

Permit Fact Sheet

General Information

Permit Number	WI-0028053-11-0
Permittee Name and Address	Allenton Sanitary District PO Box 293, Allenton, WI 53002
Permitted Facility Name and Address	Allenton Sanitary District WWTP 750 State Highway 33
Permit Term	January 01, 2026 to December 31, 2030
Discharge Location	West bank of East Branch Rock River, approximately ¼ mile north of the Highway 33 bridge (Lat: 43.42339° N, Long: -88.34929°W)
Receiving Water	East Branch Rock River (Upper Rock River Watershed, Upper Rock River Basin) in Washington County
Stream Flow (Q _{7,10})	1.3 cfs
Stream Classification	Warm water sport fish community, non-public water supply
Discharge Type	Existing, continuous
Annual Average Design Flow (MGD)	0.352 MGD
Industrial or Commercial Contributors	Maysteel Industries LLC
Plant Classification	Advanced; A1 - Suspended Growth Processes; B - Solids Separation; C - Biological Solids/Sludges; P - Total Phosphorus; D - Disinfection; SS - Sanitary Sewage Collection System
Approved Pretreatment Program?	N/A

Facility Description

Allenton Sanitary District wastewater treatment plant includes a mechanical bar screen, grit removal, extended aeration activated sludge treatment, final clarification, seasonal disinfection with ultraviolet light, and reaeration via forced air and cascade steps. Alum is added to the aeration tank influent box for phosphorus removal. Waste sludge from the clarifier is aerobically digested and stored in a 300,000-gallon tank providing over one year of storage at current flows. Due to elevated level of PFOA and PFOS found in the liquid sludge from testing in 2024, sludge is no longer land applied or accepted by another WPDES permitted entity. Instead, a contractor is hired on an annual basis to mobilize on site and dewater liquid sludge from the storage tank into a cake sludge using a belt press and a polymer before final transport to a licensed landfill in Rockford, IL. Sludge monitoring for approval of landfiling or other methods of disposal occurs prior to belt filter activities. All liquid sidestreams from this process are recycled back to the head of the plant for continued

treatment. Since Allenton does not have a its own sludge press and is set up for liquid sludge only, permanent cake sludge storage is not available at the facility.

Substantial Compliance Determination

Enforcement During Last Permit: No formal enforcement actions were taken during the last permit term.

After a desk top review of all discharge monitoring reports, CMARs, land application reports, and a site visit on October 16, 2024, this facility has been found to be in substantial compliance with their current permit.

Compliance determination made by Nick Lent, Wastewater Compliance Engineer, on November 3, 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	0.13 MGD, February 2020- January 2025	INFLUENT: 24-hour flow proportional composite samples shall be taken in the pipe leading from the grit removal system where the pipe enters the package plant, prior to the aeration basin. Flow is measured at the headworks after grit removal.
001	0.11 MGD, February 2020- January 2025	EFFLUENT: 24-hour flow proportional composite samples shall be collected after the effluent exits the package plant and before UV disinfection. Grab samples shall be collected at the bottom of the cascade steps after UV disinfection. Flow shall be monitored at the v-notch weir before entering the UV disinfection chamber.
002	226,900 gallons/year, 2021-23	LIQUID SLUDGE: Aerobically digested, Class B, Liquid sludge. Representative sludge samples shall be collected at the sample tap of the sludge storage tank after mixing, prior to hauling. Test results shall be reported on Form 3400-49 'Waste Characteristics Report'. Hauled sludge reports shall be submitted on Form 3400-52 'Other Methods of Disposal or Distribution Report' following each year that the sludge is hauled.
003	254 tons/year, 2024-2025	CAKE SLUDGE: Sludge samples shall be collected prior to hauling and test results shall be reported on Form 3400-49 'Waste Characteristics Report'. Hauled sludge reports shall be submitted on Form 3400-52 'Other Methods of Disposal or Distribution Report' following each year that the sludge is hauled.

Permit Requirements

1 Influent – Monitoring Requirements

1.1 Sample Point Number: 701- INFLUENT TO PLANT

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD5, Total		mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	3/Week	24-Hr Flow Prop Comp	

1.1.1 Changes from Previous Permit:

Influent limitations and monitoring requirements were evaluated for this permit term and no changes were required in this permit section.

1.1.2 Explanation of Limits and Monitoring Requirements

Monitoring of influent flow, BOD5 and total suspended solids is required by s. NR 210.04(2), Wis. Adm. Code, to assess wastewater strengths and volumes and to demonstrate the percent removal requirements in s. NR 210.05, Wis. Adm. Code, and in the Standard Requirements section of the permit.

2 Surface Water - Monitoring and Limitations

2.1 Sample Point Number: 001- EFFLUENT

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD5, Total	Weekly Avg	24 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective November through April.
BOD5, Total	Weekly Avg	15 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective May through October.
BOD5, Total	Monthly Avg	24 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective November through April.
BOD5, Total	Monthly Avg	15 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective May through October.
BOD5, Total	Weekly Avg	70.4 lbs/day	3/Week	Calculated	Limit effective November through April.
BOD5, Total	Weekly Avg	44 lbs/day	3/Week	Calculated	Limit effective May through October.

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Suspended Solids, Total	Weekly Avg	24 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective November through April.
Suspended Solids, Total	Weekly Avg	20 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective May through October.
Suspended Solids, Total	Monthly Avg	24 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective November through April.
Suspended Solids, Total	Monthly Avg	20 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective May through October.
Suspended Solids, Total	Weekly Avg	70.4 lbs/day	3/Week	Calculated	Limit effective November through April.
Suspended Solids, Total	Weekly Avg	58.7 lbs/day	3/Week	Calculated	Limit effective May through October.
pH Field	Daily Min	6.0 su	Daily	Grab	
pH Field	Daily Max	9.0 su	Daily	Grab	
Dissolved Oxygen	Daily Min	6.0 mg/L	Daily	Grab	
Nitrogen, Ammonia (NH3-N) Total	Daily Max	6.4 mg/L	3/Week	24-Hr Flow Prop Comp	
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	6.4 mg/L	3/Week	24-Hr Flow Prop Comp	
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	6.4 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective November through March.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	4.5 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective April through October.
E. coli	Geometric Mean - Monthly	126 #/100 ml	Weekly	Grab	Limit effective May through September.
E. coli	% Exceedance	10 Percent	Monthly	Calculated	Limit effective May through September. See the E. coli Percent Limit section in permit. Enter the result in the DMR on the last day of the month.
Phosphorus, Total	Monthly Avg	1.0 mg/L	2/Week	24-Hr Flow Prop Comp	TBEL.
Phosphorus, Total	Monthly Avg	6.48 lbs/day	2/Week	Calculated	Limit effective January.
Phosphorus, Total	Monthly Avg	5.60 lbs/day	2/Week	Calculated	Limit effective February.

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Phosphorus, Total	Monthly Avg	3.89 lbs/day	2/Week	Calculated	Limit effective March.
Phosphorus, Total	Monthly Avg	2.55 lbs/day	2/Week	Calculated	Limit effective April.
Phosphorus, Total	Monthly Avg	2.79 lbs/day	2/Week	Calculated	Limit effective May.
Phosphorus, Total	Monthly Avg	4.42 lbs/day	2/Week	Calculated	Limit effective June.
Phosphorus, Total	Monthly Avg	4.52 lbs/day	2/Week	Calculated	Limit effective July.
Phosphorus, Total	Monthly Avg	4.63 lbs/day	2/Week	Calculated	Limit effective August.
Phosphorus, Total	Monthly Avg	4.08 lbs/day	2/Week	Calculated	Limit effective September.
Phosphorus, Total	Monthly Avg	4.26 lbs/day	2/Week	Calculated	Limit effective October.
Phosphorus, Total	Monthly Avg	4.98 lbs/day	2/Week	Calculated	Limit effective November.
Phosphorus, Total	Monthly Avg	5.67 lbs/day	2/Week	Calculated	Limit effective December.
Chloride		mg/L	Monthly	24-Hr Flow Prop Comp	Monitoring only 2029.
Temperature Maximum		deg F	3/Week	Continuous	Monitoring only 2029.
PFOS		ng/L	1/ 2 Months	Grab	Monitoring only. See PFOS/PFOA Minimization Plan Determination of Need schedule.
PFOA		ng/L	1/ 2 Months	Grab	Monitoring only. See PFOS/PFOA Minimization Plan Determination of Need schedule.
Nitrogen, Total Kjeldahl		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual in rotating quarters. See Nitrogen Series Monitoring permit section.
Nitrogen, Nitrite + Nitrate Total		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual in rotating quarters. See Nitrogen Series Monitoring permit section.
Nitrogen, Total		mg/L	See Listed Qtr(s)	Calculated	Annual in rotating quarters. See Nitrogen Series Monitoring permit section. Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen.

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Acute WET		TUa	See Listed Qtr(s)	24-Hr Flow Prop Comp	See "WET" section in permit.
Chronic WET	Monthly Avg	1.6 TUc	See Listed Qtr(s)	24-Hr Flow Prop Comp	See "WET" section in permit.

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.

- **Chloride-** Sample frequency for single year of data during the permit term has been changed from 4/month to monthly.
- **Temperature-** Temperature monitoring is required 3 times a week, aligning with requirements from permit issuance - 09
- **PFOS and PFOA-** Bimonthly monitoring has been added for the permit term.
- **Acute WET-** Acute WET testing is required twice during the permit term.

