



WPDES PERMIT

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

Superior Fresh, LLC

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

W15506 Superior Fresh Drive
to

**an unnamed tributary to Pigeon Creek, an unnamed tributary of May Coulee Creek and the groundwaters of
the Pigeon Creek Watershed within the Trempealeau River Basin, Jackson 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 _____
Geisa Bittencourt
Wastewater Field Supervisor

Date Permit Signed/Issued for Modification

PERMIT TERM: EFFECTIVE DATE - March 01, 2024
EFFECTIVE DATE OF MODIFICATION #1: May 01, 2025
EFFECTIVE DATE OF MODIFICATION #2: September 1, 2026

EXPIRATION DATE - December 31, 2028

TABLE OF CONTENTS

1 IN-PLANT REQUIREMENTS	1
1.1 SAMPLING POINT(S)	1
1.2 MONITORING REQUIREMENTS AND LIMITATIONS	1
1.2.1 <i>Sampling Point 101 - Wastewater to Spray Irrigation</i>	1
2 SURFACE WATER REQUIREMENTS	2
2.1 SAMPLING POINT(S)	2
2.2 MONITORING REQUIREMENTS AND EFFLUENT LIMITATIONS	2
2.2.1 <i>Sampling Point (Outfall) 001 - Finishing Water</i>	2
2.2.2 <i>Sampling Point (Outfall) 014 - Red Barn Effluent</i>	5
2.2.3 <i>Sampling Point (Outfall) 015 - 001+014 Combined</i>	8
3 BEST MANAGEMENT PRACTICES REQUIREMENTS	10
3.1 BEST MANAGEMENT PRACTICES AND REPORTING	10
3.1.1 <i>Definitions</i>	10
3.1.2 <i>Best Management Practices (BMP) Plan</i>	11
3.1.3 <i>Additional Reporting Requirements</i>	13
4 LAND TREATMENT REQUIREMENTS	15
4.1 SAMPLING POINT(S)	15
4.2 MONITORING REQUIREMENTS AND LIMITATIONS	15
4.2.1 <i>Sampling Point (Outfall) 002 - Spray Field #1; 004- Spray Field #4; 005- Spray Field #5; 006- Spray Field #6; 007- Spray Field #7; 009- Spray Field #2; 010- Spray Field #3, Spray Irrigation; 016 – Spray Field #8; 017 – Spray Field #9</i>	16
4.2.2 <i>Sampling Point (Outfall) 011 - Absorption Pond (Seepage Cell)</i>	17
5 LAND APPLICATION REQUIREMENTS	19
5.1 SAMPLING POINT(S)	19
5.2 MONITORING REQUIREMENTS AND LIMITATIONS	19
5.2.1 <i>Sampling Point (Outfall) 003 - SAND BED SLUDGE</i>	19
5.2.2 <i>Sampling Point (Outfall) 012 - COMPOST</i>	22
5.2.3 <i>Sampling Point (Outfall) 013 - PLANT WASTE</i>	24
6 SCHEDULES	26
6.1 ANNUAL WATER QUALITY TRADING (WQT) REPORT	26
6.2 BEST MANAGEMENT PRACTICES (BMP) PLAN	26
6.3 LAND APPLICATION MANAGEMENT PLAN	27
6.4 LAND TREATMENT MANAGEMENT PLAN	27
7 STANDARD REQUIREMENTS	28
7.1 REPORTING AND MONITORING REQUIREMENTS	28
7.1.1 <i>Monitoring Results</i>	28
7.1.2 <i>Sampling and Testing Procedures</i>	28
7.1.3 <i>Recording of Results</i>	28
7.1.4 <i>Reporting of Monitoring Results</i>	29
7.1.5 <i>Records Retention</i>	29
7.1.6 <i>Other Information</i>	29
7.1.7 <i>Reporting Requirements – Alterations or Additions</i>	29
7.2 SYSTEM OPERATING REQUIREMENTS	29
7.2.1 <i>Noncompliance Reporting</i>	30
7.2.2 <i>Bypass</i>	30
7.2.3 <i>Scheduled Bypass</i>	30
7.2.4 <i>Controlled Diversions</i>	31
7.2.5 <i>Ammonia Limit Not Needed - Continue to Optimize Removal of Ammonia</i>	31

7.2.6 Proper Operation and Maintenance	31
7.2.7 Operator Certification	31
7.2.8 Spill Reporting	31
7.2.9 Planned Changes	31
7.2.10 Duty to Halt or Reduce Activity	32
7.3 SURFACE WATER REQUIREMENTS	32
7.3.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit	32
7.3.2 Appropriate Formulas for Effluent Calculations	32
7.3.3 Effluent Temperature Requirements	32
7.3.4 Visible Foam or Floating Solids	33
7.3.5 Surface Water Uses and Criteria	33
7.3.6 Additives	33
7.3.7 Whole Effluent Toxicity (WET) Monitoring Requirements	33
7.3.8 Whole Effluent Toxicity (WET) Identification and Reduction	34
7.4 LAND TREATMENT REQUIREMENTS FOR INDUSTRIAL DISCHARGES	34
7.4.1 Formulas for Land Treatment Calculations	34
7.4.2 Land Treatment Annual Report	35
7.4.3 Chloride Requirements for Land Treatment Systems	35
7.4.4 Nitrogen Loading Requirements for Spray Irrigation	35
7.4.5 Ponding	35
7.4.6 Runoff	35
7.4.7 Seasonal Irrigation Restriction	35
7.4.8 Irrigation Management Plan	35
7.4.9 Nitrogen Loading Requirements for Absorption Ponds	35
7.4.10 Absorption Pond Discharge Restrictions	36
7.4.11 Discharges to the Absorption Pond System	36
7.4.12 Absorption Pond Management Plan	36
7.5 LAND APPLICATION REQUIREMENTS	36
7.5.1 General Sludge Management Information	36
7.5.2 Land Application Characteristic Report	36
7.5.3 Annual Land Application Report	36
7.5.4 Other Methods of Disposal or Distribution Report	37
7.5.5 Land Application Site Approval	37
7.5.6 Operating Requirements/Management Plan	37
7.5.7 Chloride Requirements for Liquid Wastes and By-Product Solids	37
7.5.8 Nitrogen Requirements for Liquid Wastes and By-Product Solids and Sludges	37
7.5.9 Ponding	38
7.5.10 Runoff	38
7.5.11 Soil Incorporation Requirements	38
7.5.12 Field Stockpiles	38
7.5.13 By-Product Storage Sites	38
7.5.14 Annual Inspections-Stacking Pads and Leachate Containment	39
7.5.15 Additional Requirements from ch. NR 214, Wis. Adm. Code	39
8 SUMMARY OF REPORTS DUE	40

1 In-Plant Requirements

1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)
101	A representative sample of process wastewater will be taken upon discharge from spray irrigation nozzles. Discharge is limited to wastewater generated in the aquaponics system.

1.2 Monitoring Requirements and Limitations

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

1.2.1 Sampling Point 101 - Wastewater to Spray Irrigation

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Chloride		mg/L	2/Month	Composite	
Nitrogen, Total Kjeldahl		mg/L	2/Month	Composite	
Nitrogen, Max Applied On Any Zone	Annual Total	200 lbs/ac/yr	Annual	Total Annual	Report the highest cumulative nitrogen loading to a spray field (zone) over each calendar year on the December eDMR.

2 Surface Water Requirements

2.1 Sampling Point(s)

The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)
001	FINISHING WATER: Representative effluent samples shall be collected prior to discharge to the unnamed tributary to Pigeon Creek. The flow rate will be measured as the difference between purge inlet flow and flow to the fish system. Discharge is limited to finishing water from the original phase 1 depuration system.
014	RED BARN: Representative effluent samples shall be collected from inside the Red Barn in the floor sump prior to discharge to the unnamed tributary to May Coulee Creek which flows to Pigeon Creek. The flow rate shall be measured as the inlet flow rate to the system. Discharge is limited to overflow wastewater from the partial recirculating aquaculture system (PRAS).
015	This is a theoretical outfall used to report annual compliance with water quality trading conditions.

2.2 Monitoring Requirements and Effluent Limitations

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

2.2.1 Sampling Point (Outfall) 001 - Finishing Water

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Total Daily	
BOD ₅ , Total		mg/L	Monthly	Grab	
Suspended Solids, Total		mg/L	Monthly	Grab	
pH Field	Daily Max	9.0 su	Daily	Grab	
pH Field	Daily Min	6.0 su	Daily	Grab	
Nitrogen, Ammonia (NH ₃ -N) Total		mg/L	Monthly	Grab	
Temperature Maximum		deg F	Daily	Continuous	See Temp section below
Phosphorus, Total	Rolling 12 Month Avg	1.0 mg/L	3/Week	Grab	Limit effective throughout the permit term, as it represents a minimum control level. See Water Quality Trading (WQT) sections for more information.

