State of Wisconsin
Department of Natural Resources
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Technical Assistance, Environmental Liability Clarification or Post-Closure Modification Request

Form 4400-237 (R 10/21)

Notice: Use this form to request **a written response (on agency letterhead)** from the Department of Natural Resources (DNR) regarding technical assistance, a post-closure change to a site, a specialized agreement or liability clarification for Property with known or suspected environmental contamination. A fee will be required as is authorized by s. 292.55, Wis. Stats., and NR 749, Wis. Adm. Code., unless noted in the instructions below. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Public Records law [ss. 19.31 - 19.39, Wis. Stats.].

Definitions

"Property" refers to the subject Property that is perceived to have been or has been impacted by the discharge of hazardous substances.

"Liability Clarification" refers to a written determination by the Department provided in response to a request made on this form. The response clarifies whether a person is or may become liable for the environmental contamination of a Property, as provided in s. 292.55, Wis. Stats.

"Technical Assistance" refers to the Department's assistance or comments on the planning and implementation of an environmental investigation or environmental cleanup on a Property in response to a request made on this form as provided in s. 292.55, Wis. Stats.

"Post-closure modification" refers to changes to Property boundaries and/or continuing obligations for Properties or sites that received closure letters for which continuing obligations have been applied or where contamination remains. Many, but not all, of these sites are included on the GIS Registry layer of RR Sites Map to provide public notice of residual contamination and continuing obligations.

Select the Correct Form

This from should be used to request the following from the DNR:

- Technical Assistance
- Liability Clarification
- Post-Closure Modifications
- Specialized Agreements (tax cancellation, negotiated agreements, etc.)

Do not use this form if one of the following applies:

- Request for an **off-site liability exemption or clarification** for Property that has been or is perceived to be contaminated by one or more hazardous substances that originated on another Property containing the source of the contamination. Use DNR's Off-Site Liability Exemption and Liability Clarification Application Form 4400-201.
- Submittal of an Environmental Assessment for the **Lender Liability Exemption**, s 292.21, Wis. Stats., **if no response or review by DNR is requested**. Use the Lender Liability Exemption Environmental Assessment Tracking Form 4400-196.
- Request for an **exemption to develop on a historic fill site** or licensed landfill. Use DNR's Form 4400-226 or 4400-226A.
- **Request for closure** for Property where the investigation and cleanup actions are completed. Use DNR's Case Closure - GIS Registry Form 4400-202.

All forms, publications and additional information are available on the internet at: dnr.wi.gov/topic/Brownfields/Pubs.html.

Instructions

1. Complete sections 1, 2, 6 and 7 for all requests. Be sure to provide adequate and complete information.
2. Select the type of assistance requested: Section 3 for technical assistance or post-closure modifications, Section 4 for a written determination or clarification of environmental liabilities; or Section 5 for a specialized agreement.
3. Include the fee payment that is listed in Section 3, 4, or 5, unless you are a "Voluntary Party" enrolled in the Voluntary Party Liability Exemption Program **and** the questions in Section 2 direct otherwise. Information on to whom and where to send the fee is found in Section 8 of this form.
4. Send the completed request, supporting materials and the fee to the appropriate DNR regional office where the Property is located. See the map on the last page of this form. A paper copy of the signed form and all reports and supporting materials shall be sent with an electronic copy of the form and supporting materials on a compact disk. For electronic document submittal requirements see: http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf"

The time required for DNR's determination varies depending on the complexity of the site, and the clarity and completeness of the request and supporting documentation.

Section 1. Contact and Recipient Information

Requester Information

This is the person requesting technical assistance or a post-closure modification review, that his or her liability be clarified or a specialized agreement and is identified as the requester in Section 7. DNR will address its response letter to this person.

Last Name	First	MI	Organization/ Business Name		
Nelson	Denice		Tyco Fire Products LP		
Mailing Address			City	State	ZIP Code
2700 Industrial Parkway South			Marinette	WI	54143
Phone # (include area code)	Fax # (include area code)		Email		

The requester listed above: (select all that apply)

- [x] Is currently the owner
- [ ] Is considering selling the Property
- [ ] Is renting or leasing the Property
- [ ] Is considering acquiring the Property
- [ ] Is a lender with a mortgagee interest in the Property
- [ ] Other. Explain the status of the Property with respect to the applicant:

Contact Information (to be contacted with questions about this request)

☐ Select if same as requester

Contact Last Name	First	MI	Organization/ Business Name		
Henry	Erin		Arcadis		
Mailing Address			City	State	ZIP Code
790 North Milwaukee Street, Suite 100A			Milwaukee	WI	53202
Phone # (include area code)	Fax # (include area code)		Email		
(267) 685-1712			erin.henry@arcadis.com		

Environmental Consultant (if applicable)

Contact Last Name	First	MI	Organization/ Business Name		
Henry	Erin		Arcadis		
Mailing Address			City	State	ZIP Code
790 North Milwaukee Street, Suite 100A			Milwaukee	WI	53202
Phone # (include area code)	Fax # (include area code)		Email		
(267) 685-1712			erin.henry@arcadis.com		

Section 2. Property Information

Property Name			FID No. (if known)		
Tyco Fire Technology Center - PFCs			438005590		
BRRTS No. (if known)			Parcel Identification Number		
0238580694					
Street Address			City	State	ZIP Code
2700 Industrial Parkway South			Marinette	WI	54143
County	Municipality where the Property is located		Property is composed of:		Property Size Acres
Marinette	◉ City ○ Town ○ Village of Marinette		○ Single tax parcel ○ Multiple tax parcels		380

1. Is a response needed by a specific date? (e.g., Property closing date) Note: Most requests are completed within 60 days. Please plan accordingly.

◉ No ○ Yes

Date requested by: _____

Reason:

_____

2. Is the "Requester" enrolled as a Voluntary Party in the Voluntary Party Liability Exemption (VPLE) program?

◉ No. **Include the fee that is required for your request in Section 3, 4 or 5.**

○ Yes. **Do not include a separate fee.** This request will be billed separately through the VPLE Program.

Fill out the information in Section 3, 4 or 5 which corresponds with the type of request:
Section 3. Technical Assistance or Post-Closure Modifications;
Section 4. Liability Clarification; or Section 5. Specialized Agreement.

Section 3. Request for Technical Assistance or Post-Closure Modification

Select the type of technical assistance requested: [**Numbers in brackets are for WI DNR Use]**

☐ No Further Action Letter (NFA) (Immediate Actions) - NR 708.09, [183] - Include a fee of $350. Use for a written response to an immediate action after a discharge of a hazardous substance occurs. Generally, these are for a one-time spill event.

☐ Review of Site Investigation Work Plan - NR 716.09, [135] - **Include a fee of $700.**

☐ Review of Site Investigation Report - NR 716.15, [137] - **Include a fee of $1050.**

☐ Approval of a Site-Specific Soil Cleanup Standard - NR 720.10 or 12, [67] - **Include a fee of $1050.**

☐ Review of a Remedial Action Options Report - NR 722.13, [143] - **Include a fee of $1050.**

☐ Review of a Remedial Action Design Report - NR 724.09, [148] - **Include a fee of $1050.**

☐ Review of a Remedial Action Documentation Report - NR 724.15, [152] - **Include a fee of $350**

☐ Review of a Long-term Monitoring Plan - NR 724.17, [25] - **Include a fee of $425.**

☐ Review of an Operation and Maintenance Plan - NR 724.13, [192] - **Include a fee of $425.**

Other Technical Assistance - s. 292.55, Wis. Stats. [97] (For request to build on an abandoned landfill use Form 4400-226)

☐ Schedule a Technical Assistance Meeting - **Include a fee of $700.**

☐ Hazardous Waste Determination - **Include a fee of $700.**

☒ Other Technical Assistance - **Include a fee of $700.** Explain your request in an attachment.

Post-Closure Modifications - NR 727, [181]

☐ Post-Closure Modifications: Modification to Property boundaries and/or continuing obligations of a closed site or Property; sites may be on the GIS Registry. This also includes removal of a site or Property from the GIS Registry. **Include a fee of $1050, and:**

- ☐ Include a fee of $300 for sites with residual soil contamination; and
- ☐ Include a fee of $350 for sites with residual groundwater contamination, monitoring wells or for vapor intrusion continuing obligations.

Attach a description of the changes you are proposing, and documentation as to why the changes are needed (if the change to a Property, site or continuing obligation will result in revised maps, maintenance plans or photographs, those documents may be submitted later in the approval process, on a case-by-case basis).

Section 4. Request for Liability Clarification

Select the type of liability clarification requested. Use the available space given or attach information, explanations, or specific questions that you need answered in DNR's reply. Complete Sections 6 and 7 of this form. **[Numbers in brackets are for DNR Use]**

☐ "Lender" liability exemption clarification - s. 292.21, Wis. Stats. [686]

❖ **Include a fee of $700.**

Provide the following documentation:

(1) ownership status of the real Property, and/or the personal Property and fixtures;

(2) an environmental assessment, in accordance with s. 292.21, Wis. Stats.;

(3) the date the environmental assessment was conducted by the lender;

(4) the date of the Property acquisition; for foreclosure actions, include a copy of the signed and dated court order confirming the sheriff's sale.

(5) documentation showing how the Property was acquired and the steps followed under the appropriate state statutes.

(6) a copy of the Property deed with the correct legal description; and,

(7) the Lender Liability Exemption Environmental Assessment Tracking Form (Form 4400-196).

(8) If no sampling was done, please provide reasoning as to why it was **not** conducted. Include this either in the accompanying environmental assessment or as an attachment to this form, and cite language in s. 292. 21(1)(c)2.,h.-i., Wis. Stats.:

h. The collection and analysis of representative samples of soil or other materials in the ground that are suspected of being contaminated based on observations made during a visual inspection of the real Property or based on aerial photographs, or other information available to the lender, including stained or discolored soil or other materials in the ground and including soil or materials in the ground in areas with dead or distressed vegetation. The collection and analysis shall identify contaminants in the soil or other materials in the ground and shall quantify concentrations.

i. The collection and analysis of representative samples of unknown wastes or potentially hazardous substances found on the real Property and the determination of concentrations of hazardous waste and hazardous substances found in tanks, drums or other containers or in piles or lagoons on the real Property.

☐ "Representative" liability exemption clarification (e.g. trustees, receivers, etc.) - s. 292.21, Wis. Stats. [686]

❖ **Include a fee of $700.**

Provide the following documentation:

(1) ownership status of the Property;

(2) the date of Property acquisition by the representative;

(3) the means by which the Property was acquired;

(4) documentation that the representative has no beneficial interest in any entity that owns, possesses, or controls the Property;

(5) documentation that the representative has not caused any discharge of a hazardous substance on the Property; and

(6) a copy of the Property deed with the correct legal description.

☐ Clarification of local governmental unit (LGU) liability exemption at sites with: (select all that apply)

☐ hazardous substances spills - s. 292.11(9)(e), Wis. Stats. [649];

☐ Perceived environmental contamination - [649];

☐ hazardous waste - s. 292.24 (2), Wis. Stats. [649]; and/or

☐ solid waste - s. 292.23 (2), Wis. Stats. [649].

❖ **Include a fee of $700, a summary of the environmental liability clarification being requested, and the following:**

(1) clear supporting documentation showing the acquisition method used, and the steps followed under the appropriate state statute(s).

(2) current and proposed ownership status of the Property;

(3) date and means by which the Property was acquired by the LGU, where applicable;

(4) a map and the ¼, ¼ section location of the Property;

(5) summary of current uses of the Property;

(6) intended or potential use(s) of the Property;

(7) descriptions of other investigations that have taken place on the Property; and

(8) (for solid waste clarifications) a summary of the license history of the facility.

Section 4. Request for Liability Clarification (cont.)

☐ Lease liability clarification - s. 292.55, Wis. Stats. [646]

- ❖ **Include a fee of $700 for a single Property, or $1400 for multiple Properties and the information listed below:**

(1) a copy of the proposed lease;

(2) the name of the current owner of the Property and the person who will lease the Property;

(3) a description of the lease holder's association with any persons who have possession, control, or caused a discharge of a hazardous substance on the Property;

(4) map(s) showing the Property location and any suspected or known sources of contamination detected on the Property;

(5) a description of the intended use of the Property by the lease holder, with reference to the maps to indicate which areas will be used. Explain how the use will not interfere with any future investigation or cleanup at the Property; and

(6) all reports or investigations (e.g. Phase I and Phase II Environmental Assessments and/or Site Investigation Reports conducted under s. NR 716, Wis. Adm. Code) that identify areas of the Property where a discharge has occurred.

General or other environmental liability clarification - s. 292.55, Wis. Stats. [682] - Explain your request below.

- ❖ **Include a fee of $700 and an adequate summary of relevant environmental work to date.**

☐ No Action Required (NAR) - NR 716.05, [682]

- ❖ **Include a fee of $700.**

Use where an environmental discharge has or has not occurred, and applicant wants a DNR determination that no further assessment or clean-up work is required. Usually this is requested after a Phase I and Phase II environmental assessment has been conducted; the assessment reports should be submitted with this form. This is not a closure letter.

☐ Clarify the liability associated with a "closed" Property - s. 292.55, Wis. Stats. [682]

- ❖ **Include a fee of $700.**

- Include a copy of any closure documents if a state agency other than DNR approved the closure.

Use this space or attach additional sheets to provide necessary information, explanations or specific questions to be answered by the DNR.

Section 5. Request for a Specialized Agreement

Select the type of agreement needed. Include the appropriate draft agreements and supporting materials. Complete Sections 6 and 7 of this form. More information and model draft agreements are available at: dnr.wi.gov/topic/Brownfields/lgu.html#tabx4.

☐ Tax cancellation agreement - s. 75.105(2)(d), Wis. Stats. [654]

- ❖ **Include a fee of $700, and the information listed below:**

(1) Phase I and II Environmental Site Assessment Reports,

(2) a copy of the Property deed with the correct legal description.

☐ Agreement for assignment of tax foreclosure judgement - s.75.106, Wis. Stats. [666]

- ❖ **Include a fee of $700, and the information listed below:**

(1) Phase I and II Environmental Site Assessment Reports,

(2) a copy of the Property deed with the correct legal description.

☐ Negotiated agreement - Enforceable contract for non-emergency remediation - s. 292.11(7)(d) and (e), Wis. Stats. [630]

- ❖ **Include a fee of $1400, and the information listed below:**

(1) a draft schedule for remediation; and,

(2) the name, mailing address, phone and email for each party to the agreement.

Section 6. Other Information Submitted

Identify all materials that are included with this request.

Send both a paper copy of the signed form and all reports and supporting materials, and an electronic copy of the form and all reports, including Environmental Site Assessment Reports, and supporting materials on a compact disk.

Include one copy of any document from any state agency files that you want the Department to review as part of this request. The person submitting this request is responsible for contacting other state agencies to obtain appropriate reports or information.

- ☐ Phase I Environmental Site Assessment Report - Date: _____
- ☐ Phase II Environmental Site Assessment Report - Date: _____
- ☐ Legal Description of Property (required for all liability requests and specialized agreements)
- ☐ Map of the Property (required for all liability requests and specialized agreements)

Analytical results of the following sampled media: Select all that apply and include date of collection.

☐ Groundwater ☐ Soil ☐ Sediment ☐ Other medium - Describe: _____

Date of Collection: _____

- ☐ A copy of the closure letter and submittal materials
- ☐ Draft tax cancellation agreement
- ☐ Draft agreement for assignment of tax foreclosure judgment
- ☒ Other report(s) or information - Describe: Revised Interim LTM Plan for Groundwater and Surface Water

For Property with newly identified discharges of hazardous substances only: Has a notification of a discharge of a hazardous substance been sent to the DNR as required by s. NR 706.05(1)(b), Wis. Adm. Code?

- ◯ Yes - Date (if known): _____
- ◯ No

Note: The Notification for Hazardous Substance Discharge Form - Non-Emergency Only (Form 4400-225) is accessible through the RR Program Submittal Portal application. Directions for using the form and the Submittal Portal application are available on the Submittal Portal web page.

Section 7. Certification by the Person who completed this form

- ☐ I am the person submitting this request (requester)
- ☒ I prepared this request for: Denice Nelson
  Requester Name

I certify that I am familiar with the information submitted on this request, and that the information on and included with this request is true, accurate and complete to the best of my knowledge. I also certify I have the legal authority and the applicant's permission to make this request.

Signature

6/16/2025
Date Signed

Principal Environmental Specialist
Title

(312) 575-3732
Telephone Number (include area code)

Section 8. DNR Contacts and Addresses for Request Submittals

Send or deliver one paper copy and one electronic copy on a compact disk of the completed request, supporting materials, and fee to the region where the property is located to the address below. Contact a DNR regional brownfields specialist with any questions about this form or a specific situation involving a contaminated property. For electronic document submittal requirements see: http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf.

