

Permit Fact Sheet

General Information

Permit Number	WI-0001473-08-0
Permittee Name and Address	Ahlstrom NA Specialty Solutions LLC 200 Main Avenue, De Pere, WI 54115
Permitted Facility Name and Address	Ahlstrom NA Specialty Solutions LLC 200 Main Avenue
Permit Term	January 01, 2026 to December 31, 2030
Discharge Location	West side of Fox River at river mile 7.2, downstream from De Pere Dam.
Receiving Water	The Lower Fox River (Fox River/Appleton Watershed – Lower Fox River Basin) in Brown County
Stream Flow (Q _{7,10})	930 cfs
Stream Classification	Warmwater sport fish community, non-public water supply
Discharge Type	Existing, Continuous

Facility Description

Ahlstrom NA Specialty Solutions LLC's De Pere Facility, referred to as the Nicolet Mill, manufactures label backing paper from purchased virgin and recycled pulp. The Nicolet Mill operates two paper machines, producing an average of 265 tons of paper per day in 2024. All process wastewaters are treated with pH neutralization, dechlorination and primary clarification prior to discharge to the City of De Pere Wastewater Treatment Facility (WWTP) which is owned and operated by the Green Bay Metropolitan Sewerage District (GBMSD).

The facility includes a water intake structure with water withdrawn from the Lower Fox River. The intake structure is permitted by a Water Use Individual Permit No. 6122 to remove up to 5,184,000 gallons per day (GPD). Actual withdrawal rates for 2022-2024 averaged 1.25 MGD. Intake water is treated at the intake with copper ion to decrease zebra mussel buildup prior to screening. Intake water is then used for cooling and process purposes in the facility prior to discharge to the WWTP. Excess, screened intake river water not used for cooling or processes within the facility is discharged to the Fox River via Outfall 003. Discharge produced by regular fire system tests occur at a minimum of 5 times per year and are monitored through Outfall 010. Additional outfalls are included in the permit to allow the facility to pump water out of low-lying areas on the facility's property when flooding occurs and for building wash events that occur roughly every 10 years.

Clarifier sludge is hauled to Red Hills Landfill for disposal. Since the solids are disposed of at a site licensed pursuant to chs. NR 500 to 538, Wis. Adm. Code, the discharge is exempted from WPDES permit requirements as allowed in s. NR 200.03(3), Wis. Adm. Code. As such, sludge monitoring is not required under this permit.

The following sample points have been added with this reissuance:

701- Tracks Fox River intake of water and compliance with impingement and entrainment standards.

011- Discharge from flood dewatering activities currently covered under the Dewatering Operations Permit WI-0049344-05-0. Coverage under the general permit is no longer needed upon reissuance.

012- Building wash water currently covered under the Low-Impact Discharge Permit WI-0066575-01. Coverage under the general permit is no longer needed upon reissuance.

013- Total facility loads of Total Suspended Solids, Total Phosphorus, and BOD5 are calculated at sample point 013 to determine compliance with facility wasteload allocations.

The following sample points have been removed with this reissuance:

001- Previously used to monitor process wastewaters prior to discharge to river. No longer needed as process wastewater is sent to the municipal treatment plant and no direct surface water discharge occurs.

004, 005, 006, 008- Bypass sample points for emergency overflow to sump pumps no longer included under the permit as bypass flows are prohibited pursuant s. NR 205.07(1)(u), Wis. Adm. Code and there have been no reported flows from these outfalls since at least 2008. Requirements for scheduled bypass approval are included in the Standard Requirements section of the permit.

007- Process wastewaters sent to municipal treatment plant were previously monitored at this sample point. The Department no longer needs this information as compliance with water quality standards will be applied to the treated wastewater and regulated under GBMSD's permit, and under GBMSD's pretreatment program.

009- Steam deicing of hydroelectric power plant gates on De Pere Dam. This discharge is not regulated under this permit as steam is not considered a wastewater under state statutes and code. Although it is no longer included as an outfall in the permit, steam deicing is still permissible at the facility.

Substantial Compliance Determination

Enforcement During Last Permit: The facility has completed all previously required actions as part of the enforcement process.

After an October 16, 2024 facility inspection and desk top review of all reports and communications, this facility has been found to be in substantial compliance with their current permit.

Compliance determination made by David Haas on October 15, 2025.

