

# RESTORATION ADVISORY BOARD (RAB) MEETING

Former Fort Devens Army Installation  
May 9, 2024



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US Army Corps  
of Engineers

New England District



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# WELCOME!



- This call is being recorded to help develop meeting minutes.
- Unless speaking, please remain on mute to reduce background noise.
- There is time for Q&A, but you can ask a question via the chat box or utilize the raise hand button at any time during the meeting and speakers will respond as time allows.
- If you need to leave the call, click “Leave.”
- Copies of the slides are available for note taking for those attending in-person



**CHAT  
BOX**



**RAISE  
HAND**



**MUTE/  
UNMUTE**



**Leave**



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## Thank you for joining us tonight.

### U.S. Army and Support:

Thomas Lineer  
U.S. Army HQDA/ODCS G-9  
Base Realignment and Closure  
(BRAC) Environmental Coordinator  
(BEC)

Penelope Reddy  
U.S. Army Corps of Engineers  
(USACE) New England District

Dan Groher, P.E.  
USACE New England District

Andy Vitolins, Steve Perry, Dawn  
Penniman, and Amy Henschke  
SERES-Arcadis JV Team

### Regulatory and Other Board Members:

Michael Daly  
Shawn Lowry  
U.S. Environmental Protection  
Agency (USEPA) Region 1

ZaNetta Purnell  
USEPA Community  
Involvement Coordinator

Joanne Dearden  
Massachusetts Department of  
Environmental Protection (MassDEP)

### Community Board Members:

Julie Corenzwit  
Amy McCoy  
Dave McCoy  
Chris Mitchell  
Laurie Nehring: Co-Chair  
Alix Turner: Co-Chair



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# WELCOME!



## Tonight's topics

1

**Project  
Updates &  
Upcoming Work**

2

**Area 1 PFAS  
Phase 2 RI  
Fieldwork**

3

**SHL Arsenic  
Background  
Report**

4

**Community  
Involvement  
& RAB Update**

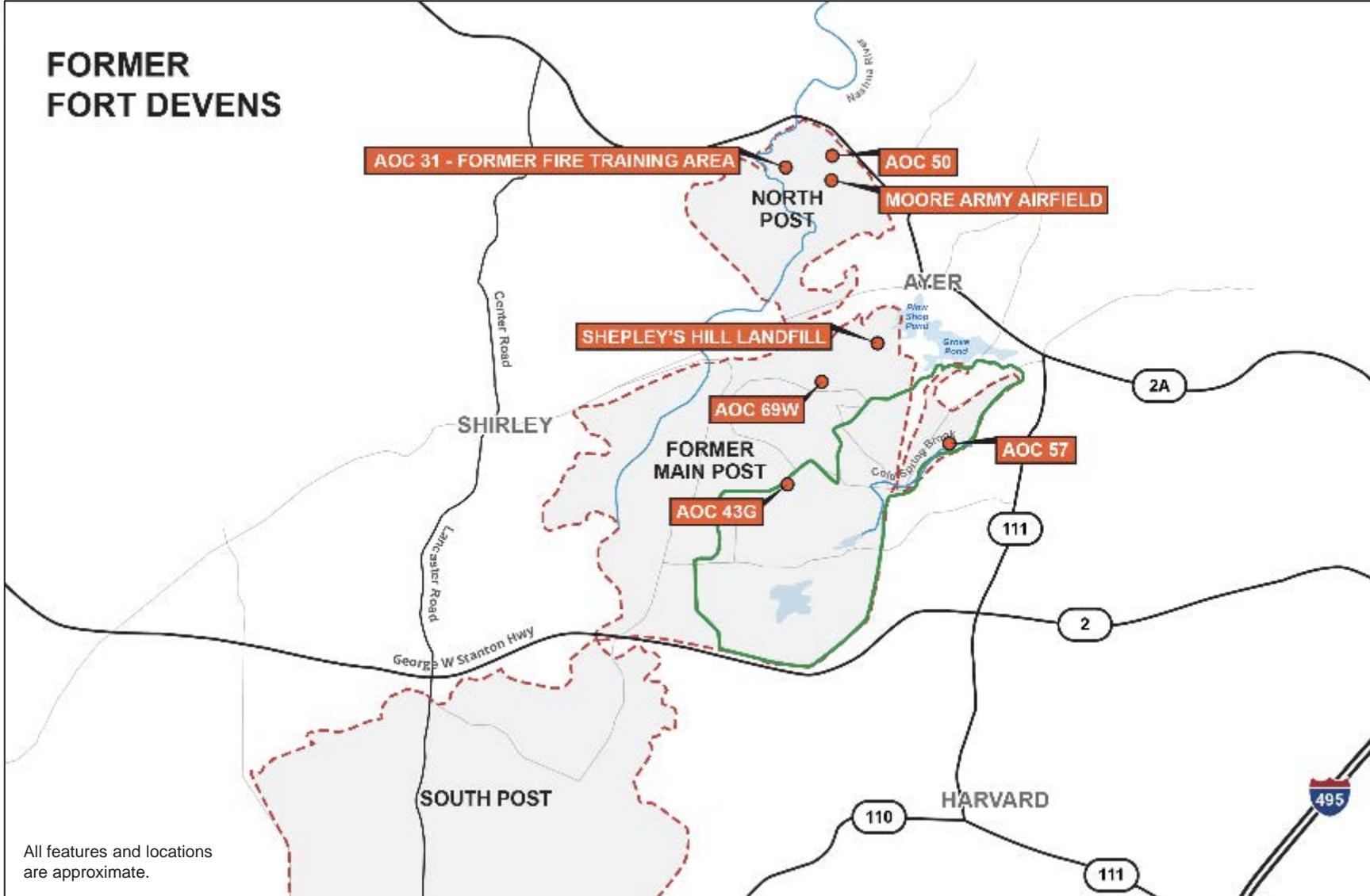
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**Questions  
& Answers**



