

Air Force Installation & Mission Support Center



Wurtsmith Restoration Advisory Board Meeting

20 Jan 2021
AFCEC/CIB



Checklist for Virtual Participation

- ✓ If you prefer to join audio by phone, please dial the call in number and enter the access code and audio PIN number to enter the meeting. Click the microphone icon on the dialogue box and a drop down menu will give you the option for "computer" or "phone call". Select "phone call" to enter the meeting.
- ✓ RAB Members – mute when not speaking and turn on your video camera if you are able.
- ✓ If necessary, rename yourself by hovering over your name in the "attendees" tab and providing your first and last name
- ✓ Use attendees tools to raise your hand
- ✓ To enable closed captions for language support, use toolbar button
- ✓ Contact the RAB Coordinator with access questions rabcoordinator@aerostar.net



- **Welcome and introduction – Tim Sueltenfuss**
- **Stakeholder and RAB member updates**
 - Air Force update – David Gibson (AFCEC)
 - Updates relevant to the RAB – RAB members
- **Remedial investigation (RI) and interim remedial actions (IRAs) status – Paula Bond**
- **RAB business update**
- **Public comment**
- **Conclusion – RAB Co-Chairs' closing remarks**
- **Adjourn**



RAB Rules

01	Respect one another and maintain an atmosphere of open dialogue and exchange of ideas
02	Use our time together efficiently, wisely and respectfully
03	Speak clearly and succinctly one person at a time; avoid interrupting others
04	Listen and remain open to different points of view
05	Maintain a propensity for progress: prepare, discuss, document and move forward
06	Share information early, openly and honestly
07	Accurately and objectively relay to others the discussions that occur at board meetings



- **Review current members**
- **Approve meeting summary from October 2020**
- **Public comment procedure**
 - To indicate that you'd like to make public comment, please chat the host or email Tim Sueltenfuss
 - 3 minutes per person
- **RAB participation**
 - Indicate you'd like to speak by clicking the blue hand icon or speaking up
 - You may mute and unmute yourself
 - Be patient and kind please
- **Email tech questions to: rabcoordinator@aerostar.net**



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Stakeholder Updates

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- **Fourth 5-Year Review under review at AFCEC**
- **Soil vapor study (VI) underway**
 - Third quarterly samples collected Nov 2020; results pending
 - Report will be prepared after 4 quarters of data are collected (April 2021)
 - Results will determine if further evaluation is required



PFHxS January-November 2020 Summary

MPTS			CTS			FT002		
PFHxS (ng/L)			PFHxS (ng/L)			PFHxS (ng/L)		
Sample Location	Influent	Effluent	Sample Location	Influent	Effluent	Sample Location	Influent	Effluent
MAX	925	4.59	MAX	796	< 4.20	MAX	2010	13.3
MIN	329	<2.00	MIN	611	< 3.33	MIN	1040	1.76
AVERAGE	647	3.89	AVERAGE	725	< 3.89	AVERAGE	1585	4.22

CTS – Central Treatment System
MPTS – Mission Pump and Treat System
ng/L – nanograms per liter
PFHxS – perfluorohexanesulfonic acid



Stakeholder Updates

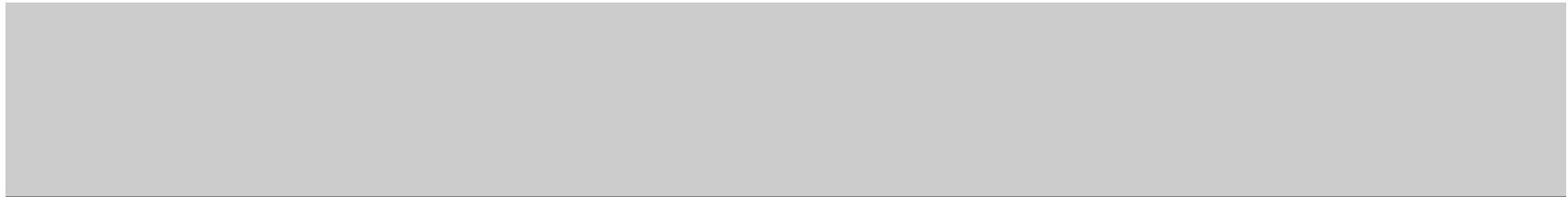
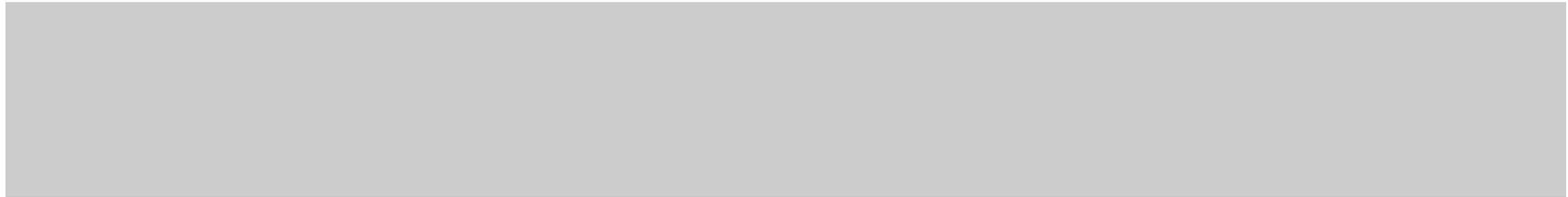
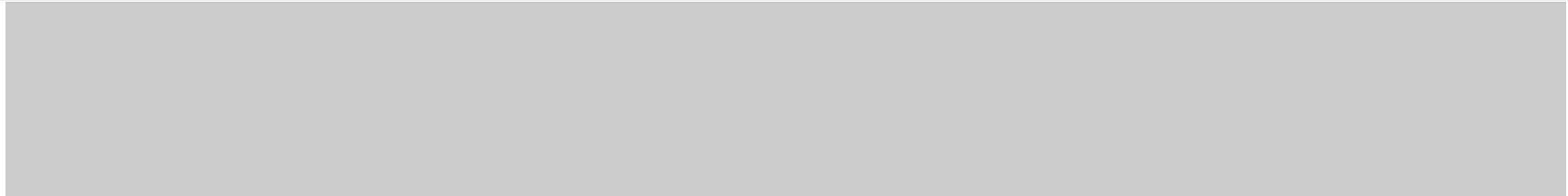


