



WPDES PERMIT

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

Racine Wastewater Utility

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility
located at
2101 South Wisconsin Avenue
to
LAKE MICHIGAN 500 feet East of shoreline in RACINE COUNTY

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 _____
Mike Luba
Southeast Region Watershed Program Supervisor

Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE – October 01, 2014

EXPIRATION DATE – September 30, 2019

TABLE OF CONTENTS

1 INFLUENT REQUIREMENTS	1
1.1 SAMPLING POINT(S)	1
1.2 MONITORING REQUIREMENTS	1
1.2.1 <i>Sampling Point 701 - INFLUENT TO PLANT</i>	1
2 IN-PLANT REQUIREMENTS	3
2.1 SAMPLING POINT(S)	3
2.2 MONITORING REQUIREMENTS AND LIMITATIONS	3
2.2.1 <i>Sampling Point 110 - EQ Basin #1 ; 111- EQ Basin #2</i>	3
2.2.2 <i>Sampling Point 112 - Effluent Mercury blank</i>	3
2.2.3 <i>Sampling Point 113 - City Water Intake</i>	4
3 SURFACE WATER REQUIREMENTS	5
3.1 SAMPLING POINT(S)	5
3.2 MONITORING REQUIREMENTS AND EFFLUENT LIMITATIONS	5
3.2.1 <i>Sampling Point (Outfall) 001 - EFFLUENT</i>	5
3.2.2 <i>Sampling Point (Outfall) 010 - SS PLANT; 011- S01; 012- S02; 013- S03; 014- S04; 015- S05; 016- S06; 018- S08; 019- S09; 020- S10; 021- S11; 022- S12; 032- L02; 036- L06; 038- L08, and 039- L09</i>	9
4 LAND APPLICATION REQUIREMENTS	10
4.1 SAMPLING POINT(S)	10
4.2 MONITORING REQUIREMENTS AND LIMITATIONS	10
4.2.1 <i>Sampling Point (Outfall) 002 - ANAEROBIC CAKE SLUDGE</i>	10
5 SCHEDULES	15
5.1 MERCURY POLLUTANT MINIMIZATION PROGRAM	15
6 STANDARD REQUIREMENTS	16
6.1 REPORTING AND MONITORING REQUIREMENTS	16
6.1.1 <i>Monitoring Results</i>	16
6.1.2 <i>Sampling and Testing Procedures</i>	16
6.1.3 <i>Pretreatment Sampling Requirements</i>	16
6.1.4 <i>Recording of Results</i>	16
6.1.5 <i>Reporting of Monitoring Results</i>	17
6.1.6 <i>Compliance Maintenance Annual Reports</i>	17
6.1.7 <i>Records Retention</i>	17
6.1.8 <i>Other Information</i>	18
6.2 SYSTEM OPERATING REQUIREMENTS	18
6.2.1 <i>Noncompliance Reporting</i>	18
6.2.2 <i>Flow Meters</i>	18
6.2.3 <i>Raw Grit and Screenings</i>	18
6.2.4 <i>Sludge Management</i>	18
6.2.5 <i>Prohibited Wastes</i>	19
6.2.6 <i>Bypass</i>	19
6.2.7 <i>Scheduled Bypass</i>	19
6.2.8 <i>Controlled Diversions</i>	19
6.2.9 <i>Blending</i>	20
6.2.10 <i>Proper Operation and Maintenance</i>	20
6.3 SEWAGE COLLECTION SYSTEMS	20
6.3.1 <i>Sanitary Sewage Overflows and Sewage Treatment Facility Overflows</i>	20
6.3.2 <i>Capacity, Management, Operation and Maintenance (CMOM) Program</i>	22
6.3.3 <i>Sewer Cleaning Debris and Materials</i>	22
6.4 SURFACE WATER REQUIREMENTS	23