2.1.2 Explanation of Limits and Monitoring Requirements

Detailed discussions of limits and monitoring requirements can be found in the attached water quality-based effluent limits (WQBEL) memo dated April 07, 2025.

Monitoring Frequencies- The Monitoring Frequencies for Individual Wastewater Permits guidance (April 12, 2021) recommends that standard monitoring frequencies be included in individual wastewater permits based on the size and type of the facility, in order to characterize effluent quality and variability, to detect events of noncompliance, and to ensure consistency in permits issued across the state. Guidance and requirements in administrative code were considered when determining the appropriate monitoring frequencies for pollutants that have final effluent limits in effect during this permit term.

Expression of Limits- In accordance with the federal regulation 40 CFR 122.45(d) and s. NR 205.065, Wis. Adm. Code, limits in this permit are to be expressed as weekly average and monthly average limits whenever practicable.

PFOS and PFOA- NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. At the first reissuance of a WPDES permit after August 1, 2022, the new rule requires WPDES permits for municipal dischargers with an average flow rate less than 1 MGD, to be evaluated on a case-by-case basis to determine if monitoring is required pursuant to s. NR 106.98(2)(c), Wis. Adm. Code. The department evaluated the need for PFOS and PFOA monitoring taking into consideration the presence of potential PFOS or PFOA industrial wastes, remediation sites and other potential sources of PFOS or PFOA.

Based on information available at the time the proposed permit was drafted, it was identified that the POTW has an indirect discharger(s) that may be a potential source of PFOS/PFOA and previous PFOS/PFOA sample results were within 1/5 of the PFOS or PFOA standards under s. NR 102.04(8)(d)1, Wis. Adm. Code. Therefore, monitoring once every two months is included. A sample frequency of 1/2 months means one sample is taken during any two-month period. Examples of 1/2 month sample would be every other month (Jan, March, May, etc.) or back-to-back months with a break in between (February & March, May & June, Aug & Sept, etc.). DMR Short Forms will be generated for the

following time periods: January-February, March-April, May-June, July-August, September-October, and November-December. At a minimum one sample result will be present on each form.

The initial determination of the need for sampling shall be conducted for up to two years in order to determine if the permitted discharge has the reasonable potential to cause or contribute to an exceedance of the PFOS or PFOA standards under s. NR 102.04(8)(d)1, Wis. Adm. Code.

3 Land Application - Monitoring and Limitations

Municipal Sludge Description						
Sample Point	Sludge Class (A or B)	Sludge Type (Liquid or Cake)	Pathogen Reduction Method	Vector Attraction Method	Reuse Option	Amount Reused/Disposed (Dry Tons/Year)
002	B	Liquid	Fecal Coliform	Injection/Incorporation	Landfill	226,900 gallons/year 2021-23
003	B	Cake	Fecal Coliform	Injection/Incorporation	Landfill	254 tons/year 2024-2025
Does sludge management demonstrate compliance? Yes						
Is additional sludge storage required? No						
Is Radium-226 present in the water supply at a level greater than 2 pCi/liter? Yes. Allenton Sanitary District had a radium level of 2.9 pCi/liter on 08/22/2024, and a result of 2.2 on 02/02/2021. If yes, special monitoring and recycling conditions will be included in the permit to track any potential problems in land applying sludge from this facility						
Is a priority pollutant scan required? No. Priority pollutant scans are required once every 10 years at facilities with design flows between 5 MGD and 40 MGD, and once every 5 years if design flow is greater than 40 MGD.						

3.1 Sample Point Number: 002- Liquid Sludge and 003- Cake Sludge

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Solids, Total		Percent	Annual	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Annual	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Annual	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Annual	Composite	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Copper Dry Wt	Ceiling	4,300 mg/kg	Annual	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Annual	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Annual	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Annual	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Annual	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Annual	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Annual	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Annual	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Annual	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Annual	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Annual	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Annual	Composite	
Nitrogen, Total Kjeldahl		Percent	Annual	Composite	
Nitrogen, Ammonium (NH ₄ -N) Total		Percent	Annual	Composite	
Phosphorus, Total		Percent	Annual	Composite	
Phosphorus, Water Extractable		% of Tot P	Annual	Composite	
Potassium, Total Recoverable		Percent	Annual	Composite	
Radium 226 Dry Wt		pCi/g	Annual	Composite	
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	Once in 2029.
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	Once in 2029.
PFOA + PFOS		ug/kg	Annual	Calculated	Report the sum of PFOA and PFOS. See PFAS Permit Sections for more information.
PFAS Dry Wt			Annual	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
					Permit Sections for more information.

3.1.1 Changes from Previous Permit:

Sludge 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.

Sample Point 003- Sample point 003 has been added to the permit for cake sludge.

Sample Type- The sample type for previously required parameters has been changed from grab to composite to ensure representative data is collected.

Radium 226- Monitoring for Radium 226 has been added to the permit due to elevated levels in source water for facility service area.

PFAS- Monitoring is required annually pursuant to s. NR 204.06(2)(b)9., Wis. Adm. Code.

3.1.2 Explanation of Limits and Monitoring Requirements

Requirements for disposal, including land application of municipal sludge, are determined in accordance with ch. NR 204, Wis. Adm. Code. Ceiling and high-quality limits for metals in sludge are specified in s. NR 204.07(5). Requirements for pathogens are specified in s. NR 204.07(6) and in s. NR 204.07 (7) for vector attraction requirements. Limitations for PCBs are addressed in s. NR 204.07(3)(k). Radium requirements are addressed in s. NR 204.07(3)(n).

PFAS- The presence and fate of PFAS in municipal and industrial sludges is an emerging public health concern. EPA has developed a draft risk assessment to determine future land application rates and released this risk assessment in January of 2025. The department is evaluating this new information. Until a decision is made, the “Interim Strategy for Land Application of Biosolids and Industrial Sludges Containing PFAS” should be followed

Collecting sludge data on PFAS concentrations from a wide range of wastewater treatment facilities will help protect public health from exposure to elevated levels of PFAS and determine the department’s implementation of EPA’s recommendations. To quantitate this risk, PFAS sampling has been included in this WPDES permit pursuant to ss. NR 214.18(5)(b) and NR 204.06(2)(b)9., Wis. Adm. Code.

4 Schedules

4.1 PFOS/PFOA Minimization Plan Determination of Need

Required Action	Due Date
Report on Effluent Discharge: Submit a report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations. This analysis should also include a comparison to the applicable narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code.	12/31/2026

This report shall include all additional PFOS and PFOA data that may be collected including any influent, intake, in-plant, collection system sampling, and blank sample results.	
Report on Effluent Discharge and Evaluation of Need: Submit a final report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations of data collected over the last 24 months. The report shall also provide a comparison on the likelihood of the facility needing to develop a PFOS/PFOA minimization plan. This report shall include all additional PFOS and PFOA data that may be collected including any influent, intake, in-plant, collection system sampling, and blank sample results. The permittee shall also submit a request to the department to evaluate the need for a PFOS/PFOA minimization plan. If the Department determines a PFOS/PFOA minimization plan is needed based on a reasonable potential evaluation, the permittee will be required to develop a minimization plan for Department approval no later than 90 days after written notification was sent from the Department. The Department will modify or revoke and reissue the permit to include PFOS/PFOA minimization plan reporting requirements along with a schedule of compliance to meet WQBELs. Effluent monitoring of PFOS and PFOA shall continue as specified in the permit until the modified permit is issued. If, however, the Department determines there is no reasonable potential for the facility to discharge PFOS or PFOA above the narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code, no further action is required and effluent monitoring of PFOS and PFOA shall continue as specified in the permit.	12/31/2027

4.1.1 Explanation of Schedule

As stated above, ch. NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. Section NR 106.98, Wis. Adm. Code, specifies steps to generate data in order to determine the need for reducing PFOS and PFOA in the discharge. Data generated per the effluent monitoring requirements will be used to determine the need for developing a PFOS/PFOA minimization plan. As part of the schedule, the permittee is required to submit two annual Reports on Effluent Discharge.

If the Department determines that a minimization plan is needed, the permit will be modified or revoked/reissued to include additional requirements.

4.2 Sludge Management Plan

A management plan is required for the land application system.

Required Action	Due Date
Sludge Management Plan Submittal: Submit a sludge management plan to optimize the land application system performance and demonstrate compliance with ch. NR 204, Wis. Adm. Code, by the Due Date. This management plan shall 1) specify information on pretreatment processes (if any); 2) identify land application sites; 3) describe site limitations; 4) address vegetative cover management and removal; 5) specify availability of storage; 6) describe the type of transporting and spreading vehicle(s); 7) specify monitoring procedures; 8) track site loading; 9) address contingency plans for adverse weather and odor/nuisance abatement; and 10) include any other pertinent information including hauling and other disposal details. Once approved, all sludge management activities shall be conducted in accordance with the plan. Any changes to the plan must be approved by the Department prior to implementing the changes.	60 days prior to Land Application

4.2.1 Explanation of Schedule

If the facility chooses to land apply sludge, an up-to-date Sludge Management Plan is required that documents how the permittee will manage the land application of biosolids consistent with ch. NR 204, Wis. Adm. Code, 60 days prior to the application of sludge.