**Community
RAB Members**



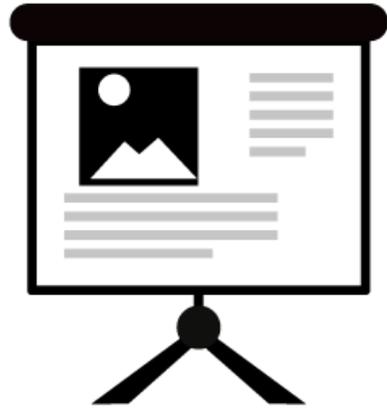


Stakeholder Updates





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Presentation:

**USAF Remedial
Investigation and Interim
Remedial Action Update**

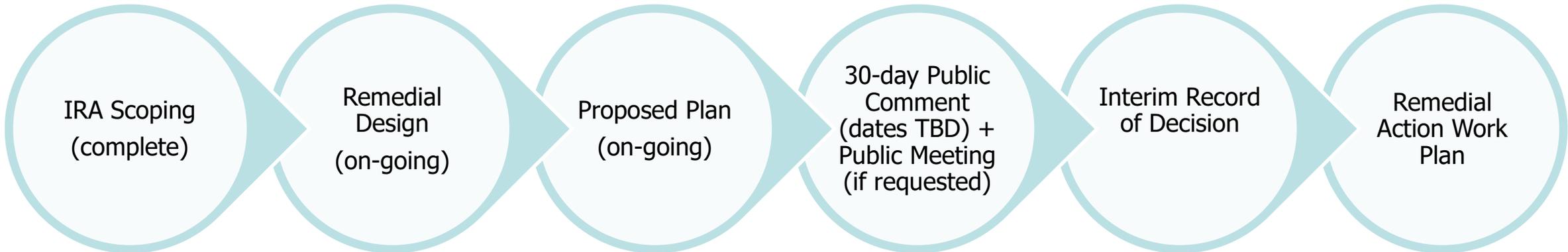


RI and IRA Updates

■ RI Process



■ IRA Process





BCT Scoping Meetings – Update

- **Initial scoping meeting held with EGLE on 20 Aug 20**
- **Interim Remedial Actions meeting held with EGLE on 7 Oct 20**
- **Data Quality Objectives meeting held with EGLE on 15 Oct 20**
- **Risk Assessment meeting held with EGLE on 4 Nov 20**
- **Follow-up data quality objectives (DQOs) and conceptual site model (CSM) meeting with EGLE is scheduled for 25 Jan 21**



- **RI Work Plan (Uniform Federal Policy- Quality Assurance Project Plan)**

- Working Draft is currently under AFCEC review
- Scoping meeting with EGLE is scheduled for 25 January 2021 to discuss the DQOs and CSM

- **Begin preparation for field activities**

- Building subcontracts
- Site access



Interim Remedial Action (IRA) Update

- **Van Etten Lake IRA at Ken Ratliff Memorial Park**
 - 90% design is currently under AFCEC review
- **Clark's Marsh IRA**
 - 90% design is currently being prepared by Aerostar
- **Remedial Action Work Plan**
 - Under development
 - Will include the designs for Van Etten Lake and Clark's Marsh
 - Will be reviewed by EGLE and US Forest Service



Former Wurtsmith AFB RAB **IRA – Proposed Plan Update**



■ **Proposed Plans**

- Clark's Marsh Proposed Plan has been reviewed by EGLE and comments are being addressed by AFCEC
- Van Etten Lake Proposed Plan is currently under AFCEC review
- US Forest Service will also review the Proposed Plans
- 30-day public comment period and a virtual public meeting will be held for each Proposed Plan (if requested)



