Permit Fact Sheet

General Information

Permit Number	WI-0020338-10-0
Permittee Name and Address	CITY OF STOUGHTON PO Box 383, Stoughton, WI 53589
Permitted Facility Name and Address	Stoughton Wastewater Treatment Facility 700 Mandt Parkway, Stoughton, WI
Permit Term	April 01, 2026 to March 31, 2031
Discharge Location	North bank of the Yahara river, ¼ mile downstream of the Fourth Street Dam
Receiving Water	Yahara River (Yahara River & Lake Kegonsa Watershed, LR06 – Lower Rock River Basin) in Dane County
Stream Flow ($Q_{7,10}$)	21 cfs
Stream Classification	Warm Water Sport Fish (WWSF) community, non-public water supply and recreational use
Discharge Type	Existing; Continuous
Annual Average Design Flow	1.65 MGD
Industrial or Commercial Contributors	B&G Foods; Color-Con; Uniroyal
Plant Classification	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

The Stoughton Wastewater Treatment Facility is a conventional activated sludge plant consisting of screening, grit removal, primary settling, and biological treatment including Bio-P removal, final clarification, and UV disinfection. Backup chemical is available to treat side streams (or the forward flow if necessary) for phosphorus. Waste sludge is thickened in a dissolved air flotation thickener before being combined with primary sludge and anaerobically digested. The digested sludge is dewatered on a gravity belt thickener before storage. Landspreading on Department approved farmland is the final disposal option for the stored biosolids.

Substantial Compliance Determination

Enforcement During Last Permit: There were two Notices of Noncompliance (NONs) sent during the previous permit term: NON for a Sanitary Sewer Overflow (SSO) sent 8/30/23 and an NON for land application violations sent 1/10/24. The facility has completed all previously required actions as part of the enforcement process.

After a desk top review of all discharge monitoring reports, CMARs, land application reports, compliance schedule items, and a site visit on 6/10/25, this facility has been found to be in substantial compliance with their current permit.

Compliance determination made by Ashley Brechlin, Wastewater Engineer, on 7/2/25.

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	1.14 MGD (Avg. May 2020-June 2025)	Influent: 24-hour flow proportional composite sampler located prior to the mechanical bar screen. Flow measured in flow channel before primary clarifiers.
101	N/A – no flow monitoring	In-Plant Mercury: Collect a mercury field blank every day that mercury samples are collected at influent and effluent using the clean hands/dirty hands sample collection procedure from EPA method 1669.
001	1.08 MGD (Avg. May 2020-June 2025)	Effluent: 24-hour flow proportional composite sampler intake located in the disinfection channel prior to UV disinfection. Grab samples after disinfection prior to discharge to Yahara River. Flow measured in effluent channel after post aeration.
002	Est. 90 dry US tons generated and land applied annually	Sludge: Class B, liquid, anaerobically digested, dissolved air flotation and gravity belt thickened, liquid biosolids. Representative samples are taken from the sludge storage tank.

Permit Requirements

1 Influent – Monitoring Requirements

1.1 Sample Point Number: 701- INFLUENT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
CBOD5		mg/L	3/Week	24-Hr Flow Prop Comp	
BOD5, Total		mg/L	Monthly	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	3/Week	24-Hr Flow Prop Comp	
Mercury, Total Recoverable		ng/L	Quarterly	Grab	See the Mercury Monitoring permit section.

1.1.1 Changes from Previous Permit

Influent limitations and monitoring requirements were evaluated for this permit term and the following changes were made from the previous permit.

- **Flow** – The sample frequency for flow has been changed from "continuous" to "daily" for eDMR reporting purposes.

1.1.2 Explanation of Limits and Monitoring Requirements

Monitoring of influent flow, BOD_5 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 In-plant - Monitoring and Limitations

2.1 Sample Point Number: 101- FIELD BLANK for Hg MONITORING

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Mercury, Total Recoverable		ng/L	Quarterly	Blank	See the Mercury Monitoring permit section.

2.1.1 Changes from Previous Permit

In-plant limitations and monitoring requirements were evaluated for this permit term and no changes were required.

2.1.2 Explanation of Limits and Monitoring Requirements

Mercury Field Blank – Monitoring is included in the permit pursuant to s. NR 106.145, Wis. Adm. Code. Field blanks must meet the requirements under s. NR 106.145(9) and (10), Wis. Adm. Code. The permittee shall collect a mercury field blank for each set of mercury samples (a set of samples may include a combination of influent, effluent or other samples all collected on the same day). Field blanks are required to verify a sample has not been contaminated during collection, transportation or analysis.

3 Surface Water - Monitoring and Limitations

3.1 Sample Point Number: 001- EFFLUENT to YAHARA RIVER

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
CBOD5	Weekly Avg	33 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective May through October.
CBOD5	Weekly Avg	40 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective November through April.
CBOD5	Monthly Avg	25 mg/L	3/Week	24-Hr Flow Prop Comp	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
CBOD5	Weekly Avg	454 lbs/day	3/Week	Calculated	Limit effective May through October.
Suspended Solids, Total	Weekly Avg	40 mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	30 mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Weekly Avg	567 lbs/day	3/Week	Calculated	Limit effective in January, March, May, July, August, October and December.
Suspended Solids, Total	Weekly Avg	625 lbs/day	3/Week	Calculated	Limit effective in February.
Suspended Solids, Total	Weekly Avg	590 lbs/day	3/Week	Calculated	Limit effective in April, June, September and November.
Suspended Solids, Total	Monthly Avg	402 lbs/day	3/Week	Calculated	Limit effective in January, March, May, July, August, October and December.
Suspended Solids, Total	Monthly Avg	444 lbs/day	3/Week	Calculated	Limit effective in February.
Suspended Solids, Total	Monthly Avg	419 lbs/day	3/Week	Calculated	Limit effective in April, June, September and November.
pH Field	Daily Max	9.0 su	3/Week	Grab	
pH Field	Daily Min	6.0 su	3/Week	Grab	
Dissolved Oxygen	Daily Min	6.0 mg/L	3/Week	Grab	Limit effective May through October.
Nitrogen, Ammonia (NH3-N) Total	Daily Max - Variable	mg/L	3/Week	24-Hr Flow Prop Comp	See the Daily Maximum Ammonia Nitrogen (NH3-N) Limits permit section.
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	107 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in January.
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	90 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in February.
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	86 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in March.
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	35 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in April.

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	50 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in May.
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	38 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in June and October.
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	30 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in July.
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	44 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in August.
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	29 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in September.
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	108 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in November and December.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	63 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in January.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	66 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in February.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	61 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in March.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	33 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in April.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	41 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in May and August.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	42 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in June.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	34 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in July.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	30 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in September.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	39 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in October.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	78 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in November.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	71 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective in December.
E. coli	Geometric Mean - Monthly	126 #/100 ml	2/Week	Grab	Monitoring and limit effective May through September.