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# 1 | PROJECT UPDATES & UPCOMING WORK



All features and locations are approximate.

-  Discussion Areas
-  PFAS Area 1
-  Former Fort Devens Boundary



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# 1 | PROJECT UPDATES & UPCOMING WORK



## **Supplemental Post-Record of Decision (ROD) Remedial Investigations (RIs) for Areas of Contamination (AOCs) 69W, 57, and 43G**

- Quarterly groundwater monitoring event completed in February 2024
- One groundwater monitoring event remaining (May 2024)

## **Moore Army Airfield (MAAF) Former Fire Training Area (FFTA) PFAS Pre-RI Data Collection Treatability Study**

- Lysimeter samples collected in February 2024 and April 2024; sampling complete and results pending
- Soil treatability testing results in spring 2024

## **Shepley's Hill Landfill (SHL)**

- Groundwater extraction system operation and maintenance:
  - Arsenic treatment plant (ATP) modifications in place and start-up testing is on-going
  - Third extraction well operation part of startup testing
  - Water level monitoring for hydraulic capture evaluation is ongoing
- Barrier wall evaluation:
  - Results received, pending validation; data evaluation has begun
- Final Focused Feasibility Study submitted March 2024



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# 1 | PROJECT UPDATES & UPCOMING WORK



## **Nashua River Military Munitions Update**

- Analog geophysical survey was initiated April 2024 in accordance with the Munitions Response-Quality Assurance Project Plan (MR-QAPP) Addendum



# 1 | PROJECT UPDATES & UPCOMING WORK



## **Draft Documents Submitted to USEPA and MassDEP Since Last RAB Meeting**

- MR-QAPP, Addendum #1
- Draft Land Use Control Implementation Plan Devens Consolidated Landfill Contributor Sites
- Draft Annual Reports

## **Response to Comments/Revised Documents Submitted to USEPA and MassDEP Since Last RAB Meeting**

- NA

## **Draft Final Documents Sent to RAB for Review Since Last RAB Meeting**

- NA

## **Documents Posted to Website Since Last RAB Meeting**

- Shepley's Hill Landfill Focused Feasibility Study

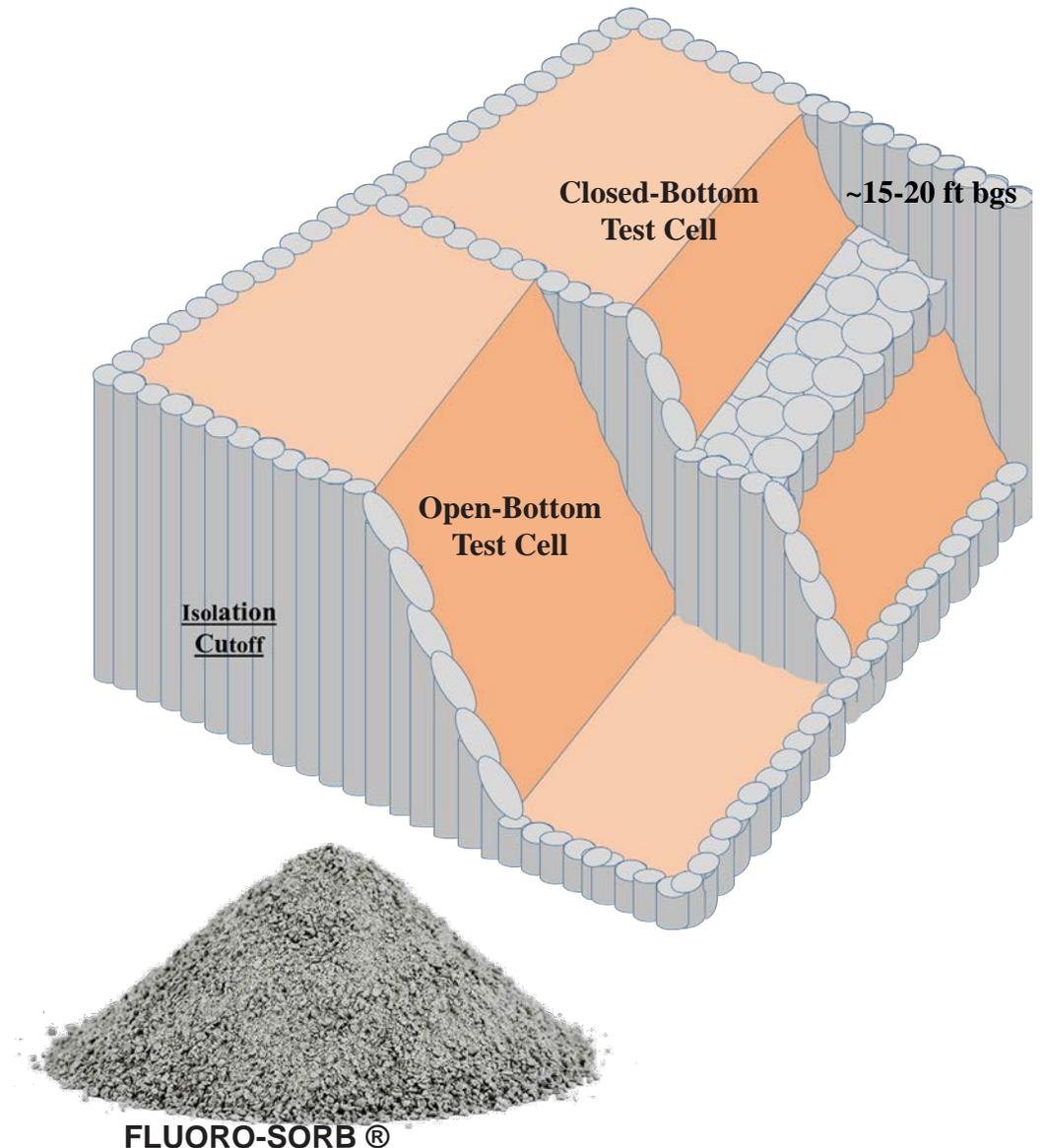
## ESTCP Research Study – Former Fire Training Area (AOC 31 – MAAF)