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Phosphorus, Total		lbs/day	3/Week	Calculated	Report daily mass discharged using Equation 1a. in the Water Quality Trading (WQT) section.
WQT Credits Used (TP)		lbs/month	Monthly	Calculated	Report WQT TP Credits used per month using Equation 2c. in the Water Quality Trading (WQT) section below Sample Point/"Outfall" 015. Available TP Credits are specified in Table 2 and in the approved WQT Plan. See Sample Point 015 for details on the 416.5 lbs/yr of TP credits available annually as approved Water Quality Trading Plan.
WQT Computed Compliance (TP)	6-Month Avg	0.06 mg/L	Monthly	Calculated	Value should be entered on the eDMR on the last day of the month. Value entered at the end of the six-month period (June 30 and December 31). Compliance with the 6-month average limit is evaluated at the end of the six month period on June 30 and Dec 31.
WQT Computed Compliance (TP)	Monthly Avg	0.18 mg/L	Monthly	Calculated	Report the WQT TP Computed Compliance value using Equation 3a. in the Water Quality Trading (WQT) section. Value should be entered on the eDMR on the last day of the month.

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
WQT Computed Compliance (TP)	6-Month Avg	0.14 lbs/day	Monthly	Calculated	Report the WQT TP Computed Compliance value using Equation 3b. in the Water Quality Trading (WQT) section. Value should be entered on the eDMR at the end of the six-month period (June 30 and December 31). Compliance with the 6-month average limit is evaluated at the end of the six month period on June 30 and Dec 31.
Chronic WET		TUc	See Listed Qtr(s)	Grab	See WET testing section for info.

2.2.1.1 Effluent Temperature Monitoring

Temperature monitoring and reporting is required year-round. 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. Daily maximum temperatures shall be reported so that applicable daily maximum limits can be compared to the reported daily maximum temperatures and applicable weekly average limits can be compared to the weekly averages of the reported daily maximum temperatures. For seasonal discharges collect measurements either manually or continuously during the period of operation and report the daily maximum effluent temperature on the DMR.

2.2.1.2 Whole Effluent Toxicity (WET) Testing

Primary Control Water: a grab sample collected from the unnamed tributary of Pigeon Creek in an area outside the influence of the discharge from the outfall.

Instream Waste Concentration (IWC): 78%

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

- **Chronic:** 100, 75, 50, 25, 12.5% and any additional selected by the permittee.

WET Testing Frequency:

Chronic tests are required during the following quarters:

- 3rd quarter (July – Sept) 2024
- 1st quarter (Jan – March) 2026
- 2nd quarter (April – June) 2028

Chronic WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required in 2nd quarter (April – June) 2029.

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: A chronic toxicity test shall be considered positive if the Toxic Unit - Chronic (TU_c) is greater than 1.3 for either species. The TU_c shall be calculated as follows: $TU_c = 100 \div IC_{25}$.

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

2.2.2 Sampling Point (Outfall) 014 - Red Barn Effluent

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Total Daily	
BOD ₅ , Total		mg/L	Monthly	Grab	
Suspended Solids, Total		mg/L	Monthly	Grab	
pH Field	Daily Max	9.0 su	Daily	Grab	
pH Field	Daily Min	6.0 su	Daily	Grab	
Nitrogen, Ammonia (NH ₃ -N) Total		mg/L	Monthly	Grab	
Temperature Maximum		deg F	Daily	Continuous	See section on Temp below
Phosphorus, Total	Rolling 12 Month Avg	1.0 mg/L	3/Week	Grab	Limit effective throughout the permit term, as it represents a minimum control level. See Water Quality Trading (WQT) sections for more information.
Phosphorus, Total		lbs/day	3/Week	Calculated	Report daily mass discharged using Equation 1a. in the Water Quality Trading (WQT) section.

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
WQT Credits Used (TP)		lbs/month	Monthly	Calculated	Report WQT TP Credits used per month using Equation 2c. in the Water Quality Trading (WQT) section below Sample Point/"Outfall" 015. Available TP Credits are specified in Table 2 and in the approved WQT Plan. See Sample Point 015 for details on the 416.5 lbs/yr of TP credits available annually as approved Water Quality Trading Plan.
WQT Computed Compliance (TP)	6-Month Avg	0.06 mg/L	Monthly	Calculated	Value should be entered on the eDMR on the last day of the month. Value should be entered on the eDMR at the end of the six-month period (June 30 and December 31). Compliance with the 6-month average limit is evaluated at the end of the six month period on June 30 and Dec 31.
WQT Computed Compliance (TP)	Monthly Avg	0.18 mg/L	Monthly	Calculated	Report the WQT TP Computed Compliance value using Equation 3a. in the Water Quality Trading (WQT) section. Value should be entered on the eDMR on the last day of the month.
WQT Computed Compliance (TP)	6-Month Avg	0.011 lbs/day	Monthly	Calculated	Report the WQT TP Computed Compliance value using Equation 3b. in the Water Quality Trading (WQT) section. Value should be entered on the eDMR at the end of the six-month period (June 30 and December 31). Compliance with the 6-month average limit is evaluated at the end of the six month period on June 30 and Dec 31.

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Chronic WET		mg/L	See Listed Qtr(s)	Grab	See WET testing section for info.

2.2.2.1 Effluent Temperature Monitoring & Limitations

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. Daily maximum temperatures shall be reported so that applicable daily maximum limits can be compared to the reported daily maximum temperatures and applicable weekly average limits can be compared to the weekly averages of the reported daily maximum temperatures. For seasonal discharges collect measurements either manually or continuously during the period of operation and report the daily maximum effluent temperature on the DMR.

2.2.2.2 Whole Effluent Toxicity (WET) Testing

Primary Control Water: 40%

Instream Waste Concentration (IWC): a grab sample collected from the unnamed tributary of Pigeon Creek in an

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

- **Chronic:** 100, 75, 50, 25, 12.5% and any additional selected by the permittee.

WET Testing Frequency:

Chronic tests are required during the following quarters:

- 1st quarter (Jan – March) 2026
- 2nd quarter (April – June) 2028

Chronic WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required in 2nd quarter (April – June) 2029.

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: A chronic toxicity test shall be considered positive if the Toxic Unit - Chronic (TU_c) is greater than 2.5 for either species. The TU_c shall be calculated as follows: $TU_c = 100 \div IC_{25}$.

Additional Testing Requirements: Within 90 days of a test which showed positive results, the permittee shall submit the results of at least 2 retests to the Biomonitoring Coordinator on "Whole Effluent Toxicity Test Report Forms". The 90-day reporting period shall begin the day after the test which showed a positive result. The retests

shall be completed using the same species and test methods specified for the original test (see the Standard Requirements section herein).

2.2.3 Sampling Point (Outfall) 015 - 001+014 Combined

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
WQT Credits Used (TP)	Annual Total	416.5 lbs/yr	Annual	Calculated	The sum of total monthly credits used from Outfall 001 & Outfall 014 may not exceed Table 2 values listed below.

2.2.3.1 Phosphorus Water Quality Trading (WQT)

The permittee may use water quality trading to demonstrate compliance with WQBELs for total phosphorus (TP). Pollutant reduction credits for total phosphorus are available as specified in Water Quality Trading Plan WQT-2024-0001 or approved amendments thereof.

Table 2. Available Phosphorus Credits per WQT-2024-0001

Year	Available TP Credits (lbs/yr)
2024	416.5
2025	416.5
2026	416.5
2027	416.5
2028*	416.5

*In the event that this permit is not reissued prior to the expiration date, 416.5 lbs/yr of credits will be available in subsequent year(s).

Only those pollutant reduction credits established by a water quality trading plan approved by the Department may be used by the permittee to demonstrate compliance with the WQBELs identified in this subsection. If the permittee wishes to use pollutant reduction credits not identified in an approved water quality trading plan, the permittee must amend the plan or develop a new plan and obtain Department approval of the amended or new plan prior to use of the new pollutant reduction credits. Prior to Department approval, the amended or new water quality trading plan will be subject to notice and opportunity for public comment. Any change in the number of available credits requires a permit modification.

In the event pollutant reduction credits as defined in the approved water quality trading plan are no longer generated, the permittee shall comply with the WQBELs for TP contained in this subsection. The sum of available interim and long-term credits shown in Table 2 may be used to demonstrate compliance for a given year. Interim credits are subject to duration limits and may not be used past the duration defined in Water Quality Trading Plan WQT-2024-0001.

2.2.3.2 Demonstrating Compliance with Total Phosphorus WQBELs Using Water Quality Trading

Use the following methods to demonstrate compliance with the Total Phosphorus (TP) WQBELs contained in the Water Quality Trading subsection above.

TOTAL POLLUTANT DISCHARGED (TP)

Use the following equations to calculate the amount of pollutant discharged for Monthly Avg TP [lbs/day]:

Eq. 1a: TP Discharged [lbs/day] = TP Discharged [mg/L] × Daily Flow [MGD] × 8.34

Eq. 1b: Monthly or Weekly Avg = Σ daily results $\div$ # of results

WQT CREDITS USED (TP)

Use the following method to calculate the credits to be used expressed as a mass in lbs/month:

Eq. 2a:

Outfall 001: WQT TP Credits Needed [lbs/day] = (Monthly Avg TP [mg/L] – 0.06 [mg/L]) $\times$ Monthly Avg Flow [MGD] $\times$ 8.34

Outfall 014: WQT TP Credits Needed [lbs/day] = (Monthly Avg TP [mg/L] – 0.06 [mg/L]) $\times$ Monthly Avg Flow [MGD] $\times$ 8.34

Eq. 2b:

Outfall 001: WQT TP Credits Needed [lbs/day] = Monthly Avg TP [lbs/day] – 0.14 lbs/day

- When the “Monthly Avg TP” discharged is greater than both 0.06 mg/L and 0.14 lbs/day, select the greater of the two values from Equation 2a or 2b to be used in Equation 2c below.
- When the TP discharge is less than 0.06 mg/L AND 0.14 lbs/day as a monthly avg, report 0 (zero) as the “WQT Credits Used (TP)”.