Attachments

Water Quality-Based Effluent Limitations for Allenton Sanitary District WPDES Permit No. WI-0028053-11, April 7, 2025.

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 21, 2025

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: 04/07/2025

TO: Bryan Hartsook – SER

FROM: Nicole Krueger – SER *Nicole Krueger*

SUBJECT: Water Quality-Based Effluent Limitations for Allenton Sanitary District
WPDES Permit No. WI-0028053-11

This is in response to your request for an evaluation of the need for water quality-based effluent limitations (WQBELs) using Chapters NR 102, 104, 105, 106, 207, 210, 212, and 217 of the Wisconsin Administrative Code (where applicable), for the discharge from the Allenton Sanitary District in Washington County. This municipal wastewater treatment facility (WWTF) discharges to the East Branch of the Rock River, located in the Upper Rock River Watershed in the Rock River Basin. This discharge is included in the Rock River Total Maximum Daily Load (TMDL) as approved by EPA on 09/28/2011.

The evaluation of the permit recommendations is discussed in more detail in the attached report.

Based on our review, the following recommendations are made on a chemical-specific basis at Outfall 001:

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	Six-Month Average	Footnotes
Flow Rate						1,2
BOD ₅ November – April May – October			24 mg/L 70.4 lbs/day 15 mg/L 44 lbs/day	24 mg/L 15 mg/L		1,3
TSS November – April May – October			24 mg/L 70.4 lbs/day 20 mg/L 58.7 lbs/day	24 mg/L 20 mg/L		1,3
pH	9.0 s.u.	6.0 s.u.				1
Dissolved Oxygen		6.0 mg/L				1
Ammonia Nitrogen April – October November – March	6.4 mg/L 6.4 mg/L		6.4 mg/L 6.4 mg/L	4.5 mg/L 6.4 mg/L		3
<i>E. coli</i>				126 #/100 mL geometric mean		4
Phosphorus TBEL TMDL				1.0 mg/L Table		5
Chloride						6
Temperature						2
PFOS and PFOA						7
TKN, Nitrate+Nitrite, and Total Nitrogen						8
Acute WET						9,10

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	Six-Month Average	Footnotes
Chronic WET				1.6 TUC		9,10

Footnotes:

1. No changes from the current permit.
2. Monitoring only.
3. Additional limits to comply with the expression of limits requirements in ss. NR 106.07 and NR 205.065(7), Wis. Adm. Codes, are included in bold.
4. Bacteria limits apply during the disinfection season of May through September. Additional final limit: No more than 10 percent of *E. coli* bacteria samples collected in any calendar month may exceed 410 count/100 mL.
5. The phosphorus mass limits below are based on the Total Maximum Daily Load (TMDL) for the Rock River Basin to address phosphorus water quality impairments within the TMDL area.

Month	Monthly Average TP Effluent Limit lbs/day
January	6.48
February	5.60
March	3.89
April	2.55
May	2.79
June	4.42
July	4.52
August	4.63
September	4.08
October	4.26
November	4.98
December	5.67

6. Monitoring at a frequency to ensure that 11 samples are available at the next permit issuance.
7. PFOS and PFOA monitoring is recommended at a frequency of once every two months in accordance with s. NR 106.98(2), Wis. Adm. Code.
8. As recommended in the Department's October 1, 2019 Guidance for Total Nitrogen Monitoring in Wastewater Permits, annual total nitrogen monitoring is recommended for all minor municipal permittees. Total Nitrogen is the sum of nitrate (NO₃), nitrite (NO₂), and total Kjeldahl nitrogen (TKN) (all expressed as N).
9. The Instream Waste Concentration (IWC) to assess chronic test results is 63%. According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), chronic testing shall be performed using a dilution series of 100%, 75%, 50%, 25% & 12.5%. The primary control water used in chronic WET tests conducted on Outfall 001 shall be a grab sample collected from the East Branch Rock River.
10. Sampling WET concurrently with any chemical-specific toxic substances is recommended. Tests should be done in rotating quarters, to collect seasonal information about this discharge. Testing should continue after the permit expiration date (until the permit is reissued).

Please consult the attached report for details regarding the above recommendations. If there are any questions or comments, please contact Nicole Krueger at Nicole.Krueger@wisconsin.gov or Diane Figiel at Diane.Figiel@wisconsin.gov.

Attachments (4) – Narrative, Outfall Map, 2020 Ammonia Limits, & Thermal Table

PREPARED BY: Nicole Krueger, Water Resources Engineer – SER

E-cc: Nick Lent, Wastewater Engineer – SER
Bryan Hartsook, Regional Wastewater Supervisor – SER
Diane Figiel, Water Resources Engineer – WY/3
Nate Willis, Wastewater Engineer – WY/3

Attachment #1
**Water Quality-Based Effluent Limitations for
Allenton Sanitary District**

WPDES Permit No. WI-0028053-11

Prepared by: Nicole Krueger

PART 1 – BACKGROUND INFORMATION

Facility Description

Allenton Sanitary District wastewater treatment plant includes a mechanical bar screen, grit removal, extended aeration activated sludge treatment, final clarification, seasonal disinfection with ultraviolet light, and reaeration via forced air and cascade steps. Alum is added to the aeration tank influent box for phosphorus removal. Waste sludge from the clarifier is aerobically digested and stored in a 300,000 gallon tank prior to land application onto Department approved agricultural fields.

Attachment #2 is a map of the area showing the approximate location of Outfall 001.

Existing Permit Limitations

The current permit, expiring on 09/30/2025, includes the following effluent limitations and monitoring requirements.

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	Six-Month Average	Footnotes
Flow Rate						1
BOD ₅						2,3
November – April			24 mg/L 70.4 lbs/day	24 mg/L		
May – October			15 mg/L 44 lbs/day	15 mg/L		
TSS						3
November – April			24 mg/L 70.4 lbs/day	24 mg/L		
May – October			20 mg/L 58.7 lbs/day	20 mg/L		
pH	9.0 s.u.	6.0 s.u.				2
Dissolved Oxygen		6.0 mg/L				2
Ammonia Nitrogen						3
April – October	6.4 mg/L		6.4 mg/L	4.5 mg/L		
November – March	6.4 mg/L		6.4 mg/L	6.4 mg/L		
<i>E. coli</i>				126 #/100 mL geometric mean		4
Phosphorus						5
TBEL				1.0 mg/L		
TMDL				Table		
Chloride						1

Attachment #1

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	Six-Month Average	Footnotes
TKN, Nitrate+Nitrite, and Total Nitrogen						1
Chronic WET				1.6 TUc		6

Footnotes:

1. Monitoring only.
2. These limitations are not being evaluated as part of this review. Because the water quality criteria (WQC), reference effluent flow rates, and receiving water characteristics have not changed, limitations for these water quality characteristics do not need to be re-evaluated at this time.
3. Additional limits to comply with the expression of limits requirements in ss. NR 106.07 and NR 205.065(7), Wis. Adm. Codes, are included in bold.
4. Bacteria limits apply during the disinfection season of May through September. Additional final limit: No more than 10 percent of *E. coli* bacteria samples collected in any calendar month may exceed 410 count/100 mL.
5. The table below shows the Rock River TMDL-based limits for phosphorus:

Month	Monthly Average TP Effluent Limit lbs/day
January	6.48
February	5.60
March	3.89
April	2.55
May	2.79
June	4.42
July	4.52
August	4.63
September	4.08
October	4.26
November	4.98
December	5.67

6. Chronic WET testing is required 1x/year. The IWC for chronic WET was 63%.

Receiving Water Information

- Name: East Branch of the Rock River
- Waterbody Identification Code (WBIC): 861400
- Classification used in accordance with chs. NR 102 and 104, Wis. Adm. Code: Warm water sport fish community, non-public water supply.
- Low flows used in accordance with chs. NR 106 and 217, Wis. Adm. Code: The following 7-Q₁₀ and 7-Q₂ values are from USGS for Station UR16, approximately 0.3 miles south of where Outfall 001 is located.
 - 7-Q₁₀ = 1.30 cfs (cubic feet per second)
 - 7-Q₂ = 2.30 cfs
 - 90-Q₁₀ = 1.96 cfs
 - Harmonic Mean Flow = 6.3 cfs using a drainage area of 30 mi²

Attachment #1

The Harmonic Mean has been estimated based on average flow and the 7-Q10 using an equation from U.S. EPA's *Technical Support Document for Water Quality-Based Toxics Control* (March 1991, EPA/505/2-90-001, pgs. 88-89).

- Hardness = 371 mg/L as CaCO₃. This value represents the geometric mean of data from chronic WET testing form 07/30/2019 – 02/21/2023 (n=4).
- % of low flow used to calculate limits in accordance with s. NR 106.06(4)(c)5., Wis. Adm. Code: 25%
- Source of background concentration data: Metals data from the East Branch of the Rock River approximately 30 feet upstream of the outfall is used for this evaluation. The numerical values are shown in the tables below. If no data is available, the background concentration is assumed to be negligible and a value of zero is used in the computations. Background data for calculating effluent limitations for ammonia nitrogen are described later.
- Multiple dischargers: There are several other dischargers to the East Branch Rock River, however they are not in the immediate vicinity and the mixing zones do not overlap. Therefore, the other dischargers do not impact this evaluation.
- Impaired water status: The East Branch of the Rock River is impaired for low dissolved oxygen, total phosphorus, and total suspended solids approximately 20 miles downstream of Allenton's outfall, at Mayville.

