

Air Force Installation & Mission Support Center



Wurtsmith Restoration Advisory Board Meeting

Steven Willis
AFCEC/CIBC
08 Nov 2023

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Classification



The classification of the brief is unclassified



Agenda



- Welcome, introductions, and ground rules
- Restoration Advisory Board (RAB) member updates
- RAB business update
- Per-and polyfluoroalkyl substances (PFAS) Remedial investigation (RI) and interim remedial action (IRA) update
- Vapor Intrusion RI update
- PFAS sources other than aqueous film forming foam (AFFF)
- RAB member questions
- Public comment
- Conclusion – RAB Co-Chairs' closing remarks

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Checklist for Virtual Participation



- ✓ If you prefer to join audio by phone, please dial the call-in number and enter the access code to enter the meeting
- ✓ Phone unmute instructions - *5 to raise your hand, *6 to unmute/mute
- ✓ RAB Members – mute when not speaking
- ✓ Use “raise hand” to raise your hand
- ✓ RAB Coordinator will unmute your mic when it’s your turn to speak
- ✓ To enable closed captions for language support, click “more” – “language and speech” – “turn on live captions”
- ✓ Use Chat for questions
- ✓ Contact the RAB Coordinator with access questions amy.rauser@wsp.com

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Site Map



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RAB Updates

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- **Air Force hosted an in-person technical session on 15 August 2023 to discuss questions submitted by the RAB/community members**
- **Critical Process Analysis (CPA) is ongoing**
 - **Site visit completed 17-19 Oct 2023**
 - **CPA meetings completed 24 Oct-2 Nov 2023**
 - **Results and recommendations are being compiled**
 - **Presentation of recommendations to the public planned for early December 2023**



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

EGLE Updates

Amy Handley
Project Manager
RRD, Superfund Section
Handleya@michigan.gov | 517-898-3356

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Recent EGLE Activities



- Meeting with Mark and Bob to discuss technical concerns
- September BCT meeting
- Meetings with Air Force to discuss field work progress
- Participated in Critical Process Analysis
- Reviewed PFAS RI QAPP Addendum, backcheck comments provided and additional discussions with Air Force
- Reviewed AAA IRA proposed plan, provided comments, backcheck comments, and attended public meeting
- Reviewed BECOS QAPP, provided backcheck comments
- Reviewing 2021 RA-O LTM report, backcheck comments will be provided

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Upcoming Activities



- **SPP meeting**
- **Meeting between EGLE and Air Force to discuss east VEL**
- **Data review for completed RI work**
- **Additional documents for review**
 - **AAA QAPP, ROD, and work plan**
- **Field oversight by AECOM ongoing, QA sampling ongoing**
- **Critical Process Analysis report and meetings**

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RAB Member Updates



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RAB Business

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■ Action Items

- List distributed to RAB prior to meeting
- Virtual meeting conducted 12 Sep 2023 at 6:00 pm eastern time to review action items
- Virtual meeting planned for 6 Dec 2023 at 6:00 pm eastern time to review action items
- Status since last RAB meeting
 - Opened: 128 thru 131 (4 total)
 - Closed: None
 - Ongoing: 87, 88, 92, 96, 99, 100, 101, 102, and 104A-D thru 111 and 113 thru 120 (37 total)



Presentation:



PFAS Remedial Investigation (RI) and Interim Remedial Action (IRA) Update

Paula Bond
Aerostar SES LLC
Project Manager



PFAS RI Update



- **PFAS RI UFP-QAPP addendum was issued on 7 June 2023 for concurrent EGLE and public review**
 - **Received EGLE and Public comments**
 - **The Air Force and EGLE held a meeting to discuss EGLE comments on 6 October 2023**
- **Nature and extent investigation work will continue through the end of 2023**



PFAS RI Update



- **Groundwater**
- **Soil**
- **Surface water and sediment**
- **Seeps**
- **Biota**
- **Storm and sanitary sewers**
- **Private water well sampling**

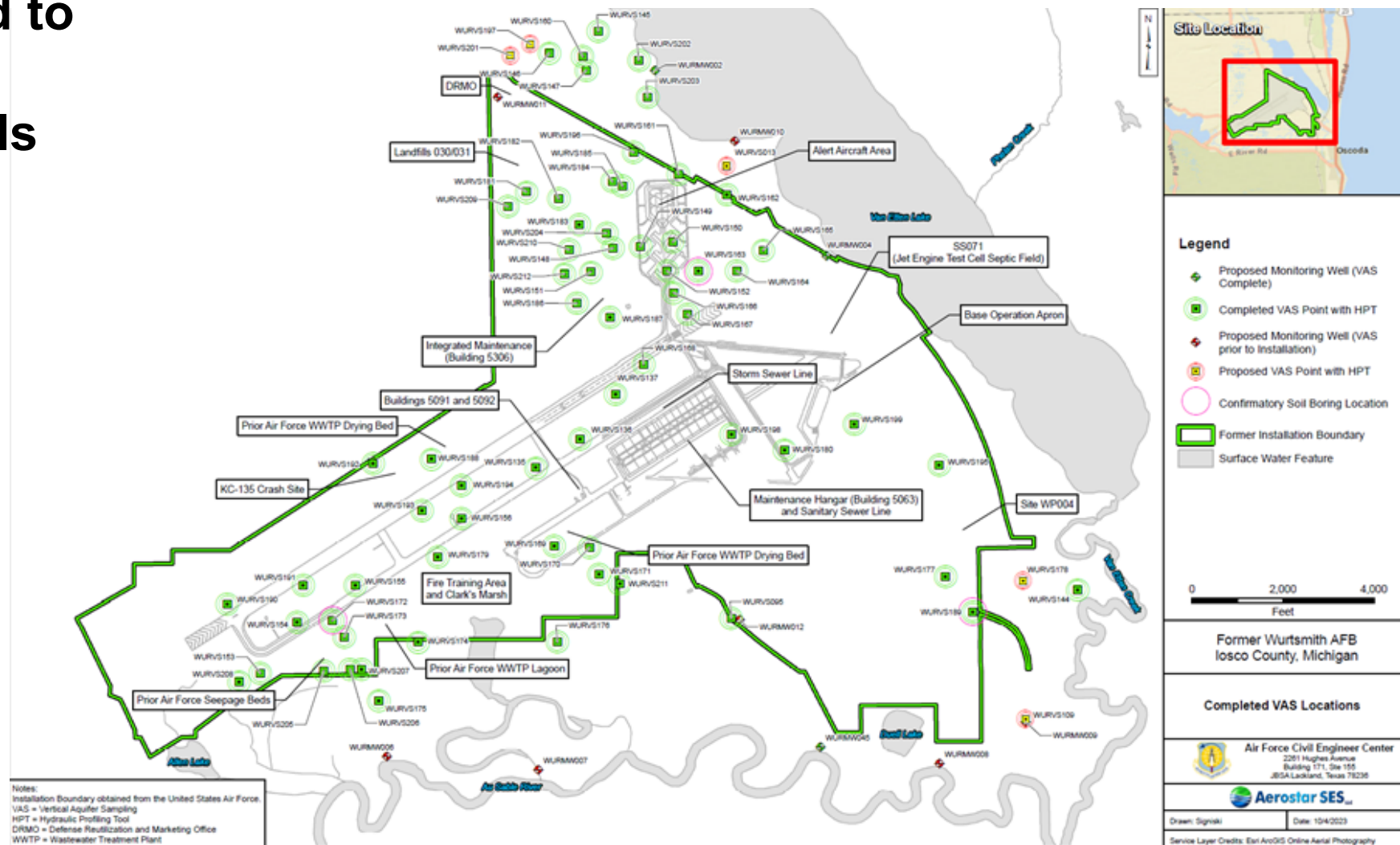
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PFAS RI Groundwater Delineation Vertical Aquifer Sampling (VAS) Locations

■ Groundwater delineated to the lower of USEPA regional screening levels (RSLs) or EGLE groundwater cleanup criteria

- PFOS = 4 ng/l
- PFOA = 6 ng/l
- PFBA = 1,800 ng/l
- PFBS = 420 ng/l
- PFNA = 5.9 ng/l
- PFHxA = 990 ng/l
- PFHxS = 39 ng/l



