



# WPDES PERMIT

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

**Village of Warrens**

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility  
located at  
2380 County Highway O, Warrens, WI 54666  
to

Apple Creek in the Beaver Creek/Juneau Watershed of the Lower Wisconsin River Basin in Monroe 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 \_\_\_\_\_  
Michael Vollrath  
Wastewater Field Supervisor

\_\_\_\_\_  
Date Permit Signed/Issued for Modification

**PERMIT TERM: EFFECTIVE DATE - June 01, 2012**  
**EFFECTIVE DATE OF MODIFICATION: July 01, 2014**

**EXPIRATION DATE - March 31, 2017**

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# 1 Influent Requirements

## 1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
702	Representative influent samples shall be collected prior to the screen for flow, and after the screen for all other parameters.

## 1.2 Monitoring Requirements

The permittee shall comply with the following monitoring requirements.

### 1.2.1 Sampling Point 702 - AFTER THE SCREEN

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Continuous	Continuous	
BOD <sub>5</sub> , Total		mg/L	Weekly	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	Weekly	24-Hr Flow Prop Comp	
Copper, Total Recoverable		mg/L	Monthly	24-Hr Flow Prop Comp	

## 2 Surface Water Requirements

### 2.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
003	Representative 24 hour flow proportional effluent samples shall be collected prior to disinfection and discharge to Apple Creek. Grab samples shall be collected after disinfection.
601	Representative samples shall be collected annually in 2015 and 2016 from Apple Creek downstream from outfall 003 and is representative of mixed receiving water and effluent.

### 2.2 Monitoring Requirements and Effluent Limitations

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

#### 2.2.1 Sampling Point (Outfall) 003 - PRIOR TO APPLE CREEK

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
BOD <sub>5</sub> , Total	Daily Max	20 mg/L	2/Week	24-Hr Flow Prop Comp	
BOD <sub>5</sub> , Total	Monthly Avg	10 mg/L	2/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Daily Max	30 mg/L	2/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	20 mg/L	2/Week	24-Hr Flow Prop Comp	
pH Field	Daily Max	9.0 su	5/Week	Grab	
pH Field	Daily Min	6.0 su	5/Week	Grab	
Dissolved Oxygen	Daily Min	7.0 mg/L	Weekly	Grab	
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Weekly Avg	25 mg/L	2/Week	24-Hr Flow Prop Comp	January-March Limit
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Monthly Avg	10 mg/L	2/Week	24-Hr Flow Prop Comp	January-March Limit
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Weekly Avg	15 mg/L	2/Week	24-Hr Flow Prop Comp	April-May Limit
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Monthly Avg	5.9 mg/L	2/Week	24-Hr Flow Prop Comp	April-May Limit
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Weekly Avg	8.9 mg/L	2/Week	24-Hr Flow Prop Comp	June-September Limit
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Monthly Avg	3.5 mg/L	2/Week	24-Hr Flow Prop Comp	June-September Limit

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Weekly Avg	20 mg/L	2/Week	24-Hr Flow Prop Comp	October-December Limit
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Monthly Avg	8.2 mg/L	2/Week	24-Hr Flow Prop Comp	October-December Limit
Phosphorus, Total	Annual Avg	5.0 mg/L	Weekly	24-Hr Flow Prop Comp	Monitoring effective upon permit issuance, interim limit effective June 2014. See Phosphorus footnote below and Phosphorus Compliance Schedule.
Fecal Coliform	Geometric Mean	400 #/100 ml	Weekly	Grab	Limit and monitoring May-Sept annually.
Acute WET		TU <sub>a</sub>	See Listed Qtr(s)	24-Hr Flow Prop Comp	See WET Footnote below.
Chronic WET		rTU <sub>c</sub>	See Listed Qtr(s)	24-Hr Flow Prop Comp	See WET Footnote below.
Temperature Maximum		deg F	3/Week	Multiple Grab	Monitoring in 2015 and 2016 only. See Temperature footnote below.
Zinc, Total Recoverable		µg/L	Quarterly	24-Hr Flow Prop Comp	
Copper, Total Recoverable	Daily Max	30 µg/L	2/Month	24-Hr Flow Prop Comp	Sample 2/week once a month. See Copper Compliance Schedule.
Hardness, Total as CaCO <sub>3</sub>		mg/L	Quarterly	24-Hr Flow Prop Comp	Monitor concurrently with Copper and Zinc.