### Summary

- Study is being conducted by University of Texas.
- Two adjacent cells will be created with FLUORO-SORB® absorbent material using jet-grouting technology.
- The FLUORO-SORB material will act as a filter, capturing PFAS and preventing PFAS from leaching out.
- A bottom element will be installed in one of the two cells. The bottom element will be designed to absorb all the PFAS that is in the soil above it.
- Monitoring will be conducted to demonstrate effectiveness.

### Update

- Work plan under review by ESTCP Technical Review Board.





# 2 | AREA 1 PFAS PHASE 2 RI FIELDWORK



**Phased Approach** – Each step builds upon the previous step to achieve RI objectives

## 1. Initial Phase

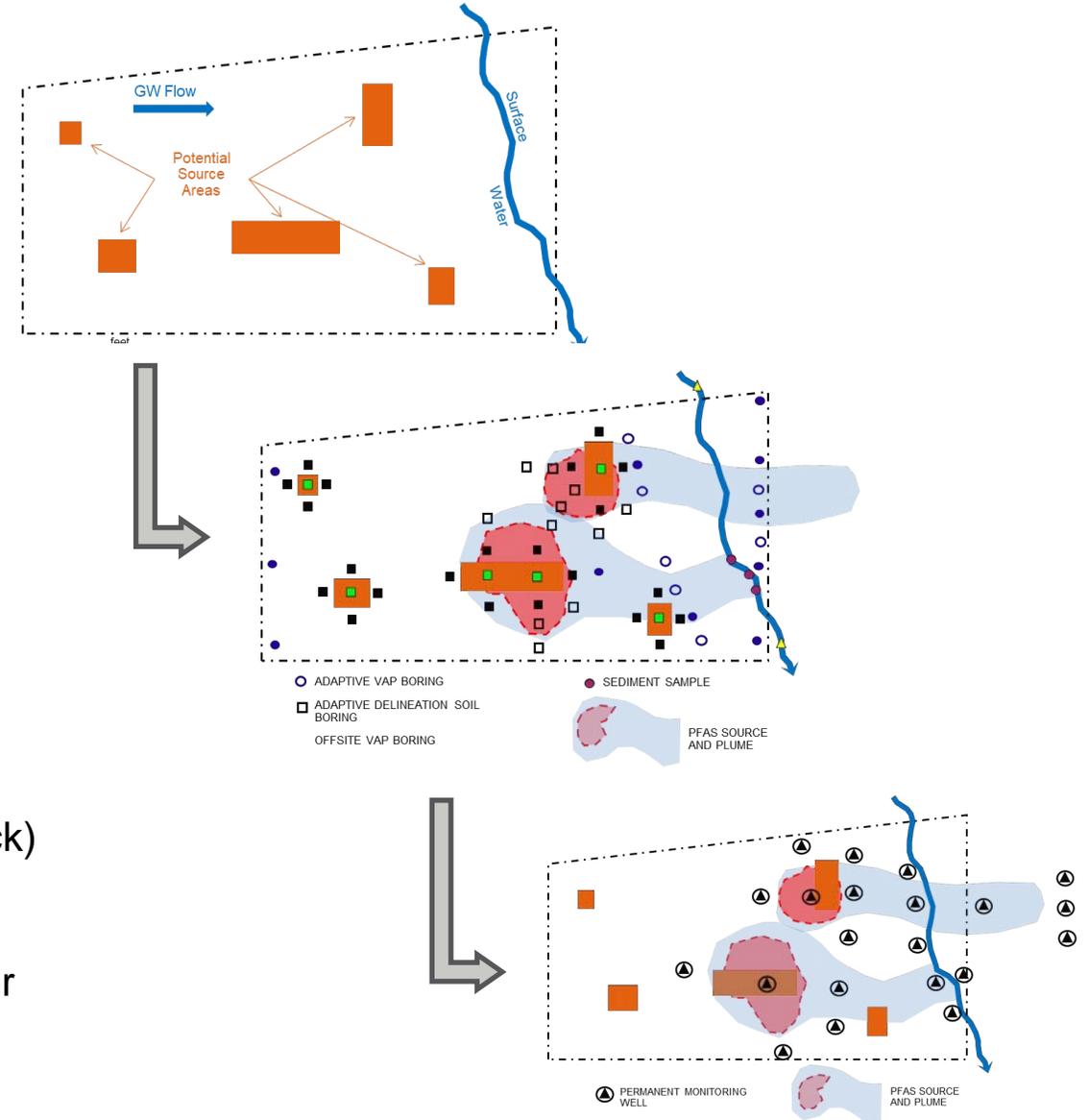
- » Initial investigation of area of impacts and sources—soil borings, vertical aquifer profile (VAP) groundwater samples, surface water sampling, and geophysical investigations