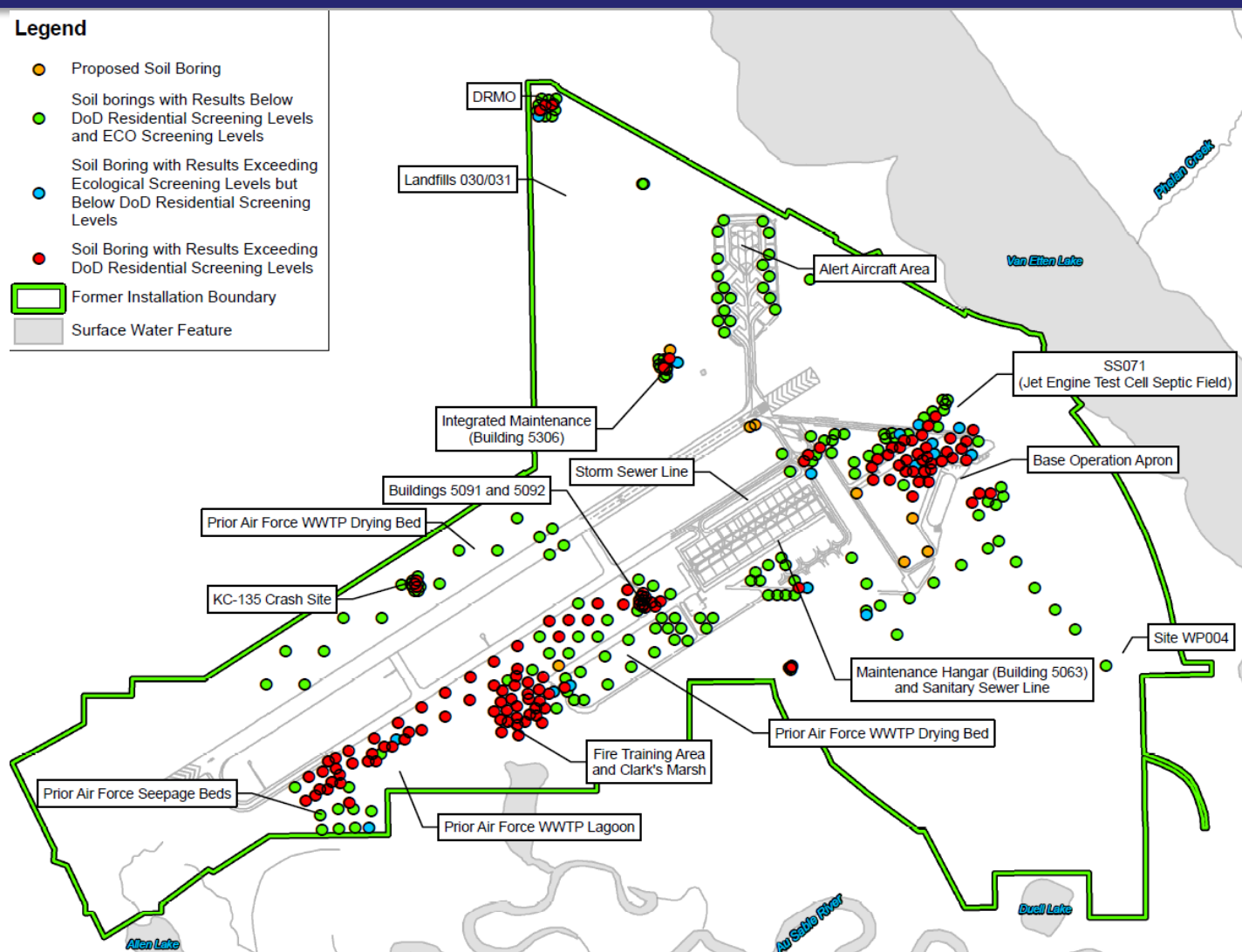
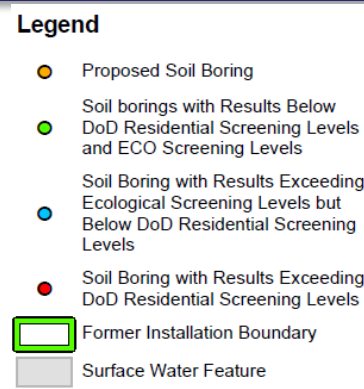
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PFAS RI Soil Delineation

■ Soil delineated to updated USEPA RSLs

- PFOS = 13 ug/kg
- PFOA = 19 ug/kg
- PFBA = 7,800 ug/kg
- PFBS = 1,900 ug/kg
- PFNA = 19 ug/kg
- PFHxA = 3,200 ug/kg
- PFHxS = 130 ug/kg



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PFAS RI Surface Water, Sediment, and Seep Samples

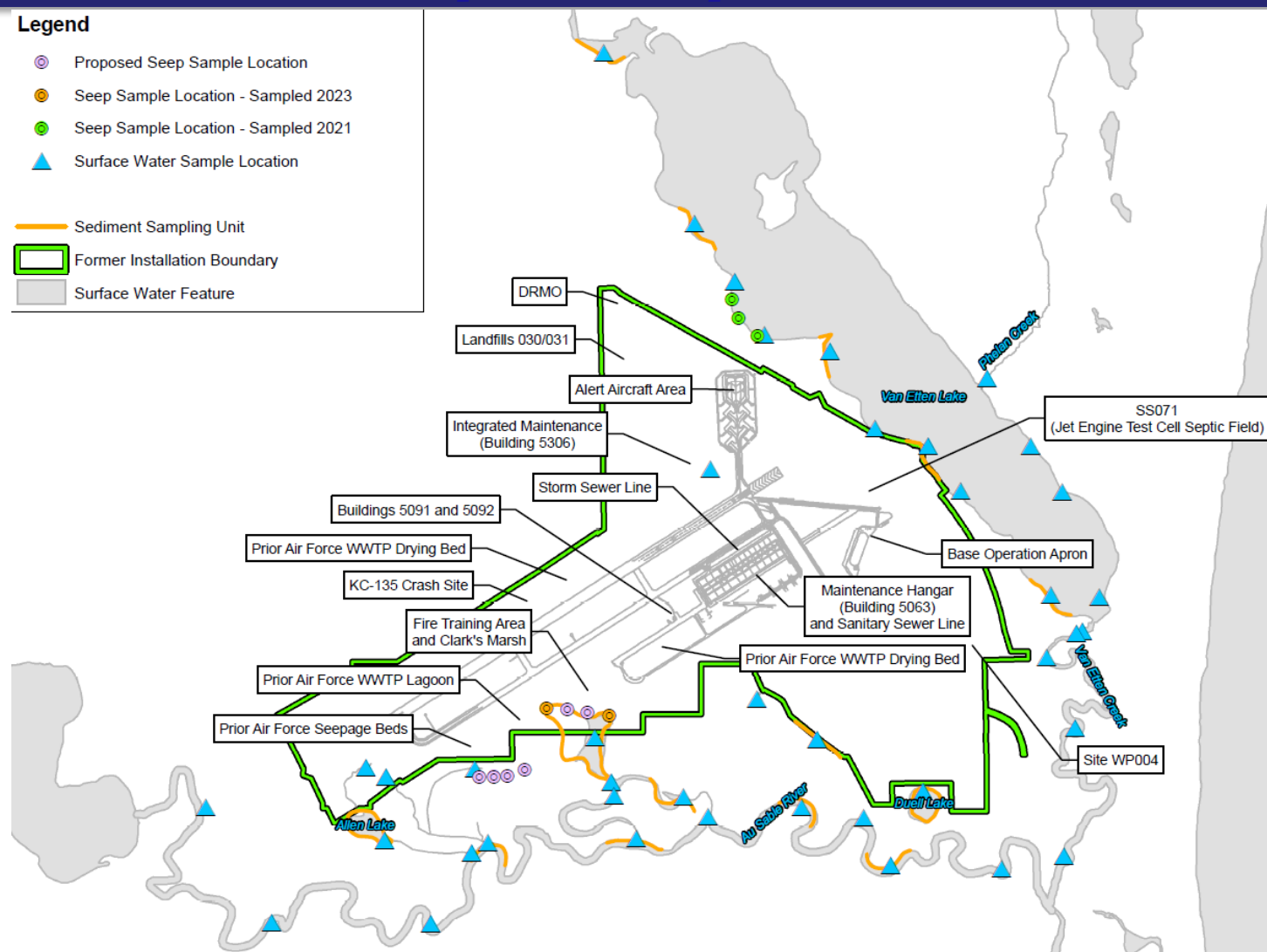


- Surface water and sediment samples were collected from Van Etten Lake, Van Etten Creek, the Au Sable River, and Ponds and streams within Clark's Marsh
- Seep samples were collected from Van Etten Lake and Clark's Marsh

