloride Source Reduction Measures

Section NR 106.89, Wis. Adm. Code, states that chloride limitations can be used in the permit in lieu of whole effluent toxicity testing requirements and limitations until chloride source reduction actions are completed, under the following conditions.

When an acute chloride limitation is included in the permit, acute whole effluent toxicity testing and limitations may be discontinued until chloride source reduction actions are completed, according to s. NR 106.89, Wis. Adm. Code, if either:

- The permittee can demonstrate to the satisfaction of the department that the effluent concentration of chloride exceeds 2,500 mg/l, or
- The permittee can demonstrate to the satisfaction of the department that the effluent concentration of chloride is less than 2,500 mg/l, but in excess of the calculated acute water quality-based effluent limitation, and additional data are submitted which demonstrate that chloride is the sole source of acute toxicity.

When a chronic chloride limitation is included in the permit, chronic whole effluent toxicity testing and limitations may be discontinued until chloride source reduction actions are completed, according to s. NR 106.89, Wis. Adm. Code, if either:

- The permittee can demonstrate to the satisfaction of the department that the effluent concentration of chloride exceeds 2 times the calculated chronic water quality-based effluent limitation, or
- The permittee can demonstrate to the satisfaction of the department that the effluent concentration of chloride is less than 2 times the calculated chronic water quality-based effluent limitation, but in excess of the calculated chronic water quality-based effluent limitation, and additional data are submitted which demonstrate that chloride is the sole source of chronic toxicity.

Following the completion of chloride source reduction activities, the department shall evaluate the need for whole effluent toxicity monitoring and limitation.

6.5 Land Application Requirements

6.5.1 Sludge Management Program Standards And Requirements Based Upon Federally Promulgated Regulations

In the event that new federal sludge standards or regulations are promulgated, the permittee shall comply with the new sludge requirements by the dates established in the regulations, if required by federal law, even if the permit has not yet been modified to incorporate the new federal regulations.

6.5.2 General Sludge Management Information

The General Sludge Management Form 3400-48 shall be completed and submitted prior to any significant sludge management changes.

6.5.3 Sludge Samples

All sludge samples shall be collected at a point and in a manner which will yield sample results which are representative of the sludge being tested, and collected at the time which is appropriate for the specific test.

6.5.4 Land Application Characteristic Report

Each report shall consist of a Characteristic Form 3400-49 and Lab Report. The Characteristic Report Form 3400-49 shall be submitted electronically by January 31 following each year of analysis.

Following submittal of the electronic Characteristic Report Form 3400-49, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report is true, accurate and complete. The Lab Report must be sent directly to the facility's DNR sludge representative or basin engineer unless approval for not submitting the lab reports has been given.

The permittee shall use the following convention when reporting sludge monitoring results: Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 1.0 mg/kg, report the pollutant concentration as < 1.0 mg/kg .

All results shall be reported on a dry weight basis.

6.5.5 Calculation of Water Extractable Phosphorus

When sludge analysis for Water Extractable Phosphorus is required by this permit, the permittee shall use the following formula to calculate and report Water Extractable Phosphorus:

$$\text{Water Extractable Phosphorus (\% of Total P)} = \frac{[\text{Water Extractable Phosphorus (mg/kg, dry wt)} \div \text{Total Phosphorus (mg/kg, dry wt)}] \times 100$$

6.5.6 Monitoring and Calculating PCB Concentrations in Sludge

When sludge analysis for "PCB, Total Dry Wt" is required by this permit, the PCB concentration in the sludge shall be determined as follows.

Either congener-specific analysis or Aroclor analysis shall be used to determine the PCB concentration. The permittee may determine whether Aroclor or congener specific analysis is performed. Analyses shall be performed in accordance with the following provisions and Table EM in s. NR 219.04, Wis. Adm. Code.