Outfall 014: WQT TP Credits Needed [lbs/day] = Monthly Avg TP [lbs/day] – 0.011 lbs/day

- When the “Monthly Avg TP” discharged is greater than both 0.06 mg/L and 0.011 lbs/day, select the greater of the two values from Equation 2a or 2b to be used in Equation 2c below.
- When the TP discharge is less than 0.06 mg/L AND 0.011 lbs/day as a monthly avg, report 0 (zero) as the “WQT Credits Used (TP)”.

Eq. 2c:

Outfall 001: WQT TP Credits Used [lbs/month] = WQT TP Credits Needed [lbs/day] $\times$ # of days of discharge/month @ Outfall 001

Outfall 014: WQT TP Credits Used [lbs/month] = WQT TP Credits Needed [lbs/day] $\times$ # of days of discharge/month @ Outfall 014

WQT COMPUTED COMPLIANCE (TP)

Use the following method to demonstrate compliance with TP WQBELs expressed as a concentration in mg/L:

Eq. 3a:

WQT TP Computed Compliance [mg/L] = Monthly Avg TP [mg/L] – [WQT TP Credits Needed [lbs/day]* $\div$ (Monthly Avg Flow [MGD] $\times$ 8.34)]

*Greater of either Equation 2a or 2b, the value used for Equation 2c.

Use the following method to demonstrate compliance with TP WQBELs expressed as a mass in lbs/day:

Eq. 3b:

WQT TP Computed Compliance [lbs/day] = Monthly Avg TP [lbs/day] – WQT TP Credits Needed [lbs/day]**

**Greater of either Equation 2a or 2b, the value used for Equation 2c.

Negative computed compliance values should be entered as zero - “0”.

2.2.3.3 Additional Water Quality Trading Requirements

When using water quality trading to demonstrate compliance with WQBELs for TP, the permittee shall comply with the following:

- Failure to implement any of the terms or conditions of the approved water quality trading plan is a violation of this permit.
- Each month the permittee shall certify that the nonpoint source management practices installed to generate pollutant reduction credits are operated and maintained in a manner consistent with that specified in the approved water quality trading plan. Such a certification may be made by including the following statement as a comment on the monthly discharge monitoring report:

I certify that management practices identified in the approved water quality trading plan as the source of pollutant reduction credits are installed, established and properly maintained.

- At least once a year the permittee or the permittee's agent shall inspect each nonpoint source management practice that generates pollutant reduction credits to confirm the implementation of the management practice and their appropriate operation and adequate maintenance.
- The permittee shall notify WDNR by telephone within 24 hours or next business day of becoming aware that pollutant reduction credits used or intended for use by the permittee are not being implemented or generated as defined in the approved trading plan. A written notification shall be submitted to the Department within 5 days regarding the status of the permittee's pollutant reduction credits.
- The permittee shall provide WDNR written notice within 7 days of the trade agreement upon which the approved water quality trading plan is based being amended, modified, or revoked. This notification shall include the details of any amendment or modification in addition to the justification for the changes.
- The permittee shall not use pollutant reduction credits for the demonstration of compliance when pollutant reduction credits are not being generated.

2.2.3.4 Water Quality Trading Reopener Clause

Under any of the following conditions as provided by s. 283.53(2), Wis. Stats. and ss. NR 203.135 and 203.136, Wis. Adm. Code, the Department may modify or revoke and reissue this permit to modify or eliminate permit terms and conditions related to water quality trading:

- The permittee fails to implement the water quality trading plan as approved;
- The permittee fails to comply with permit terms and conditions related to water quality trading;
- New information becomes available that would change the number of credits available for the water quality trade or would change the Department's determinations that water quality trading is an acceptable option.

2.2.3.5 Submittal of Permit Application for Next Reissuance and Pollutant Trading Plan

The permittee shall submit the permit application for the next reissuance at least 6 months prior to expiration of this permit.

The permittee has submitted an updated Water Quality Trading Plan that was approved by WDNR on January 3, 2024. If the permittee intends to pursue pollutant trading to achieve compliance in a future permit term, an updated water quality trading plan is due with the application for the next reissuance. If system upgrades will be used in combination with pollutant trading the permittee shall submit plans for any system upgrade.

2.2.3.1 Cleaning Period Sample Reporting

The permittee shall indicate cleaning period samples on the discharge monitoring report.

3 Best Management Practices Requirements

3.1 Best Management Practices and Reporting

3.1.1 Definitions

As used in Section 3.1:

- Aquatic animal containment system means a culture or rearing unit such as a raceway, pond, tank, net, or other structure used to contain, hold, or produce aquatic animals. The containment systems include structures designed to hold sediment and other materials that are part of a wastewater treatment system.
- Chemical means any substance used to maintain or restore water quality for aquatic animal production.
- Drug means any substance defined as a drug in section 201(g)(1) of the Federal Food, Drug, and Cosmetic Act 21 U.S.C. Section 321.
- Extra label drug use means a drug approved under the Federal Food, Drug, and Cosmetic Act that is not used in accordance with the approved label directions.
- Investigational new animal drug (INAD) means a drug for which there is a valid exemption in effect under section 512(j) of the Federal Food, Drug, and Cosmetic Act 21 U.S.C. 360(b)(1).
- Pesticide means any substance defined as a “pesticide” in section 2(u) of the Federal Insecticide, Fungicide, and Rodenticide Act, 7. U.S.C. § 136(u).
- Therapeutant means any substance that is used to maintain or restore aquatic animal health or to affect the structure of any function of an aquatic animal.

3.1.2 Best Management Practices (BMP) Plan

A BMP Plan is a description of the standard operating procedures and actions required to maintain or improve effluent quality, control solids, store materials, maintain the aquatic animal containment structures, perform recordkeeping, train employees, closely monitoring feeding, collect and dispose of waste, address the transport or harvest discharge of aquatic animals, and remove dead aquatic animals. The permittee shall:

- Develop and maintain a plan on site describing how the permittee will achieve the requirements of 3.1.2.1 through 3.1.2.7;
- An updated plan shall be submitted to the Department for approval by January 31, 2024 (See the Schedules section herein); and
- The permittee shall supply annual reports documenting the implementation of BMPs and any additional BMPs that will be implemented in the following year by January 31st of each year. This report shall summarize the recordkeeping in Section 3.1.2.7 including an assessment of how the BMP Plan is limiting the discharge to the greatest extent practicable.

3.1.2.1 Effluent Quality

The permittee shall maintain effluent quality to a level to ensure protection of the water quality standards. Describe in the Best Management Plan the parameter threshold concentration(s) that will initiate the different best management practices.

3.1.2.2 Solids Control

The permittee shall:

- Employ efficient feed management and feeding strategies that limit feed input to the minimum amount reasonably necessary to achieve production goals and sustain targeted rates of aquatic animal growth in order to minimize potential discharges of uneaten feed and waste products to waters of the State;
- In order to minimize the discharge of accumulated solids from settling ponds and basins and production systems, identify and implement procedures for routine cleaning of rearing units and off-line settling basins; and

- Identify procedures to minimize any discharge of accumulated solids during the inventorying, grading and harvesting aquatic animals in the production system; and
- Remove and dispose of aquatic animal mortalities properly on a regular basis to prevent discharge to waters of the State, except in cases where the Department authorizes such discharge in order to benefit the aquatic environment.

3.1.2.3 Solids Discharge Prohibitions

- Discharging sludge, grit, and accumulated solid residues to surface waters is prohibited.
- Practices (e.g., the removal of dam boards in raceways or ponds) that allow accumulated solids to discharge to surface waters is prohibited.
- Discharging untreated cleaning wastewater to surface waters is prohibited.
- Sweeping, raking, or intentionally discharging accumulated solids from raceways or ponds to surface water is prohibited.

3.1.2.4 Materials Storage

The permittee shall:

- Ensure proper storage of drugs, pesticides, and feed in a manner designed to prevent spills that may result in the discharge of drugs, pesticides or feed to waters of the State; and
- Implement procedures for properly containing, cleaning, and disposing of any spilled material.

3.1.2.5 Structural Maintenance

The permittee shall:

- Inspect the production system and the wastewater treatment system on a routine basis in order to identify and promptly repair any damage; and
- Conduct regular maintenance of the production system and the wastewater treatment system in order to ensure that they are properly functioning.

3.1.2.6 Training

The permittee shall:

- In order to ensure the proper clean-up and disposal of spilled material adequately train all relevant facility personnel in spill prevention and how to respond in the event of a spill; and
- Train staff on the proper operation and cleaning of production and wastewater treatment systems including training in feeding procedures and proper use of equipment.

3.1.2.7 Recordkeeping

The permittee shall:

- In order to calculate representative feed conversion ratios, maintain records for aquatic animal rearing units documenting the feed amounts and estimates of the numbers and weight of aquatic animals; and
- Keep records documenting the frequency of cleaning, inspections, maintenance and repairs.
- These records shall be maintained on site and available to the Department upon request.