Legend

- Proposed Seep Sample Location
- Seep Sample Location - Sampled 2023
- Seep Sample Location - Sampled 2021
- ▲ Surface Water Sample Location

- Sediment Sampling Unit
- Former Installation Boundary
- Surface Water Feature



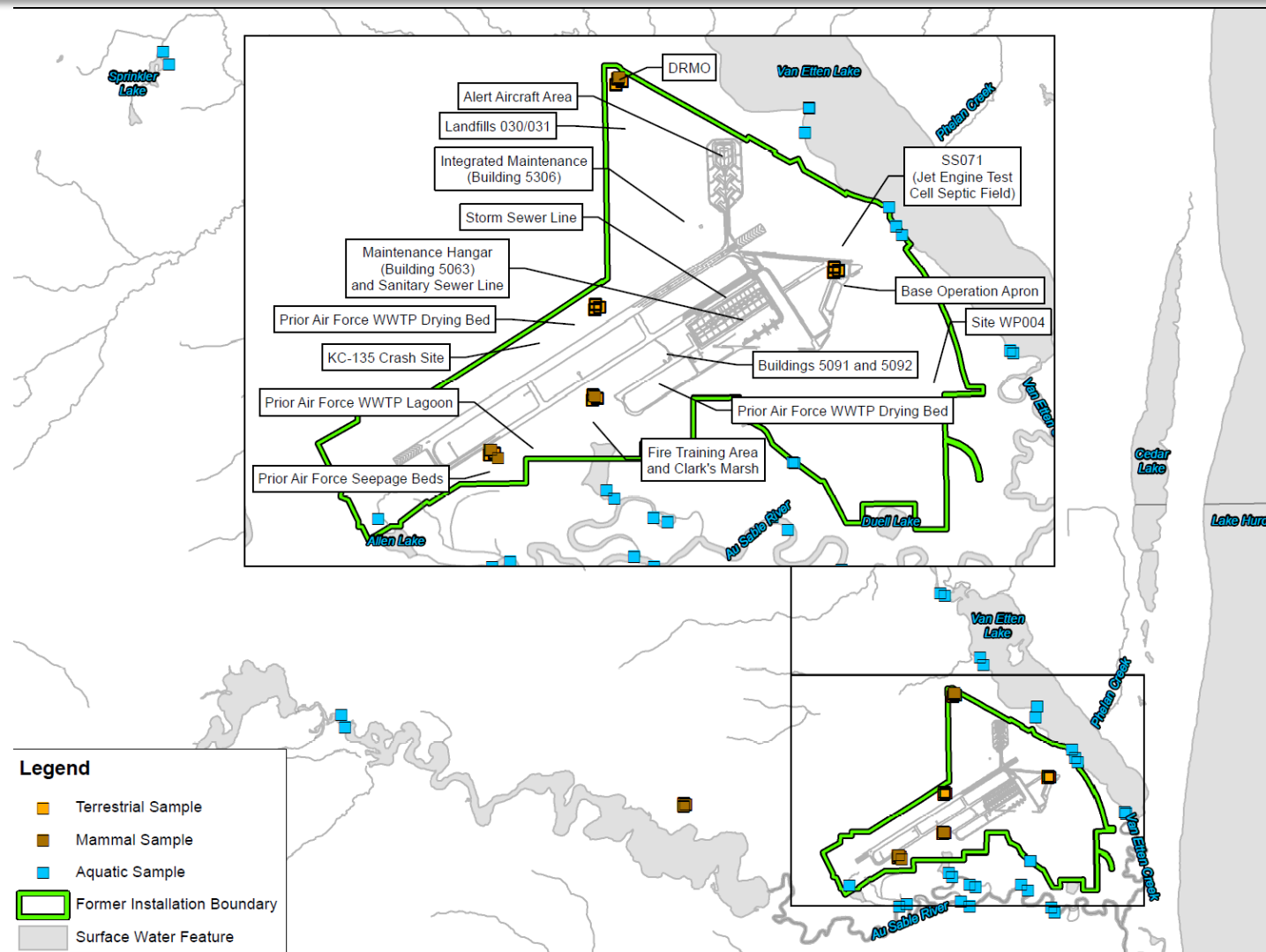
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PFAS RI Biota Sampling



- **Terrestrial**
 - Vegetation
 - Small mammals
 - Soil
- **Aquatic**
 - Vegetation
 - Fish
 - Sediment

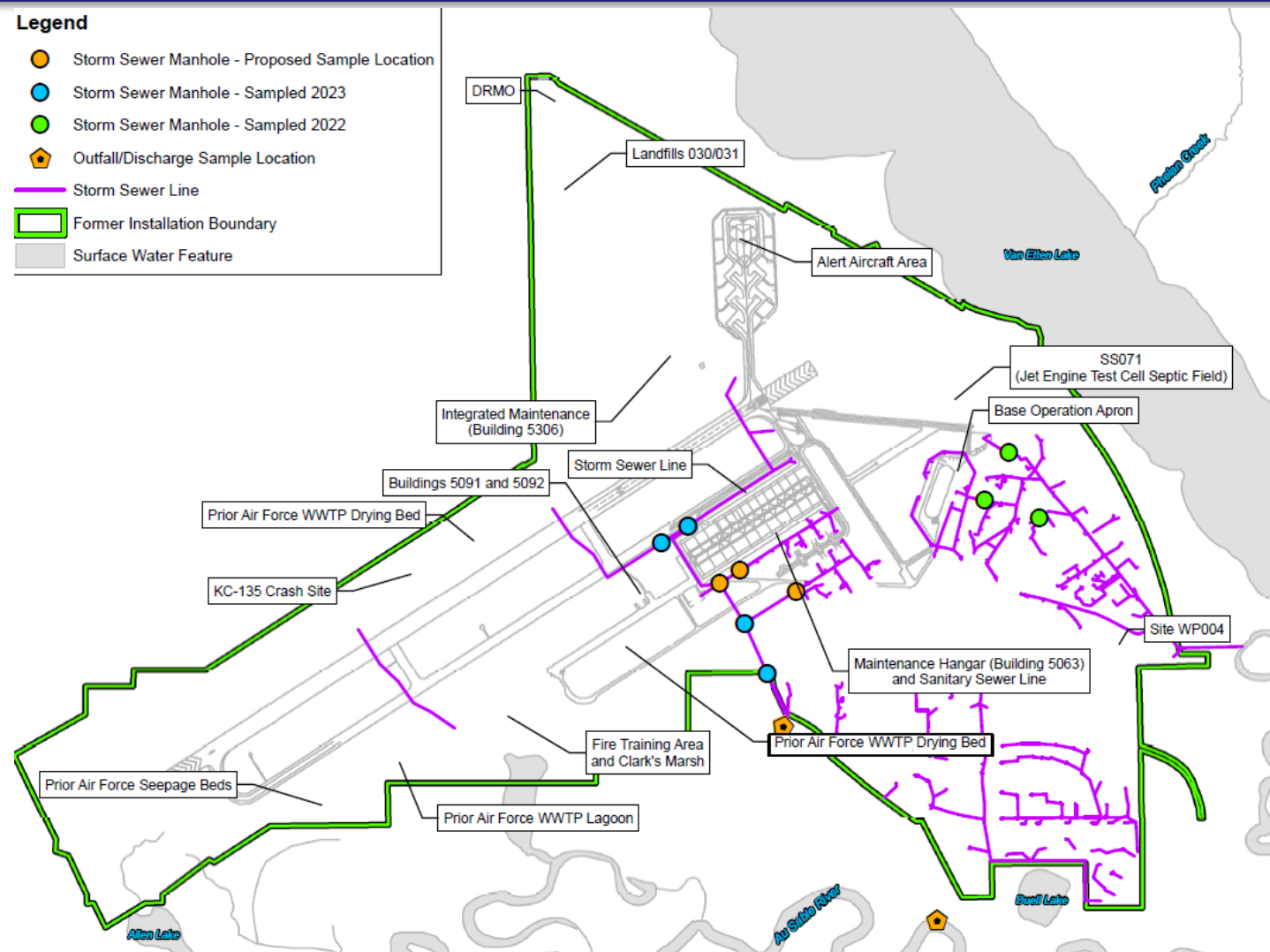


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PFAS RI Storm Sewer Sampling