### 2.2.1.1 Average Annual Design Flow

*The average annual design flow of the permittee's wastewater treatment facility is 0.211 MGD.*

### 2.2.1.2 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. For seasonal discharges collect measurements either manually or continuously during the period of operation and report the daily maximum effluent temperature on the DMR.

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### 2.2.1.3 Phosphorus Water Quality Based Effluent Limitation(s)

Phosphorus weekly monitoring is effective upon permit issuance. The interim water quality based effluent limit for phosphorus is 5 mg/L annual average and is effective 06/01/2014.

The final water quality based effluent limit for phosphorus is 0.225 mg/L monthly average and 0.075 mg/L annual average unless:

- (A) As part of the application for the next reissuance, or prior to filing the application, the permittee submits either: 1.) a watershed adaptive management plan and a completed Watershed Adaptive Management Request Form 3200-139; or 2.) an application for water quality trading; or 3.) an application for a variance; or 4.) new information or additional data that supports a recalculation of the numeric limitation; and
- (B) The Department modifies, revokes and reissues, or reissues the permit to incorporate a revised limitation before the expiration of the compliance schedule\*.

If Adaptive Management or Water Quality Trading is approved as part of the permit application for the next reissuance or as part of an application for a modification or revocation and reissuance, the plan and specifications submittal, construction, and final effective dates for compliance with the total phosphorus WQBEL may change in the reissued or modified permit. In addition, the numeric value of the water quality based effluent limit may change based on new information ( e.g. a TMDL) or additional data. If a variance is approved for the next reissuance, interim limits and conditions will be imposed in the reissued permit in accordance with s. 283.15, Stats., and applicable regulations. A permittee may apply for a variance to the phosphorus WQBEL at the next reissuance even if the permittee did not apply for a phosphorus variance as part of this permit reissuance.

Additional Requirements: If a water quality based effluent limit has taken effect in a permit, any increase in the limit is subject to s. NR 102.05(1) and ch. NR 207, Wis. Adm. Code. When a six-month average effluent limit is specified for Total Phosphorus the applicable averaging periods are May through October and November through April.

\*Note: The Department will prioritize reissuances and revocations, modifications, and reissuances of permits to allow permittees the opportunity to implement adaptive management or nutrient trading in a timely and effective manner.

#### **2.2.1.4 Alternative Approaches to Phosphorus WQBEL Compliance**

Rather than upgrading its wastewater treatment facility to comply with WQBELs for total phosphorus, the permittee may use Water Quality Trading or the Watershed Adaptive Management Option, to achieve compliance under ch. NR 217, Wis. Adm. Code, provided that the permit is modified, revoked and reissued, or reissued to incorporate any such alternative approach. The permittee may also implement an upgrade to its wastewater treatment facility in combination with Water Quality Trading or the Watershed Adaptive Management Option to achieve compliance, provided that the permit is modified, revoked and reissued, or reissued to incorporate any such alternative approach. If the Final Compliance Alternatives Plan concludes that a variance will be pursued, the Plan shall provide information regarding the basis for the variance.

#### **2.2.1.5 Submittal of Permit Application for Next Reissuance and Adaptive Management or Pollutant Trading Plan or Variance Application**

The permittee shall submit the permit application for the next reissuance at least 6 months prior to expiration of this permit. If the permittee intends to pursue adaptive management to achieve compliance with the phosphorus water quality based effluent limitation, the permittee shall submit with the application for the next reissuance: a completed Watershed Adaptive Management Request Form 3200-139, the completed Adaptive Management Plan and final plans for any system upgrades necessary to meet interim limits pursuant to s. NR 217.18, Wis. Adm. Code. If the permittee intends to pursue pollutant trading to achieve compliance, the permittee shall submit an application for water quality trading with the application for the next reissuance. If system upgrades will be used in combination with pollutant trading to achieve compliance with the final water quality-based limit, the reissued permit will specify a schedule for the necessary upgrades. If the permittee intends to seek a variance, the permittee shall submit an application for a variance with the application for the next reissuance.