3.1.3 Additional Reporting Requirements

3.1.3.1 Additive Reporting

- For the purpose of Section 3.1.3, an additive is defined as any chemical, drug, pesticide or therapeutic, including medicated feed, that the permittee uses to maintain or restore water quality for aquatic animal production, to maintain or restore aquatic animal health, or to affect the structure or any function of an aquatic animal. Additives may be added during the term of the permit following procedures in the 'Additives' subsection of the Standard Requirements and sections 3.1.3.1 and 3.1.3.2 of this permit.
- The permittee shall maintain an additives log that includes the following: additive name, date(s) used, amount used, location in the facility where additives are introduced and duration of the physical addition in hours each day. This log shall be maintained on site and available to the Department upon request.
- In its application for permit reissuance, the permittee shall identify and provide usage rates for each additive that may be discharged to waters of the State.
- If the permittee wishes to commence use of an additive that may be discharged to waters of the State, or increase the usage rate of an additive greater than that indicated in the permit application, the permittee must notify the Department prior to initiating such a change. The Department may modify the permit in accordance with s. 283.53, Stats, to impose restrictions on the use of the additive.

3.1.3.2 INAD and Extra Label Drug Treatment

The permittee shall notify the Department of the use (i.e., application) of any investigational new animal drug (INAD) or any extra label drug use (i.e., application) where such a use may lead to a discharge of the drug to waters of the State. Reporting is not required for an INAD or extra label drug that has been previously approved by FDA for a different species or disease if the INAD or extra label use is at or below the approved dosage and involved similar conditions of use.

(Note: Use of a drug to treat fish in a freshwater system that was previously approved for a different freshwater species would be considered a similar condition of use. In contrast, a drug that had been previously approved for a marine setting used in a freshwater application would not be considered a similar condition of use. A drug approved to treat terrestrial animals as an INAD used to treat aquatic animals would not be considered a similar condition of use.)

- The permittee shall provide a written report to the Department of an INADs impending use (i.e., application) within 7 days of agreeing or signing up to participate in an INAD study. The written report must identify the INAD to be used, method of use, the dosage, and the disease or condition the INAD is intended to treat.
- For INADs and extra label drug use (i.e., applications), the permittee shall provide an oral report to the Department as soon as possible, preferably in advance of use, but no later than 7 days after initiating use of that drug. The oral report must identify the drugs used, method of application, and the reason for using that drug.
- For INADs and extra label drug use (i.e., applications), the permittee shall provide a written report to the permitting authority within 30 days after initiating use of that drug. The written report must identify the drug used and include: the reason for treatment, date(s) and time(s) of the additional (including duration), method of application, and the amount added. All INAD use shall also be included in the additive log identified in 3.1.3.1.

3.1.3.3 Unanticipated Discharge Due to a Failure in or Damage to the Structure of an Aquatic Animal Containment System

In accordance with the following procedures, the permittee shall notify the Department when there is a reportable failure in, or damage to, the structure of an aquatic animal containment system resulting in an unanticipated material discharge of pollutants to waters of the State.

- The permittee shall provide an oral report within 24 hours of discovery of any reportable failure or damage that results in a material discharge of pollutants, describing the cause of the failure or damage in the containment system and identifying materials that have been released to the environment as a result of this failure.
- The permittee shall provide a written report within 7 days of discovery of the failure or damage documenting the cause, the estimated time elapsed until the failure or damage was repaired, an estimate of the material released as a result of the failure or damage, and steps being taken to prevent a reoccurrence.

4 Land Treatment Requirements

4.1 Sampling Point(s)

The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, Waste Description/Sample Contents and Treatment Description (as applicable)
002	SPRAY IRRIGATION: Process wastewater directed to spray field #1, 20.6 acres located in SE $\frac{1}{4}$ -SE $\frac{1}{4}$ Section 27 and NE $\frac{1}{4}$ -NE $\frac{1}{4}$ Sec 23; T23-R6W, Town of Northfield, Jackson County. Discharge is limited to wastewater from the storage ponds that were generated in the aquaponics system.
004	SPRAY IRRIGATION: Process wastewater directed to spray field #4, 6.9 acres located in SE $\frac{1}{4}$ -SW $\frac{1}{4}$ Sec 22; T23-R6W, Town of Northfield, Jackson County. Discharge is limited to wastewater from the storage ponds that were generated in the aquaponics system.
005	SPRAY IRRIGATION: Process wastewater directed to spray field #5, 4.1 acres located in SWE $\frac{1}{4}$ -SW $\frac{1}{4}$ Sec 22; T23-R6W, Town of Northfield, Jackson County. Discharge is limited to wastewater from the storage ponds that were generated in the aquaponics system.
006	SPRAY IRRIGATION: Process wastewater directed to spray field #6, 12 acres located in SW $\frac{1}{4}$ -SW $\frac{1}{4}$ Sec 22; T23-R6W, Town of Northfield, Jackson County. Discharge is limited to wastewater from the storage ponds that were generated in the aquaponics system.
007	SPRAY IRRIGATION: Process wastewater directed to spray field #7, 7.0 acres located in SW $\frac{1}{4}$ -NE $\frac{1}{4}$ and NW $\frac{1}{4}$ -SE $\frac{1}{4}$ Sec 23; T23-R6W, Town of Northfield, Jackson County. Discharge is limited to wastewater from the storage ponds that were generated in the aquaponics system.
009	SPRAY IRRIGATION: Process wastewater directed to spray field #2, 8.2 acres located in NW $\frac{1}{4}$ -NE $\frac{1}{4}$ and NE $\frac{1}{4}$ -NE $\frac{1}{4}$ Sec 27; T23-R6W, Town of Northfield, Jackson County. Discharge is limited to wastewater from the storage ponds that were generated in the aquaponics system.
010	SPRAY IRRIGATION: Process wastewater directed to spray field #3, 4.1 acres located in NW $\frac{1}{4}$ -NE $\frac{1}{4}$ Sec 27; T23-R6W, Town of Northfield, Jackson County. Discharge is limited to wastewater from the storage ponds that were generated in the aquaponics system.
016	SPRAY IRRIGATION: Process wastewater directed to spray field #8, 4.1 acres located in SW $\frac{1}{4}$ -NW $\frac{1}{4}$ Sec 27; T23-R6W, Town of Northfield, Jackson County. Discharge is limited to wastewater from the storage ponds that were generated in the aquaponics system.
017	SPRAY IRRIGATION: Process wastewater directed to spray field #9, 6.03 acres located in SE $\frac{1}{4}$ -NW $\frac{1}{4}$ Sec 27; T23-R6W, Town of Northfield, Jackson County. Discharge is limited to wastewater from the storage ponds that were generated in the aquaponics system. Permittee shall notify the Department 30 days before use of this outfall so that appropriate forms can be provided.
011	ABSORPTION POND: Representative samples shall be taken before discharge to the absorption pond. Discharge is limited to backwash water from the green sand filter that's sent to an aeration tank.

4.2 Monitoring Requirements and Limitations

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

4.2.1 Sampling Point (Outfall) 002 - Spray Field #1; 004- Spray Field #4; 005- Spray Field #5; 006- Spray Field #6; 007- Spray Field #7; 009- Spray Field #2; 010- Spray Field #3, Spray Irrigation; 016 – Spray Field #8; 017 – Spray Field #9

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Total Daily	
Hydraulic Application Rate	Monthly Avg	0 gal/ac/day	Monthly	Calculated	Limit effective December through February
Hydraulic Application Rate	Monthly Avg	10,000 gal/ac/day	Monthly	Calculated	Limit effective March through November. Limit is reduced to 0 gal/ac/day if fields are snow or ice-covered

Daily Log – Monitoring Requirements and Limitations				
All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under “Records Retention” in the Standard Requirements section, and if requested, made available to the Department.				
Parameters	Limit	Units	Sample Frequency	Sample Type
Zone or Location Being Sprayed	-	Number	Daily	Log
Acres Being Sprayed	-	Acres	Daily	Log
Start to End Time	-	Date, Hour	Daily	Log
Maximum Applied Volume	0.90	Inches/Load Cycle	Daily	Calculated

Annual Report – Monitoring Requirements and Limitations				
The Annual Report is due by January 31 st of each year for the previous calendar year.				
Parameters	Limit	Units	Sample Frequency	Sample Type
Total Volume Per Zone	-	Gallons	Annual	Total Annual
Total Nitrogen per Zone	200	Pounds/Acre/Year	Annual	Calculated
Soil Analysis	-	-	Annual	Composite
Fertilizer Used	-	Pounds/Acre/Year	Annual	Total Annual

Note: Inches/load cycle = gallons/acre/load cycle divided by 27,154.

4.2.1.1 Year to Date Nitrogen Loading Calculations

Record the calendar year cumulative nitrogen loadings on the facility log by adding the current loading to the loading total from the previous months in the calendar year. The following method shall be used to calculate the loading for the month:

$$\frac{(\text{most recent sample, mg/L}) (\text{monthly total water to cell or zone, million gallons}) (8.34)}{\text{acres of cell or zone}} = \text{month lbs/ac}$$

4.2.1.2 Updated Land Treatment Management Plan

The permittee shall submit an updated Land Treatment Management Plan that will optimize the land treatment system performance and demonstrate compliance with ch. NR 214, Wis. Adm. Code. See the Schedules section for more information.