- To date, three manholes and the outfall at Three Pipes ditch have been sampled for PFAS
 - One event with no rain for 72 hours
- Camera survey of storm sewer



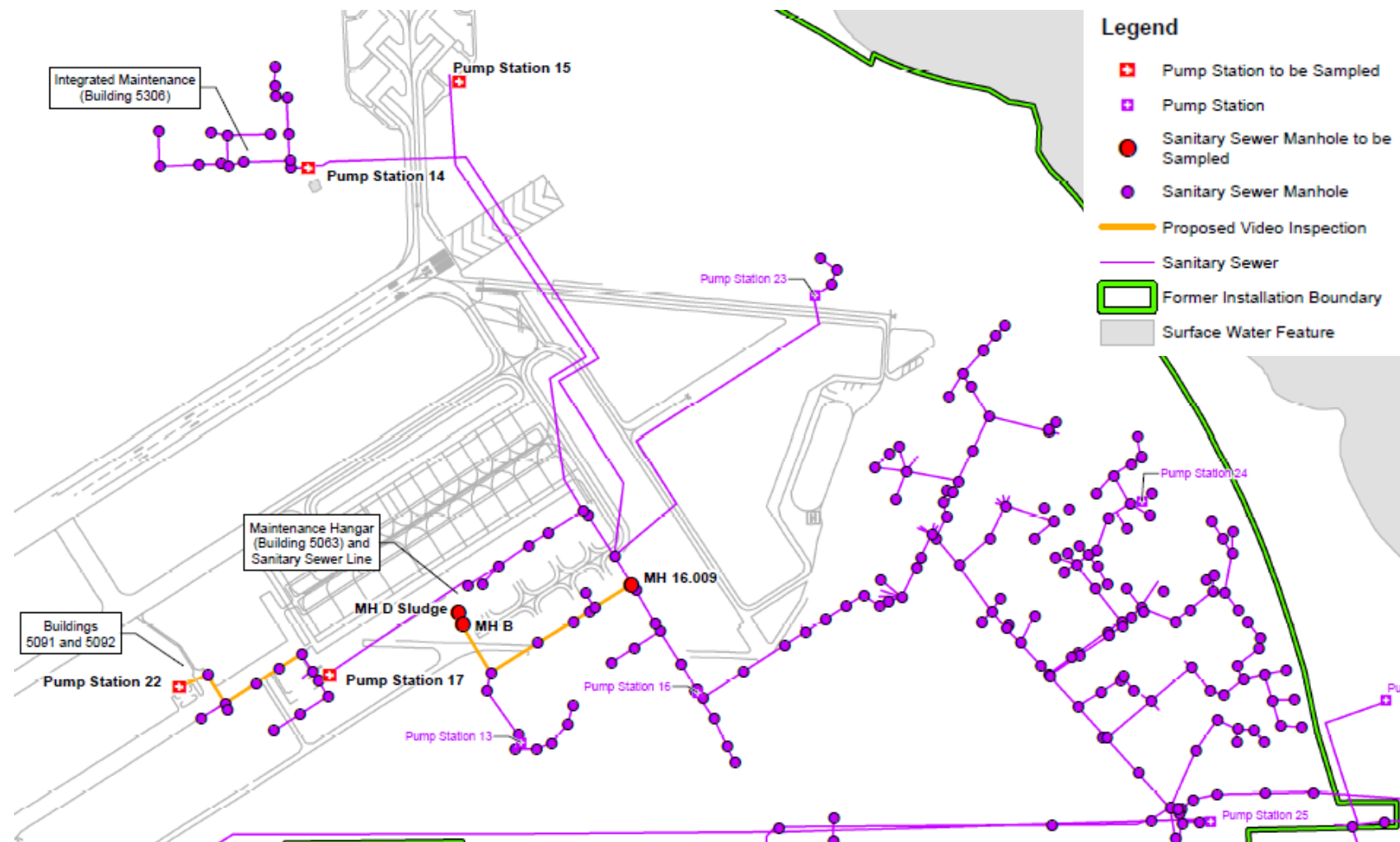
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PFAS RI Sanitary Sewer Sampling



- Sampling is planned from four pump stations and three manholes
- Camera survey of portions of the sanitary sewer

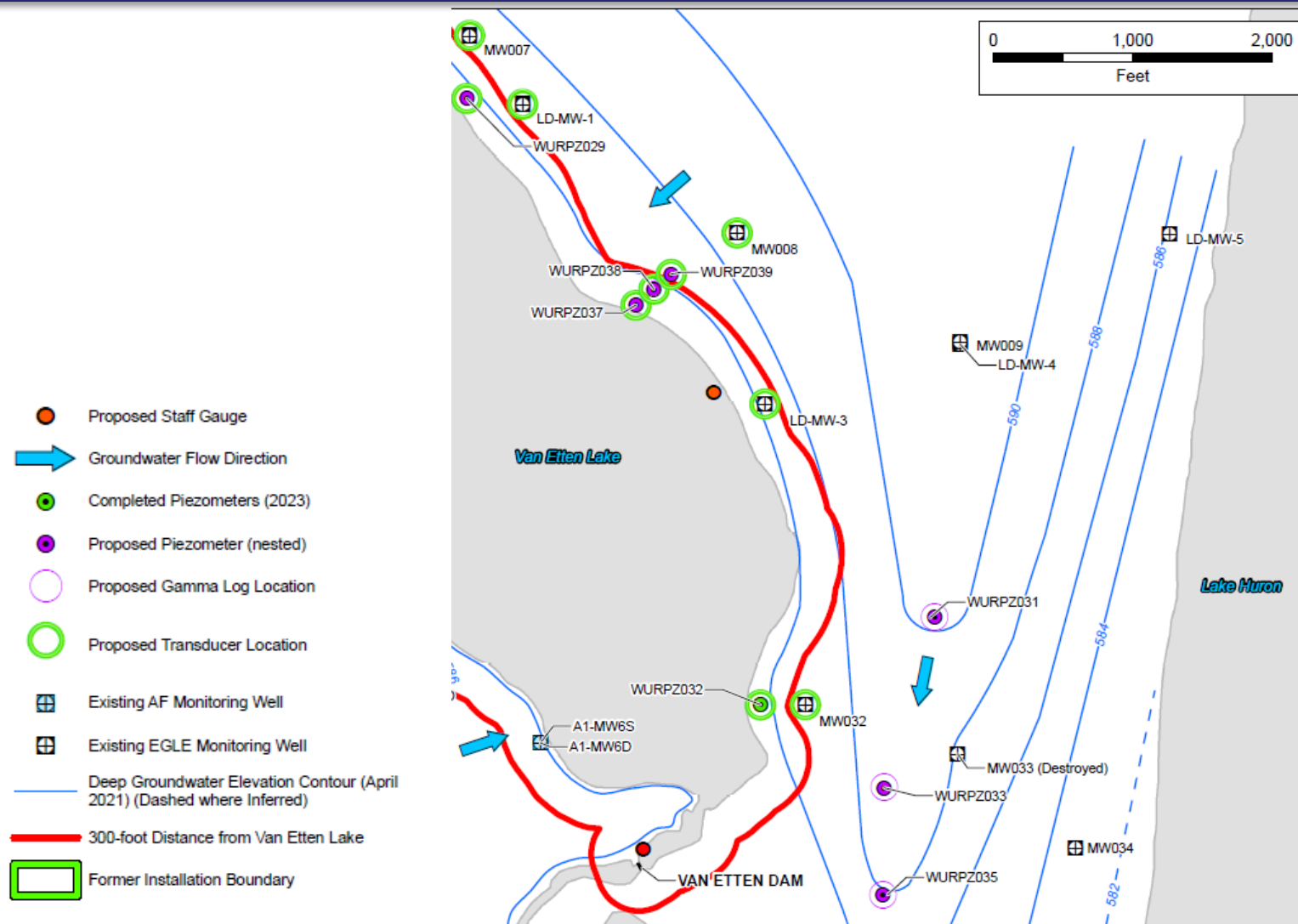


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PFAS RI Transducer Study

- New piezometers were installed on the south side of Van Etten Lake
- Transducers will be installed to measure changes in water levels