Effluent Information

- Design flow rate(s):
Annual average = 0.352 million gallons per day (MGD)
For reference, the actual average flow from 02/01/2020 – 01/31/2025 was 0.11 MGD.
- Hardness = 371 mg/L as CaCO₃. This value represents the geometric mean of four samples collected 08/26/2024 – 10/09/2024 which were reported on the permit application.
- Acute dilution factor used in accordance with s. NR 106.06(3)(c), Wis. Adm. Code: Not applicable – this facility does not have an approved Zone of Initial Dilution (ZID).
- Wastewater source: Domestic wastewater with 1 industrial contributor: Maysteel Industries Inc.
- Water supply: Groundwater.
- Additives: Alum is used for phosphorous removal.
- Effluent characterization: This facility is categorized as a minor municipality, so the permit application required effluent sample analyses for a limited number of common pollutants, as specified in s. NR 200.065, Table 1, Wis. Adm. Code, primarily metal substances plus ammonia, chloride, hardness and phosphorus.
- Effluent data for substances for which a single sample was analyzed is shown in the tables in Part 2, in the column titled "MEAN EFFL. CONC.". Otherwise, substances with multiple effluent data are shown in the tables below or in their respective parts in this evaluation.

Copper Effluent Data

Sample Date	Copper (µg/L)	Sample Date	Copper (µg/L)	Sample Date	Copper (µg/L)
08/26/2024	16	09/12/2024	17	09/30/2024	15
09/02/2024	14	09/16/2024	16	10/03/2024	15
09/05/2024	16	09/19/2024	15	10/06/2024	16
09/09/2024	16	09/24/2024	22		
1-day P ₉₉ = 22 µg/L					
4-day P ₉₉ = 19 µg/L					

Attachment #1
Chloride Effluent Data

	Chloride (mg/L)
1-day P ₉₉	532
4-day P ₉₉	458
30-day P ₉₉	416
Mean	393
Std	52.9
Sample size	48
Range	214 – 479

The following table presents the average concentrations and loadings at Outfall 001 from 02/01/2020 – 01/31/2025 for all parameters with limits in the current permit to meet the requirements of s. NR 201.03(6), Wis. Adm. Code:

Averages of Parameters with Limits

	Average Measurement	Average Mass Discharged
BOD ₅	1.29 mg/L*	0.78 lbs/day
TSS	2.39 mg/L*	1.76 lbs/day
pH field	7.76 s.u.	
Dissolved Oxygen	10 mg/L	
Ammonia Nitrogen	0.24 mg/L*	
Fecal Coliform	3.37 #/100 mL**	
<i>E. coli</i>	1.4 #/100 mL**	
Phosphorus	0.38 mg/L	0.36 lbs/day

*Results below the level of detection (LOD) were included as zeroes in calculation of average.

** The average measurement for bacteria is calculated as a geometric mean. Values reported below the LOD are replaced with a value of 1 for the calculation of the geometric mean.

**PART 2 – WATER QUALITY-BASED EFFLUENT LIMITATIONS
FOR TOXIC SUBSTANCES – EXCEPT AMMONIA NITROGEN**

Permit limits for toxic substances are required whenever any of the following occur:

1. The maximum effluent concentration exceeds the calculated limit (s. NR 106.05(3), Wis. Adm. Code)
2. If 11 or more detected results are available in the effluent, the upper 99th percentile (or P₉₉) value exceeds the comparable calculated limit (s. NR 106.05(4), Wis. Adm. Code)
3. If fewer than 11 detected results are available, the mean effluent concentration exceeds 1/5 of the calculated limit (s. NR 106.05(6), Wis. Adm. Code)

Acute Limits based on 1-Q₁₀

Daily maximum effluent limitations for toxic substances are based on the acute toxicity criteria (ATC), listed in ch. NR 105, Wis. Adm. Code. Previously daily maximum limits for toxic substances were calculated as two times the ATC. However, changes to ch. NR 106, Wis. Code, (September 1, 2016) require the Department to calculate acute limitations using the same mass balance equation as used for other limits along with the 1-Q₁₀ receiving water low flow to determine if more restrictive effluent

limitations are needed to protect the receiving stream from discharges which may cause or contribute to an exceedance of the acute water quality standards. The mass balance equation is provided below.

$$\text{Limitation} = \frac{(\text{WQC}) (Q_s + (1-f) Q_e) - (Q_s - f Q_e) (C_s)}{Q_e}$$

Where:

WQC = Acute toxicity criterion or secondary acute value according to ch. NR 105, Wis. Adm. Code.

Q_s = average minimum 1-day flow which occurs once in 10 years (1-day Q₁₀)
if the 1-day Q₁₀ flow data is not available = 80% of the average minimum 7-day flow which occurs once in 10 years (7-day Q₁₀).

Q_e = Effluent flow (in units of volume per unit time) as specified in s. NR 106.06(4)(d), Wis. Adm. Code.

f = Fraction of the effluent flow that is withdrawn from the receiving water, and

C_s = Background concentration of the substance (in units of mass per unit volume) as specified in s. NR 106.06(4)(e), Wis. Adm. Code.

If the receiving water is effluent dominated under low stream flow conditions, the 1-Q₁₀ method of limit calculation produces the most stringent daily maximum limitations and should be used while making reasonable potential determinations. This is not the case for Allenton, and the limits are set based on two times the acute toxicity criteria.

The following tables list the calculated WQBELs for this discharge along with the results of effluent sampling. All concentrations are expressed in terms of micrograms per Liter (µg/L), except for hardness and chloride (mg/L).

Daily Maximum Limits based on Acute Toxicity Criteria (ATC)

RECEIVING WATER FLOW = 1.04 cfs, (1-Q₁₀ (estimated as 80% of 7-Q₁₀)), as specified in s. NR 106.06(3)(bm), Wis. Adm. Code.

SUBSTANCE	REF. HARD.* mg/L	ATC	MEAN BACK-GRD.	MAX. EFFL. LIMIT**	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	1-day P ₉₉	1-day MAX. CONC.
Arsenic		340		680	136	0.41		
Cadmium	371	46.4	0.03	92.7	18.5	<0.3		
Chromium	301	4446	1.07	8892	1778	<1.3		
Copper	371	53.5	2	107			21.6	22
Lead	356	365	0.16	729	146	8		
Nickel	268	1080		2161	432	4.7		
Zinc	333	345	26.93	689	138	3.1		
Chloride (mg/L)		757	45.16	1514			532	479

* The indicated hardness may differ from the effluent hardness because the effluent hardness exceeded the maximum range in ch. NR 105, Wis. Adm. Code, over which the acute criteria are applicable. In that case, the maximum of the range is used to calculate the criterion.

** The 2 × ATC method of limit calculation yields a more restrictive limit than consideration of ambient concentrations and 1-Q₁₀ flow rates per the changes to s. NR 106.07(3), Wis. Adm. Code, effective 09/01/2016.

Weekly Average Limits based on Chronic Toxicity Criteria (CTC)RECEIVING WATER FLOW = 0.325 cfs (¼ of the 7-Q₁₀), as specified in s. NR 106.06(4)(c), Wis. Adm. Code

SUBSTANCE	REF. HARD.* mg/L	CTC	MEAN BACK- GRD.	WEEKLY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	4-day P ₉₉
Arsenic		152		243	48.6	0.41	
Cadmium	175	3.82	0.03	6.08	1.2	<0.3	
Chromium	301	326	1.07	519	104	<1.3	
Copper	368	31.6		49.2			18.8
Lead	356	95.5	0.16	152.4	30.5	8	
Nickel	268	120		192	38.4	4.7	
Zinc	333	345	26.93	534	107	3.1	
Chloride (mg/L)		395	45.16	604			458

* The indicated hardness may differ from the receiving water hardness because the receiving water hardness exceeded the maximum range in ch. NR 105, Wis. Adm. Code, over which the chronic criteria are applicable. In that case, the maximum of the range is used to calculate the criterion.

Monthly Average Limits based on Wildlife Criteria (WC)

The effluent characterization did not include any effluent sampling results for substances for which Wildlife Criteria exist.

Monthly Average Limits based on Human Threshold Criteria (HTC)

RECEIVING WATER FLOW = 1.57 cfs (¼ of Harmonic Mean), as specified in s. NR 106.06(4), Wis. Adm. Code.

SUBSTANCE	HTC	MEAN BACK- GRD.	MO'LY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.
Cadmium	370	0.03	1435	287	<0.3
Chromium (+3)	3818000	1.07	14806284	2961257	<1.3
Lead	140	0.16	542	108	8
Nickel	43000		166755	33351	4.7

Monthly Average Limits based on Human Cancer Criteria (HCC)

RECEIVING WATER FLOW = 1.57 cfs (¼ of Harmonic Mean), as specified in s. NR 106.06(4), Wis. Adm. Code.

SUBSTANCE	HCC	MEAN BACK- GRD.	MO'LY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.
Arsenic	13.3		51.6	10.3	0.41

In addition to evaluating the need for limits for each individual substance for which HCC exist, s. NR 106.06(8), Wis. Adm. Code, requires the evaluation of the cumulative cancer risk. Because no effluent limits are needed based on HCC, determination of the cumulative cancer risk is not needed per s. NR 106.06(8), Wis. Adm. Code.