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
E. coli	% Exceedance	10 Percent	Monthly	Calculated	Monitoring and limit effective May through September. See the E. coli Percent Limit permit section. Enter the result in the eDMR on the last day of the month.
Chloride		mg/L	4/Month	24-Hr Flow Prop Comp	Monitoring only January 2029 through December 2029. Sampling shall be conducted on four consecutive days one week per month.
Mercury, Total Recoverable	Daily Max	2.6 ng/L	Quarterly	Grab	Alternative Effluent Limitation. See the Mercury Monitoring permit section and the Mercury Pollutant Minimization Program Schedule.
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.
Phosphorus, Total	Monthly Avg	1.0 mg/L	3/Week	24-Hr Flow Prop Comp	
Phosphorus, Total	6-Month Avg	0.6 mg/L	3/Week	24-Hr Flow Prop Comp	This is an Adaptive Management interim limit effective upon permit issuance until April 30, 2026.
Phosphorus, Total	6-Month Avg	0.5 mg/L	3/Week	24-Hr Flow Prop Comp	This is an Adaptive Management interim limit that goes into effect May 1, 2026. See the Schedules section and effluent requirements in the permit.
Phosphorus, Total		lbs/day	3/Week	Calculated	Calculate the daily mass discharge of phosphorus in

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
					lbs/day on the same days phosphorus sampling occurs. Mass (lbs/day) = Concentration (mg/L) x Flow (MGD) x 8.34
Nitrogen, Total Kjeldahl		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Nitrite + Nitrate Total		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Total		mg/L	Quarterly	Calculated	Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen.
Acute WET	Daily Max	1.0 TUa	See Listed Qtr(s)	24-Hr Flow Prop Comp	See the Whole Effluent Toxicity (WET) Testing permit section.
Chronic WET	Monthly Avg	3.0 TUc	See Listed Qtr(s)	24-Hr Flow Prop Comp	See the Whole Effluent Toxicity (WET) Testing permit section.

3.1.1 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.

- **Flow** – The sample frequency for flow has been changed from "continuous" to "daily" for eDMR reporting purposes.
- **E. coli –** Fecal coliform monitoring and limits have been replaced with Escherichia coli (E. coli) monitoring and limits.
- **Phosphorus** – Updated adaptive management interim limit from 0.6 mg/L to 0.5 mg/L (as a 6-month average) to become effective May 1, 2026.
- **Mercury –** Decreased the mercury variance alternative effluent limit to 2.6 ng/L as a daily maximum (from 3.2 ng/L) and updated pollutant minimization program measures (PMPs) throughout the permit term.
- **PFOS and PFOA –** Addition of PFOS/PFOA monitoring at a frequency of every other month in accordance with s. NR 106.98(2), Wis. Adm. Code.

3.1.2 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 September 4, 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.

E. coli – E. coli effluent limits of 126 #/100 mL as a monthly geometric mean that may not be exceeded and 410 #/100 mL as a daily maximum that may not be exceeded more than 10 percent of the time in any calendar month are effective at permit reissuance. Section NR 102.04(5)(a), Wis. Adm. Code, states that all surface waters shall be suitable for recreational use and meet the E. coli criteria established to protect this use. As part of the reissuance process, the requirements for disinfection were reviewed under s. NR 210.06(3), Wis. Adm. Code. Disinfection is required May through September annually.

Phosphorus – New administrative rules for phosphorus discharges took effect December 1, 2010. Details regarding the administrative rules for phosphorus discharges may be found at: https://dnr.wisconsin.gov/topic/Wastewater/Phosphorus. Phosphorus rules are contained in s. NR 102.06 and ch. NR 217, Subchapter III, Wis. Adm. Code. A monthly average interim limit of 1 mg/L is effective upon reissuance and remains in effect for the duration of the reissued permit term. An Adaptive Management interim limit of 0.5 mg/L expressed as a 6-month average (averaging period of May through October and November through April) becomes effective May 1, 2026. Compliance with the 6-month average interim limit is evaluated at the end of each six-month period on April 30th and October 31st annually.

Adaptive Management for Total Phosphorus Compliance – The permittee requested and the Department approved a plan to implement a watershed adaptive management approach under s. NR 217.18, Wis. Adm. Code, and s. 283.13(7) Wis. Stats., as a means to achieve compliance with the phosphorus water quality standard in s. NR 102.06, Wis. Adm. Code. The phosphorus limitations and conditions in this permit reflect the approved Adaptive Management (AM) Plan No. AM-2025-02 (September 2025). The permittee shall implement the actions identified in the approved AM Plan in accordance with the goals and measures identified. The goal of the AM Plan is to reduce phosphorus loadings within the watershed action area by a minimum of 1,106 lbs/yr by the end of this permit term. In addition, annual reports are required. See the Schedules section for more details. The Department may terminate the AM option based on the reasons enumerated in NR 217.18(3)(e)2, Wis. Adm. Code. Surface water monitoring requirements are included in the proposed permit in support of the goals and measures of the Adaptive Management Plan. Sampling is required on the day(s) each week as outlined in the approved Adaptive Management Plan.

Mercury – Requirements for mercury are included in s. NR 106.145, Wis. Adm. Code. (See http://dnr.wi.gov/topic/Mercury/). The City of Stoughton applied for a mercury variance, under the provisions of s. NR 106.145, Wis. Adm. Code, with its application for permit reissuance. The previous permit also included a mercury variance. The Department reviewed Stoughton's application for a mercury variance. The information supplied in the application supports the request. The proposed permit requires the permittee to implement a Mercury Pollutant Minimization Program (PMP) and submit annual progress reports each year by January 31st.

The Department concludes that the City of Stoughton is qualified for a variance from the water quality standard for mercury and proposes reissuance of this permit with the proposed variance.

PFOS and PFOA – NR 106 Subchapter VIII - Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. Pursuant to s. NR 106.98(3)(b), 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. Every other month monitoring is included in the permit in accordance with s. NR 106.98(2)(c), Wis. Adm. Code.

Acute and Chronic WET – Testing is required during the following quarters: July – September 2026; October – December 2027; April – June 2028; January – March 2029; and July – September 2030.

4 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	Anaerobic Digestion	Injection	Land Application	90 dry US tons/year
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? No.						
Is a priority pollutant scan required? N/A						

4.1 Sample Point Number: 002- 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	
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	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Total Kjeldahl		Percent	Annual	Composite	
Nitrogen, Ammonium (NH4-N) Total		Percent	Annual	Composite	
Phosphorus, Total		Percent	Annual	Composite	
Phosphorus, Water Extractable		% of Tot P	Annual	Composite	
Potassium, Total Recoverable		Percent	Annual	Composite	
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	Monitoring required in 2027. See Sludge Analysis for PCBs and the Standard Requirements section for Monitoring and Calculating PCB Concentrations in Sludge.
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	Monitoring required in 2027. See Sludge Analysis for PCBs and the Standard Requirements section for Monitoring and Calculating PCB Concentrations in Sludge.
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 Permit Sections for more information.

4.1.1 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.

- **PCBs** – The year in which PCB monitoring is required has been updated to 2027.
- **PFAS** – Monitoring is required annually pursuant to s. NR 204.06(2)(b)9., Wis. Adm. Code.

4.1.2 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.

5 Schedules

5.1 Mercury Pollutant Minimization Program

As a condition of the variance to the water quality based effluent limitation(s) for mercury granted in accordance with s. NR 106.145(6), Wis. Adm. Code, the permittee shall perform the following actions.