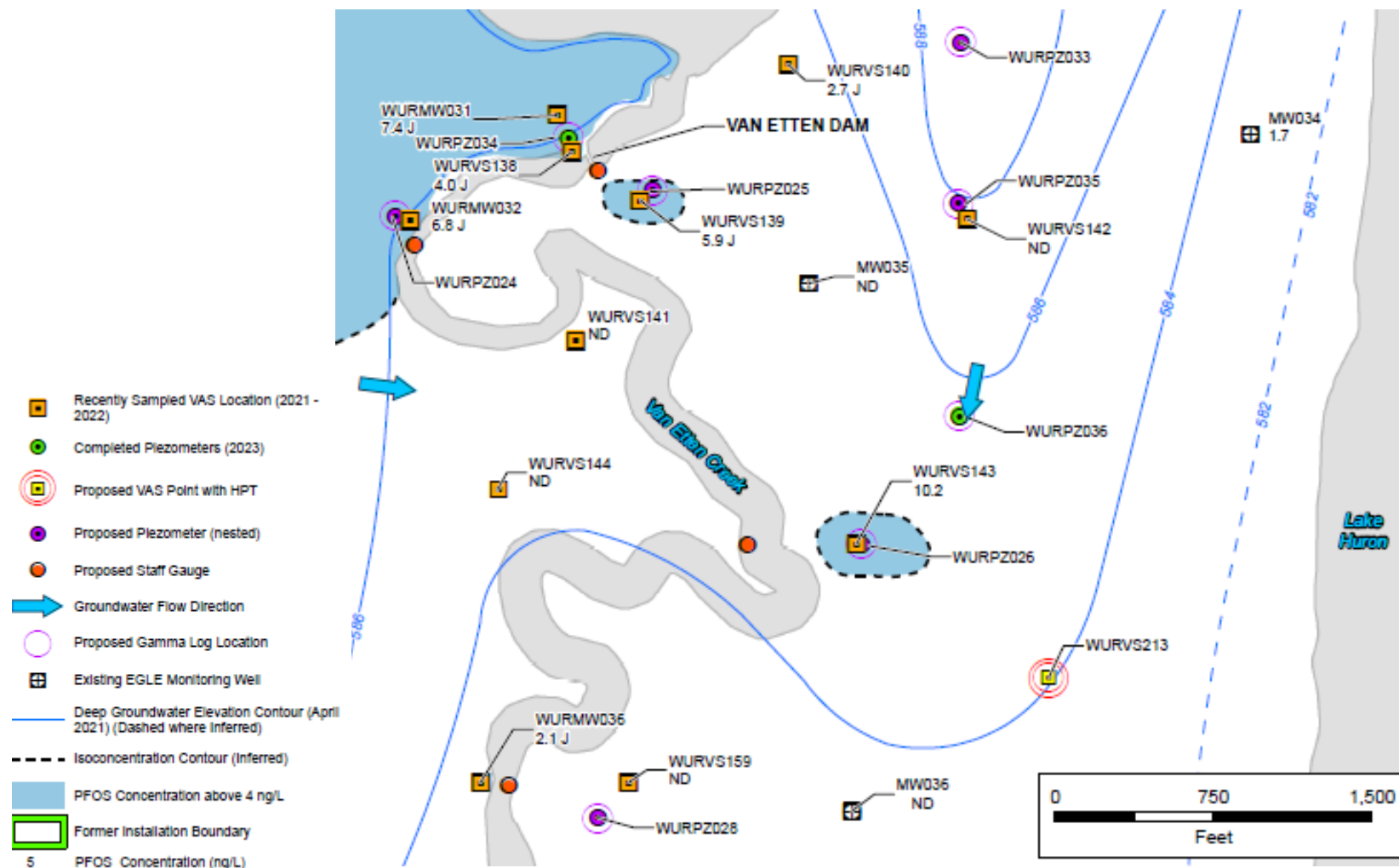
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PFAS RI Van Etten Creek Hydrologic Study



- Piezometers and monitoring wells installed along Van Etten Creek
- Water levels will be measured to determine head differences on both sides of the creek



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PFAS RI Update



■ **Offsite Access**

- **Letter campaign to verify the use of private drinking water and other wells**
 - 120 letters were mailed to downgradient property owners including the east shore of Van Etten Lake
 - One private well sampled based on survey results to date
 - A door-to-door campaign will be conducted to follow up with residents who have not responded
- **Letter campaign for access to install and sample wells**
 - Access to multiple areas south of Van Etten Creek and east of Van Etten Lake is still pending.



Alert Aircraft Area IRA



- **Public meeting held on 11 October 2023 to brief the community on final proposed plan**
- **Responses to public comments received on the final proposed plan are being developed and will be included in the interim record of decision (IROD)**
- **Any changes to proposed action based on public comments will be included in the IROD**



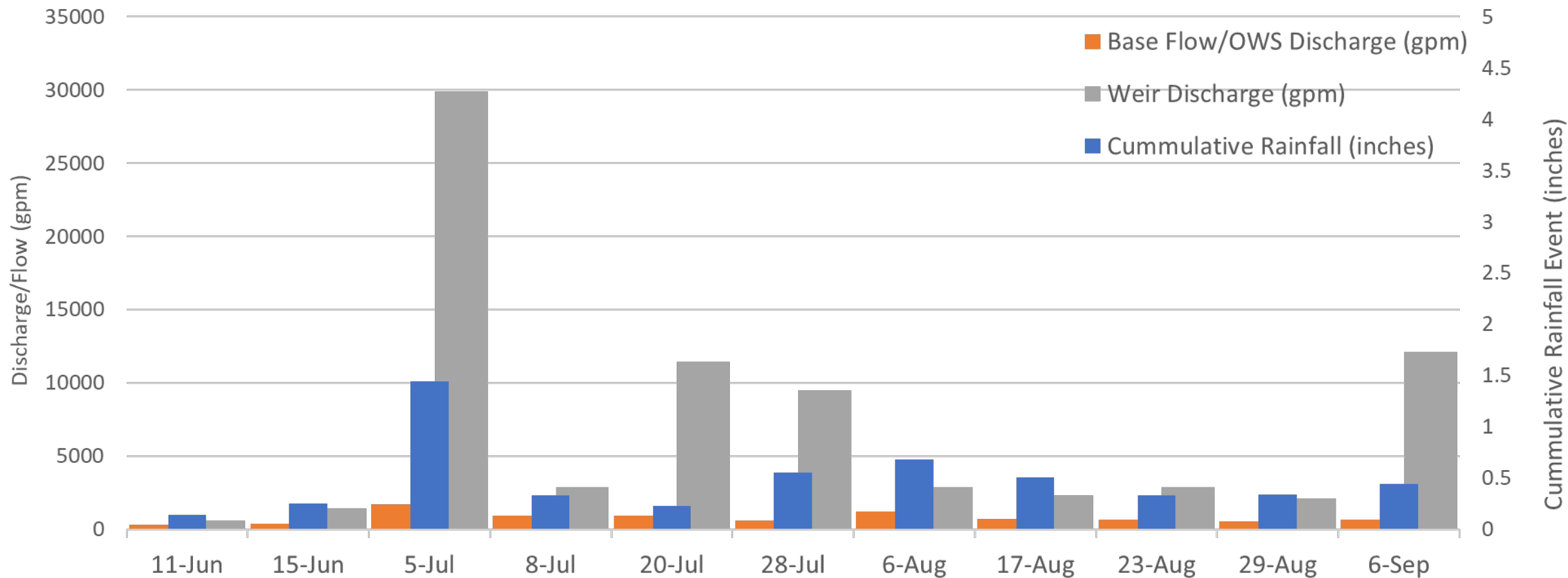
Three Pipes Ditch Pilot Study

- **Pilot study has been terminated based on rainfall and flow data collected during the summer 2023**
- **High flow rates jeopardize ability to stabilize Florosorb® materials in the ditch**
- **Continue monitoring to develop information for future response actions**
 - Install a flow sensor in the 6-foot diameter discharge pipe to measure flow
 - Install additional drive points, staff gauges, and transducers and measure flow
 - Sample drive points and existing monitoring wells to determine PFAS groundwater contribution to ditch