Conclusions and Recommendations

Based on a comparison of the effluent data and calculated effluent limitations, effluent limitations are not required for toxic parameters in this section. Monitoring recommendations are made in the paragraphs below:

Chloride – Considering available effluent data from the current permit term (01/08/2024 – 12/11/2024), the 1-day P₉₉ chloride concentration is 532 mg/L, and the 4-day P₉₉ of effluent data is 458 mg/L.

These effluent concentrations are below the calculated WQBELs for chloride, therefore no effluent limits are needed. **Chloride monitoring is recommended to ensure that 11 sample results are available at the next permit issuance to meet the data requirements of s. NR 106.85, Wis. Adm. Code.**

Mercury – The permit application did not require monitoring for mercury because Allenton is categorized as a minor facility as defined in s. NR 200.02(8), Wis. Adm. Code. In accordance with s. NR 106.145(3)(a)3, Wis. Adm. Code, a minor municipal discharger shall monitor, and report results of influent and effluent mercury monitoring once every three months if, “there are two or more exceedances in the last five years of the high-quality sludge mercury concentration of 17 mg/kg specified in s. NR 204.07(5), Wis. Adm. Code.” A review of the past five years of sludge characteristics data reveals that all the sample results are within expected analytical ranges and well below the 17 mg/kg level. The average concentration in the sludge from 04/08/2021 – 09/10/2024 was 0.80 mg/kg, with a maximum reported concentration of 1.45 mg/kg. Therefore, **no mercury monitoring is recommended at Outfall 001.**

PFOS and PFOA – The need for PFOS and PFOA monitoring is evaluated in accordance with s. NR 106.98(2), Wis. Adm. Code. Previous monitoring produced a PFOS result of 23.5 ng/L and a PFOA result of 5.3 ng/L. The PFOS result is greater than one fifth of the criteria of 8 ng/L. Based on the type of indirect dischargers contributing to the collection system and the available PFOS/PFOA monitoring data, **PFOS and PFOA monitoring is recommended at a once every two months frequency.**

PART 3 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR AMMONIA NITROGEN

The State of Wisconsin promulgated revised water quality standards for ammonia nitrogen in ch. NR 105, Wis. Adm. Code, effective March 1, 2004 which includes criteria based on both acute and chronic toxicity to aquatic life. The current permit has daily maximum, weekly average and monthly average limits. These limits are re-evaluated at this time due to the following changes:

- Subchapter IV of ch. NR 106, Wis. Adm. Code allows limits based on available dilution instead of limits set to twice the acute criteria.
- Section NR 106.07(3), Wis. Adm. Code requires weekly and monthly average limits for municipal treatment plants.
- The maximum expected effluent pH has changed

Daily Maximum Limits based on Acute Toxicity Criteria (ATC)

Daily maximum limitations are based on acute toxicity criteria in ch. NR 105, Wis. Adm. Code, which are a function of the effluent pH and the receiving water classification. The acute toxicity criterion (ATC) for ammonia is calculated using the following equation:

$$\text{ATC in mg/L} = [A \div (1 + 10^{(7.204 - \text{pH})})] + [B \div (1 + 10^{(\text{pH} - 7.204)})]$$

Where:

A = 0.411 and B = 58.4 for a Warm Water Sport fishery, and
pH (s.u.) = that characteristic of the effluent.

Attachment #1

The effluent pH data was examined as part of this evaluation. A total of 1824 sample results were reported from 02/02/2020 – 01/31/2025. The maximum reported value was 8.57 s.u. (Standard pH Units). The effluent pH was 8.37 s.u. or less 99% of the time. The 1-day P_{99} , calculated in accordance with s. NR 106.05(5), Wis. Adm. Code, is 8.29 s.u. The mean plus the standard deviation multiplied by a factor of 2.33, an estimate of the upper ninety ninth percentile for a normally distributed dataset, is 8.27 s.u. Therefore, a value of 8.4 s.u. is believed to represent the maximum reasonably expected pH, and therefore most appropriate for determining daily maximum limitations for ammonia nitrogen. Substituting a value of 8.4 s.u. into the equation above yields an ATC = 3.9 mg/L.

Daily Maximum Ammonia Nitrogen Effluent Limitations Calculation Method

In accordance with s. NR 106.32(2), Wis. Adm. Code daily maximum ammonia limitations are calculated using the the 1- Q_{10} receiving water low flow if it is determined that the previous method of acute ammonia limit calculation ($2 \times \text{ATC}$) is not sufficiently protective of the fish and aquatic life. The more restrictive calculated limits shall apply.

The calculated daily maximum ammonia nitrogen effluent limits using the mass balance approach with the 1- Q_{10} (estimated as 80 % of 7- Q_{10}) and the $2 \times \text{ATC}$ approach are shown below.

Daily Maximum Ammonia Nitrogen Determination

	Ammonia Nitrogen Limit mg/L
$2 \times \text{ATC}$	7.8
1- Q_{10}	11

The $2 \times \text{ATC}$ method yields the most stringent limits for Allenton.

This limit is greater than the current daily maximum limit of 6.4 mg/L. If Allenton would like to request an increase to the existing permit limits an assessment of their effluent data consistent with the requirements of ss. NR 207.04(1)(a) and (c), Wis. Adm. Code, must be provided. This evaluation is on a parameter by parameter basis and includes consideration of operations, maintenance and temporary upsets. Without a demonstration of need for a higher limit in accordance with s. NR 207.04, Wis. Adm. Code, the current limits must be continued in the reissued permit. There were exceedances of the current daily maximum limit in February, March, April, and June 2022 due to increased holding tank waste and is not representative of normal operating conditions. Therefore, data from this incident are not considered in this evaluation.

The Department would be unable to increase the limit due to the lack of need as shown via the antidegradation rule (ch. NR 207, Wis. Adm. Code) because the highest reported concentration was 5.2 mg/L during the current term of data representative of current treatment conditions. **No changes are recommended to the daily maximum limit.**

Presented below is a table of daily maximum limitations corresponding to various effluent pH values. Use of this table is not necessarily recommended in the permit, but it is presented herein for informational purposes.

Daily Maximum Ammonia Nitrogen Limits – WWSE

Effluent pH s.u.	Limit mg/L	Effluent pH s.u.	Limit mg/L	Effluent pH s.u.	Limit mg/L
$6.0 \leq \text{pH} \leq 6.1$	108	$7.0 < \text{pH} \leq 7.1$	66	$8.0 < \text{pH} \leq 8.1$	14

Attachment #1

Effluent pH s.u.	Limit mg/L	Effluent pH s.u.	Limit mg/L	Effluent pH s.u.	Limit mg/L
6.1 < pH ≤ 6.2	106	7.1 < pH ≤ 7.2	59	8.1 < pH ≤ 8.2	11
6.2 < pH ≤ 6.3	104	7.2 < pH ≤ 7.3	52	8.2 < pH ≤ 8.3	9.4
6.3 < pH ≤ 6.4	101	7.3 < pH ≤ 7.4	46	8.3 < pH ≤ 8.4	7.8
6.4 < pH ≤ 6.5	98	7.4 < pH ≤ 7.5	40	8.4 < pH ≤ 8.5	6.4
6.5 < pH ≤ 6.6	94	7.5 < pH ≤ 7.6	34	8.5 < pH ≤ 8.6	5.3
6.6 < pH ≤ 6.7	89	7.6 < pH ≤ 7.7	29	8.6 < pH ≤ 8.7	4.4
6.7 < pH ≤ 6.8	84	7.7 < pH ≤ 7.8	24	8.7 < pH ≤ 8.8	3.7
6.8 < pH ≤ 6.9	78	7.8 < pH ≤ 7.9	20	8.8 < pH ≤ 8.9	3.1
6.9 < pH ≤ 7.0	72	7.9 < pH ≤ 8.0	17	8.9 < pH ≤ 9.0	2.6

Weekly and Monthly Average Limits based on Chronic Toxicity Criteria (CTC)

The weekly and monthly average ammonia nitrogen limits calculation from the previous memo do **not change** because there have been no changes in the effluent and receiving water flow rates. The calculations from the previous (2020) WQBEL memo are shown in Attachment #2.

Effluent Data

The following table evaluates the statistics based upon ammonia data reported from 02/02/2020 – 01/21/2025.

Ammonia Nitrogen Effluent Data

Ammonia Nitrogen mg/L	April – October	November – March
1-day P ₉₉	1.49	1.32
4-day P ₉₉	0.92	0.74
30-day P ₉₉	0.39	0.32
Mean*	0.12	0.14
Std	0.49	0.35
Sample size	405	283
Range	<0.04 - 5.21	<0.04 - 2.2

*Values lower than the level of detection were substituted with a zero

Reasonable Potential

The need to include ammonia limits in Allenton's permit is determined by calculating 99th upper percentile (or P₉₉) values for ammonia during April – October and November – March and comparing those to the calculated limits. Based on this comparison, there is no reasonable potential for the discharge to exceed any of the calculated ammonia nitrogen limits. However, since the permit currently has weekly and monthly average limits year-round, **the limits must be retained regardless of reasonable potential**, consistent with s. NR 106.33(1)(b), Wis. Adm. Code:

(b) If a permittee is subject to an ammonia limitation in an existing permit, the limitation shall be included in any reissued permit. Ammonia limitations shall be included in the permit if the permitted facility will be providing treatment for ammonia discharges.