## 2. Adaptive Phase

- » Delineate sources, determine source strength, and define geometry of plume
- » Evaluate potential impacted human and ecological receptors
- » Permanent monitoring wells (overburden and bedrock)

## 3. Final Delineation Phase

- » Monitoring to confirm nature and extent (groundwater and surface water)





# 2 | AREA 1 PFAS PHASE 2 RI FIELDWORK



## Investigation Schedule

### *In Progress*

- Remaining right-of-entry (ROE) agreements
- Utility clearance

### Initial Phase Sampling: Starting May 2024

- Soil sampling: 228 samples from 57 locations
- VAP sampling: 112 samples from 14 locations
- Seismic survey

### Adaptive Phase Sampling: Summer/Fall 2024

- Overburden and bedrock monitoring well installation:
  - 29 overburden monitoring wells
  - 15 bedrock monitoring wells
- Surface water and sediment sampling:
  - 54 surface water samples from 23 locations
  - 8 samples from 8 locations
- Fish tissue sampling:
  - Grove Pond, Plow Shop Pond, Cold Spring Brook, Cold Spring Brook Pond, Mirror Lake, Robbins Pond, and Nashua River
- Groundwater sampling (first round)



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## 2 | AREA 1 PFAS PHASE 2 RI FIELDWORK

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### Investigation Tasks and Anticipated Schedule

1. Seismic survey (May 2024)
2. Direct push soil borings (May-June 2024)
3. Direct push/sonic rig VAP (May – August 2024)
4. Monitoring well installation (bedrock and overburden) (June – November 2024)
5. Groundwater sampling (November 2024)
6. Sediment sampling (August 2024)
7. Surface water sampling (November 2024)
8. Fish tissue sampling (August/September 2024)

