



DEPARTMENT OF THE AIR FORCE

20th FIGHTER WING (ACC)
SHAW AIR FORCE BASE SOUTH CAROLINA

MEMORANDUM FOR RESTORATION ADVISORY BOARD (RAB) MEMBERS

FROM: 20 CES/CEIE

SUBJECT: RAB Meeting Minutes

1. Meeting information

Date: 2 June 2025

Time: Open House – 1700-1900; RAB – 1900-2000

Location: Cherryvale Elementary School, 1420 Furman Drive, Sumter, South Carolina 29154

Air Force Co-Chair: Mr. Raymond Magby, 20 MSG/DD

Community Co-Chair: Mr. Daniel Burkett (not present)

2. Attendees

RAB Members

Mr. Mike Danielsen, South Carolina Department of Environmental Services (SCDES)

Mr. Raymond Magby, 20 MSG/CC

City/County Officials

Mr. Johnathan Bryan, Sumter County (Attorney)

Mr. Anthony Gibson, City of Sumter (City Councilman)

Mr. Gary Mixon, Sumter County (County Administrator)

SCDES

Ms. Keehna Frasier

Ms. Gabrielle Hallows

Mr. Kent Krieg

Ms. Sandra Snyder

Community Members

Mr. James Adams

Mr. Robert Dobbs

Ms. Michele Hinson

Ms. Kathleen Kreklau

Media

Ms. Deirdre Currin, Sumter Item

Others, Air Force Affiliated

Capt Alan Abernethy, 20 FW/PA

2nd Lt Mark Humphries, 20 CES/CEI

MSgt Amanda Sampson, 20 FW/PA

Mr. Eric Ackerman, Weston Solutions

Mr. Corey Anderson, Brice Engineering

Ms. Anna Butler, U.S. Army Corps of Engineers (USACE) Savannah District

Ms. Genesis Corral, Brice Engineering

Mr. Gary “Griff” Cox, Air Force Civil Engineer Center (AFCEC)/CZOE

Mr. Kyle Dermatis, Bay West
Ms. Jen Dottorelli, Arcadis
Mr. Jon Downie, Bay West
Ms. Leigh-Ann Fabianke, Galen Driscoll
Mr. Gary Fields, Cherokee Federal
Mr. Mark Fisherkeller, Arcadis
Ms. Kathleen Hamrick, Arcadis
Ms. Amanda Malaney, Bay West
Mr. Matt Martin, Cherokee Federal
Mr. Tim Murphy, 20 FW/JA
Mr. Brian Odom, Aerostar
Mr. Fred Otto, AFCEC/CZOE
Ms. Sophia Owens, USACE
Ms. Laura Powers, AFCEC/CZOE
Mr. Bette Ross, SRNS
Mr. Juvenal Salomon, AFCEC/CZOE
Mr. Mark Summers, AFCEC/CZOE
Mr. Chris Wargo, AFCEC/CZOE
Mr. Nick Woodman, Weston Solutions
Mr. Rick Workentine, 20 CES/CEI

3. Open House

Prior to the RAB meeting, a two-hour open house was held at the same location providing an additional opportunity for the public to receive information about the Shaw AFB Environmental Restoration Program (ERP) and Air Force response actions to address Per- and Polyfluoroalkyl Substances (PFAS). Four poster stations at the open house staffed with the ERP team, Air Force representatives, and subject matter experts allowed attendees to speak one-on-one with team members and ask questions specific to their concerns, property or drinking water well. Handouts with contact information, and PFAS-related informational resources from SCDES and the Agency for Toxic Substances and Disease Registry (ATSDR) were available. As applicable, community members could also sign-up for PFAS sampling of their private well.

4. RAB Meeting Welcome

Ms. Leigh-Ann Fabianke, Galen Driscoll, served as the meeting facilitator and commenced the meeting at 1900. Ms. Fabianke introduced Mr. Raymond Magby, the Air Force RAB co-chair. Mr. Magby welcomed and thanked everyone for participating. He stated that community involvement is a critical element of the environmental cleanup process, and the RAB is an opportunity for the Air Force to share updated information about environmental restoration activities and to hear feedback from the community. The safety and health of Airmen, their families and communities surrounding Shaw AFB are top Air Force priorities.

5. Introductions

Ms. Fabianke introduced Mr. Juv Salomon and Mr. Chris Wargo, the Shaw Remedial Project Managers (RPMs). RAB members present introduced themselves as did representatives from SCDES, Sumter County and city officials, and personnel from the 20th Fighter Wing Public Affairs office. Mr. Salomon shared that the purpose of the RAB is to promote community awareness and obtain constructive community review on current and proposed environmental cleanup actions. The RAB mission is to provide open and interactive dialogue among stakeholders. Mr. Salomon explained that the Air Force technical briefing during the meeting will cover updates regarding the Shaw AFB ERP, the ongoing cleanup of Shaw AFB, and the Air Force's response to PFAS in groundwater. The Shaw ERP is responsible for cleaning up contamination from past operations on and surrounding the installation. Due to historical practices deemed appropriate at the time, contamination found its way into the groundwater and some of this contaminated groundwater has moved off-base.

6. Stakeholder/RAB Member Updates

No stakeholders or RAB members expressed interest in providing an update.

7. Shaw ERP Update

Cleanup of legacy environmental sites began at Shaw AFB in 1983, and 104 of the 124 sites have now been closed. The cleanup program is managed under the State's Resource Conservation and Recovery Act (RCRA) permitting program with SCDES being the lead agency. To address the remaining open sites, ensure regulatory compliance and to continually optimize environmental remedies in-place, a multi-year, base-wide cleanup contract is executed by the Air Force, called an Optimized Remediation Contract (ORC). To date, approximately \$150M has been spent cleaning up the legacy sites.

Mr. Salomon explained that PFAS are a group of synthetic fluorinated chemicals used in industrial and consumer products to resist heat, oil, stains, grease, and water. It is also found in a firefighting agent previously used by the Department of Defense (DoD) called Aqueous Film-Forming Foam (AFFF). At Shaw AFB, and across the Air Force, AFFF has been replaced with a new fluorine-free foam (F3). The Environmental Protection Agency (EPA) created enforceable PFAS drinking water standards, or Maximum Contaminant Levels (MCLs), which became effective on June 25, 2024. Two common PFAS, Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS), each have a MCL of 4 parts per trillion (ppt). For comparison, one ppt is the equivalent of a single drop of water in 20 Olympic-sized swimming pools. Affected public water systems have five years to comply with these drinking water standards. The Air Force is conducting prioritized responses to address the PFAS MCLs.

In November 2021, the Air Force collected samples along the Shaw AFB boundary and confirmed the potential flow of PFAS-impacted groundwater off-base. A Phase I Remedial Investigation (RI) was conducted to determine the extent of contamination in six identified PFAS release areas. The Phase I RI report submitted in January 2025 recommended expanding the investigation area to address any additional identified drinking water concerns.

The Air Force has already taken numerous steps to address PFAS impacts both on and off base, including adding PFAS filtration to the Groundwater Treatment Plant (GWTP) in December 2020. At full operation, this GWTP treats approximately 1,000 gallons per minute (gpm) of groundwater. Currently this GWTP is undergoing system optimization and resiliency upgrades. Another GWTP is being constructed to filter PFAS-contaminated groundwater from three former fire training areas at Shaw AFB. This GWTP will be completed in July 2025. A filter was added to Base Well #3 in December 2024, which provides drinking water for the installation.

Since February 2020, more than 265 off-base drinking water wells have been sampled. More than 1,120 land parcels have been surveyed to the south, east, and west of Shaw AFB. Due to implementation of the EPA PFAS MCLs, an additional 165 impacted wells were identified and are being prioritized for corrective action. To provide a long-term solution to PFAS-impacted wells, the Air Force is connecting residences to municipal water. Thirty municipal connections have been completed with more underway. Soon the Air Force will connect three mobile home parks to municipal water. The Air Force asked the community to please share information with their neighbors about drinking water well testing and to reach out to the Air Force with any questions or concerns. To date, the Air Force has spent approximately \$75M on PFAS response at Shaw AFB.

8. Public Comment/Questions

Attendees had an opportunity to ask questions or provide comments:

Question 1: Is it safe to garden in the soil and eat the fruit and vegetables watered with my PFAS-impacted well water?

Response 1: Only soil historically sprayed with AFFF should be impacted. Since the Air Force did not spray AFFF off base, there should not be PFAS impacted soils outside the base boundary. Since the science and understanding of PFAS is evolving, it is not fully known what the effects are of consuming produce watered with PFAS-impacted water. For health-related questions/concerns, attendees were encouraged to contact Ms. Leann

Bing at the Agency for Substances and Disease Registry (ATSDR) at (770) 488-3002 or KBing@cdc.gov . The ATSDR PFAS webpage is www.atsdr.cdc.gov/pfas/ or to reach an ATSDR physician, email PFAS@cdc.gov. Attendees can also utilize the provided ATSDR handout, “Talking to your physician about PFAS”.

Statement 2: A community member expressed concern about her shallow well and being told she cannot drink the water. She said she understands the Air Force is doing what it can to address the problem.

Response 2: Mr. Wargo will reach out to this resident to discuss her concerns and situation in more detail.

Statement 3: A community member shared thanks with the Air Force for holding this meeting but expressed that more people should attend. She suggested the Air Force could give flyers to the RAB and other community members to help spread information about meetings and updates.

Response 3: The Air Force noted this as a potential outreach initiative.

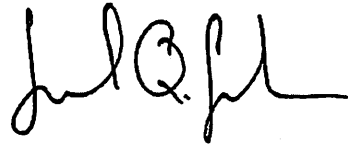
9. RAB Business Update

Shaw AFB is accepting applications for new RAB members. Anyone interested should contact the 20th Fighter Wing Public Affairs office at (803) 895-2019 or 20FWPublicAffairs@us.af.mil. Additional information about the Shaw AFB ERP is available at: www.shaw.af.mil/Public-Affairs/Community-Engagement/Environmental. The Air Force Administrative Record, the official record of cleanup action decision documents and can be found at: <https://ar.afcec-cloud.af.mil/>. The next RAB meeting will be held in June 2026, but the exact date is to be determined.

10. Conclusion

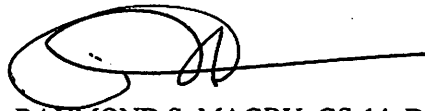
Mr. Salomon stated that if anyone has additional questions, to please reach out to him before leaving the meeting or contact the 20th Fighter Wing Public Affairs office. Mr. Mixon, County Administrator, thanked the Air Force for hosting this informative event and shared appreciation for keeping the community updated and engaged. Mr. Danielsen, SCDES, mentioned that the state has, and will continue to, work closely with the Air Force to address environmental impacts and community concerns. Mr. Magby provided closing comments, emphasizing that addressing environmental issues and conducting PFAS response actions are important to the Air Force mission and involving the community surrounding Shaw AFB in the cleanup process is essential. He also thanked everyone for attending the open house and RAB meeting and highlighted that the Air Force will continue to collaborate with SCDES on the cleanup process and provide information to the public as it is available.

#	Action Item	Who	Status
1.	A community member completed a RAB application. The Air Force will contact her to discuss her participation in the RAB and concerns she indicated regarding her drinking water well.	Air Force	OPEN



JUVENAL Q. SALOMON, GS-13, DAF
RAB Administrator

Approved as written.



RAYMOND S. MAGBY, GS-14, DAF
Deputy Director for Installation Support

Attachment A- Shaw AFB Open House Map & Posters, June 2, 2025

Attachment B- Shaw AFB RAB Agenda & Slides, June 2, 2025

cc:

20 FW/CV/JA/PA/HO

20 MSG/CC/DD

20 MDG/SGPB

20 CES/CC/CEI/CEIE

AFCEC/CZOE

AFCEC/CZR

USACE

SCDES

Attachment A

Shaw Air Force Base

Open House Map

&

Posters

June 2, 2025

SHAW AFB OPEN HOUSE MAP

Shaw AFB Open House
2 June 2025
5:00 - 7:00 PM

STATION 1: LEGACY CONTAMINATION AND OPTIMIZED REMEDIATION CONTRACT

POSTER 1:
Optimized
Remediation
Contract (ORC)
Overview Map

POSTER 2:
Groundwater
Treatment Plant
(GWTP)
Plume Map

POSTER 3:
GWTP #1
Treatment System
(Volatile Organic
Compounds (VOCs)
and PFAS)

POSTER 4:
Legacy
Contamination
Community
Outreach

GREETING/CHECK-IN AREA

- Sign-in sheet
- Agendas

HANDOUT

**Shaw AFB
Open House Map**
(front)
Quick Reference Tool
(back)



STATION 2: OVERVIEW OF PFAS AND SHAW AFB USAGE AND INVESTIGATIONS

POSTER 5:
What is
PFAS?