#### **2.2.1.6 Whole Effluent Toxicity (WET) Testing**

**Primary Control Water:** Apple Creek

**Instream Waste Concentration (IWC):** 100%

**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:** Tests are required during the following quarters.

- **Acute:**
  - 1<sup>st</sup> Test: January – March 2013
  - 2<sup>nd</sup> Test: July – September 2015
- **Chronic:**
  - 1<sup>st</sup> Test: January – March 2013
  - 2<sup>nd</sup> Test: April – June 2014
  - 3<sup>rd</sup> Test: July – September 2015

**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, 2<sup>nd</sup> 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<sub>a</sub>) is greater than 1.0 for either species. The TU<sub>a</sub> shall be calculated as follows: If LC<sub>50</sub>  $\geq$  100, then TU<sub>a</sub> = 1.0. If LC<sub>50</sub> is  $<$  100, then TU<sub>a</sub> = 100  $\div$  LC<sub>50</sub>. A chronic toxicity test shall be considered positive if the Relative Toxic Unit - Chronic (rTU<sub>c</sub>) is greater than 1.0 for either species. The rTU<sub>c</sub> shall be calculated as follows: If IC<sub>25</sub>  $\geq$  IWC, then rTU<sub>c</sub> = 1.0. If IC<sub>25</sub>  $<$  IWC, then rTU<sub>c</sub> = IWC  $\div$  IC<sub>25</sub>.

**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).

### 2.2.2 Sampling Point 601 - Apple Creek

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Copper, Total Recoverable		µg/L	Annual	Grab	
Copper Dissolved		ng/L	Annual	Grab	
Zinc, Total Recoverable		µg/L	Annual	Grab	
Zinc Dissolved		µg/L	Annual	Grab	

Annual monitoring of Apple Creek for the above parameters is required during 2015 and 2016. **Low level sampling and analysis is required for copper and zinc samples and shall be completed by a certified lab. The analytical methodologies used shall enable the laboratory to quantitate the levels for copper and zinc. If the required levels cannot be met by any of the methods available in NR 219, Wis. Code, then the method with the lowest**

**limit of detection shall be selected.** Sampling shall occur during base flow conditions, summer or winter when no stormwater runoff events are taking place. These samples shall be collected concurrently with quarterly influent and effluent sample collected for hardness, copper and zinc analysis.

### 3 Land Application Requirements

#### 3.1 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)
004	Representative liquid sludge grab samples shall be collected from the holding pond for List 1 and PCBs once in 2013, and for List 1, 2, 3, and 4 prior to land application.

#### 3.2 Monitoring Requirements and Limitations

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

##### 3.2.1 Sampling Point (Outfall) 004 - SLUDGE FROM HOLDING POND

**Sludge Management:** The permittee shall contact the Department prior to recycling/disposing of any sludge. The permittee shall monitor for the following parameters during the second year of the permit, ( 2013 ). Analysis shall be submitted by **January 31, 2014**.

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Solids, Total		Percent	Once	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Once	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Once	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Once	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Once	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Once	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Once	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Once	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Once	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Once	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Once	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Once	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Once	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Once	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Once	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Once	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Once	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Once	Composite	
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	

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

**3.2.1.1 Requirements for Potential and/or Unscheduled Land Application of Sludge**

Monitoring for List 1 and PCBs shall occur in the second calendar year of the permit (2013), unless a sludge removal date has been established which would occur within the permit term, but in a different year. In that case, monitoring for Lists 1, 2, 3 & 4 and PCBs shall occur in the year of, but prior to, land application of the removed sludge. Monitoring must be done and compliance assured prior to land application, in addition to all other requirements specified herein and in ch. NR 204, Wis. Adm. Code. The permittee shall notify the Department prior to such land application. If sludge removal and land application are necessary after the monitoring for List 1 in year 2 of the permit, monitoring for Lists 1, 2, 3, & 4 shall be done in the year of and prior to land application

**3.2.1.2 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.

**3.2.1.3 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.

**3.2.1.4 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.

**3.2.1.5 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).

**3.2.1.6 Sludge Analysis for PCBs**

The permittee shall analyze the sludge for Total PCBs one time during **2013**. 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.