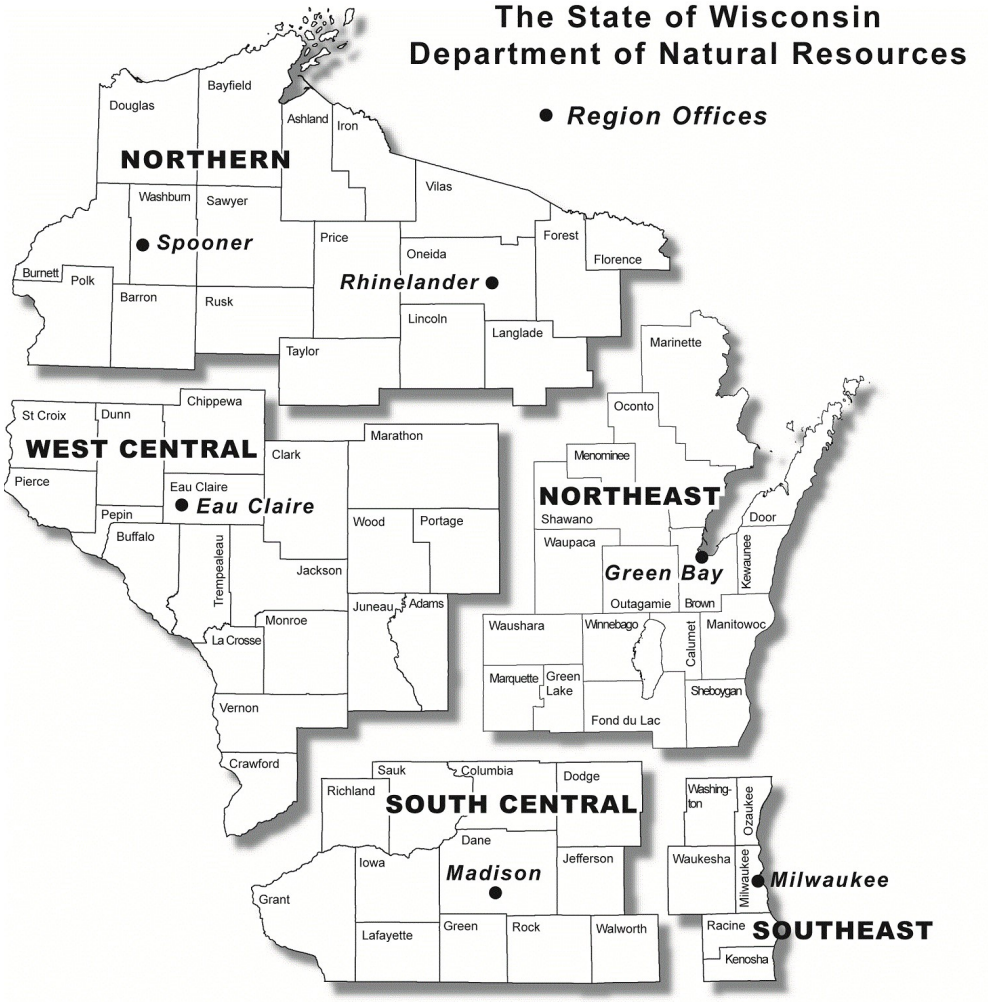
DNR NORTHERN REGION
Attn: RR Program Assistant
Department of Natural Resources
223 E Steinfest Rd Antigo, WI 54409

DNR NORTHEAST REGION
Attn: RR Program Assistant
Department of Natural Resources
2984 Shawano Avenue
Green Bay WI 54313

DNR SOUTH CENTRAL REGION
Attn: RR Program Assistant
Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg WI 53711

DNR SOUTHEAST REGION
Attn: RR Program Assistant
Milwaukee DNR Office
1027 West St. Paul Ave
Milwaukee WI 53233

DNR WEST CENTRAL REGION
Attn: RR Program Assistant
Department of Natural Resources
1300 Clairemont Ave.
Eau Claire WI 54702



Note: These are the Remediation and Redevelopment Program's designated regions. Other DNR program regional boundaries may be different.

DNR Use Only			
Date Received	Date Assigned	BRRTS Activity Code	BRRTS No. (if used)
DNR Reviewer	Comments		
Fee Enclosed? ◯ Yes ◯ No	Fee Amount $	Date Additional Information Requested	Date Requested for DNR Response Letter
Date Approved	Final Determination		

Tyco Fire Products LP

Revised Interim Long Term Monitoring Plan for Groundwater and Surface Water

Tyco Fire Technology Center
Marinette, Wisconsin

BRRTS No. 02-38-580694

June 2025

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Revised Interim Long Term Monitoring Plan for Groundwater and Surface Water

Tyco Fire Technology Center
Marinette, Wisconsin
BRRTS No. 02-38-580694

June 2025

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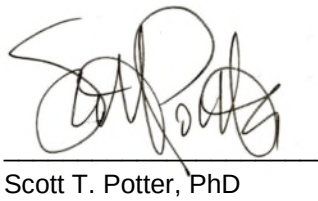

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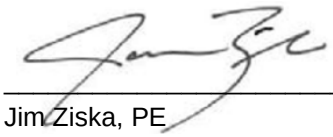
Project Geologist



Jim Ziska, PE
Principal Environmental Engineer

Table of Contents

Acronyms and Abbreviations i

1 Introduction 1

2 Long Term Monitoring Plan Components 4

2.1 Groundwater Sampling 4

2.1.1 Northern Well Network 4

2.1.2 Central Well Network 4

2.1.3 Southern Well Network 5

2.1.4 Deep Bedrock Aquifer Monitoring Program 5

2.2 Surface Water and Related Sampling 6

2.2.1 Surface Water Sampling 6

2.2.2 Ditch B Streambed Groundwater Sampling 7

2.3 Water Level Measurements 7

2.3.1 Manual Water Level Measurements - Surface Water and Groundwater 7

2.3.2 Continuous Water Level Measurements – Groundwater 8

2.3.3 Ditch B-Specific Water Level Measurements 9

3 Monitoring Schedule 10

3.1 Groundwater Monitoring Schedule Modifications 10

3.2 Surface Water Monitoring Schedule Modifications 11

4 Field Methods 12

4.1 Groundwater Monitoring 12

4.1.1 Manual Water Level Measurements 12

4.1.2 Continuous Water Level Measurements 12

4.1.3 Groundwater Sample Collection 12

4.2 Surface Water Monitoring 13

4.2.1 Manual Water Level Measurements 13

4.2.2 Surface Water Sample Collection 13

4.2.3 Ditch B-Specific Field Activities 13

5 Quality Assurance and Quality Control 15

5.1 Special Considerations for PFAS Sampling 15

5.2 Laboratory Methods and Analysis 15

6 Reporting 16

7 References 17

Tables

Table 1 Monitoring Well Construction

Table 2 Monitoring Well and Surface Water Monitoring Plan, Years 1 – 4

Table 3 Extraction Well Monitoring Plan, Years 1 – 4

Table 4 Groundwater Recommended Enforcement Standards and Surface Water Standards

Figures

Figure 1 Site Location, Roads, and Other Features

Figure 2 Monitoring Well Network

Figure 3 Northern Well Network

Figure 4 Central Well Network

Figure 5 Southern Well Network

Figure 6 Surface Water Monitoring Location

Acronyms and Abbreviations

Arcadis	Arcadis U.S., Inc.
BRRTS	Bureau for Remediation and Redevelopment Tracking System
DO	Dissolved Oxygen
ES	Enforcement Standard
FOSA	perfluorooctane sulfonamide
FTC	Fire Technology Center
GETS	groundwater extraction and treatment system
LTM	long term monitoring
MW	monitoring well
ng/L	nanograms per liter
NR	Natural Resources
OPR	Oxidation Reduction Potential
OM&M	Operation Maintenance & Monitoring
PFAS	per- and poly-fluoroalkyl substances
PFBS	perfluorobutane Sulfonic Acid.
PFHxA	perfluorohexanoic Acid
PFHxS	perfluorohexane Sulfonic Acid.
PFNA	perfluorononanoic Acid.
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonic acid
PWSA	Portable Well Sampling Area
PVC	Polyvinyl Chloride
QAPP	Quality Assurance Project Plan
Site	Fire Technology Center located at 2700 Industrial Parkway South, Marinette, Wisconsin
SWTS	Surface water treatment system
TSS	Total Suspended Solids
Tyco	Tyco Fire Products LP
WDNR	Wisconsin Department of Natural Resources
Wis. Adm. Code	Wisconsin Administrative Code (Wis. Adm. Code).
6:2 FTS	6:2 fluorotelomer sulfonic acid
8:2 FTS	8:2 fluorotelomer sulfonic acid

1 Introduction

This document describes the Revised Interim Long Term Monitoring Plan (LTM Plan) for groundwater and surface water associated with the Tyco Fire Products LP (Tyco) Fire Technology Center (FTC) located at 2700 Industrial Parkway South in Marinette, Wisconsin (the Site; **Figure 1**). This LTM Plan is associated with ongoing remediation and monitoring of per- and polyfluoroalkyl substances (PFAS) being completed by Tyco, concurrent with ongoing investigations, within the Wisconsin Department of Natural Resources (WDNR) Environmental Repair Program, pursuant to the requirements of Natural Resources (NR) Chapter 724.17 of the Wisconsin Administrative Code (Wis. Adm. Code). Specifically, this document supersedes and effectively replaces the following previously approved plans:

- July 2021 LTM Plan for the Groundwater Extraction and Treatment System (GETS; Arcadis 2021a);
- March 2024 Interim LTM Plan for Groundwater and Surface Water (Arcadis 2024); and,
- September 2022 Deep Aquifer Bedrock Well Design Report and LTM Work Plan (Arcadis 2022).

The objectives of the monitoring activities described in this LTM Plan are to:

- Document the performance of the GETS interim remedy, specifically its effect on PFAS concentrations in groundwater and surface water within the Site and off-site areas within the GETS implementation area.
    - The specific performance objectives of the GETS interim remedy are to:
        - reduce upwelling of PFAS-contaminated groundwater into Ditch B;
        - treat the recovered groundwater to reduce the PFAS concentration in the water; and
        - reduce PFAS-mass flux throughout the groundwater plume.
    - The specific performance objectives of recent and on-going GETS optimization are to:
        - reduce PFAS concentrations in Ditch B such that surface water treatment is no longer necessary; and
        - alleviate potential impacts to the environment near Ditch A.
- Document the stability and attenuation of the site-related PFAS in groundwater across the overburden and shallow bedrock plumes.
- Document the attenuation and stability of site-related PFAS in the surface water of offsite ditches (A, B, C, D, and E).
- Document that the deep bedrock aquifer, which is the drinking water source associated with the long-term drinking water solution in the Potable Well Sampling Area (PWSA), remains unimpacted.

To meet these objectives, groundwater and surface water monitoring will be conducted as described briefly below and in detail in **Sections 2** through **4** of in this LTM Plan. The plume monitoring well network (i.e., overburden and shallow bedrock monitoring wells) has been divided into three geographical areas: the northern area, central area, and southern area. In addition to the plume monitoring well network, an existing network of wells will be used to monitor the deep bedrock aquifer. These monitoring networks are shown on **Figures 2** through **5** and described below.

- **Northern**: This portion of the plume monitoring well network is located north of the FTC and GETS performance monitoring area and will monitor the portion of the plume migrating northeast toward the Menominee River. Within this area, monitoring will be conducted in overburden and shallow bedrock monitoring wells to evaluate conditions within the plume and at the plume boundaries. This network includes 31 existing monitoring wells.
- **Central**: This portion of the plume monitoring well network encompasses the highest concentrations of FTC-related PFAS in overburden and shallow bedrock groundwater, which are being treated via the GETS. Within this area, monitoring will be conducted at extraction wells and overburden and shallow bedrock monitoring wells to document the performance of the GETS. Additional monitoring wells are also included in this area to evaluate plume conditions outside of the influence of the GETS and at the western and eastern plume boundaries. This network includes 15 extraction wells, 68 existing monitoring wells and up to 2 proposed monitoring wells[1] that will be sampled. 17 additional monitoring wells are included to collect water level data primarily to monitor water levels in the area of the GETS.
- **Southern**: This portion of the plume monitoring well network is located south of the FTC and GETS performance monitoring area and will monitor the portion of the plume migrating southeast toward Green Bay. Within this area, monitoring will be conducted in overburden and shallow bedrock monitoring wells to evaluate conditions within the plume and at the plume boundaries. This network includes 38 existing monitoring wells.
- **Deep Bedrock Aquifer:** The deep bedrock aquifer monitoring network consists of four existing monitoring wells in the PWSA and two existing irrigation wells used by the Marinette School District. These wells will be monitored to ensure protectiveness of the deep bedrock aquifer, which is used as a source of drinking water.

In addition to groundwater monitoring, surface water monitoring will be completed in Ditches A, B, C, D and E (**Figure 6**). Ditch B will be monitored as a component of GETS performance monitoring. Other offsite ditches (C, D, and E) and offsite portions of Ditch A will be monitored to verify that site-related PFAS concentrations in surface water continue to decrease and/or remain stable below Wisconsin surface water standards. At the request of WDNR, monthly data associated with monitoring locations (SW-26 and SW-L03) downgradient of the ditch surface water treatment systems (SWTS) will also be included to verify concentrations in Ditches A and B and to evaluate GETS performance.

This LTM Plan is designed to be adaptive; therefore, the frequency of monitoring may be adjusted to “right-size” the program over time. Additional details regarding the adaptive nature of this plan and factors considered when adjusting groundwater and surface water sampling frequencies are provided in **Section 3**.

Sampling and analysis described in this LTM Plan will be conducted in accordance with NR 724.17 and specifically the environmental standards established in Wisconsin and regulated by WDNR. The laboratory analytical methods, method detection limits, and reporting limits are outlined in the QAPP (Arcadis 2025a), and the method detection limits, and reporting limits will be lower than the applicable standards. Additional information regarding data quality is provided in **Section 5**.

Routine reports summarizing the results of the LTM will be prepared and submitted to WDNR annually, as described in **Section 6**. Routine reports are expected to be submitted in the first quarter of each calendar year

[1] As described in the March 2025 Interim Long Term Monitoring Report #2 (Arcadis 2025b), monitoring well(s) will be installed near the corner of Industrial Parkway South and Cleveland Avenue after the City’s planned road improvement work is complete, in approximately Q2 2025.

and will provide the results of the monitoring completed in the year prior. Additionally, proposed changes to monitoring frequencies will also be included in routine reports.

2 Long Term Monitoring Plan Components

The LTM Plan includes three major components: groundwater sampling, surface water sampling, and water level measurements. This section describes each data type, the purpose of collecting the data, and data collection locations. The sampling schedule is presented in **Section 3**. Sampling methods are described in **Section 4**.

2.1 Groundwater Sampling

As described in **Section 1**, the existing monitoring well network associated with the Site has been divided into three geographical areas: the northern area, central area, and southern area (**Table 1**; **Figure 2**). Within each area, each well has at least one defined monitoring purpose (e.g., GETS performance, plume boundary, sentinel well for drinking water protection, etc). This plume monitoring well network is described below in **Sections 2.1.1** through **2.1.3**.

In addition, a network of four existing deep bedrock aquifer monitoring wells will serve as sentinel wells to ensure protectiveness of the permanent drinking water solution in the PWSA. Additionally, two existing irrigation wells used by the Marinette School District to irrigate sports fields will continue to be monitored. The deep aquifer monitoring program is described below in **Section 2.1.4**.

2.1.1 Northern Well Network

The northern well network is located north of the FTC and GETS performance monitoring area and will monitor the portion of the plume migrating northeast toward the Menominee River. Within this area, monitoring will be conducted in overburden and shallow bedrock monitoring wells to evaluate conditions within the plume and at the downgradient and side gradient plume boundaries. This network includes 31 existing monitoring wells.

Data Type	PFAS concentrations and supplemental water quality parameters in groundwater
Purpose	Track plume stability and attenuation at locations within the plume and at plume boundaries north of the Site
Monitoring Locations	31 existing monitoring wells (19 overburden; 12 bedrock) as shown on **Figures 2** and **3** and listed in **Table 2**

2.1.2 Central Well Network

The central well network encompasses the highest concentrations of FTC-related PFAS in overburden and shallow bedrock groundwater, which are being treated via the GETS. Within this area, monitoring will be conducted at extraction wells and overburden and shallow bedrock monitoring wells to document the performance of the GETS. Additional monitoring wells are also included in this area to evaluate plume conditions outside of the influence of the GETS and at the western (upgradient) and eastern (downgradient) plume boundaries. This network includes 15 extraction wells, 68 existing monitoring wells and 2 proposed monitoring wells that will be sampled. 17 additional monitoring wells are included to collect water level data in the GETS implementation area.

2.1.2.1 GETS Extraction Wells

Data Type	PFAS concentrations and groundwater pumping rates for extraction well network
Purpose	Evaluate individual well PFAS removal rates to support GETS optimization
Monitoring Locations	15 extraction wells (EX-1S to EX-15), shown on **Figures 2** and **4** and listed in **Table 3**

2.1.2.2 Monitoring Wells

Data Type	PFAS concentrations and supplemental water quality parameters in groundwater
Purpose	• Evaluate influence of GETS on PFAS concentrations in groundwater in the vicinity of Ditches A and B • At the Site and surrounding areas, track plume stability and attenuation at locations within the plume and at plume boundaries
Monitoring Locations	• 68 existing monitoring wells (**Figures 2** and **4**) that will be sampled and gauged, as shown in **Table 2** • Up to two new overburden monitoring wells (**Figures 2** and **4**) that will be sampled and gauged, as shown in **Table 2** • 17 existing monitoring wells (**Figures 2** and **4**) within the Central Well Network will be gauged only (**Table 2**) as described in **Section 2.3.1**

2.1.3 Southern Well Network

The southern well network is located south of the FTC and GETS performance monitoring area and will monitor the portion of the plume migrating southeast toward Green Bay. Within this area, monitoring will be conducted in overburden and shallow bedrock monitoring wells to evaluate conditions within the plume and at the plume boundaries. This network includes 42 existing monitoring wells.

Data Type	PFAS concentrations and supplemental water quality parameters in groundwater
Purpose	Track plume stability and attenuation at locations within the plume and at plume boundaries south of the Site
Monitoring Locations	38 existing monitoring wells (35 overburden; 3 bedrock) as shown on **Figures 2** and **5** and listed in **Table 2**

Existing monitoring wells located south of Rader Road are outside of the LTM monitoring well network, and therefore, are not included in in the southern well network area.

2.1.4 Deep Bedrock Aquifer Monitoring Program

The deep bedrock aquifer monitoring network consists of four existing monitoring wells in the PWSA and two existing irrigation wells used by the Marinette School District. These wells will be monitored to ensure protectiveness of the deep bedrock aquifer, which is used as a source of drinking water.