POSTER 6:
How PFAS
Gets into the
Environment

POSTER 7:
PFAS Impacts
at Shaw AFB

South Carolina
Department of
Environmental Services
Private Drinking Water
Testing Sign-up



POSTER 8:
Remedial
Investigation (RI)
Findings

POSTER 9:
RI
Findings

STATION 3: ASSESSMENT AND REMEDIATION OF PFAS IN OFF-BASE DRINKING WATER

POSTER 10:
Current Off-
Base Well
Sampling

POSTER 11:
EPA MCLs and
Expanding of
Off-Base Well
Sampling

POSTER 12:
Additional PFAS
Resources and
Information
(EPA, ATSDR,
SCDES)



STATION 4: PFAS REMEDIATION MEASURES AT SHAW AFB

 = indicates Picture Poster

POSTER 13:
Success at
Shaw AFB

POSTER 14:
Base Well 3
Installation of
Ion-Exchange
Reason Filter



POSTER 15:
Picture
Poster



POSTER 16:
Interim Action
Point Source
Removal



POSTER 17:
Picture
Poster



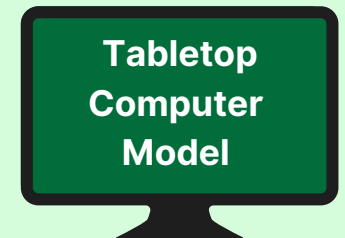
POSTER 18:
Picture
Poster



POSTER 19:
Picture
Poster



**Tabletop
Computer
Model**



SHAW AFB OPEN HOUSE

QUICK REFERENCE TOOL

A concise handout for Open House attendees, providing key contact information and links to additional resources and materials presented during the event.

POINTS OF CONTACT

Shaw AFB Public Affairs Office

20th Fighter Wing
(803) 895-2019
20FWPublicAffairs@us.af.mil



South Carolina Department of Environmental Services (SCDES)

Stacey French, P.E.
Assistant Chief
Bureau of Land and Waste Management
(803) 898-0238
Stacey.French@des.sc.gov

Agency for Toxic Substances and Disease Registry (ATSDR)

Leann Bing
Environmental Health Scientist
Region 4 Representative
(770) 488-3002
KBing@cdc.gov

SCAN FOR
ATSDR
PFAS INFO



For more information about the Shaw AFB
Environmental Restoration Program, visit:

www.shaw.af.mil/Public-Affairs/Community-Engagement/Environmental

Official record of Shaw AFB cleanup action
decision documents can be found in the
Administrative Record:

<https://ar.afcec-cloud.af.mil/>



SHAW AFB ERP

PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) WEBSITES

South Carolina Department of Environmental Services:

<https://des.sc.gov/programs/bureau-water/and-polyfluoroalkyl-substances-pfas>

SCAN FOR
SCDES
PFAS INFO



Air Force:

<https://www.afcec.af.mil/What-We-Do/Environment/Per-and-Polyfluoroalkyl-Substances/>

Department of Defense:

<https://www.acq.osd.mil/eie/ee/ecc/pfas>

Agency for Toxic Substances and Disease Registry:

<https://www.atsdr.cdc.gov/pfas/index.html>

SCAN FOR
ATSDR
PFAS INFO



SCAN FOR
AIR FORCE
PFAS INFO



SCAN FOR
DoD
PFAS INFO



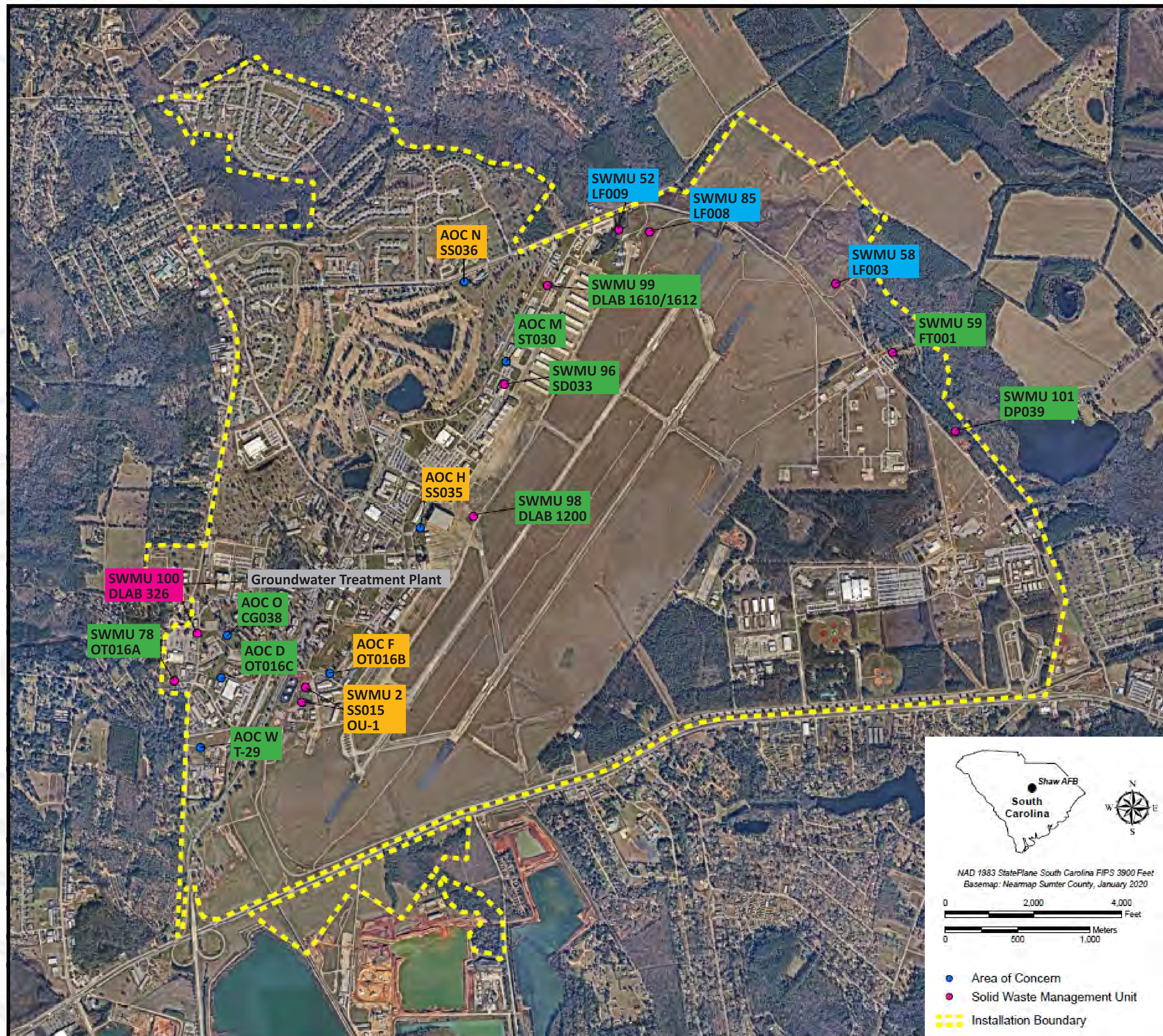
COMMONLY USED ACRONYMS

AFB - Air Force Base
AFCEC - Air Force Civil Engineering Center
AFFF - Aqueous Film Forming Foam
AR - Administrative Record
ATSDR - Agency for Toxic Substances and Disease Registry
CERCLA - Comprehensive Environmental Response, Compensation and Liability Act
CIP - Community Involvement Plan
DoD - Department of Defense
ECCO - Environmental Cleanup Communications and Outreach
EJ - Environmental Justice
EPA - Environmental Protection Agency
ERP - Environmental Restoration Program
FFA - Federal Facilities Agreement
FS - Feasibility Study
GW - Groundwater
IA - Interim Action
IRA - Interim Remedial Action
LTM - Long-term monitoring
MCL - Maximum Contaminant Level
MW - Monitoring well
NFA - No further action
NPL - National Priorities List
NTCRA - Non-Time Critical Removal Action

ODASD - Office of the Deputy Assistant Secretary of Defense
ORC - Optimized Remediation Contract
PA/SI - Preliminary Assessment/Site Inspection
PII - Personally Identifiable Information
PFAS - Per- and Polyfluoroalkyl Substances
POC - Point of contact
POET - Point-of-Entry Treatment
POUT - Point-of-Use Treatment
PP - Proposed plan
PPT - Parts per trillion
PRP - Potentially Responsible Party
RA - Remedial Action
RAB - Restoration Advisory Board
RBCA - Risk Based Corrective Action
RBSL - Risk-Based Screening Levels
RCRA - Resource Conservation and Recovery Act
RI - Remedial Investigation
ROD - Record of Decision
RPM - Remedial Project Manager
RSL - Regional Screening Level
SCDES - South Carolina Department of Environmental Services
SDWA - Safe Drinking Water Act
SME - Subject Matter Expert
TSCA - Toxic Substances Control Act

USACE - United States Army Corps of Engineers
UST - Underground Storage Tank
UU/UE - Unrestricted Exposure/Unrestricted Use
VOCs - Volatile Organic Compounds
WP - Work plan
WWTP - Wastewater Treatment Plant

Optimized Remediation Contract Overview



Advanced Site Characterization with ongoing Remedial Action-Operation (4 sites)

- OT016B (AOC F)
- SS015 (OU-1/SWMU 2)
- SS035 (SD029/AOC H)
- SS036 (AOC N)

Remedial Action – Operation (10 sites)

- CG038 (AOC O)
- FT001 (SWMU 59)
- OT016C (AOC D and AOC W)
- ST018 (SWMU 87) – UST Site
- ST030 (AOC M)
- SD033 (SWMU 96)
- DLA Building 1200 (SWMU 98)
- DLA Building 1610 (SWMU 99)
- DP039 (AOC32/SWMU 101)
- OT016A (SWMU 78)

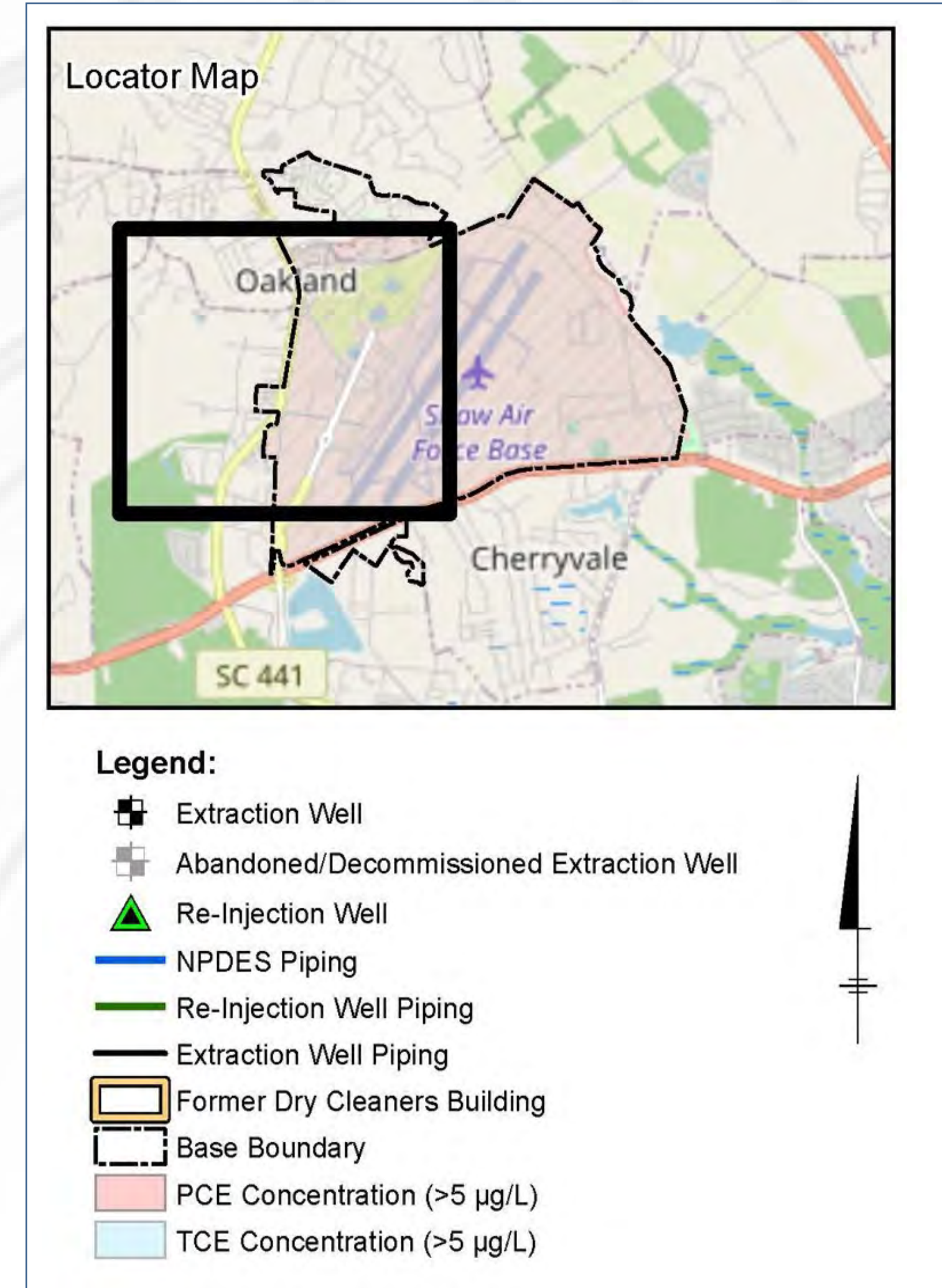
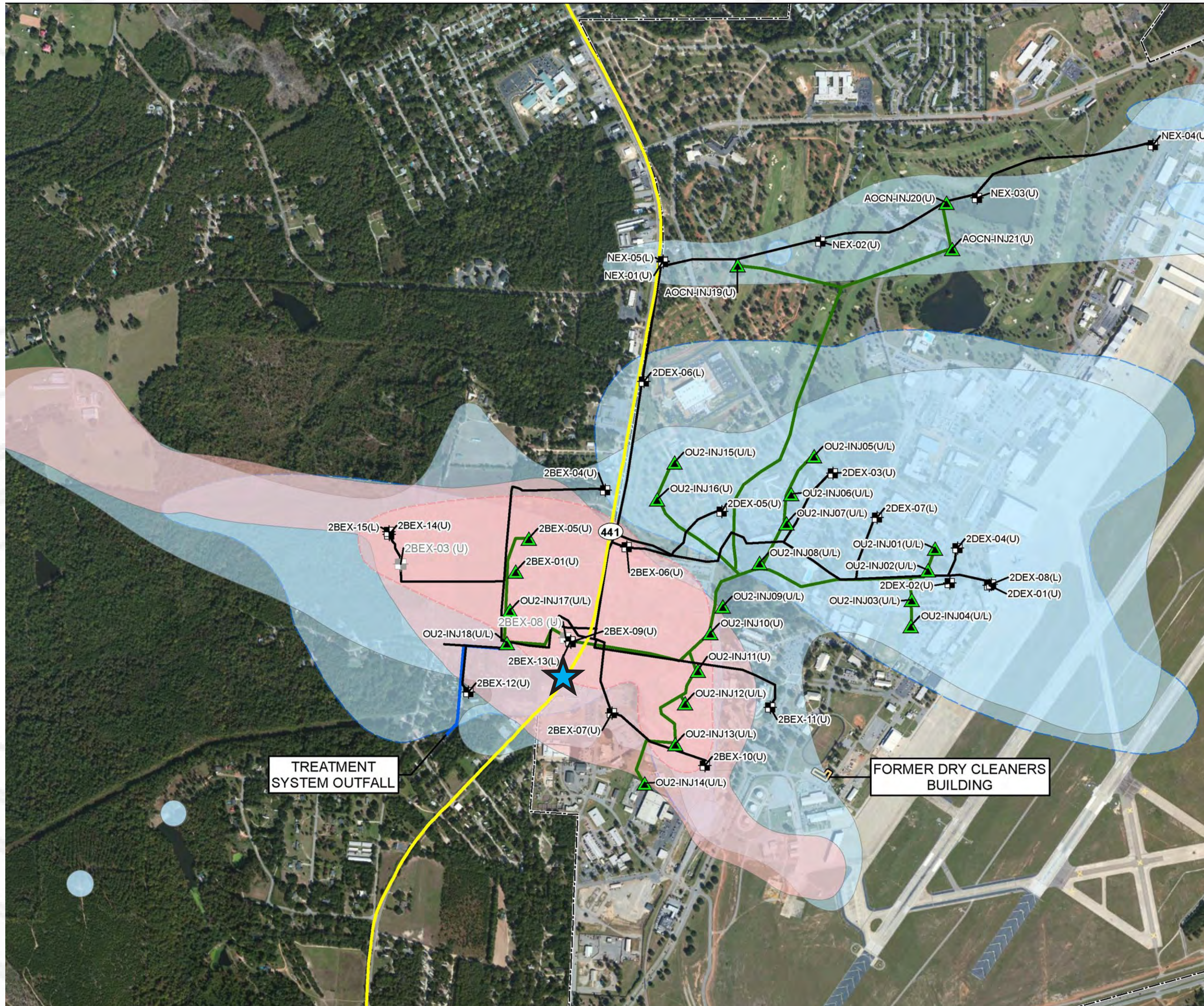
Long Term Management with LUCs and Landfill cover maintenance (3 sites)