Sample Point Descriptions

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
701	New sample point. 1.25 MGD (2022-2024) reported in application materials.	SURFACE WATER INTAKE: Lower Fox River water intake located on the west shore of Fox River downstream from the Main Ave bridge. Flow shall be estimated based on river level on a daily basis.
003	~4.51 MGD reported in 2008	EFFLUENT: Excess, screened intake river water not used for cooling or processes within the facility shall be monitored at pit prior to discharge to the Fox River via Outfall 003. Flow shall be estimated based on the rate of flow into intake channels minus metered measurements for flow fed to the mill accelerator.
010	Flow not previously reported.	FLUSHING: Fire protection flush water shall be monitored at the point of discharge, prior to entering any pipe, ditch, channel, tunnel,

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
		conduit swale, or storm sewer that will discharge to surface water or wetlands. The permittee shall take representative samples of the discharge that consists solely of flush water before mixing with any other water. The permittee is only required to collect samples when there is a discharge to surface water or wetlands; if there are no discharges within the reporting period the permittee shall report no discharge on the eDMR.
011	No data available.	DEWATERING: Flood waters pumped from the facility's property shall be monitored prior to discharge to the Fox River. Flow shall be calculated based on pump capacity and discharge duration.
012	No data available.	LOW-IMPACT DISCHARGE: Building wash water shall be monitored after solids collection (socks, booms, and/or fabric filters) and prior to discharge to the Fox River. Flow shall be estimated based on rate of water application. Monitoring at 012 is only required if washing activities take place during the permit term.
013	N/A	WLA COMPLIANCE POINT: Combined loads of BOD5, Total Suspended Solids, and Phosphorus from Outfalls 010 and 012 to the Lower Fox River. Since daily loads from Outfalls 010 and 012 are combined mathematically, no effluent sampling is required at Sampling Point 013.

Permit Requirements

1 Influent – Water Intake Structure (WIS) – Monitoring

1.1 Sample Point Number: 701- FOX RIVER INFLUENT

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Estimated	

1.1.1 Changes from Previous Permit

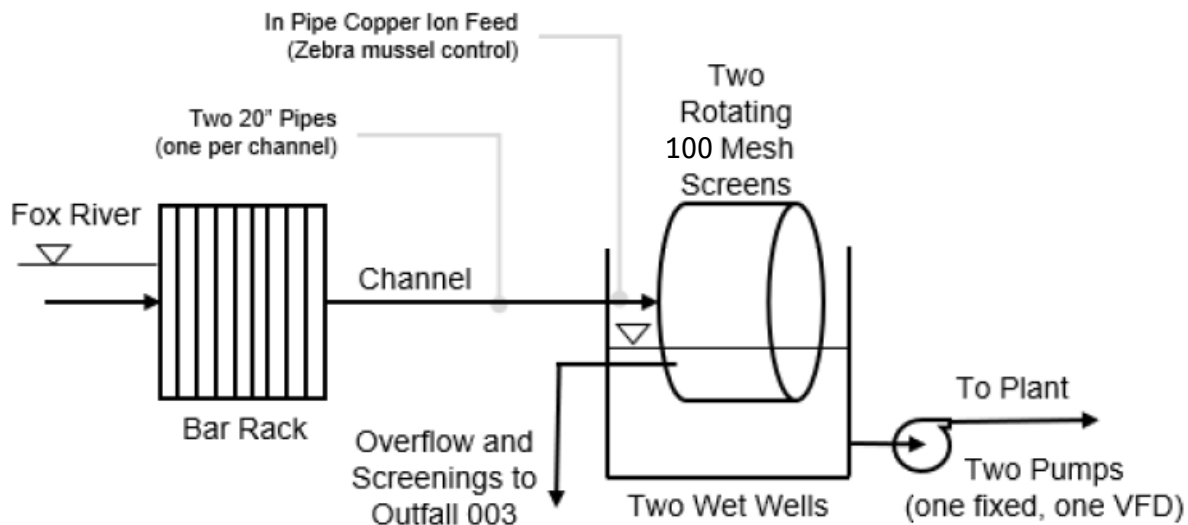
Sample point 701 has been added to the permit to track the rate of withdrawal from the Fox River (daily MGD) and determine compliance with impingement and entrainment standards.

