State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
Box 7921
Madison WI 53707-7921

Tony Evers, Governor
Karen Hyun, Ph.D., Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

July 31, 2025

MS. DENICE NELSON
JOHNSON CONTROLS, INC
5757 N. GREEN BAY AVENUE
MILWAUKEE, WI 53209

Via Email Only to denice.karen.nelson@jci.com

SUBJECT: Response to the *2025 Interim Long-Term Monitoring Report #2* and *Revised Interim Long-Term Monitoring Plan for Groundwater and Surface Water*
JCI/Tyco FTC PFAS, 2700 Industrial Parkway South, Marinette, WI
BRRTS #02-38-580694

Dear Ms. Nelson:

The Wisconsin Department of Natural Resources (DNR) received the *2025 Interim Long Term Monitoring Report #2* (the "LTM Report #2") on March 31, 2025, and the *Revised Interim Long Term Monitoring Plan for Groundwater and Surface Water* (the "Revised LTM Plan") on June 16, 2025, for the above-referenced site (the "Site"). The reports were submitted by Arcadis U.S., Inc. (Arcadis), on behalf of Johnson Controls, Inc., and Tyco Fire Products LP (JCI/Tyco) and were accompanied by the fees required under Wisconsin Administrative Code (Wis. Admin. Code) § NR 749.04(1) for DNR review and response.

The DNR concurs with JCI/Tyco's proposed approach to combine its various monitoring programs into a wholistic sampling and reporting plan for the Site and to adapt and refine the plan as needed based on results. In this letter, the DNR recommends refinements based on its review of LTM Report #2 and its evaluation of the monitoring program and performance of the Groundwater Extraction and Treatment System (GETS) to date. The DNR approves the Revised LTM Plan with these recommended changes. The DNR's approval of a monitoring plan does not represent approval of a complete site investigation (Wis. Admin. Code ch. 716) or approval of final remedial action and objectives for the Site (Wis. Admin. Code ch. 722).

Background

JCI/Tyco is investigating and responding to the discharge of per- and polyfluoroalkyl substances (PFAS) to the environment at the JCI/Tyco Fire Technology Center (FTC), located at 2700 Industrial Parkway South in Marinette, Wisconsin.

JCI/Tyco's site investigation activities completed through August 2024 have been documented in prior reports. In March 2024, JCI/Tyco submitted the *Interim Long Term Monitoring Plan for Groundwater and Surface Water* with subsequent modifications described in its June 2024 Response to Comments letter (together the "LTM Plan"). The stated objective of the LTM Plan was to evaluate trends in the concentration of PFAS in groundwater and surface water at the Site.

In addition to investigation activities, JCI/Tyco has also implemented interim remedial actions at the Site, which include, but are not limited to, the GETS and surface water treatment in Ditches A and B. JCI/Tyco is also replacing private drinking water wells in the Potable Well Sampling Area (PWSA) with new wells installed into the deep aquifer. Each of these actions has an approved monitoring program to evaluate PFAS in groundwater and/or surface water.

PRINTED ON RECYCLED PAPER

LTM Report #2

The LTM Report #2 documents the groundwater and surface water monitoring JCI/Tyco completed between September 2024 and March 2025, per the Interim LTM Plan. This included:

- Collection of groundwater samples and water levels from 100 monitoring wells in fall 2024.
- Collection of two additional quarterly groundwater samples from up to eight monitoring wells.
- Installation of six new NR 141 monitoring wells in Dec 2024 and Jan 2025[1].
- Collection of groundwater samples and water levels from the six new wells in Feb. 2025.
- Collection of surface water samples from Ditches A, C, D and E in October 2024.

JCI/Tyco presented its interpretation of the groundwater potentiometric surfaces, groundwater contaminant plumes and surface water contamination and drew conclusions from the data. Based on the results, JCI/Tyco proposed a reducing the frequency of sampling in PZ-68-66, MW129M-45, PZ-35-37, PZ-70-55, PZ-70-83 from annual to biannual and to remove MW013M-R from the monitoring program because it is redundant.

The DNR agrees with many, but not all of the conclusions presented in LTM Report #2. In particular, the stated purpose of the LTM Plan was to evaluate trends in groundwater and surface water at selected monitoring locations and was not designed to complete the site investigation. The DNR's review of LTM Report #2 and observations where additional monitoring may be needed are summarized in **Attachment A**.

Revised LTM Plan

The Revised LTM Plan incorporates the conclusions and recommendations from LTM Report #2 and consolidates the monitoring program for the GETS and the deep bedrock aquifer into a wholistic surface and groundwater monitoring program for the Site. The objectives of the Revised LTM are to collect data to evaluate and document the following:

- Trends for PFAS in the groundwater plume and surface water in Ditches A, B, C, D, and E.
- Performance of the GETS.
- Deep bedrock aquifer in the PWSA is not impacted by PFAS.