- LF003 (SWMU 58)
- LF008 (SWMU 85)
- LF009 (SWMU 52)

Site Closure (1 site)

- DLA Building 326 (SWMU 100) – UST site

Shaw AFB – Groundwater Treatment Plant #1



- ★ Depicts the approximate location of the Groundwater Treatment Plant (GWTP) building.
- Black lines** depict extraction well piping where groundwater is pumped from the extraction wells to the GWTP.
- Green lines** depict re-injection piping where treated groundwater is pumped from the GWTP building to injection wells that inject the clean groundwater back into the ground.
- Shaded pink and blue areas** depict the extent of PCE/TCE contamination based on groundwater sampling results.

Shaw AFB – Groundwater Treatment Plant #1

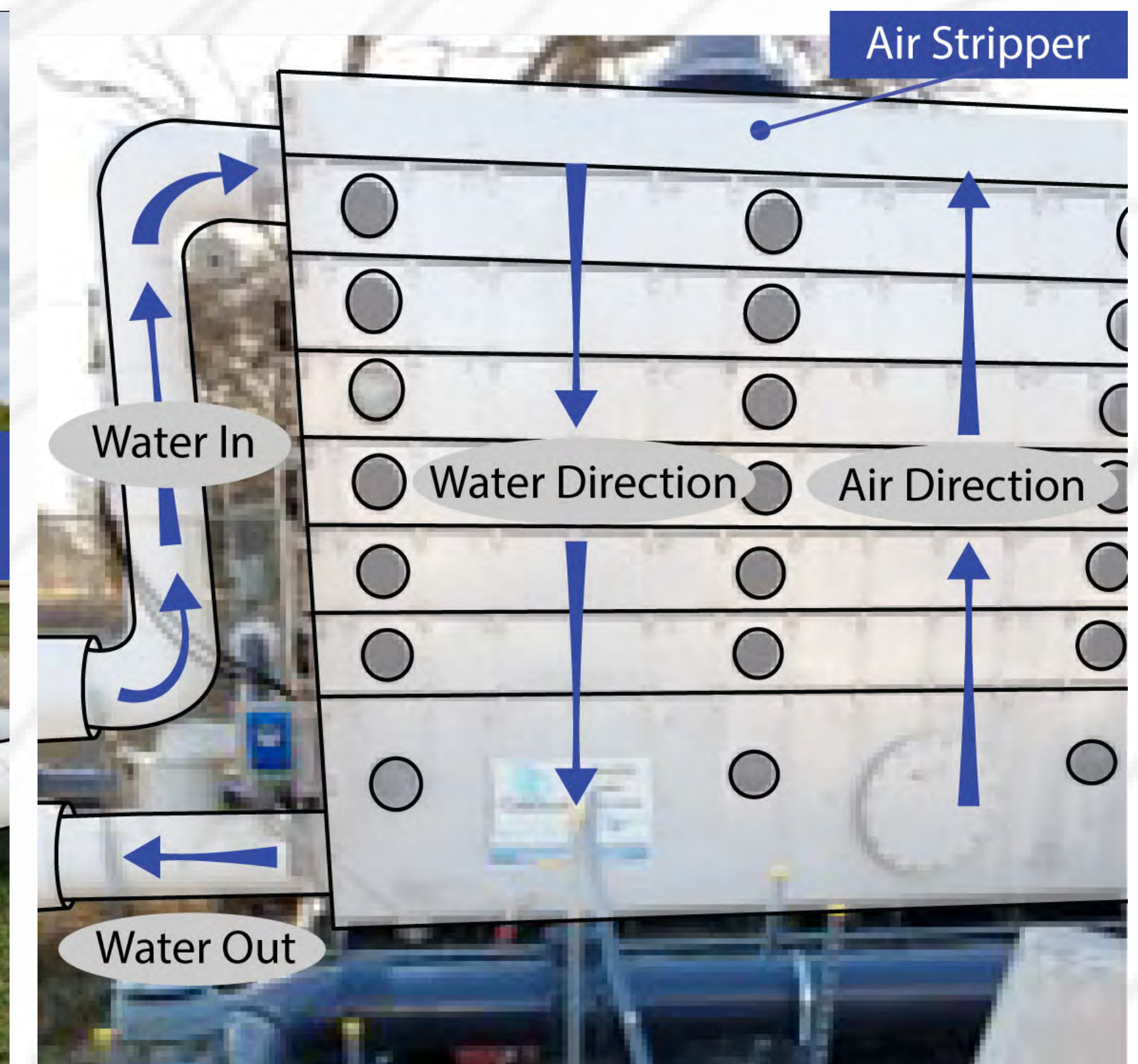
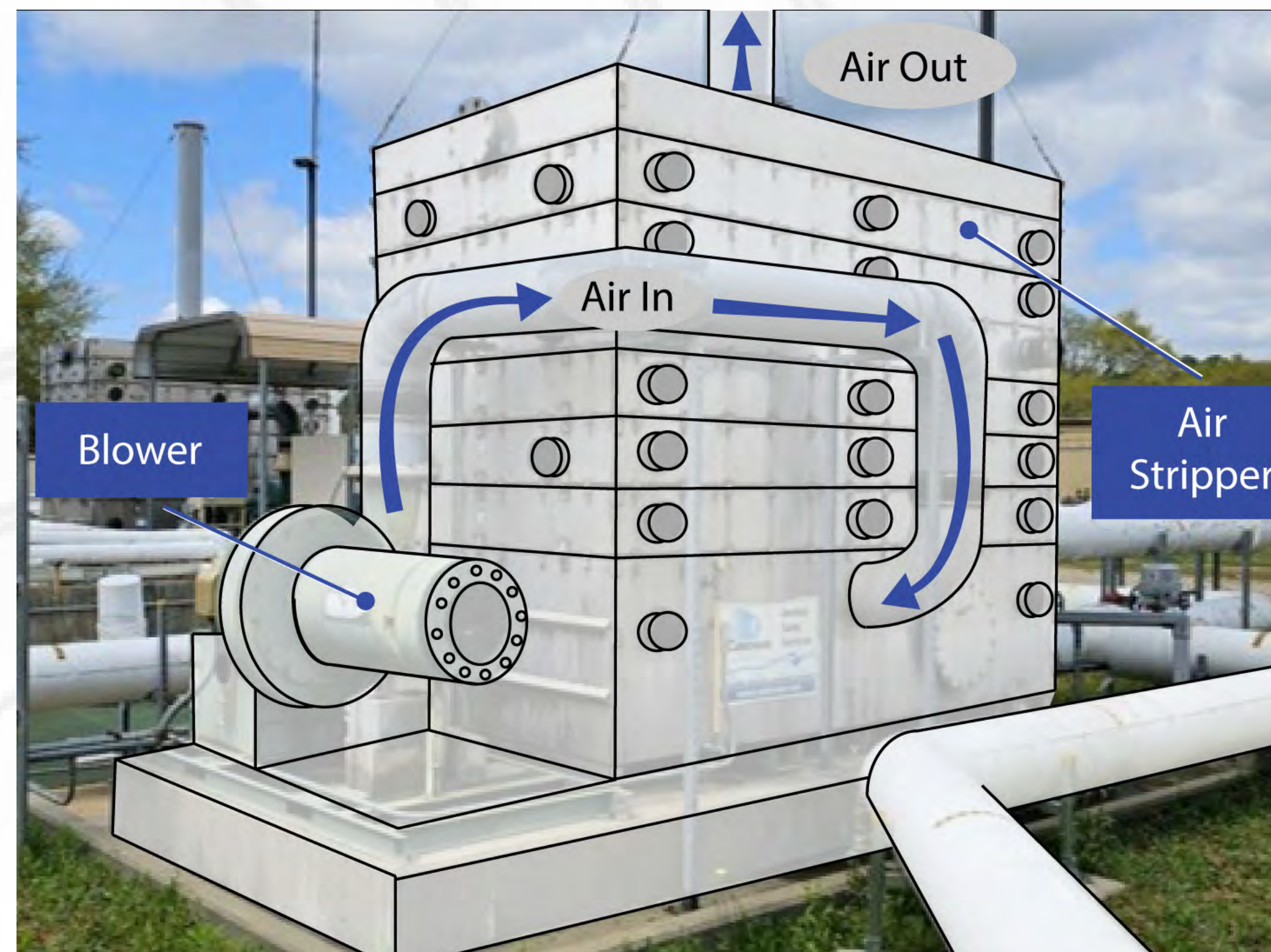
Groundwater Treatment Plant #1 treats groundwater for volatile organic compounds (VOCs) and per- and polyfluoroalkyl substances (PFAS) through two different processes:

1 VOCs in groundwater are treated by air strippers. Groundwater is aerated as it flows down the air stripper over a series of perforated trays while air is forced upward through the trays. VOCs are transferred from the liquid phase to the gas phase.