Former Wurtsmith AFB Three Pipes Ditch Monitoring

Cummulative Rainfall and Peak Flows - Three Pipes Ditch



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Three Pipes Ditch



Base Flow Conditions

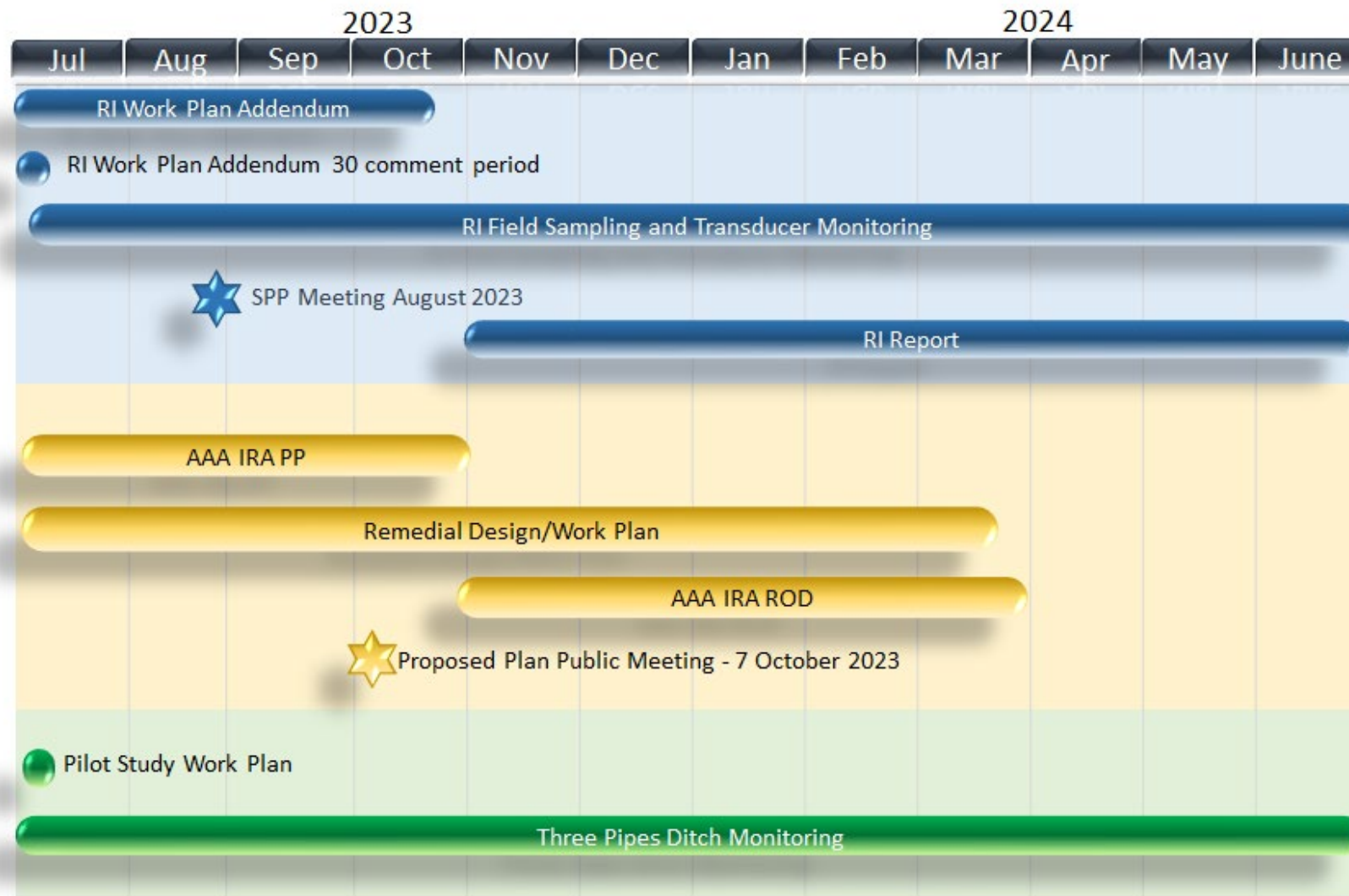


Peak Flow Conditions

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One Year Outlook

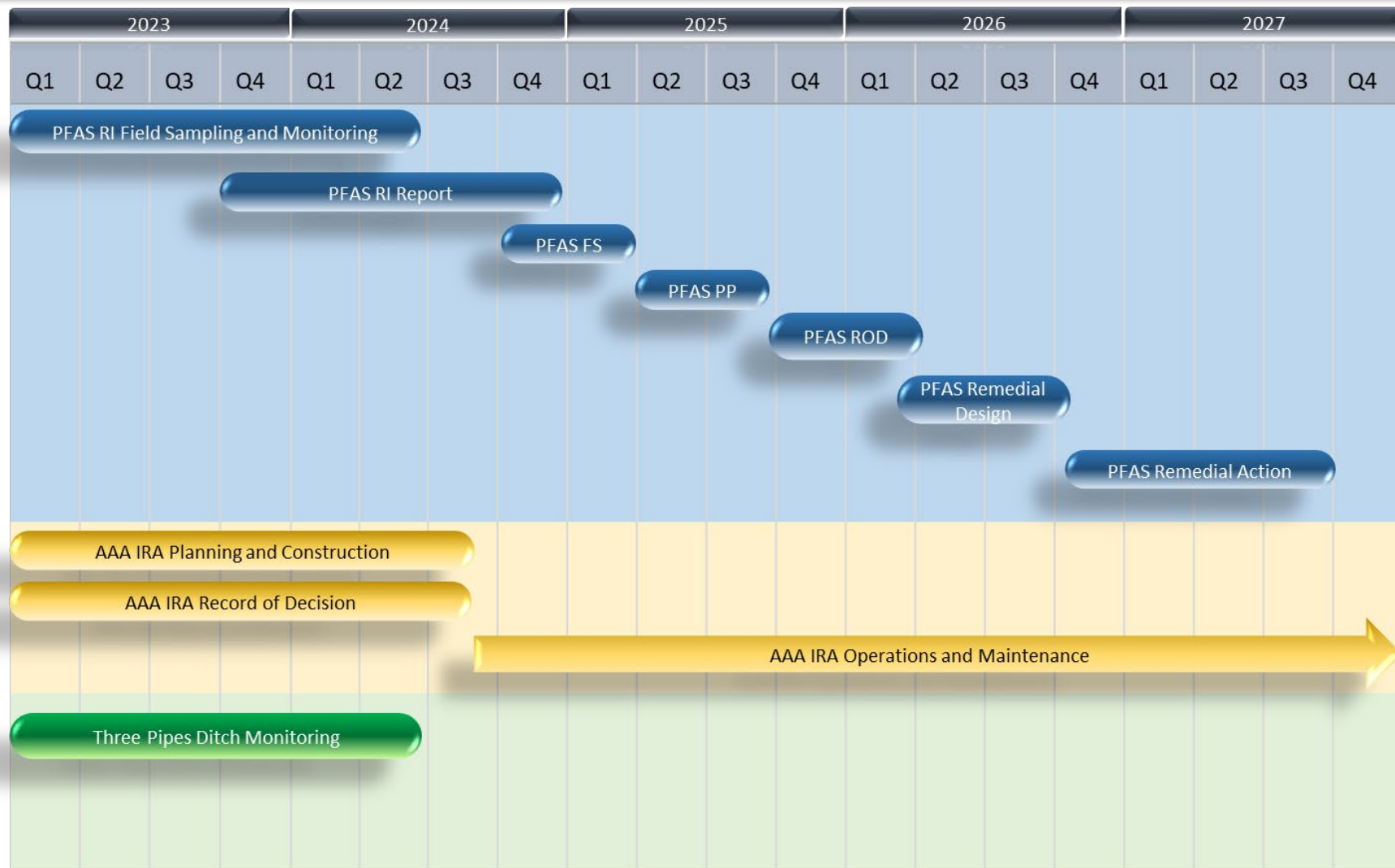


- = PFAS RI Activity
- = AAA IRA Activity
- = Pilot Study Activity

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Five Year Outlook



- = PFAS RI Activity
- = AAA IRA Activity
- = Pilot Study Activity

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Vapor Intrusion (VI) Remedial Investigation (RI) Addendum Update