1.1.2 Explanation of Limits and Monitoring Requirements

Water Intake Structure (WIS)- The Influent section includes the WIS description, authorization for use, and BTA (Best Technology Available) determination. The permittee is authorized to use the cooling water intake structure which consists of the following:

- **Location:** West shore of Fox River, 44°26'52'' N and 88°04'02'' W
- **Source Waterbody Information:** The Q_{7,10} of the Fox River is 930 cfs, with a depth of 8.08 ft at the intake.
- **General Description:** River water passively flows through vertical bar screens at four openings in the building. Each of these four openings is flooded at approximately 8.08 feet in height and 6.45 feet in width and leads to a channel equipped with a gate that can close off flow to isolate the channel. At the screen end of each channel is a 20" diameter pipe that takes the water to one of two 10-foot rotating horizontal cylindrical screens with spray headers to continuously clean the rotating screen (Figure 1.). Screened water is collected in one of two filtered water tanks (wet wells) where it is pumped to the mill. The bottom third of the screen is flooded in the wet well and screened material is returned to the river along with wet well overflow via gravity at Outfall 003. The wet well pumps include one fixed speed and one with a variable frequency drive (VFD).

Figure 1. Intake structure diagram from application materials.



- **Major Components:** Vertical bar rack, rotating screen with spray for cleaning, overflow return, VFD
- **Maximum Design Intake Flow (DIF):** The maximum design intake flow (DIF) is 5.2 MGD which is equivalent to 1.04 % of the Q_{7,10}. This is based upon the intake's pump capacity, not counting redundant or emergency pumps.
- **Maximum Design Intake Velocity:** The design intake velocity at the point of withdrawal (trash screens) is 0.046 fps, the maximum design intake velocity at the highest velocity point between the point at which water is withdrawn from the water of the state and the first screen of a mesh size <0.56" maximum opening (channel inlet pipe) is 22.8 fps.
- **Actual Intake Flow:** The actual intake flow from 2022 to 2024 is 1.25 MGD (1.93 cfs), which is equivalent to 0.2 % of the Q_{7,10}.
- **Percent Used for Cooling:** 0% used exclusively for cooling. All cooling water is recycled for other processes at the facility.
- **Nearby Intakes:** Georgia Pacific Broadway LLC, AIF= 26.4 MGD

Best professional judgment BTA determinations are made using the Department's 2020 *Guidance for Evaluating Intake Structures Using Best Professional Judgment*. For existing intake structures, the guidance advises that intakes deemed BTA should fulfill at least one of the following eight criteria:

- Each water intake structure has a maximum design intake velocity of 0.5 feet per second (fps) OR a maximum actual intake velocity of 0.5 fps, demonstrated via measured or calculated values which show the maximum intake velocity as water passes through the intake system, measured perpendicular to the opening, does not exceed 0.5 fps at any point up until the first screen of mesh size 3/8" (or equivalent) or less.
- The facility operates a closed-cycle recirculating system that only requires make-up water with > 3 cycles of concentration on at least a daily basis. Cycles of concentration can be measured as the ratio of chloride levels in the recirculated water or blowdown relative to the chloride levels in the source water, or makeup water; or the make-up water volume divided by the blowdown volume (provided there aren't other water losses); or the blowdown water conductivity divided by the make-up water conductivity.
- The facility operates an intake structure that minimizes impingement rates by nature of its location (e.g. offshore velocity cap).
- **The facility employs a system of technologies (e.g. wedge-wire screens, barrier nets; acoustic, light, or pH deterrent systems; variable speed pumps, etc.) that minimize impingement mortality rates.**
- The facility operates a modified traveling screen in an optimal manner that does not promote re-impingement or predation of returned organisms.
- The facility's intake withdraws water at > 0.25 fps less than or equal to 16% of the time.
- There is data indicating that the impingement mortality rate has been/will be reduced 80-95% compared to a once-through cooling system with 3/8" traveling screens;
- There is biological data that affirmatively demonstrates that: 1) the source water body does not include threatened or endangered species in the vicinity of the intake, and 2) there are no aquatic life and water quality problems partly or solely due to the presence or operation of the intake structure.