Lists 1, 2, 3, and 4

<b>List 1 TOTAL SOLIDS AND METALS</b>	
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)	

<b>List 2 NUTRIENTS</b>	
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 <sub>4</sub> -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
<b>OR, ONE OF THE FOLLOWING PROCESS OPTIONS</b>		
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 <sub>2</sub> /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

### 3.2.1.7 Daily Land Application Log

<b>Daily Land Application Log</b>		
<b>Discharge Monitoring Requirements and Limitations</b>		
<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>		
<b>Parameters</b>	<b>Units</b>	<b>Sample Frequency</b>
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

## 4 Schedules

### 4.1 Phosphorus (Stringent Effluent Limit - Municipal Facility)

Required Action	Due Date
<b>Phosphorus removal optimization study:</b> During the permit term, the permittee shall evaluate collected effluent data, possible source reduction measures, operational improvements or other minor facility modifications to optimize the amount of phosphorus removed by the facility. The first step in this process is development of an optimization study plan including a schedule for investigating and implementing operational alternatives.	06/01/2013
<b>Facilities Planning Status Report:</b> Submit a Facilities Planning Status Report. This report shall provide an update on the permittee's progress in evaluating feasible alternatives for meeting the final phosphorus limit which may include: facility upgrading, consolidation with other sewerage systems, alternative effluent discharge locations, the Watershed Adaptive Management Option, Water Quality Trading plan or a water quality standards variance.	06/01/2014
<b>Preliminary Facilities Plan:</b> Submit a preliminary Facilities Plan for upgrading the treatment facility (if upgrading is the identified alternative) which includes an implementation schedule that also specifies a final construction date during the next permit term. The Facilities Plan shall also include an evaluation of alternatives for meeting the final WQBEL for phosphorus.	06/01/2015
<b>Final Facilities Plan:</b> Refine and submit the final Facilities Plan for approval. If the approved plan is for Adaptive Management or Water Quality Trading, the implementation of the plan shall commence upon Department approval.	06/01/2016
<b>Construction Plans and Specifications:</b> Submit construction plans and specifications for approval if the approved Facilities Plan concludes that facility upgrading is necessary.	01/01/2017
<b>FOR INFORMATIONAL PURPOSES ONLY:</b> The following required actions are included in this permit for informational purposes only and do not take effect until the next permit reissuance. These required actions and dates may be modified at the next permit reissuance based on additional data or new information.	
<b>Progress Report (For Informational Purposes Only):</b> Submit construction progress report.	06/01/2018
<b>Progress Report (For Informational Purposes Only):</b> Submit construction progress report.	06/01/2019
<b>Progress Report (For Informational Purposes Only):</b> Submit construction progress report.	06/01/2020
<b>Complete Construction (For Informational Purposes Only):</b> Complete construction and comply with final phosphorus limits of 0.075 mg/L Annual Average and 0.225 mg/L Monthly Average.  Date Due: This is a range from 7-9 years after permit issuance because of new information that can be acquired before the next permit issuance.	

### 4.2 Copper Source Reduction Measures

Required Action	Due Date
<b>Report on Effluent Discharges:</b> Submit a report on effluent discharges of copper with conclusions regarding compliance.	09/01/2014

<p><b>Source Reduction Plan:</b> Warrens shall develop, submit, and implement a source reduction plan and investigate other technologies or changes that may result in compliance with the water quality based effluent limitation for copper. This will include annual low level metals monitoring of Apple Creek in 2015 and 2016 along with hardness monitoring. Warrens will also ensure adequate QA/QC parameters are in place. During the term of the permit, Warrens shall conduct monitoring for total recoverable copper in the effluent twice weekly for one week each month, and monthly in the influent. Warrens will also investigate water supply corrosion by adjusting pH at the well house.</p>	<p>12/01/2014</p>
<p><b>Initiate Actions of Source Reduction Plan:</b> Initiate actions identified in the plan.</p>	<p>04/01/2015</p>
<p><b>Annual Report:</b> Warrens shall submit annual reports containing results of implementation of their Source Reduction Measures, including monitoring results and evaluation of efforts to optimize water supply treatment aimed at minimizing levels discharged from the wastewater treatment plant. These reports shall be submitted on June 30 of each year with the first report due June 30, 2015. Warrens has a domestic water supply. Past actions by Warrens include looking for sources of copper to their collection system and doing what they can to eliminate those sources. Warrens has approached source identification scientifically by doing influent and collection system monitoring. Warrens has also investigated dissolved metals limits and that option either resulted in no relief or not enough to allow them to meet those limits either. Warrens has also investigated industrial or commercial sources of copper and can demonstrate that there are no significant non-domestic contributions.</p>	<p>06/30/2015</p>
<p><b>Annual Report:</b> Submit progress report.</p>	<p>06/30/2016</p>

## 5 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).

### 5.1 Reporting and Monitoring Requirements

#### 5.1.1 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.

#### 5.1.2 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.

#### 5.1.3 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.

#### 5.1.4 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 BOD<sub>5</sub> 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.

