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Date: July 20, 2023
Our Ref: 30171092
Subject: Response to Comments – Semi-Annual O&M Progress Report #7
Tyco FTC - Ditch B Interim Action Treatment System
813 Pine Beach Road, Marinette, Wisconsin 54143
BRTTS #02-38-580694; Site ID (FIN): 64624

Dear Ms. Sellwood,

Arcadis U.S., Inc. (Arcadis) has prepared this letter on behalf of Tyco Fire Products LP (Tyco) in response to the comments Wisconsin Department of Natural Resources (WDNR) provided in a letter dated June 12, 2023 regarding Semi-Annual Operations, Maintenance, and Optimization Progress Report #7 (O&M Progress Report #7) for the Ditch B Interim Action Treatment System (Ditch B system) located at 813 Pine Beach Road, Marinette, Wisconsin.

WDNR comments are provided in italics with Tyco's responses shown in plain text.

WDNR Comment 1

Per Wis. Admin. Code § NR 724.13(4), the DNR requests that JCI/Tyco update Table 4-1 and Section 7.4 of the OM&M Plan for Ditch B to improve the characterization of PFAS in surface water downstream of the Ditch B treatment system. This could include a mass balance approach like the one discussed above, collection of monthly or more frequent surface water samples at SW-15 (or another point farther downstream from the treatment system) or other alternative approach proposed by JCI/Tyco. Submit the updated Sections of the OM&M plan to the DNR within 45 days of date of this letter and begin implementing these changes to the long-term surface water monitoring program for Ditch B. (If JCI/Tyco includes the recommendations included herein, then a fee for additional DNR review and response is not required.)

Response

Tyco proposes to collect monthly surface water samples from sample locations SW-39 and SW-L03 during open water season, as described in the revised Operations, Maintenance, and Monitoring (OM&M) Plan Sections 4 and 7, included as Attachment 1. Samples will not be collected from SW-L03 if the surrounding surface water is frozen. As the WDNR knows, discharge of untreated sewage from the UW-

Green Bay Marinette Campus has potentially been occurring since February 2022.[1] The location of the sewer line break is thought to be on the former Aurora Medical Center Bay Area Site. Wastewater, including domestic wastewater, is known to have PFAS in it.[2] SW-L03 is located slightly upstream of SW-15, as shown in Figure 4 of Attachment 1, and is less likely to be impacted by the ongoing wastewater release, and associated potential PFAS from the University of Wisconsin-Green Bay campus.

Sample collection at SW-L03 is proposed to begin in August 2023 with the corresponding data included in O&M Progress Report #9 (July 1, 2023 – December 31, 2023 reporting period).

WDNR Comment 2

Because the concentrations of PFOA and PFOS in the surface water in Ditch B currently remain above the Wis. Admin. Code § NR 102.04 surface water standards, the DNR recommends that JCI/Tyco continue to operate the Ditch B treatment system as an interim remedial action at the Site. If the PFAS concentrations in surface water downstream of the Ditch B treatment system are found to be greater than the Wis. Admin. Code § NR 102.04 surface water standards, then JCI/Tyco must evaluate and report on the cause and significance per Wis. Admin. Code § NR 724.17(3m)(f) and may need to evaluate if modification or additional interim remedial actions are needed.

Response

Tyco will continue to operate the Ditch B system as an interim remedial action. Sample collection at SW-L03 is proposed to begin in August 2023 with the corresponding data included in O&M Progress Report #9 (July 1, 2023 – December 31, 2023 reporting period). All data collected will be evaluated relative to historical Ditch B system operation on an ongoing basis.