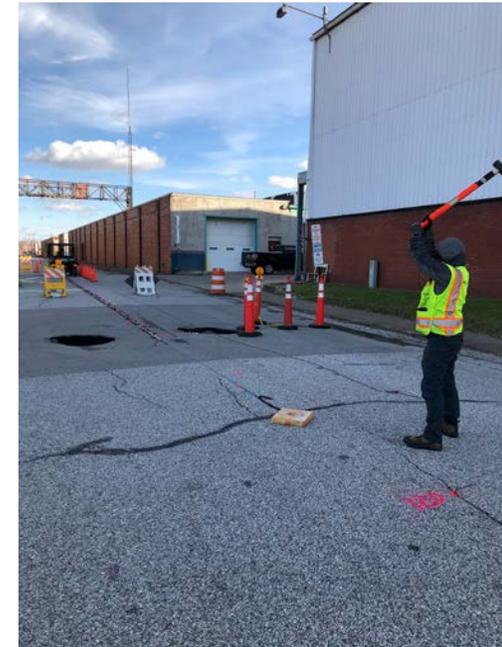


# 2 | AREA 1 PFAS PHASE 2 RI FIELDWORK



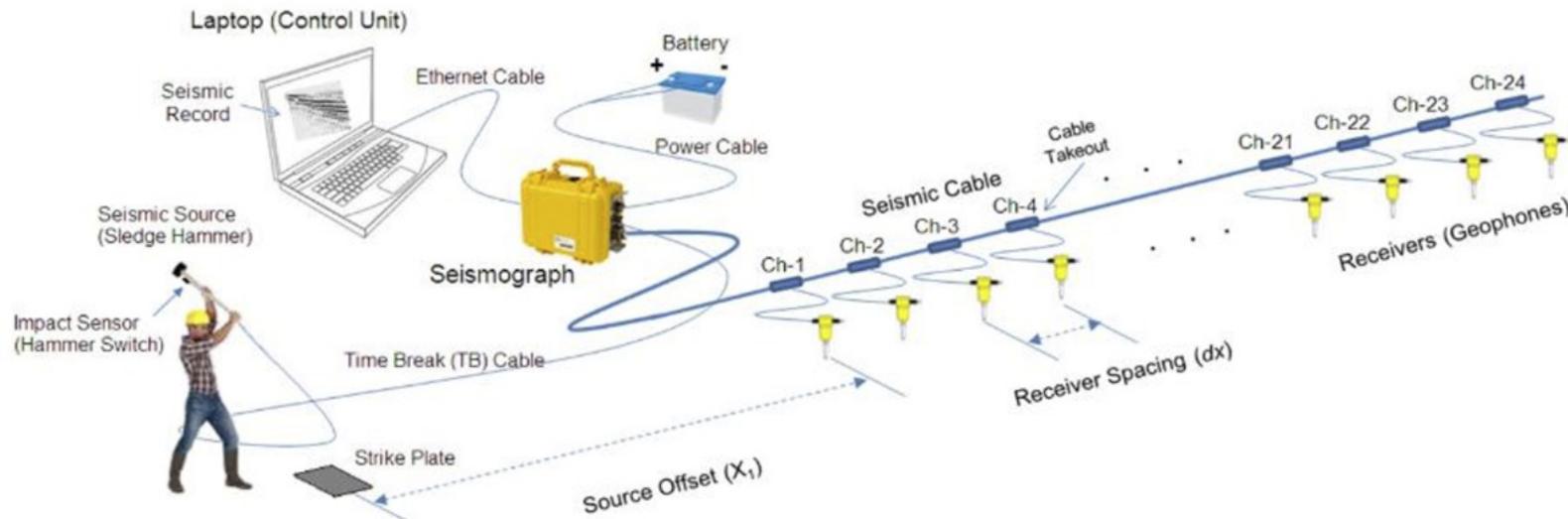
## 1. Seismic Surveying

- Used to obtain additional information on bedrock topography and the depth to bedrock.
- Helps to update bedrock topographic maps and the overall Main Post conceptual site model.



## 1. Seismic Surveying

- A series of receivers (geophones) are laid out in a straight line on the ground surface.
- The receivers are installed on 3-inch metal spikes, which are either driven into the ground or placed on a wooden block (if there is a roadway or paved surface).
- Each line of receivers will be between approximately 900 and 3,000 feet long. Once the receivers are installed, a sledgehammer or truck-mounted weight is used to strike a metal plate adjacent to the receivers. This generates a seismic “wave,” which is measured by the receivers.
- The process is minimally intrusive and is anticipated to take less than 2 days to complete at each location.





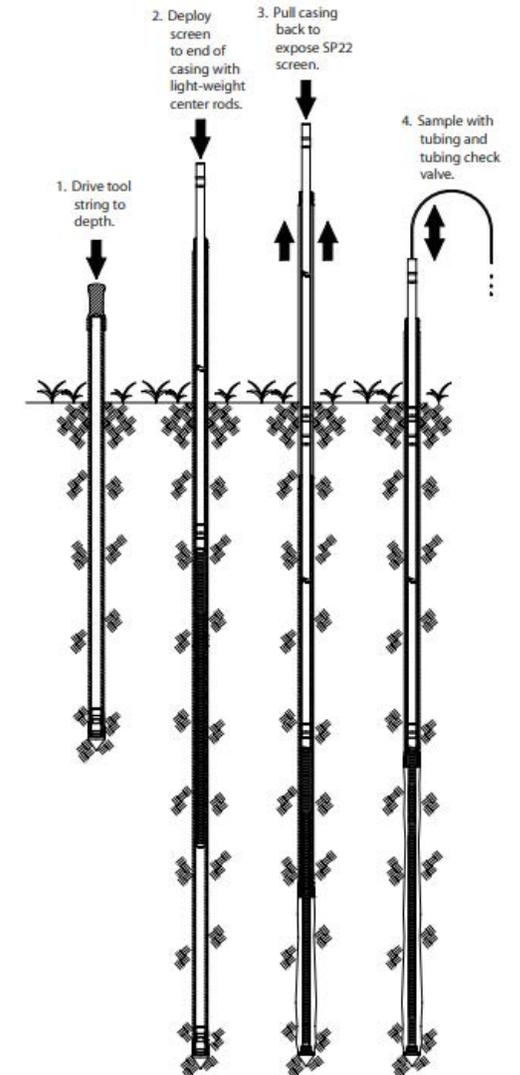


# 2 | AREA 1 PFAS PHASE 2 RI FIELDWORK



## 3. Direct Push/Sonic Rig VAP

- An environmental drilling rig is used to drill VAP borings.
- Top-down VAP sampling involves advancing dual-tube direct push casing with either a solid drive tip (without collecting soil cores) or a plastic liner for soil core retrieval from target depth interval.
- Sample is collected from the desired depth.
- Process is repeated to collect additional samples at deeper depths.





# 2 | AREA 1 PFAS PHASE 2 RI FIELDWORK



## 4. Bedrock Drilling and Well Installation

- An environmental drilling rig will be used to drill and install permanent groundwater monitoring wells, including bedrock groundwater monitoring wells.
- Monitoring wells will be installed in the overburden and bedrock for subsequent groundwater sampling.