Required Action	Due Date
Annual Mercury Progress Reports: Submit an annual mercury progress report related to the pollutant minimization activities for the previous year. The annual mercury progress report shall: Indicate which mercury pollutant minimization activities or activities outlined in the Pollutant Minimization Program Plan have been implemented and state which, if any, activities from the Pollutant Minimization Program Plan were not pursued and why; Include an assessment of whether each implemented pollutant minimization activity appears to be effective or ineffective at reducing pollutant discharge concentrations and identify actions planned for the upcoming year; Identification of barriers that have limited program effectiveness and adjustments to the program that will be implemented during the next year to help address these barriers; Include an analysis of trends in total effluent mercury concentrations based on mercury sampling; and Include an analysis of how influent and effluent mercury varies with time and with significant loading of mercury. The first annual mercury progress report is to be submitted by the Due Date.	01/31/2027
Annual Mercury Progress Report #2: Submit a mercury progress report, related to the pollutant minimization activities for the previous year, as defined above.	01/31/2028
Annual Mercury Progress Report #3: Submit a mercury progress report, related to the pollutant minimization activities for the previous year, as defined above.	01/31/2029
Annual Mercury Progress Report #4: Submit a mercury progress report, related to the pollutant minimization activities for the previous year, as defined above.	01/31/2030
Final Mercury Report: Submit a final report documenting the success in reducing mercury	09/30/2030

concentrations in the effluent, as well as the anticipated future reduction in mercury sources and mercury effluent concentrations. The report shall: Summarize mercury pollutant minimization activities that have been implemented during the current permit term and state which, if any, activities from the Pollutant Minimization Program Plan were not pursued and why; Include an assessment of which pollutant minimization activities appear to have been effective or ineffective. Evaluate any needed changes to the pollutant reduction strategy accordingly; Identification of barriers that have limited program effectiveness and adjustments to the program that will be implemented during the next variance term (if applicable) to help address these barriers; Include an analysis of trends in mercury concentrations based on sampling and data during the current permit term; and Include an analysis of how influent and effluent mercury varies with time and with significant loadings of mercury. If the permittee intends to reapply for a mercury variance per s. NR 106.145, Wis. Adm. Code, for the reissued permit, a detailed Pollutant Minimization Program Plan outlining the pollutant minimization activities proposed for the upcoming permit term shall be submitted along with the final report. An updated pollutant minimization plan shall: Include an explanation of why or how each pollutant minimization activity will result in reduced discharge of the target pollutant; Evaluate any new available information on pollutant sources, timing, and concentration to update the mass balance assumptions and expected sources of the pollutant, and Identify any information needs that would help to better determine pollutant sources and make plans to collect that information.	
Annual Mercury Reports After Permit Expiration: In the event that this permit is not reissued by the date the permit expires, the permittee shall continue to submit annual mercury reports for the previous year following the due date of Annual Mercury Progress Reports listed above. Annual Mercury Progress reports shall include the information as defined above.	

5.1.1 Explanation of Schedule

Mercury Pollutant Minimization Program – This schedule is included as a condition of the variance from the water quality-based effluent limitation(s) for mercury granted in accordance with s. NR 106.145(6), Wis. Adm. Code. The schedule requires annual reports be submitted each year by the due date.

5.2 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. This report shall include all additional PFOS and PFOA data that may be collected including any	03/31/2027

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.	03/31/2028

5.2.1 Explanation of Schedule

PFOS/PFOA Minimization Plan Determination of Need – 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.

5.3 Watershed Adaptive Management Option Annual Report Submittals

The permittee shall submit annual reports on the implementation of AM Plan No. AM-2025-02 (September 2025) as specified in Sections 3.2.1.4 and 3.2.1.5 and the following schedule.

Required Action	Due Date
Annual Adaptive Management Report #6: Submit an annual adaptive management report. The annual adaptive management report shall: o Confirm continued support of AM Plan No. AM-2025-02 (September 2025) with a narrative describing the permittee's support of the Plan and demonstrate fulfillment of the permittee's deliverables specified under the Yahara WINS intergovernmental agreement.	07/31/2026
Annual Adaptive Management Report #7: Submit an Adaptive Management report as defined above.	07/31/2027
Annual Adaptive Management Report #8: Submit an Adaptive Management report as defined above.	07/31/2028

Annual Adaptive Management Report #9: Submit an Adaptive Management report as defined above.	07/31/2029
Final Adaptive Management Report for 2nd Permit Term: Submit an Adaptive Management report as defined above. The report shall summarize continued support for AM Plan No. AM-2025-02 (September 2025) throughout the next permit term and indicate continued participation in the Yahara WINS intergovernmental agreement.	07/31/2030
Renewal of Adaptive Management Plan for Permit Reissuance: If the permittee intends to seek continued coverage under AM Plan No. AM-2025-02 (September 2025) per s. NR 217.18, Wis. Adm. Code, for the reissued permit term, this schedule may be modified to incorporate any changes in AM goals and actions, removed if the AM program is terminated per the Adaptive Management Reopener Clause section, or removed if the adaptive management plan has achieved water quality standards as determined by the Department within the AM action area.	09/30/2030
Annual Adaptive Management Report #10: Submit an Adaptive Management report as defined above.	07/31/2031
Annual Adaptive Management Report #11: Submit an Adaptive Management report as defined above.	07/31/2032
Annual Adaptive Management Report #12: Submit an Adaptive Management report as defined above.	07/31/2033
Annual Adaptive Management Report #13: Submit an Adaptive Management report as defined above.	07/31/2034
Final Adaptive Management Report for 3rd Permit Term: Submit an Adaptive Management report as defined above. The report shall summarize continued support for AM Plan No. AM-2025-02 (September 2025) throughout the next permit term and indicate continued participation in the Yahara WINS intergovernmental agreement.	07/31/2035
Renewal of Adaptive Management Plan for Permit Reissuance: If the permittee intends to seek continued coverage under AM Plan No. AM-2025-02 (September 2025) per s. NR 217.18, Wis. Adm. Code, for the reissued permit term, this schedule may be modified to incorporate any changes in AM goals and actions, removed if the AM program is terminated per the Adaptive Management Reopener Clause section, or removed if the adaptive management plan has achieved water quality standards as determined by the Department within the AM action area.	09/30/2035
Annual Adaptive Management Report #14: Submit an Adaptive Management report as defined above.	07/31/2036
Annual Adaptive Management Report #15: Submit an Adaptive Management report as defined above.	07/31/2037
Annual Adaptive Management Report #16: Submit an Adaptive Management report as defined above.	07/31/2038
Annual Adaptive Management Report #17: Submit an Adaptive Management report as defined above.	07/31/2039
Final Adaptive Management Report: Submit an Adaptive Management report as defined above. The report shall summarize continued support for AM Plan No. AM-2025-02 (September 2025) throughout the next permit term and indicate continued participation in the Yahara WINS intergovernmental agreement.	07/31/2040
Achieve Water Quality Standards and Adaptive Management Plan Success: All the receiving	03/31/2041

waters identified within the AM Plan No. AM-2025-02 (September 2025) shall be measured for success in accordance with Section IV of the AM Plan. Compliance may be demonstrated using effluent data and watershed modeling that uses similar assumptions as the TMDL to demonstrate that the sum total of the allocations have been achieved for each reach. If some, but not all, reaches are complying with the allocations of the TMDL, only those point sources in the complying reaches will be considered in compliance at the end of the adaptive management period. The permittee shall continue to comply with applicable effluent limits (required under s. NR 217.18(3)(e)3, Wis. Adm. Code, expressed as a 6-month avg and 1.0 mg/L monthly avg) and continue support of monitoring per AM-2025-02 (September 2025) at a minimum of monthly May through October for total phosphorus. If the allocations in the TMDL have been achieved but the applicable phosphorus water quality criterion in s. NR 102.06, Wis. Adm. Code, has not been achieved for the facility's receiving water, consistent with s. 283.13(5), Wis. Stats., and Clean Water Act section 301(b)(1)(C), further evaluation and additional actions will be necessary in the next reissued permit as necessary to achieve phosphorus water quality criterion (e.g., DNR reevaluation of TMDL allocations, imposition of more stringent limits, etc.).	