Data Type	PFAS concentrations and supplemental water quality parameters in the deep bedrock aquifer
Purpose	Ensure protectiveness of the deep bedrock aquifer and drinking water receptors
Monitoring Locations	• Four existing deep bedrock aquifer monitoring wells as shown on **Figure 2** and listed in **Table 2** • Two existing irrigation wells as shown on **Figure 2** and listed in **Table 2**

2.2 Surface Water and Related Sampling

2.2.1 Surface Water Sampling

In addition to groundwater monitoring, surface water monitoring will be completed in Ditches A, B, C, D and E (**Figure 6**). Ditch B will be monitored as a component of GETS performance monitoring. At the request of WDNR, monthly data associated with monitoring locations (SW-26 and SW-L03) downgradient of the ditch SWTS will also be included to verify concentrations in Ditches A and B and to evaluate GETS performance.

Other offsite ditches (C, D, and E) and offsite portions of Ditch A will be monitored to verify that site-related PFAS concentrations in surface water continue to decrease and/or remain stable below Wisconsin surface water standards.

2.2.1.1 Ditch A

Data Type	Surface water PFAS and TSS concentrations
Purpose	• Evaluate GETS effectiveness at reducing PFAS concentrations downgradient of the SWTS • Confirm that the groundwater plume is not expanding • Confirm that surface water concentrations are decreasing
Monitoring Locations	As shown on **Figure 6** and listed in **Table 2**: • One previously sampled location downgradient of the Ditch A SWTS (sampled monthly when flowing) • Two previously sampled locations in the North Branch of Ditch A, south of University Drive

2.2.1.2 Ditch B

Data Type	Surface water PFAS and TSS concentrations
Purpose	• Evaluate GETS effectiveness at reducing PFAS concentrations in Ditch B • Confirm that surface water concentrations are decreasing
Monitoring Locations	As shown on **Figure 6** and listed in **Table 2**: • 11 previously sampled locations in Ditch B, upgradient of the SWTS • One previously sampled location downgradient of the Ditch B SWTS (sampled monthly)

2.2.1.3 Ditches C, D, and E

Data Type	Surface water PFAS and TSS concentrations
Purpose	• Confirm that the groundwater plume is not expanding • Confirm that surface water concentrations are decreasing
Monitoring Locations	As shown on **Figure 6** and listed in **Table 2**: • One previously sampled location in Ditch C • Two previously sampled locations in Ditch D • One previously sampled location in Ditch E

2.2.2 Ditch B Streambed Groundwater Sampling

Streambed groundwater sampling at the temporary piezometers installed in Ditch B will be completed concurrently with water level gauging and surface water sampling at the same locations in Ditch B.

Data Type	Ditch B streambed groundwater PFAS concentrations
Purpose	• Evaluate the influence of the GETS on PFAS concentrations in groundwater just beneath Ditch B • In combination with hydraulic data and surface water data, assess the extent of GETS plume capture
Monitoring Locations	Five temporary piezometer locations in Ditch B between Industrial Parkway South and Edwin Street as shown on **Figure 6** and listed in **Table 2**

2.3 Water Level Measurements

Water elevations will be manually collected at monitoring wells and surveyed surface water benchmark locations at least annually, concurrent with a sampling event, to obtain a comprehensive “snap-shot” of water levels (**Section 2.3.1**). Additionally, continuous water level measurements will be collected using data-logging pressure transducers deployed in 24 monitoring or observation wells associated with GETS or the deep aquifer monitoring program (**Section 2.3.2**).

Within Ditch B, additional water level measurements will be collected to evaluate the GETS performance as described in **Section 2.3.3**.

2.3.1 Manual Water Level Measurements - Surface Water and Groundwater

The water-level gauging network includes locations across the entire plume monitoring well network. The breadth of the monitoring network will show the influence of the GETS within the context of a larger-scale potentiometric surface.

Data Type	Water level data collected from surveyed surface water benchmarks (Ditches A, B, and D) and monitoring wells
Purpose	• Document groundwater flow patterns and assess long-term water-level trends • Monitor surface water and groundwater elevations for potentiometric surface mapping • Evaluate hydraulic influence of GETS operation to demonstrate performance and make system adjustments to optimize operation • Coupled with other water level measurement data, demonstrate hydraulic capture of the PFAS plume to prevent upwelling to Ditch B between Industrial Parkway South and Edwin Street
Monitoring Locations	Overburden and shallow bedrock groundwater gauging locations, as shown on **Figures 2** through **5** and listed in **Table 2**: • 154 existing monitoring wells across the northern, central, and southern monitoring areas • Up to 2 new monitoring wells in the central monitoring area Surface water gauging locations, as shown on **Figure 6** and listed in **Table 2**: • Three existing surveyed benchmarks along the West Branch of Ditch A • Five existing surveyed benchmarks along the North Branch of Ditch A • One existing surveyed benchmark in an onsite pond adjacent to the North Branch of Ditch A • Six existing surveyed benchmarks along Ditch B • One existing surveyed benchmark along Ditch D • One existing surveyed benchmark along the connecting section of Ditches A and D

2.3.2 Continuous Water Level Measurements – Groundwater

Continuous water level measurements will be collected as a component of GETS performance monitoring (**Section 2.3.2.1**) and as a component of deep bedrock aquifer monitoring (**Section 2.3.2.2**).

2.3.2.1 Overburden and Shallow Bedrock Monitoring Wells

Data Type	• Water level data collected continuously at observation wells paired with extraction wells • Water level data collected continuously at locations upgradient, side gradient, downgradient of the GETS influence
Purpose	• Evaluate hydraulic influence of GETS operation to demonstrate performance and make system adjustments to optimize operation • Assess the condition of individual extraction wells to determine need for maintenance • Coupled with other water level measurement data, demonstrate hydraulic capture of the PFAS plume to prevent upwelling to Ditch B between Industrial Parkway South and Edwin Street
Monitoring Locations	20 existing monitoring wells, as shown on **Figure 2** and listed in **Table 2**

2.3.2.2 Deep Bedrock Aquifer Monitoring Wells

Data Type	Water level data collected continuously at deep aquifer monitoring wells
Purpose	Document water level trends over time to support that the drinking water solution in the PWSA does not adversely impact water levels in the deep bedrock aquifer
Monitoring Locations	Four existing deep aquifer monitoring wells, as shown on **Figure 2** and listed in **Table 2**

2.3.3 Ditch B-Specific Water Level Measurements

The following sections describe water level measuring components that are specific to Ditch B.

2.3.3.1 Ditch B Flow Gauging

Continuous flow gauging is proposed at the existing gauging station located near the Ditch B SWTS, downstream of the area influenced by the GETS. As described in **Section 2.3.3.2**, the LTM Plan includes two continuous upstream stream-level gauges, as a proxy for flow.

Data Type	Continuous Ditch B flow rate
Purpose	• Document seasonal and short-term changes in flow • Document flow during GETS operation
Monitoring Location	Existing flow gauging station at Ditch B SWTS

2.3.3.2 Ditch B Continuous Stage Measurements

Continuous stage measurements will be collected at two locations within Ditch B.

Data Type	Continuous Ditch B surface water levels
Purpose	• Document seasonal and short-term changes in surface water elevations • Document surface water elevations to confirm that GETS operation is not having unexpected adverse effects on ditch conditions
Monitoring Locations	Continuous water-level gauging via transducers in stilling wells to be installed where Ditch B crosses Industrial Parkway South (U10) and Pierce Avenue (M09)

2.3.3.3 Ditch B Relative Surface Water and Streambed Groundwater Levels

Relative surface water levels and streambed groundwater levels measurements will be collected at five temporary piezometer locations within Ditch B.

Data Type	Relative surface water and groundwater levels in Ditch B
Purpose	• Evaluate the relative difference between surface water and groundwater levels to assess the influence of the GETS on vertical gradients between groundwater and surface water • Coupled with other water level measurement data, demonstrate hydraulic capture of the PFAS plume to prevent upwelling to Ditch B between Industrial Parkway South and Edwin Street
Monitoring Locations	Five temporary piezometer locations in Ditch B between Industrial Parkway South and Edwin Street, as shown on **Figure 6** and listed in **Table 2**

3 Monitoring Schedule

The anticipated groundwater and surface water monitoring plan for the next four years (starting second quarter 2025) is provided in **Table 2**. The monitoring plan for the GETS extraction wells for the next four years is provided in **Table 3**. Generally, the proposed sampling frequencies for surface water and groundwater align with the monitoring plans (Arcadis 2021a; 2022; 2024) that have been superseded by this LTM Plan. This LTM Plan is designed to be adaptive; therefore, the frequency of monitoring may be adjusted to "right-size" the monitoring program over time. All proposed modifications to the sampling program will be provided to WDNR in routine reporting described in **Section 6**.

3.1 Groundwater Monitoring Schedule Modifications

The following conditions will be considered when adjusting the sampling frequency of a monitor well:

- **PFAS concentrations less than criteria**[2] **for two events**: The sampling frequency for a monitoring well may be reduced to biennial (i.e., every other year) if PFAS concentrations are less than criteria for two consecutive events. The sampling frequency may be further reduced (e.g., to every four years) or suspended if PFAS concentrations remain below criteria for two consecutive biennial events. If PFAS concentrations increase above criteria after the sampling frequency has been decreased, the need to increase sampling frequency will be evaluated.
- **Redundancy within well clusters**: The sampling frequency for a monitoring well may be reduced to biennial if the well is determined to be redundant within the well cluster (i.e., the monitoring well is screened within the same hydrostratigraphic unit and has similar PFAS concentrations) after two consecutive events. If the biennial results of the redundant well remain consistent with the other well(s) within the cluster over two consecutive biennial events, the sampling frequency of the redundant well may be further reduced (e.g., to every four years) or suspended. If concentration trends at the redundant well diverge from well(s) within the same hydrostratigraphic unit within the cluster, the need to increase sampling frequency will be evaluated.
- **PFAS trends over time**: If PFAS concentrations are stable or decreasing over two consecutive events, the sampling frequency at a monitoring well may be reduced (e.g., semi-annual sampling reduced to annual; annual sampling reduced to biennial) depending on sampling purpose and redundancy between well clusters (see **Table 2**).
- **Sampling purpose**: The purpose of monitoring (e.g. GETS performance, plume boundary stability, etc) at a specific location will be considered when adjusting the sampling frequency at a monitoring well. For example, a GETS performance monitoring well within the core of the plume is expected to be sampled more frequently than a plume boundary monitoring well with a stable/decreasing trend. Additionally, over time, the sampling purpose may change at a specific location. For example, as the footprint of the plume is reduced, a monitoring well that is currently within the plume and sampled annually may eventually become a plume boundary monitoring well that is sampled biennially or less frequently.

[2] At this time, there are no established groundwater enforcement standards for PFAS. PFAS concentrations will be compared to the Recommended Enforcement Standards and other relevant criteria, such as surface water standards, as summarized in **Table 4** to evaluate reductions in monitoring well sampling frequencies. If Enforcement Standards are promulgated during the implementation of the LTM Plan, the criteria for adjusting sampling frequencies will be re-evaluated.

3.2 Surface Water Monitoring Schedule Modifications

In Ditch B, surface water monitoring associated with the GETS is expected to be completed quarterly when the ditch is not frozen (i.e., Q2, Q3, and Q4 of each calendar year). Once the concentrations of PFOA and PFOS in Ditch B surface water are demonstrated to be below the Wisconsin surface water standards (expected to occur within the next two years), operation of the Ditch B SWTS will be discontinued and the following modifications to the GETS-specific sampling program are expected to be made:

- Reduce the number of surface water sampling locations from 11 to two (SW-U10 and SW-P1B) and reduce the frequency of sampling to semiannual.
- Reduce the frequency of manual water level collection at surveyed benchmarks to annual (to be aligned with annual comprehensive groundwater gauging).
- Discontinue streambed groundwater sampling.
- Discontinue the collection of relative surface water levels and streambed groundwater levels measurements.
- Discontinue the collection of continuous stage measurements.

Monthly sampling at downstream location L03 in Ditch B is expected to continue after surface water standards have been met.

Surface water monitoring in Ditches C, D, and E and Ditch A (downstream of SW-26) is expected to be completed on a semiannual basis until concentrations of PFOA and PFOS in surface water are demonstrated to be below the Wisconsin surface water standards. In these ditches, the number of surface water sampling locations and/or frequency of sampling may be reduced once the surface water standards have been met. Monthly sampling at SW-26 in Ditch A (associated with Ditch A SWTS monitoring) is expected to continue after surface water standards have been met.

4 Field Methods

The field methodologies for groundwater and surface water monitoring are described in this section.

4.1 Groundwater Monitoring

4.1.1 Manual Water Level Measurements

Water elevations will be manually measured using a water-level meter at monitoring wells (**Table 2**). When gauging and sampling events occur concurrently, water elevations will be measured prior to sample collection. All monitoring wells in the LTM program (**Table 2**) will be gauged for depth to water and depth to the bottom of the well at least annually.

4.1.2 Continuous Water Level Measurements

Continuous water level measurements will be collected using data-logging pressure transducers deployed in 24 monitoring or observation wells associated with GETS or deep aquifer monitoring (**Table 2**). Transducers will be secured in each well and programmed to record relative change in water level every 15 minutes. Relative water levels will be converted to absolute elevations by making synchronous manual water-level measurements at adjacent surveyed measuring points.

4.1.3 Groundwater Sample Collection

4.1.3.1 Overburden and Shallow Bedrock Monitoring Wells

At overburden and shallow bedrock monitoring wells (**Table 2**), low-flow sampling procedures will be implemented for groundwater sampling, using a peristaltic pump and dedicated down-well disposable tubing. Analytical samples will be collected after groundwater parameters measured with a field probe, including dissolved oxygen, pH, specific conductivity, and oxidation-reduction potential, are shown to have stabilized at each well in accordance with the QAPP (Arcadis 2025a) procedures. At any location where drawdown does not stabilize during the low-flow sampling attempt, low-flow sampling will be discontinued and, minimally, one well volume will be purged using a PFAS-free submersible pump in accordance with the QAPP; a sample will be collected after the water level in the monitoring well has recovered at least five feet.

Samples will be collected for PFAS analysis following the procedures described in **Section 5**.

4.1.3.2 Deep Bedrock Aquifer Monitoring Wells

Volumetric sampling methods, using a submersible pump deployed in the cased portion of the deep monitoring well, will be completed by purging one well volume (approximately 400 to 800 gallons) from each deep aquifer monitoring well (**Table 2**). The pump and the pre-constructed down-well hose/pipe will be set to a specified pump depth and then attached to the sampling port (ball valve connection) in line above grade for sampling. Water level will be observed and recorded throughout the purging and sampling process to ensure water level does not drop below a depth of approximately 50 feet above where the pump has been set. Using a water quality meter, groundwater parameters (DO, pH, ORP, conductivity, and turbidity) will be collected at a reasonable interval (approximately every 15-30 minutes) from the sampling port.

Samples will be collected for PFAS analysis following the procedures described in **Section 5**.

4.1.3.3 Irrigation Wells

Irrigation wells (**Table 2**) will be sampled at the well head via spigots plumbed in line. Each irrigation well will be purged approximately 15-30 minutes to clear the sampling lines prior to collecting grab samples from the deep bedrock aquifer. Using a water quality meter, groundwater parameters (DO, pH, ORP, conductivity, and turbidity) will be collected approximately midway through purging and following sampling collection.

Samples will be collected for PFAS analysis following the procedures described in **Section 5**.

4.1.3.4 GETS Extraction Wells

Extraction wells (**Table 3**) will be sampled at the treatment system via valved ports located on individual lines (i.e., prior to extracted groundwater being combined and treated). Samples will be collected for PFAS analysis following the procedures described in **Section 5**.

4.2 Surface Water Monitoring

4.2.1 Manual Water Level Measurements

Surface water elevation measurements of Ditches A, B and D will be collected at 16 existing surveyed benchmark locations (**Table 2** and **Figure 6**). Water levels will be measured using a tape or rod extending directly down to the water surface from marked surveyed measuring points.

4.2.2 Surface Water Sample Collection

Surface water samples will be collected from locations within Ditches A, B, C and D at 17 existing sample locations (**Table 2** and **Figure 6**). Surface water samples will be collected by dipping a sample bottle below the surface of the water. Samples will be analyzed for PFAS following the procedures described in **Section 5**.

In addition to the 17 locations associated with this monitoring program, two sample locations (SW-26 and SW-L03; **Figure 6**) associated with Ditch A and B SWTS monitoring will be sampled monthly when the ditches are flowing. These samples will be collected in accordance with WDNR requests and associated Operation, Maintenance, and Long-term Monitoring Plans (OM&M Plan; Arcadis 2021b, 2021c), and sample results will be included in annual LTM reports (**Section 6**) and semi-annual operation, maintenance, and optimization reports associated with the Ditch A and B SWTS.

4.2.3 Ditch B-Specific Field Activities

4.2.3.1 Continuous Flow Measurements

Continuous flow measurements will be recorded at the Ditch B SWTS station using the existing SonTek-IQ Series stream flowmeter. The stream flowmeter is connected to the treatment system power supply and telemetry system for data logging. The telemetry system records on a 5-minute interval the stream velocity (feet per second) and depth (inches) measurements and the calculated stream flow (cubic feet per second). The instrument uses SonTek's exclusive SmartPulse$^{HD®}$ adaptive sampling technology, which has four, pulsed

Doppler velocity beams for measuring the velocity of the channel cross section. The instrument also uses a self-calibrating water-level vertical beam and pressure sensor for measuring depth. The channel cross-section geometry was entered into the instrument software by the manufacturer during the installation and calibration of the instrument. The instrument software has specialized flow algorithms that use the measured cross-sectional area of the channel along with the velocity and depth measurements to calculate the stream flow at that location.

4.2.3.2 Continuous Stage Measurements

Continuous stage measurements will be collected using data-logging pressure transducers deployed in two stilling wells installed at the U10 and M09 locations within Ditch B (**Table 4** and **Figure 6**). The stilling wells will be constructed of slotted polyvinyl chloride (PVC) pipe anchored in the ditch to a secure post or mounted to a culvert/overpass or other structure, with the bottom of the pipe approximately 4 inches above the sediment surface. Transducers will be secured in each stilling well and programmed to record relative change in water level every 15 minutes. Relative water levels will be converted to absolute elevations by making synchronous manual water-level measurements at adjacent surveyed measuring points.