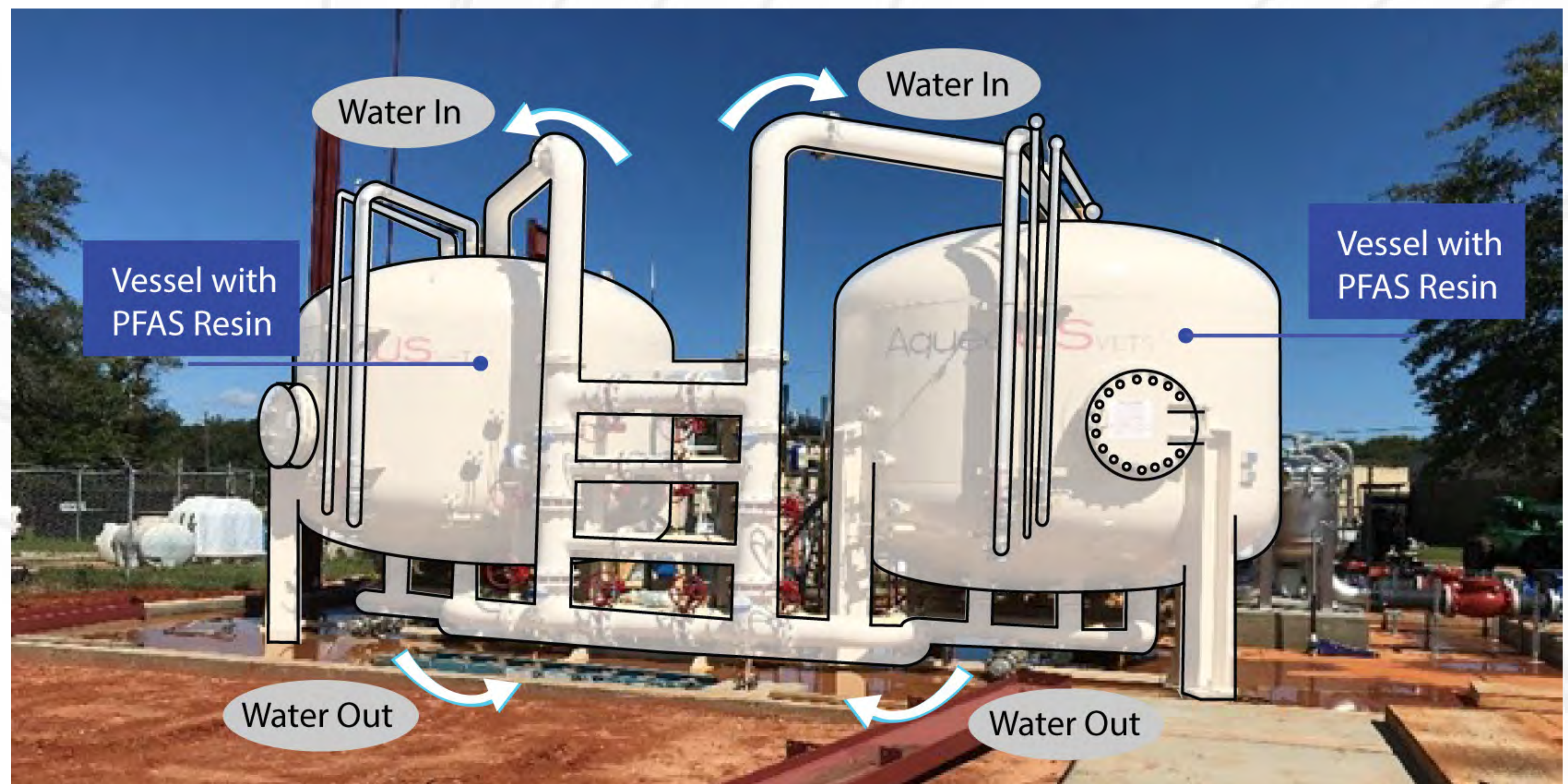
2 PFAS in groundwater is treated by ion exchange resin. Groundwater is pumped through the resin vessels. The resin consists of positively charged anions that attract the negatively charged PFAS ions.

123.6 million gallons of groundwater was treated in 2023, which is approximately 235 gallons a minute.

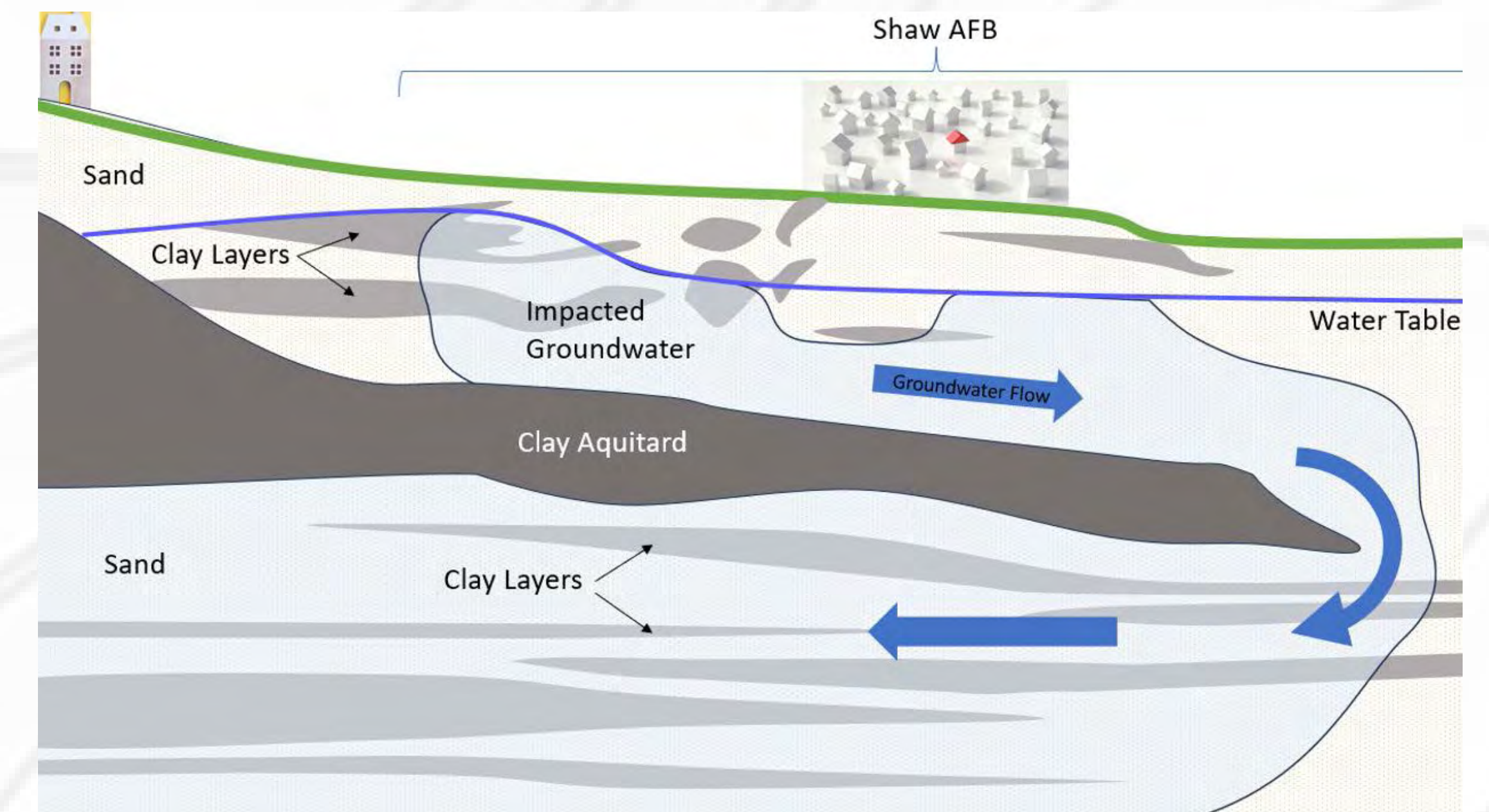
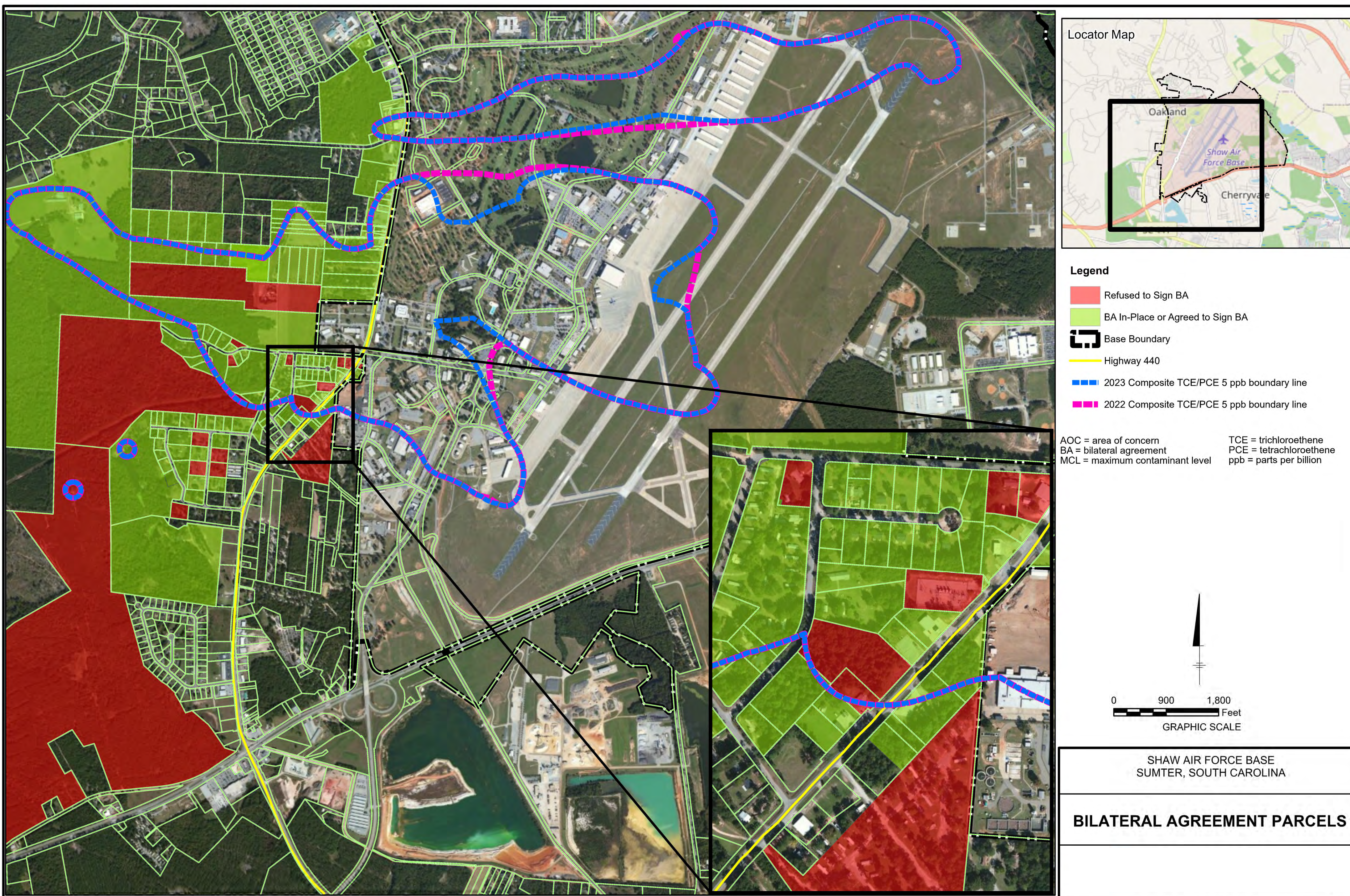
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Shaw Community Outreach for Legacy Contaminants (VOCs)



Property Owner Communication Protocol

- Quarterly / Annual On- and Off-Base Groundwater Sampling
- Annual Evaluation of Data (CMIPR) – Establishes Footprint of VOC Plume
- Quarterly Review of Property Transactions
- Bilateral Agreement Invitation
- Annual Well Inventory
 - FOIA to South Carolina Department of Environmental Services (formerly DHEC)
 - Contact with Local Drillers
- Annual LUC Notification
- Groundwater Monitoring Results Letters (only to homeowners with a monitoring well located on their property).

For Additional Information, contact:

Juvenal Q. Salomon
Shaw AFB RPM
(803) 895-9991

Christopher A. Wargo
Shaw AFB RPM
(803) 895-5192





WHAT IS PFAS?

Per- and Polyfluoroalkyl Substances, known as **PFAS**, are a class of chemicals used in many products including food packaging, nonstick cookware and firefighting foam. PFAS are sometimes called “forever chemicals” because they do not breakdown easily in the environment or in the human body.



Air Force firefighters began using PFAS-containing foam in 1970 to combat jet fuel fires. Today, Shaw AFB firefighters use fluorine-free foam or water during fire emergencies, with all hangars disconnected from legacy foam systems and fire trucks transitioned to current alternatives.