The Revised LTM Plan breaks the Site into three zones: Central, Northern and Southern. The proposed monitoring program for these zones is summarized in Tables 1-3. JCI/Tyco proposes to submit an annual report documenting the LTM results by March 31st of each year. The annual report will also include recommendations for updates to the monitoring program based on the evaluation of the data.

The DNR agrees to the annual reporting schedule and to include an evaluation of how the GETS effects the concentrations and migration of PFAS in groundwater and surface water at the Site in the annual LTM Report. However, at this time, while the GETS is being optimized, the DNR requires that JCI/Tyco continue to submit semi-annual *operation and maintenance* progress reports for the GETS (Wis. Admin. Code § NR 724.13(3)). (The DNR's review of GETS Progress Report #5 and a summary of the monitoring elements to include in future semi-annual operation and maintenance progress reports is provided under separate cover.)

[1] An additional NR 141-compliant monitoring well is planned to be installed later in 2025 north of the FTC, after the city of Marinette completes road construction at this location. In Jan. 2025, sampling was completed in a vertical aquifer profile at the proposed well location.

The DNR agrees with the proposed wholistic approach to monitoring surface water and groundwater at the Site. However, refinements to the monitoring program are recommended to evaluate performance of the GETS and to characterize certain areas of the groundwater plume and its discharge to surface water. The recommended refinements to the Revised LTM Plan are summarized in **Attachment B**.

At this time, the DNR agrees (based on the previous testing results) that routine testing of surface water in the Menominee River and Bay of Green Bay does not need to be included in the Revised LTM Plan. However, because PFAS entering this surface water basin are not expected to degrade and because the Bay of Green Bay is a source of fish and public drinking water, JCI/Tyco should evaluate potential long-term impacts of PFAS discharge from the Site on the water quality in the Bay of Green Bay as part of the site investigation (Wis. Admin. Code §§ NR 716.07(7) and (8)). The evaluation on impact of PFAS from the Site to this water resource should account for the cumulative amount of PFAS discharging from streams, drainage ditches, wetlands and the groundwater plume in the unconsolidated aquifer and the upper weathered bedrock layer.

Next Steps

The DNR approves the Revised LTM Plan with the changes recommended in **Attachment B**. The next steps relative to the Revised LTM Plan are as follows:

- Within **60 days** of date of this letter, submit to the DNR an update to Figures 2 and 4 with new monitoring well locations and an update to Table 2 with revisions to the proposed monitoring program. Please include an estimated schedule for installation of new monitoring wells and justification for any of the additions recommended by the DNR that JCI/Tyco does not plan to implement.
- Submit the next LTM Report by **March 31, 2026,** and annually thereafter per the Revised LTM Plan.

As a reminder, this Site is subject to an enforcement action and therefore all submittals to the DNR under Wis. Admin. Code chs. NR 700-799 and submittals directed by the DNR must be accompanied by an Wis. Admin. Code ch. NR 749 fee per Wis. Stat. § 292.94. These fees are not pro-ratable or refundable per Wis. Admin. Code § NR 749.04(1). If you have any questions about whether to include a fee with a submittal, please contact DNR staff prior to submitting a document without a fee.

If you have any questions, please contact me at Alyssa.Sellwood@wisconsin.gov or (608) 622-8606.

Sincerely,

Alyssa Sellwood

Alyssa Sellwood, PE
Water Resources Engineer
Remediation & Redevelopment Program

cc: Jodie Thistle, DNR (via email: Jodie.Thistle@wisconsin.gov)

Attachments:
Attachment A: Technical Review of LTM Report #2 – Questions and Alternative Interpretations
Attachment B: Technical Review of Revised LTM Plan - Recommended Updates

Attachment A

Technical Review LTM Report #2 – Questions and Alternative Interpretations

Central-Northeast:

- The current monitoring results do not support JCI/Tyco's conclusion that the GETS prevents any PFAS-impacted groundwater from migrating northeast of Ditch B and that the GETS is capturing the groundwater plume that historically flowed under Ditch B. For example, in the time since GETS operations began, the concentration of perfluorooctanoic acid (PFOA) has increased from 24 parts per trillion (ppt) to 5,500 ppt in monitoring well PZ-29-43, which is approximately 1,000 feet downgradient from Ditch B.
- A continuous shallow groundwater plume that follows preferential flow paths to the northeast of Ditch B is an alternative interpretation to consider from what is depicted on Figure 4-1 and the cross-sections. The results from monitoring well PZ-29-17 strongly influence the current interpretation. However, there are a limited number of monitoring wells in this area downgradient of Ditch B and the concentration of PFAS are likely to be higher at a depth slightly below the well screen for monitoring well PZ-29-17.
    - New extraction well EX-12, upgradient to monitoring well nest PZ-29, is screened in the zone 20 to 35 feet below ground surface (bgs) and measured PFOA at 45,000 ppt.
    - Monitoring well nest PZ-79, also downgradient from Ditch B measured the highest concentration of PFOA (~1,000 ppt) at the mid-depth well screened 20 to 25 feet bgs.
    - For the portion of the plume that is away from the FTC source area and where clean water recharges at the water table, using data from a slightly deeper sampling interval (e.g., 25 feet bgs) could be used to interpret extent of the shallow groundwater plume and preferential flow paths.
- The eastward direction of groundwater flow measured between monitoring well nest PZ-29 and Ditch C should be considered in the interpretation of the plume.
- The interpretation of the deep groundwater contaminant plume should include monitoring well PZ-62-62, which has PFOA over the DHS recommended NR 140 enforcement standard of 4 ppt.
- The DNR agrees that the geology helps to interpret the extent of the groundwater contamination to the north. However, the concentrations of PFOA at vertical aquifer profile (VAP)-88 and new monitoring well PZ-90-26 are greater than the DHS recommended NR 140 enforcement standards for PFOA. Depending on long-term trends at these two locations, additional wells may be needed to establish the extent of contamination to the north.

Central-Southeast

- Increasing trends of PFAS are measured at monitoring well MW-101-72 and high concentrations of PFOA are observed in surface water monitoring point SW-26, which has been attributed to infiltration of the contaminated groundwater migrating southeast from the FTC. JCI/Tyco has added two new extraction wells EX-10 and EX-11 to the GETS near Ditch A with the idea that pumping from these wells will reduce the PFAS concentrations in the local groundwater and surface water. Additional monitoring wells are recommended to characterize the groundwater contaminant plume and migration of PFAS in the groundwater along the southeastern property boundary of the FTC and to evaluate the effectiveness of the new extraction wells in controlling and reducing contaminating migration in this area.
- An alternative interpretation to consider from what is depicted on Figure 4-1, is a continuous shallow groundwater plume that is influenced by the gaining and losing conditions and residual sediment contamination in Ditch A, is connected to Ditches D and E, follows possible preferential flow paths and follows localized flow directions depicted on Figure 3-1.

Bedrock

- JCI/Tyco's conceptual site model says that the contaminant plume in the weathered bedrock discharges to Menominee River. In consideration of the Wis. Admin. Code ch. 716 site investigation, how will JCI/Tyco confirm this concept to delineate the extent of the groundwater plume?

Attachment B

Technical Review of the Revised LTM Plan - Recommended Refinements

Additional Monitoring Wells

Recommendations for at least six new locations for monitoring wells are shown on the attached **Figures 2 and 4**. The locations consider the groundwater flow direction, current sampling results and the need for monitoring wells in areas that evaluate performance of the GETS. The vertical position of the well screens should be based on results of vertical aquifer profiling and/or observations from nearby monitoring wells.

- At least four additional monitoring well nests are recommended downgradient of Ditch B to characterize preferential flow paths and evaluate performance of the GETS.
    - "u": Downgradient from GETS extraction wells EX-1 and EX-2 and upgradient of surface water monitoring point PZ-4S (the tributary to Ditch B, where high PFAS concentrations have been detected).
    - "v" and "w": Downgradient of extraction wells EX-4 through EX-7 and bracketing the wetland complex connected to Ditch C.
    - "x": Flow path between monitoring well PZ-29-43 and the wetland complex connected to Ditch C.
- At least two additional monitoring wells are recommended along the southeastern property boundary to characterize plume migration off-site to the southeast and performance of the GETS in this same area.
    - "y": Downgradient of extraction well EX-11 and flow path toward monitoring well MW-101-72.
    - "z": Flow path between the Outdoor Testing Area and monitoring wells PZ-24-43 and PZ-71-111.

Updates to the Revised LTM Plan

Recommended refinements to the LTM Plan are summarized in the attached **Table**. The DNR recommends additional testing in some locations but offers possible reductions in other areas to balance these additions.

General comments to consider in addition to the specific recommendations in the attached Table:

- Unless JCI/Tyco proposes remedial actions at the Outdoor Testing Area, the number of wells sampled and frequency of monitoring can be reduced in area. The high concentrations of PFAS detected near the Outdoor Testing Area are not anticipated to change quickly without direct remedial action of this source area.
- More frequent (i.e., semi-annual monitoring) is recommended for wells used to evaluate performance of the GETS that are downgradient from GETS extraction wells.
- Inclusion of monitoring wells PZ-36-17 and PZ-36-38 in the LTM Plan is recommended to provide data south of Ditch E and within the groundwater flow path extending from the section of Ditch A that is a losing stream.