Former Wurtsmith Air Force Base
Oscoda, MI

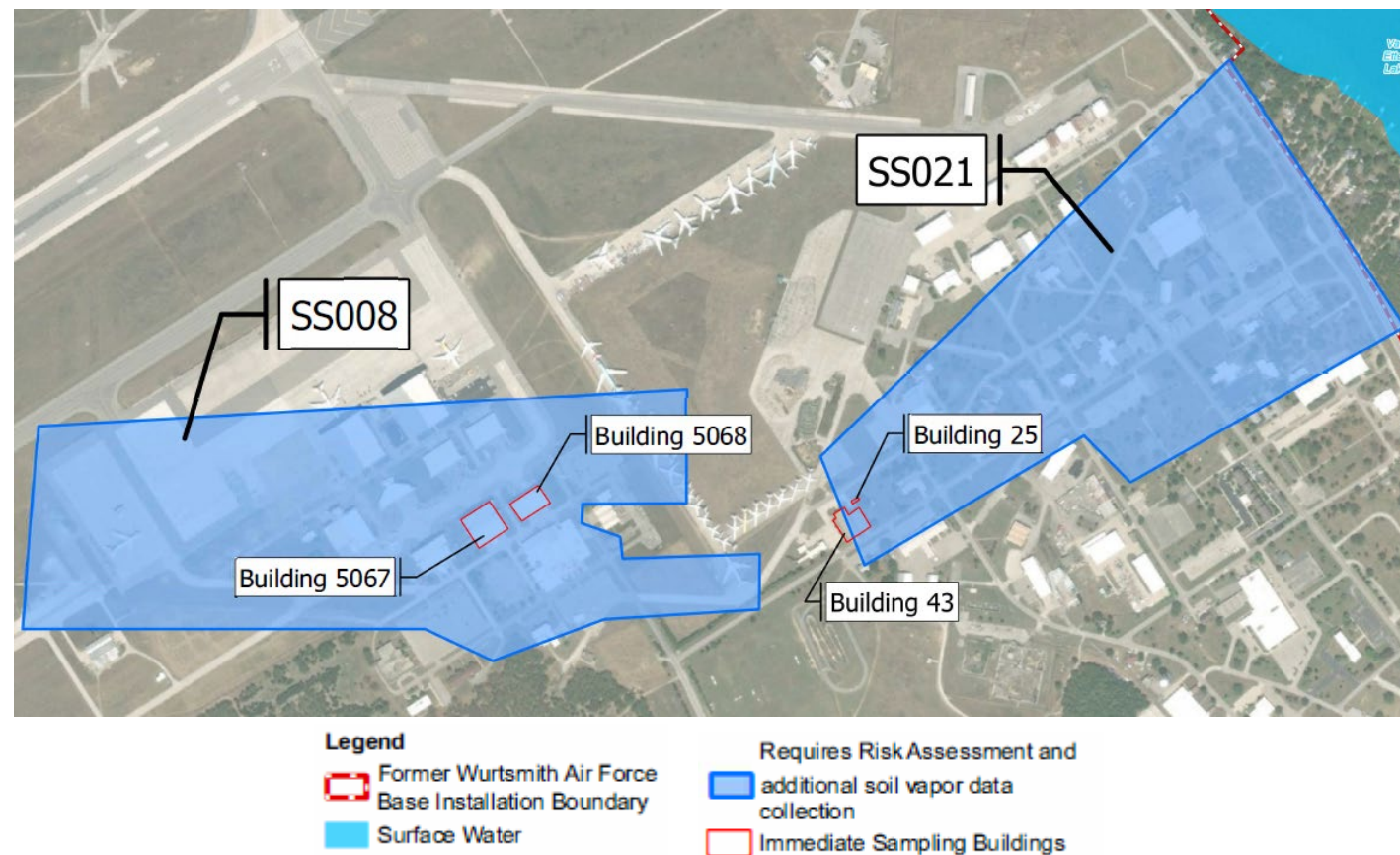
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Update – VI RI Immediate Sampling Task



- The Immediate Sampling Task is being performed out in front of the overall VI RI Addendum based on previous sampling results.
- During the Quarter 1 (Q1) August 2023 event, the following activities were completed at Site SS008 (Bldgs. 5067/5068) and Site SS021 (Bldgs. 25/43):
 - Interior Building Surveys
 - Sub-Slab Vapor Pin (VP) installation as follows:
 - Building 25: 2 sub-slab VP locations
 - Building 43: 16 sub-slab VP locations
 - Building 5067: 23 sub-slab VP locations
 - Building 5068: 16 sub-slab VP locations
 - Sub-Slab Samples were collected and analyzed for Volatile Organic Compounds (VOCs) utilizing Method TO-15.



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Update – VI RI Immediate Sampling Task (Contd.)



- The Q1 Summary Report is in the process of being prepared; the results/summary report will be presented to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and the Michigan Department of Health and Human Services (MDHHS) during the 30 November 2023 Base Realignment and Closure (BRAC) Cleanup Team (BCT) Meeting.
- The Q2 sampling event will be completed at the end of November/beginning of December 2023.
- The Q3 and Q4 sampling events are tentatively scheduled for February/March 2024 and May/June 2024, respectively, to conclude one year of monitoring as part of the Immediate Sampling Task.

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Update – Overall VI RI Addendum

- In addition to the Immediate Sampling Task, the Overall VI RI Addendum is in progress.
 - Uniform Federal Policy (UFP)-Quality Assurance Project Plan (QAPP) Addendum status:
 - The Draft Final UFP-QAPP was submitted to EGLE on 22 June 2023.
 - EGLE comments were received 22 September 2023.
 - Responses to EGLE comments are in progress.
 - Anticipate Final UFP-QAPP in Q4 2023.
 - Upcoming VI RI Addendum Field Activities:
 - Phase 1 - Passive Soil Gas (PSG) Sampling planned for Spring 2024.