Rig pushes drill rods into the ground to remove soil/rock



PVC pipe is installed to create the well



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## 2 | AREA 1 PFAS PHASE 2 RI FIELDWORK

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### 5. Groundwater Sampling

- Groundwater is purged from monitoring wells using a pump.
- Water level is checked to ensure the flow rate is correct and water quality is measured every 3 to 5 minutes until the well is stabilized.
- The well is considered stabilized and ready for sample collection when:
  - » **Turbidity** - within  $\pm 10\%$  for values greater than 5 nephelometric turbidity units (NTUs) or if three turbidity values are less than 5 NTUs, consider the values stabilized
  - » **Dissolved oxygen (DO)** - within  $\pm 10\%$  for values greater than 0.5 mg/L or if three DO values are less than 0.5 mg/L, consider the values stabilized
  - » **Specific conductance** - within  $\pm 3\%$
  - » **Temperature** - within  $\pm 3\%$
  - » **pH within** -  $\pm 0.1$  unit
  - » **Oxidation/reduction potential (ORP)** - within  $\pm 10$  millivolts (mV)





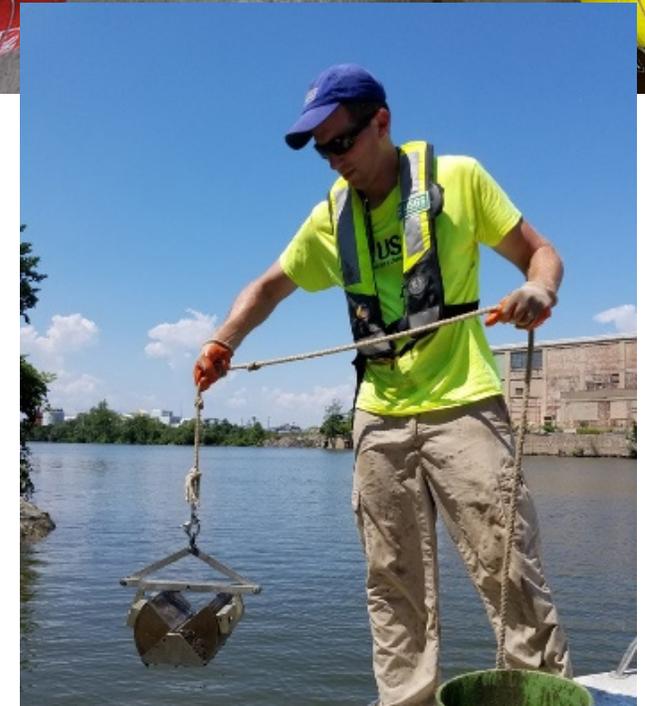
# 2 | AREA 1 PFAS PHASE 2 RI FIELDWORK



## 6. Sediment Sampling

Sediment samples are collected by one of the following methods:

- **Hand-held scoop or trowel:**
  - » Shallow water depth (e.g., < 2 feet) nearshore
  - » Stainless steel scoop or trowel lowered downward through the water column until it reaches the bottom
- **Push core:**
  - » Deeper water depth (e.g., > 2 feet) offshore
  - » Tube pushed into the sediment and capped to collect sample
- **Petite Ponar grab sampler:**
  - » Deeper water offshore with coarse sediment or hard bottom
  - » Stainless steel sampler is dredged along the bottom





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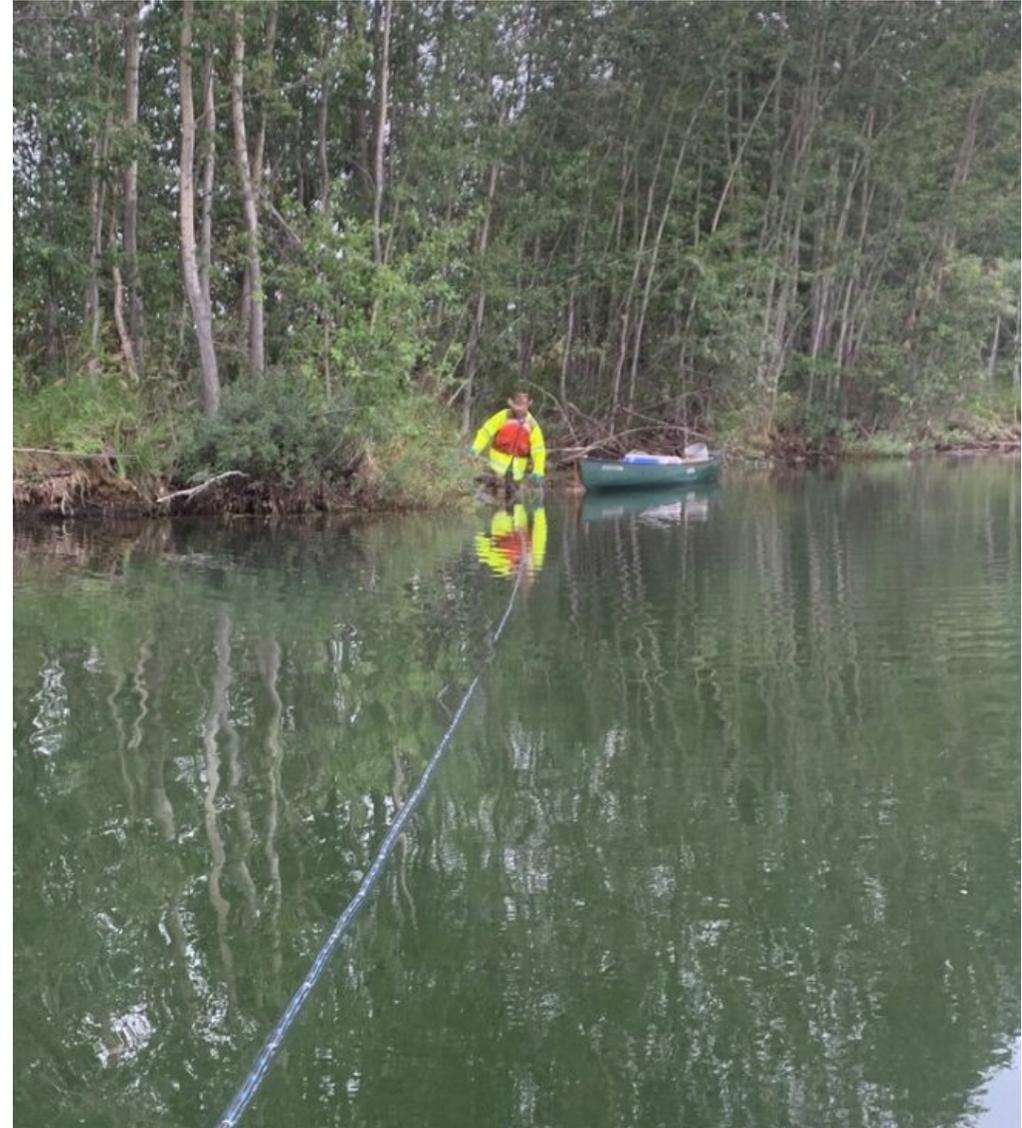
## 2 | AREA 1 PFAS PHASE 2 RI FIELDWORK