4.2.3.3 Streambed Temporary Piezometer Installations

Temporary piezometers will be installed in five locations within Ditch B (**Table 2** and **Figure 6**). Temporary piezometers will be constructed of a ¾-inch inner-diameter well point with a stainless steel 6-inch-long 50-mesh (297-micrometer) well screen attached to galvanized metal standpipe. The temporary piezometers will be manually driven into the sediment until the top of the screened interval is approximately 3 feet below the ditch bottom. The locations of each temporary piezometer will be recorded using a hand-held global positioning system device. The temporary piezometers will be installed each year after the ditch has thawed (i.e., March/April) and removed from the ditch prior to the ditch freezing over (i.e., late November/early December).

4.2.3.4 Relative Groundwater and Surface Water-Level Measurements

At the five temporary piezometer locations within Ditch B (**Table 2** and **Figure 6**), relative groundwater and surface water-level measurements will be taken (i.e., depth to groundwater inside the temporary piezometer and depth to surface water adjacent to the temporary piezometer, both referencing a common point on the top of the standpipe).

4.2.3.5 Streambed Groundwater Sample Collection

Streambed surface water samples will be collected from the five temporary piezometers within Ditch B (**Table 2** and **Figure 6**). Groundwater samples will be collected using a disposable bailer. Prior to sample collection, the temporary piezometer will be purged of three well volumes unless it goes dry during the purge. If the temporary piezometer goes dry, it will be allowed to recover prior to sample collection. Samples will be analyzed for PFAS following the procedures described in **Section 5**.

5 Quality Assurance and Quality Control

5.1 Special Considerations for PFAS Sampling

The detection of PFAS compounds at very low concentrations can be influenced by common PFAS-containing materials that may be present at the sampling site. Therefore, to minimize the potential for cross-contamination, special attention will be given to sampling materials (e.g., tubing), decontamination procedures, and clothing and personal care products used by sampling personnel. Detailed standard operating procedures that will be followed during investigation activities are provided in the QAPP (Arcadis 2025a).

Quality assurance samples are specified in the QAPP for each type of media to be sampled. Sampling for PFAS compounds will include the submission of one laboratory-supplied field reagent blank per day to detect the presence of ambient PFAS in the sampling area that may influence samples during collection. PFAS-free water used for the field reagent blank sample will be brought to the Site in a laboratory-supplied bottle. Field staff will transfer the laboratory-supplied PFAS-free water into an empty sample bottle. This field reagent blank will be placed in the same cooler as other samples intended for PFAS analyses.

Equipment will be decontaminated with PFAS-free water between use at each sampling location. Only Alconox, Liquinox, or methanol will be used as decontamination materials. To assess the adequacy of the decontamination process, an equipment rinsate blank will be collected every 20 samples or per day, whichever is more frequent. To prepare a rinsate blank, a sample of PFAS-free water will be poured over or through decontaminated field equipment before collection of environmental samples.

5.2 Laboratory Methods and Analysis

Details regarding the analytical methods to be used for each media are provided in the QAPP (Arcadis 2025a). The laboratory methods to be used for the proposed analytical parameters, along with the recommended frequency for collection of matrix spike/matrix spike duplicate and duplicate samples, are summarized below. As of February 1, 2025, WDNR has required the use of USEPA Method 1633A for all non-drinking water matrices.

Laboratory Methods and QA/QC Frequency

Matrix	Parameter	Laboratory Method	Matrix Spike/ Matrix Spike Duplicate Frequency	Field Duplicate Frequency	Field Reagent Blank Frequency	Equipment Rinsate Blank Frequency
Water	PFAS	USEPA 1633A (40 compounds)	1/20	1/10	1/day	1/20
Water	TSS	USEPA 160.2	None	1/10	None	None

6 Reporting

Routine reports summarizing the results of the LTM will be prepared and submitted to WDNR. Reports of monitoring results are to be submitted after each sampling event (NR 724.17(3m)) in accordance with the notification requirements outlined in NR 716.14. However, because the monitoring activities will be completed routinely for many years, an alternate notification schedule is proposed. Reports are proposed to be submitted annually to WDNR by March 31 of each calendar year and will be inclusive of data collected between January 1 and December 31 of the prior year. The first report associated with this LTM Plan will be submitted to WDNR no later than March 31, 2026 and will include groundwater and surface water monitoring data collected from April 1, 2025 (i.e., the second quarter of 2025) through December 31, 2025. The data evaluations and discussions within the report will be organized by summarizing the GETS interim remedy, the overall plume, and the deep bedrock aquifer monitoring program.

At a minimum, reports will include:

- a brief summary of the activities completed during the reporting period;
- applicable data tables and figures summarizing GETS performance results;
- applicable data tables and figures summarizing monitoring results;
- laboratory reports, data validation reports, and field sampling logs; and,
- an updated monitoring plan table to capture planned reductions in sampling frequencies or other adjustments to the plan, if any, for the next reporting period and justifications for the adjustments.

Tables, figures, and appendices included in reporting will be modeled after existing GETS performance tables, figures, and appendices submitted in prior GETS monitoring reports (e.g., GETS Short-Term Monitoring Report #5, Arcadis 2025c).

Table 2 identifies the 29 monitoring wells that will continue to have data trend plots for PFOA plus PFOS and the sum of the nine compounds specified by WDNR (i.e., PFHxA, PFOA, PFNA, PFBS, PFHxS, PFOS, 6:2 FTS, 8:2 FTS, FOSA). Additionally, data trend plots will be provided for extraction wells. The need for trend plots across the monitoring well network will continue to be evaluated. If trend plots will be discontinued for a well, justification will be provided in the annual report.

Surface water analytical results will be compared to 95 nanograms per liter (ng/L) for PFOA and 8 ng/L for PFOS (**Table 4**). The groundwater analytical results will be compared to the Wisconsin Department of Health Services recommended groundwater quality enforcement standards (ES) for PFAS compounds (**Table 4**). If ES are promulgated for groundwater, the criteria for reducing sampling frequency will be re-evaluated.

7 References

Arcadis. 2021a. Long-Term Monitoring Plan for the Groundwater Extraction and Treatment System, Tyco Fire Technology Center, Marinette, Wisconsin 54143, BRRTS No. 02-38-580694. July 16.

Arcadis. 2021b. Operations, Maintenance, and Long-term Monitoring Plan (OM&M Plan), Tyco FTC – Ditch B Interim Action Site, 2700 Industrial Parkway South, Marinette, Wisconsin 54143, BRRTS No. 02-38-580694. July 19.

Arcadis. 2021c. Operations, Maintenance, and Long-term Monitoring Plan (OM&M Plan), Tyco FTC – Ditch A Interim Action Site, 2700 Industrial Parkway South, Marinette, Wisconsin 54143, BRRTS No. 02-38-580694. July 22.

Arcadis. 2022. Deep Aquifer Bedrock Well Design and Long-Term Monitoring Work Plan. September 27.

Arcadis. 2024. Interim Long Term Monitoring Plan for Groundwater and Surface Water, Tyco Fire Technology Center, Marinette, Wisconsin 54143, BRRTS No. 02-38-580694. March 15.

Arcadis. 2025a. Final Quality Assurance Project Plan Addendum, Tyco Per- and Polyfluoroalkyl Substances (PFAS) Site Investigation and Private Well Sampling Activities, Marinette, Wisconsin. March 31.

Arcadis. 2025b. 2025 Interim Long Term Monitoring Report #2, Tyco Fire Technology Center, Marinette, Wisconsin 54143, BRRTS No. 02-38-580694. March 31.

Arcadis. 2025c. GETS Short-Term Monitoring Report #5, November 14, 2022 through May 11, 2025, BRRTS# 02-38-580694. June 16.

Tables

ARCADIS

Table 1
Well Construction and Monitoring Location Details
Revised Interim Long Term Monitoring Plan
Tyco Fire Technology Center
Marinette, Wisconsin

Well ID	Area	Year Installed	Zone	Northing	Easting	Ground Elevation (ft NAVD88)	Top of Casing Elevation (ft NAVD88)	Depth to Top of Screen (ft bgs)	Depth to Bottom of Screen (ft bgs)	Surface Finish
Northern Well Network										
MW003D	Stanton	-	BR	470592.1	2584078.7	584.6	587.3	45	50	SU
MW013S-R	Offsite	2022	S	469102.6	2583255.0	589.9	589.3	9	19	FM
MW013M-R	Offsite	2022	D	469092.9	2583271.2	589.9	589.3	30	35	FM
MW013D-R	Offsite	2022	BR	469097.9	2583262.6	589.9	589.6	41	46	FM
MW042D	Stanton	-	BR	469846.6	2584162.1	NA	587.2	50	55	SU
MW046D	Stanton	-	BR	469473.3	2585481.9	NA	585.0	53.5	58.5	SU
MW064D	Stanton	-	BR	469426.3	2584598.4	NA	588.8	51.7	56.7	SU
MW105D-R	Stanton	2023	BR	470085.1	2583775.1	583.3	582.9	37	42	FM
MW125S-20	Offsite	2020	S	468124.9	2582658.0	596.5	596.2	10	20	FM
MW125M-35	Offsite	2020	D	468123.8	2582646.8	596.6	596.3	30	35	FM
MW125D-60	Offsite	2020	BR	468123.1	2582652.0	596.4	596.0	50	60	FM
MW126S-20	Offsite	2020	S	469387.1	2581781.3	598.4	598.1	10	20	FM
MW126D-40	Offsite	2020	BR	469386.5	2581775.5	598.4	597.8	30	40	FM
MW128S-17	Offsite	2022	S	468745.6	2584546.1	595.6	595.1	7	17	FM
MW128M-30	Offsite	2022	D	468739.6	2584544.3	595.7	595.2	25	30	FM
MW129S-21	Offsite	2022	S	468500.1	2585920.6	586.1	585.3	11	21	FM
MW129M-45	Offsite	2022	D	468494.0	2585918.9	586.0	585.6	40	45	FM
MW130S	Offsite	2024	S	469493.0	2583540.6	586.185	585.8	5	15	FM
MW131S	Offsite	2024	S	468918.4	2586132.9	585.029	584.6	10	20	FM
MW131M	Offsite	2024	D	468924.8	2586130.6	585.137	584.7	30	35	FM
PZ-26-11	Offsite	2019	S	466609.4	2579203.4	597.9	597.8	6	11	FM
PZ-26-36	Offsite	2022	BR	466619.3	2579206.6	597.0	596.1	31	36	FM
PZ-28-14	Offsite	2019	S	467125.0	2583162.7	594.7	594.4	9	14	FM
PZ-28-54	Offsite	2019	D	467123.2	2583168.6	594.8	594.5	49	54	FM
PZ-28-75	Offsite	2020	BR	467127.7	2583152.3	594.6	594.3	65	75	FM
PZ-62-62	Offsite	2022	D	466239.8	2586295.7	585.0	584.6	57	62	FM
PZ-63-44	Offsite	2024	D	466838.4	2582055.9	594.6	594.2	39	44	FM
PZ-63-60	Offsite	2022	BR	466843.7	2582055.9	594.7	594.1	55	60	FM
PZ-78-17	Offsite	2024	S	467277.5	2586583.8	586.2	585.8	7	17	FM
PZ-78-74	Offsite	2022	BR	467282.2	2586583.8	586.1	585.7	71.5	73.5	FM
PZ-90-20	Offsite	2025	S	468042.5	2581236.7	596.0	595.5	5	20	FM
Central Well Network										
Monitoring Wells										
FTC-2S	FTC	1993	S	462333.2	2577206.6	611.3	611.1	5	15	FM
FTC-2D	FTC	1993	D	462335.3	2577215.4	611.5	611.2	27	32	FM
FTC-31	FTC	1995	S	462049.3	2577284.7	NA	610.3	3	13	FM
FTC-34S	FTC	1996	S	462115.2	2577669.0	NA	608.5	3	13	FM
FTC-34D	FTC	1996	D	462117.0	2577666.1	NA	608.7	28	33	FM
FTC-44	FTC	2003	S	461808.4	2577590.8	NA	611.3	5	15	SU
HMW-2-3S[1]	FTC	-	S	461171.6	2576750.1	611.3	613.2	6	16	SU
HMW-2-3D[1]	FTC	-	D	461173.3	2576753.0	611.4	614.4	32	42	SU
MW-EX-2	FTC	2021	D	463835.9	2579741.4	604.4	606.8	19.5	29.5	SU
MW-EX-3	Offsite	2021	D	464476.0	2580784.0	592.5	594.9	22	27	SU
MW-EX-4	Offsite	2021	D	464231.5	2581108.9	592.9	595.5	22	27	SU
MW-EX-5	Offsite	2021	D	463913.1	2581502.3	592.3	594.5	45	50	SU
MW-EX-10	FTC	2024	D	461474.0	2577073.1	611.6	614.4	40	45	SU
MW-EX-11	FTC	2024	D	460846.5	2577284.8	615.1	618.0	37	42	SU
MW-EX-12	Offsite	2024	D	464675.4	2580755.1	594.3	597.0	30	35	SU
MW-EX-13	Offsite	2024	S	464295.0	2580906.3	593.2	595.6	20	25	SU
PZ-1D	FTC	2010	BR	463765.5	2579848.6	NA	606.2	63.5	68.5	SU
PZ-3	FTC	2010	D	462780.0	2579903.6	NA	609.2	38	43	SU
PZ-4S[2]	FTC	2010	D	NA	NA	NA	607.9	36	41	SU

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Central Well Network (Continued)										
Monitoring Wells (Continued)										
PZ-4D	FTC	2010	BR	462514.6	2578515.2	605.8	607.9	68.5	73.5	SU
PZ-6S	FTC	NA	S	463871.7	2579271.5	NA	609.4	4	19	SU
PZ-9	FTC	NA	D	463351.7	2578076.4	NA	611.2	38	43	SU
PZ-11	FTC	NA	D	461872.6	2578131.0	NA	611.4	41	46	SU
PZ-14S	FTC	NA	S	462736.7	2577956.9	NA	610.8	4	19	SU
PZ-14D	FTC	NA	D	462739.6	2577964.8	NA	611.2	25	35	SU
PZ-15S	FTC	NA	S	463911.0	2579668.7	605.2	608.2	4	19	SU
PZ-15D	FTC	NA	D	463914.2	2579671.3	605.0	608.2	22	32	SU
PZ-16S	FTC	NA	S	463910.1	2579069.6	NA	609.3	4	19	SU
PZ-16D	FTC	NA	D	463913.8	2579072.1	NA	609.0	28	38	SU
PZ-17S	FTC	NA	S	463877.3	2579286.3	NA	609.1	4	19	SU
PZ-17D	FTC	NA	D	463881.2	2579293.7	NA	609.1	23	33	SU
PZ-19	FTC	NA	D	463133.7	2580048.4	NA	608.7	27	37	SU
PZ-22S	FTC	NA	S	462770.3	2579826.4	NA	609.7	10	20	SU
PZ-23	Offsite	2017	D	464564.7	2580218.1	597.9	597.6	35	40	FM
PZ-24-17	Offsite	2019	S	461565.5	2580738.8	605.2	604.8	7	17	FM
PZ-24-47	Offsite	2019	D	461570.2	2580738.9	605.6	604.7	37	47	FM
PZ-25-17	Offsite	2019	S	465263.6	2579969.3	598.6	598.3	7	17	FM
PZ-29-17	Offsite	2019	S	465386.4	2581734.1	593.9	593.6	7	17	FM
PZ-29-43	Offsite	2019	D	465386.3	2581729.5	593.8	593.5	38	43	FM
PZ-29-68	Offsite	2020	BR	465386.4	2581721.4	593.7	593.5	58	68	FM
PZ-30-12	Offsite	2019	S	464126.0	2582520.2	594.6	594.3	7	12	FM
PZ-30-45	Offsite	2019	D	464123.4	2582525.0	594.5	594.2	35	45	FM
PZ-30-59	Offsite	2019	D	464121.2	2582529.1	594.4	594.2	54	59	FM
PZ-31-17	Offsite	2019	S	462494.2	2582369.0	595.8	595.5	7	17	FM
PZ-31-40	Offsite	2019	D	462490.8	2582364.0	595.7	595.4	35	40	FM
PZ-31-53	Offsite	2019	D	462491.4	2582374.6	595.8	595.2	48	53	FM
PZ-32-18	Offsite	2019	S	461901.1	2583990.8	591.6	591.2	8	18	FM
PZ-32-72	Offsite	2019	D	461908.3	2583990.8	591.7	591.2	67	72	FM
PZ-45-31	Offsite	2020	D	463858.4	2579412.7	605.7	607.9	21	31	SU
PZ-47-40	FTC	2021	D	463488.1	2578741.0	608.2	611.0	35	40	SU
PZ-51-38	Offsite	2021	D	463344.4	2582027.2	594.9	594.4	33	38	FM
PZ-52-41R	Offsite	2024	D	462766.1	2582402.6	595.2	594.7	36	41	FM
PZ-53-40	Offsite	2021	D	461921.2	2582490.5	596.0	595.7	35	40	FM
PZ-54-47R	Offsite	2024	D	462704.5	2581359.4	598.9	598.4	42	47	FM
PZ-55-64	Offsite	2021	D	462662.5	2580658.8	616.5	616.3	59	64	FM
PZ-56-42	Offsite	2021	D	463289.6	2580664.2	605.9	605.4	37.2	42.2	FM
PZ-57-38	Offsite	2021	D	462908.7	2583829.9	594.3	594.0	33	38	FM
PZ-58-40	Offsite	2022	D	462256.6	2582444.3	596.6	596.4	35	40	FM
PZ-58-50	Offsite	2022	D	462249.5	2582444.4	596.8	596.4	45	50	FM
PZ-59-21	Offsite	2022	S	463843.5	2575547.5	613.6	613.1	11	21	FM
PZ-60-20	Offsite	2022	S	461877.2	2574148.8	612.9	612.5	10	20	FM
PZ-61-11	Offsite	2022	S	463970.7	2587161.1	585.4	585.0	6	11	FM
PZ-65-16	FTC	2022	S	463214.8	2577133.1	610.1	609.7	6	16	SU
PZ-65-33	FTC	2022	D	463220.8	2577133.1	609.9	610.1	28	33	SU
PZ-67-16	FTC	2022	S	462134.2	2576628.1	611.8	611.4	6	16	FM
PZ-67-40	FTC	2022	D	462145.5	2576625.0	611.7	611.4	35	40	FM
PZ-68-16	FTC	2022	S	462087.9	2575878.5	610.9	613.5	6	16	SU
PZ-68-26	FTC	2022	D	462079.6	2575878.1	611.0	613.9	21	26	SU
PZ-68-66	FTC	2022	BR	462099.6	2575885.2	610.9	613.5	61	66	SU