IRA – Interim Record of Decision (ROD) Update

- **Clark's Marsh Interim ROD will be developed following the public comment period on the Proposed Plan**
- **Van Etten Lake Interim ROD will be developed following the public comment period on the Proposed Plan**



Factors Affecting Start up of IRAs

- **Finalize Project Requirements**
 - Location of new extraction wells
 - New piping runs and utility connections
 - Treatment building infrastructure
 - Treatment system equipment
- **Proposed Plan and Interim ROD review periods**
- **Remedial Action Work Plan review period**
- **Access to non-Air Force property**
- **Weather**
- **COVID-19?**



■ Remedial Investigation

- Complete UFP-QAPP: May 2021
- Start of fieldwork: May 2021
- Target completion of RI report: June 2022

■ Interim Remedial Actions

- Start of designs: September 2020
- Start of installation: June 2021
- Complete installations: February 2022



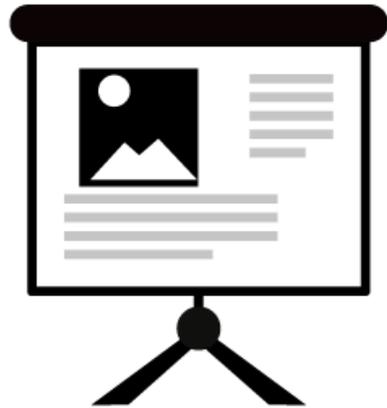
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Questions?



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Presentation:

Installation Restoration
Program Landfill Sites
LF030 and LF031



- ***FPM* Remediations, Inc. (FPM), An Olgoonik Development LLC Company, has been contracted by the Air Force Civil Engineer Center under contract FA8903-18-F-0277 to evaluate alternatives to enhance the current remedy at Installation Restoration Program Landfill Sites LF030 and LF031 at former Wurtsmith Air Force Base (AFB), Michigan. FPM is tasked with preparing the following:**
 - **Preliminary Design for diversion of surface water runoff at Site LF031 (Final 05/2020)**
 - **Feasibility Study for light, non-aqueous phase liquid (LNAPL) treatment at Site LF030/031 (Final 12/2020)**
 - **Explanation of Significant Differences to the Sites LF030/031 Record of Decision (ROD) (Draft under review)**



Former Wurtsmith AFB RAB **LF030/031 Feasibility Study**



■ **Site Background**

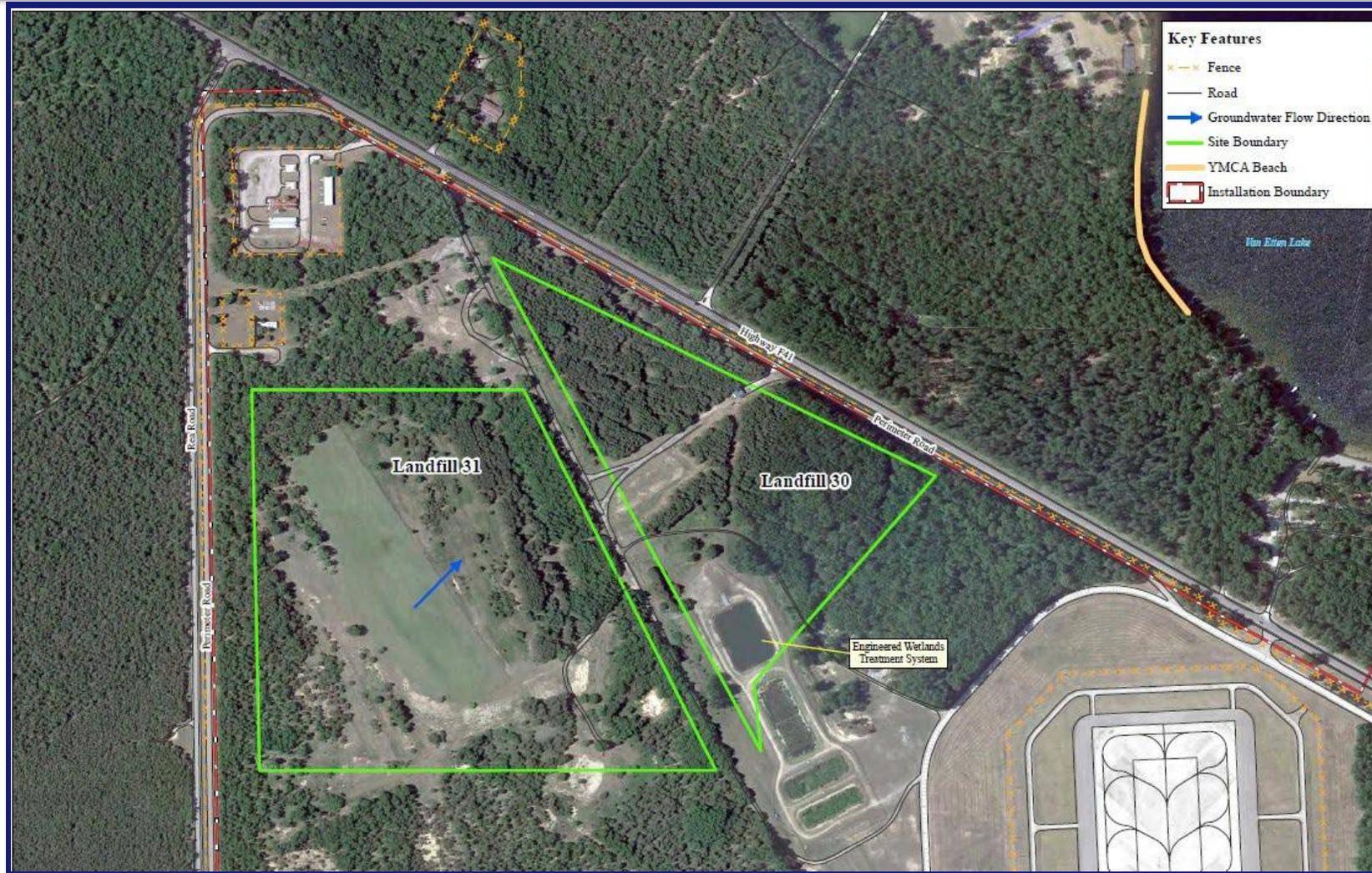
- Landfills LF030/031 are located at northern extent of Former Wurtsmith AFB and operated from 1960 to 1973 and 1973 to 1979, respectively. The landfills received domestic, municipal, and industrial waste as well as construction and demolition debris generated on the Former Wurtsmith AFB.