DNR's Recommended New Monitoring Well Locations for the Revised LTM Plan

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

DNR's Recommended New Monitoring Well Locations for the Revised LTM Plan

PZ-28-14
PZ-28-54
PZ-28-75
PZ-63-44
PZ-63-60
PZ-78-17
PZ-78-74
PZ-26-11
PZ-26-36
PZ-62-62
PZ-29-17
PZ-29-43
PZ-29-68
PZ-25-17
MW-EX-12
EX-12
PZ-88-TBD
IRR-01
IRR-02R
MW-EX-3
EX-3
PZ-45-31
PZ-15D
PZ-23
PZ-17D
PZ-17S
PZ-15S
MW-EX-13
EX-13
MW-EX-4
EX-14
EX-4
MW-EX-5
EX-5
PZ-6S
PZ-16S
PZ-16D
MW-EX-2
EX-2S
EX-1S
PZ-1D
PZ-30-12
PZ-30-45
PZ-30-59
PZ-79-16
PZ-79-25
PZ-79-32
PZ-81-25
PZ-81-92
PZ-61-11
DITCH B
DITCH C
DITCH A
PZ-59-21
GETS BUILDING
PZ-65-16
PZ-65-33
PZ-47-40
PZ-9
PZ-56-42
PZ-19
EX-15
EX-6
PZ-51-38
PZ-52-41R
PZ-57-38
PZ-14S
PZ-14D
PZ-69-43
PZ-69-24
PZ-3
PZ-55-64
EX-8
PZ-54-47R
EX-7
PZ-31-17
PZ-31-40
PZ-31-53
FTC-2S
FTC-2D
PZ-4D
PZ-4S
PZ-22S
PZ-68-16
PZ-68-26
PZ-68-66
PZ-67-16
PZ-67-40
FTC-31
PZ-11
FTC-44
FTC-34S
FTC-34D
PZ-60-20
PZ-58-50
PZ-58-40
EX-9
PZ-53-40
PZ-32-18
PZ-32-72
PZ-24-17
PZ-24-47
Ditch B Treatment System
MW-EX-10
EX-10
PZ-87-16
PZ-87-47
HMW-2-3S
HMW-2-3D
PZ-86-17
PZ-86-38
PZ-71-111
EX-11
MW-EX-11
PZ-66-20
PZ-66-57
PZ-70-33
PZ-70-17
PZ-70-55
PZ-70-83
Ditch A Treatment System
Shore Drive
PZ-33-12
PZ-33-33
PZ-33-67
University Drive
DITCH A-D
PZ-101-16
PZ-101-72
DMW-02
PZ-33-105
PZ-76-34
DMW-01
PZ-46-19
PZ-46-40
PZ-46-65
PZ-35-17
PZ-35-48
DITCH D
PZ-74-32
PZ-74-80
PZ-77-16
DITCH A (NORTH BRANCH)
TW-03
PZ-72-73

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:_ENV\TYCO_PRD_REPORT_FIGURES\FTC\Investigation_Interim_LTM_Plan\Investigation Interim LTM Plan_2.aprx 6/13/2025 6:18 PM