And at least one of the following five criteria:

- **The total water withdrawn (actual intake flow) is < 5% of the mean annual flow of the river on which the intake is located (if on a river or stream) OR** the total quantity of the water withdrawn is restricted to a level necessary to maintain the natural thermal stratification or turnover patterns (where present) except in cases where the disruption is beneficial (if on a lake or reservoir).
- The facility operates at < 8% capacity utilization rate (with pumps turned off or, if variable frequency drives exist, down substantially during periods of non-operation) or at full capacity only for portions of days during a few months or less on an annual basis. If located in a spawning area, the period of water intake operation should not correspond with times when spawning, peak egg/larval abundance, or larval recruitment is occurring (depending on species present, usually between April – October). (The facility does not operate at < 8% capacity utilization rate or at full capacity only for portions of days during a few months or less on an annual basis)
- The facility operates a closed-cycle recirculating system that only requires make-up water with > 3 cycles of concentration on at least a daily basis. Cycles of concentration can be measured as the ratio of chloride levels in the recirculated water or blowdown relative to the chloride levels in the source water, or makeup water; or the make-up water volume divided by the blowdown volume (provided there aren't other water losses); or the blowdown water conductivity divided by the make-up water conductivity. (The facility does not operate a closed-cycle recirculating system)
- The facility utilizes other means such as variable speed pumps, unit retirements, etc. to decrease entrainment rates by greater than or equal to 60% compared to a once-through cooling system with 3/8" traveling screens. Flow rate may

be used as a surrogate for entrainment rates when determining percent reduction. (The facility minimizes water usage by reusing all spent cooling water)

- There is biological data that affirmatively demonstrates that: 1) the source water body does not include threatened or endangered species in the vicinity of the intake, 2) there are no aquatic life and water quality problems partly or solely due to the presence or operation of the intake structure, and 3) the department biologist concurs that operation of the intake during periods of spawning, peak egg/larval abundance, and larval recruitment will not substantially impact populations or prey bases for the fishery. (The department biologist concurred that operation of the intake during periods of spawning, peak egg/larval abundance, and larval recruitment will not substantially impact populations or prey bases for the fishery.)

And the following criteria:

- The facility-wide design intake flow (DIF) for all water intake structures is < 2 MGD (all intake water, cooling and non-cooling, is included in the determination of whether this DIF threshold is met) OR **< 25% of the total water withdrawn is used exclusively for cooling purposes (water from a public water system, treated effluents, process water, gray water, wastewater, reclaimed water, or water used in a manufacturing process before or after it is used for cooling is not considered cooling water for the purposes of this determination).**

The facility conditionally meets the bolded criteria above. The current screening system does not currently meet the definition of a modified traveling screen as outlined in s. NR 111.03(29), however, the system's rotating screen and return pipe to the river could serve as a system of technology to minimize impingement mortality. The VFD is not considered a part of the system at this time as facility operation requires the pump to operate at full capacity. A two-year Impingement Technology Optimization Study is needed to show this system meets impingement mortality standards. Since such a study was not submitted with application materials, a schedule has been included in the permit to meet this requirement. Additional requirements for the optimization study are outlined in s. NR 111.41(5). If the study shows this system does not meet impingement mortality standards, an alternative technology will need to be selected by the facility for implementation.

Intake Screen Discharges and Removed Substances- Floating debris and accumulated trash collected on the water intake trash rack shall be removed and disposed of in a manner to prevent any pollutant from the material from entering the waters of the State pursuant to s. NR 205.07 (3) (a), Wis. Adm. Code.

Endangered Species Act- This permit does not authorize take of threatened or endangered species. Contact the state Natural Heritage Inventory (NHI) staff with inquiries regarding incidental take of state-listed threatened and endangered species and the US Fish and Wildlife Service with inquiries regarding incidental take of federally-listed threatened and endangered species.

2 Surface Water - Monitoring and Limitations

2.1 Sample Point Number: 003- Excess Intake Discharge

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Estimated	Measure flow in daily increments until operation ends and report daily flow on the eDMR.
Copper, Total Recoverable		ug/L	Quarterly	Grab	Sampling shall occur when copper is utilized for treatment.

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Hardness, Total as CaCO ₃		mg/L	Quarterly	Grab	Sample concurrently with copper.

2.1.1 Changes from Previous Permit

Effluent limitations and monitoring requirements were evaluated for this permit term and the following changes were made from the previous permit. See additional explanation of limits under “Explanation of Limits and Monitoring Requirements” below.