Overview of VI RI Addendum Project Timeline



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PFAS Sources Other Than AFFF at Multiple AFCEC BRAC Installations Former Wurtsmith AFB

Craig Johnson
Senior Project Manager
EA Engineering, Science, and Technology, Inc., PBC
8 Nov 2023

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The Team



- **U.S. Army Corps of Engineers (USACE), Omaha District**
- **Air Force Civil Engineer Center (AFCEC) – BRAC**
- **EA Engineering, Science, and Technology, Inc., (performance-based contract to USACE)**

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Project Objectives

- Determine whether and where potential sources of PFAS other than AFFF, were stored, handled, used or released
- Identify if a potential PFAS release poses little or no potential threat to human health and the environment from potential a PFAS release that warrants further investigation

Project Constraints:

- Lack of chemical and material content information for PFAS in product safety data sheets
- Limited knowledge of base operations due to 1993 closure

USEPA, Federal Facilities Remedial Preliminary Assessment Summary Guide July 21, 2005; Office of the Assistant Secretary of Defense for Energy, Installations, and Environment, Report on Critical Per- and Polyfluoroalkyl Substance Uses, August 2023; Gaines, USEPA, Historical and current usage of per- and polyfluoroalkyl substances (PFAS): A literature review, December 2021

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Project Tasks



- **Conduct historical records search of documents such as Environmental Baseline Surveys**
- **Interview personnel familiar with the history and operations of the base**
- **Determine if potential or identified releases of PFAS due to DAF activities require additional investigation**
- **Prepare research reports for each BRAC installation (estimated completion by February 2025)**



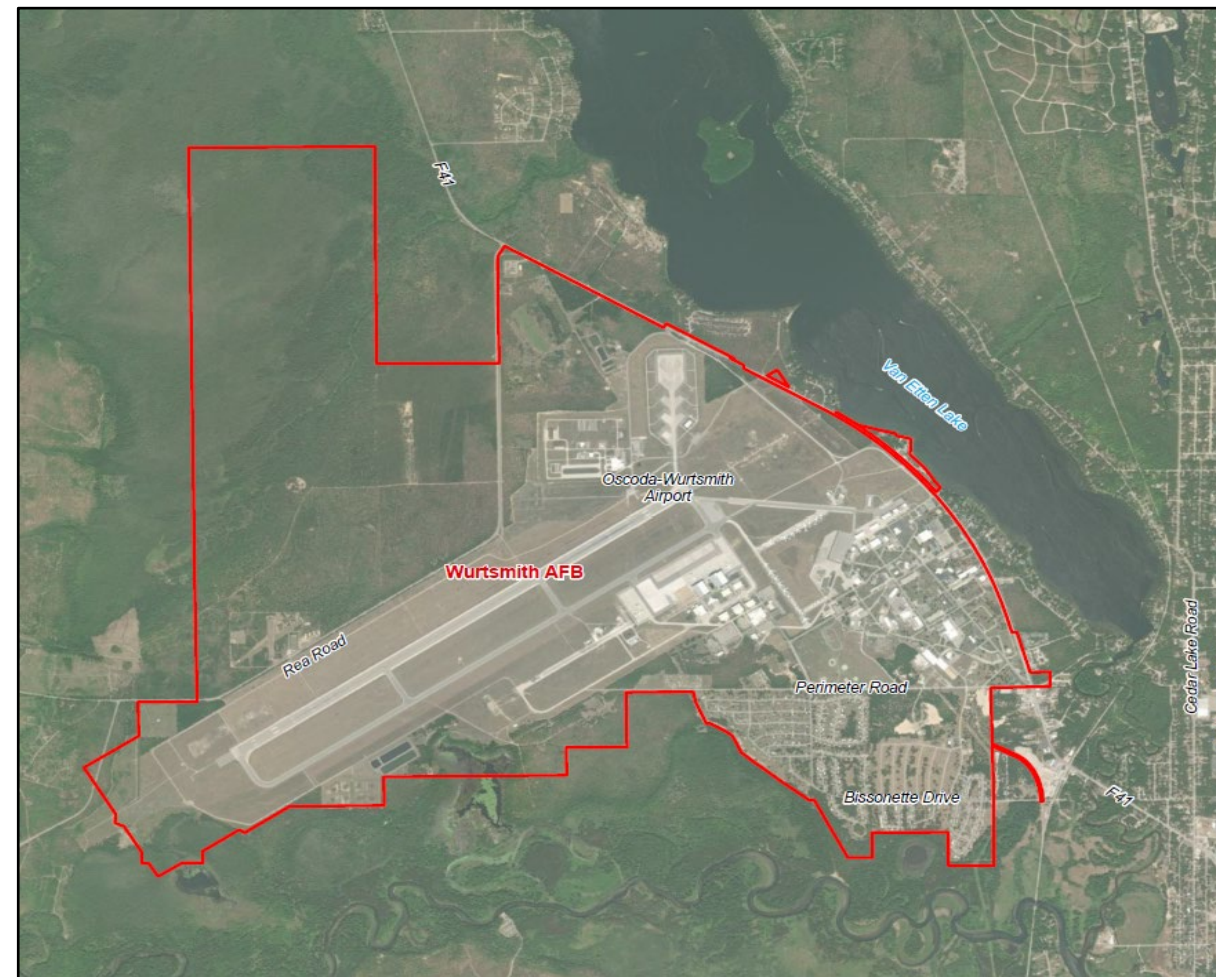
Former Wurtsmith AFB Research Summary



- Over 1,230 shops/locations within Former Wurtsmith AFB footprint
- 7 documents evaluated
- 8 interviews conducted

Assessing former shops, processes, and products purchased by DAF that potentially contained PFAS from as early as 1950*

*Plunket 1986, Funderburg 2010



Former Wurtsmith AFB, Michigan

— Installation Boundary

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Former Shops, Processes and Products with Potential PFAS



- Records search and interview focus is to
 - Determine former shops and processes that used products potentially containing PFAS
 - Identify discharges and material disposition

Former Shops/Building	Processes	Product with Potential PFAS
Automotive/hobby	Descaling/cleaning parts Lubricating maintenance	Defoamers; perfluoroalkyl; fluorochemicals
Motor Pool	Descaling/cleaning parts Lubricating maintenance	Defoamers; perfluoroalkyl; fluorochemicals
Aircraft Maintenance Hangar	Descaling/cleaning parts Lubricating maintenance	Defoamer; perfluoroalkyls; fluorochemicals
Non-Destructive Inspection (may include maintenance shops such as survival inspection shop, munitions and maintenance shop, where applicable)	Descaling/cleaning parts Applying repellents and surfactants	Defoamers; fluorotelomer
Corrosion Control Body Shop	Descaling/cleaning parts Applying repellents and surfactants	Defoamers; fluorotelomer
Paint stations/booths (automotive and airplane)	Descaling/cleaning parts Applying repellents and surfactants	Defoamers; fluorotelomer
Chrome plating	Finishing, plating, and restoring metals	Fumetrol/Mist Suppressant
Electroplating	Finishing, plating, and restoring metals	Fumetrol/Mist Suppressant
Metal plating and etching	Finishing, plating, and restoring metals	Fumetrol/Mist Suppressant
Housing/dormitory	Cleaning carpet/floors	Defoamer
Mess hall and other buildings	Cleaning carpet/floors	Defoamer
Laundry/ housing laundry/ dormitory laundry	Washing/finishing	Defoamer; water repellents
Carwash	Washing/finishing	Defoamer; water repellents
Parachute/survival equipment	Washing/finishing	Defoamer; water repellents
Housing/buildings/fuel bulk terminal and fuel dispensing with fire suppression systems (excludes AFFF)	Fire extinguishing	Fluoroalkyl surfactant/Fluorosurfactant
Wastewater Treatment Plant	Collecting and Treating sewage	Defoamer; PFAS containing waste
Entomology shop	Storing, mixing, applying Pesticides/Herbicides	PFAS polymers, fluorotelomers
Grounds/Golf Course Maintenance	Storing, mixing, applying Pesticides/Herbicides	PFAS polymers, fluorotelomers
Various shops (Life support Shops, Mess Hall, Housing/Dormitory, etc.)	Packaging, housing maintenance, removing carpet	Fluorochemical coated packaging and carpets

OSD 2023; Gaines, USEPA 2021; Excludes closed military ranges addressed under the BRAC Military Munitions Response Program (MMRP) (DoD 2021; JOCG 2020), X-ray film was recovered and turned-in under the Precious Metal Recovery Program. https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodm/416021m_vol2.PDF#page=25

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Stakeholder Input

- ***Do you have any knowledge of former shops and processes where PFAS products other than AFFF were used on Former Wurtsmith AFB?***
 - **Provide your contact information at the end of the meeting if you have additional information.**

Questions



Point of Contact

BRAC Environmental Coordinator (BEC)

Steve Willis, AFCEC/CIBC

Steven.willis.15@us.af.mil

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RAB

Member

Questions

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Public Comment Period



Guidelines

- 01** | Indicate you want to make a comment (follow guidance)
- 02** | Wait until the facilitator states you can start your comment
- 03** | Three minute time limit
- 04** | RAB members will confer after your comment to see if a follow-up action is needed

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Public Comments

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Conclusion and Adjournment

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