Table

DNR's Recommended Refinements to the Reivsed LTM Plan

From Table 2 in Revised LTM Plan (Red are changes from DNR)							DNR Comments
Area	Monitoring Purpose	Media	Well/Location ID	MW Zone	Max PFOA (ppt)	Max 6:2 FTS (ppt)	DNR's Recommendations **BOLD TEXT = Addition,** Plain Text= Reduction
Northern	Plume Interior	GW	MW003D	BR	1200	150	
Northern	Plume Interior	GW	MW013S-R	S	41	0	
Northern	Plume Interior	GW	MW013M-R	D	26	0	
Northern	Plume Interior	GW	MW013D-R	BR	690	120	
Northern	Plume Interior	GW	MW042D	BR	660	140	
Northern	Plume Interior	GW	MW046D	BR	280	39	
Northern	Plume Interior	GW	MW064D	BR	460	140	Redundant with MW042D, could remove or reduce to biennual
Northern	Plume Interior	GW	MW105D-R	BR	31	15	
Northern	Plume Interior	GW	MW125S-20	S	74	0	
Northern	Plume Interior	GW	MW125M-35	D	14	10	
Northern	Plume Interior	GW	MW125D-60	BR	26	5.4	
Northern	Plume Boundary	GW	MW126S-20	S	32	0	
Northern	Plume Boundary	GW	MW126D-40	BR	21	0	
Northern	Plume Interior	GW	MW128S-17	S	48	0	
Northern	Plume Interior	GW	MW128M-30	D	20	0	
Northern	Plume Interior	GW	MW129S-21	S	40	6.3	
Northern	Plume Interior	GW	MW129M-45	D	0	4.9	
Northern	Plume Interior	GW	MW130S	S	4.4	19	
Northern	Plume Boundary	GW	MW131S	S	40	44	
Northern	Plume Boundary	GW	MW131M	D	0	1.5	
Northern	Plume Boundary	GW	PZ-26-11	S	6.6	0	
Northern	*Plume Boundary*	*GW*	*PZ-26-36*	*BR*	11	19	
Northern	Plume Interior	GW	PZ-28-14	S	71	0	
Northern	Plume Interior	GW	PZ-28-54	D	380	15	
Northern	*Plume Boundary*	*GW*	*PZ-28-75*	*BR*	310	28	Reduce to semi-annual in Year 1 and **continue with semi-annual Years 2-4.**
Northern	Plume Boundary	GW	PZ-62-62	D	18	0	
Northern	Plume Interior	GW	PZ-63-44	S	210	46	
Northern	Plume Interior	GW	PZ-63-60	BR	1300	230	
Northern	Plume Boundary	GW	PZ-78-17	S	12	9.9	
Northern	Plume Boundary	GW	PZ-78-74	BR	2.2	0	
Northern	Plume Interior	GW	PZ-90-20	S	36	1.9	
Central	Plume Interior	GW	FTC-2D	D	7300	3400	
Central	Plume Interior	GW	FTC-2S	S	2000	900	Could remove, FTC-34S characterizes similar area (or vice versa)
Central	Plume Interior	GW	FTC-31	S	22000	37000	Could remove, FTC-44 characterizes similar area (or vice versa)
Central	Plume Interior	GW	FTC-34D	D	33000	200000	
Central	Plume Interior	GW	FTC-34S	S	760	5200	See FTC-2S
Central	Plume Interior	GW	FTC-44	S	14000	7000	See FTC-34S
Central	Plume Interior	GW	HMW-2-3D	D	32	0	
Central	Plume Interior	GW	HMW-2-3S	S	310	5.8	
Central	GETS Performance	GW	MW-EX-2	D	120	1600	
Central	GETS Performance	GW	MW-EX-3	D	18000	8400	
Central	GETS Performance	GW	MW-EX-4	D	50000	18000	
Central	GETS Performance	GW	MW-EX-5	D	13000	5000	
Central	GETS Performance	GW	MW-EX-10	D	250	120	
Central	GETS Performance	GW	MW-EX-11	D	250	90	
Central	GETS Performance	GW	MW-EX-12	D	29000	55000	
Central	GETS Performance	GW	MW-EX-13	D	16000	6100	
Central	*Plume Interior*	*GW*	*PZ-1D*	*BR*	76	17	Could reduce frequency. Not connected to fractures at core of plume in weathered bedrock.
Central	GETS Performance	GW	PZ-3	D	54000	9800	See PZ-19
Central	Plume Interior	GW	PZ-4S	D	58000	68000	
Central	*GETS Performance*	*GW*	*PZ-4D*	*BR*	47000	6600	
Central	GETS Performance	GW	PZ-6S	S	--	--	
Central	Plume Interior	GW	PZ-9	D	1800	5400	
Central	Plume Interior	GW	PZ-11	D	34000	83000	
Central	Plume Interior	GW	PZ-14S	S	75000	4800	
Central	Plume Interior	GW	PZ-14D	D	11000	700000	
Central	*GETS Performance*	*GW*	*PZ-15S*	*S*	23	2.3	
Central	*GETS Performance*	*GW*	*PZ-15D*	*D*	7200	34000	
Central	*GETS Performance*	*GW*	*PZ-16S*	*S*	170	10	
Central	*GETS Performance*	*GW*	*PZ-16D*	*D*	32000	530000	
Central	GETS Performance	GW	PZ-17S	S	--	--	
Central	GETS Performance	GW	PZ-17D	D	--	--	
Central	Plume Interior	GW	PZ-19	D	19000	6400	Could remove, PZ-3 characterizes similar area at the eastern property boundary.
Central	*GETS Performance*	*GW*	*PZ-22S*	*S*	34	3.4	
Central	GETS Performance	GW	PZ-23	D	28000	1200	