Conclusions and Recommendations

In summary, after rounding to two significant figures, the following ammonia nitrogen limitations are recommended. No mass limitations are recommended in accordance with s. NR 106.32(5), Wis. Adm

Code. Additional limits to meet the requirements in s. NR 106.07, Wis. Adm Code, are denoted in bold text.

Final Ammonia Nitrogen Limits

	Daily Maximum mg/L	Weekly Average mg/L	Monthly Average mg/L
April – October	6.4	6.4	4.5
November – March	6.4	6.4	6.4

PART 5 – PHOSPHORUS

Technology-Based Effluent Limit

Subchapter II of Chapter NR 217, Wis. Adm. Code, requires municipal wastewater treatment facilities that discharge greater than 150 pounds of total phosphorus per month to comply with a monthly average limit of 1.0 mg/L, or an approved alternative concentration limit.

Because Allenton currently has a limit of 1.0 mg/L, this limit should be included in the reissued permit.

Water Quality-Based Effluent Limits (WQBEL)

Revisions to administrative rules regulating phosphorus took effect on December 1, 2010. These rule revisions include additions to s. NR 102.06, Wis. Adm. Code, which establish phosphorus standards for surface waters. Subchapter III of NR 217, Wis. Adm. Code, establishes procedures for determining WQBELs for phosphorus, based on the applicable standards in ch. NR 102, Wis. Adm. Code.

The Department has developed a TMDL for the Upper and Lower Rock River Basins which was approved by the US EPA in September 2011.

Section NR 217.16, Wis. Adm. Code, states that the Department may include a TMDL-based limitation for phosphorus in addition to, or in lieu of, an s. NR 217.13 WQBEL in a WPDES permit. The Rock River TMDL was developed to protect and improve water quality of phosphorus impaired waters by determining wasteload allocations (WLAs) for point and nonpoint sources of phosphorus. **Allenton discharges to the East Branch of the Rock River which is impaired for phosphorus downstream of the outfall, so the TMDL-based limits can be included in the WPDES permit absent the s. NR 217.13 WQBEL.**

TMDL-Derived Limits

The approved Rock River TMDL report provides effluent limitations that are given in lbs/month in the document *Final Rock River TMDL Report with Tables*. The monthly limits were calculated as monthly averages in lbs/day as shown in the table below based on the monthly WLAs in Appendix P of the TMDL. These monthly average limits are currently effective and the calculations/WLAs do not change, so **no changes are recommended to the TMDL-based phosphorus limits.**

TMDL-based Phosphorus Limits

Month	Monthly Average TP Effluent Limit¹ lbs/day
January	6.48
February	5.60
March	3.89
April	2.55
May	2.79
June	4.42
July	4.52
August	4.63
September	4.08
October	4.26
November	4.98
December	5.67

Footnotes:

1. Monthly Average TP = monthly TP WLA in Appendix P in the Rock River TMDL ÷ days per month

Considering the design flow of 0.352 MGD, the equivalent concentrations range from 0.87 to 2.21 mg/L, for informational purposes.

Effluent Data

The following table summarizes effluent total phosphorus monitoring data from 02/03/2020 – 01/27/2025.

Total Phosphorus Effluent Data

	Concentration mg/L	Mass lbs/day
1-day P ₉₉	1.45	1.36
4-day P ₉₉	0.83	0.78
30-day P ₉₉	0.52	0.49
Mean	0.38	0.36
Std	0.29	0.27
Sample size	496	496
Range	0.038 - 2.64	0.064 - 2.594

PART 6 – TOTAL SUSPENDED SOLIDS

The Rock River TMDL includes WLAs for total suspended solids (TSS). Allenton's outfall is in Reach 9 of the Rock River watershed which has a required reduction of 0% for TSS from point sources. Because of this, Allenton's current TSS effluent limits is consistent with the objectives of the Rock River TMDL. **Therefore, the current TSS limits of 20 mg/L and 58.7 lbs/day for May – October and 24 mg/L and 70.4 lbs/day for November – April are recommended for permit reissuance.**

The following tables summarizes effluent TSS data from 02/02/2020 – 01/28/2025, for informational purposes only.

Total Suspended Solids Data

Attachment #1

	Cocentration (mg/L)	Mass (lbs/day)
1-day P ₉₉	7.63	10.8
4-day P ₉₉	5.57	5.96
30-day P ₉₉	3.38	2.98
Mean*	2.39	1.76
Std	1.4	2.4
Sample Size	735	973
Range	<0 - 13.2	<0 - 20.05

*Results below the level of detection (LOD) were included as zeroes in calculation of average.

PART 7 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR THERMAL

Surface water quality standards for temperature took effect on October 1, 2010. These regulations are detailed in chs. NR 102 (Subchapter II – Water Quality Standards for Temperature) and NR 106 (Subchapter V – Effluent Limitations for Temperature) of the Wisconsin Administrative Code. Daily maximum and weekly average temperature criteria are available for the 12 different months of the year depending on the receiving water classification.

In accordance with s. NR 106.53(2)(b), Wis. Adm. Code, the highest daily maximum flow rate for a calendar month is used to determine the acute (daily maximum) effluent limitation. In accordance with s. NR 106.53(2)(c), Wis. Adm. Code, the highest 7-day rolling average flow rate for a calendar month is used to determine the sub-lethal (weekly average) effluent limitation. These values were based off actual flow reported from 02/01/2020 – 01/31/2025.

The table below summarizes the maximum temperatures reported during monitoring from 01/01/2019 – 12/31/2019.

Monthly Temperature Effluent Data & Limits

Month	Representative Highest Monthly Effluent Temperature		Calculated Effluent Limit	
	Weekly Maximum	Daily Maximum	Weekly Average Effluent Limitation	Daily Maximum Effluent Limitation
	(°F)	(°F)	(°F)	(°F)
JAN	49	50	73	120
FEB	47	48	71	112
MAR	48	49	67	115
APR	51	52	62	106
MAY	54	55	74	107
JUN	61	61	83	93
JUL	72	81	96	99
AUG	67	70	96	98
SEP	66	70	91	107
OCT	64	70	76	114

Attachment #1

Month	Representative Highest Monthly Effluent Temperature		Calculated Effluent Limit	
	Weekly Maximum	Daily Maximum	Weekly Average Effluent Limitation	Daily Maximum Effluent Limitation
	(°F)	(°F)	(°F)	(°F)
NOV	55	56	61	120
DEC	52	52	70	120

Reasonable Potential

Permit limits for temperature are recommended based on the procedures in s. NR 106.56, Wis. Adm. Code.

- An acute limit for temperature is recommended for each month in which the representative daily maximum effluent temperature for that month exceeds the acute WQBEL. The representative daily maximum effluent temperature is the greater of the following:
 - (a) The highest recorded representative daily maximum effluent temperature
 - (b) The projected 99th percentile of all representative daily maximum effluent temperatures
- A sub-lethal limitation for temperature is recommended for each month in which the representative weekly average effluent temperature for that month exceeds the weekly average WQBEL. The representative weekly average effluent temperature is the greater of the following:
 - (a) The highest weekly average effluent temperature for the month.
 - (b) The projected 99th percentile of all representative weekly average effluent temperatures for the month

Based on the available effluent data no effluent limits are recommended for temperature. **Monitoring only for one year is recommended.** The complete thermal table used for the limit calculation is attached.

PART 7 – WHOLE EFFLUENT TOXICITY (WET)

WET testing is used to measure, predict, and control the discharge of toxic materials that may be harmful to aquatic life. In WET tests, organisms are exposed to a series of effluent concentrations for a given time and effects are recorded. Decisions below related to the selection of representative data and the need for WET limits were made according to ss. NR 106.08 and 106.09, Wis. Adm. Code. WET monitoring frequency and toxicity reduction evaluation (TRE) recommendations were made using the best professional judgment of staff familiar with the discharge after consideration of the guidance in the *Whole Effluent Toxicity (WET) Program Guidance Document* (2022).