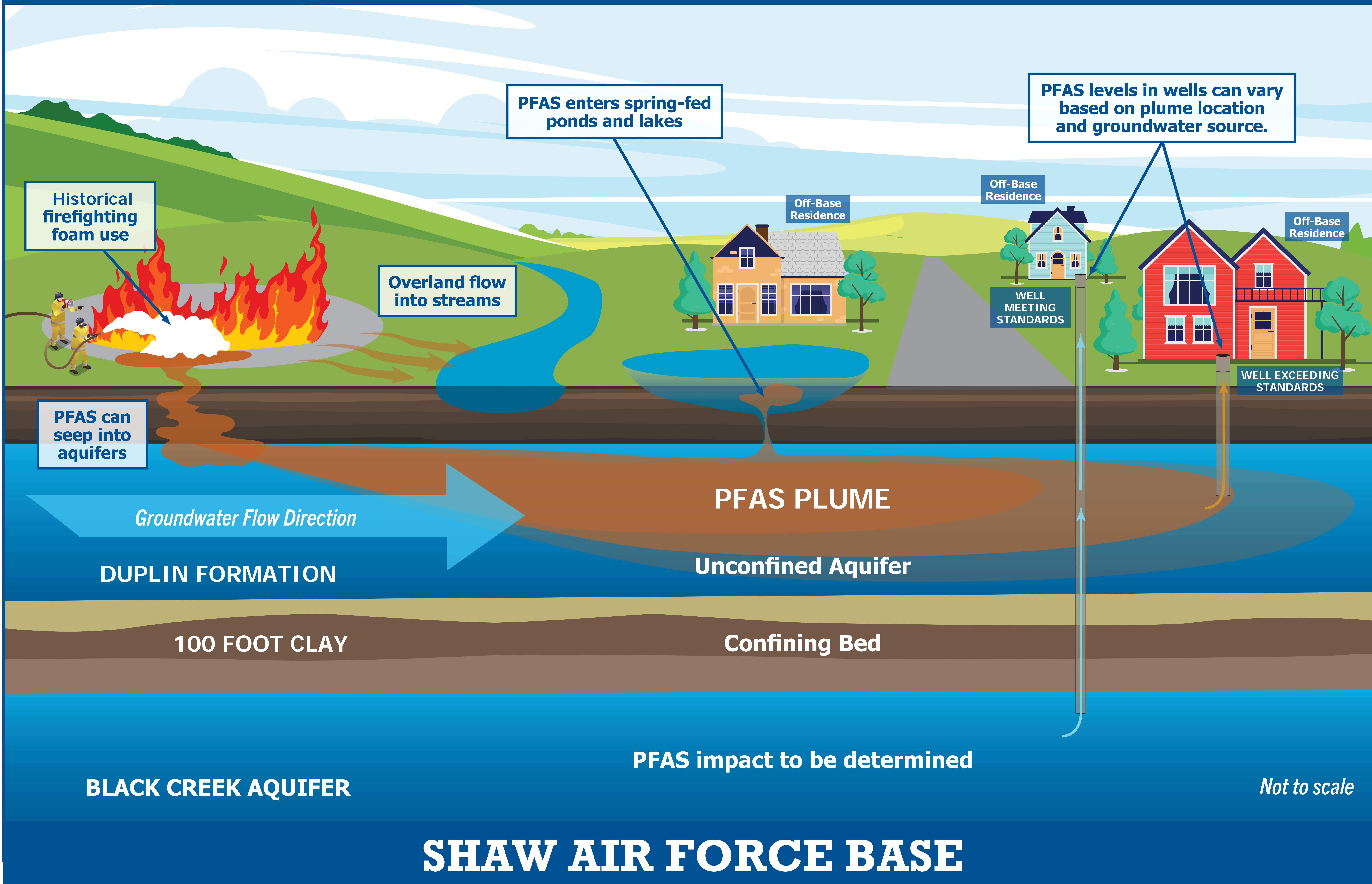


Air Force Response to PFAS

SHAW AIR FORCE BASE



HOW PFAS GETS INTO THE ENVIRONMENT





PFAS IMPACTS AT SHAW

PFAS was a component of past Aqueous Film Forming Foam, or AFFF, used during firefighting, training exercises, equipment maintenance, and spills. AFFF was released at fire training areas, hangars, and crash sites over decades of use.

KEY

- Base boundary
- AFFF suspected source area

BUILDING 1511
AFFF Area 5

FIRE STATION
AFFF Area 5

FORMER FIRE TRAINING AREA 2
AFFF Area 2

FORMER FIRE TRAINING AREA 3
AFFF Area 3

CURRENT FIRE TRAINING AREA
AFFF Area 4

WASTEWATER TREATMENT PLANT
AFFF Area 6

WASTEWATER TREATMENT SLUDGE SPREADING AREA
SWMU 56

FORMER FIRE TRAINING AREA 1
AFFF Area 1

IMPORTANT PFAS DATES

1970

Air Force began using PFAS-based firefighting foam

2015-2016

Preliminary Assessment

2016-2018

Site Inspection

2020-2021

Expanded Site Inspection

2020-2024

Phase I Remedial Investigation

Estimated start
2026

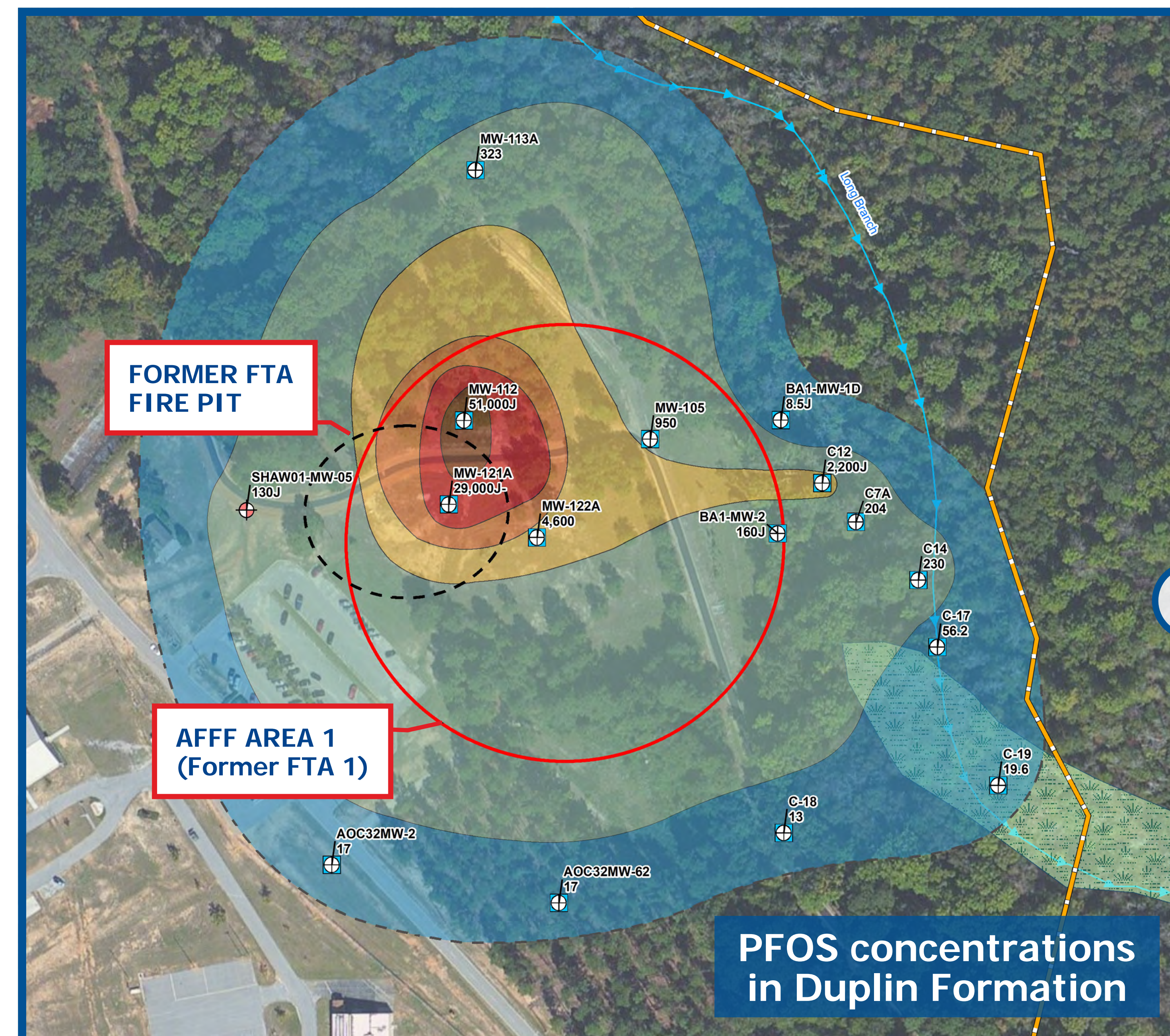
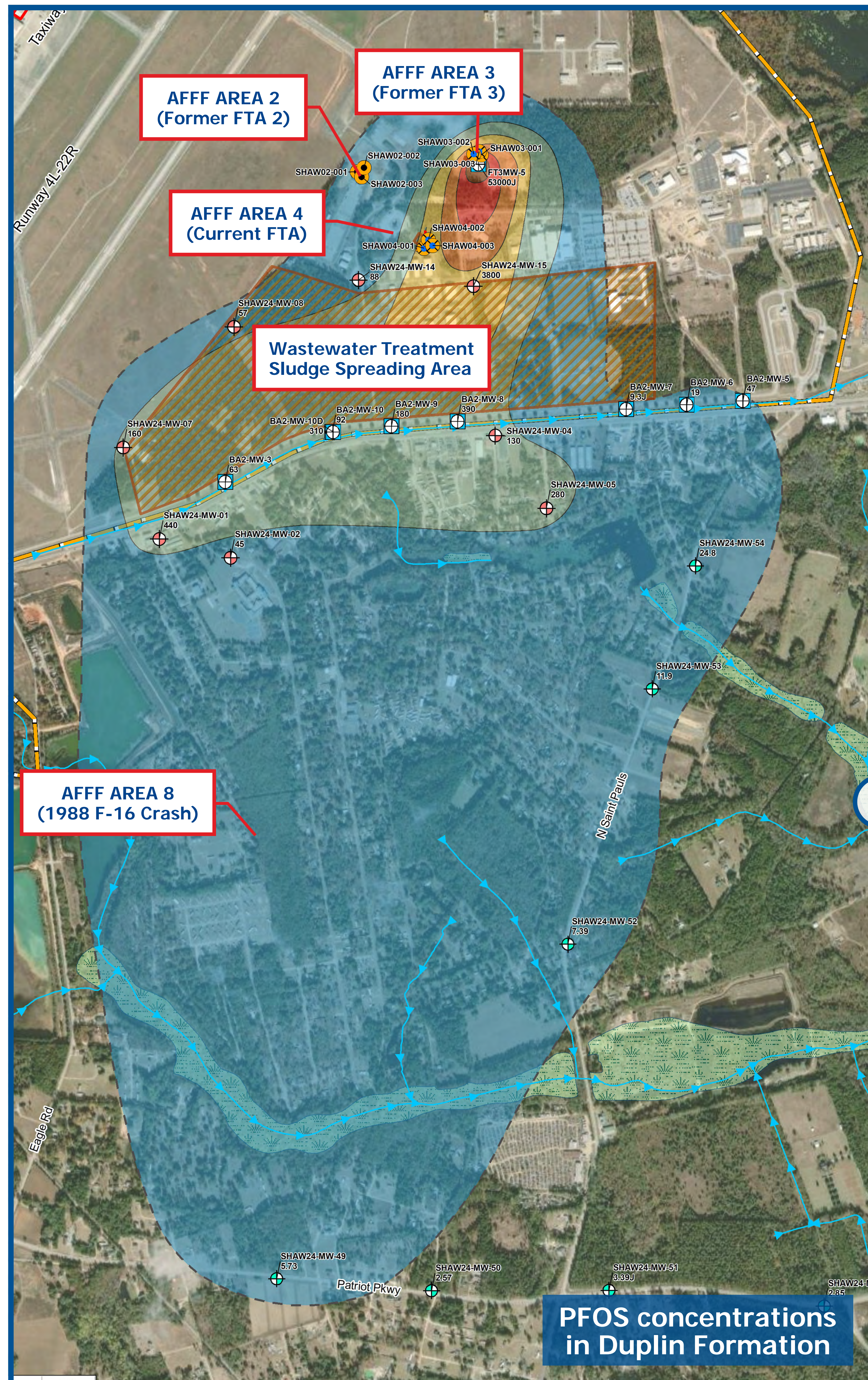
Phase IA Data Gap Remedial Investigation & Phase II Remedial Investigation Risk Assessment