[1] Kitkowski, D. et al. (2023, July 7). Capped sewer line at UW-Green Bay Marinette campus prompts emergency repairs. Eagle Herald. Retrieved July 18, 2023, from https://www.ehextra.com/news/capped-sewer-line-at-uw-green-bay-marinette-campus-prompts-emergency-repairs/article_fb17a10a-1b81-11ee-85c1-cb164a1e0859.html

[2] O'Connor, J. (2022). Distribution, transformation and remediation of poly- and per-fluoroalkyl substances (PFAS) in wastewater sources. Process Safety and Environmental Protection, 164. https://doi.org/10.1016/j.psep.2022.06.002

Alyssa Sellwood, PE
WDNR
July 20, 2023

Please contact me with any comments or questions.

Sincerely,
Arcadis U.S., Inc.

Ben Verburg, PE
Principal Engineer

Email: Ben.Verburg@arcadis.com
Direct Line: 414-277-6231

CC. Denice Nelson (Tyco)
Mike Bedard (Arcadis)
Scott Potter (Arcadis)

Enclosure:
Attachment 1 Ditch B System OM&M Plan Sections 4 and 7 – Revised July 2023

Attachment 1

Ditch B System OM&M Plan Sections 4 and 7 Revised July 2023

4 Long Term Monitoring Plan – Revised July 2023

Tyco will collect the data outlined below as part of the long-term monitoring plan.

- Stream flow in Ditch B during each weekly monitoring event.
- PFAS samples from surface water in Ditch B downstream of the treatment system at two locations (SW-39 and SW-L03) at least once per month. The samples will be collected concurrently during open water season and analyzed for the 36 PFAS analyte list the JCI/Tyco is required to report. Samples will not be collected from SW-L03 if the surrounding surface water is frozen.

The Ditch B system flow volume and Ditch B stream flow volume will be calculated using the procedures outlined in Appendix A of O&M Progress Report #7. A summary of the long-term monitoring plan per Wis. Admin Code § NR 724.17(2) for the Ditch B System is presented in the table below.

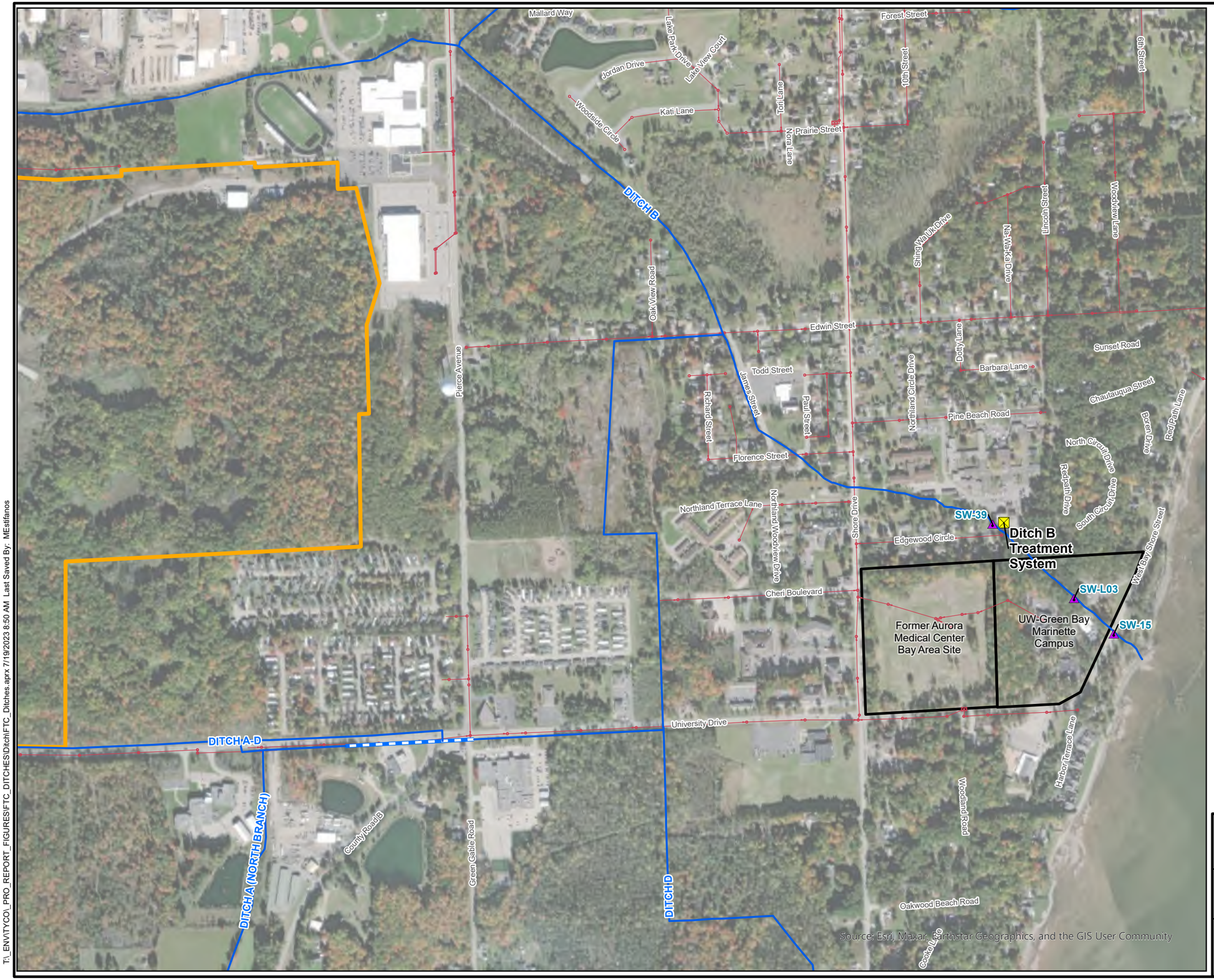
Table 4-1 Long-Term Monitoring Plan Summary