- **Flow-** The sample frequency for flow has been changed from quarterly for one year, to daily throughout the permit period for eDMR reporting purposes.
- **Copper-** Copper monitoring has been increased from quarterly for one year, to quarterly throughout the permit term when influent is treated with copper.
- **Hardness-** Copper criteria are dependent on hardness. As such, hardness has been added to the permit to assist in determining whether copper water quality standards are being met.

2.1.2 Explanation of Limits and Monitoring Requirements

Excess river intake water not needed for mill operations flows through the cylindrical screens described at sample point 701 and is returned to the Fox River via Outfall 003 without entering the facility’s water use stream. No limits currently apply at this sample point.

Flow- Monitoring has been included to comply with the reporting requirements of s. 283.55, Wis. Stats.

Copper- Copper is applied at the intake for zebra mussel control. Data submitted in 2008, indicated a range of 5.2-8.1 ug/L during the reported quarters. While copper criteria can differ based on hardness, the data reported is much lower than both the ATC of 30.45 ug/L and CTC of 19.7 ug/L based on an effluent hardness of 200 mg/L. Copper concentrations shall be reported in 2029 to determine compliance with water quality standards prior to the next issuance.

2.2 Sample Point Number: 010- Fire Protection

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Estimated	See permit section 2.2.2.1.
BOD5, Total		mg/L	Weekly	Grab	
BOD5, Total		lb/day	Weekly	Calculated	
Suspended Solids, Total	Daily Max	40 mg/L	Weekly	Grab	
Suspended Solids, Total		lbs/day	Weekly	Calculated	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Suspended Solids, Total		lbs/yr	Annual	Calculated	
pH Field	Daily Min	6.0 su	Weekly	Grab	
pH Field	Daily Max	9.0 su	Weekly	Grab	
Chlorine, Total Residual	Daily Max	38 ug/L	Weekly	Grab	
Dissolved Oxygen	Daily Min	5.0 mg/L	Weekly	Grab	
Phosphorus, Total		mg/L	Weekly	Grab	
Phosphorus, Total		lbs/day	Weekly	Calculated	
Phosphorus, Total		lbs/yr	Annual	Calculated	

2.2.1 Changes from Previous Permit

Effluent limitations and monitoring requirements were evaluated for this permit term and the following changes were made from the previous permit. See additional explanation of limits under “Explanation of Limits and Monitoring Requirements” below.

- The facility is now required to report parameters monitored at 010 via eDMR.
- All limits and parameters listed in the table above are new for permit issuance 08.
- Chlorine and phosphorus monitoring has been added as both additives are used by De Pere’s public drinking water system, the source water used for fire protection.

2.2.2 Explanation of Limits and Monitoring Requirements

No monitoring was required for this sample point during previous terms. For issuance 08, monitoring limits and frequencies have been set to align with the requirements outlined for hydrostatic test water and/or water system flushing in general permit WI-A057681-05-0, Operation and Maintenance of Industrial Potable and Non-potable Water Systems and Hydrostatic Testing of Petroleum Systems.

Flow- In accordance with 40 CFR Part 122.44(i)(1), to assure compliance with permit limitations, monitoring is required for the volume of effluent discharged from each outfall. Therefore, the permittee is required to estimate the flow rate being discharged through each outfall. The methods for measuring or estimating flow are based on ss. NR 218.04(15), and NR 218.05, Wis. Adm. Code.

BOD₅- Discharge is subject to Waste Load Allocated Water Quality Related Effluent Limitations as outlined in ch. NR 212, Wis. Adm. Code. Total BOD₅ discharged will be calculated at Sample Point 013 as the sum of annual masses discharged from outfalls 010 and 012.

Total Suspended Solids- Discharges may introduce suspended solids to the source water from chemicals or sediments within the water system. Therefore, the permittee shall monitor the discharge for TSS and limit the TSS concentration. The limit for TSS of 40 mg/L as a daily maximum is achievable by applying best practicable control technology currently available for these types of discharges. This established effluent limitation is based on the average of the best performance

of the treatment technologies used for these similar types of discharges. This determination was based on best professional judgment in accordance with s. NR 220.21, Wis. Adm. Code.