### **5.1.5 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 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.

### **5.1.6 Records Retention**

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

### **5.1.7 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.

## **5.2 System Operating Requirements**

### **5.2.1 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.**

## 5.2.2 Flow Meters

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

## 5.2.3 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.

## 5.2.4 Sludge Management

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

## 5.2.5 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.

### **5.2.6 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.

### **5.2.7 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.

### **5.2.8 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.

### **5.2.9 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. 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.

## 5.3 Surface Water Requirements

### 5.3.1 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.

### 5.3.2 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.

### 5.3.3 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.

### **5.3.4 Visible Foam or Floating Solids**

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

### **5.3.5 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.

### **5.3.6 Percent Removal**

During any 30 consecutive days, the average effluent concentrations of BOD<sub>5</sub> 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.

### **5.3.7 Fecal Coliforms**

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

### **5.3.8 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.

### **5.3.9 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, 2<sup>nd</sup> 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.

### **5.3.10 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.

## **5.4 Land Application Requirements**

### **5.4.1 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.

### **5.4.2 General Sludge Management Information**

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

### **5.4.3 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.

### **5.4.4 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.

#### 5.4.5 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) =

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

#### 5.4.6 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

#### **5.4.7 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.

#### **5.4.8 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.

#### **5.4.9 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.

#### **5.4.10 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.

#### **5.4.11 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.

#### **5.4.12 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:

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	$6.0 \times 10^5$	5.78
2	$4.2 \times 10^6$	6.62
3	$1.6 \times 10^6$	6.20
4	$9.0 \times 10^5$	5.95
5	$4.0 \times 10^5$	5.60
6	$1.0 \times 10^6$	6.00
7	$5.1 \times 10^5$	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 =  $9.5 \times 10^5$

#### 5.4.13 Class B Sludge - Vector Control: Injection

No significant amount of the sewage sludge shall be present on the land surface within one hour after the sludge is injected.

#### 5.4.14 Class B Sludge - Vector Control: Incorporation

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

## 6 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Phosphorus (Stringent Effluent Limit - Municipal Facility) -Phosphorus removal optimization study	June 1, 2013	12
Phosphorus (Stringent Effluent Limit - Municipal Facility) -Facilities Planning Status Report	June 1, 2014	12
Phosphorus (Stringent Effluent Limit - Municipal Facility) -Preliminary Facilities Plan	June 1, 2015	12
Phosphorus (Stringent Effluent Limit - Municipal Facility) -Final Facilities Plan	June 1, 2016	12
Phosphorus (Stringent Effluent Limit - Municipal Facility) -Construction Plans and Specifications	January 1, 2017	12
Phosphorus (Stringent Effluent Limit - Municipal Facility) -FOR INFORMATIONAL PURPOSES ONLY	See Permit	12
Phosphorus (Stringent Effluent Limit - Municipal Facility) -Progress Report (For Informational Purposes Only)	June 1, 2018	12
Phosphorus (Stringent Effluent Limit - Municipal Facility) -Progress Report (For Informational Purposes Only)	June 1, 2019	12
Phosphorus (Stringent Effluent Limit - Municipal Facility) -Progress Report (For Informational Purposes Only)	June 1, 2020	12
Phosphorus (Stringent Effluent Limit - Municipal Facility) -Complete Construction (For Informational Purposes Only)	See Permit	12
Copper Source Reduction Measures -Report on Effluent Discharges	September 1, 2014	12
Copper Source Reduction Measures -Source Reduction Plan	December 1, 2014	13
Copper Source Reduction Measures -Initiate Actions of Source Reduction Plan	April 1, 2015	13
Copper Source Reduction Measures -Annual Report	June 30, 2015	13
Copper Source Reduction Measures -Annual Report	June 30, 2016	13
Compliance Maintenance Annual Reports (CMAR)	by June 30, each year	15
General Sludge Management Form 3400-48	prior to any significant sludge management changes	20
Characteristic Form 3400-49 and Lab Report	by January 31 following each year of analysis	20
Land Application Report Form 3400-55	by January 31, each year whether or not non-exceptional	22

	quality sludge is land applied	
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	22
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	14

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:

West Central Region - LaCrosse, 3550 Mormon Coulee Road, La Crosse, WI 54601