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### 7. Surface Water Sampling

- **Shallow surface water (0.5 – 1 feet):**
  - » Water is pumped through plastic tubing attached to a stainless-steel rod
  - » Sample is collected in plastic bottle
- **Deeper surface water (> 1 feet):**
  - » Sample bottle is lowered to desired sample depth to collect sample





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## 2 | AREA 1 PFAS PHASE 2 RI FIELDWORK

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### 8. Fish Tissue Sampling

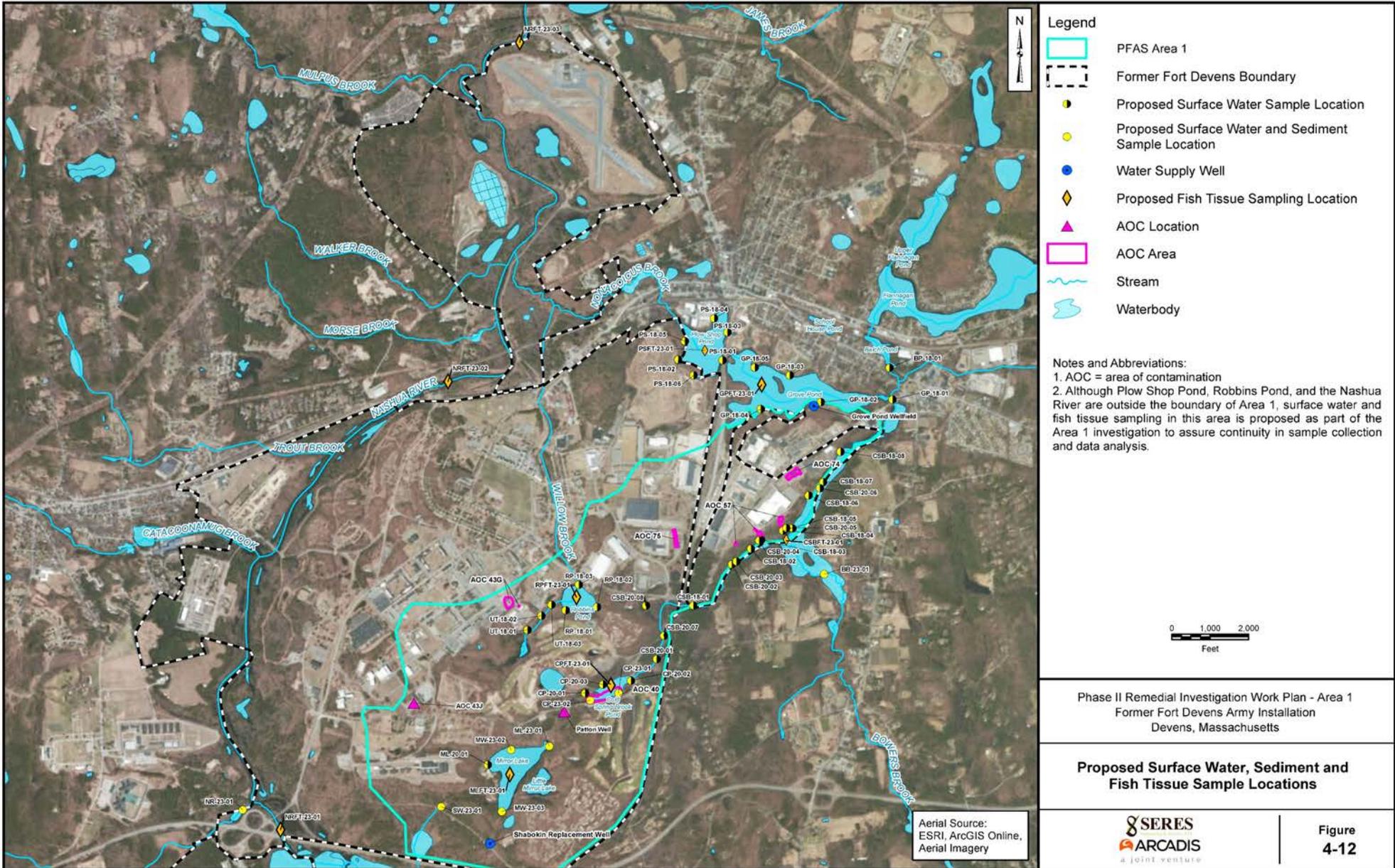
- Fish tissue samples will be collected and analyzed to evaluate potential angler exposure via fish consumption.
- Analysis will be conducted on the edible portion of the fish (filet).
- Sampling methods may include electrofishing, seining, gillnetting, trap netting, or angling.
- Samples to be collected from:
  - » Grove Pond
  - » Plow Shop Pond
  - » Cold Spring Brook
  - » Cold Spring Brook Pond
  - » Mirror Lake
  - » Robbins Pond
  - » Nashua River