4.2.1.3 Spray Irrigation Site(s) - Soil Analysis

The soil at each spray irrigation site corresponding to each spray irrigation sample point (outfall) shall be tested annually for nitrate-nitrogen, available phosphorus, available potassium and pH. The soil tests shall be conducted by an approved testing facility. Before using the spray irrigation site each spring, the permittee shall submit to the Department a Soil Test Report and a Preplant Profile Nitrate Report. All nutrient applications shall be consistent with recommendations found in the University of Wisconsin – Extension pamphlet A2809: Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin, or as approved in the management plan. See the following Wisconsin Extension Service’s pamphlets for more information: A2100 – Sampling for Soil Testing, A3512 – Wisconsin’s Preplant Soil Nitrate Test, and A2519 – Soil and Applied Nitrogen.

4.2.2 Sampling Point (Outfall) 011 - Absorption Pond (Seepage Cell)

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Continuous	
Iron, Total Recoverable		mg/L	Monthly	Grab	
Manganese, Total Recoverable		mg/L	Monthly	Grab	

Daily Log – Monitoring Requirements and Limitations				
All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under “Records Retention” in the Standard Requirements section, and if requested, made available to the Department.				
Parameters	Limit	Units	Sample Frequency	Sample Type
Cells Being Loaded	-	Cell Number	Daily	Log
Start to End Time	-	Date, Hour	Daily	Log

Annual Report – Monitoring Requirements and Limitations The Annual Report is due by January 31 st of each year for the previous calendar year.				
Parameters	Limit	Units	Sample Frequency	Sample Type
Total Volume Per Cell	-	Gallons	Annual	Total Annual
Total Nitrogen per Cell	-	Pounds/Acre/Year	Annual	Calculated
Total Chloride per Cell	-	Pounds/Acre/Year	Annual	Calculated

4.2.2.1 Updated Land Treatment Management Plan

The permittee shall submit an updated Land Treatment Management Plan that will optimize the land treatment system performance and demonstrate compliance with ch. NR 214, Wis. Adm. Code. See the Schedules section for more information.

5 Land Application Requirements

5.1 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)
003	FILTER BED: Representative composite samples shall be collected of the sand filter bed contents. Monitoring for parameters other than PFOA + PFOS is only required during quarters sludge is land applied. Monitoring for the PFOA + PFOS parameters is required annually. Discharge is limited to sludge created during the treatment of process wastewater containing fish feces and fish feed used in the salmon production.
012	COMPOST: Representative composite samples of compost shall be taken prior to land application. Monitoring only required during quarters compost is land applied. Discharge is limited to composted byproduct solids (fish offal, fish eggs, fish mortality carcasses, fish feces and plant waste) and a carbon bulking agent.
013	PLANT WASTE: Representative composite sample of plant-based waste shall be taken prior to land application. Monitoring only required during years compost is land applied. Discharge is limited to plant waste material (byproduct solids).

5.2 Monitoring Requirements and Limitations

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

5.2.1 Sampling Point (Outfall) 003 - SAND BED SLUDGE

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Measure	
Solids, Total		% Comp	Quarterly	Grab	
Nitrogen, Ammonium (NH ₄ -N) Total		Percent	Quarterly	Grab	
Chloride		Percent	Quarterly	Grab	
Nitrogen, Total Kjeldahl		Percent	Quarterly	Grab	
Phosphorus, Total		Percent	Quarterly	Grab	
Phosphorus, Water Extractable		% of Tot P	Quarterly	Calculated	
Potassium, Total Recoverable		mg/L	Quarterly	Grab	
PFOA + PFOS		µg/kg	Annual	Calculated	Report the sum of PFOA and PFOS. See PFAS Permit Sections for more information.

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
PFAS Dry Wt			Annual	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Permit Sections for more information.

Daily Log – Monitoring Requirements and Limitations				
All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under “Records Retention” in the Standard Requirements section, and if requested, made available to the Department.				
Parameters	Limit	Units	Sample Frequency	Sample Type
DNR Site Number(s)	-	Number	Daily	Log
Acres Applied	-	Acres	Daily	Log
Application Rate	-	Gal/Acre/Day	Daily	Calculated

Annual Report – Summary of Monitoring Requirements and Limitations				
The Annual Report is due by January 31 st of each year for the previous calendar year. See the ‘Annual Land Application Report’ subsection in Standard Requirements.				
Parameters	Limit	Units	Reporting Frequency	Sample Type
DNR Site Number(s)	-	Number	-	-
Acres Land Applied	-	Acres	Annual	-
Total Volume Per Site	-	Gallons	Annual	Total Annual
Total Kjeldahl Nitrogen per Site	165, or alternate approved in writing	Pounds/Acre/Year	Annual	Calculated
Total Chloride per Site	340	Pounds/Acre per 2 Years	Annual	Calculated

5.2.1.1 Annual Site Nitrogen Loading

For details on nitrogen loading requirements, including approval of an alternate nitrogen pounds/acre/year site loading, see the “Nitrogen Requirements for Liquid Wastes, By-Product Solids and Sludges” paragraph in the Standard Requirements section of this permit.

5.2.1.2 Biennial Site Chloride Loading

For details on chloride requirements see the “Chloride Requirements for Liquid Wastes and By-Product Solids” paragraph in the Standard Requirements section of this permit.

5.2.1.3 Sludge Monitoring for PFAS

Sampling shall occur for perfluoroalkyl and polyfluoroalkyl compounds (PFAS) listed in the table below and as indicated in sampling point sections above. Monitoring shall occur at each sample point when sludge is generated regardless of the end use (i.e. land applied, hauled to another facility, landfilled).

PERFLUOROALKYLCARBOXYLIC Acids (PFCAs)	
PFBA	Perfluorobutanoic acid
PFPeA	Perfluroropentanoic acid
PFHxA	Perfluorohexanoic acid
PFHpA	Perfluoroheptanoic acid
PFOA	Perfluorooctanoic acid
PFNA	Perfluorononanoic acid
PFDA	Perfluorodecanoic acid
PFUnA	Perfluroroundecanoic acid
PFDoA	Perfluorododecanoic acid
PFTriA	Perfluorotridecanoic acid
PFTeDA	Perfluorotetradecanoic acid
PERFLUOROALKYLSULFONIC Acids (PFSAs)	
PFBS	Perfluorobutane sulfonic acid
PFPeS	Perfluroropentane sulfonic acid
PFHxS	Perfluorohexane sulfonic acid
PFHpS	Perfluoroheptane sulfonic acid
PFOS	Perfluorooctane sulfonic acid
PFNS	Perfluorononane sulfonic acid
PFDS	Perfluorodecane sulfonic acid
PFDoS	Perfluorododecane sulfonic acid
TELOMER SULFONIC Acids	
4:2 FTSA	4:2 fluorotelomersulfonic acid
6:2 FTSA	6:2 fluorotelomersulfonic acid
8:2 FTSA	8:2 fluorotelomersulfonic acid
PERFLUOROOCTANCESULFONAMIDES (FOSAs)	
PFOSA	Perflurorooctane sulfonamide
N-MeFOSA	N-Methyl perfluorooctane sulfonamide
N-EtFOSA	N-Ethyl perfluorooctane sulfonamide
PERFLUOROOCTANCESULFONAMIDOACETIC Acids	
N-MeFOSAA	N-Methyl perfluorooctane sulfonamidoacetic acid
N-EtFOSAA	N-Ethyl perfluorooctane sulfonamidoacetic acid
NATIVE PERFLUOROOCTANCESULFONAMIDOETHANOLS (FOSEs)	
N-MeFOSE	N-Methyl perfluorooctane sulfonamideoethanol
N-EtFOSE	N-Ethyl perfluorooctane sulfonamideoethanol
PERFLUOROALKYLETHERCARBOXYLIC Acids (PFECAs)	
HFPO-DA	Hexafluoropropylene oxide dimer acid
DONA	4,8-dioxa-3H-perfluorononanoic acid

CHLORO-PERFLUOROALKYLSULFONATE	
F-53B Major	9-chloroehexadecafluoro-3-oxanone-1-sulfonic acid
F-53B Minor	11-chloroelcosafluoro-3-oxaundecane-1-sulfonic acid

Note: If WDNR Lab Certification removes a particular compound from the reporting list above and upon receiving written communication from the department, reporting for that compound is no longer required.

5.2.1.4 Sampling and Reporting Sludge Samples for PFAS

Representative sludge samples shall be collected at each sample point as listed. At minimum, liquid sludge storage/digesters should be thoroughly mixed prior to sampling. Cake sludge samples should consist of seven equal size discrete samples and be collected from different areas and depths then composited into one sample for laboratory analysis.