6.4.1	<i>Permittee-Determined Limit of Quantitation Incorporated into this Permit</i>	23
6.4.2	<i>Appropriate Formulas for Effluent Calculations</i>	23
6.4.3	<i>Effluent Temperature Requirements</i>	23
6.4.4	<i>Visible Foam or Floating Solids</i>	24
6.4.5	<i>Surface Water Uses and Criteria</i>	24
6.4.6	<i>Percent Removal</i>	24
6.4.7	<i>Fecal Coliforms</i>	24
6.4.8	<i>Year Round Disinfection</i>	24
6.4.9	<i>Applicability of Alternative Wet Weather Mass Limitations</i>	24
6.4.10	<i>Total Residual Chlorine Requirements (When De-Chlorinating Effluent)</i>	25
6.4.11	<i>Whole Effluent Toxicity (WET) Monitoring Requirements</i>	25
6.4.12	<i>Whole Effluent Toxicity (WET) Identification and Reduction</i>	25
6.5	PRETREATMENT PROGRAM REQUIREMENTS	26
6.5.1	<i>Inventories</i>	26
6.5.2	<i>Regulation of Industrial Users</i>	26
6.5.3	<i>Annual Pretreatment Program Report</i>	27
6.5.4	<i>Pretreatment Program Modifications</i>	28
6.5.5	<i>Program Resources</i>	28
6.6	LAND APPLICATION REQUIREMENTS	28
6.6.1	<i>Sludge Management Program Standards And Requirements Based Upon Federally Promulgated Regulations</i>	28
6.6.2	<i>General Sludge Management Information</i>	28
6.6.3	<i>Sludge Samples</i>	28
6.6.4	<i>Land Application Characteristic Report</i>	28
6.6.5	<i>Calculation of Water Extractable Phosphorus</i>	29
6.6.6	<i>Monitoring and Calculating PCB Concentrations in Sludge</i>	29
6.6.7	<i>Annual Land Application Report</i>	30
6.6.8	<i>Other Methods of Disposal or Distribution Report</i>	30
6.6.9	<i>Approval to Land Apply</i>	30
6.6.10	<i>Soil Analysis Requirements</i>	30
6.6.11	<i>Land Application Site Evaluation</i>	30
6.6.12	<i>Class B Sludge: Anaerobic Digestion</i>	30
6.6.13	<i>Class B Sludge - Vector Control: Incorporation</i>	31
7	SUMMARY OF REPORTS DUE	32

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 samples shall be taken in the channel at the headworks structure.

1.2 Monitoring Requirements

The permittee shall comply with the following monitoring requirements.

1.2.1 Sampling Point 701 - INFLUENT TO PLANT

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Continuous	Continuous	
BOD ₅ , Total		mg/L	Daily	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	Daily	24-Hr Flow Prop Comp	
Nitrogen, Ammonia (NH ₃ -N) Total		mg/L	Weekly	24-Hr Flow Prop Comp	
Phosphorus, Total		mg/L	Weekly	24-Hr Flow Prop Comp	
Cadmium, Total Recoverable		µg/L	Monthly	24-Hr Flow Prop Comp	See 1.2.1.1 & 1.2.1.2
Chromium, Total Recoverable		µg/L	Monthly	24-Hr Flow Prop Comp	See 1.2.1.1 & 1.2.1.2
Copper, Total Recoverable		µg/L	Monthly	24-Hr Flow Prop Comp	See 1.2.1.1 & 1.2.1.2
Lead, Total Recoverable		µg/L	Monthly	24-Hr Flow Prop Comp	See 1.2.1.1 & 1.2.1.2
Nickel, Total Recoverable		µg/L	Monthly	24-Hr Flow Prop Comp	See 1.2.1.1 & 1.2.1.2
Zinc, Total Recoverable		µg/L	Monthly	24-Hr Flow Prop Comp	See 1.2.1.1 & 1.2.1.2
Mercury, Total Recoverable		ng/L	Monthly	24-Hr Flow Prop Comp	See 1.2.1.3

1.2.1.1 Total Metals Analyses

Measurements of total metals and total recoverable metals shall be considered as equivalent.

1.2.1.2 Sample Analysis

Samples shall be analyzed using a method which provides adequate sensitivity so that results can be quantified, unless not possible, using the most sensitive approved method.

1.2.1.3 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, WasteType/Sample Contents and Treatment Description (as applicable)
110	EQ Basin #1, east basin. Flow rate shall be monitored only when blended with final effluent. Any blended effluent receives primary settling, disinfection, and is sampled with outfall 001 before discharge.
111	EQ Basin #2, west basin. Flow rate shall be monitored only when blended with final effluent. Any blended effluent receives primary settling, disinfection, and is sampled with outfall 001 before discharge.
112	Collect field blanks using standard sampling procedures.
113	Monitor Arsenic and Mercury in the City Water Intake (Water supply from Lake Michigan)

2.2 Monitoring Requirements and Limitations

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

2.2.1 Sampling Point 110 - EQ Basin #1 ; 111- EQ Basin #2

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Per Occurrence	Measure	See 2.2.1.1.
Flow Rate		hours	Per Occurrence	Calculated	Total time of blending

2.2.1.1 Operation of Equalization Basins

During wet weather high flow conditions, when necessary to maintain the proper function of the wastewater treatment facility, the permittee may operate in-plant diversion and blending facilities that have been designed, approved, and constructed for that purpose. The requirements and limitations contained in section 3.2.1 remain in full force and effect during periods when in-plant diversion and blending occur. Final effluent monitoring shall include that portion of the flow that is diverted. In-plant diversion and blending shall only be used by the permittee when there are high wet weather wastewater flows to the treatment facility and when such alternative operations are necessary to prevent excessive loss of solids from the activated sludge system to the plant effluent.