Table

DNR's Recommended Refinements to the Reivsed LTM Plan

From Table 2 in Revised LTM Plan (Red are changes from DNR)					DNR Comments		
Area	Monitoring Purpose	Media	Well/Location ID	MW Zone	Max PFOA (ppt)	Max 6:2 FTS (ppt)	DNR's Recommendations BOLD TEXT = Addition, Plain Text= Reduction
Central	*GETS Performance*	*GW*	*PZ-24-17*	*S*	12	0	
Central	GETS Performance	GW	PZ-24-47	D	3100	2000	
Central	GETS Performance	GW	PZ-25-17	S	15	0	
Central	*GETS Performance*	*GW*	*PZ-29-17*	*S*	11	6.3	
Central	*GETS Performance*	*GW*	*PZ-29-43*	*D*	5500	170	
Central	*GETS Performance*	*GW*	*PZ-29-68*	*BR*	1700	310	
Central	GETS Performance	GW	PZ-30-12	S	49	2.6	
Central	GETS Performance	GW	PZ-30-45	D	220	5.1	
Central	GETS Performance	GW	PZ-30-59	D	230	6.8	Redundant with PZ-30-45. Reduce to annual.
Central	*GETS Performance*	*GW*	*PZ-31-17*	*S*	18	230	
Central	*GETS Performance*	*GW*	*PZ-31-40*	*D*	100000	6000	
Central	*GETS Performance*	*GW*	*PZ-31-53*	*D*	81	6.3	
Central	*GETS Performance*	*GW*	*PZ-32-18*	*S*	6.9	4.9	
Central	GETS Performance	GW	PZ-32-72	D	3.9	4.9	
Central	GETS Performance	GW	PZ-45-31	D	940	2300	
Central	GETS Performance	GW	PZ-47-40	D	15000	340000	
Central	GETS Performance	GW	PZ-51-38	D	18000	5200	
Central	GETS Performance	GW	PZ-52-41	D	150000	8900	
Central	GETS Performance	GW	PZ-53-40	D	65	3.3	
Central	*GETS Performance*	*GW*	*PZ-54-47R*	*D*	36000	21000	
Central	GETS Performance	GW	PZ-55-64	D	300	390	
Central	*GETS Performance*	*GW*	*PZ-56-42*	*D*	53000	29000	
Central	GETS Performance	GW	PZ-57-38	D	31	11	
Central	GETS Performance	GW	PZ-58-40	D	120	81	
Central	*GETS Performance*	*GW*	*PZ-58-50*	*D*	30000	5400	
Central	Plume Boundary	GW	PZ-59-21	S	16	0	
Central	Plume Boundary	GW	PZ-60-20	S	6.3	0	
Central	*Plume Boundary*	*GW*	*PZ-61-11*	*S*	18	24	**Continue annual monitoirng after Year 2, unless results support change to biennial monitoring.**
Central	Plume Interior	GW	PZ-65-16	S	4000	6.3	
Central	Plume Interior	GW	PZ-65-33	D	390	1700	
Central	Plume Interior	GW	PZ-67-16	S	640	0	
Central	Plume Interior	GW	PZ-67-40	D	1100	19000	
Central	Plume Interior	GW	PZ-68-16	S	330	630	
Central	Plume Interior	GW	PZ-68-26	D	150	2700	
Central	Plume Boundary	GW	PZ-68-66	BR	0	0	
Central	Plume Interior	GW	PZ-69-24	S	69	4.9	Could remove, PZ-22S characterizes similar area at the eastern property boundary.
Central	Plume Interior	GW	PZ-69-43	D	10000	30000	
Central	GETS Performance	GW	PZ-70-17	S	440	460	
Central	GETS Performance	GW	PZ-70-33	D	730	0	
Central	**GETS Performance**	GW	PZ-70-55	D	0.99	11	**Perform annual during GETS optimization**
Central	Plume Boundary	GW	PZ-70-83	BR	1.9	19	**Perform annual during GETS optimization**
Central	Plume Interior	GW	PZ-71-111	BR	4200	3.1	**Perform semi-annual during GETS optimization**
Central	Plume Interior	GW	PZ-79-16	S	91	3.1	
Central	Plume Interior	GW	PZ-79-25	D	1000	20	
Central	Plume Interior	GW	PZ-79-32	D	790	14	
Central	Plume Boundary	GW	PZ-81-25	S	1.6	0	
Central	Plume Boundary	GW	PZ-81-92	BR	1.8	0	
Central	**GETS Performance**	GW	PZ-86-17	S	290	1.4	**Continue monitoirng at least two times per year in Years 3 and 4 during GETS optimization.**
Central	**GETS Performance**	GW	PZ-86-38	D	9700	16000	**Continue monitoirng at least two times per year in Years 3 and 4 during GETS optimization.**
Central	Plume Interior	GW	PZ-87-16	S	3.8	0	
Central	Plume Interior	GW	PZ-87-47	D	0	0	
Central	Plume Boundary	GW	*VAP-PZ-88*	S/D	29	21	**Continue annual monitoirng after Year 2, unless results support change to biennial monitoring.**
Southern	*Plume Boundary*	*GW*	*MW-100-32*	*D*	2.6	0	
Southern	Plume Boundary	GW	MW-100-68	D	1.2	0	
Southern	Plume Boundary	GW	MW-100-88	BR	1	0	
Southern	Plume Interior	GW	MW-101-16	S	18	0	
Southern	*Plume Interior*	*GW*	*MW-101-72*	*D*	3000	1100	**Continue semi-annual monitoring in Years 3 and 4 because currently showing increasing trend.**
Southern	*Plume Interior*	*GW*	*PZ-33-12*	*S*	6.7	0	
Southern	*Plume Interior*	*GW*	*PZ-33-33*	*D*	1400	92	**Continue semi-annual monitoirng in Years 3 and 4, unless results support change to annual.**
Southern	Plume Interior	GW	PZ-33-67	D	1.4	0	
Southern	Plume Interior	GW	PZ-33-105	BR	0	0	
Southern	Plume Interior	GW	PZ-34-17	S	23	0	
Southern	Plume Boundary	GW	PZ-34-84	D	0	0	
Southern	Plume Boundary	GW	PZ-35-17	S	48	0	
Southern	Plume Boundary	GW	PZ-35-37	D	1.2	0	