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Central Well Network (Continued)										
Monitoring Wells (Continued)										
PZ-69-24	FTC	2022	S	462530.0	2579219.3	612.3	614.8	14	24	SU
PZ-69-43	FTC	2022	D	462533.4	2579214.7	614.5	612.2	38	43	SU
PZ-70-17	FTC	2022	S	460233.9	2577370.9	608.7	611.5	7	17	SU
PZ-70-33	FTC	2022	D	460231.0	2577365.8	608.6	611.1	28	33	SU
PZ-70-55	FTC	2022	D	460222.5	2577349.2	609.2	611.9	50	55	SU
PZ-70-83	FTC	2022	BR	460225.2	2577361.7	608.6	611.6	73	83	SU
PZ-71-111	Offsite	2022	BR	461300.0	2580741.4	605.8	605.2	101	111	FM
PZ-79-16	Offsite	2024	S	464267.4	2583779.6	592.3	591.9	6	16	FM
PZ-79-25	Offsite	2024	D	464263.1	2583779.7	592.2	591.8	20	25	FM
PZ-79-32	Offsite	2024	D	464256.4	2583779.9	592.2	591.7	27	32	FM
PZ-81-25	Offsite	2024	S	464302.0	2584667.5	590.9	590.7	20	25	FM
PZ-81-92	Offsite	2024	BR	464307.1	2584667.2	590.8	590.4	82	92	FM
PZ-86-17	FTC	2024	S	461305.5	2577968.0	612.5	614.9	7	17	SU
PZ-86-38	FTC	2024	D	461305.7	2577962.7	612.3	615.0	33	38	SU
PZ-87-16	FTC	2024	S	461195.3	2575836.6	613.1	615.0	6	16	SU
PZ-87-47	FTC	2024	D	461203.4	2575837.8	613.1	615.6	42	47	SU
GETS Extraction Wells										
EX-1S	FTC	2023	D	463869.3	2579443.0	605.9	608.1	22	35	FM
EX-2S	FTC	2023	D	463845.5	2579729.7	604.0	606.6	22	35	FM
EX-3	FTC	2021	D	464475.6	2580729.7	595.1	595.2	7	22	FM
EX-4	FTC	2021	D	464168.1	2581090.0	594.4	594.5	12	27	FM
EX-5	FTC	2021	D	463860.0	2581470.1	593.2	593.3	35	50	FM
EX-6	FTC	2021	D	463381.0	2582022.2	594.4	594.4	25	40	FM
EX-7R	FTC	2022	D	462785.6	2582330.2	596.1	596.1	26	41	FM
EX-8	FTC	2021	D	462676.8	2580658.3	615.8	616.8	54	69	FM
EX-9	FTC	2021	D	461957.3	2582473.2	596.2	596.3	25	40	FM
EX-10	FTC	2024	D	461496.9	2577044.5	NA	612.4	35	50	FM
EX-11	FTC	2024	D	460775.5	2577323.9	NA	617.1	32	47	FM
EX-12	FTC	2024	D	464667.3	2580750.0	593.9	596.2	20	35	FM
EX-13	FTC	2024	D	464295.7	2580922.4	593.1	594.7	21	36	FM
EX-14	FTC	2022	BR	464204.1	2581112.3	NA	595.1	58	67	FM
EX-15	FTC	TBD	D	TBD	TBD	TBD	TBD	TBD	TBD	FM
Southern Well Network										
MW-100-32	Offsite	2018	D	457304.1	2578843.5	602.1	601.5	22	32	FM
MW-100-68	Offsite	2018	D	457304.3	2578849.0	602.1	601.8	58	68	FM
MW-100-88	Offsite	2024	BR	457304.1	2578855.9	602.1	601.9	83	88	FM
MW-101-16	Offsite	2018	S	459912.1	2580497.8	603.4	603.2	6	16	FM
MW-101-72	Offsite	2018	D	459907.9	2580496.3	603.5	603.2	62	72	FM
PZ-33-12	Offsite	2019	S	460123.9	2582902.9	594.7	594.3	7	12	FM
PZ-33-33	Offsite	2019	D	460123.7	2582897.4	594.6	594.3	28	33	FM
PZ-33-67	Offsite	2019	D	460123.1	2582892.7	594.6	594.4	57	67	FM
PZ-33-105	Offsite	2022	BR	459912.9	2582765.6	594.4	594.2	100	105	FM
PZ-34-17	Offsite	2019	S	457159.4	2583554.2	591.1	590.8	7	17	FM
PZ-34-84	Offsite	2019	D	457164.3	2583555.2	591.3	590.9	74	84	FM
PZ-35-17	Offsite	2019	S	459506.0	2577175.7	608.7	608.2	7	17	FM
PZ-35-37	Offsite	2019	D	459501.9	2577178.8	608.7	608.2	32	37	FM
PZ-44-73	Offsite	2019	D	454734.7	2580183.8	595.2	594.6	63	73	FM
PZ-46-19	Offsite	2020	S	459758.8	2578839.8	604.3	603.9	9	19	FM
PZ-46-40	Offsite	2020	D	459758.1	2578828.6	604.4	604.0	30	40	FM
PZ-46-65	Offsite	2020	D	459757.7	2578819.8	604.2	603.8	60	65	FM
PZ-66-20	FTC	2022	S	460222.5	2575675.8	613.9	616.1	10	20	SU

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Southern Well Network (Continued)										
PZ-66-57	FTC	2022	D	460538.8	2575677.4	614.6	617.3	52	57	SU
PZ-72-73	Offsite	2024	D	458272.9	2580834.7	598.6	598.2	68	73	FM
PZ-73-16	Offsite	2022	S	455740.3	2578713.6	601.7	601.2	6	16	FM
PZ-73-32	*Offsite*	*2024*	*D*	*455733.7*	*2578699.8*	*602.1*	*602.0*	*27*	*32*	*FM*
PZ-73-75	Offsite	2022	D	455736.0	2578704.5	601.9	601.4	70	75	FM
PZ-74-32	Offsite	2024	D	458877.4	2583695.6	593.8	593.4	22	32	FM
PZ-74-80	Offsite	2024	D	458877.1	2583690.1	593.3	593.4	75	80	FM
PZ-75-18	Offsite	2022	S	457336.4	2577001.7	605.5	605.1	8	18	FM
PZ-76-34	Offsite	2022	D	459789.7	2584628.1	592.8	592.3	29	34	FM
PZ-77-16	Offsite	2022	S	458682.5	2575530.9	606.9	609.8	5.7	15.7	SU
PZ-80-37	Offsite	2024	D	455276.6	2583157.1	595.6	595.1	32	37	FM
PZ-82-16	Offsite	2024	S	456563.8	2578344.9	599.9	599.4	6	16	FM
PZ-83-50	Offsite	2024	D	454686.0	2579229.0	597.5	597.1	45	50	FM
PZ-85-69	Offsite	2024	BR	457336.5	2575645.9	604.2	604.1	64	69	FM
PZ-89-40	Offsite	2025	D	456278.6	2580956.2	594.1	593.6	35	40	FM
TW-01	Offsite	2018	S	454749.4	2580449.1	594.7	594.5	9.5	19.5	FM
TW-02	Offsite	2018	S	456286.9	2580955.6	594.1	593.8	10	20	FM
TW-03	Offsite	2018	S	458244.3	2580830.6	598.3	598.1	10	20	FM
TW-04	Offsite	2018	S	455223.9	2583148.3	593.9	593.6	10	20	FM
TW-05	Offsite	2018	S	454646.6	2578511.1	597.8	597.5	10	20	FM
Deep Bedrock Aquifer Well Network										
DMW-01	Offsite	2023	DBR	459755.8	2578796.8	604.4	605.8	305	460	SU
DMW-02	Offsite	2023	DBR	459892.0	2582759.9	594.2	595.8	168	500	SU
DMW-03	Offsite	2023	DBR	455458.8	2581137.1	593.8	595.6	178	510	SU
DMW-04	Offsite	2023	DBR	457140.0	2583550.1	591.1	590.8	185	543	FM
IRR-01	Offsite	1994	DBR	NA	NA	NA	NA	45	418	SU
IRR-02R	Offsite	2023	DBR	NA	NA	NA	NA	124	597	SU
Surface Water Benchmark Locations										
SG-A1	DitchA	NA	NA	462175.9	2576923.7	NA	608.3	NA	NA	NA
SG-L09	Ditch B	NA	NA	461731.8	2583377.9	NA	594.5	NA	NA	NA
SG-M01	Ditch B	NA	NA	462816.3	2582507.7	NA	593.5	NA	NA	NA
SG-M09	Ditch B	NA	NA	464728.4	2580715.4	NA	594.3	NA	NA	NA
SG-U03	Ditch B	NA	NA	464616.9	2580026.8	NA	598.5	NA	NA	NA
SG-U10	Ditch B	NA	NA	464305.3	2577082.2	NA	604.9	NA	NA	NA
SG-10	Ditch A	NA	NA	454651.2	2577823.7	NA	596.4	NA	NA	NA
SG-12	Ditch A	NA	NA	457336.7	2578735.5	NA	601.4	NA	NA	NA
SG-13	Ditch A	NA	NA	457326.6	2577402.0	NA	600.0	NA	NA	NA
SG-23	Ditch A	NA	NA	463399.5	2576808.5	NA	608.5	NA	NA	NA
SG-26	Ditch A	NA	NA	459954.1	2579450.0	NA	602.7	NA	NA	NA
SG-36	Ditch D	NA	NA	460101.0	2582119.1	NA	594.6	NA	NA	NA
SG-45	Ditch A/D	NA	NA	460015.8	2580829.1	NA	600.8	NA	NA	NA
SG-47	Ditch A	NA	NA	457379.7	2575405.7	NA	604.1	NA	NA	NA
SG-48	Ditch A	NA	NA	456484.6	2578250.4	NA	598.8	NA	NA	NA
SG-50	Ditch A	NA	NA	463376.3	2576546.6	NA	608.5	NA	NA	NA
SG-53	Ditch B	NA	NA	463645.4	2575386.6	NA	608.6	NA	NA	NA
Surface Water Stilling Wells										
STW-U10	Ditch B	2025	NA	464299.3	2577202.4	NA	602.9	NA	NA	SU
STW-M09	Ditch B	2025	NA	464522.5	2580967.6	NA	592.6	NA	NA	SU
Ditch Monitoring Locations										
SW-10	Ditch A	NA	NA	454622.3	2577900.5	NA	NA	NA	NA	NA
SW-12	Ditch A	NA	NA	457345.6	2578759.8	NA	NA	NA	NA	NA
SW-26	Ditch A	NA	NA	459950.6	2579428.9	NA	NA	NA	NA	NA

Table 1
Well Construction and Monitoring Location Details
Revised Interim Long Term Monitoring Plan
Tyco Fire Technology Center
Marinette, Wisconsin

Well ID	Area	Year Installed	Zone	Northing	Easting	Ground Elevation (ft NAVD88)	Top of Casing Elevation (ft NAVD88)	Depth to Top of Screen (ft bgs)	Depth to Bottom of Screen (ft bgs)	Surface Finish
Ditch Monitoring Locations (Continued)										
SW-30	Ditch C	NA	NA	464592.0	2587793.9	NA	NA	NA	NA	NA
SW-33	Ditch D	NA	NA	456799.0	2583460.2	NA	NA	NA	NA	NA
SW-36	Ditch D	NA	NA	460092.7	2582005.4	NA	NA	NA	NA	NA
SW-43	Ditch E	NA	NA	454983.9	2582961.7	NA	NA	NA	NA	NA
SW/GW-U03	Ditch B	NA	NA	464587.1	2579773.7	NA	NA	NA	NA	NA
SW-U10	Ditch B	NA	NA	464298.0	2577215.1	NA	NA	NA	NA	NA
SW/GW-M01	Ditch B	NA	NA	462921.1	2582477.4	NA	NA	NA	NA	NA
SW/GW-M04	Ditch B	NA	NA	463546.5	2582097.6	NA	NA	NA	NA	NA
SW/GW-M07	Ditch B	NA	NA	464234.7	2581307.4	NA	NA	NA	NA	NA
SW/GW-M09	Ditch B	NA	NA	464604.7	2580864.3	NA	NA	NA	NA	NA
SW-L03	Ditch B	NA	NA	460987.2	2584898.4	NA	NA	NA	NA	NA
SW-L09	Ditch B	NA	NA	461728.5	2583540.5	NA	NA	NA	NA	NA
SW-P1B	Ditch B	NA	NA	464786.1	2580794.0	NA	NA	NA	NA	NA
SW-P4B	Ditch B	NA	NA	465044.5	2580974.5	NA	NA	NA	NA	NA
SW-P5	Ditch B	NA	NA	465336.9	2580685.0	NA	NA	NA	NA	NA
SW-P6	Ditch B	NA	NA	465703.4	2580112.7	NA	NA	NA	NA	NA

Notes:
(1)Bottom of screen is measured total depth, but all were soft bottoms. HMW-2-3 series wells have slotted screens with threaded joints.
(2)The top of casing elevation for PZ-4S is not available.
Vertical Datum: North American Vertical Datum (NAVD) 1988
Ditch monitoring location coordinates are approximate.

Acronyms/Abbreviations:
bgs = below ground surface
ft = feet
FTC = Fire Technology Center
GETS = Groundwater Extraction and Treatment System
NA = not available
Zone screened abbreviations: S = shallow overburden < 25 feet deep; D = deep overburden > 25 feet deep; BR = bedrock; DBR = deep bedrock aquifer
Surface finish abbreviations: FM = flush mount; SU = stick up

Table 2
Monitoring Well and Surface Water Monitoring Plan, Years 1 - 4
Revised Interim Long Term Monitoring Plan
Tyco Fire Technology Center
Marinette, Wisconsin

Area	Monitoring Purpose	Media	Well/Location ID	MW Zone	Transducer?	Year 1				Year 2				Year 3				Year 4			
						Q2 2025	Q3 2025	Q4 2025	Q1 2026	Q2 2026	Q3 2026	Q4 2026[1]	Q1 2027	Q2 2027	Q3 2027	Q4 2027	Q1 2028	Q2 2028	Q3 2028	Q4 2028[1]	Q1 2029
Overburden and Shallow Bedrock Groundwater Monitoring																					
Northern	Plume Interior	GW	MW003D	BR				X				X				X				X	
Northern	Plume Interior	GW	MW013S-R	S				X				X				X				X	
Northern	Plume Interior	GW	MW013M-R	D				G				X				G				X	
Northern	Plume Interior	GW	MW013D-R	BR				X				X				X				X	
Northern	Plume Interior	GW	MW042D	BR				X				X				X				X	
Northern	Plume Interior	GW	MW046D	BR				X				X				X				X	
Northern	Plume Interior	GW	MW064D	BR				X				X				X				X	
Northern	Plume Interior	GW	MW105D-R	BR				X				X				X				X	
Northern	Plume Interior	GW	MW125S-20	S				X				X				X				X	
Northern	Plume Interior	GW	MW125M-35	D				X				X				X				X	
Northern	Plume Interior	GW	MW125D-60	BR				X				X				X				X	
Northern	Plume Boundary	GW	MW126S-20	S				X				X				G				X	
Northern	Plume Boundary	GW	MW126D-40	BR				X				X				G				X	
Northern	Plume Interior	GW	MW128S-17	S				X				X				X				X	
Northern	Plume Interior	GW	MW128M-30	D				X				X				X				X	
Northern	Plume Interior	GW	MW129S-21	S				X				X				X				X	
Northern	Plume Interior	GW	MW129M-45	D				G				X				G				X	
Northern	Plume Interior	GW	MW130S	S				X				X				X				X	
Northern	Plume Boundary	GW	MW131S	S				X				X				G				X	
Northern	Plume Boundary	GW	MW131M	D				X				X				G				X	
Northern	Plume Boundary	GW	PZ-26-11	S		G		X				X				G				X	
Northern	*Plume Boundary*	*GW*	*PZ-26-36*	*BR*		*X*	*X*	*X*	*X*			*X*				*G*				*X*	
Northern	Plume Interior	GW	PZ-28-14	S				X				X				X				X	
Northern	Plume Interior	GW	PZ-28-54	D				X				X				X				X	
Northern	*Plume Boundary*	*GW*	*PZ-28-75*	*BR*		*X*	*X*	*X*	*X*	*X*		*X*				*X*				*X*	
Northern	Plume Boundary	GW	PZ-62-62	D				X				X				G				X	
Northern	Plume Interior	GW	PZ-63-44	S				X				X				X				X	
Northern	Plume Interior	GW	PZ-63-60	BR				X				X				X				X	
Northern	Plume Boundary	GW	PZ-78-17	S				X				X				G				X	
Northern	Plume Boundary	GW	PZ-78-74	BR				X				X				G				X	
Northern	Plume Interior	GW	PZ-90-20	S				X				X				X				X	
Central	Plume Interior	GW	FTC-2D	D		X		X				X				X				X	
Central	Plume Interior	GW	FTC-2S	S		X		X				X				X				X	
Central	Plume Interior	GW	FTC-31	S		X		X				X				X				X	
Central	Plume Interior	GW	FTC-34D	D		X		X				X				X				X	
Central	Plume Interior	GW	FTC-34S	S		X		X				X				X				X	
Central	Plume Interior	GW	FTC-44	S		X		X				X				X				X	
Central	Plume Interior	GW	HMW-2-3D	D		X		X				X				X				X	
Central	Plume Interior	GW	HMW-2-3S	S		X		X				X				X				X	
Central	GETS Performance	GW	MW-EX-2	D	Y	G		G		G		G		G		G		G		G	