5.3.1 Explanation of Schedule

Watershed Adaptive Management Option Annual Report Submittals – This compliance schedule requires the permittee to submit annual Adaptive Management (AM) reports that show progress towards meeting the goals and measures contained in the approved AM Plan. The schedule may be modified at permit reissuance, should changes in AM goals and measures or timing necessitate different dates for schedule items.

Pursuant to s. NR 217.18(1), Wis. Adm. Code, phosphorus water quality criteria must be achieved "as soon as possible". The duration for this adaptative management schedule is 15 years. This timeframe is consistent with the approved AM Plan, and represents the shortest possible duration based upon the following factors that influence time required for the water body to achieve the phosphorus criterion:

- Magnitude of point and/or nonpoint source phosphorus reductions required;
- Costs associated with point and/or nonpoint source phosphorus reductions;
- For nonpoint source reductions, the time required to contact landowners and receive adequate participation to implement practices;
- Physical characteristics of the watershed and receiving water, including landuse, soil properties, slopes, channel gradient, and level of legacy sediment/phosphorus currently in the system.

5.4 Land Application Management Plan

A management plan is required for the land application system.

Required Action	Due Date
Land Application Management Plan Submittal: Submit an update to the 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. Once approved, all landspreading 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.	03/31/2027

5.4.1 Explanation of Schedule

Land Application Management Plan Submittal – This schedule requires the permittee to submit an updated Land Application Management Plan to demonstrate compliance with ch. NR 204, Wis. Adm. Code. The plan is due by the Due Date or at least 60 days prior to landspreading sludge.

Attachments

Water Quality-Based Effluent Limitations for the Stoughton Wastewater Treatment Facility WPDES Permit No. WI-0020338-10-0, by Sarah Luck, Water Resources Engineer, dated September 4, 2025

City of Stoughton, Mercury Pollutant Minimization Program (PMP) Plan, dated 12/31/24

Mercury Variance EPA Data Sheet

Adaptive Management Plan No. AM-2025-02 (September 2025)

Adaptive Management Conditional Approval Letter (November 2025)

Justification Of Any Waivers From Permit Application Requirements

No waivers from permit application requirements were requested or granted.

Prepared By: Sarah Donoughe, Wastewater Specialist-Adv **Date:** November 24, 2025

Stoughton Utilities

600 South Fourth Street

P.O. Box 383

Stoughton, WI 53589-0383

Serving Electric, Water & Wastewater Since 1886

Mercury PMP

V1 – 12/31/24

Developed by: Kevin Hudson

City of Stoughton

WPDES Permit No. WI-0020338-09-0

Authorized Representative: Kevin Hudson – Wastewater Systems Supervisor

khudson@stoughtonutilities.com

1-608-480-9723

Contents

Background

The Stoughton Wastewater Utility developed a Mercury Pollutant Minimization Program (PMP) in 2009 as a requirement of the Stoughton WWTP WPDES permit. This program, combined with ongoing improvements to the collection system, has significantly reduced mercury concentrations entering the Stoughton WWTP. Through testing and consultation, it was determined that legacy mercury was a major contributor to mercury in the collection system. To address this issue, efforts were focused on replacing failing collection system components, such as sewers and manholes, and reducing infiltration and inflow (I&I). Additionally, several clay pipes were lined where replacement was not feasible.

The Utility also built partnerships with businesses and industries to ensure Best Management Practices (BMPs) were implemented and followed. Public outreach efforts included placing advertisements in local newspapers and adding informational flyers to billing statements to raise awareness about mercury exposure and disposal. These efforts encouraged residents to utilize Dane County Clean Sweep for the proper disposal of mercury-containing items.

Since 2009, the Utility has prioritized promoting the use of mercury BMPs across four main waste-discharging sectors: Medical, Dental, Industrial, and Educational. It has worked to ensure that key personnel at these facilities are aware of the hazards associated with uncontained mercury and are educated on proper handling and disposal methods. This outreach has resulted in a successful BMP implementation program across these sectors.

The effectiveness of these efforts is evident in the reduction of mercury levels in the wastewater collection system. Historical sampling records since 2017 (see Table 1) demonstrate a steady decline in mercury concentrations in the wastewater since the program's inception.

Current Efforts

The Utility's current efforts remain focused on the four main waste-discharging sectors. Utility staff members personally contact the facility managers of each waste discharger in these sectors annually. During these conversations, facility managers are asked to confirm adherence to mercury BMPs and are reminded to retain any related documentation for potential future site inspections (see Tables 2, 3, 4, and 5 for the current site inventory).

Additionally, the Utility promotes the Dane County Department of Waste & Renewables as a resource for customers seeking guidance on proper disposal of hazardous household items. The Utility continuously raises awareness through outreach efforts conducted throughout the year. These efforts include the use of social media, newspaper advertisements, billing inserts, and verbal communication. All outreach activities are recorded, and contact information is updated annually.

The Stoughton Wastewater Utility developed its Mercury Pollutant Minimization Program (PMP) in 2009 as a requirement of its WPDES permit. Over the years, data has demonstrated that these outreach and prevention efforts have been highly effective in reducing mercury levels entering Stoughton's WWTP. Building on this success, the Utility plans to enhance its outreach and initiatives to further reduce mercury concentrations in the future.

Future Efforts

The Utility remains committed to further reducing levels. While the implementation of BMPs by system users has reduced mercury inputs, the goal is to achieve consistently lower test results. Research and follow-up discussions with former operators and independent consultants have provided valuable insights into potential legacy mercury sources persisting in the collection system.

The Utility has undertaken multiple projects to replace aging components of the collection system each year, with several more projects planned for the future. Many of these initiatives focus on areas still utilizing clay tile piping and brick manholes, some of which have received industrial discharges for decades. Atmospheric mercury introduced through inflow and infiltration may also be contributing to the problem in these same areas. Investigation, diagnosis, and repair of these sections are expected to help eliminate potential legacy sources of mercury.

During the next permit term, the Utility plans to enhance its outreach efforts and increase monitoring of influent and the collection system to identify potential sources of mercury. Once a source is identified, the Utility will update its Mercury PMP plan and take appropriate actions to address the issue using the most current BMPs. (See Table 6 for the outreach schedule.)

Conclusion

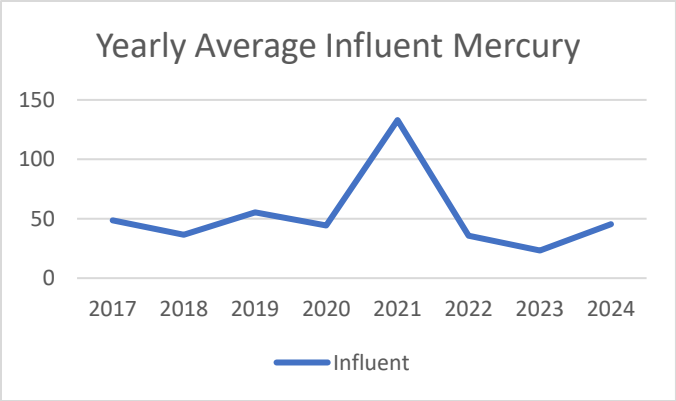
The Stoughton Utilities Wastewater Department operates with a staff of four employees who are responsible for maintaining a 58-mile collection system, six lift stations, and the wastewater treatment plant (WWTP). In addition to these responsibilities, staff members also assist the Water and Electric divisions. This limited staffing, combined with budget constraints, presents challenges in dedicating significant time to the Mercury Pollutant Minimization Program (PMP).