Note: If additional equipment is used for collecting sludge samples (i.e., shovels, compositing buckets, bottles, etc.), then a one-time equipment blank is recommended to be collected with the first sample. An equipment blank sample is collected by passing laboratory verified PFAS-free water over or through field sampling equipment before the collection of a representative sludge sample. The equipment blank result shall be reported on the annual Sludge Characteristics Form (3400-049) in the comment section when reporting PFAS concentrations in the sludge. The permittee shall report each of the PFAS sludge monitoring results on the annual Sludge Characteristics and Monitoring Form (3400-049) as provided by the department. The permittee shall also report the summation of PFOS and PFOA on this same form. All results shall be reported in dry weight. The annual Sludge Characteristics and Monitoring Form (3400-049) are due January 31, of the year following the collection of the sludge samples.

The laboratory performing the analysis on any samples shall be certified for the applicable PFAS compounds in the solids matrix by the Wisconsin Laboratory Certification Program established under s. 299.11, Wis. Stats., and in accordance with s. NR 149.41, Wis. Adm. Code. If the EPA Office of Water publishes a 1600 series isotope dilution method for the analysis of PFAS in solids, the department recommends the use of the EPA method. The department may reject any sample results if results are produced by a laboratory that is not in compliance with certification requirements under ch. NR 149, Wis. Adm. Code.

5.2.1.5 PFAS Land Application Requirements

The department recommends the landspreading and/or land application of sludge be done in a manner consistent with the most recent version of the “Interim Strategy for Land Application of Biosolids and Industrial Sludges containing PFAS”.

5.2.2 Sampling Point (Outfall) 012 - COMPOST

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

Daily Log – Monitoring Requirements and Limitations All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under “Records Retention” in the Standard Requirements section, and if requested, made available to the Department.				
Parameters	Limit	Units	Sample Frequency	Sample Type
DNR Site Number(s)	-	Number	Daily	Log
Acres Applied	-	Acres	Daily	Log
Application Rate	-	Tons/Acre/Day	Daily	Calculated

Annual Report – Summary of Monitoring Requirements and Limitations The Annual Report is due by January 31 st of each year for the previous calendar year. See the ‘Annual Land Application Report’ subsection in Standard Requirements.				
Parameters	Limit	Units	Reporting Frequency	Sample Type
DNR Site Number(s)	-	Number	-	-
Acres Land Applied	-	Acres	Annual	-
Total Amount Per Site	-	Tons	Annual	Total Annual
Total Kjeldahl Nitrogen per Site	165, or alternate approved in writing	Pounds/Acre/Year	Annual	Calculated
Total Chloride per Site	340	Pounds/Acre per 2 Years	Annual	Calculated

5.2.2.1 Annual Site Nitrogen Loading

For details on nitrogen loading requirements, including approval of an alternate nitrogen pounds/acre/year site loading, see the “Nitrogen Requirements for Liquid Wastes, By-Product Solids and Sludges” paragraph in the Standard Requirements section of this permit.

5.2.2.2 Biennial Site Chloride Loading

For details on chloride requirements see the “Chloride Requirements for Liquid Wastes and By-Product Solids” paragraph in the Standard Requirements section of this permit.

5.2.2.3 Sampling

Representative samples shall be collected of the byproduct solids to be land applied. When the byproduct solids are large pieces, a large sample should be collected and ground to a homogenous slurry for analysis.

5.2.3 Sampling Point (Outfall) 013 - PLANT WASTE

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Solids, Total		% Comp	Annual	Grab	
Nitrogen, Total Kjeldahl		Percent	Annual	Grab	
Phosphorus, Total		Percent	Annual	Grab	
Phosphorus, Water Extractable		% of Tot P	Annual	Grab	
Potassium, Total Recoverable		Percent	Annual	Grab	

Daily Log – Monitoring Requirements and Limitations				
All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under “Records Retention” in the Standard Requirements section, and if requested, made available to the Department.				
Parameters	Limit	Units	Sample Frequency	Sample Type
DNR Site Number(s)	-	Number	Daily	Log
Acres Applied	-	Acres	Daily	Log
Application Rate	-	Tons/Acre/Day	Daily	Calculated

Annual Report – Summary of Monitoring Requirements and Limitations				
The Annual Report is due by January 31 st of each year for the previous calendar year. See the ‘Annual Land Application Report’ subsection in Standard Requirements.				
Parameters	Limit	Units	Reporting Frequency	Sample Type
DNR Site Number(s)	-	Number	-	-
Acres Land Applied	-	Acres	Annual	-
Total Amount Per Site	-	Tons	Annual	Total Annual
Total Kjeldahl Nitrogen per Site	165, or alternate approved in writing	Pounds/Acre/Year	Annual	Calculated
Total Chloride per Site	340	Pounds/Acre per 2 Years	Annual	Calculated

5.2.3.1 Annual Site Nitrogen Loading

For details on nitrogen loading requirements, including approval of an alternate nitrogen pounds/acre/year site loading, see the “Nitrogen Requirements for Liquid Wastes, By-Product Solids and Sludges” paragraph in the Standard Requirements section of this permit.

5.2.3.2 Biennial Site Chloride Loading

For details on chloride requirements see the “Chloride Requirements for Liquid Wastes and By-Product Solids” paragraph in the Standard Requirements section of this permit.

5.2.3.3 Sampling

Representative samples shall be collected of the byproduct solids to be land applied. When the byproduct solids are large pieces, a large sample should be collected and ground to a homogenous slurry for analysis.

5.2.3.4 Updated Land Application Management Plan

The permittee shall submit an updated Land Application Management Plan per ch. NR 214, Wis. Adm. Code.

6 Schedules

6.1 Annual Water Quality Trading (WQT) Report

Required Action	Due Date
Annual WQT Report: Submit an annual WQT report that shall cover the first year of the permit term. The WQT Report shall include: The number of pollutant reduction credits (lbs/month) used each month of the previous year to demonstrate compliance; The source of each month's pollutant reduction credits by identifying the approved water quality trading plan that details the source; A summary of the annual inspection of each nonpoint source management practice that generated any of the pollutant reduction credits used during the previous year; and Identification of noncompliance or failure to implement any terms or conditions of this permit with respect to water quality trading that have not been reported in discharge monitoring reports.	01/31/2025
Annual WQT Report #2: Submit an annual WQT report that shall cover the previous year.	01/31/2026
Annual WQT Report #3: Submit an annual WQT report that shall cover the previous year.	01/31/2027
Annual WQT Report #4: Submit the 4th annual WQT report. If the permittee wishes to continue to comply with phosphorus limits through WQT in subsequent permit terms, the permittee shall submit a revised WQT plan including a demonstration of credit need, compliance record of the existing WQT, and any additional practices needed to maintain compliance over time.	01/31/2028
Annual WQT Report Required After Permit Expiration: In the event that this permit is not reissued by the expiration date, the permittee shall continue to submit annual WQT reports by January 31 each year covering the total number of pollutant credits used, the source of the pollution reduction credits, a summary of annual inspection reports performed, and identification of noncompliance or failure to implement any terms or conditions of the approved water quality trading plan for the previous calendar year.	

6.2 Best Management Practices (BMP) Plan

Required Action	Due Date
Submit Updated Plan: Submit an updated BMP plan describing the standard operating procedures and actions required to maintain or improve effluent quality, control solids, store materials, maintain the aquatic animal containment structures, perform recordkeeping, train employees, closely monitoring feeding, collect and dispose of waste, address the transport or harvest discharge of aquatic animals, and remove dead aquatic animals.	01/31/2025
Annual Update: Document the implementation of BMPs and any additional BMPs that will be implemented in the following year.	01/31/2026
Annual Update: Document the implementation of BMPs and any additional BMPs that will be implemented in the following year.	01/31/2027

Annual Update: Document the implementation of BMPs and any additional BMPs that will be implemented in the following year.	01/31/2028
Annual Update: Document the implementation of BMPs and any additional BMPs that will be implemented in the following year. In the event that this permit is not reissued by the date the permit expires, the permittee shall continue to submit annual updates by January 31st.	

6.3 Land Application Management Plan

A management plan is required for the land application system.

Required Action	Due Date
Land Application Management Plan: Submit an update to the management plan to optimize the land application system performance and demonstrate compliance with Wisconsin Administrative Code NR 214.	06/30/2024

6.4 Land Treatment Management Plan

A management plan is required for the land treatment system.

Required Action	Due Date
Land Treatment Management Plan: If any changes are made to the land treatment system, including planning to commence use of Outfall 017 (spray irrigation Field 9), the permittee shall submit an update to the management plan to optimize the land treatment system performance and demonstrate compliance with Wisconsin Administrative Code NR 214.	

7 Standard Requirements

NR 205, Wisconsin Administrative Code (Conditions for Industrial Dischargers): The conditions in ss. NR 205.07(1) and NR 205.07(3), 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(3).

7.1 Reporting and Monitoring Requirements

7.1.1 Monitoring Results

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

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

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

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

7.1.2 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.

7.1.3 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.

7.1.4 Reporting of Monitoring Results

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

- Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 0.1 mg/L, report the pollutant concentration as < 0.1 mg/L.
- Pollutant concentrations equal to or greater than the limit of detection, but less than the limit of quantitation, shall be reported and the limit of quantitation shall be specified.
- For purposes of calculating NR 101 fees, the 2 mg/l lower reporting limits for BOD5 and Total Suspended Solids shall be considered to be limits of quantitation
- For the purposes of reporting a calculated result, average or a mass discharge value, the permittee may substitute a "0" (zero) for any pollutant concentration that is less than the limit of detection. However, if the effluent limitation is less than the limit of detection, the department may substitute a value other than zero for results less than the limit of detection, after considering the number of monitoring results that are greater than the limit of detection and if warranted when applying appropriate statistical techniques.
- If no discharge occurs through an outfall, flow related parameters (e.g. flow rate, hydraulic application rate, volume, etc.) should be reported as "0" (zero) at the required sample frequency specified for the outfall. For example: if the sample frequency is daily, "0" would be reported for any day during the month that no discharge occurred.