2.2.2 Sampling Point 112 - Effluent Mercury blank

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Mercury, Total Recoverable		ng/L	Monthly	Blank	See 2.2.2.1

2.2.2.1 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.

2.2.3 Sampling Point 113 - City Water Intake

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Arsenic, Total Recoverable		µg/L	Quarterly	Grab	See 2.2.3.1
Mercury, Total Recoverable		ng/L	Quarterly	Grab	See 2.2.2.1 above

2.2.3.1 Sample Monitoring and Analysis

Arsenic samples shall be analyzed using a highly sensitive but acceptable method unless not possible, using the most sensitive approved method.

3 Surface Water Requirements

3.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)
001	Final effluent flow and samples shall be taken from Outfall #001, the combined outfall structure, the point where the plant effluent mixes with the effluent from the equalization basins before discharge to the lake. The flow through the equalization basins, if occurring, at a minimum receives primary treatment and disinfection before the combined outfall structure.
010	Safety Site PLANT - 21st Street & Roosevelt Avenue - Manhole SS-U0904
011	Safety Site S01 - Augusta Street & Michigan Boulevard - Manhole SS-AC003
012	Safety Site S02 - Michigan Boulevard & South Street Extd. - Manhole SS-B0045
013	Safety Site S03 - Carlton Drive & La Salle Street - Manhole SS-B0133R
014	Safety Site S04 - 16th Street & College Avenue - Manhole SS-T0005
015	Safety Site S05 - 21st Street & Grove Avenue - Manhole SS-U0040
016	Safety Site S06 - Washington Avenue & Grove Avenue - Manhole SS-Z0010
018	Safety Site S08 - East 6th Street Siphon - Manhole SS-QQ006
019	Safety Site S09 - Ontario Street & 4th Siphon - Manhole SS-MC001
020	Safety Site S10 - Spruce Street & Brentwood Drive - Manhole SS-U0430
021	Safety Site S11 - Knoll Place & Norwood Drive - Manhole SS-KK005
022	Safety Site S12 - Golf Avenue & Conrad Drive - Manhole SS-A0428
032	Safety Site L02 - Spring Street & Luedke Court - LS #2 - Manhole SS-Y0001
036	Safety Site L06 - Drexel Avenue & Maryland Avenue - LS #6 - Manhole SS-UO352
037	Safety Site L07 - Steeple Chase Drive - Manhole SS
038	Safety Site L08 - Rapids Court LS #8 - Manhole SS-BB005
039	Safety Site L09 - Frances Drive & Harrington Drive LS #9 -Station

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	Continuous	Continuous	
BOD ₅ , Total	Monthly Avg	30 mg/L	Daily	24-Hr Flow Prop Comp	
BOD ₅ , Total	Weekly Avg	45 mg/L	Daily	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	30 mg/L	Daily	24-Hr Flow Prop Comp	

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Suspended Solids, Total	Weekly Avg	45 mg/L	Daily	24-Hr Flow Prop Comp	
Phosphorus, Total	Monthly Avg	1.0 mg/L	Daily	24-Hr Flow Prop Comp	This is an interim limit, pending the development of a whole lake model {NR 217.13(4)}
Fecal Coliform	Geometric Mean	400 #/100 ml	Daily	Grab	
E. coli		#/100 ml	Daily	Grab	May to September only
Chlorine, Total Residual	Daily Max	38 µg/L	Per Occurrence	Grab	See 3.2.1.6
Cadmium, Total Recoverable		µg/L	Monthly	24-Hr Flow Prop Comp	See 3.2.1.2 and 3.2.1.3
Chromium, Total Recoverable		µg/L	Monthly	24-Hr Flow Prop Comp	See 3.2.1.2 and 3.2.1.3
Copper, Total Recoverable		µg/L	Monthly	24-Hr Flow Prop Comp	See 3.2.1.2 and 3.2.1.3
Lead, Total Recoverable		µg/L	Monthly	24-Hr Flow Prop Comp	See 3.2.1.2 and 3.2.1.3
Nickel, Total Recoverable		µg/L	Monthly	24-Hr Flow Prop Comp	See 3.2.1.2 and 3.2.1.3
Zinc, Total Recoverable		µg/L	Monthly	24-Hr Flow Prop Comp	See 3.2.1.2 and 3.2.1.3
Mercury, Total Recoverable	Daily Max	5.8 ng/L	Monthly	Grab	See 3.2.1.5
Hardness, Total as CaCO ₃		mg/L	Quarterly	24-Hr Flow Prop Comp	
pH Field	Daily Max	9.0 su	Daily	Continuous	
pH Field	Daily Min	6.0 su	Daily	Continuous	
Nitrogen, Ammonia (NH ₃ -N) Total	Daily Max - Variable	mg/L	Daily	24-Hr Flow Prop Comp	Report the effluent ammonia results. Limits apply from November through April.
Nitrogen, Ammonia (NH ₃ -N) Total	Monthly Avg	34 mg/L	Daily	24-Hr Flow Prop Comp	Nov-April limit
Nitrogen, Ammonia Variable Limit		mg/L	Daily	Calculated	Report the daily maximum ammonia limit using the table in 3.2.1.4. Limits apply from November through April
Arsenic, Total Recoverable		µg/L	Monthly	24-Hr Flow Prop Comp	See note for Arsenic in section 2.2.3.1
Chronic WET		rTU _c	See Listed Qtr(s)	24-Hr Flow Prop Comp	See 3.2.1.7
Acute WET		TU _a	See Listed Qtr(s)	24-Hr Flow Prop Comp	See 3.2.1.7