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# 2 | AREA 1 PFAS PHASE 2 RI FIELDWORK





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# 3 | SHL ARSENIC BACKGROUND REPORT



- Required by USEPA as part of the Scope of Work for the 2016 Informal Dispute Resolution for the SHL remedy.
  - » Scope of work listed specific wells to be included in the analysis (overburden and bedrock).
- Tasks included:
  - » Preparation of work plan
  - » Review of regional background arsenic concentrations
  - » Review of data collected from 2014 to 2019
  - » Collection of additional data as needed for statistical significance (four quarters of groundwater sampling; completed in 2022)
  - » Evaluation of background concentrations using USEPA guidance for statistical analysis
- Draft report submitted in November 2022. USEPA comments received in March 2023.
- Results indicate that arsenic background concentrations in overburden and bedrock are greater than the USEPA maximum contaminant level of 10 µg/L.
  - » Statistically significant difference between calculated background concentrations of arsenic in overburden (198 µg/L) and bedrock (7,839 µg/L)



# 4 | COMMUNITY INVOLVEMENT & RAB UPDATE



Increased RAB public outreach efforts to raise awareness of meetings and activities



Community update fact sheet distributed on May 3, 2024



Digital AR continues to be populated with project documents; website updates are in progress



The next quarterly RAB meeting will be August 8, 2024 **(Virtual)**

The Community Involvement Plan (CIP) and other information is available on the Fort Devens Environmental Cleanup website at:

<https://www.nae.usace.army.mil/missions/projects-topics/former-fort-devens-environmental-cleanup/>

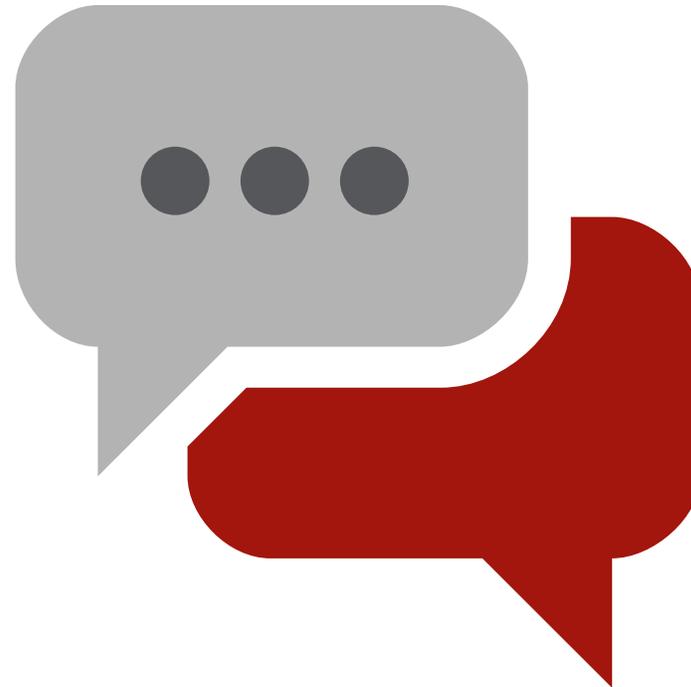
Digital Administrative Record (AR) link is now live, and documents are being uploaded. Initial documents are available at:

<https://www.nae.usace.army.mil/Missions/Projects-Topics/Former-Fort-Devens-Environmental-Cleanup/Administrative-Record/>



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# 5 | QUESTIONS & ANSWERS





**THANK YOU!**  
**YOUR PARTICIPATION IS APPRECIATED!**

**NEXT RAB MEETING IS:**  
**AUGUST 8, 2024**

**(Second Thursday of the month)**