Sample Location	Description	Parameter	Analytical Method	Sampling Frequency
SC-203	Ditch B System Influent	PFAS (36 Analyte List)****	US EPA Method 537 (Modified)	Weekly*
SC-503	Ditch B System Effluent	PFAS (36 Analyte List)****	US EPA Method 537 (Modified)	Weekly*
SW-39	Downstream of Ditch B System Discharge	PFAS (36 Analyte List)****	US EPA Method 537 (Modified)	Monthly***
SW-L03	Downstream of SW-39	PFAS (36 Analyte List)****	US EPA Method 537 (Modified)	Monthly***
Upstream Stilling Well	Water Depth	Stream Flow in Ditch B (Via Rating Curve)	--	Daily**
FIT-301 and FIT-401	Treatment Train Flow Meters	Ditch B System Treated Flow	--	Daily**

Notes:
*: Collected per WPDES permit compliance sampling requirements
**: Collected daily by the SCADA system but presented weekly for reporting purposes
***: Replicate and QA/QC samples collected per Wis. Admin Code § NR 716.13
****: 36 PFAS analyte list included in **Appendix I**

The Ditch B downstream surface water sampling locations (SW-39 and SW-L03) are shown on **Figure 4**. SW-39 is located immediately downstream of the Ditch B system outfall. SW-L03 is located downstream of SW-39 and approximately 600 feet upstream of the mouth of Ditch B in Green Bay. Surface water at SW-L03 periodically freezes based on weather conditions. Samples will not be collected from SW-L03 if the surrounding surface water is frozen. At a minimum, the following replicates and QA/QC samples will be collected from the downstream sampling location per Wis. Admin Code § NR 716.13(c)

- One replicate for every 10 or less samples
- One equipment blank for every 10 or less samples, unless dedicated sampling equipment is used to prevent cross-contamination
- One temperature blank for every shipping container of samples that require cooling for preservation, unless samples are shipped on ice



Legend

- Surface Water Sampling Locations
- Ditch or Stream
- Culvert
- Approximate Site Property Boundary
- Surface Water Treatment System
- Sewer Line

0 640 1,280

GRAPHIC SCALE IN FEET

TYCO FIRE TECHNOLOGY CENTER
MARINETTE, WISCONSIN

DITCH B DOWNSTREAM SURFACE WATER SAMPLING LOCATIONS

ARCADIS

FIGURE
4

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7 Reporting – Revised July 2023

7.1 Electronic Discharge Monitoring Report

Results of the compliance sampling completed under the WPDES permit and associated coverage letter are tabulated on the appropriate electronic discharge monitoring report (eDMR) form and submitted to WDNR on a monthly basis.