- EPA Method 1668 may be used to test for all PCB congeners. If this method is employed, all PCB congeners shall be delineated. Non-detects shall be treated as zero. The values that are between the limit of detection and the limit of quantitation shall be used when calculating the total value of all congeners. All results shall be added together and the total PCB concentration by dry weight reported. **Note:** It is recognized that a number of the congeners will co-elute with others, so there will not be 209 results to sum.
- EPA Method 8082A shall be used for PCB-Aroclor analysis and may be used for congener specific analysis as well. If congener specific analysis is performed using Method 8082A, the list of congeners tested shall include at least congener numbers 5, 18, 31, 44, 52, 66, 87, 101, 110, 138, 141, 151, 153, 170, 180, 183, 187, and 206 plus any other additional congeners which might be reasonably expected to occur in the particular sample. For either type of analysis, the sample shall be extracted using the Soxhlet extraction (EPA Method 3540C) (or the Soxhlet Dean-Stark modification) or the pressurized fluid extraction (EPA Method 3545A). If Aroclor analysis is performed using Method 8082A, clean up steps of the extract shall be performed as necessary to remove interference and to achieve as close to a limit of detection of 0.11 mg/kg as possible. Reporting protocol, consistent with s. NR 106.07(6)(e), should be as follows: If all Aroclors are less than the LOD, then the Total PCB Dry Wt result should be reported as less than the highest LOD. If a single Aroclor is detected then that is what should be reported for the Total PCB result. If multiple Aroclors are detected, they should be summed and reported as Total PCBs. If congener specific analysis is done using Method 8082A, clean up steps of the extract shall be performed as necessary to remove interference and to achieve as close to a limit of detection of 0.003 mg/kg as possible for each congener. If the aforementioned limits of detection cannot be achieved after using the appropriate clean up techniques, a reporting limit that is achievable for the Aroclors or each congener for the sample shall be determined. This reporting limit shall be reported and qualified indicating the presence of an interference. The lab conducting the analysis shall perform as many of the following methods as necessary to remove interference:

3620C – Florisil

3640A - Gel Permeation

3630C - Silica Gel

3611B - Alumina

3660B - Sulfur Clean Up (using copper shot instead of powder)

3665A - Sulfuric Acid Clean Up

6.5.7 Annual Land Application Report

Land Application Report Form 3400-55 shall be submitted electronically by January 31, each year whether or not non-exceptional quality sludge is land applied. Non-exceptional quality sludge is defined in s. NR 204.07(4), Wis. Adm. Code. Following submittal of the electronic Annual Land Application Report Form 3400-55, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

6.5.8 Other Methods of Disposal or Distribution Report

The permittee shall submit electronically the Other Methods of Disposal or Distribution Report Form 3400-52 by January 31, each year whether or not sludge is hauled, landfilled, incinerated, or exceptional quality sludge is distributed or land applied. Following submittal of the electronic Report Form 3400-52, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner

or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

6.5.9 Approval to Land Apply

Bulk non-exceptional quality sludge as defined in s. NR 204.07(4), Wis. Adm. Code, may not be applied to land without a written approval letter or Form 3400-122 from the Department unless the Permittee has obtained permission from the Department to self approve sites in accordance with s. NR 204.06 (6), Wis. Adm. Code. Analysis of sludge characteristics is required prior to land application. Application on frozen or snow covered ground is restricted to the extent specified in s. NR 204.07(3) (l), Wis. Adm. Code.

6.5.10 Soil Analysis Requirements

Each site requested for approval for land application must have the soil tested prior to use. Each approved site used for land application must subsequently be soil tested such that there is at least one valid soil test in the four years prior to land application. All soil sampling and submittal of information to the testing laboratory shall be done in accordance with UW Extension Bulletin A-2100. The testing shall be done by the UW Soils Lab in Madison or Marshfield, WI or at a lab approved by UW. The test results including the crop recommendations shall be submitted to the DNR contact listed for this permit, as they are available. Application rates shall be determined based on the crop nitrogen recommendations and with consideration for other sources of nitrogen applied to the site.

6.5.11 Land Application Site Evaluation

For non-exceptional quality sludge, as defined in s. NR 204.07(4), Wis. Adm. Code, a Land Application Site Request Form 3400-053 shall be submitted to the Department for the proposed land application site. The Department will evaluate the proposed site for acceptability and will either approve or deny use of the proposed site. The permittee may obtain permission to approve their own sites in accordance with s. NR 204.06(6), Wis. Adm. Code.

6.5.12 Class B Sludge: Fecal Coliform Limitation

Compliance with the fecal coliform limitation for Class B sludge shall be demonstrated by calculating the geometric mean of at least 7 separate samples. (Note that a Total Solids analysis must be done on each sample). The geometric mean shall be less than 2,000,000 MPN or CFU/g TS. Calculation of the geometric mean can be done using one of the following 2 methods.