Despite these limitations, the outlined efforts represent the most effective use of available resources to reduce mercury levels entering the treatment facility. The Utility's staff takes pride in being stewards of the environment and is committed to protecting the waters of the Yahara Watershed. This dedication drives their determination to ensure the success of the mercury PMP and the overall health of the environment.

The Utility has requested to maintain its current variance of 3.2 ng/L to allow sufficient time for continued data collection and further progress on collection system replacements. Efforts to raise community awareness and provide education about mercury have also been expanded. These initiatives, combined with the ongoing replacement of aging infrastructure, will enable the Utility to make informed decisions and implement effective strategies to minimize mercury discharge to the greatest extent possible.

Table #1 – Historical Data (yearly average mercury results)

Total Recoverable Mercury Annual Averages			
Year	Inf conc ng/L	Eff Conc ng/L	Biosolids Conc mg/kg
2017	48.75	1.25	ND
2018	36.5	1.20	ND
2019	55.25	1.30	ND
2020	44.25	0.97	0.70
2021	133.00	1.18	ND
2022	35.75	1.65	ND
2023	23.25	0.98	ND
2024	45.5	0.74	ND
8 yr avg	52.78	1.15	0.08



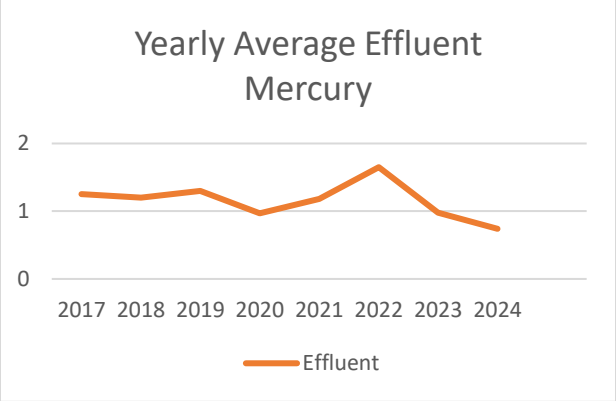


Table #2 - Industrial Facility Inventory

Name	Address	City, State, Zip Code	Type of Facility	Contact	Phone
ZinkPower	2443 County Hwy A	Stoughton, WI 53589	Metal Fab/Welding	Heidi Smith	608-889-7200
Emmi Roth	1800 Williams Dr	Stoughton, WI 53589	Cheese Packaging	Zach Thayer	608-285-9800
Cummins Emission Solutions	1801 US Hwy 51-139	Stoughton, WI 53589	Manufacturing	Trampas Walker	608-449-2322
Uniroyal Global Engineered Products, LLC	501 S. Water St	Stoughton, WI 53589	Engineered Products	Ron Justice	608-873-6631 #349

Table #3- Medical Facility Inventory

Name	Address	City, State, Zip Code	Type of Facility	Contact	Phone
Stoughton Hospital	900 Ridge St.	Stoughton, WI 53589	Hospital	Angela Rowin	608-873-2327
Dean Clinic	225 Church St.	Stoughton, WI 53589	Clinic	Stephanie Wilkinson	608-877-2777
UW Health	1001 Nygaard St.	Stoughton, WI 53589	Clinic	Micheal Holman	608-890-5273
Meriter Clinic	100 Silverado Dr.	Stoughton, WI 53589	Clinic	Lance Winslow	608-417-6484
Azura	1221 E. Main St.	Stoughton, WI 53589	Nursing Home	Mike Lien	414-313-4848
Milestone	220 Lincoln Ave.	Stoughton, WI 53589	Nursing Home	Hunter Rowin-Brown	608-286-0316
Skaalen Nursing	400 N Morris St.	Stoughton, WI 53589	Nursing Home	Kris Krentz	608-873=5651
Nazareth Health	814 Jackson St.	Stoughton, WI 53589	Nursing Home	Jason Williams	608-873-6448
Chalet Veterinary	1621 E. Main St.	Stoughton, WI 53589	Veterinary	Christina Drake	608-873-8112
Stoughton Veterinary	1900 US HWY 51-138	Stoughton, WI 53589	Veterinary	Julie Erdmann	608-873-8022
Lakeland Veterinary	2125 McComb Rd.	Stoughton, WI 53589	Veterinary	Teresn Osgood	608-877-8800

Table #4 - School and Educational Facility Inventory

Name	Address	City, State, Zip Code	Contact	Phone
Stoughton High School	600 Lincoln St	Stoughton, WI 53589	Kyle Smith	608-877-5071
Stoughton Middle School	235 Forest St	Stoughton, WI 53589	Kyle Smith	608-877-5071

Table #5- Dental Facility Inventory ***(all have amalgam separators installed)***

Name	Address	City, State, Zip Code	Type of Facility	Contact	Phone
Yahara Dental	1520 Vernon St	Stoughton, WI 53589	Dental	Paula Hanley	608-873-7277
Adriana Jarmillo DDS	1200 Nygaard St	Stoughton, WI 53589	Dental	Adriana Jaramillo	608-873-6464
Stoughton Family Dental	101 W. Main St	Stoughton, WI 53589	Dental	Steven Dow	608-873-6271
First choice Dental	1300 Nygaard St	Stoughton, WI 53589	Dental	Kristin Ryan	608-849-5600
Doctors Park Dental	1520 Vernon St	Stoughton, WI 53589	Dental	Paula Hanley	608-873-7277
Greater Madison Orthodontics	800 Lincoln Ave	Stoughton, WI 53589	Ortho	Wendy Kalmerton	608-873-7888
Dane Dental	1712 US Hwy 51	Stoughton, WI 53589	Dental	Amy Dullere	608-889-7901

Table #6 – Plan activities

MPMP Continued & Ongoing Activities	1st Year	2nd Year	3rd Year	4th Year	5th Year
1. Sector Inventories					
a. Continue to update the list of facility inventories in Tables 2-5 to keep the records current.	X	X	X	X	X
b. Identify new facilities that may need to be added to current site inventory. Eliminate facilities that do not meet sector requirements.	X	X	X	X	X
2. Site Inspections					
a. Perform annual industrial inspections for facilities covered under the City's Pretreatment Program.	X	X	X	X	X
b. Maintain the ability to randomly inspect and sample facilities.	X	X	X	X	X
c. Perform inspections at facilities when cause is identified (ie. sampling results).	X	X	X	X	X
d. Perform follow-up actions in response to deficiencies identified during inspections (both with pretreatment facilities and others identified).	X	X	X	X	X
3. Facility Annual Contacts					

a.	Contact each facility listed in the most up to date inventory to ensure that they are following the mercury BMPs as directed.	X	X	X	X	X
4.	**Education and Outreach**					
a.	Update educational materials and provide to the public regarding mercury and proper disposal.	X	X	X	X	X
b.	Promote local Clean Sweep Program.	X	X	X	X	X
5.	**Capacity, Management, Maintenance & Operation (CMOM)**					
a.	Continue to implement O&M actions identified in the City's CMOM to reduce the amount of clear water (atmospheric mercury source) entering the system.	X	X	X	X	X

MPMP New Activities	**1st Year**	**2nd Year**	**3rd Year**	**4th Year**	**5th Year**
1. Sewer Use Ordinance					
a. Establish a new mercury limit of 1.3 ng/L for the sewer use ordinance.	X				
MPMP New Sampling Activities					
2. Industrial Sampling					
a. **Spot check* industrial dischargers by performing s*pot checks* throughout the year.	X	X	X	X	X
b. If necessary, perform follow-up inspections and/or issue a notification as part of the City's Pretreatment Program.	X	X	X	X	X
3. Collection System Sampling					
a. Develop a sampling plan for evaluating legacy mercury within the collection system. This plan should identify older parts of town, areas of heavy I/I, and potential key locations as the focus for monitoring.	X				
b. Implement the sampling plan to identify locations throughout the system with higher levels of mercury. Based on other collected industrial data and general information, areas of legacy mercury should be identified by the end of the sampling.	X				

Sampling Activities

Industrial Sampling

Spot checks are defined as grab samples taken from specific locations to determine mercury discharges at those sites. For industrial users, the grab sample will be collected at a designated sampling point within the facility, the sanitary lateral, or the first available manhole downstream from the facility. The sample should be representative of the facility's discharges.