7.1.5 Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings or electronic data records for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit for a period of at least 3 years from the date of the sample, measurement, report or application, except for sludge management forms and records, which shall be kept for a period of at least 5 years.

7.1.6 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.

7.1.7 Reporting Requirements – Alterations or Additions

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

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

7.2 System Operating Requirements

7.2.1 Noncompliance Reporting

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

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

A written report describing the noncompliance shall also be submitted to the Department as directed at the end of this permit 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.**

7.2.2 Bypass

Except for a controlled diversion as provided in the 'Controlled Diversions' section of this permit, any bypass is prohibited and the Department may take enforcement action against a permittee for such occurrences under s. 283.89, Wis. Stats. The Department may approve a bypass if the permittee demonstrates all the following conditions apply:

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

7.2.3 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.

7.2.4 Controlled Diversions

Controlled diversions are allowed only when necessary for essential maintenance to assure efficient operation provided the following requirements are met:

- Effluent from the wastewater 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 wastewater treatment facility records and such records shall be available to the department on request.

7.2.5 Ammonia Limit Not Needed - Continue to Optimize Removal of Ammonia

Applying the procedures in s. NR 106.05, Wis. Adm. Code, to ammonia data that is representative of the current operations of the wastewater treatment plant resulted in a determination that ammonia effluent limits are not necessary in this permit. Pursuant to NR 106.33, throughout the term of this permit, the wastewater treatment plant shall continue to be operated in a manner that optimizes the removal of ammonia within the design capabilities of the wastewater treatment plant.

7.2.6 Proper Operation and Maintenance

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

7.2.7 Operator Certification

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

7.2.8 Spill Reporting

The permittee shall notify the Department in accordance with ch. NR 706 (formerly NR 158), Wis. Adm. Code, in the event that a spill or accidental release of any material or substance results in the discharge of pollutants to the waters of the state at a rate or concentration greater than the effluent limitations established in this permit, or the spill or accidental release of the material is unregulated in this permit, unless the spill or release of pollutants has been reported to the Department in accordance with s. NR 205.07 (1)(s), Wis. Adm. Code.

7.2.9 Planned Changes

In accordance with ss. 283.31(4)(b) and 283.59, Stats., the permittee shall report to the Department any facility expansion, production increase or process modifications which will result in new, different or increased discharges of

pollutants. The report shall either be a new permit application, or if the new discharge will not violate the effluent limitations of this permit, a written notice of the new, different or increased discharge. The notice shall contain a description of the new activities, an estimate of the new, different or increased discharge of pollutants and a description of the effect of the new or increased discharge on existing waste treatment facilities. Following receipt of this report, the Department may modify this permit to specify and limit any pollutants not previously regulated in the permit.

7.2.10 Duty to Halt or Reduce Activity

Upon failure or impairment of treatment facility operation, the permittee shall, to the extent necessary to maintain compliance with its permit, curtail production or wastewater discharges or both until the treatment facility operations are restored or an alternative method of treatment is provided.

7.3 Surface Water Requirements

7.3.1 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.

7.3.2 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, except in the case of Water Quality Trading, wherein the applicable periods are January through June and July through December.]

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 except in the case of Water Quality Trading, wherein the applicable periods are January through June and July through December.]

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.

7.3.3 Effluent Temperature Requirements

Weekly Average Temperature – If temperature limits are included in this permit, Weekly Average Temperature shall be calculated as 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 pursuant to Wis. Adm. Code, s. NR 102.28. ‘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 pursuant to Wis. Adm. Code, s. NR 102.29.

7.3.4 Visible Foam or Floating Solids

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

7.3.5 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.

7.3.6 Additives

In the event that the permittee wishes to commence use of a water treatment additive, or increase the usage of the additives greater than indicated in the permit application, the permittee must get a written approval from the Department prior to initiating such changes. This written approval shall provide authority to utilize the additives at the specific rates until the permit can be either reissued or modified in accordance with s. 283.53, Stats. Restrictions on the use of the additives may be included in the authorization letter.

7.3.7 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.

7.3.8 Whole Effluent Toxicity (WET) Identification and Reduction

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

- A description of actions the permittee has taken or will take to remove toxicity and to prevent the recurrence of toxicity;
- A description of toxicity reduction evaluation (TRE) investigations that have been or will be done to identify potential sources of toxicity, including 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. Conduct toxicity screening tests on the effluent at a minimum of once per month for six months to determine if toxicity recurs. Screening tests are WET tests using fewer effluent concentrations conducted on the most sensitive species. If any of the screening tests contain toxicity, conduct a toxicity identification evaluation (TIE) to determine the cause. TIE methods are available from USEPA "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures (EPA/600/6-91/003) and "Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I" (EPA/600/6-91/005F).
 - 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.

7.4 Land Treatment Requirements for Industrial Discharges

NR 214, Wisconsin Administrative Code: The requirements of this section are based on ss. NR 214.12-16, Wis. Adm. Code, and apply to wastewater discharges to designed and constructed absorption pond, ridge & furrow, spray irrigation, overland flow and subsurface absorption treatment systems.

7.4.1 Formulas for Land Treatment Calculations

The permittee shall use the following formulas for land treatment calculations, unless an alternate calculation method is approved by the Department in the Land Treatment Management Plan.

7.4.1.1 Monthly Average Hydraulic Application Rate

Determine the monthly average hydraulic application rate (in gal/acre/day) for each outfall by calculating the total gallons of wastewater applied onto the site for the month, dividing that total by the number of wetted acres loaded during the month, and then dividing this resulting value by the number of days in the month. Enter this calculated monthly value on the Discharge Monitoring Report form in the box for the last day of the month, in the "Hydraulic Application Rate" column.

7.4.1.2 Annual Total Nitrogen per Cell or per Zone

$$\frac{(\text{annual ave. concentration in mg/L}) (\text{tot. annual flow in million gallons per cell or zone}) (8.34)}{\text{acreage of cell or zone}} = \text{lbs/ac/yr}$$

7.4.1.3 Annual Total Chloride per Cell or per Zone

$$\frac{(\text{annual ave. concentration in mg/L}) (\text{tot. annual flow in million gallons per cell or zone}) (8.34)}{\text{acreage of cell or zone}} = \text{lbs/ac/yr}$$

7.4.2 Land Treatment Annual Report

Annual Land Treatment Reports are due by January 31st of each year for the previous calendar year.

7.4.3 Chloride Requirements for Land Treatment Systems

Since chloride is not significantly treated by the soil, the chloride level of the wastewater treated on land shall be minimized to the extent that is technically and economically feasible. The goal is to protect groundwater quality and prevent exceedance of the 125 mg/L groundwater preventive action limit.

7.4.4 Nitrogen Loading Requirements for Spray Irrigation

The total annual nitrogen loading (pounds/acre/year) to the wastewater spray irrigation acreage shall not exceed the limitation contained in the land treatment annual report table of this permit. Determination of the annual pounds of nitrogen applied to the land treatment system shall include the nitrogen supplied by the wastewater, organic nitrogen becoming available to plants and any supplemental fertilizers used. The Department may approve (in writing) an alternative nitrogen loading limit in a spray irrigation management plan based on the annual nitrogen needs of the cover crop and the permittee's demonstration of nitrogen losses for the site as specified in s. NR 214.14(3)(c), Wis. Adm. Code.

7.4.5 Ponding

The intensity of wastewater spray shall be limited to prevent ponding, except for temporary conditions following rainfall events.

7.4.6 Runoff

The volume of wastewater sprayed shall be limited to prevent runoff of any wastewater mixed with rainwater as specified in s. NR 214.14(3)(f), Wis. Adm. Code. If wastewater runoff occurs, spray irrigation shall cease immediately.

7.4.7 Seasonal Irrigation Restriction

Discharge to the spray irrigation field shall occur only between May 1 and October 31 each year, unless otherwise specified in the approved Land Treatment Management Plan.

7.4.8 Irrigation Management Plan

The spray irrigation treatment system shall be operated and managed in accordance with a Department approved management plan. The management plan shall be consistent with the conditions listed in this permit and s. NR 214.14(5), Wis. Adm. Code, which requires a load/rest cycle, cover crop removal, annual soil testing, etc. If operational changes are needed, the management plan shall be amended and such plan shall be submitted to the Department for approval prior to implementing such changes.

7.4.9 Nitrogen Loading Requirements for Absorption Ponds

Since all forms of nitrogen in wastewater can be converted to nitrate nitrogen in the groundwater in the vicinity of an absorption pond, the average concentration of the sum of all nitrogen species in the absorption pond discharge shall be limited to minimize the concentration of nitrate+nitrite nitrogen in the groundwater to the extent that is technically and economically feasible and will prevent exceedance of the 2 mg/L groundwater preventive action limit.