Method 1:

$$\text{Geometric Mean} = (X_1 \times X_2 \times X_3 \dots \times X_n)^{1/n}$$

Where X = Coliform Density value of the sludge sample, and where n = number of samples (at least 7)

Method 2:

$$\text{Geometric Mean} = \text{antilog}[(X_1 + X_2 + X_3 \dots + X_n) \div n]$$

Where X = $\log_{10}$ of Coliform Density value of the sludge sample, and where n = number of samples (at least 7)

Example for Method 2

Sample Number	Coliform Density of Sludge Sample	$\log_{10}$
1	6.0×10^5	5.78
2	4.2×10^6	6.62
3	1.6×10^6	6.20
4	9.0×10^5	5.95
5	4.0×10^5	5.60
6	1.0×10^6	6.00
7	5.1×10^5	5.71

The geometric mean for the seven samples is determined by averaging the $\log_{10}$ values of the coliform density and taking the antilog of that value.

$$(5.78 + 6.62 + 6.20 + 5.95 + 5.60 + 6.00 + 5.71) \div 7 = 5.98$$

The antilog of 5.98 = 9.5×10^5

6.5.13 Class B Sludge: Anaerobic Digestion

Treat the sludge in the absence of air for a specific mean cell residence time at a specific temperature. Values for the mean cell residence time and temperature shall be between 15 days at 35° C to 55° C and 60 days at 20° C. Straight-line interpolation to calculate mean cell residence time is allowable when the temperature falls between 35° C and 20° C.

6.5.14 Vector Control: Volatile Solids Reduction

The mass of volatile solids in the sludge shall be reduced by a minimum of 38% between the time the sludge enters the digestion process and the time it either exits the digester or a storage facility. For calculation of volatile solids reduction, the permittee shall use the Van Kleeck equation or one of the other methods described in "Determination of Volatile Solids Reduction in Digestion" by J.B. Farrell, which is Appendix C of EPA's *Control of Pathogens in Municipal Wastewater Sludge* (EPA/625/R-92/013). The Van Kleeck equation is:

$$\text{VSR}\% = \frac{\text{VS}_{\text{IN}} - \text{VS}_{\text{OUT}}}{\text{VS}_{\text{IN}} - (\text{VS}_{\text{OUT}} \times \text{VS}_{\text{IN}})} \times 100$$

Where: VS_{IN} = Volatile Solids in Feed Sludge (g VS/g TS)

VS_{OUT} = Volatile Solids in Final Sludge (g VS/g TS)

VSR% = Volatile Solids Reduction, (Percent)

6.5.15 Class B Sludge - Vector Control: Incorporation

Class B sludge shall be incorporated within 6 hours of surface application, or as approved by the Department.

7 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Final Plans and Specifications	September 30, 2019	15
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Treatment Plant Upgrade to Meet WQBELs	December 31, 2019	15
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Construction Upgrade Progress Report #1	December 31, 2020	15
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Construction Upgrade Progress Report #2	December 31, 2021	15
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Complete Construction	September 30, 2022	15
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Achieve Compliance	October 1, 2022	15
Water Quality Based Effluent Limits (WQBELs) for Chloride -Annual Chloride Progress Report	March 31, 2019	15
Water Quality Based Effluent Limits (WQBELs) for Chloride -Annual Chloride Progress Report #2	March 31, 2020	15
Water Quality Based Effluent Limits (WQBELs) for Chloride -Annual Chloride Progress Report #3	March 31, 2021	15
Water Quality Based Effluent Limits (WQBELs) for Chloride -Annual Chloride Progress Report #4	March 31, 2022	15
Water Quality Based Effluent Limits (WQBELs) for Chloride -Final Chloride Report	March 31, 2023	15
Water Quality Based Effluent Limits (WQBELs) for Chloride -Chloride WQBELs Effective Date	September 1, 2023	16
Compliance Maintenance Annual Reports (CMAR)	by June 30, each year	18
General Sludge Management Form 3400-48	prior to any significant sludge management changes	27
Characteristic Form 3400-49 and Lab Report	by January 31 following each year of analysis	27
Land Application Report Form 3400-55	by January 31, each year whether or not non-exceptional quality sludge is land applied	28
Other Methods of Disposal or Distribution Report Form 3400-52	by January 31, each	28

	year whether or not sludge is hauled, landfilled, incinerated, or exceptional quality sludge is distributed or land applied	
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	17

Report forms shall be submitted electronically in accordance with the reporting requirements herein. Any facility plans or plans and specifications for municipal, industrial, industrial pretreatment and non-industrial wastewater systems shall be submitted to the Bureau of Water Quality, P.O. Box 7921, Madison, WI 53707-7921. All other submittals required by this permit shall be submitted to:
Southeast Region - Waukesha, 141 NW Barstow St., Room 180, Waukesha, WI 53188