SHAW AIR FORCE BASE

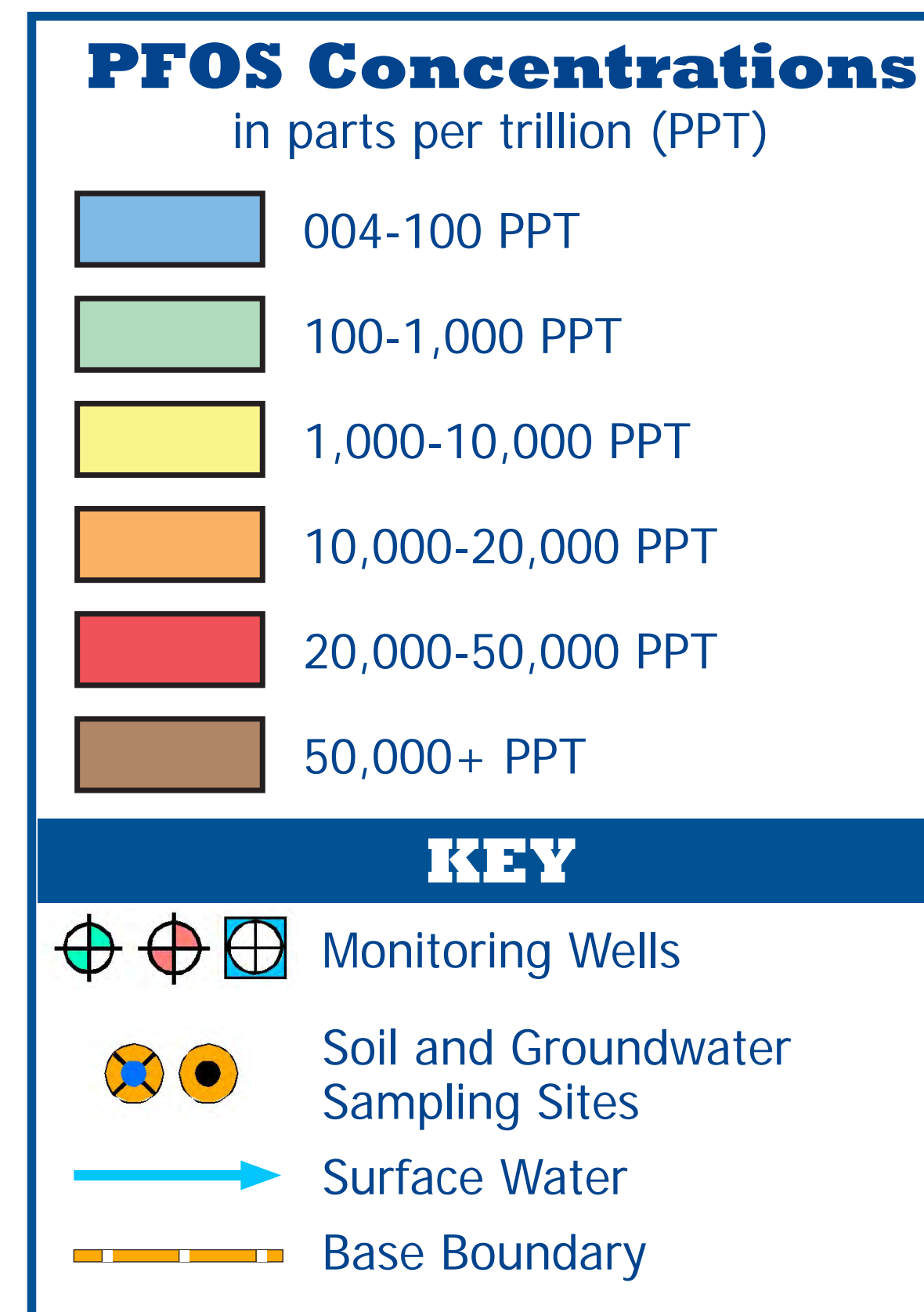


REMEDIAL INVESTIGATION SUMMARY



RECOMMENDATIONS BASED ON FINDINGS

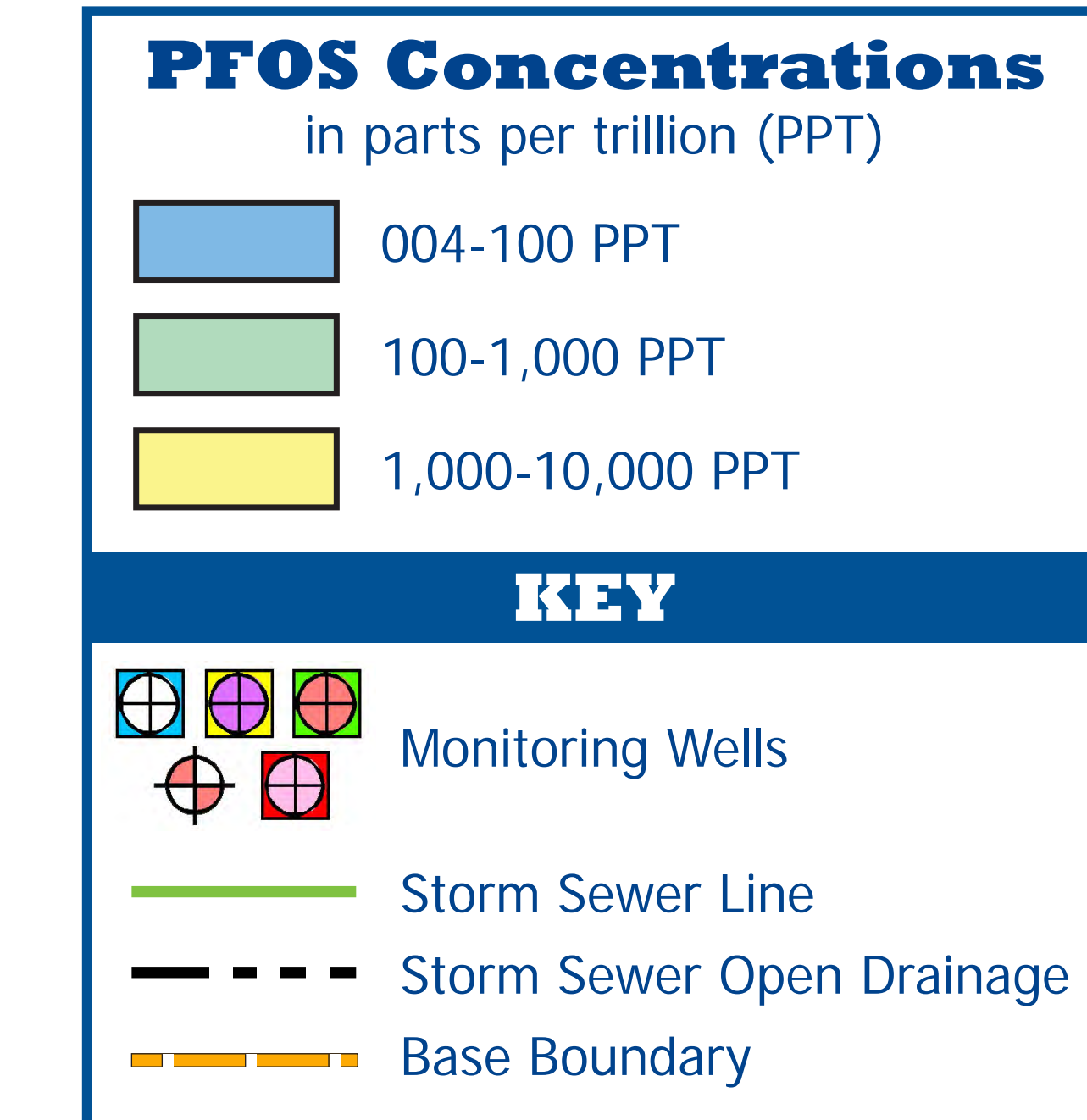
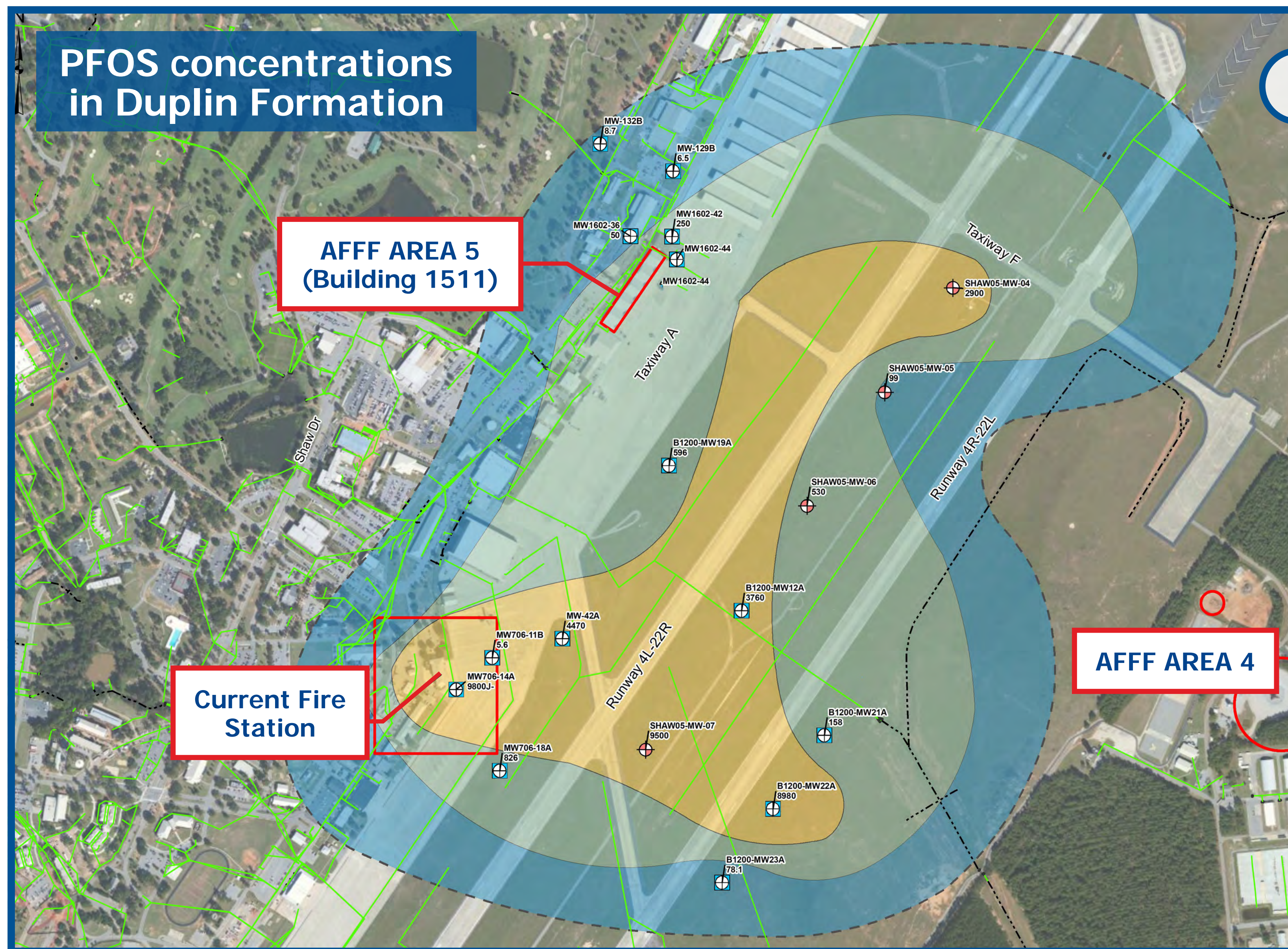
- Expand sampling in all directions to map the extent of the PFAS plume boundaries.
- Additional sampling to evaluate whether PFAS is migrating vertically into the deeper Black Creek Aquifer.



