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December 23, 2022

Ms. Kenzie Ostien
 Wisconsin Department of Natural Resources
 3911 Fish Hatchery Rd.
 Fitchburg, WI 53711-5367

Re: Annual Phosphorus Progress Report #4 & Achieve Compliance
 Village of Ridgeway, WI

Dear Kenzie:

As requested and required by Schedule 4.1 (*Progress Report #4*) and 4.2 (*Complete Construction and Achieve Compliance*) of the WPDES Permit #WI 0031348-10-1, the Village of Ridgeway (Village) has continued to monitor the effluent Phosphorus levels at the Wastewater Treatment Facility (WWTF) in order to work towards compliance with its effluent Total Phosphorus (TP) limit. Please see Table 1 for monthly average Phosphorus data collected from January through October, 2022. Please refer to Table 2 for annual average Phosphorus data collected from 2019 – 2022.

Table 1 – 2022 Monthly Average Phosphorus Data

Month	Outfall	Effluent Avg. Flow (MGD)	Effluent Avg. TP Concentration (mg/L)	Effluent TP Mass (lbs./day)
Jan. ('22)	001	0.033	0.22	0.06
Feb. ('22)	001	0.032	0.16	0.04
Mar. ('22)	001	0.037	0.11	0.03
Apr. ('22)	001	0.043	1.05	0.38
May ('22)	001	0.038	0.20	0.06
Jun. ('22)	001	0.032	0.42	0.11
Jul. ('22)	001	0.029	0.40	0.10
Aug. ('22)	001	0.031	0.17	0.04
Sept. ('22)	001	0.033	0.37	0.10
Oct. ('22)	001	0.028	0.26	0.06
Nov. ('22)	001	-	-	-
Dec. ('22)	001	-	-	-
Average =		0.034	0.34	0.10

Table 2 – 2019-2022 Annual Average Phosphorus Data

Year	Outfall	Effluent Avg. Flow (MGD)	Effluent Avg. TP Concentration (mg/L)	Effluent TP Mass (lbs./day)
2019	001	0.048	1.38	0.55
2020	001	0.041	0.17	0.06
2021	001	0.034	0.21	0.06
2022	001	0.034	0.34	0.10
Average =		0.039	0.53	0.19

The WWTF consists of an activated sludge treatment process and completed troubleshooting of its chemical addition in December of 2019. The current WPDES permit for the Village has an interim limit for effluent TP of 3.0 mg/L. A new interim limit for effluent TP of 1.0 mg/L becomes effective on January 1, 2023. From the collected data, the treatment process discharged wastewater with an average concentration of 1.38 mg/L in 2019, 0.17 mg/L in 2020, 0.21 mg/L in 2021, and 0.34 mg/L in 2022 which were well below the current interim limit and also demonstrates that the Village will be able to meet the new interim limit.

Action Items:

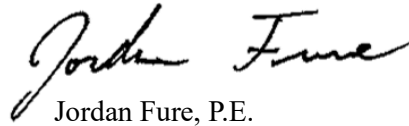
1. Continue optimization of flow-based chemical dosing rate with additional attention to periods of high influent flow.
2. Evaluate long-term phosphorus compliance alternatives
Village Board to make motion at January 10, 2023 Board Meeting
 - a. Alternate #1 – Multi-Discharger Variance
 - b. Alternate #2 – Water Quality Trading
 - c. Alternate #3 – WWTF Filtration Upgrade
3. Village is considering a Biological Phosphorus Removal (BPR) pilot evaluation in 2023.

In conclusion, the WWTF has demonstrated the ability to meet the interim limit of 1.0 mg/L which will become effective on January 1, 2023. Prior to WPDES Permit expiration on December 31, 2023, the Village will need to have a plan for phosphorus compliance through the next WPDES Permit term. Please review for approval.

The Village will continue to work with the DNR to develop alternatives to meet the requirements of its WPDES Permit. Please review for approval.

If you have any questions, please feel free to contact me at (608) 348-5355. Thank you.

Sincerely,
DELTA 3 Engineering, Inc.



Jordan Fure, P.E.
Project Engineer

JDF: jf
Cc: Michele Casper – Village President
Dale Peterson – Interim WWTF Operator
Hailey Roessler – Clerk-Treasurer

EVERY ANGLE COVERED