7.2 Noncompliance Reporting

Per Section 7.1.4 of the WPDES permit, WDNR will be notified of the following types of noncompliance by a telephone call to the department's regional office within 24 hours after becoming aware of the noncompliance:

- Any noncompliance which may endanger health or the environment.
- Any violation of an effluent limitation resulting from a bypass.
- Any violation of an effluent limitation resulting from an upset.
- Any violation of a maximum discharge limitation for any of the pollutants listed by the department in the permit.

A written report describing the noncompliance shall also be submitted to WDNR within 5 business days after becoming aware of the noncompliance, unless otherwise directed by WDNR. The written report shall contain:

- A description of the noncompliance and its cause.
- The period of noncompliance, including exact dates and times.
- The steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

If the noncompliance has not been corrected, the length of time it is expected to continue.

7.3 Semi-Annual Operation, Maintenance, and Optimization Progress Report

A summary report detailing the remedial operation, maintenance, optimization, and monitoring activities completed during the reporting period will be submitted to WDNR on a semi-annual basis in accordance with Wis. Admin Code § NR 724.17(3). Per instruction by WDNR, Form 4400-194 is not required for the semi-annual reports.

Historically, the semi-annual reports have included summaries of the following during the applicable reporting period:

- System description
- System modifications and maintenance activities
- Summary of system operating statistics including uptime, utilization, and average volume treated per day
- Summary of compliance sampling results

- Summary of PFAS mass removal and mass removal efficiency
- Summary of influent PFAS concentrations compared to historical trends.

Per a response letter to Tyco from WDNR dated April 20, 2021, the following information will also be included in the semi-annual reports:

- Sequential numbering of report titles.
- Volumes of materials generated during the reporting period.
- Documentation of disposal or other handling (e.g., carbon regeneration) of the waste materials.
- Table(s) that summarize the long-term monitoring results per Wis. Admin Code § NR 724.17(3m):
  - Monthly concentrations of PFOA and PFOS measured in surface water in Ditch B upstream and downstream of the treatment system (upstream may be an average of the influent).
  - Weekly flow volume treated by the system vs. total weekly flow in Ditch B (total flow accounting for system downtime, high flow events, and seepage not captured by the system).
  - Running total of PFOA and PFOS mass removed by the Ditch B treatment system.
- Long-term monitoring analytical results as outlined in **Section 7.4.**

7.4 Long-Term Monitoring Analytical Results

The analytical results from samples collected from the downstream sampling locations in Ditch B (SW-40 and SW-L03) will be submitted to WDNR in the semi-annual report described in **Section 7.3**. Per Wis. Admin Code § NR 724.17(3m), the report will contain the following information will accompany the analytical results.

- The information specified under s. NR 724.05(2)(3).
- Sampling results.
- Monitoring results in tabular and graph form, including the current monitoring results and all previous results.
- Laboratory analytical reports and sample chain-of-custody forms.
- Identification of any specific environmental standards that have been attained or exceeded and an indication on a site map of the location where the standards have been attained or exceeded.
- A preliminary analysis of the cause and significance of any concentrations that attain or exceed specific environmental standards and any increases in concentration of substances that previously attained or exceeded specific environmental standards.

Per the letter issued by WDNR on April 20, 2021, analytical samples collected from the system influent (SC-203) and system effluent (SC-503) will not be subject to reporting within 10 business days of receipt and rather will continue to be included in the semi-annual report and monthly eDMR as described in **Section 7.1.**