3.2.1.1 Average Annual Design Flow

The average annual design flow of the permittee’s wastewater treatment facility is 36 MGD.

3.2.1.2 Total Metals Analyses

Measurements of total metals and total recoverable metals shall be considered as equivalent.

3.2.1.3 Sample Analysis

Samples shall be analyzed using a method which provides adequate sensitivity so that results can be quantified, unless not possible using the most sensitive approved method.

3.2.1.4 Daily Maximum Ammonia Limits (November – April)

The daily maximum limits for ammonia correspond to the daily pH values in accordance to the Table below:

Effluent pH - s.u.	NH ₃ -N Limit – mg/L	Effluent pH - s.u.	NH ₃ -N Limit – mg/L
pH ≤ 7.1	No Limit	8.0 < pH ≤ 8.1	9.3
7.1 < pH ≤ 7.2	39	8.1 < pH ≤ 8.2	7.6
7.2 < pH ≤ 7.3	35	8.2 < pH ≤ 8.3	6.3
7.3 < pH ≤ 7.4	31	8.3 < pH ≤ 8.4	5.2
7.4 < pH ≤ 7.5	27	8.4 < pH ≤ 8.5	4.3
7.5 < pH ≤ 7.6	23	8.5 < pH ≤ 8.6	3.5
7.6 < pH ≤ 7.7	19	8.6 < pH ≤ 8.7	3.0
7.7 < pH ≤ 7.8	16	8.7 < pH ≤ 8.8	2.5
7.8 < pH ≤ 7.9	14	8.8 < pH ≤ 8.9	2.1
7.9 < pH ≤ 8.0	11	8.9 < pH ≤ 9.0	1.8

The daily effluent pH to be used to derive the daily maximum effluent limitation for ammonia shall be determined from the time-weighted average of continuous monitoring.

During the months of May through October if the pH is less than or equal to 7.6 there is no daily maximum limit for ammonia. Report > 39 mg/L as the daily maximum variable limit when effluent pH is less than or equal to 7.1 s.u. [NR 106.33(2)].

Zone of Initial Dilution (ZID): In the event that Racine seeks to demonstrate that a Zone of Initial Dilution (ZID) justifies the use of a mixing zone for determination of a daily maximum limitation for ammonia, it should be recognized that the procedures to determine the basis for a ZID may also determine that the mixing zone differs from the 10:1 default used for the determination of chronic limitations. If the mixing zone ratio were shown to be less than 10:1, chronic ammonia limits and applicability would need to be re-determined.

3.2.1.5 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.

The permittee shall meet a mercury daily maximum effluent limit of 5.8 ng/L, granted in consideration of the permittee’s request for an exception to the phase-out of a mixing zone for mercury. The permittee shall also continue to reduce – to the maximum extent possible – its discharge of mercury. Influent and effluent monthly mercury monitoring are required along with field blanks.

3.2.1.6 Applicable Mass Limits for Total Residual Chlorine

The applicable mass limits for Total Residual Chlorine is 58 pounds per day (daily maximum). See Standard Requirements for "Applicability of Alternative Wet Weather Limitations".

Applicability of Monitoring and Limits: Total Residual Chlorine monitoring and limits apply whenever flow from the equalization basins is chlorinated and dechlorinated, following the flow's return to the aeration basins instead of to the head of the plant.

3.2.1.7 Whole Effluent Toxicity (WET) Testing

Primary Control Water: Lake Michigan – outside of the mixing zone of discharge

Instream Waste Concentration (IWC): 9%

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% (if the IWC \leq 30%) or 100, 75, 50, 25, 12.5% (if the IWC >30%) 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:** Jan-Mar 2015, Jul-Sep 2016, April-June 2017, Oct-Dec 2018, Jan-Mar 2019

Acute WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the fourth calendar year of this permit. For example, the next test would be required in October-December 2020.

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:** Jan-Mar 2015, Jul-Sep 2016, April-June 2017, Oct-Dec 2018, Jan-Mar 2019

Chronic WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the fourth calendar year of this permit. For example, the next test would be required in October-December 2020.