- Acute tests predict the concentration that causes lethality of aquatic organisms during a 48 to 96-hour exposure. To assure that a discharge is not acutely toxic to organisms in the receiving water, WET tests must produce a statistically valid LC₅₀ (Lethal Concentration to 50% of the test organisms) greater than 100% effluent, according to s. NR 106.09(2)(b), Wis. Adm. Code.
- Chronic tests predict the concentration that interferes with the growth or reproduction of test organisms during a seven-day exposure. To assure that a discharge is not chronically toxic to organisms in the receiving water, WET tests must produce a statistically valid IC₂₅ (Inhibition Concentration) greater

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than the instream waste concentration (IWC), according to s. NR 106.09(3)(b), Wis. Adm Code. The IWC is an estimate of the proportion of effluent to total volume of water (receiving water + effluent). The **IWC of 63%** shown in the WET Checklist summary below, was calculated according to the following equation, as specified in s. NR 106.03(6), Wis. Adm Code:

$$\text{IWC (as \%)} = Q_e \div \{(1 - f) Q_e + Q_s\} \times 100$$

Where:

Q_e = annual average flow = 0.352 MGD = 0.545 cfs

f = fraction of the Q_e withdrawn from the receiving water = 0

Q_s = $\frac{1}{4}$ of the 7- Q_{10} = 1.30 cfs $\div$ 4 = 0.325 cfs

- According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), a synthetic (standard) laboratory water may be used as the dilution water and primary control in acute WET tests, unless the use of different dilution water is approved by the Department prior to use. The primary control water must be specified in the WPDES permit.
- According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), receiving water must be used as the dilution water and primary control in chronic WET tests, unless the use of different dilution water is approved by the Department prior to use. The dilution water used in WET tests conducted on Outfall 001 shall be a grab sample collected from the receiving water location, upstream and out of the influence of the mixing zone and any other known discharge. The specific receiving water location must be specified in the WPDES permit.
- Shown below is a tabulation of all available WET data for Outfall 001. Efforts are made to ensure that decisions about WET monitoring and limits are made based on representative data, as specified in s. NR 106.08(3), Wis. Adm Code. Data which is not believed to be representative of the discharge was not included in reasonable potential calculations. The table below differentiates between tests used and not used when making WET determinations. Significant changes were made to WET test methods in 2004 and these changes were assumed to be fully implemented by certified labs by no later than June 2005. Therefore, data collected before July 1, 2005 is excluded in this evaluation.

WET Data History

Date Test Initiated	Acute Results LC ₅₀ %				Chronic Results IC ₂₅ %				Footnotes or Comments
	<i>C. dubia</i>	Fathead minnow	Pass or Fail?	Used in RP?	<i>C. dubia</i>	Fathead Minnow	Pass or Fail?	Use in RP?	
07/13/2006	>100	>100	Pass	Yes	>100	>100	Pass	Yes	
01/17/2008	>100	>100	Pass	Yes	>100	>100	Pass	Yes	
04/16/2010	>100	>100	Pass	No	>100	>100	Pass	No	1
07/24/2012	>100	>100	Pass	Yes	>100	>100	Pass	Yes	
06/04/2013					>100	>100	Pass	Yes	
03/01/2016	>100	>100	Pass	Yes	77	>100	Pass	No	2
04/18/2017	>100	>100	Pass	Yes	94.8	>100	Pass	Yes	
07/30/2019					>100	>100	Pass	Yes	
11/10/2020					>100	>100	Pass	Yes	
07/19/2022					97.4	>100	Pass	Yes	
02/21/2023					>100	>100	Pass	Yes	
10/15/2024					>100	>100	Pass	Yes	

Footnotes:

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1. *Tests done by S-F Analytical, July 2008 – March 2011.* The DNR has reason to believe that WET tests completed by SF Analytical Labs from July 2008 through March 31, 2011 were not performed using proper test methods. Therefore, WET data from this lab during this period has been disqualified and was not included in the analysis.
 2. *Qualified or Inconclusive Data.* Data quality concerns were noted during testing which calls into question the reliability of the test results.
- According to s. NR 106.08, Wis. Adm. Code, WET reasonable potential is determined by multiplying the highest toxicity value that has been measured in the effluent by a safety factor, to predict the likelihood (95% probability) of toxicity occurring in the effluent above the applicable WET limit. The safety factor used in the equation changes based on the number of toxicity detects in the dataset. The fewer detects present, the higher the safety factor, because there is more uncertainty surrounding the predicted value. **WET limits must be given, according to s. NR 106.08(6), Wis. Adm. Code, whenever the applicable Reasonable Potential equation results in a value greater than 1.0.**

$$\text{Acute Reasonable Potential} = [(TU_a \text{ effluent}) (B)(AMZ)]$$

$$\text{Chronic Reasonable Potential} = [(TU_c \text{ effluent}) (B)(IWC)]$$

According to s. NR 106.08(6)(d), Wis. Adm. Code, TU_a and TU_c effluent values are equal to zero whenever toxicity is not detected (i.e. when the LC_{50} , IC_{25} or $IC_{50} \geq 100\%$).

Acute Reasonable Potential = $0 < 1.0$, reasonable potential is not shown, and a limit is not required.

$$\text{Chronic Reasonable Potential} = [(TU_c \text{ effluent}) (B)(IWC)]$$

Chronic WET Limit Parameters

TU_c (maximum) 100/IC_{25}	B (multiplication factor from s. NR 106.08(6)(c), Wis. Adm. Code, Table 4)	IWC
100/94.8 = 1.05	3.8 Based on 2 detects	63%

$$[(TU_c \text{ effluent}) (B)(IWC)] = 2.5 > 1.0$$

Therefore, reasonable potential is shown for chronic WET limits using the procedures in s. NR 106.08(6), Wis. Adm. Code, and representative data from 07/13/2006 – 10/15/2024.

Expression of WET limits

Chronic WET limit = $[100/IWC] TU_c = 1.6 TU_c$ expressed as a monthly average

This is equal to the current chronic WET limit. No changes are recommended.

The WET checklist was developed to help DNR staff make recommendations regarding WET limits, monitoring, and other related permit conditions. The checklist indicates whether acute and chronic WET limits are needed, based on requirements specified in s. NR 106.08, Wis. Adm. Code. The checklist steps the user through a series of questions, assesses points based on the potential for effluent toxicity, and suggests monitoring frequencies based on points accumulated during the checklist analysis. As toxicity potential increases, more points accumulate, and more monitoring is recommended to ensure that toxicity is not occurring. A summary of the WET checklist analysis completed for this permittee is shown in the table below. Staff recommendations based on best professional judgment are provided below the summary table.

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For guidance related to reasonable potential and the WET checklist, see Chapter 1.3 of the WET Guidance Document: <https://dnr.wisconsin.gov/topic/Wastewater/WET.html>.

WET Checklist Summary

	Acute	Chronic
AMZ/IWC	Not Applicable. 0 Points	IWC = 63%. 10 Points
Historical Data	5 tests used to calculate RP – over 5 years old. No tests failed. 5 Points	10 tests used to calculate RP. No tests failed. 0 Points
Effluent Variability	Little variability, no violations or upsets, consistent WWTF operations. 0 Points	Same as Acute. 0 Points
Receiving Water Classification	WWSF 5 Points	Same as Acute. 5 Points
Chemical-Specific Data	No reasonable potential for any limits based on ATC; Ammonia nitrogen limit carried over from the current permit. Ammonia, copper, lead, nickel, zinc, and chloride detected. Additional Compounds of Concern: None. 3 Points	No reasonable potential for any limits based on CTC; Ammonia nitrogen limit carried over from the current permit. Ammonia, copper, lead, nickel, zinc, and chloride detected. Additional Compounds of Concern: None. 3 Points
Additives	1 Water Quality Conditioner (alum) added. Permittee has proper P chemical SOPs in place. 1 Point	All additives used more than once per 4 days. 1 Point
Discharge Category	1 Industrial Contributor. 5 Points	Same as Acute. 5 Points
Wastewater Treatment	Secondary or Better 0 Points	Same as Acute. 0 Points
Downstream Impacts	No impacts known 0 Points	Same as Acute. 0 Points
Total Checklist Points:	19 Points	24 Points
Recommended Monitoring Frequency (from Checklist):	2 tests during permit term	1x yearly
Limit Required?	No	Yes Limit = 1.6 TU _c
TRE Recommended? (from Checklist)	No	No

- After consideration of the guidance provided in the Department's *WET Program Guidance Document* (2022) and other information described above, 2x/permit term acute and 1x yearly chronic WET tests are recommended in the reissued permit. Sampling WET concurrently with any chemical-specific