Table 2
Monitoring Well and Surface Water Monitoring Plan, Years 1 - 4
Revised Interim Long Term Monitoring Plan
Tyco Fire Technology Center
Marinette, Wisconsin

Area	Monitoring Purpose	Media	Well/Location ID	MW Zone	Transducer?	Year 1				Year 2				Year 3				Year 4			
						Q2 2025	Q3 2025	Q4 2025	Q1 2026	Q2 2026	Q3 2026	Q4 2026[1]	Q1 2027	Q2 2027	Q3 2027	Q4 2027	Q1 2028	Q2 2028	Q3 2028	Q4 2028[1]	Q1 2029
Overburden and Shallow Bedrock Groundwater Monitoring (Continued)																					
Central	GETS Performance	GW	MW-EX-3	D	Y	G		G		G		G		G		G		G		G	
Central	GETS Performance	GW	MW-EX-4	D	Y	G		G		G		G		G		G		G		G	
Central	GETS Performance	GW	MW-EX-5	D	Y	G		G		G		G		G		G		G		G	
Central	GETS Performance	GW	MW-EX-10	D	Y	G		G		G		G		G		G		G		G	
Central	GETS Performance	GW	MW-EX-11	D	Y	G		G		G		G		G		G		G		G	
Central	GETS Performance	GW	MW-EX-12	D	Y	G		G		G		G		G		G		G		G	
Central	GETS Performance	GW	MW-EX-13	D	Y	G		G		G		G		G		G		G		G	
Central	*Plume Interior*	*GW*	*PZ-1D*	*BR*		*X*		*X*				*X*				*X*				*X*	
Central	GETS Performance	GW	PZ-3	D		X		X		X		X		X		X		X		X	
Central	Plume Interior	GW	PZ-4S	D		X		X				X				X				X	
Central	*GETS Performance*	*GW*	*PZ-4D*	*BR*		*X*		*X*		*X*		*X*		*X*		*X*		*X*		*X*	
Central	GETS Performance	GW	PZ-6S	S	*	G		G				G				G				G	
Central	Plume Interior	GW	PZ-9	D		X		X				X				X				X	
Central	Plume Interior	GW	PZ-11	D		X		X				X				X				X	
Central	Plume Interior	GW	PZ-14S	S		X		X				X				X				X	
Central	Plume Interior	GW	PZ-14D	D		X		X				X				X				X	
Central	*GETS Performance*	*GW*	*PZ-15S*	*S*		*X*		*X*		*X*		*X*		*X*		*X*		*X*		*X*	
Central	*GETS Performance*	*GW*	*PZ-15D*	*D*		*X*		*X*		*X*		*X*		*X*		*X*		*X*		*X*	
Central	*GETS Performance*	*GW*	*PZ-16S*	*S*		*X*		*X*		*X*		*X*		*X*		*X*		*X*		*X*	
Central	*GETS Performance*	*GW*	*PZ-16D*	*D*		*X*		*X*		*X*		*X*		*X*		*X*		*X*		*X*	
Central	GETS Performance	GW	PZ-17S	S		G		G				G				G				G	
Central	GETS Performance	GW	PZ-17D	D		G		G				G				G				G	
Central	Plume Interior	GW	PZ-19	D		X		X				X				X				X	
Central	*GETS Performance*	*GW*	*PZ-22S*	*S*		*X*		*X*		*X*		*X*		*X*		*X*		*X*		*X*	
Central	GETS Performance	GW	PZ-23	D		X		X		X		X		X		X		X		X	
Central	*GETS Performance*	*GW*	*PZ-24-17*	*S*		*X*		*X*		*X*		*X*		*X*		*X*		*X*		*X*	
Central	GETS Performance	GW	PZ-24-47	D		X		X		X		X		X		X		X		X	
Central	GETS Performance	GW	PZ-25-17	S		X		X		X		X		X		X		X		X	
Central	*GETS Performance*	*GW*	*PZ-29-17*	*S*		*X*		*X*		*X*		*X*		*X*		*X*		*X*		*X*	
Central	*GETS Performance*	*GW*	*PZ-29-43*	*D*		*X*		*X*		*X*		*X*		*X*		*X*		*X*		*X*	
Central	*GETS Performance*	*GW*	*PZ-29-68*	*BR*	*Y*	*X*		*X*		*X*		*X*		*X*		*X*		*X*		*X*	
Central	GETS Performance	GW	PZ-30-12	S		X		X		X		X		X		X		X		X	
Central	GETS Performance	GW	PZ-30-45	D		X		X		X		X		X		X		X		X	
Central	GETS Performance	GW	PZ-30-59	D		X		X		X		X		X		X		X		X	
Central	*GETS Performance*	*GW*	*PZ-31-17*	*S*		*X*		*X*		*X*		*X*		*X*		*X*		*X*		*X*	
Central	*GETS Performance*	*GW*	*PZ-31-40*	*D*		*X*		*X*		*X*		*X*		*X*		*X*		*X*		*X*	
Central	*GETS Performance*	*GW*	*PZ-31-53*	*D*		*X*		*X*		*X*		*X*		*X*		*X*		*X*		*X*	
Central	*GETS Performance*	*GW*	*PZ-32-18*	*S*		*X*		*X*		*X*		*X*		*X*		*X*		*X*		*X*	
Central	GETS Performance	GW	PZ-32-72	D		X		X		X		X		X		X		X		X	
Central	GETS Performance	GW	PZ-45-31	D	Y	G		G		G		G		G		G		G		G	

Table 2
Monitoring Well and Surface Water Monitoring Plan, Years 1 - 4
Revised Interim Long Term Monitoring Plan
Tyco Fire Technology Center
Marinette, Wisconsin

Area	Monitoring Purpose	Media	Well/Location ID	MW Zone	Transducer?	Year 1				Year 2				Year 3				Year 4			
						Q2 2025	Q3 2025	Q4 2025	Q1 2026	Q2 2026	Q3 2026	Q4 2026[1]	Q1 2027	Q2 2027	Q3 2027	Q4 2027	Q1 2028	Q2 2028	Q3 2028	Q4 2028[1]	Q1 2029
Overburden and Shallow Bedrock Groundwater Monitoring (Continued)																					
Central	GETS Performance	GW	PZ-47-40	D		X		X		X		X		X		X		X		X	
Central	GETS Performance	GW	PZ-51-38	D	Y	G		G		G		G		G		G		G		G	
Central	GETS Performance	GW	PZ-52-41R	D	Y	G		G		G		G		G		G		G		G	
Central	GETS Performance	GW	PZ-53-40	D	Y	G		G		G		G		G		G		G		G	
Central	*GETS Performance*	*GW*	*PZ-54-47R*	*D*		*X*		*X*		*X*		*X*		*X*		*X*		*X*		*X*	
Central	GETS Performance	GW	PZ-55-64	D	Y	G		G		G		G		G		G		G		G	
Central	*GETS Performance*	*GW*	*PZ-56-42*	*D*		*X*		*X*		*X*		*X*		*X*		*X*		*X*		*X*	
Central	GETS Performance	GW	PZ-57-38	D		X		X		X		X		X		X		X		X	
Central	GETS Performance	GW	PZ-58-40	D		G															
Central	*GETS Performance*	*GW*	*PZ-58-50*	*D*		*X*		*X*		*X*		*X*		*X*		*X*		*X*		*X*	
Central	Plume Boundary	GW	PZ-59-21	S		X		X				X				X				X	
Central	Plume Boundary	GW	PZ-60-20	S				X				X				G				X	
Central	*Plume Boundary*	*GW*	*PZ-61-11*	*S*		*X*	*X*	*X*	*X*	*X*		*X*				*G*				*X*	
Central	Plume Interior	GW	PZ-65-16	S		X		X				X				X				X	
Central	Plume Interior	GW	PZ-65-33	D		X		X				X				X				X	
Central	Plume Interior	GW	PZ-67-16	S		X		X				X				X				X	
Central	Plume Interior	GW	PZ-67-40	D		X		X				X				X				X	
Central	Plume Interior	GW	PZ-68-16	S	Y	X		X				X				X				X	
Central	Plume Interior	GW	PZ-68-26	D	Y	X		X				X				X				X	
Central	Plume Boundary	GW	PZ-68-66	BR	Y	G		G				X				G				X	
Central	Plume Interior	GW	PZ-69-24	S		X		X				X				X				X	
Central	Plume Interior	GW	PZ-69-43	D		X		X				X				X				X	
Central	GETS Performance	GW	PZ-70-17	S	Y			X		X		X		X		X		X		X	
Central	GETS Performance	GW	PZ-70-33	D	Y			X		X		X		X		X		X		X	
Central	Plume Interior	GW	PZ-70-55	D				G				X				G				X	
Central	Plume Boundary	GW	PZ-70-83	BR				G				X				G				X	
Central	Plume Interior	GW	PZ-71-111	BR	Y			X				X				X				X	
Central	Plume Interior	GW	PZ-79-16	S				X				X				X				X	
Central	Plume Interior	GW	PZ-79-25	D				X				X				X				X	
Central	Plume Interior	GW	PZ-79-32	D				X				X				X				X	
Central	Plume Boundary	GW	PZ-81-25	S				X				X				G				X	
Central	Plume Boundary	GW	PZ-81-92	BR				X				X				G				X	
Central	Plume Boundary	GW	PZ-86-17	S		X		X				X				X				X	
Central	Plume Boundary	GW	PZ-86-38	D		X		X				X				X				X	
Central	Plume Interior	GW	PZ-87-16	S				X				X				X				X	
Central	Plume Interior	GW	PZ-87-47	D				X				X				X				X	
Central	Plume Boundary	GW	*Proposed PZ-88 S/D well(s)*[3]	S/D				X				X				G				X	
Southern	*Plume Boundary*	*GW*	*MW-100-32*	*D*		*X*	*X*	*X*	*X*			*X*				*G*				*X*	
Southern	Plume Boundary	GW	MW-100-68	D				X				X				G				X	
Southern	Plume Boundary	GW	MW-100-88	BR				X				X				G				X	

Table 2
Monitoring Well and Surface Water Monitoring Plan, Years 1 - 4
Revised Interim Long Term Monitoring Plan
Tyco Fire Technology Center
Marinette, Wisconsin

Area	Monitoring Purpose	Media	Well/Location ID	MW Zone	Transducer?	Year 1				Year 2				Year 3				Year 4			
						Q2 2025	Q3 2025	Q4 2025	Q1 2026	Q2 2026	Q3 2026	Q4 2026[1]	Q1 2027	Q2 2027	Q3 2027	Q4 2027	Q1 2028	Q2 2028	Q3 2028	Q4 2028[1]	Q1 2029
Overburden and Shallow Bedrock Groundwater Monitoring (Continued)																					
Southern	Plume Interior	GW	MW-101-16	S				X				X				X				X	
Southern	*Plume Interior*	*GW*	*MW-101-72*	*D*		*X*		*X*		*X*		*X*				*X*				*X*	
Southern	*Plume Interior*	*GW*	*PZ-33-12*	*S*		*G*		*X*				*X*				*X*				*X*	
Southern	*Plume Interior*	*GW*	*PZ-33-33*	*D*		*X*		*X*		*X*		*X*				*X*				*X*	
Southern	Plume Interior	GW	PZ-33-67	D		G		X				X				X				X	
Southern	Plume Interior	GW	PZ-33-105	BR		G		X				X				X				X	
Southern	Plume Interior	GW	PZ-34-17	S				X				X				X				X	
Southern	Plume Boundary	GW	PZ-34-84	D				X				X				X				X	
Southern	Plume Boundary	GW	PZ-35-17	S				X				X				X				X	
Southern	Plume Boundary	GW	PZ-35-37	D				G				X				G				X	
Southern	Plume Boundary	GW	PZ-44-73	D				X				X				X				X	
Southern	Plume Interior	GW	PZ-46-19	S				X				X				X				X	
Southern	Plume Interior	GW	PZ-46-40	D				X				X				X				X	
Southern	Plume Interior	GW	PZ-46-65	D				X				X				X				X	
Southern	Plume Boundary	GW	PZ-66-20	S				X				X				G				X	
Southern	Plume Boundary	GW	PZ-66-57	D				X				X				G				X	
Southern	*Plume Interior*	*GW*	*PZ-72-73*	*D*		*X*		*X*		*X*		*X*				*X*				*X*	
Southern	Plume Boundary	GW	PZ-73-16	S				X				X				X				X	
Southern	*Plume Boundary*	*GW*	*PZ-73-32*	*D*		*X*	*X*	*X*	*X*	*X*		*X*				*X*				*X*	
Southern	Plume Boundary	GW	PZ-73-75	D				X				X				X				X	
Southern	*Plume Interior*	*GW*	*PZ-74-32*	*D*		*X*	*X*	*X*	*X*	*X*		*X*				*X*				*X*	
Southern	*Plume Interior*	*GW*	*PZ-74-80*	*D*		*X*	*X*	*X*	*X*	*X*		*X*				*X*				*X*	
Southern	Plume Boundary	GW	PZ-75-18	S				X				X				X				X	
Southern	Plume Interior	GW	PZ-76-34	D				X				X				X				X	
Southern	Plume Boundary	GW	PZ-77-16	S				X				X				G				X	
Southern	Plume Boundary	GW	PZ-80-37	D				X				X				X				X	
Southern	Plume Boundary	GW	PZ-82-16	S				X				X				X				X	
Southern	Plume Boundary	GW	PZ-83-50	D				X				X				X				X	
Southern	Plume Boundary	GW	PZ-85-69	BR				X				X				X				X	
Southern	Plume Boundary	GW	PZ-89-40	D				X				X				G				X	
Southern	Plume Boundary	GW	TW-01	S				X				X				X				X	
Southern	Plume Boundary	GW	TW-02	S				X				X				X				X	
Southern	Plume Interior	GW	TW-03	S				X				X				X				X	
Southern	*Plume Boundary*	*GW*	*TW-04*	*S*		*X*	*X*	*X*	*X*			*X*				*X*				*X*	
Southern	Plume Boundary	GW	TW-05	S				X				X				X				X	
Ditch A	LTM	SW	SG-10	-		G		G		G		G				G				G	
Ditch A	LTM	SW	SG-12	-		G		G		G		G				G				G	
Ditch A/POND	GETS Performance	SW	SG-23	-		G	G	G		G	G	G				G				G	
Ditch A	LTM	SW	SG-26	-		G		G		G		G				G				G	
Ditch D	LTM	SW	SG-36	-		G		G		G		G				G				G	

Table 2
Monitoring Well and Surface Water Monitoring Plan, Years 1 - 4
Revised Interim Long Term Monitoring Plan
Tyco Fire Technology Center
Marinette, Wisconsin

Area	Monitoring Purpose	Media	Well/Location ID	MW Zone	Transducer?	Year 1				Year 2				Year 3				Year 4			
						Q2 2025	Q3 2025	Q4 2025	Q1 2026	Q2 2026	Q3 2026	Q4 2026[1]	Q1 2027	Q2 2027	Q3 2027	Q4 2027	Q1 2028	Q2 2028	Q3 2028	Q4 2028[1]	Q1 2029
Ditch Surface Water and Streambed Groundwater Monitoring																					
Ditch A/D	LTM	SW	SG-45	-		G		G		G		G				G				G	
Ditch A	LTM	SW	SG-47	-		G		G		G		G				G				G	
Ditch A	LTM	SW	SG-48	-		G		G		G		G				G				G	
Ditch A	GETS Performance	SW	SG-50	-		G	G	G		G	G	G				G				G	
Ditch B	GETS Performance	SW	SG-53	-		G	G	G		G	G	G				G				G	
Ditch A	GETS Performance	SW	SG-A1	-		G	G	G		G	G	G				G				G	
Ditch B	GETS Performance	SW	SG-L09	-		G	G	G		G	G	G				G				G	
Ditch B	GETS Performance	SW	SG-M01	-		G	G	G		G	G	G				G				G	
Ditch B	GETS Performance	SW	SG-M09	-		G	G	G		G	G	G				G				G	
Ditch B	GETS Performance	SW	SG-U03	-		G	G	G		G	G	G				G				G	
Ditch B	GETS Performance	SW	SG-U10	-		G	G	G		G	G	G				G				G	
Ditch B	GETS Performance	SW	STW-U10	-	Y	G	G	G		G	G	G									
Ditch B	GETS Performance	SW	STW-M09	-	Y	G	G	G		G	G	G									
Ditch A	LTM	SW	SW-10	-		X		X		X		X		X		X		X		X	
Ditch A	LTM	SW	SW-12	-		X		X		X		X		X		X		X		X	
Ditch A	Ditch SWTS	SW	SW-26	-		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Ditch C	LTM	SW	SW-30	-		X		X		X		X		X		X		X		X	
Ditch D	LTM	SW	SW-33	-		X		X		X		X		X		X		X		X	
Ditch D	LTM	SW	SW-36	-		X		X		X		X		X		X		X		X	
Ditch E	LTM	SW	SW-43	-		X		X		X		X		X		X		X		X	
Ditch B	Ditch SWTS	SW	SW-L03	-		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Ditch B	GETS Performance	SW	SW-L09	-		X	X	X		X	X	X									
Ditch B	GETS Performance	SW	SW-M01	-		X	X	X		X	X	X									
Ditch B	GETS Performance	SW	SW-M04	-		X	X	X		X	X	X									
Ditch B	GETS Performance	SW	SW-M07	-		X	X	X		X	X	X									
Ditch B	GETS Performance	SW	SW-M09	-		X	X	X		X	X	X									
Ditch B	GETS Performance	SW	SW-U03	-		X	X	X		X	X	X									
Ditch B	GETS Performance	SW	SW-U10	-		X	X	X		X	X	X		X		X		X		X	
Ditch B	GETS Performance	SW	SW-P1B	-		X	X	X		X	X	X		X		X		X		X	
Ditch B	GETS Performance	SW	SW-P4B	-		X	X	X		X	X	X									
Ditch B	GETS Performance	SW	SW-P5	-		X	X	X		X	X	X									
Ditch B	GETS Performance	SW	SW-P6	-		X	X	X		X	X	X									
Ditch B Streambed	GETS Performance	GW	GW-M01 (TPZ)	-		X	X	X		X	X	X									
Ditch B Streambed	GETS Performance	GW	GW-M04 (TPZ)	-		X	X	X		X	X	X									
Ditch B Streambed	GETS Performance	GW	GW-M07 (TPZ)	-		X	X	X		X	X	X									
Ditch B Streambed	GETS Performance	GW	GW-M09 (TPZ)	-		X	X	X		X	X	X									
Ditch B Streambed	GETS Performance	GW	GW-U03 (TPZ)	-		X	X	X		X	X	X									

Table 2
Monitoring Well and Surface Water Monitoring Plan, Years 1 - 4
Revised Interim Long Term Monitoring Plan
Tyco Fire Technology Center
Marinette, Wisconsin

Area	Monitoring Purpose	Media	Well/Location ID	MW Zone	Transducer?	Year 1				Year 2				Year 3				Year 4			
						Q2 2025	Q3 2025	Q4 2025	Q1 2026	Q2 2026	Q3 2026	Q4 2026[1]	Q1 2027	Q2 2027	Q3 2027	Q4 2027	Q1 2028	Q2 2028	Q3 2028	Q4 2028[1]	Q1 2029
Deep Bedrock Aquifer Monitoring																					
Deep Aquifer	DW Protection	GW	DMW-01	DBR	Y	X		X				X				X				X	
Deep Aquifer	DW Protection	GW	DMW-02	DBR	Y	X		X				X				X				X	
Deep Aquifer	DW Protection	GW	DMW-03	DBR	Y	X		X		X		X				X				X	
Deep Aquifer	DW Protection	GW	DMW-04	DBR	Y	X		X		X		X				X				X	
Deep Aquifer	IRR Protection	GW	IRR-01	DBR		X		X		X		X		X		X		X		X	
Deep Aquifer	IRR Protection	GW	IRR-02R	DBR		X		X		X		X		X		X		X		X	

Notes:

1. Biennial sampling events will occur in Q4 2026 and Q4 2028.
2. Groundwater samples will be analyzed for PFAS; surface water samples will be analyzed for PFAS and TSS.
3. Proposed monitoring well(s) PZ-88S/D will be installed after the completion of road improvements to be conducted by the City of Marinette. Road improvements are expected to be finished in the summer of 2025.
4. PFAS data collected from italicized monitoring wells will continue to be used to create and maintain data trend plots.