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: If $LC_{50} \geq 100$, then $TU_a = 1.0$. If $LC_{50} < 100$, then $TU_a = 100 \div LC_{50}$. A chronic toxicity test shall be considered positive if the Relative Toxic Unit - Chronic (rTU_c) is greater than 1.0 for either species. The rTU_c shall be calculated as follows: If $IC_{25} \geq IWC$, then $rTU_c = 1.0$. If $IC_{25} < IWC$, then $rTU_c = IWC \div IC_{25}$.

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).

3.2.1.8 Notification of Drinking Water System Owners

Whenever there is a bypass, a sanitary sewer overflow, a sewage treatment facility overflow or a scheduled bypass, the permittee shall notify the following owner(s) of drinking water intakes located in surface waters as quickly as practicable, but no greater than 8 hours after becoming aware of the bypass or overflow. This notification requirement does not apply to any controlled diversions or blending if specifically allowed in this permit.

Owner(s) of Drinking Water Intakes: Racine, Caledonia, Elmwood Park, Mount Pleasant, North Bay, Somers (KR Area), Sturtevant and Wind Point.

3.2.2 Sampling Point (Outfall) 010 - SS PLANT; 011- S01; 012- S02; 013- S03; 014- S04; 015- S05; 016- S06; 018- S08; 019- S09; 020- S10; 021- S11; 022- S12; 032- L02; 036- L06; 038- L08, and 039- L09

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Bypass		gal	Per Occurrence	Total Batch Volume	
Flow Bypass		hours	Per Occurrence	Calculated	

3.2.2.1 Safety Site Discharges

Discharges through the safety sites (manholes) listed above are deemed sanitary sewer overflows and are prohibited. In addition to the 'Flow Bypass' reporting requirements shown above, the permittee shall report any discharges through these safety sites as required by subsection 6.2.6 "Unscheduled Bypassing" and adhere to the notification requirements listed in subsection 5.1 "Drinking Water Intake Notification".

The flow rate and hours of diversion to the combined outfall structure are to be reported on the Discharge Monitoring Reports. It should be noted that diversions from the EQ Basins can be sent to various parts of the plant, however, only a diversion to effluent needs to be reported.

3.2.2.2 Submittal of Annual Reports on Collection System Activities

The Racine Wastewater Utility shall continue to submit annual reports of the work accomplished in the preceding year to reduce the entry of wet weather flows into the collection system. The report shall include information on collection system maintenance improvement efforts of tributary communities including an electronic attachment of the monthly or quarterly wastewater flow rates and water consumption from the tributary communities as provided. In this report, include potential metering sites for any portions of the tributary communities that are not monitored but have flow into the Racine wastewater utility collections system. Consider only sites that are directly connected to and are the final connection to the Racine Wastewater Utility collections system. Submittal of the annual reports is required by June 30th of each year.

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, WasteType/Sample Contents and Treatment Description (as applicable)
002	Anaerobically digested cake sludge - representative samples shall be collected prior to land application.

4.2 Monitoring Requirements and Limitations

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

4.2.1 Sampling Point (Outfall) 002 - ANAEROBIC CAKE SLUDGE

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

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Potassium, Total Recoverable		Percent	1/ 2 Months	Grab	
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	"Once in 2016
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	Once in 2016

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.	BiMonthly
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.	BiMonthly

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 **2016**. 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 (NH4-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		
<p>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.</p>		
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 Mercury Pollutant Minimization Program

The permittee shall continue to implement a pollutant minimization program as defined in s. NR 106.145(7), Wis. Adm. Code and submit to the Department annual status reports on the progress of the PMP. The reports shall demonstrate verifiable reductions in the discharge of mercury.

Required Action	Due Date
Submit Annual Status Report: Submit the first Annual Status Report	09/30/2015
Submit Annual Status Report : Submit second annual status report.	09/30/2016
Submit Annual Status Report : Submit third annual status report.	09/30/2017
Submit Annual Status Report : Submit fourth annual status report.	09/30/2018
Submit Final Status Report : Submit the final annual status report. Note: The granting of this exception to a mercury mixing zone phase-out for the Racine WWTF shall apply only to the 5-year permit term of this WPDES permit. If the permittee wishes to apply for the mixing zone extension due to technical and economic considerations, the City of Racine will need to make a similar request and the WDNR will need to make a determination of the appropriateness of a continuation of the mixing zone phase-out exemption for the next permit term.	06/30/2019

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 principal executive officer, a ranking elected official or other duly authorized representative. 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 Pretreatment Sampling Requirements

Sampling for pretreatment parameters (cadmium, chromium, copper, lead, nickel, zinc, and mercury) shall be done during a day each month when industrial discharges are occurring at normal to maximum levels. The sampling of the influent and effluent for these parameters shall be coordinated. All 24 hour composite samples shall be flow proportional.

6.1.4 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.

6.1.5 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.

6.1.6 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 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.