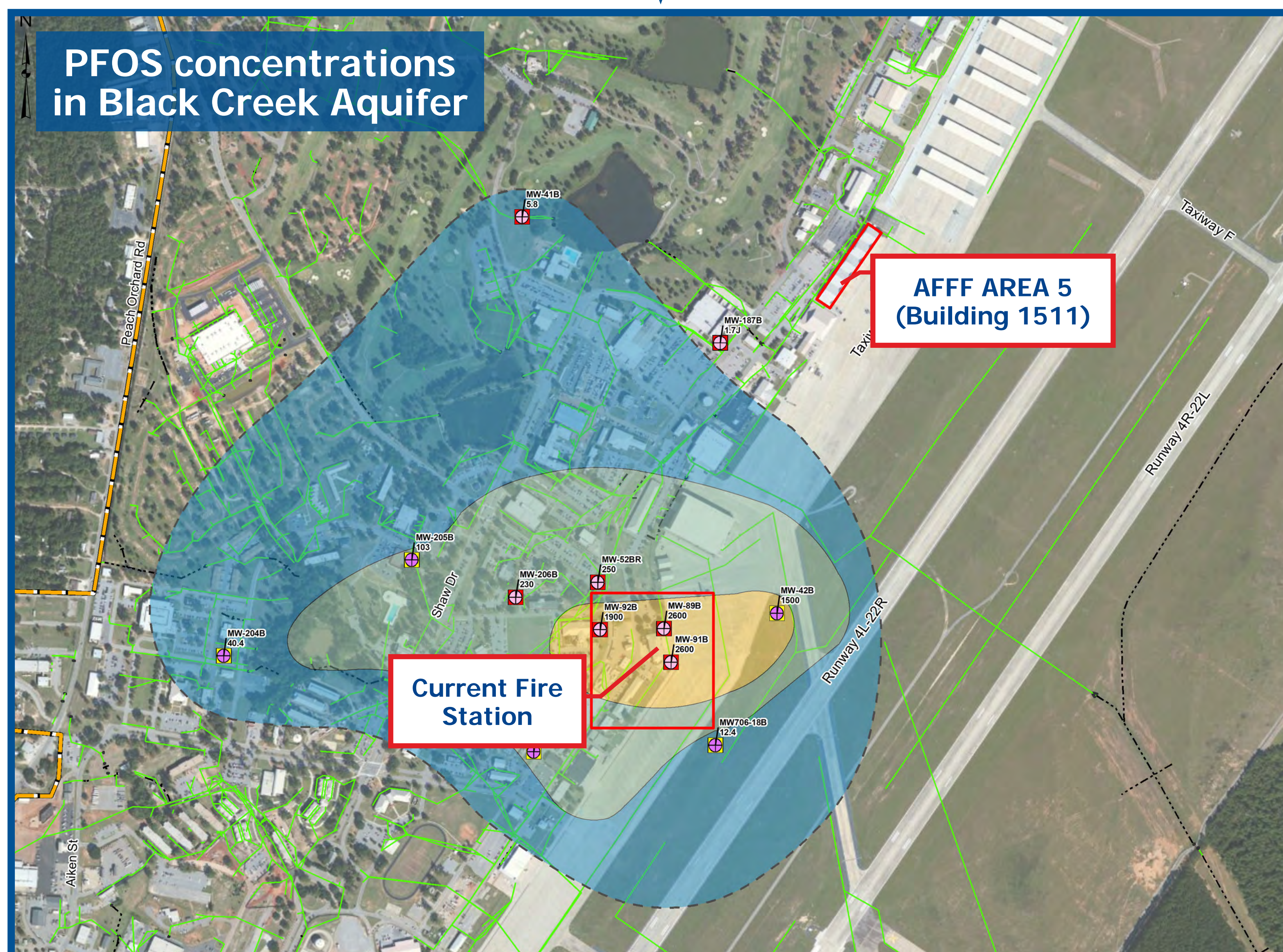
SHAW AIR FORCE BASE



REMEDIAL INVESTIGATION SUMMARY

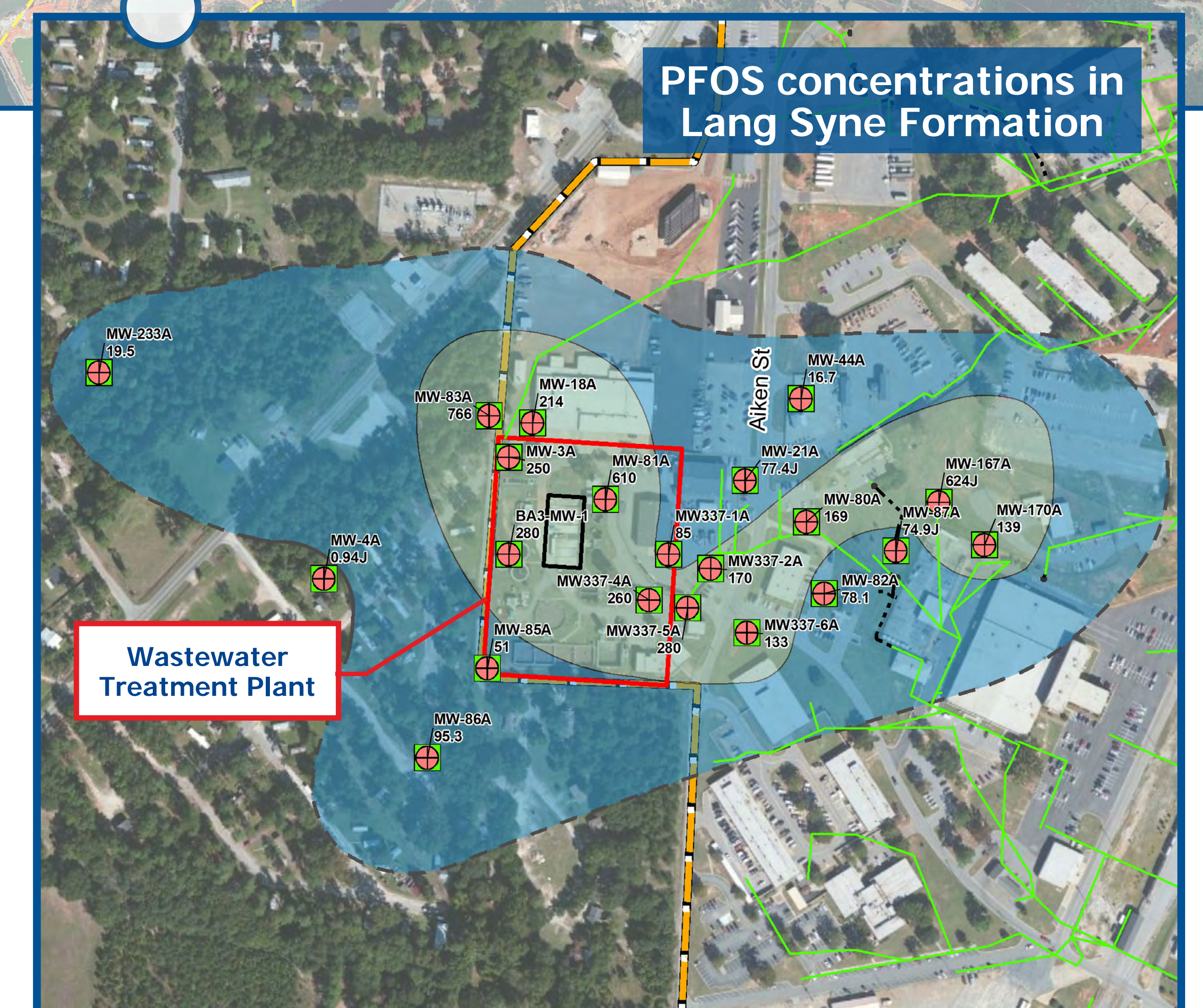


Scan the QR code to access the report on the Administrative Record. AR#4349



RECOMMENDATIONS BASED ON FINDINGS

- Additional sampling to evaluate whether PFAS is migrating vertically into the deeper Black Creek Aquifer.
- Expand sampling to the east and west to fully map the extent of the PFAS plume boundaries.
- Test soil at the fire station to check for PFAS from historical equipment storage and maintenance activities.
- Investigate where PFAS from different sources may have mixed together underground.



SHAW AIR FORCE BASE



OFF-BASE DRINKING WATER SAMPLING & MITIGATION



WHY WE TEST: PFAS in groundwater can travel beyond the base. We test private wells to identify any impacts from historical Air Force activities and take action to protect residents.

TESTING AREA: The current focus area was designed using the former DoD trigger level of 70 ppt in effect at that time. We considered where PFAS sources were located on base, how groundwater and surface water flow, how far PFAS could travel off-base, and which wells draw from affected aquifers.

WHAT WE FOUND

- 65 wells above 70 ppt: Alternative drinking water provided
- 200+ wells below 70ppt: continued monitoring
- Results vary by location and well depth

FREE TESTING FOR WELLS IN STUDY AREA

Contact Shaw AFB to request testing

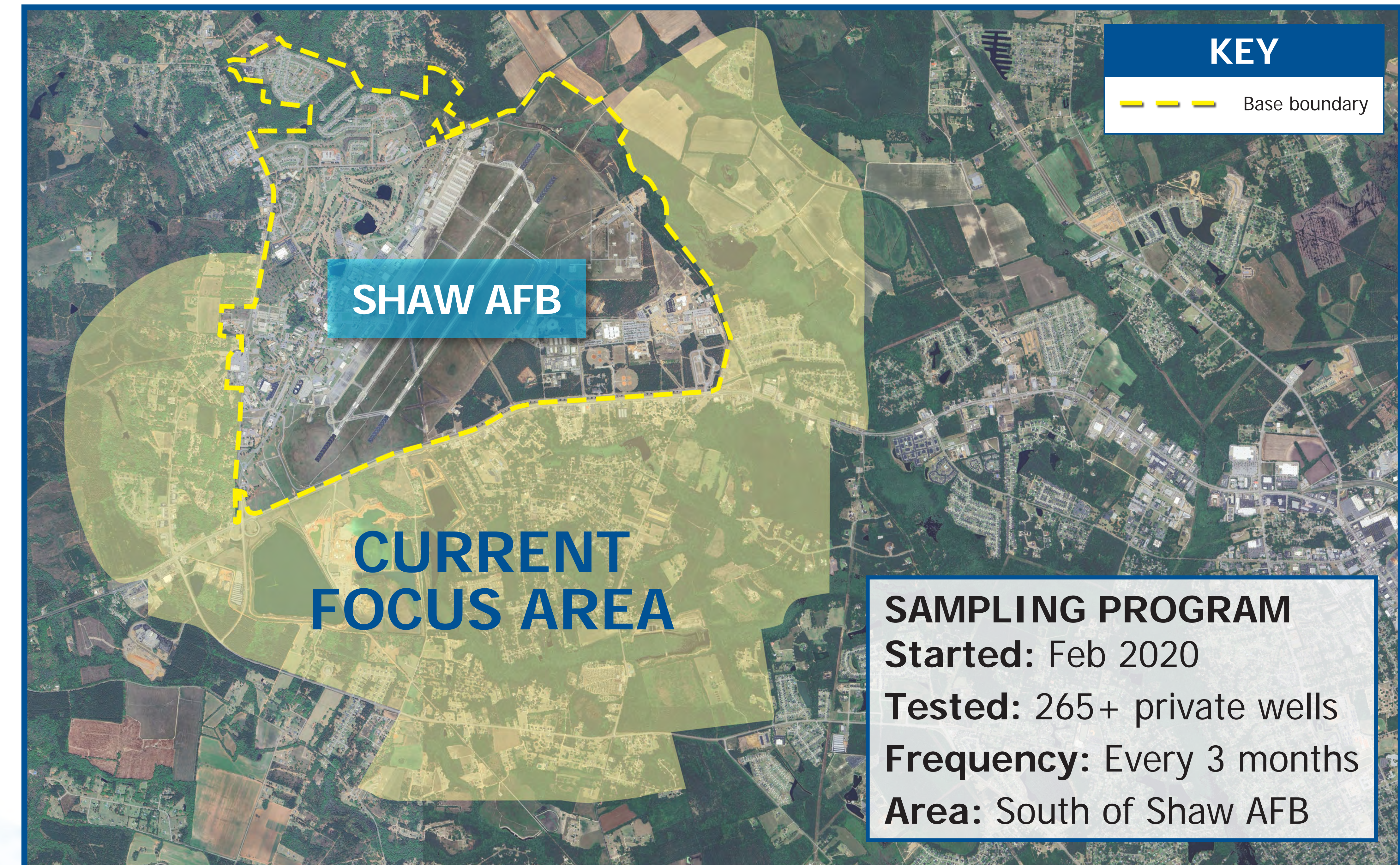
Shaw AFB Public Affairs

20th Fighter Wing Public Affairs

(803) 895-2019

20FWPublicAffairs@us.af.mil

- On April 26, 2024, the U.S. Environmental Protection Agency issued a final rule under the Safe Drinking Water Act establishing Maximum Contaminant Levels, or MCLs, for certain PFAS compounds in public drinking water systems nationwide. This rule became effective June 25, 2024, and requires public water systems to comply within five years.
- The Department of Defense is taking a scientific, phased approach to address private drinking water wells affected by PFAS related to DoD activities. Currently, the DoD is focusing on wells with PFAS levels exceeding the established MCLs, with the next phase prioritizing private wells impacted by PFAS concentrations greater than three times the MCLs.



PFAS Compound	EPA MCL	DoD Trigger Level (3x)
PFOS	4 ppt	12 ppt
PFOA	4 ppt	12 ppt
HFPO-DA	10 ppt	30 ppt
PFNA	10 ppt	30 ppt
PFHxS	10 ppt	30 ppt
Hazard Index	1	3

SHAW AIR FORCE BASE

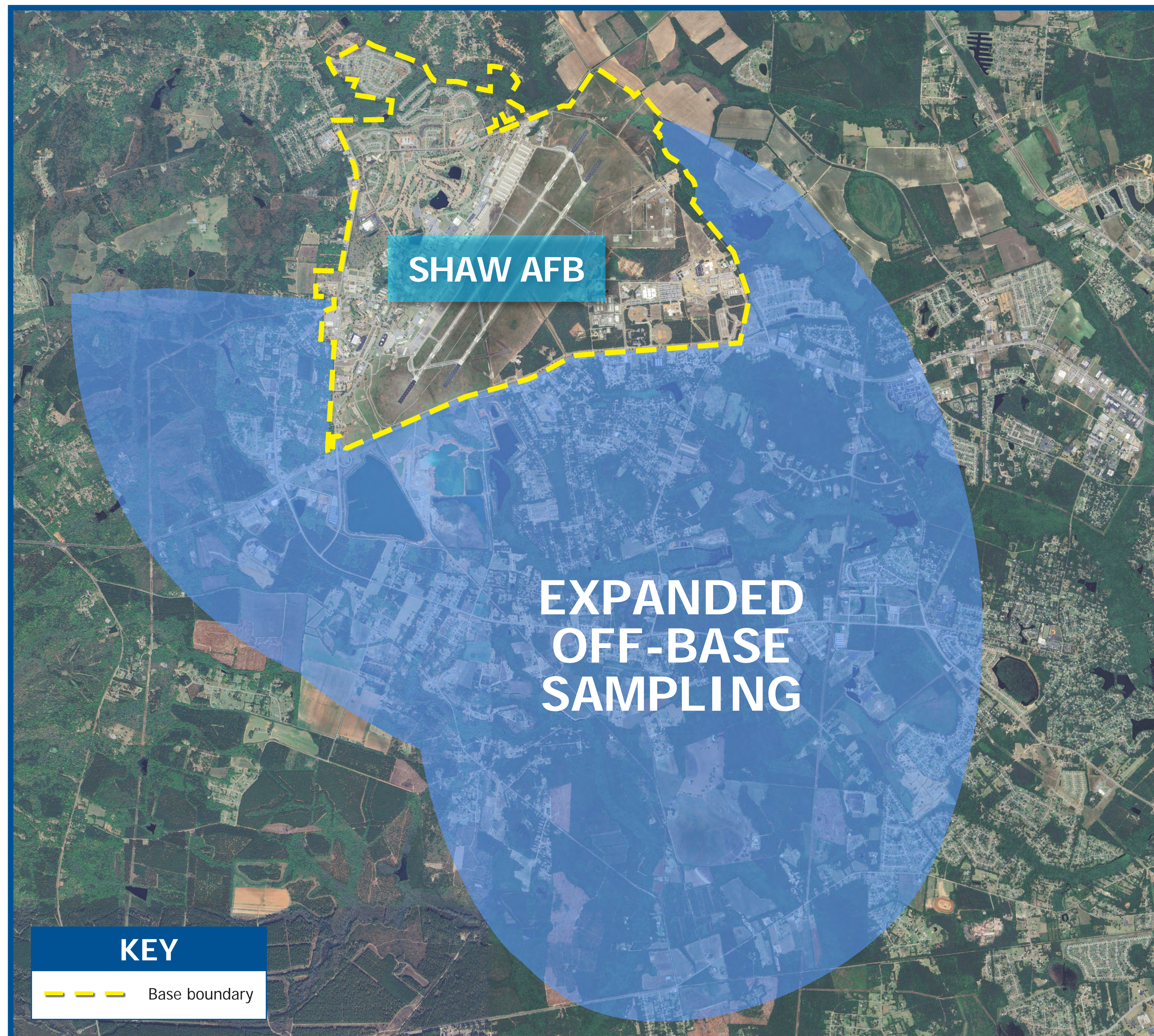


EXPANDED OFF-BASE DRINKING WATER SAMPLING & MITIGATION



MONITORING PROGRAM

- Routine off-base testing
- Tracks changes and effectiveness of treatment
- Ensures early detection of any new impacts



POINT OF USE TREATMENT SYSTEMS

POUTS, or Point of Use Treatment Systems, are compact water filters installed at a sink or tap where water is commonly used, such as in a kitchen or bathroom. It's designed to remove substances like PFAS from water used for drinking or cooking.