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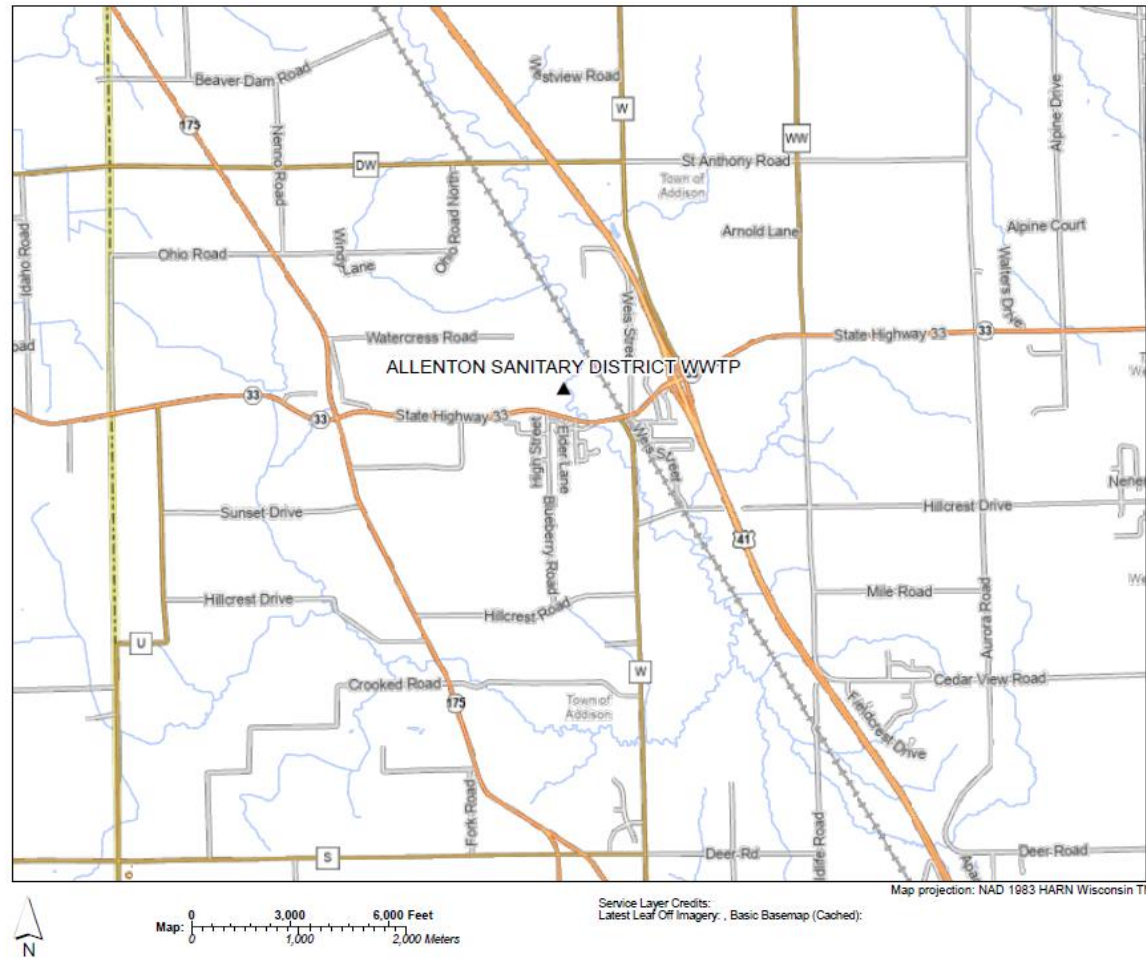
toxic substances is recommended. Tests should be done in rotating quarters, to collect seasonal information about this discharge. Testing should continue after the permit expiration date (until the permit is reissued).

- According to the requirements specified in s. NR 106.08, Wis. Adm. Code, a chronic WET limit is required. The chronic WET limit shall be expressed as 1.6 TUc as a monthly average in the effluent limits table of the permit.
- A minimum of annual chronic monitoring is required because a chronic WET limit is required. Federal regulations in 40 CFR Part 122.44(i) require that monitoring occur at least once per year when a limit is present.

Allenton Outfall Location



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NATURAL RESOURCES



Legend: (some map layers may not be displayed)

- ▲ Surface Water Outfalls
- Rivers and Streams
- Intermittent Streams
- Open Water
- Latest Leaf Off Imagery**
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3

Notes:
Not to scale



Map: 0 3,000 6,000 Feet
0 1,000 2,000 Meters

Service Layer Credits:
Latest Leaf Off Imagery: Basic Basemap (Cached):

Map projection: NAD 1983 HARN Wisconsin TM

This map is a product generated by a DNR web mapping application.

This map is for informational purposes only and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. The user is solely responsible for verifying the accuracy of information before using for any purpose. By using this product for any purpose user agrees to be bound by all disclaimers found here: <https://dnr.wisconsin.gov/legal>

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2020 Ammonia Limits Calculations

Weekly and Monthly Average Limits based on Chronic Toxicity Criteria (CTC)

The ammonia limit calculation also warrants evaluation of weekly and monthly average limits based on chronic toxicity criteria for ammonia, since those limits relate to the assimilative capacity of the receiving water. There are currently weekly and monthly average limits for April – October. Limits need to be calculated for the rest of the year as well, since there are currently not weekly or monthly limits for November – March which are required per NR 106.07(3), Wis. Adm. Code for municipalities.

Weekly average and monthly average limits for ammonia nitrogen are based on chronic toxicity criteria in ch. NR 105, Wis. Adm. Code.

The 30-day chronic toxicity criterion (CTC) for ammonia in waters classified as a Warm Water Sport Fish Community is calculated by the following equation, according to subchapter IV of NR 106, Wis. Adm. Code.

$$CTC = E \times \{ [0.0676 \div (1 + 10^{(7.688 - pH)})] + [2.912 \div (1 + 10^{(pH - 7.688)})] \} \times C$$

Where:

pH = the pH (s.u.) of the receiving water,

E = 0.854,

C = the minimum of 2.85 or $1.45 \times 10^{(0.028 \times (25 - T))}$ – (Early Life Stages Present), or

$C = 1.45 \times 10^{(0.028 \times (25 - T))}$ – (Early Life Stages Absent), and

T = the temperature (°C) of the receiving water – (Early Life Stages Present), or

T = the maximum of the actual temperature (°C) and 7 - (Early Life Stages Absent)

The 4-day criterion is equal to the 30-day criterion multiplied by 2.5. The 4-day criteria are used in a mass-balance equation with the 7-Q₁₀ (4-Q₃, if available) to derive weekly average limitations. And the 30-day criteria are used with the 30-Q₅ (estimated as 85% of the 7-Q₂ if the 30-Q₅ is not available) to derive monthly average limitations. The stream flow value is further adjusted to temperature; 100% of the flow is used if the Temperature ≥ 16 °C, 25% of the flow is used if the Temperature < 11 °C, and 50% of the flow is used if the Temperature ≥ 11 °C but < 16 °C.

Section NR 106.32 (3), Wis. Adm. Code, provides a mechanism for less stringent weekly average and monthly average effluent limitations when early life stages (ELS) of critical organisms are absent from the receiving water. This applies only when the water temperature is less than 14.5 °C, during the winter and spring months. Burbot, an early spawning species, are not believed to be present in the East Branch of the Rock River, based on conversations with local fisheries biologists. So “ELS Absent” criteria apply from October through March, and “ELS Present” criteria will apply from April through September for a warmwater sport fish classification.

Since minimal ambient data is available, the “default” basin assumed values are used for Temperature, pH and background ammonia concentrations, shown in the table below, with the resulting criteria and effluent limitations.

		April – May	June – September	October	November – March
Effluent Flow	Qe (MGD)	0.352	0.352	0.352	0.352
Background Information	7-Q ₁₀ (cfs)	1.30	1.30	1.30	1.30
	7-Q ₂ (cfs)	2.30	2.30	2.30	2.30

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		April – May	June – September	October	November – March
	Ammonia (mg/L)	0.09	0.07	0.10	0.17
	Temperature (°C)	12	19	10	2
	pH (s.u.)	8.06	8.08	8.07	7.98
	% of Flow used	50	100	25	25
	Reference Weekly Flow (cfs)	0.65	1.3	0.33	0.33
	Reference Monthly Flow (cfs)	0.98	1.96	0.49	0.49
Criteria mg/L	4-day Chronic				
	Early Life Stages Present	5.57	3.56		
	Early Life Stages Absent			7.34	10.17
	30-day Chronic				
	Early Life Stages Present	2.23	1.42		
	Early Life Stages Absent			2.94	4.07
Effluent Limitations mg/L	Weekly Average				
	Early Life Stages Present	12.1	11.9		
	Early Life Stages Absent			11.7	16.1
	Monthly Average				
	Early Life Stages Present	6.1	6.3		
	Early Life Stages Absent			5.5	7.6

Temperature limits for receiving waters with unidirectional flow

(calculation using default ambient temperature data)

Facility:	Allenton Sanitary District	7-Q₁₀:	1.30	cfs	Temp Dates		Flow Dates	
Outfall(s):	001	Dilution:	25%		Start:	01/01/19	02/01/20	
Date Prepared:	2/28/2025	f:	0		End:	12/31/19	01/31/25	
Design Flow (Q_e):	0.35 MGD	Stream type:	Small warm water sport or forage fish co					
Storm Sewer Dist.	0 ft	Q_s:Q_e ratio:	0.6	:1				
		Calculation Needed?	YES					

Month	Water Quality Criteria			Receiving Water Flow Rate (Q _s) (cfs)	Representative Highest Effluent Flow Rate (Q _e)		f	Representative Highest Monthly Effluent Temperature		Calculated Effluent Limit	
	T _a (default)	Sub-Lethal WQC	Acute WQC		7-day Rolling Average (Q _{esl})	Daily Maximum Flow Rate (Q _{ea})		Weekly Average	Daily Maximum	Weekly Average Effluent Limitation	Daily Maximum Effluent Limitation
	(°F)	(°F)	(°F)		(MGD)	(MGD)		(°F)	(°F)	(°F)	(°F)
JAN	33	49	76	1.30	0.141	0.178	0	49	50	73	120
FEB	34	50	76	1.30	0.159	0.248	0	47	48	71	112
MAR	38	52	77	1.30	0.190	0.214	0	48	49	67	115
APR	48	55	79	1.30	0.205	0.244	0	51	52	62	106
MAY	58	65	82	1.30	0.170	0.200	0	54	55	74	107
JUN	66	76	84	1.30	0.285	0.433	0	61	61	83	93
JUL	69	81	85	1.30	0.168	0.232	0	72	81	96	99
AUG	67	81	84	1.30	0.201	0.255	0	67	70	96	98
SEP	60	73	82	1.30	0.150	0.186	0	66	70	91	107
OCT	50	61	80	1.30	0.150	0.183	0	64	70	76	114
NOV	40	49	77	1.30	0.151	0.177	0	55	56	61	120
DEC	35	49	76	1.30	0.141	0.177	0	52	52	70	120