A separate CMAR certification document, that is not part of the electronic report form, shall be mailed to the Department at the time of electronic submittal of the CMAR. The CMAR certification shall be signed and submitted by an authorized representative of the permittee. The certification shall be submitted by mail. The certification shall verify the electronic report is complete, accurate and contains information from the owner's treatment works.

6.1.7 Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings 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.

6.1.8 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.

6.2 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 an unscheduled 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 500-536, 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 an unscheduled bypass provided all the following conditions are met:

- 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 unscheduled bypassing 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 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 Blending

The Department has determined that blending may occur at this sewage treatment facility. The following requirements shall apply whenever blending operations are in effect:

- Blending may occur temporarily only during wet weather or other high flow conditions when peak wastewater flow to the sewage treatment facility exceeds the maximum design and operating capacity of the biological treatment processes and when necessary to avoid severe property damage to the sewage treatment facility as described in NR 210.12 (2) (a), Wis. Adm. Code.;
- Untreated, or partially treated wastewater that is routed around the biological treatment process, or a portion of a biological treatment process, shall be recombined with the biologically treated wastewater and the combined flow shall be disinfected, if required by this permit, prior to discharge;
- Effluent from the sewage treatment facility shall be monitored to include all wastewater that is discharged from the facility, including those wastewaters that are diverted around the biological treatment process and shall meet the effluent limitations for Outfall 001 included in this permit; and
- Blending under this section and the circumstances that lead to blending shall be reported to the Department by telephone, fax or email no later than 24 hours from the time each blending operation ceases at the sewage treatment facility. Permittees shall also report the time, duration and volume of wastewater routed around the biological treatment process on the wastewater Discharge Monitoring Report (DMR) forms.

6.2.10 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. The wastewater treatment facility shall be under the direct supervision of a state certified operator as required in s. NR 108.06(2), Wis. Adm. Code. 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.

6.3 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 by August 1, 2016 submit to the Department verification that a CMOM program for the sewage collection system has been developed which is consistent with the requirements of NR 210.23, Wis. Adm. Code.
- The permittee shall develop and maintain written documentation of the CMOM program components, and shall verify each year with the submittal of the Compliance Maintenance Annual Report required under the 'Compliance Maintenance Annual Reports' section of this permit that the CMOM program documentation is current and meets the requirements in NR 210.23, Wis. Adm. Code.
- The permittee shall implement a CMOM program consistent with the permittee's program documentation and with the requirements of NR 210.23, Wis. Adm. Code.
- The permittee shall annually conduct a self-audit of activities to ensure the CMOM program is being implemented as necessary to meet the requirements contained in the CMOM program documentation.
- The permittee shall make available CMOM program documentation, a record of implementation activities and the results of the self-audit to the Department on request.

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 limit for fecal coliforms shall be expressed as a monthly geometric mean.

6.4.8 Year Round Disinfection

Disinfection shall be provided year round. Monitoring requirements and the limitation for fecal coliforms apply during the period in which disinfection is required. Whenever chlorine is used for disinfection or other effluent uses, the limitations and monitoring requirements for residual chlorine shall apply. A dechlorination process shall be in operation whenever chlorine is used for disinfection or other effluent uses.

6.4.9 Applicability of Alternative Wet Weather Mass Limitations

- An alternative wet weather mass limitation applies when:
 - The applicable mass limitation (based on annual average design flow) is exceeded; and
 - The permittee demonstrates to the satisfaction of the Department that the discharge exceedance is caused by and occurs during a wet weather event. For the purposes of this demonstration, a wet weather event occurs during and immediately following periods of precipitation or snowmelt, including but not limited to rain, sleet, snow, hail or melting snow during which water from the precipitation, snowmelt or elevated groundwater enters the sewerage system through infiltration or inflow, or both. The permittee shall present demonstrations to the Department by attaching them to the Wastewater Discharge Monitoring Report Form(s).

Note: In making this demonstration, the permittee may want to consider presenting a discussion of normal effluent flow rates, the effluent flow rates that resulted in the exceedance and identification of the event, including intensity and duration, which caused the high flow rates. A graph of effluent flow over time may also be helpful.

6.4.10 Total Residual Chlorine Requirements (When De-Chlorinating Effluent)

Test methods for total residual chlorine, approved in ch. NR 219 - Table B, Wis. Adm. Code, normally achieve a limit of detection of about 20 to 50 micrograms per liter and a limit of quantitation of about 100 micrograms per liter. Reporting of test results and compliance with effluent limitations for chlorine residual and total residual halogens shall be as follows:

- Sample results which show no detectable levels are in compliance with the limit. These test results shall be reported on Wastewater Discharge Monitoring Report Forms as "< 100 µg/L". (Note: 0.1 mg/L converts to 100 µg/L)
- Samples showing detectable traces of chlorine are in compliance if measured at less than 100 µg/L, unless there is a consistent pattern of detectable values in this range. These values shall also be reported on Wastewater Discharge Monitoring Report Forms as "<100 µg/L." The facility operating staff shall record actual readings on logs maintained at the plant, shall take action to determine the reliability of detected results (such as re-sampling and/or calculating dosages), and shall adjust the chemical feed system if necessary to reduce the chances of detects.
- Samples showing detectable levels greater than 100 µg/L shall be considered as exceedances, and shall be reported as measured.
- To calculate average or mass discharge values, a "0" (zero) may be substituted for any test result less than 100 µg/L. Calculated values shall then be compared directly to the average or mass limitations to determine compliance.