One industrial facility will be spot-checked each quarter. These samples will align with the quarterly mercury sampling conducted at the wastewater treatment facility for efficiency. Quarterly samples may be collected at any time within the respective quarter. Under this schedule, four industrial facilities will be spot-checked each year, ensuring that all industrial facilities are evaluated over a four-year period.

Collection System Sampling

Grab samples will be collected from locations within the collection system where legacy mercury is suspected to be present. Sampling efforts will focus on identifying areas with the highest concentrations of legacy mercury. Findings will inform and prioritize collection system repairs to effectively address these sources.

Facility Specific Mercury Variance Data Sheet

Directions: Please complete this form electronically. Record information in the space provided. Select checkboxes by double clicking on them. Do not delete or alter any fields. For citations, include page number and section if applicable. Please ensure that all data requested are included and as complete as possible. Attach additional sheets if needed.

Section I: General Information

A. Name of Permittee: City of Stoughton

B. Facility Name: Stoughton Wastewater Treatment Facility

C. Submitted by: Wisconsin Department of Natural Resources

D. State: Wisconsin **Substance:** Mercury **Date completed:** November 25, 2025

E. Permit #: WI-0020338-10-0 **WQSTS #:** (EPA USE ONLY)

F. Duration of Variance **Start Date:** April 1, 2026 **End Date:** March 31, 2031

G. Date of Variance Application: October 8, 2024

H. Is this permit a: ☐ **First time submittal for variance**
☒ **Renewal of a previous submittal for variance** *(Complete Section X)*

I. Description of proposed variance:

The City of Stoughton seeks a variance to the water quality standards for mercury for its WWTF. The proposed variance for mercury, from the chronic water quality-based effluent limit of 1.3 ng/L, to an alternative mercury effluent limit (AMEL) of 2.6 ng/L, is expressed as a daily maximum limit. The permittee has submitted an application for an alternative mercury effluent limitation (AMEL). The application included a pollutant minimization program (PMP) plan for mercury as required under s. NR 106.145(8), Wis. Adm. Code. This is a request for a renewal of a variance EPA approved for the current permit term that had an AMEL of 3.2 ng/L. The Department concludes that the AMEL reflects the greatest pollutant reduction achievable by the permittee with the pollutant control technologies currently applied in the permittee's WWTF. The term of the proposed variance is five years, concurrent with the term of the proposed WPDES permit. The underlying designated uses and criteria of Wisconsin's mercury water quality standards (WQS) will be retained, and all other applicable WQS will remain in effect with adoption of the proposed variance.

Citation: An alternative mercury effluent limitation under s. NR 106.145, Wis. Adm. Code, represents a variance to water quality standards authorized by s. 283.15, Wis. Stats.

J. List of all who assisted in the compilation of data for this form

Name	Email	Phone	Contribution
Sarah Donoughe	Sarah.Donoughe@wisconsin.gov	920-366-6076	Permit Drafter/Variance Coordinator
Ashley Brechlin	Ashley.Brechline@wisconsin.gov	608-438-9930	Compliance Engineer
Sarah Luck	Sarah.Luck@wisconsin.gov	608-843-3876	Limits Calculator

Section II: Criteria and Variance Information

A. Water Quality Standard from which variance is sought: 1.3 ng/L Wildlife Criterion

B. List other criteria likely to be affected by variance: 1.5 ng/L Human Threshold Criterion

C. Source of Substance: dental offices, accidental releases/spills, industries, commercial businesses and hospital and/or medical facilities

D. Ambient Substance Concentration: Assumed background concentration is above the wildlife criterion. ☐ **Measured** ☒ **Estimated** ☐ **Default** ☒ **Unknown**

E. If measured or estimated, what was the basis? Include citation.

Surface water data stored in the Surface Water Integrated Monitoring System (SWIMS) database from 2002 to 2017 shows that background mercury concentration exceeds the wildlife mercury criteria of 1.3 ng/L in about 70% of surface waters. No site-specific background mercury data is available for the Yahara River, so the background concentration is assumed to be greater than 1.3 ng/L.

F. Average effluent discharge rate: 1.08 MGD (May 2020 – June 2025) **Maximum effluent discharge rate:** 2.146 MGD (4/2/2024)

G. Effluent Substance Concentration: 2.6 ng/L (1-day P99)
1.8 ng/L (4-day P99)
1.3 ng/L (30-day P99)
Mean = 1.1 ng/L

☒ **Measured** ☐ **Estimated** ☐ **Default** ☐ **Unknown**

H. If measured or estimated, what was the basis? Include Citation. 30-day P99 calculated using methods described in s. NR 106.05(5), Wis. Adm. Code, and based on effluent mercury data (May 2020 – June 2025).

I. Type of HAC:

☐ **Type 1: HAC reflects waterbody/receiving water conditions**
☐ **Type 2: HAC reflects achievable effluent conditions**
☒ **Type 3: HAC reflects current effluent conditions**

J. Statement of HAC: The Department has determined the highest attainable condition of the receiving water is achieved through the application of the variance limit in the permit, combined with a permit requirement that the permittee implement its Mercury PMP. Thus, the HAC at commencement of this variance is 2.6 ng/L, which reflects the greatest mercury reduction achievable with the current treatment processes, in conjunction with the implementation of the permittee's Mercury PMP. The current effluent condition is reflective of on-site optimization measures that have already occurred. This HAC determination is based on the economic feasibility of available compliance options for the Stoughton WWTF at this time (see Economic Section below). The permittee may seek to renew this variance in the subsequent reissuance of this permit; the Department will reevaluate the HAC in its review of such a request. A subsequent HAC cannot be defined as less stringent than this HAC.

K. Variance Limit: 2.6 ng/L as a daily maximum

L. Level currently achievable (LCA): 2.6 ng/L

M. What data were used to calculate the LCA, and how was the LCA derived? (*Immediate compliance with LCA is required.)*
1-day P99 calculated using methods described in s. NR 106.05(5), Wis. Adm. Code, and based on effluent mercury data (May 2020 – June 2025).

Citation: Section NR 106.145(5), Wis. Adm. Code.

N. Explain the basis used to determine the variance limit (which must be ≤ LCA). Include citation.
The variance limit = 1-day P99. The limit is established in accordance with s. NR 106.145(5), Wis. Adm. Code.

O. Select all factors applicable as the basis for the variance provided under 40 CFR 131.10(g). Summarize justification below: ☐ **1** ☐ **2** ☐ **3** ☐ **4** ☐ **5** ☒ **6**
Section NR 106.145(1), Wis. Adm. Code, outlines several findings that justify variances for mercury. The Department intended that this provision be generally applicable to all dischargers of mercury, which produce large volumes of effluent with already extremely low mercury concentrations. The Department considers treating to produce effluent at concentrations to meet the limit to be technically and economically infeasible.