■ **Preliminary Design for diversion of surface water runoff at Site LF031**

- Submitted 30% design for a drainage ditch to divert surface water to cross gradient locations, away from buried landfill waste. This would reduce the degree of mounding and groundwater contact with buried waste and reduce leachate generation, which exacerbate the iron staining on the Young Men's Christian Association's (YMCA) beach.



Former Wurtsmith AFB RAB LF030/031 Site Location



•Young Men's Christian Association (YMCA)

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Former Wurtsmith AFB RAB LF031 Proposed Drainage Ditch Layout



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Former Wurtsmith AFB RAB **LF030/031 Feasibility Study**



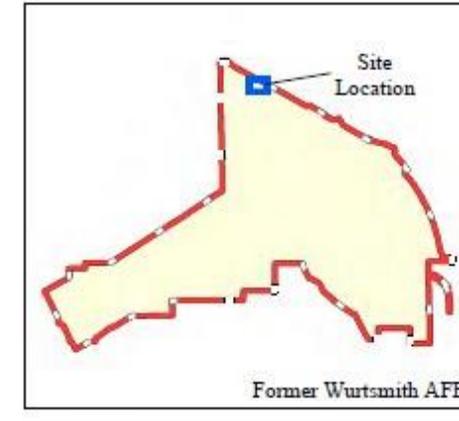
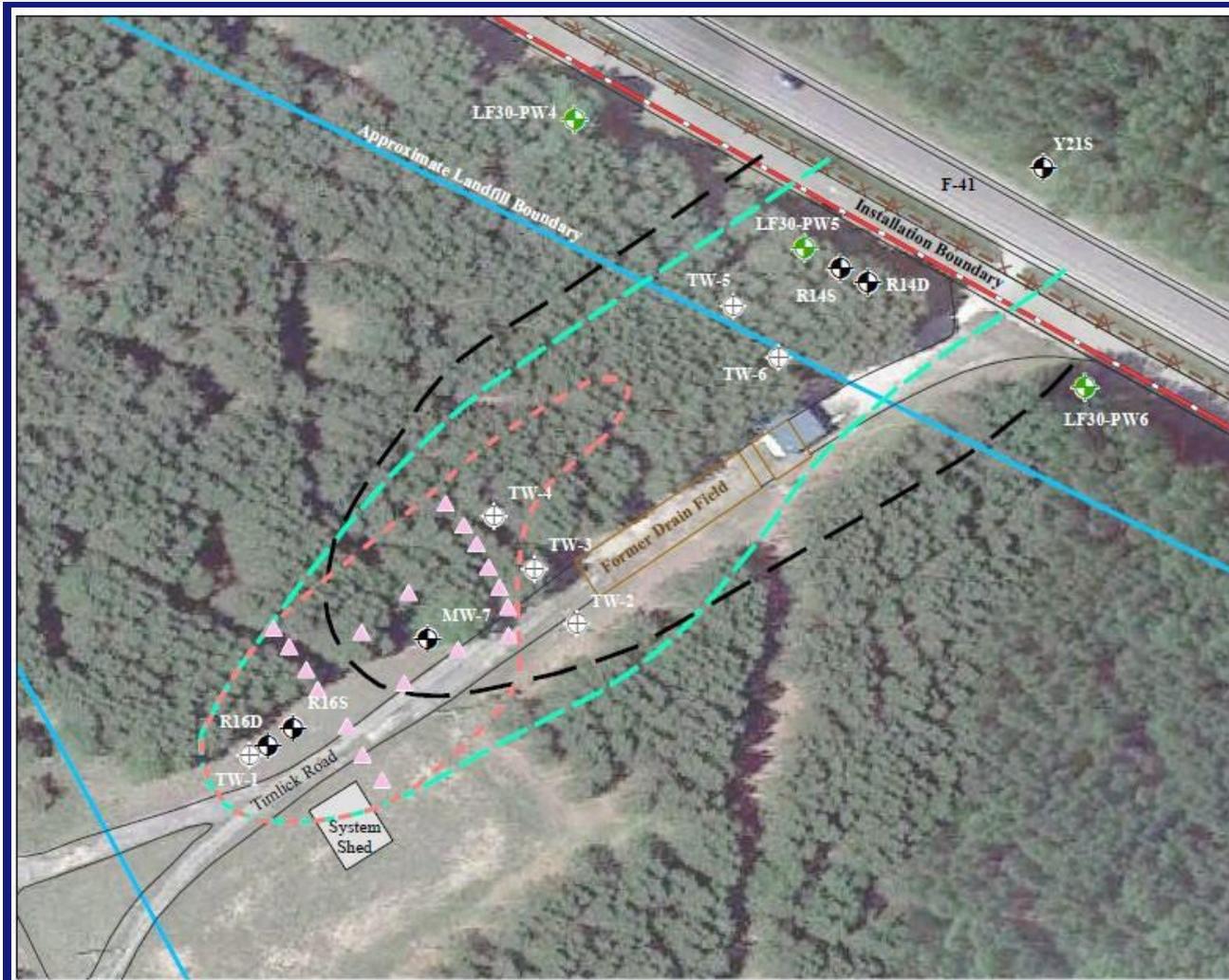
■ **Feasibility Study for LNAPL treatment at Site LF030/031**