6.4.11 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.

6.4.12 Whole Effluent Toxicity (WET) Identification and Reduction

This standard requirement applies only to acute or chronic WET monitoring that is not accompanied by a WET limit. 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.

6.5 Pretreatment Program Requirements

The permittee is required to operate an industrial pretreatment program as described in the program initially approved by the Department of Natural Resources including any subsequent program modifications approved by the Department, and including commitments to program implementation activities provided in the permittee's annual pretreatment program report, and that complies with the requirements set forth in 40 CFR Part 403 and ch. NR 211, Wis. Adm. Code. To ensure that the program is operated in accordance with these requirements, the following general conditions and requirements are hereby established:

6.5.1 Inventories

The permittee shall implement methods to maintain a current inventory of the general character and volume of wastewater that industrial users discharge to the treatment works and shall provide an updated industrial user listing annually and report any changes in the listing to the Department by March 31 of each year as part of the annual pretreatment program report required herein.

6.5.2 Regulation of Industrial Users

6.5.2.1 Limitations for Industrial Users:

The permittee shall develop, maintain, enforce and revise as necessary local limits to implement the general and specific prohibitions of the state and federal General Pretreatment Regulations.

6.5.2.2 Control Documents for Industrial Users (IUs)

The permittee shall control the discharge from each significant industrial user through individual discharge permits as required by s. NR 211.235, Wis. Adm. Code and in accordance with the approved pretreatment program procedures and the permittee's sewer use ordinance. The discharge permits shall be modified in a timely manner during the stated term of the discharge permits according to the sewer use ordinance as conditions warrant. The discharge permits shall include at a minimum the elements found in s. NR 211.235(1), Wis. Adm. Code and references to the approved pretreatment program procedures and the sewer use ordinance.

6.5.2.3 Review of Industrial User Reports, Inspections and Compliance Monitoring

The permittee shall require the submission of, receive, and review self-monitoring reports and other notices from industrial users in accordance with the approved pretreatment program procedures. The permittee shall randomly sample and analyze industrial user discharges and conduct surveillance activities to determine independent of

information supplied by the industrial users, whether the industrial users are in compliance with pretreatment standards and requirements. The inspections and monitoring shall also be conducted to maintain accurate knowledge of local industrial processes, including changes in the discharge, pretreatment equipment operation, spill prevention control plans, slug control plans, and implementation of solvent management plans.

The permittee shall inspect and sample the discharge from each significant industrial user as specified in the permittee's approved pretreatment program or as specified in NR 211.235(3). The permittee shall evaluate whether industrial users identified as significant need a slug control plan according to the requirements of NR 211.235(4). If a slug control plan is needed, the plan shall contain at a minimum the elements specified in s. NR 211.235(4)(b), Wis. Adm. Code.

6.5.2.4 Enforcement and Industrial User Compliance Evaluation & Violation Reports

The permittee shall enforce the industrial pretreatment requirements including the industrial user discharge limitations of the permittee's sewer use ordinance. The permittee shall investigate instances of noncompliance by collecting and analyzing samples and collecting other information with sufficient care to produce evidence admissible in enforcement proceedings or in judicial actions. Investigation and response to instances of noncompliance shall be in accordance with the permittee's sewer use ordinance and approved Enforcement Response Plan.

The permittee shall make a semiannual report on forms provided or approved by the Department. The semiannual report shall include an analysis of industrial user significant noncompliance (i.e. the Industrial User Compliance Evaluation, also known as the SNC Analysis) as outlined in s. NR 211.23(1)(j), Wis. Adm. Code, and a summary of the permittee's response to all industrial noncompliance (i.e. the Industrial User Violation Report). The Industrial User Compliance Evaluation Report shall include monitoring results received from industrial users pursuant to s. NR 211.15(1)-(5), Wis. Adm. Code. The Industrial User Violation Report shall include copies of all notices of noncompliance, notices of violation and other enforcement correspondence sent by the permittee to industrial users, together with the industrial user's response. The Industrial User Compliance Evaluation and Violation Reports for the period January through June shall be provided to the Department by September 30 of each year and for the period July through December shall be provided to the Department by March 31 of the succeeding year, unless alternate submittal dates are approved.