Citation: Assessing the Economic Impacts of the Proposed Ohio EPA Water Rules on the Ohio Economy, April 24, 1997, Ohio Environmental Protection Agency, Division of Surface Water and Foster Wheeler Environmental Corporation and DRI/McGraw-Hill in support of Amended and New Rules in OAC Chapters 3745-1, -2, and -33.

Section III: Location Information

A. Counties in which water quality is potentially impacted: Dane; Rock

B. Receiving waterbody at discharge point: Yahara River

C. Flows into which stream/river? Rock River **How many miles downstream?** 15 miles

D. Coordinates of discharge point (UTM or Lat/Long): Lat: 42.91035° N / Long: 89.21348° W

E. What are the designated uses associated with this waterbody?
Warm Water Sport Fish (WWSF) community, non-public water supply and recreational use.

F. What is the distance from the point of discharge to the point downstream where the concentration of the substance falls to less than or equal to the chronic criterion of the substance for aquatic life protection?
Ambient mercury concentrations in surface water resulting from the variance will be substantially less than levels that result in direct toxicity to aquatic organisms. EPA's current chronic aquatic life criterion for mercury

is 0.9081 µg/L, which is approximately three orders of magnitude greater than the wildlife criteria (0.0013 µg/L). Wisconsin's criteria are 0.44 µg/L and 0.83 µg/L for chronic and acute toxicity, respectively. Therefore, instream concentrations are assumed to be well below the chronic criterion immediately at the point of effluent discharge.

G. Provide the equation used to calculate that distance See above.

H. Identify all other variance permittees for the same substance which discharge to the same stream, river, or waterbody in a location where the effects of the combined variances would have an additive effect on the waterbody: None.

Permit Number	Facility Name	Facility Location	Variance Limit [µg/L]
N/A			

Please attach a map, photographs, or a simple schematic showing the location of the discharge point as well as all variances for the substance currently draining to this waterbody on a separate sheet
See attached map "Stoughton WWTF Mercury Variances Map"

I. Is the receiving waterbody on the CWA 303(d) list? If yes, please list the impairments below. ☒ **Yes** ☐ **No** ☐ **Unknown**

River Mile	Pollutant	Impairment
0-22.6	Total Suspended Solids	Degraded Habitat
0-22.6	Total Phosphorus	Low DO

Section IV: Pretreatment (complete this section only for POTWs with DNR-Approved Pretreatment Programs. See w:\Variances\Templates and Guidance\Pretreatment Programs.docx)

A. Are there any industrial users contributing mercury to the POTW? If so, please list.
N/A

B. Are all industrial users in compliance with local pretreatment limits for mercury? If not, please include a list of industrial users that are not complying with local limits and include any relevant correspondence between the POTW and the industry (NOVs, industrial SRM updates and timeframe, etc)
N/A

C. When were local pretreatment limits for mercury last calculated?
N/A

D. Please provide information on specific SRM activities that will be implemented during the permit term to reduce the industry's discharge of the variance pollutant to the POTW
N/A

Section V: Public Notice

A. Has a public notice been given for this proposed variance? ☒ **Yes** ☐ **No**

B. If yes, was a public hearing held as well? ☒ **Yes** ☐ **No** ☐ **N/A**

C. What type of notice was given?
☒ **Notice of variance included in notice for permit** ☐ **Separate notice of variance**

D. Date of public notice: TBD (est. Dec. 12, 2025) **Date of hearing:** TBD (est. Jan. 26, 2026)

E. Were comments received from the public in regards to this notice or hearing? *(If yes, please attach on a separate sheet)* ☐ **Yes** ☐ **No**

Section VI: Human Health

A. Is the receiving water designated as a Public Water Supply? ☐ **Yes** ☒ **No**

B. Applicable criteria affected by variance: 1.5 ng/L Human Threshold Criterion

C. Identify any expected impacts that the variance may have upon human health, and include any citations:

- The proposed variance will not adversely affect human health directly through the drinking water.
- Wisconsin's fish consumption advisory program is designed to mitigate the effect of any ambient mercury concentration above the 1.5 ng/L water quality criterion for the protection of the fish-consuming human population by providing advice to the public to guide them on the amount of fish that may be consumed safely.

- Given the lack of wastewater treatment technologies capable of reducing mercury concentrations to achieve a 1.3 ng/L effluent limit, granting a variance in this situation is consistent with protecting the public health, safety and welfare because of the substantial public health and safety benefits of providing wastewater treatment, the continued commitment towards further mercury pollutant minimization, the Wisconsin fish advisory program, and the limited impact of the elevated effluent concentrations given the background mercury concentrations.
- DNR's findings suggest that mercury in walleye from Wisconsin lakes changed in the range of 0.5 to 0.8% per year depending on geographical position in the state during the period of 1982–2005. These trends may reflect geographically differing temporal trends in the amount of mercury deposited to Wisconsin lakes. However, long-term changes in other factors, such as water chemistry, fish growth rates, and lake levels, known to impact mercury bioavailability and accumulation may also be important. (Temporal trends of mercury concentrations in Wisconsin walleye (Sander vitreus), 1982–2005, Paul W. Rasmussen, Candy S. Schrank, Patrick A. Campfield. Ecotoxicology (2007) 16:541–550)y

Section VII: Aquatic Life and Environmental Impact

A. Aquatic life use designation of receiving water: Warm Water Sport Fish (WWSF)

B. Applicable criteria affected by variance: 1.3 ng/L Wildlife Criterion

C. Identify any environmental impacts to aquatic life expected to occur with this variance, and include any citations:

Not Likely to Adversely Affect

- Ambient mercury concentrations resulting from the variance will be substantially less than levels that result in direct toxicity to aquatic organisms. EPA's current chronic aquatic life criterion for mercury is 0.9081 µg/L, which is approximately three orders of magnitude greater than the wildlife criteria (0.0013 µg/L). Wisconsin's criteria are 0.44 µg/L and 0.83 µg/L for chronic and acute toxicity, respectively.
    - Hine's emerald dragonfly (Somatochlora hineana, endangered)
    - Higgins' Eye mussel (Lampsilis higgnsii, endangered)
    - Winged Mapleleaf mussel (Quadrula fragosa, endangered)
    - Spectaclecase (Cumberlandia monodonta, candidate)
    - Sheepnose (Plethobasus cyphyus, candidate)

- Low trophic level prey where mercury in prey is unlikely to accumulate to toxic levels in the organism.
    - Piping plover (Charadrius melodus, endangered)
    - Eastern massasauga rattlesnake (Sistrurus catenatus catenatus, candidate)

May Affect, Not Likely to Adversely Affect

- Bald eagle (Haliaeetus leucocephalus, Delisted due to Recovery)

Bald eagles consume fish and waterfowl from surface waters, which puts them at risk of exposure to toxic levels of mercury due to bioaccumulation of mercury in their prey organisms. However, despite the potential for exposure, ambient surface water data show that in recent decades, mercury levels have not increased and bald eagle populations have continued to grow. This indicates that current ambient concentrations of mercury and mercury concentrations in prey organisms do not appear to be limiting recovery of bald eagle populations in Wisconsin. Although this variance will allow permitted dischargers additional time to identify and control sources of mercury in their discharges, the pollutant minimization component of the variances should result in a net reduction in the amount of mercury discharged to Wisconsin surface waters from permitted point sources, further reducing any risk to bald eagles. In addition, the pollutant minimization programs encourage other pollution prevention efforts, which has a beneficial indirect effect of reducing the use and production of products and processes that use or contribute mercury to the environment. These efforts will also benefit bald eagles.