- The Feasibility Study identified, evaluated, and screened remedy enhancement options at Installation Restoration Program (IRP) Landfill Sites LF030/031 at former Wurtsmith Air Force Base (AFB), Iosco County, Michigan.
- Four alternatives were evaluated for the LNAPL Area as described in this section. These alternatives include no action, bioventing, air sparging (AS) with soil vapor extraction (SVE), and SVE as a standalone technology.
- Based on the results of the comparative analysis, bioventing is recommended as the preferred alternative. This would remediate the dissolved contaminants through aerobic biodegradation processes enhanced by introduction of air (oxygen) into the subsurface.

•Air Force Base (AFB); light, non-aqueous phase liquid (LNAPL)



LF030 Proposed Bioventing System Layout



Key Features

- Bioventing Well
- Monitoring Well
- Temporary Well
- Operating Purge Well
- Soil Contamination (2006)
- Plume Composed of Primarily Fuel-Related VOCs
- Approximate Extent of Soil Contamination Inferred from Visual Observations and Headspace Analysis
- Fence
- Road
- Approximate Landfill Boundary
- System Shed
- Former Drain Field
- Installation Boundary

••Air Force Base (AFB); Semi-Volatile Organic Compounds (VOCs)



Former Wurtsmith AFB RAB **LF030/031 Feasibility Study**



- **Explanation of Significant Differences to the Sites
LF030/031 ROD**
- **AF expects to submit a draft ESD to EGLE for review
in early 2021**

••Record of Decision
(ROD)

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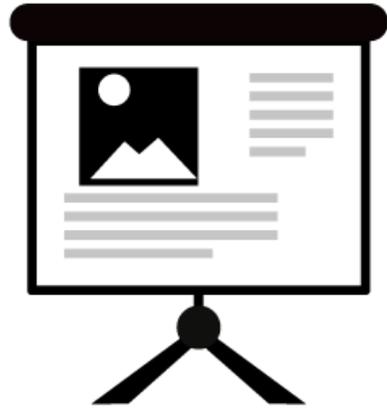
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Questions?



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Presentation:

PERFORMANCE-BASED

REMEDIATION

Wurtsmith AFB PBR Overview



Performance-Based Remediation

- **Bay West LLC & Wood**
- **5-Year PBR Contract (June 2016 to June 2021)**
- **The work under this General Services Administration (GSA) task order includes a full range of environmental remediation activities necessary for Remedial Action Operation (RA-O), Long-Term Management (LTM), remedial actions, optimization, and other activities supporting progress to Site Closeout (SC).**



Installation Restoration Program

- **21 Installation Restoration Program (IRP) sites that are being addressed under CERCLA**

Bay West-Lead Sites	Wood-Lead Sites
FT002, SS005, SS006, OT016, SS017, SS021, LF023, OT024, LF026, LF027, LF030/LF031, SS047, SS051, SS057, ST068, ST069, WP070, SS071, SS072	WP004, SS008, Base Wide Vapor Intrusion (VI) Study



Former Wurtsmith AFB RAB **Remedial Action Operation (RA-O)**



■ **RA-O of Active Groundwater Remediation Systems:**

- Central Treatment System (CTS) captures groundwater from: SS006, SS017, SS021, SS047, and SS057 (Arrow Street and Benzene Plant purge wells);
- Mission Pump and Treatment System (MPTS) captures groundwater from: OT024 (Mission Drive purge wells);
- FT002 PTS captures groundwater from: FT002 & OT016;
- LF030/031 PTS captures groundwater from: LF030 & LF031.