This discharge is also subject to limits under the Lower Fox River TMDL, approved by the U.S. EPA on May 18, 2012. Mass reported at outfall 010 will be used to determine compliance with TMDL WLAs at sample point 013.

pH- The pH is limited to the range of 6.0 to 9.0 standard units. This is consistent with the water quality standards pH range for waters classified for fish and aquatic life as defined in ch. NR 102.04(c), Wis. Adm. Code. Any water with a pH outside the range of 6.0 to 9.0 s.u. shall not be discharged directly to surface waters.

Total Residual Chlorine- TRC limits are based on acute toxicity criteria in Table 1 of s. NR 105.06, Wis. Adm. Code. Alternatively, the department may determine a daily maximum limit of 38 µg/L if the receiving water has a stream flow (7-day average flow that occurs once in 10 years) to average effluent flow greater than or equal to 2:1 or the discharge is to a lake or impoundment that does not exhibit unidirectional flow. Mixing and dilution levels currently occurring at the outfall are sufficient for the facility to be eligible for the less stringent limit of 38 ug/L. This calculation for TRC limits to high flow streams is consistent with s. NR 106.06, Wis. Adm. Code.

Dissolved Oxygen- The DO limits in this permit are based on water quality standards from surface waters classified as fish and aquatic life as specified in s. NR 102.04(4)(a) and (b), Wis. Adm. Code.

Total Phosphorus- Total phosphorus monitoring was added to permit to assess the levels of phosphorus in source waters that have phosphorus containing additives to determine if there is reasonable potential to exceed phosphorus water quality standards in chs. NR 102 and NR 217, Wis. Adm. Code.

This discharge is also subject to limits under the Lower Fox River TMDL, approved by the U.S. EPA on May 18, 2012. Mass reported at outfall 010 will be used to determine compliance with TMDL WLAs at sample point 013.

2.3 Sample Point Number: 011- Flood Water Dewatering

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Per Occurrence	Calculated	

2.3.1 Changes from Previous Permit

Outfall 011 has been moved from general permit WI-0049344-05, Dewatering Operations, to this individual permit. Effluent limitations and monitoring requirements have been evaluated for this issuance and the following changes were made from the previous permit. See additional explanation of limits under “Explanation of Limits and Monitoring Requirements” below.

- The facility is now required to report parameters monitored at 011 via eDMR.

2.3.2 Explanation of Limits and Monitoring Requirements

Permit narrative requirements have been set to align with the requirements for dewatering operations outlined in general permit WI-0049344-05.

Flow- Monitoring has been included to ensure compliance with the reporting requirements of s. 283.55, Wis. Stats.

2.4 Sample Point Number: 012- Low-Impact Building Wash Water

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Once	Estimated	
BOD5, Total	Daily Max	30 mg/L	Once	Grab	
BOD5, Total		lb/day	Once	Calculated	
Suspended Solids, Total	Daily Max	40 mg/L	Once	Grab	
Suspended Solids, Total		lb/day	Once	Calculated	
Suspended Solids, Total		lbs/yr	Annual	Calculated	
pH Field	Daily Min	6.0 su	Once	Grab	
pH Field	Daily Max	9.0 su	Once	Grab	
Chlorine, Total Residual	Daily Max	38 ug/L	Once	Grab	
Phosphorus, Total		mg/L	Once	Grab	
Phosphorus, Total		lbs/day	Once	Calculated	
Phosphorus, Total		lbs/yr	Annual	Calculated	

2.4.1 Changes from Previous Permit

Outfall 012 has been moved from general permit WI-0066575-01-0, Low-Impact Discharge, to this individual permit. Effluent limitations and monitoring requirements have been evaluated for this issuance and the following changes were made from the previous permit. See additional explanation of limits under “Explanation of Limits and Monitoring Requirements” below.

- The facility is now required to report parameters monitored at 012 via eDMR.
- All limits and parameters listed in the table above are new for permit issuance 08.

2.4.2 Explanation of Limits and Monitoring Requirements

Permit narrative requirements have been set to align with the requirements of general permit WI-0066575-01-0 for similar types of discharge.

Flow- Monitoring has been included to ensure compliance with permit limitations and reporting requirements of s. 283.5, Wis. Stats.