Monitoring Purposes:

Ditch SWTS = Samples are collected monthly in accordance with the operation, maintenance and monitoring program associated with the Ditch Surface Water Treatment System

DW Protection = Well is sampled to ensure protectiveness of the deep bedrock aquifer and potential drinking water receptors

GETS Performance = Monitoring well or surface water location is monitored to evaluate GETS performance (e.g., evaluate influence of GETS on PFAS concentrations in groundwater and surface water; assess extent of plume capture; assess GETS impact on Ditch B flow)

IRR Protection = Well is sampled to ensure protectiveness of the deep bedrock aquifer and potential irrigation water receptors; wells are sampled semi-annually pending approval from and coordination with the Marinette School District

LTM = Confirm and document PFAS trends in surface water outside of the influence of the GETS until PFOA and PFOS concentrations are below Wisconsin surface water standards; document surface water elevations to be included in evaluations of the shallow potentionic water surface

Plume Boundary = Track plume stability and attenuation at the plume boundary

Plume Interior = Track plume stability and attenuation inside the plume in areas outside of the GETS implementation area

Acronyms and Abbreviations:

GW = groundwater

SW = surface water

PFAS = per- and polyfluoroalkyl substances

TSS = total suspended solids

Y = yes; a transducer is used to collect continuous water level data at this location

* = a barologger is installed at PZ-6S to measure and log changes in atmospheric pressure and temperature, which are used in the conversion of transducer pressure measurements to water elevations.

Planned sampling abbreviations: G = gauging only; X = gauging and sampling at monitoring wells OR sampling only at surface water locations

Zone screened abbreviations: S = shallow overburden < 25 feet deep; D = deep overburden > 25 feet deep; BR = bedrock; DBR = Deep Bedrock Aquifer

Table 3
Extraction Well Sampling Plan, Years 1 - 4
Revised Interim Long Term Monitoring Plan
Tyco Fire Technology Center
Marinette, Wisconsin

Well ID	Year 1											
	Q2 2025			Q3 2025			Q4 2025			Q1 2026		
	Apr 2025	May 2025	Jun 2025	Jul 2025	Aug 2025	Sep 2025	Oct 2025	Nov 2025	Dec 2025	Jan 2026	Feb 2026	Mar 2026
EX-1S	X	PSS	X	X	X	X	X	X	X	X		X
EX-2S	X	PSS	X	X	X	X	X	X	X	X		X
EX-3	X	PSS	X	X	X	X	X	X	X	X		X
EX-4	X	PSS	X	X	X	X	X	X	X	X		X
EX-5	X	PSS	X	X	X	X	X	X	X	X		X
EX-6	X	PSS	X	X	X	X	X	X	X	X		X
EX-7	X	PSS	X	X	X	X	X	X	X	X		X
EX-8	X	PSS	X	X	X	X	X	X	X	X		X
EX-9	X	PSS	X	X	X	X	X	X	X	X		X
EX-10	NA	PSS	X	X	X	X	X	X	X	X		X
EX-11	NA	PSS	X	X	X	X	X	X	X	X		X
EX-12	NA	PSS	X	X	X	X	X	X	X	X		X
EX-13	NA	PSS	X	X	X	X	X	X	X	X		X
EX-14	NA	PSS	X	X	X	X	X	X	X	X		X
EX-15	NA	NA	NA	NA	NA	X	X	X	X	X		X

Table 3
Extraction Well Sampling Plan, Years 1 - 4
Revised Interim Long Term Monitoring Plan
Tyco Fire Technology Center
Marinette, Wisconsin

Well ID	Year 2											
	Q2 2026			Q3 2026			Q4 2026			Q1 2027		
	Apr 2026	May 2026	Jun 2026	Jul 2026	Aug 2026	Sep 2026	Oct 2026	Nov 2026	Dec 2026	Jan 2027	Feb 2027	Mar 2027
EX-1S		X		X		X		X		X		X
EX-2S		X		X		X		X		X		X
EX-3		X		X		X		X		X		X
EX-4		X		X		X		X		X		X
EX-5		X		X		X		X		X		X
EX-6		X		X		X		X		X		X
EX-7		X		X		X		X		X		X
EX-8		X		X		X		X		X		X
EX-9		X		X		X		X		X		X
EX-10		X		X		X		X		X		X
EX-11		X		X		X		X		X		X
EX-12		X		X		X		X		X		X
EX-13		X		X		X		X		X		X
EX-14		X		X		X		X		X		X
EX-15		X		X		X		X		X		X

Table 3
Extraction Well Sampling Plan, Years 1 - 4
Revised Interim Long Term Monitoring Plan
Tyco Fire Technology Center
Marinette, Wisconsin

Well ID	Year 3				Year 4			
	Q2 2027	Q3 2027	Q4 2027	Q1 2028	Q2 2028	Q3 2028	Q4 2028	Q1 2029
EX-1S	X	X	X	X	X		X	
EX-2S	X	X	X	X	X		X	
EX-3	X	X	X	X	X		X	
EX-4	X	X	X	X	X		X	
EX-5	X	X	X	X	X		X	
EX-6	X	X	X	X	X		X	
EX-7	X	X	X	X	X		X	
EX-8	X	X	X	X	X		X	
EX-9	X	X	X	X	X		X	
EX-10	X	X	X	X	X		X	
EX-11	X	X	X	X	X		X	
EX-12	X	X	X	X	X		X	
EX-13	X	X	X	X	X		X	
EX-14	X	X	X	X	X		X	
EX-15	X	X	X	X	X		X	

Notes:
1. Extraction wells will be sampled for PFAS at sampling ports within the GETS building.

Acronyms/Abbreviations:

GETS = groundwater extraction and treatment system

NA = Not available; well was not yet installed and/or connected to the GETS treatment system at the time of the sampling event

PFAS = per- and polyfluoroalkyl substances

PSS = Planned system shutdown to connect new extraction wells to the GETS; no sampling was completed during this time period

X = Well will be sampled during applicable sampling event

Table 4
Groundwater Recommended Enforcement Standards and Surface Water Standards
Revised Interim Long Term Monitoring Plan
Tyco Fire Technology Center
Marinette, Wisconsin

Analyte	Wisconsin DHS Recommended Standards February 2025 (in Rulemaking/Not Yet Adopted)[1]	WDNR Surface Water Standards (Non-Drinking Water Source)[2,3]
PFBA	-	-
PFPeA	-	-
PFHxA	-	-
PFHpA	-	-
PFOA	4	95
PFNA	10	-
PFDA	-	-
PFUnA	-	-
PFDoA	-	-
PFTriA	-	-
PFTeA	-	-
PFBS	2,000	-
PFPeS	-	-
PFHxS	10	-
PFHpS	-	-
PFOS	4	8
PFNS	-	-
PFDS	-	-
PFDoS	-	-
4:2 FTS	-	-
6:2 FTS	-	-
8:2 FTS	-	-
FOSA	-	-
NMeFOSA	-	-
NEtFOSA	-	-
NMeFOSAA	-	-
NEtFOSAA	-	-
NMeFOSE	-	-
NEtFOSE	-	-
PFMPA	-	-
PFMBA	-	-
NFDHA	-	-
HFPO-DA	10	-
DONA	-	-
PFEESA	-	-
9Cl-PF3ONS	-	-
11Cl-PF3OUdS	-	-
3:3 FTCA	-	-
5:3 FTCA	-	-
7:3 FTCA	-	-

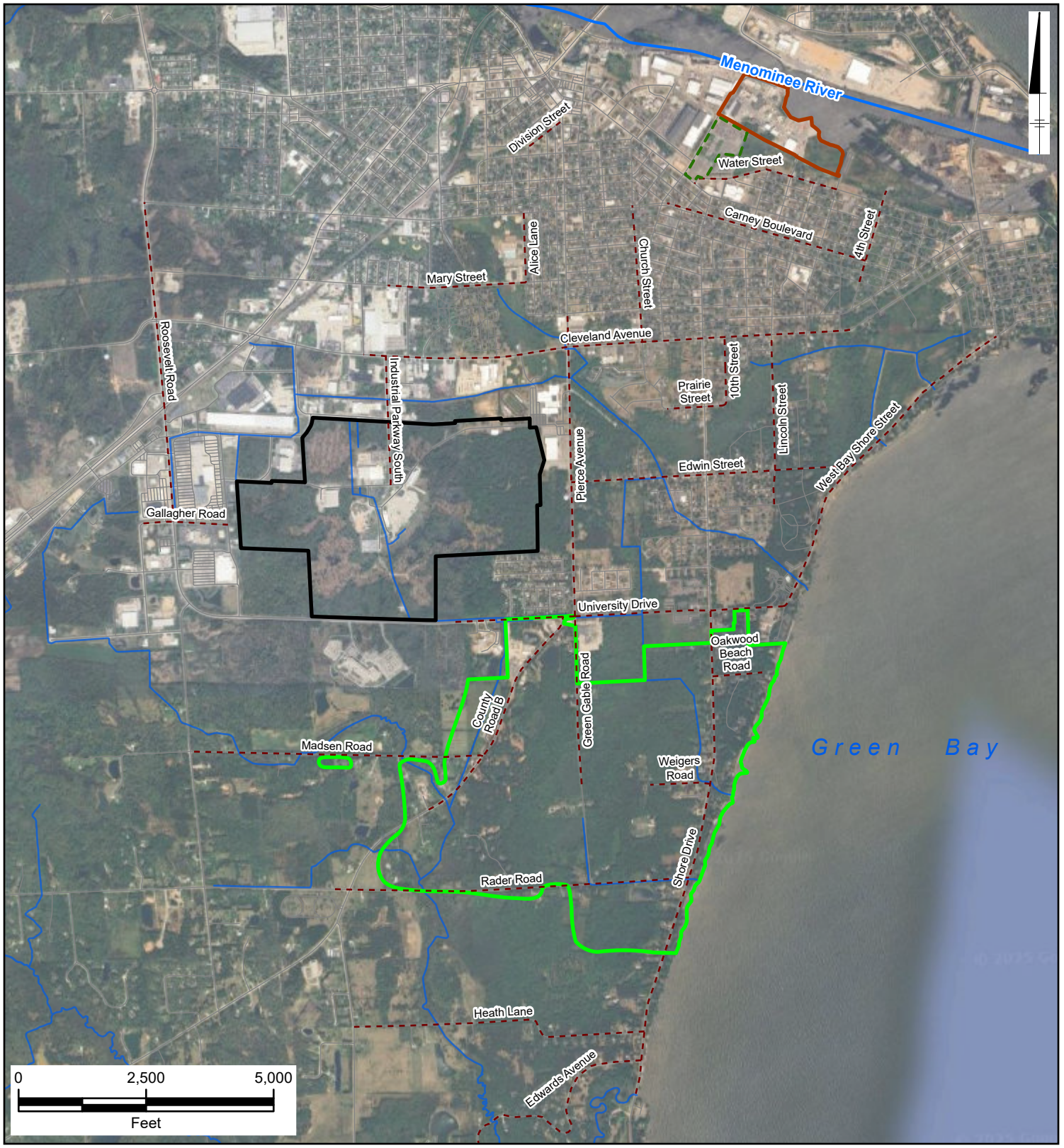
Table 4
Groundwater Recommended Enforcement Standards and Surface Water Standards
Revised Interim LTM Plan
Tyco Fire Technology Center
Marinette, Wisconsin

Notes:
(1) In February 2025, WDHS recommended individual groundwater standards of 4 ng/L for PFOA and PFOS, 10 ng/L for PFHxS, PFNA, and HFPO-DA, and 2,000 ng/L for PFBS. Following the February 2025 WDHS recommendation, the WDNR Secretary and the Governor signed the WDNR scope statement and WDNR is in the early stages of rule development for these groundwater standards.
(2) The surface water quality standard for PFOA is 20 ng/L for waters classified as public water supplies and 95 ng/L for all other surface waters (WDNR NR 102.4). Ditches are not used for public drinking water supplies; therefore, the applicable standard for PFOA is 95 ng/L.
(3) The surface water quality standard for PFOS is 8 ng/L for all waters except those that cannot naturally support fish and do not have downstream waters that support fish (WDNR NR 102.4).
(4) Criteria for groundwater and surface water are presented in units of nanograms per liter (ng/L).

Acronyms and Abbreviations:
-- = No standard
< = Compound not detected at reporting detection limit.
DHS = Department of Health Services
ES = Enforcement Standard
ng/L = nanograms per liter
WDNR = Wisconsin Department of Natural Resources

Chemical Abbreviation:
PFBA = Perfluorobutanoic acid
PFPeA = Perfluoropentanoic acid
PFHxA = Perfluorohexanoic acid
PFHpA = Perfluoroheptanoic acid
PFOA = Perfluorooctanoic acid
PFNA = Perfluorononanoic acid
PFDA = Perfluorodecanoic acid
PFUnA = Perfluoroundecanoic acid
PFDoA = Perfluorododecanoic acid
PFTriA = Perfluorotridecanoic acid
PFTeA = Perfluorotetradecanoic acid
PFBS = Perfluorobutanesulfonic acid
PFPeS = Perfluoropentanesulfonic acid
PFHxS = Perfluorohexanesulfonic acid
PFHpS = Perfluoroheptanesulfonic acid
PFOS = Perfluorooctanesulfonic acid
PFNS = Perfluorononanesulfonic acid
PFDS = Perfluorodecanesulfonic acid
PFDoS = Perfluorododecanesulfonic acid
4:2 FTS = 4:2 Fluorotelomer sulfonic acid
6:2 FTS = 6:2 Fluorotelomer sulfonic acid
8:2 FTS = 8:2 Fluorotelomer sulfonic acid
FOSA = Perfluorooctane sulfonamide
NMeFOSA = N-Methyl perfluorooctane sulfonamide
NEtFOSA = N-Ethyl perfluorooctane sulfonamide
NMeFOSAA = N-Methyl perfluorooctane sulfonamidoacetic acid
NEtFOSAA = N-Ethyl perfluorooctane sulfonamidoacetic acid
NMeFOSE = N-Methyl perfluorooctane sulfonamidoethanol
NEtFOSE = N-Ethyl perfluorooctane sulfonamidoethanol
PFMPA = Perfluoro-3-methoxypropanoic acid
PFMBA = Perfluoro-4-methoxybutanoic acid
NFDHA = Nonafluoro-3,6-dioxaheptanoic acid
HFPO-DA = Hexafluoropropylene oxide dimer acid
DONA = 4,8-Dioxa-3H-perfluorononanoic acid
PFEESA = Perfluoro(2-ethoxyethane)sulfonic acid
9Cl-PF3ONS = 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid
11Cl-PF3OUdS = 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid
3:3 FTCA = 3-Perfluoropropyl propanoic acid
5:3 FTCA = 2H,2H,3H,3H-Perfluorooctanoic acid
7:3 FTCA = 3-Perfluoroheptyl propanoic acid

Figures



Legend

- PRIVATE WELL SAMPLING AREA
- APPROXIMATE STANTON STREET FACILITY PROPERTY BOUNDARY
- APPROXIMATE FTC SITE PROPERTY BOUNDARY
- FORMER TYCO ADMINISTRATIVE BUILDING/PROPERTY (SOLD)
- ROAD
- DITCH OR STREAM

NOTES:
1. AERIAL IMAGERY GOOGLE EARTH
2. ACRONYMS:
FTC - FIRE TECHNOLOGY CENTER

TYCO FIRE TECHNOLOGY CENTER
MARINETTE, WISCONSIN

REVISED INTERIM LONG TERM MONITORING PLAN

SITE LOCATION, ROADS AND OTHER FEATURES

ARCADIS

FIGURE 1

City: Minneapolis/Citrix Div/Group: IMDVC Created By: Last Saved By: yadavs0264
TYCO Marinette, WI
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NOTES:
1. ACRONYMS:
   FTC - FIRE TECHNOLOGY CENTER
   GETS - GROUNDWATER EXTRACTION AND TREATMENT SYSTEM
2. UP TO TWO MONITORING WELLS ARE PROPOSED TO BE INSTALLED AT PZ-88-TBD. INSTALLATION IS EXPECTED TO BE COMPLETED IN 2025.
3. AERIAL IMAGERY GOOGLE EARTH.