7.4.10 Absorption Pond Discharge Restrictions

The volume of discharge to the absorption pond system shall be limited so that the discharge volume combined with the precipitation from a 10-year frequency, 24-hour duration rainfall event does not reduce the available freeboard to less than 1 foot below the top of the dike.

7.4.11 Discharges to the Absorption Pond System

No discharge to the absorption pond system may have physical or chemical characteristics which prevent the proper operation of the system.

7.4.12 Absorption Pond Management Plan

The absorption pond treatment system shall be operated and managed in accordance with a Department approved management plan. The management plan shall be consistent with the conditions listed in this permit and s. NR 214.12(5), Wis. Adm. Code which requires a load/rest schedule, weed control and removal, etc. If operational changes are needed, the management plan shall be amended by submitting a written request to the Department for approval.

7.5 Land Application Requirements

7.5.1 General Sludge Management Information

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

7.5.2 Land Application Characteristic Report

The analytical results from testing of liquid wastes, by-product solids and sludges that are land applied shall be reported annually on the Characteristic Report Form 3400-49. The report form shall be submitted electronically no later than the date indicated on the form. Following submittal of the electronic Characteristic Report Form 3400-49, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

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 sludge results shall be reported on a dry weight basis.

7.5.3 Annual Land Application Report

The annual totals for the land application loadings of liquid wastes, by-product solids and sludges to field spreading sites shall be submitted electronically on the Annual Land Application Report Form 3400-55 by January 31, each year whether or not waste is land applied. Following submittal of the electronic Annual Land Application Report Form 3400-55, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

7.5.4 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 waste is hauled to another facility, landfilled, incinerated, or stored in a manure pit. Following submittal of the electronic Report Form 3400-52, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

7.5.5 Land Application Site Approval

The permittee is authorized to landspread permitted liquid wastes, by-product solids and sludges on sites approved in writing by the Department in accordance with ss. NR 214.17(2) and 214.18(2), Wis. Adm. Code. Any site use restrictions or granting of case-by-case exceptions shall be identified in the approval letter. If the permittee wishes to have approval for additional sites, application shall be made using Land Application Site Request Form 3400-053. Complete information shall be submitted about each site, including location maps and soil maps, any soil analyses results and other information showing that the site complies with all application requirements and permit conditions. Spreading on a site may commence upon receipt of Department approval. If an existing spreading site is found by the Department to be environmentally unacceptable, a written notice will be issued to withdraw approval of that site.

7.5.6 Operating Requirements/Management Plan

All land application sites used for treatment of liquid wastes, by-product solids and sludges shall be operated in accordance with a Department approved management plan. The management plan shall be consistent with the requirements of this permit, ss. NR 214.17 (3) and (6), and NR 214.18 (3) and (6), Wis. Adm. Code. If operational changes are needed, the land application management plan shall be amended by submitting a written request to the Department for approval. A land application management plan shall be submitted for approval at least 60 days prior to land application.

7.5.7 Chloride Requirements for Liquid Wastes and By-Product Solids

The total pounds of chloride applied shall be limited to 340 pounds per acre per 2 year period. Calculate the chloride loading as follows:

$$\text{Wet Weight Solids: } \frac{\text{lbs of solids} \times \% \text{solids} \times \% \text{chloride}}{\text{acres land applied} \times 100 \times 100} = \text{lbs chloride/acre}$$

$$\text{Liquid: } \frac{\text{mg/L chloride} \times (\text{millions of gallons}) \times 8.34}{\text{acres land applied}} = \text{lbs chloride/acre}$$

7.5.8 Nitrogen Requirements for Liquid Wastes and By-Product Solids and Sludges

NR 214.17(4) and NR 214.18(4) Wis. Adm. Code specify that the total pounds of nitrogen land applied per acre per year shall be limited to the nitrogen needs of the cover crop minus any other nitrogen added to the land application site, including fertilizer or manure. Nitrogen applied can be calculated on the basis of plant available nitrogen, as long as the release of nitrogen from the organic material is credited to future years. This permit requires that the Total Kjeldahl Nitrogen calendar year application amount shall not exceed 165 pounds per acre per year, except when alternate numerical nitrogen loading limits (consistent with the above sections of NR 214) are approved in writing via the Department's land application management plan approval. Calculate nitrogen loading as follows ("TKN" represents "Total Kjeldahl Nitrogen"):

Wet Weight Solids and Sludges: $\frac{\text{lbs of solids} \times \% \text{solids} \times \% \text{TKN}}{\text{acres land applied} \times 100 \times 100} = \text{lbs TKN/acre}$

Liquid: $\frac{\text{mg/L TKN} \times (\text{millions of gallons}) \times 8.34}{\text{acres land applied}} = \text{lbs TKN/acre}$

7.5.9 Ponding

The volume of liquid wastes land applied shall be limited to prevent ponding, except for temporary conditions following rainfall events. If ponding occurs all land application shall cease immediately. The permittee shall land apply only the liquid wastes that are permitted.

7.5.10 Runoff

The volume of liquid wastes land applied shall be limited to prevent runoff. If runoff occurs all land application shall cease immediately. The permittee shall land apply only the liquid wastes that are permitted.

7.5.11 Soil Incorporation Requirements

- **Liquid Sludge Requirements:** The Department may require that liquid sludge be incorporated into the soil on specific land application sites when necessary to prevent surface runoff or objectionable odors. Requirements and procedures for incorporation of liquid sludge, when such incorporation may be necessary, shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.
- **Cake Sludge Requirements:** After land application, cake sludge shall be incorporated into the soil. The timing of such incorporation and other related requirements and procedures shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.
- **Liquid Wastewater Requirements:** The Department may require that liquid wastewater be incorporated or injected into the soil on specific land application sites when necessary to prevent surface runoff or objectionable odors. Requirements and procedures for injection or incorporation of liquid wastewater, when such injection or incorporation is necessary, shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.
- **By-Product Solids Requirements:** The Department may limit the volume of by-products solids that are landspread on a specific site when necessary to prevent surface runoff or leaching of contaminants to groundwater and objectionable odors. By-product solids shall, after application, be plowed, disced, or otherwise incorporated into the soil. Requirements and procedures for the incorporation of byproduct solids into the soil shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.

7.5.12 Field Stockpiles

The permittee is encouraged to landspread the by-product solids or sludges as they are transported to the fields; but if it becomes necessary to stockpile solids in the fields, the stockpiles shall be spread within 72 hours or as specified in the approved management plan.

7.5.13 By-Product Storage Sites

All sites used for storage of by-product solids shall be located such that surface water or groundwater pollution does not occur. Written Department approval is required prior to storage of more than 150 tons of by-product solids on a site at any one time.

7.5.14 Annual Inspections-Stacking Pads and Leachate Containment

Stacking pads for more than 1200 tons of silage and all leachate containment facilities shall be inspected annually for cracks and shall be repaired as necessary to prevent leakage from the containment system. The inspection reports shall be available for inspection by Department personnel for a period of three years, and shall include at a minimum the following information:

- date and name of person(s) performing the inspection
- description of what the inspection consisted of
- details of what was discovered during the inspection
- recommendations for repair or maintenance
- details of repair completed

7.5.15 Additional Requirements from ch. NR 214, Wis. Adm. Code

The requirements of s. NR 214.17 (4)(c) [pathogen prohibition for human consumption crop fields], (4)(d)1 [no adverse soil effects], (4)(d)10 [allowable whey spreading rates], and (4)(e)1-3 [by-product solids spreading within agricultural practices and not cause contamination] for landspreading of liquid wastes and by product solids and s. NR 214.18 (4)(b),(d)-(h) [application, nutrient, pH, metals, and PCB limitations] for sludge spreading systems are included by reference in this permit. The permittee shall comply with these requirements.

8 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Annual Water Quality Trading (WQT) Report -Annual WQT Report	January 31, 2025	26
Annual Water Quality Trading (WQT) Report -Annual WQT Report #2	January 31, 2026	26
Annual Water Quality Trading (WQT) Report -Annual WQT Report #3	January 31, 2027	26
Annual Water Quality Trading (WQT) Report -Annual WQT Report #4	January 31, 2028	26
Annual Water Quality Trading (WQT) Report -Annual WQT Report Required After Permit Expiration	See Permit	26
Best Management Practices (BMP) Plan -Submit Updated Plan	January 31, 2025	26
Best Management Practices (BMP) Plan -Annual Update	January 31, 2026	26
Best Management Practices (BMP) Plan -Annual Update	January 31, 2027	26
Best Management Practices (BMP) Plan -Annual Update	January 31, 2028	27
Best Management Practices (BMP) Plan -Annual Update	See Permit	27
Land Application Management Plan -Land Application Management Plan	June 30, 2024	27
Land Treatment Management Plan -Land Treatment Management Plan	See Permit	27
General Sludge Management Form 3400-48	prior to any significant sludge management changes	36
Land Application Report Form 3400-55	January 31, each year whether or not waste is land applied	36
Other Methods of Disposal or Distribution Report Form 3400-52	by January 31, each year whether or not waste is hauled to another facility, landfilled, incinerated, or stored in a manure pit	37
Annual Land Treatment Reports	by January 31st of each year for the previous calendar year	35
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	28

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, 1300 W. Clairemont Ave, Eau Claire, WI 54701.