D. List any Endangered or Threatened species known or likely to occur within the affected area, and include any citations:

Because mercury is pervasive, persistent and bioaccumulating in the environment we considered all species listed for the entire state of Wisconsin. The following list contains the Federally Endangered and Threatened Species in Wisconsin from U.S. Fish and Wildlife Service, Region 3, October 2025.

BIRDS

Piping Clover (E)

CLAMS
Higgins Eye (E)
Sheepnose Mussel (E)
Snuffbox Mussel (E)
Spectaclecase (mussel) (E)
Winged Mapleleaf (E)
MAMMALS
Indiana bat (E)
Norther Long-eared Bat (E)
REPTILES
Eastern Massasauga (T)
SNAILS
Iowa Pleistocene snail (E)
INSECTS
Hine's emerald dragonfly (E)
Karner Blue Butterfly (E)
Poweshiek skipperling (E)
Rusty Patched Bumble Bee (E)
FLOWERING PLANTS
Dwarf lake iris (T)
Eastern prairie fringed orchid (T)
Fassett's locoweed (T)
Mead's Milkweed (T)
Northern wild monkswood (T)
Pitcher's thistle (T)
Prairie Bush Clover (T)

Citation: U.S. Fish & Wildlife Service – Environmental Conservation Online System (http://www.fws.gov/endangered/) and National Heritage Index (http://dnr.wi.gov/topic/nhi/)

Section VIII: Economic Impact and Feasibility

A. Describe the permittee's current pollutant control technologies in the treatment process:
Stoughton serves a population of approximately 13,000 people as well as several significant industries. This facility is a conventional activated sludge plant consisting of fine screening, grit removal, primary settling, and biological treatment including Bio-P removal, final clarification and UV disinfection. Waste sludge is thickened in a dissolved air flotation thickener before being combined with primary sludge and anaerobically digested. The digested sludge is dewatered on a gravity belt thickener before storage. Landspreading on Department approved farmland is the final disposal option for the stored biosolids. Backup chemical is available to treat side streams (or the forward flow if necessary) for phosphorus. The collection system for the City of Stoughton is a separate sewer system with no constructed overflow points. The City is also covered under a "no exposure certification" for storm water.

B. What modifications would be necessary to comply with the current limits? Include any citations.
The Department did not evaluate what actions or modifications or other changes would be needed to meet limits based on the water quality standard. As discussed below, the Department considers treating to produce effluent at concentrations to meet the limit to be technically and economically infeasible.

Citation: Assessing the Economic Impacts of the Proposed Ohio EPA Water Rules on the Ohio Economy, April 24, 1997, Ohio Environmental Protection Agency, Division of Surface Water and Foster Wheeler Environmental Corporation and DRI/McGraw-Hill in support of Amended and New Rules in OAC Chapters 3745-1, -2, and -33.

C. Identify any expected environmental impacts that would result from further treatment, and include any citations:
See above.

D. Is it technically and economically feasible for this permittee to modify the treatment process to reduce the level of the substance in the discharge? ☐ **Yes** ☒ **No** ☐ **Unknown**

The Department considers treating to produce effluent at concentrations to meet the limit to be technically and economically infeasible.

Citation: Assessing the Economic Impacts of the Proposed Ohio EPA Water Rules on the Ohio Economy, April 24, 1997, Ohio Environmental Protection Agency, Division of Surface Water and Foster Wheeler Environmental Corporation and DRI/McGraw-Hill in support of Amended and New Rules in OAC Chapters 3745-1, -2, and -33.

E. If treatment is possible, is it possible to comply with the limits on the substance? ☐ **Yes** ☒ **No** ☐ **Unknown**

F. If yes, what prevents this from being done? Include any citations.
See above.

G. List any alternatives to current practices that have been considered, and why they have been rejected as a course of action, including any citations:
See above.

Section IX: Compliance with Water Quality Standards

A. Describe all activities that have been, and are being, conducted to reduce the discharge of the substance into the receiving stream. This may include existing treatments and controls, consumer education, promising centralized or remote treatment technologies, planned research, etc. Include any citations.
The permittee has a Pollutant Minimization Program (PMP) Plan in place to reduce mercury discharge into the water way. The PMP Plan is to identify and target sources (i.e., dental offices, hospitals, schools and industries) of mercury from discharging into the sanitary sewer or water ways. In continuing efforts to reduce mercury, the permittee holds Clean Sweep programs annually and basal or fever thermometers have been prohibited within the City since 2006. See the PMP annual reports for more details.

B. Describe all actions that the permit requires the permittee to complete during the variance period to ensure reasonable progress towards attainment of the water quality standard. Include any citations.
The permit contains a variance to the wildlife water quality-based criterion for mercury granted in accordance with s. 283.15, Stats. As conditions of this variance the permittee shall (a) maintain effluent quality at or below the interim effluent limitation specified in the permit, (b) implement the mercury pollutant minimization measures specified in the Pollutant Minimization Program Plan dated 12/31/24, and (c) perform the actions listed in the Mercury Pollutant Minimization Program Schedule (see the Schedules section of the proposed permit).

Section X: Compliance with Previous Permit *(Variance Reissuances Only)*

A. Date of previous submittal: July 16, 2019 **Date of EPA Approval:** August 30, 2019

B. Previous Permit #: WI-0020338-09-0 **Previous WQSTS #:** (EPA USE ONLY)

C. Effluent substance concentration: 1.3 ng/L (30-day P99) **Variance Limit:** 3.2 ng/L

D. Target Value(s): N/A **Achieved?** ☒ **Yes** ☐ **No** ☐ **Partial**

E. For renewals, list previous steps that were to be completed. Show whether these steps have been completed in compliance with the terms of the previous variance permit. Attach additional sheets if necessary.

Condition of Previous Variance	Compliance
Submit Annual PMP Reports	☒ **Yes** ☐ **No**
Monitor influent and effluent mercury concentrations in wastewater	☒ **Yes** ☐ **No**
Identify sources of mercury	☒ **Yes** ☐ **No**
Contact medical facilities regarding BMPs for disposal of mercury waste and schedule site visits or an inspection yearly	☒ **Yes** ☐ **No**
All dental offices have amalgam separators installed; document separator maintenance	☒ **Yes** ☐ **No**
Contact and inspect schools to assure BMPs are in place	☒ **Yes** ☐ **No**
Mail BMP forms to all industries (4); schedule site visits every other year	☒ **Yes** ☐ **No**

Identify potential additional mercury contributors through a distributed survey to all commercial facilities in the wastewater service area	☒ **Yes** ☐ **No**
Begin outreach to two of the largest senior citizen centers regarding mercury BMPs	☒ **Yes** ☐ **No**
Expand survey of heating, ventilation, and air conditioning wholesalers, automotive repair shops, and metal scrap yards with follow-up on implementation of BMPs annually	☒ **Yes** ☐ **No**
Sample three main sewer interceptors, follow-up with sampling of tributary areas of interceptors found to have higher mercury levels to help identify if mercury contributors can be identified; may also identify sources of legacy mercury and plan for cure-in-place pipe-lining prior to permit expiration	☒ **Yes** ☐ **No**
Continue outreach programs to facilitate awareness and inform customers about the Clean Sweep disposal and recycling programs	☒ **Yes** ☐ **No**