BOD₅- The effluent limitation of 30 mg/L is achievable by applying best technology-based performance standards achievable. This established effluent level is based on the secondary treatment standards for municipal wastewater

treatment facilities in s. NR 210.05(1)(a), Wis. Adm. Code for discharges to fish and aquatic life waters. This determination was based on best professional judgment in accordance with s. NR 220.21, Wis. Adm. Code.

Mass reported at outfall 012 will be used to determine compliance with ch. NR 212, Wis. Adm. Code, Waste Load Allocations (WLA) at sample point 013.

Total Suspended Solids- The effluent limitation of 40 mg/L is achievable by applying best practicable control technology currently available for these types of discharges. This established effluent limit is based on the average of the best performance of typical treatment technologies used for TSS removal. This determination was based on best professional judgment in accordance with s. NR 220.21, Wis. Adm. Code.

This discharge is also subject to limits under the Lower Fox River TMDL, approved by the U.S. EPA on May 18, 2012. Mass reported at outfall 012 will be used to determine compliance with TMDL WLAs at sample point 013.

pH- The pH is limited to the range of 6.0 to 9.0 standard units. This is consistent with the water quality standards pH range for waters classified for fish and aquatic life as defined in ch. NR 102.04(c), Wis. Adm. Code. Any water with a pH outside the range of 6.0 to 9.0 s.u. shall not be discharged directly to surface waters.

Total Residual Chlorine- TRC limits are based on acute toxicity criteria in Table 1 of s. NR 105.06, Wis. Adm. Code. Alternatively, the department may determine a daily maximum limit of 38 µg/L if the receiving water has a stream flow (7-day average flow that occurs once in 10 years) to average effluent flow greater than or equal to 2:1 or the discharge is to a lake or impoundment that does not exhibit unidirectional flow. Mixing and dilution levels currently occurring at the outfall are sufficient for the facility to be eligible for the less stringent limit of 38 ug/L. This calculation for TRC limits to high flow streams is consistent with s. NR 106.06, Wis. Adm. Code.

The permittee shall not add chlorine or chlorine-based additives to the water as this addition will more than likely require treatment to meet chlorine limits if discharging to surface water.

Phosphorus- This discharge is subject to limits under the Lower Fox River TMDL, approved by the U.S. EPA on May 18, 2012. Mass reported at outfall 012 will be used to determine compliance with TMDL WLAs at sample point 013.

2.5 Sample Point Number: 013 – 010 & 012 Combined Load

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
WLA Previous Day River Flow		cfs	Daily	Gauge Station	Monitoring Only - May 1 through October 31.
WLA Previous 4 Day Avg River Flow		cfs	Daily	Calculated	Monitoring Only - May 1 through October 31.
WLA Previous Day River Temp		deg F	Daily	Measure	Monitoring Only - May 1 through October 31.
WLA BOD ₅ Value		lbs/day	Daily	See Table	May 1 through October 31. Use the "WLA Previous Day River Temp" and "WLA Previous 4-day Avg River Flow" to look up the "WLA BOD ₅ Value" (allocation) from Tables 1 - 5 in permit section 2.2.5.1.

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
WLA Adjusted Value		lbs/day	Daily	Calculated	May 1 through October 31. Multiply the "WLA BOD ₅ Value" times 1.20.
WLA BOD ₅ Discharged	Daily Max - Variable	lbs/day	Daily	Calculated	May 1 through October 31. Enter the daily mass of BOD ₅ discharged from Outfall 011. Compare to "WLA Adjusted Value" to determine compliance.
WLA 7 Day Sum Of WLA Values		lbs/day	Daily	Calculated	May 1 through October 31. Enter the sum of the "WLA BOD ₅ Value" for each 7-consecutive-day period.
WLA 7 Day Sum Of BOD ₅ Discharged	Daily Max - Variable	lbs/day	Daily	Calculated	May 1 through October 31. Enter the sum of the "WLA BOD ₅ Discharged" for each 7-consecutive-day period. Compare to the "WLA 7 Day Sum of WLA Values" to determine compliance.
Suspended Solids, Total	Annual Total	29,003 lbs/yr	Annual	Calculated	
Phosphorus, Total	Annual Total	313 lbs/yr	Annual	Calculated	

2.5.1 Changes from Previous Permit

Compliance with WLAs was previously determined at Sample Point 008. Since the outfalls covered under 008 have been removed from the permit and new outfalls have been added, 008 has been removed from the permit and a new Sample Point has been created to track the total mass discharged from the newly added outfalls.