0 900 1,800
GRAPHIC SCALE IN FEET

LEGEND:

- APPROXIMATE MARINETTE CITY BOUNDARY
- APPROXIMATE FTC SITE PROPERTY BOUNDARY
- APPROXIMATE STANTON STREET FACILITY PROPERTY BOUNDARY
- PRIVATE WELL SAMPLING AREA
- FORMER TYCO ADMINISTRATIVE BUILDING/PROPERTY (SOLD)
- ROAD
- SURFACE WATER TREATMENT SYSTEM
- GETS BUILDING
- CULVERT
- DITCH OR STREAM
- STANTON STREET HYDRAULIC BARRIER WALL
- OVERBURDEN MONITORING WELL
- BEDROCK MONITORING WELL
- GETS EXTRACTION WELL
- DEEP AQUIFER MONITORING WELL
- PROPOSED OVERBURDEN MONITORING WELL
- IRRIGATION WELL

MONITORING WELL NETWORKS:

- PZ-63-60 NORTHERN MONITORING WELL NETWORK
- PZ-29-43 CENTRAL MONITORING WELL NETWORK
- PZ-33-12 SOUTHERN MONITORING WELL NETWORK
- DMW-03 DEEP AQUIFER MONITORING WELL NETWORK

TYCO FIRE TECHNOLOGY CENTER
MARINETTE, WISCONSIN
REVISED INTERIM LONG TERM MONITORING PLAN

MONITORING WELL NETWORK

ARCADIS

FIGURE 2

T:\ ENV\TYCO\ PRO_REPORT_FIGURES\FTC\Investigation_Interim_LTM_Plan\Investigation Interim LTM Plan_2.aprx 6/13/2025 6:18 PM

Menominee River

MW003S
MW003M
MW003D
MW118D-R
MW107D
MW105D-R
MW040S
MW040M-R
MW040D
MW042D
MW104S
MW104M
MW130S
MW064D
MW046D
MW100S
MW100M
MW100D
MW102S
MW102M
MW102D
MW126S-20
MW126D-40
MW013S-R
MW013M-R
MW013D-R
MW021S-R
MW021M
MW131S
MW131M
MW128S-17
MW128M-30
MW022S
MW022M
MW129S-21
MW129M-45
PZ-90-20
MW125S-20
MW125M-35
MW125D-60
Main Street
PZ-28-14
PZ-28-54
PZ-28-75
PZ-78-17
PZ-78-74
PZ-63-44
PZ-63-60
PZ-26-11
PZ-26-36
PZ-62-62
DITCH C

LEGEND:

- APPROXIMATE MARINETTE CITY BOUNDARY
- APPROXIMATE STANTON STREET FACILITY PROPERTY BOUNDARY
- FORMER TYCO ADMINISTRATIVE BUILDING/ PROPERTY (SOLD)
- ROAD
- DITCH OR STREAM
- STANTON STREET HYDRAULIC BARRIER WALL
- OVERBURDEN MONITORING WELL
- BEDROCK MONITORING WELL
- OVERBURDEN MONITORING WELL (STANTON STREET)

MONITORING WELL NETWORKS:

PZ-63-60 NORTHERN MONITORING WELL NETWORK

NOTE:
1. AERIAL IMAGERY GOOGLE EARTH.

0 300 600
GRAPHIC SCALE IN FEET

TYCO FIRE TECHNOLOGY CENTER
MARINETTE, WISCONSIN
REVISED INTERIM LONG TERM MONITORING PLAN

NORTHERN MONITORING WELL NETWORK

ARCADIS

FIGURE
3

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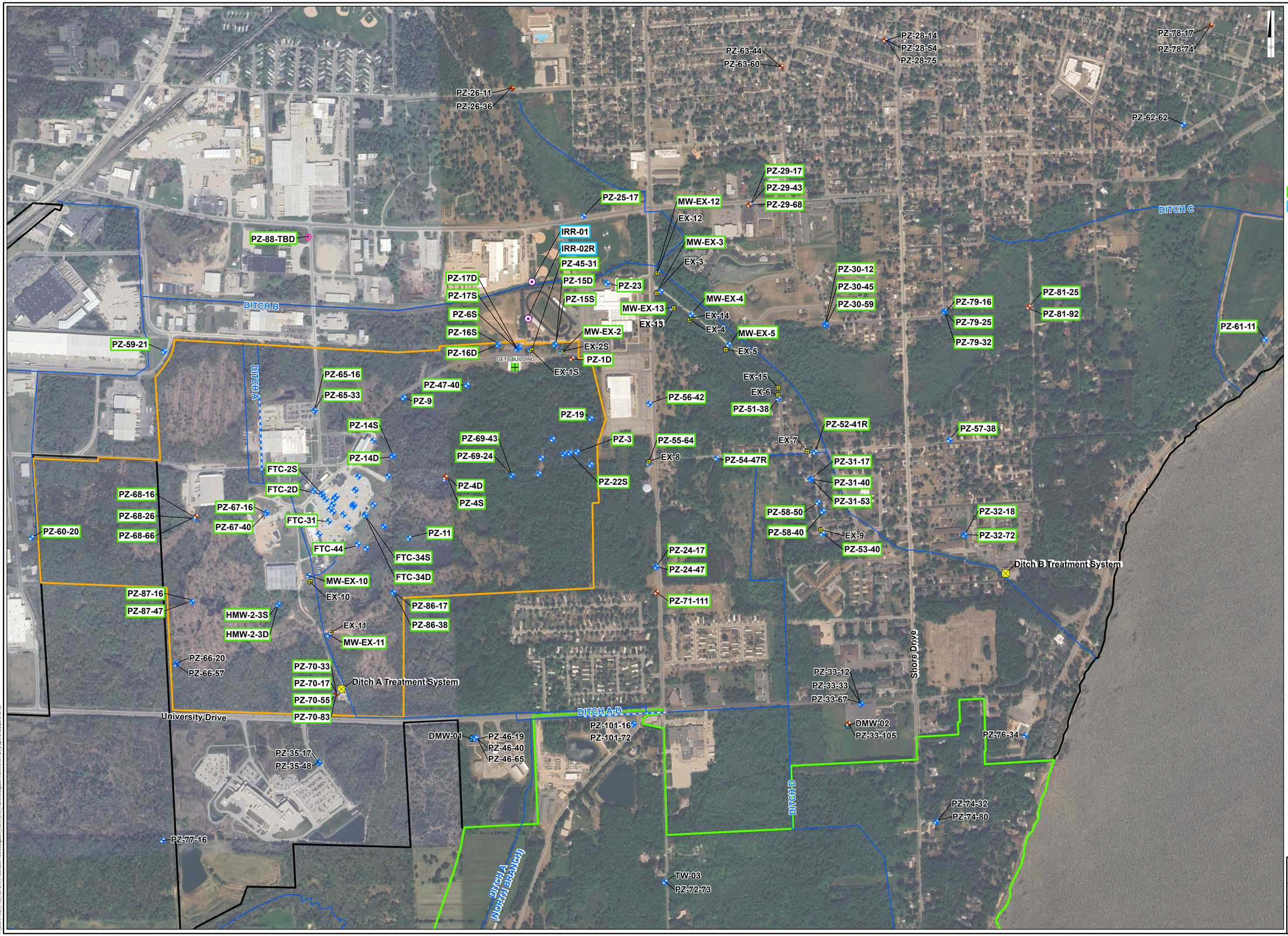


LEGEND:

- APPROXIMATE MARINETTE CITY BOUNDARY
- APPROXIMATE FTC SITE PROPERTY BOUNDARY
- PRIVATE WELL SAMPLING AREA
- ROAD
- SURFACE WATER TREATMENT SYSTEM
- GETS BUILDING
- CULVERT
- DITCH OR STREAM
- OVERBURDEN MONITORING WELL
- PROPOSED OVERBURDEN MONITORING WELL
- BEDROCK MONITORING WELL
- GETS EXTRACTION WELL
- DEEP AQUIFER MONITORING WELL
- IRRIGATION WELL

MONITORING WELL NETWORKS:

- PZ-29-43 CENTRAL MONITORING WELL NETWORK
- DMW-03 DEEP AQUIFER MONITORING WELL NETWORK

NOTES:
1. ACRONYMS:
   FTC - FIRE TECHNOLOGY CENTER
   GETS - GROUNDWATER EXTRACTION AND TREATMENT SYSTEM
2. UP TO TWO MONITORING WELLS ARE PROPOSED TO BE INSTALLED AT PZ-88-TBD. INSTALLATION IS EXPECTED TO BE COMPLETED IN 2025.
3. AERIAL IMAGERY GOOGLE EARTH.

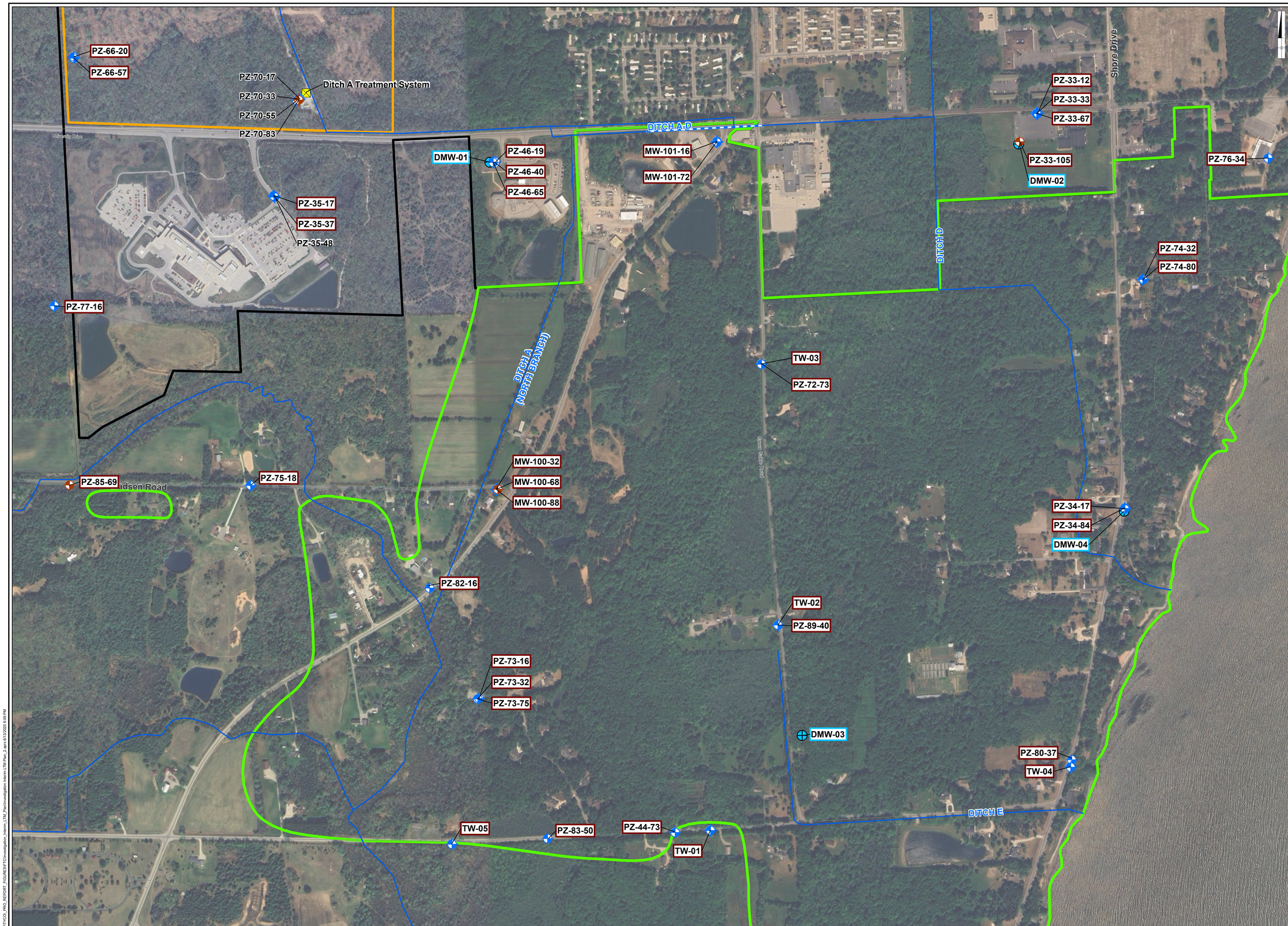
0 500 1,000
GRAPHIC SCALE IN FEET

TYCO FIRE TECHNOLOGY CENTER
MARINETTE, WISCONSIN
REVISED INTERIM LONG TERM MONITORING PLAN

CENTRAL MONITORING WELL NETWORK

ARCADIS | FIGURE 4

T:_ENVITYCO_PRO_REPORT_FIGURES\FTC\Investigation_Interim_LTM_Plan\Investigation Interim LTM Plan_2.mxm 6/13/2025 6:18 PM



LEGEND:

- APPROXIMATE MARINETTE CITY BOUNDARY
- APPROXIMATE FTC SITE PROPERTY BOUNDARY
- PRIVATE WELL SAMPLING AREA
- ROAD
- SURFACE WATER TREATMENT SYSTEM
- CULVERT
- DITCH OR STREAM
- OVERBURDEN MONITORING WELL
- BEDROCK MONITORING WELL
- DEEP AQUIFER MONITORING WELL

MONITORING WELL NETWORKS:

- PZ-33-12 SOUTHERN MONITORING WELL NETWORK
- DMW-03 DEEP AQUIFER MONITORING WELL NETWORK

NOTES:
1. ACRONYMS:
FTC - FIRE TECHNOLOGY CENTER
2. AERIAL IMAGERY GOOGLE EARTH.

0 300 600
GRAPHIC SCALE IN FEET

TYCO FIRE TECHNOLOGY CENTER
MARINETTE, WISCONSIN
REVISED INTERIM LONG TERM MONITORING PLAN

SOUTHERN MONITORING WELL NETWORK

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FIGURE 5

Mary Street
Cleveland Avenue
Russell Street
Mallard Way
DITCH B
DITCH C
GETS BUILDING
Roosevelt Road
DITCH A (NORTH BRANCH)
Ditch A Treatment System
Ditch B Treatment System
West Bay Shore Street
University Drive
DITCH A-D
DITCH D
DITCH A (NORTH BRANCH)
Green Cable Road
Madsen Road
DITCH A (WEST BRANCH)
DITCH A (SOUTH BRANCH)
Rader Road
DITCH E
Green Bay

SW-P6
SW-P5
SW-P4B
SW-P1B
SW/GW-U03
SG-U03
SW-U10
SG-U10
SG-M09
SW/GW-M09
SW/GW-M07
SW/GW-M04
SW/GW-M01
SG-M01
SG-53
SG-50
SG-23
SG-A1
SW-30
SW-L09
SG-L09
SW-L03
SW-36
SG-36
SG-45
SW-26
SG-26
SG-47
SG-13
SW-12
SG-12
SG-48
SW-33
SW-10
SG-10
SW-43

LEGEND

- APPROXIMATE FTC SITE PROPERTY BOUNDARY
- PRIVATE WELL SAMPLING AREA
- APPROXIMATE MARINETTE CITY BOUNDARY
- ROAD
- CULVERT
- DITCH OR STREAM
- SURFACE WATER SAMPLING
- STAFF GAUGE
- GETS BUILDING
- SURFACE WATER TREATMENT SYSTEM
- INTERIM LTM SURFACE WATER MONITORING LOCATION
- GETS LTM SURFACE WATER MONITORING LOCATION
- DITCH TREATMENT MONITORING LOCATION

NOTES:

1. SURFACE WATER SAMPLE LOCATIONS SW-L03 AND SW-26A ARE MONITORED AS PART OF THE DITCH SURFACE WATER TREATMENT SYSTEM MONITORING PROGRAM.
2. AT CERTAIN SURFACE WATER SAMPLING LOCATIONS, SHALLOW GROUNDWATER SAMPLES ARE ALSO COLLECTED. THESE LOCATIONS INCLUDE: SW/GW-U03, SW/GW-M09, SW/GW-M07, SW/GW-M04, AND SW/GW-M01. SHALLOW GROUNDWATER SAMPLES ARE COLLECTED FROM TEMPORARY PIEZOMETERS INSTALLED ANUALLY IN THE BASE OF THE STREAM CHANNEL.
3. STILLING WELLS ARE INSTALLED ANNUALLY IN LOCATIONS ADJACENT TO SW-U10 AND SW/GW-M09. TRANSDUCERS CONTINUOUSLY LOG SURFACE WATER LEVELS AT THESE LOCATIONS.
4. ACRONYMS:
FTC - FIRE TECHNOLOGY CENTER
GETS - GROUNDWATER EXTRACTION AND TREATMENT SYSTEM
LTM - LONG TERM MONITORING
5. AERIAL IMAGERY GOOGLE EARTH.

0 1,400 2,800
GRAPHIC SCALE IN FEET

TYCO FIRE TECHNOLOGY CENTER
MARINETTE, WISCONSIN

REVISED INTERIM LONG TERM MONITORING PLAN

SURFACE WATER MONITORING LOCATIONS

ARCADIS

FIGURE
6

T:_ENV\TYCO_PRO_REPORT_FIGURES\FTC\Investigation_Interim_LTM_Plan\Investigation\Interim LTM Plan_2.aprx Figure6_Surface Water Sampling Locations 6/12/2025 7:18 PM

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