■ **RA-0 of In Situ Groundwater Remediation Systems:**

- SS057 source area biobarrier in support of in situ anaerobic bioremediation (IAB) and downgradient biosparge system;
- FT002 air sparging system;
- Construction of an IAB remedy at FT002 will occur in the spring of 2021.



Former Wurtsmith AFB RAB **Long-Term Management (LTM)**



■ **LTM Activities**

- Annual groundwater sampling of all IRP sites in accordance with approved plans;
- Annual groundwater gauging of > 400 monitoring wells;
- Data compilation and reporting.



Military Munitions Response Program (MMRP)

- **Four MMRP sites which require Land Use Controls (LUCs)**

LUC Sites

SR408 - Bombing and Strafing Area
XE404 - Weapons Storage Area,
XU402 - Former Grenade Range
OT049 - EOD Range

- **LUC Technical Approach:**

- Perform annual LUC inspections/reporting
- Provide biennial training to stakeholders, with the next training in 2021



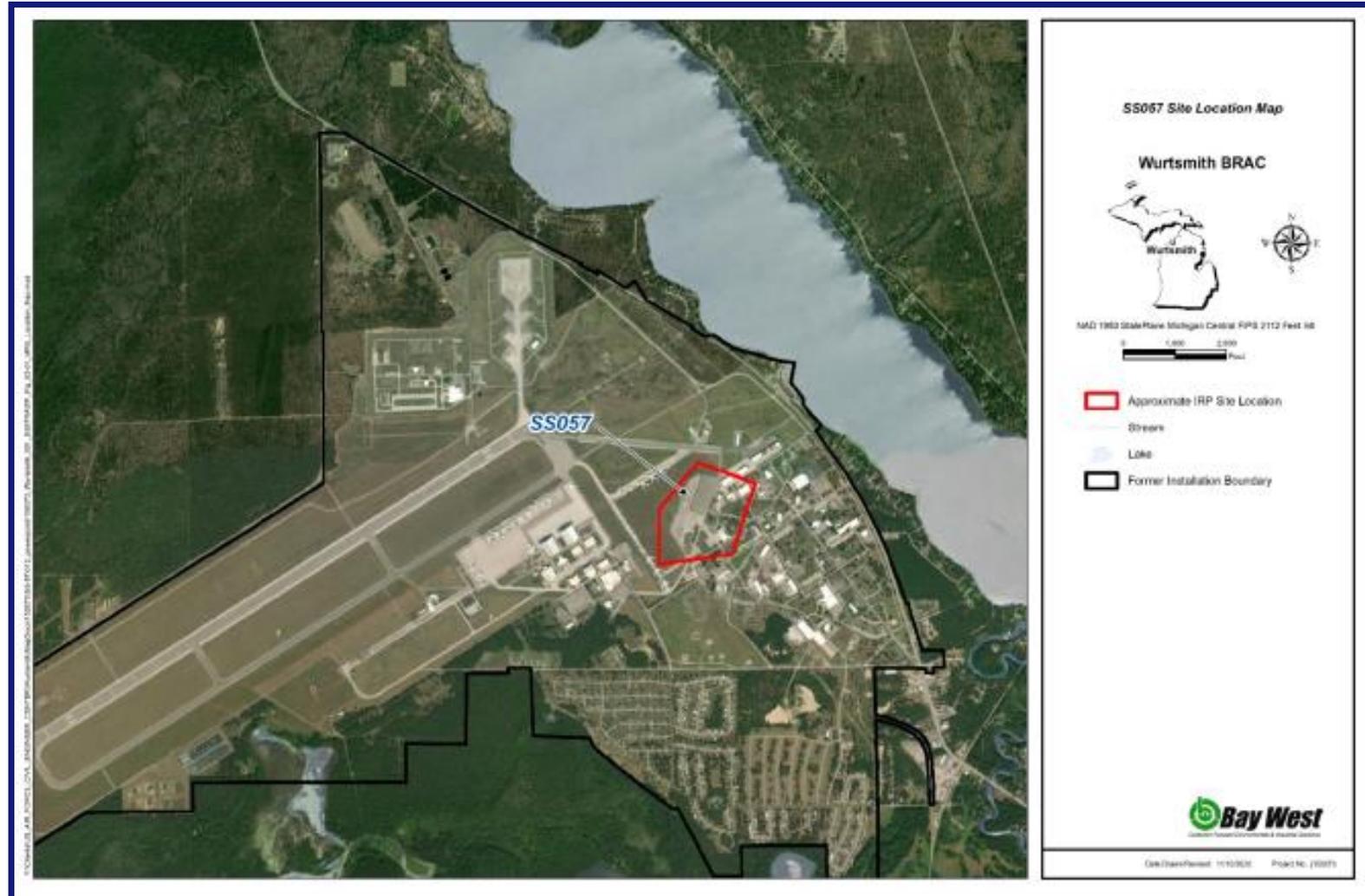
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SS057 In Situ Anaerobic Bioremediation (IAB)