Table

DNR's Recommended Refinements to the Reivsed LTM Plan

From Table 2 in Revised LTM Plan (Red are changes from DNR)					DNR Comments		
Area	Monitoring Purpose	Media	Well/Location ID	MW Zone	Max PFOA (ppt)	Max 6:2 FTS (ppt)	DNR's Recommendations **BOLD TEXT = Addition,** Plain Text= Reduction
Southern	Plume Boundary	GW	PZ-36-19	S	5.8	0	**Add annual monitoiring of this well, to include location south of Ditch E (per previous comments).**
Southern	Plume Boundary	GW	PZ-36-38	D	0	0	**Add annual monitoiring of this well, to include location south of Ditch E (per previous comments).**
Southern	Plume Boundary	GW	PZ-44-73	D	0	12	
Southern	Plume Interior	GW	PZ-46-19	S	51	21	
Southern	Plume Interior	GW	PZ-46-40	D	270	260	**Continue semi-annual monitoirng in Years 3 and 4, unless results support change to annual.**
Southern	Plume Interior	GW	PZ-46-65	D	130	870	
Southern	Plume Boundary	GW	PZ-66-20	S	2.8	0	
Southern	Plume Boundary	GW	PZ-66-57	D	0	0	
Southern	*Plume Interior*	*GW*	*PZ-72-73*	*D*	360	880	
Southern	Plume Boundary	GW	PZ-73-16	S	3.5	0	
Southern	*Plume Boundary*	*GW*	*PZ-73-32*	*D*	7.7	4.3	Reduce from quarterly to semi-annual in Year 1 and **continue semi-annual, unless results support change.**
Southern	Plume Boundary	GW	PZ-73-75	D	0	0	
Southern	*Plume Interior*	*GW*	*PZ-74-32*	*D*	110	100	Reduce from quarterly to semi-annual in Year 1 and **continue semi-annual, unless results support change.**
Southern	*Plume Interior*	*GW*	*PZ-74-80*	*D*	23	14	Reduce from quarterly to semi-annual in Year 1 and **continue semi-annual, unless results support change.**
Southern	Plume Boundary	GW	PZ-75-18	S	9.1	5.1	
Southern	Plume Interior	GW	PZ-76-34	D	43	0	**Perform semi-annual monitoirng, unless results support change to annual.**
Southern	Plume Boundary	GW	PZ-77-16	S	0.94	0	
Southern	Plume Boundary	GW	PZ-80-37	D	12	0	
Southern	Plume Boundary	GW	PZ-82-16	S	12	0	
Southern	Plume Boundary	GW	PZ-83-50	D	19	17	
Southern	Plume Boundary	GW	PZ-85-69	BR	0	0	Could reduce to biennual monitoirng (i.e., swap with PZ-70-83)
Southern	Plume Boundary	GW	PZ-89-40	D	5.6	0.67	
Southern	Plume Boundary	GW	TW-01	S	0	0	
Southern	Plume Boundary	GW	TW-02	S	5.1	0	
Southern	Plume Interior	GW	TW-03	S	30	16	
Southern	*Plume Boundary*	*GW*	*TW-04*	*S*	2.9	0	
Southern	Plume Boundary	GW	TW-05	S	3.1	0	
Ditch A	LTM	SW	SG-10	-	--	--	
Ditch A	LTM	SW	SG-12	-	--	--	
Ditch A/POND	GETS Performance	SW	SG-23	-	--	--	
Ditch A	LTM	SW	SG-26	-	--	--	
Ditch D	LTM	SW	SG-36	-	--	--	
Ditch A/D	LTM	SW	SG-45	-	--	--	
Ditch A	LTM	SW	SG-47	-	--	--	
Ditch A	LTM	SW	SG-48	-	--	--	
Ditch A	GETS Performance	SW	SG-50	-	--	--	
Ditch B	GETS Performance	SW	SG-53	-	--	--	
Ditch A	GETS Performance	SW	SG-A1	-	--	--	
Ditch B	GETS Performance	SW	SG-L09	-	--	--	
Ditch B	GETS Performance	SW	SG-M01	-	--	--	
Ditch B	GETS Performance	SW	SG-M09	-	--	--	
Ditch B	GETS Performance	SW	SG-U03	-	--	--	
Ditch B	GETS Performance	SW	SG-U10	-	--	--	
Ditch B	GETS Performance	SW	STW-U10	-	--	--	
Ditch B	GETS Performance	SW	STW-M09	-	--	--	
Ditch A	LTM	SW	SW-10	-	58	3.2	
Ditch A	LTM	SW	SW-12	-	1200	73	
Ditch A	Ditch SWTS	SW	SW-26	-	2000	380	
Ditch C	LTM	SW	SW-30	-	58	2.7	
Ditch D	LTM	SW	SW-33	-	76	20	
Ditch D	LTM	SW	SW-36	-	17	49	
Ditch E	LTM	SW	SW-43	-	5.1	0	
Ditch B	Ditch SWTS	SW	SW-L03	-	49	300	
Ditch B	GETS Performance	SW	SW-L09	-	1300	1700	Use Monthly Intake for the Ditch B SWTS, instead of SW-L09. Add in SW-L09 if SWTS shut down.
Ditch B	GETS Performance	SW	SW-M01	-	1200	2000	
Ditch B	GETS Performance	SW	SW-M04	-	870	1700	**Continue monitoirng at least two times per year in Years 3 and 4 (during GETS optimization).**
Ditch B	GETS Performance	SW	SW-M07	-	1100	2800	**Continue monitoirng at least two times per year in Years 3 and 4 (during GETS optimization).**
Ditch B	GETS Performance	SW	SW-M09	-	590	1700	**Continue monitoirng at least two times per year in Years 3 and 4 (during GETS optimization).**
Ditch B	GETS Performance	SW	SW-U03	-	320	820	**Continue monitoirng at least two times per year in Years 3 and 4 (during GETS optimization).**
Ditch B	GETS Performance	SW	SW-U10	-	25	18	
Ditch B	GETS Performance	SW	SW-P1B	-	810	18000	
Ditch B	GETS Performance	SW	SW-P4B	-	380	5500	
Ditch B	GETS Performance	SW	SW-P5	-	4.4	3	