2.5.2 Explanation of Limits and Monitoring Requirements

BOD₅- Wasteload allocated effluent limitations for BOD₅ remain the same from the previous issuance. The limitations were derived using ch. NR 212, Wis. Adm. Code, and a baseline load of 3,449 pounds per day.

Total Suspended Solids and Phosphorus TMDL Limits- Revisions to the administrative rules for phosphorus discharges took effect on December 1, 2010. These rule revisions include additions to ch. NR 102 (s. NR 102.05), which establish phosphorus standards for surface waters. Revisions to ch. NR 217 (s. NR 217, Subchapter III) establish procedures for determining water quality based effluent limits for phosphorus, based on the applicable standards in ch. NR 102.

Section NR 217.16, Wis. Adm. Code, states that the Department may include a TMDL-derived water quality based effluent limit (WQBEL) for phosphorus in addition to, or in lieu of, a s. NR 217.13 WQBEL in a WPDES permit. Because the discharge is directly to the Fox River which is an impaired segment covered under an approved TMDL, the

TMDL-based limit is protective of the immediate receiving water as well as downstream waters and can be included in the WPDES permit absent the s. NR 217.13 WQBEL. This limit should be expressed in a manner consistent with the wasteload allocation and assumptions of the TMDL. If after two permit terms, the Department determines the nonpoint source load allocation has not been substantially reduced, the Department may include the s. NR 217.13 WQBEL unless these reductions are likely to occur.

Total phosphorus (TP) effluent limits in lbs/day are calculated as recommended in the *TMDL Development and Implementation Guidance: Integrating the WPDES and Impaired Waters Programs* (April 2020) and are based on the annual phosphorus wasteload allocation (WLA) given in pounds per year. This WLA found in the *Total Maximum Daily Loads and Watershed Management Plan for Total Phosphorus and Total Phosphorus and Total Suspended Solids in the Lower Fox River Basin and Lower Green Bay (LFR TMDL)* report dated March 2012 are expressed as maximum annual loads (lbs/year).

The Lower Fox River TMDL also has wasteload allocations for total suspended solids (TSS). Because the facility discharges from the outfalls subject to TMDL limits at irregular intervals, limits for TSS and TP are expressed as annual totals.

3 Schedules

3.1 Impingement Technology Performance Optimization Study

The permittee shall notify the department in writing of its compliance or noncompliance with the interim or final requirements of schedules no later than 14 days following each interim date and the final date of compliance, in accordance with s. NR 106.117(3)(f), Wis. Adm. Code.

Required Action	Due Date
Impingement Technology Performance Optimization Study Plan: The permittee shall submit a study plan for the Impingement Technology Performance Optimization Study required in order to comply with the facility's chosen Impingement Mortality Standard specified in s. NR 111.12 (1)(a)(6), Wis. Adm. Code (system of technologies). The study shall be designed to meet all requirements outlined in s. NR 111.41(5)(b), Wis. Adm. Code. If the study does not meet the requirements of code or the department determines that the terms and conditions of this permit need to be updated in order for the facility to comply with impingement mortality standards, the department may modify or revoke and reissue this permit. The study must also contain an analysis of the use of fine mesh screens as an alternative compliance method for Impingement Mortality Standards.	12/31/2026
Commence Impingement Reduction Verification Sampling: The permittee shall commence the study in accordance with the approved study plans by the listed date.	07/01/2027
Optimization Study Progress Report 1: The permittee shall submit a progress report to the department outlining which portions of the study have been completed and data that has been collected thus far.	07/01/2028
Optimization Study Progress Report 2: The permittee shall submit a progress report to the department outlining which portions of the study have been completed and data that has been collected thus far.	07/01/2029
Final Report: The permittee shall submit the final Impingement Technology Performance Optimization Study to the department. The final report shall meet all requirements outlined in s. NR 111.41(5)(b), Wis. Adm. Code.	06/30/2030

3.1.1 Explanation of Schedule

Impingement Technology Performance Optimization study required for approval of water intake structure.

Attachments

None.

Justification Of Any Waivers From Permit Application Requirements

No waivers requested or granted as part of this permit reissuance.

Prepared By: Amanda Perdsock, Wastewater Specialist

Date: November 10, 2025