Remedy Implementation and Performance Monitoring



SS057 Old Apron Hydrant Fuel System Site Location





■ **Purpose**

- Supplemental remedy constructed to achieve the Remedial Action Objectives (RAOs) as specified in the Site's Decision Document (DD).
- Remedy constructed as described in the September 2020 Explanation of Significant Differences (ESD) to the Site's DD.



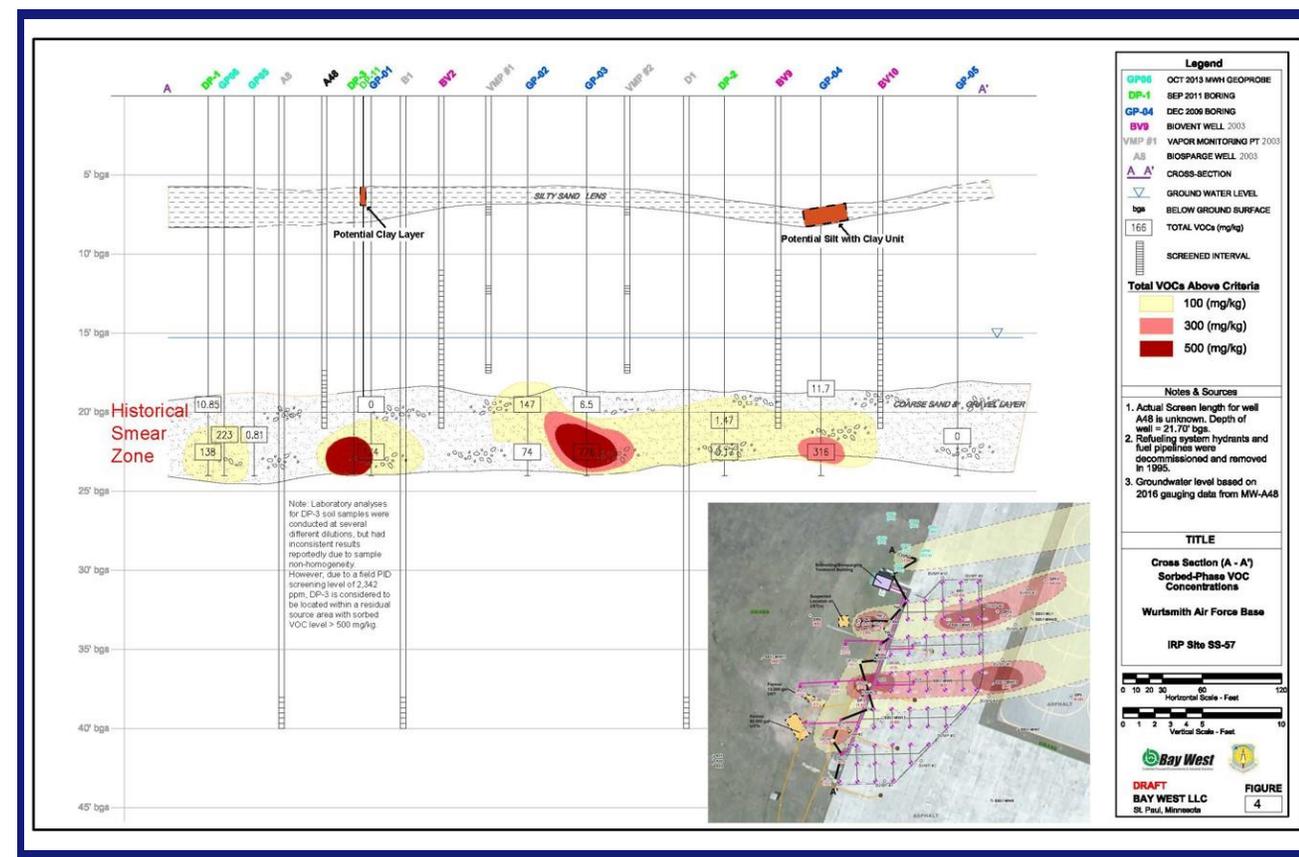
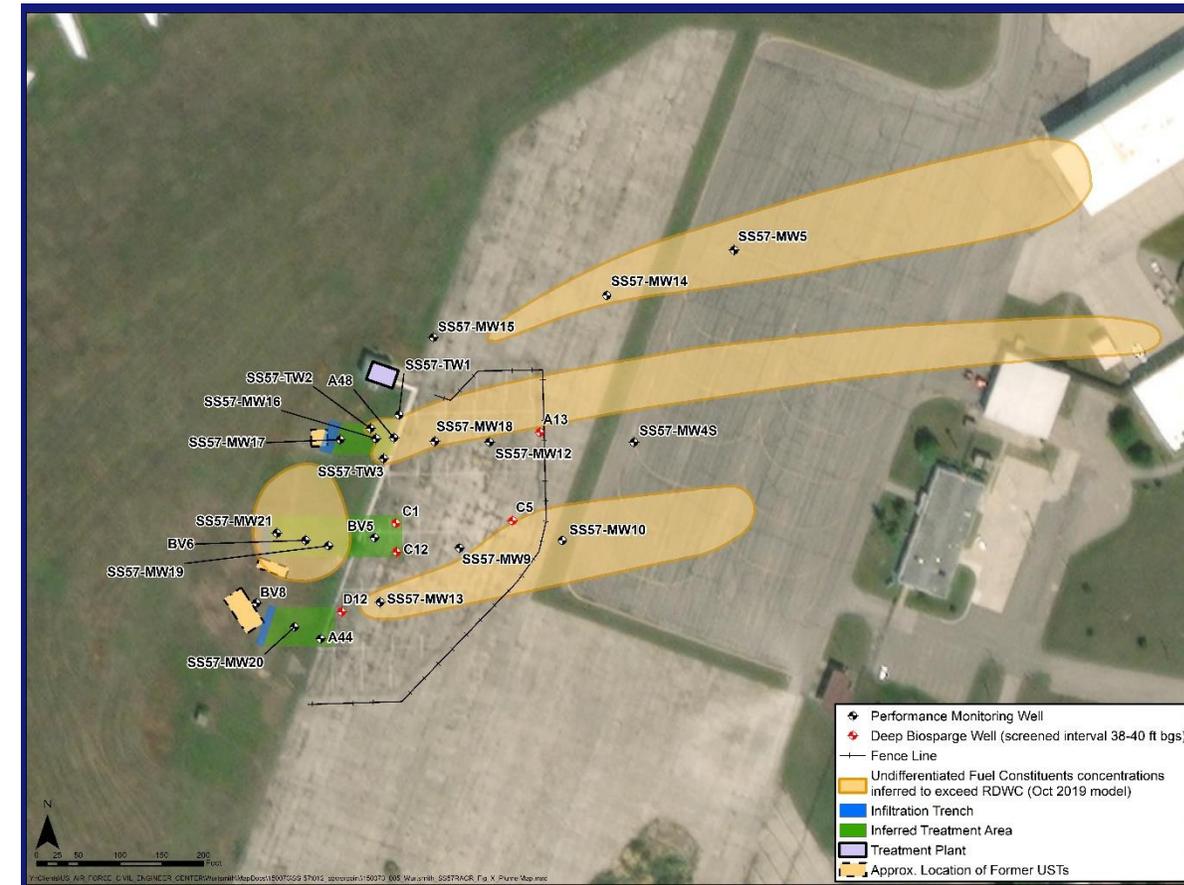
■ Approach:

- **Supply nitrate** to subsurface to stimulate anaerobic biodegradation of fuel constituents adsorbed to subsurface soil and/or dissolved in shallow groundwater
- **Deliver amendment** (nitrate/phosphate) to subsurface via **3 infiltration trenches** at 3 historical source areas upgradient from biosparge and biovent systems footprint
- **Performance Monitoring** conducted to assess effectiveness and guide frequency and duration of IAB remedy applications



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SS057 IAB Site Layout





SS057 IAB Remedy Status

- **September 2019 - IAB Remedy Infrastructure Installed**
- **9 October 2019 - Baseline sampling**
- **IAB Application Events Completed to Date:**
 - 1st - October 2019,
 - 2nd - June 2020,
 - 3rd - November 2020
- **Performance Monitoring Events Completed to Date:**
 - 1st Qtr.– Jan 2020,
 - 2nd Qtr. –April 2020,
 - 3rd Qtr. – July 2020,
 - 4th Qtr. – Oct 2020



Former Wurtsmith AFB RAB 2021 SS057 IAB Project Schedule



- **In Year Two of IAB Treatment, 1st semi annual groundwater performance monitoring event scheduled for Spring 2021.**
- **IAB application event #4: Spring 2021**
 - Date and IAB application program may be adjusted based on Spring 2021 semi-annual performance monitoring results
- **Per the ESD, estimated timeframe to treat the soil: 6 – 7 years after remedy construction.**
- **Per the ESD, estimated timeframe to meet GW cleanup criteria is an additional 28 years after soil treatment period.**



Former Wurtsmith AFB RAB Questions?



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Questions?



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Questions



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RAB Business

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■ **Action Item Review**



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RAB Member Questions

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Public Comment

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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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Conclusion, Adjournment



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