Table

DNR's Recommended Refinements to the Reivsed LTM Plan

From Table 2 in Revised LTM Plan (Red are changes from DNR)							DNR Comments
Area	Monitoring Purpose	Media	Well/Location ID	MW Zone	Max PFOA (ppt)	Max 6:2 FTS (ppt)	DNR's Recommendations **BOLD TEXT = Addition,** Plain Text= Reduction
Ditch B	GETS Performance	SW	SW-P6	-	7.5	6.8	SW-P5 and SW-P6 currently redundant, can remove upstream point SW-P6
Ditch B Streambed	GETS Performance	GW	GW-M01 (TPZ)	-	190	330	
Ditch B Streambed	GETS Performance	GW	GW-M04 (TPZ)	-	320	480	**Continue monitoirng at least two times per year in Years 3 and 4 (during GETS optimization).**
Ditch B Streambed	GETS Performance	GW	GW-M07 (TPZ)	-	3800	3000	**Continue monitoirng at least two times per year in Years 3 and 4 (during GETS optimization).**
Ditch B Streambed	GETS Performance	GW	GW-M09 (TPZ)	-	1000	5100	**Continue monitoirng at least two times per year in Years 3 and 4 (during GETS optimization).**
Ditch B Streambed	GETS Performance	GW	GW-U03 (TPZ)	-	46	15	**Continue monitoirng at least two times per year in Years 3 and 4 (during GETS optimization).**
Deep Aquifer	DW Protection	GW	DMW-01	DBR	0	0	
Deep Aquifer	DW Protection	GW	DMW-02	DBR	0	0	
Deep Aquifer	DW Protection	GW	DMW-03	DBR	0	0	
Deep Aquifer	DW Protection	GW	DMW-04	DBR	0	0	
Deep Aquifer	IRR Protection	GW	IRR-01	DBR	0	0	
Deep Aquifer	IRR Protection	GW	IRR-02R	DBR	0	0	