6.5.2.5 Publication of Violations

The permittee shall publish a list of industrial users that have significantly violated the municipal sewer use ordinance during the calendar year, in the largest daily newspaper in the area by March 31 of the following year pursuant to s. NR 211.23(1)(j), Wis. Adm. Code. A copy of the newspaper publication shall be provided as part of the annual pretreatment report specified herein.

6.5.2.6 Multijurisdictional Agreements

The permittee shall establish agreements with all contributing jurisdictions as necessary to ensure compliance with pretreatment standards and requirements by all industrial users discharging to the permittee's wastewater treatment system. Any such agreement shall identify who will be responsible for maintaining the industrial user inventory, issuance of industrial user control mechanisms, inspections and sampling, pretreatment program implementation, and enforcement.

6.5.3 Annual Pretreatment Program Report

The permittee shall evaluate the pretreatment program, and submit the Pretreatment Program Report to the Department on forms provided or approved by the Department by March 31 annually, unless an alternate submittal date is approved. The report shall include a brief summary of the work performed during the preceding calendar year, including the numbers of discharge permits issued and in effect, pollution prevention activities, number of inspections and monitoring surveys conducted, budget and personnel assigned to the program, a general discussion of program

progress in meeting the objectives of the permittee's pretreatment program together with summary comments and recommendations.

6.5.4 Pretreatment Program Modifications

- **Future Modifications:** The permittee shall within one year of any revisions to federal or state General Pretreatment Regulations submit an application to the Department in duplicate to modify and update its approved pretreatment program to incorporate such regulatory changes as applicable to the permittee. Additionally, the Department or the permittee may request an application for program modification at any time where necessary to improve program effectiveness based on program experience to date.
- **Modifications Subject to Department Approval:** The permittee shall submit all proposed pretreatment program modifications to the Department for determination of significance and opportunity for comment in accordance with the requirements and conditions of s. NR 211.27, Wis. Adm. Code. Any substantial proposed program modification shall be subject to Department public noticing and formal approval prior to implementation. A substantial program modification includes, but is not limited to, changes in enabling legal authority to administer and enforce pretreatment conditions and requirements; significant changes in program administrative or operational procedures; significant reductions in monitoring frequencies; significant reductions in program resources including personnel commitments, equipment, and funding levels; changes (including any relaxation) in the local limitations for substances enforced and applied to users of the sewerage treatment works; changes in treatment works sludge disposal or management practices which impact the pretreatment program; or program modifications which increase pollutant loadings to the treatment works. The Department shall use the procedures outlined in s. NR 211.30, Wis. Adm. Code for review and approval/denial of proposed pretreatment program modifications. The permittee shall comply with local public participation requirements when implementing the pretreatment program.

6.5.5 Program Resources

The permittee shall have sufficient resources and qualified personnel to carry out the pretreatment program responsibilities as listed in ss. NR 211.22 and NR 211.23, Wis. Adm. Code.

6.6 Land Application Requirements

6.6.1 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.

6.6.2 General Sludge Management Information

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

6.6.3 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.

6.6.4 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 principal executive officer, ranking elected official or duly authorized representative. 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.

6.6.5 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:

Water Extractable Phosphorus (% of Total P) =

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

6.6.6 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	3611B - Alumina
3640A - Gel Permeation	3660B - Sulfur Clean Up (using copper shot instead of powder)
3630C - Silica Gel	3665A - Sulfuric Acid Clean Up

6.6.7 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 principal executive officer, ranking elected official or duly authorized representative. The ‘eReport Certify’ page certifies that the electronic report form is true, accurate and complete.

6.6.8 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 principal executive officer, ranking elected official or duly authorized representative. The ‘eReport Certify’ page certifies that the electronic report form is true, accurate and complete.

6.6.9 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) (1), Wis. Adm. Code.

6.6.10 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.

6.6.11 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.

6.6.12 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.

6.6.13 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
Mercury Pollutant Minimization Program -Submit Annual Status Report	September 30, 2015	15
Mercury Pollutant Minimization Program -Submit Annual Status Report	September 30, 2016	15
Mercury Pollutant Minimization Program -Submit Annual Status Report	September 30, 2017	15
Mercury Pollutant Minimization Program -Submit Annual Status Report	September 30, 2018	15
Mercury Pollutant Minimization Program -Submit Final Status Report	June 30, 2019	15
Compliance Maintenance Annual Reports (CMAR)	by June 30, each year	17
Industrial User Compliance Evaluation and Violation Reports	Semiannual	27
Pretreatment Program Report	Annually	27
General Sludge Management Form 3400-48	prior to any significant sludge management changes	28
Characteristic Form 3400-49 and Lab Report	by January 31 following each year of analysis	29
Land Application Report Form 3400-55	by January 31, each year whether or not non-exceptional quality sludge is land applied	30
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	30
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	16

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, 2300 N Dr ML King Drive, Milwaukee, WI 53212