How Does It Work?

Installed under the sink or attached to a faucet. Water passes through filters such as activated carbon or ion exchange materials that reduce PFAS and similar substances.

Filtered water is dispensed from a separate tap, while untreated water remains available for other uses like washing or cleaning.

Why Are We Using POUTS?

This system provides filtered water exactly where it's needed—right at the tap. Immediate step to supply alternate drinking water while we work toward a long-term solution of connecting homes to municipal water.

Can be fitted to individual homes quickly, with minimal plumbing changes.

Important to Know:

POUTS only filter water at one tap, not throughout the entire home. Filters need regular care and replacement to keep the system working properly. These systems are an interim measure, providing additional protection while permanent municipal water connections are established.



Shaw AFB will soon begin MCL mitigation contracts for private drinking water wells. As part of this new effort we will:

- Install POUTS as an emergency response action for all wells historically sampled that are above three times the MCL.
- Resample wells historically sampled that were reported below the MCL.
- Expand our sampling focus area as pictured in above map.
- Continue connecting residences with PFAS-impacted drinking water wells above the MCLs to municipal water systems.
- Conduct additional studies of soil, groundwater, surface water, and sediment.

SHAW AIR FORCE BASE



RESOURCES & INFORMATION



Shaw Air Force Base and regulators work together to protect **human health** and the **environment**.



AGENCY CONTACTS



Agency for Toxic Substances and Disease Registry (ATSDR)
PFAS Webpage: <https://www.atsdr.cdc.gov/pfas/>
ATSDR Region IV Contact: Leann Bing KBing@cdc.gov (770) 488-3002
ATSDR Physician: PFAS@cdc.gov



Environmental Protection Agency (EPA)
PFAS Webpage: <https://www.epa.gov/pfas>



South Carolina Department of Environmental Services (SCDES)
PFAS Webpage: <https://des.sc.gov/programs/bureau-water/and-polyfluoroalkyl-substances-pfas>



STAY INFORMED AND INVOLVED

Opportunities to participate:

- Comment periods for major cleanup decisions
- Community meetings during planning phases
- Restoration Advisory Board meetings

Information sources:

- Air Force Administrative Record website for all documents
- Email updates for interested residents
- Regular fact sheets and progress reports

HEALTH AND ENVIRONMENTAL QUESTIONS

For health concerns, contact:

- Your healthcare provider
- State and local health agencies
- ATSDR

For environmental questions:

- Shaw AFB Public Affairs Office: 20FWPublicAffairs@us.af.mil
- SC Department of Environmental Services
- Environmental Protection Agency

SHAW AIR FORCE BASE



SUCCESS AT SHAW AIR FORCE BASE



PROTECTING DRINKING WATER AND ADDRESSING PFAS SOURCES



MUNICIPAL WATER CONNECTIONS

- 30 properties connected to High Hills Rural Water Co.
- Provides regulated public water to affected residents
- Long-term solution replacing temporary measures

SOURCE AREA TREATMENT

- Active remediation at Former Fire Training Areas 1, 2, 3
- Pump and treat systems capture PFAS at the source
- Prevents further migration to off-base areas



(U.S. Air Force photo by Airman 1st Class Steven Cardo)

TREATMENT PLANT OPERATIONS

- 10+ million gallons treated monthly
- Ion exchange resin technology removes PFAS
- Treated water re-injected safely underground
- System operates 24/7 for continuous protection

Shaw AFB is committed to protecting community health and addressing environmental impacts from past operations.

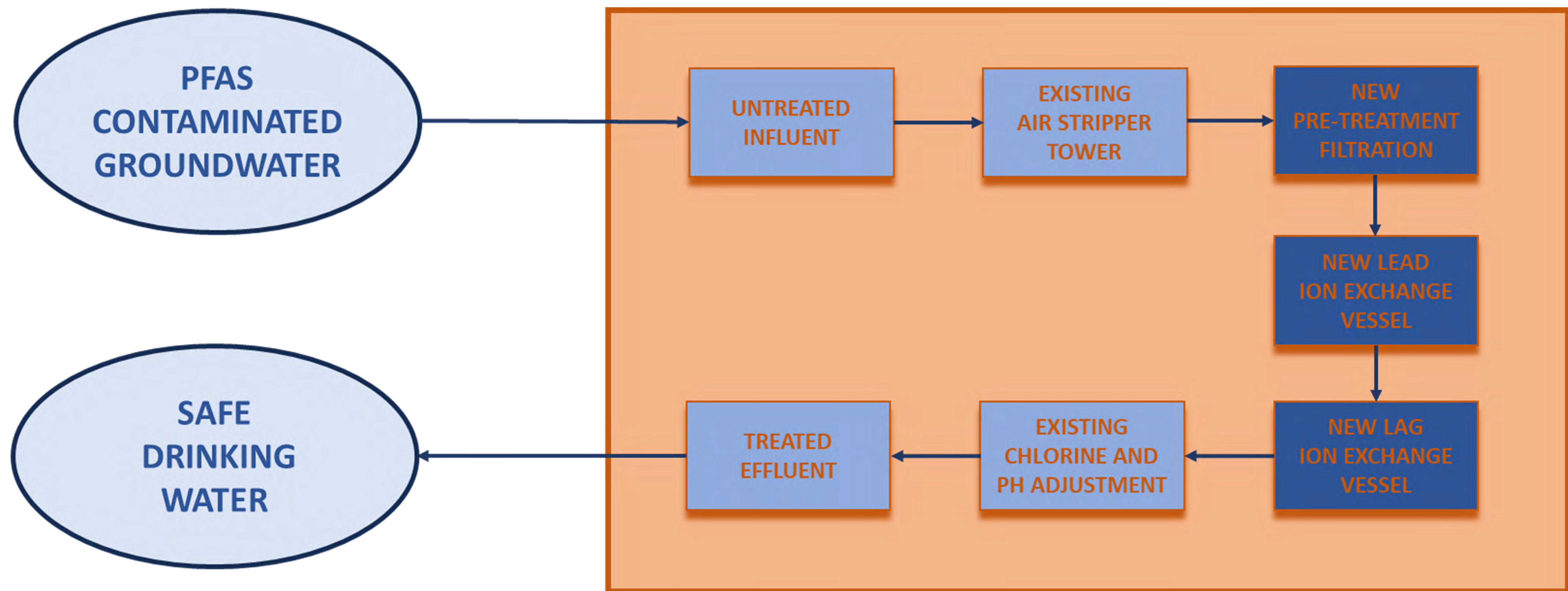


SHAW AIR FORCE BASE

SHAW AIR FORCE BASE

BASE WELL NO. 3 PFAS ION EXCHANGE TREATMENT SYSTEM

BASE WELL NO. 3 IS 1 OF 6 ON-BASE DRINKING WATER WELLS
OCTOBER 2022, WELL WAS REMOVED FROM SERVICE DUE TO ELEVATED LEVELS OF PFAS
DECEMBER 2022, CONTRACT WAS AWARDED TO INSTALL AN ION EXCHANGE TREATMENT SYSTEM FOR PFAS REMOVAL
MAY 2024, CONSTRUCTION BEGAN
FEBRUARY 2025, BASE WELL NO. 3 WAS PLACED BACK IN SERVICE
CONFIRMATION SAMPLE RESULTS SHOW NO PFOS OR PFOA ARE PRESENT IN DRINKING WATER AFTER TREATMENT



SHAW AIR FORCE BASE POTABLE WATER SUPPLY WELL NO. 3



SHAW AFB GROUNDWATER CLEANUP OF PFAS CHEMICALS

WESTON-ER



VIEW OF CONSTRUCTION AREA AND FIRE TRAINING AREAS 1, 2, AND 3, JULY 2021



VIEW OF CONSTRUCTION AREA AND FIRE TRAINING AREAS 1, 2, AND 3, FEBRUARY 2024



The 40-foot trenching machine, April 2023.



The 40-foot trenching machine, March 2023.



Concrete column pouring, September 2023.



Groundwater Treatment Plant concrete floor pour, October 2023.



Effluent water return pipe, September 2023.



Electrical trench work, October 2023.



Installation of Ion Exchange Resin and GAC tanks, February 2024.



Installation of Ion Exchange Resin and GAC tanks, February 2024.



Pouring concrete into Tank Farm concrete wall forms, February 2024.



SHAW AFB GROUNDWATER CLEANUP OF PFAS CHEMICALS

WESTON-ER



Concrete technician performing field slump test on concrete, February 2024



Erection of the Pre-Engineered Metal Building, March 2024.



Installation of the Pre-Engineered Metal Building Roof, April 2024.



Installation of Pre-Engineered Metal Building Girts and Framing, May 2024.



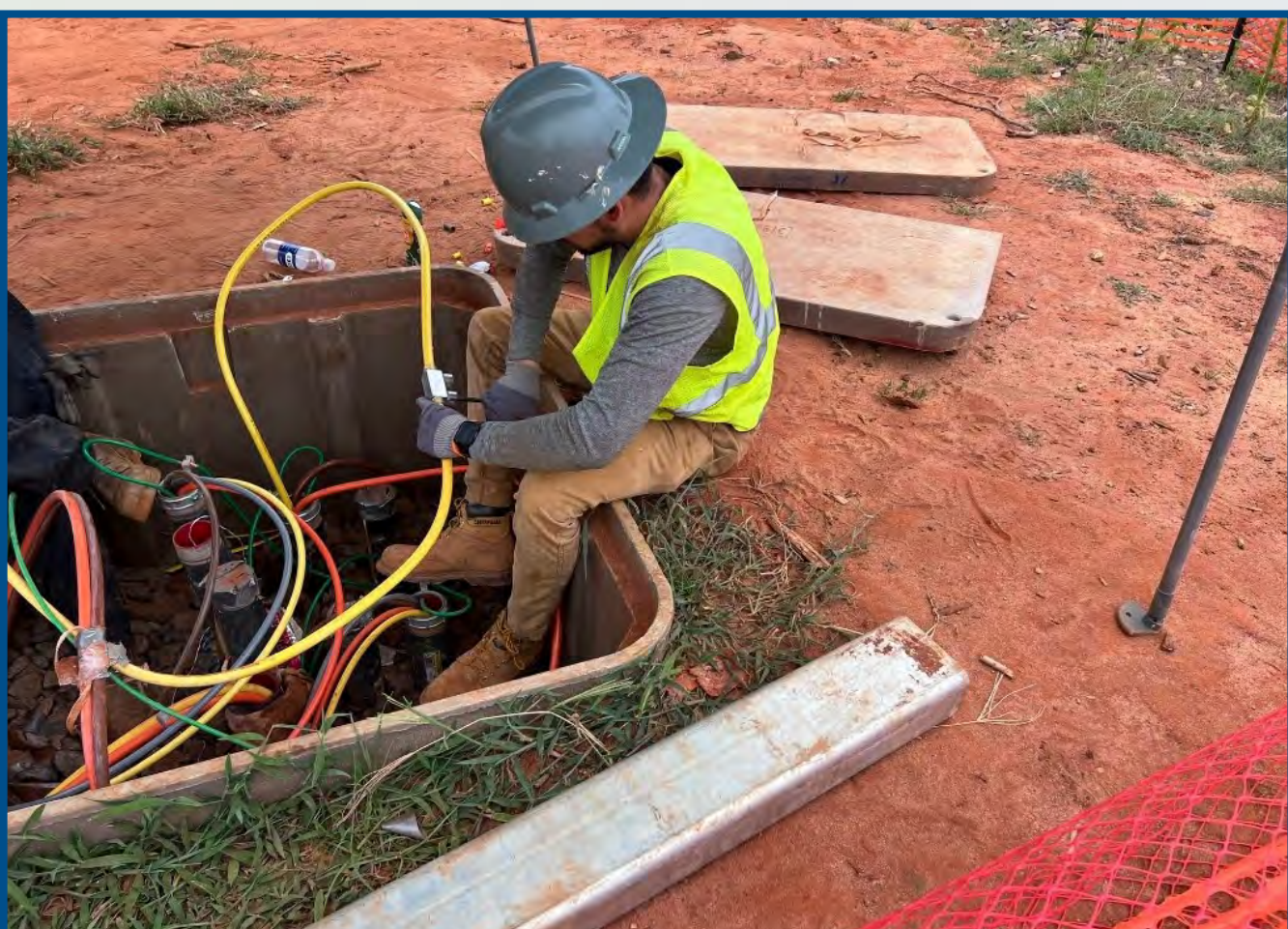
Insulation/siding being installed on the Pre-Engineered Metal Building, June 2024.



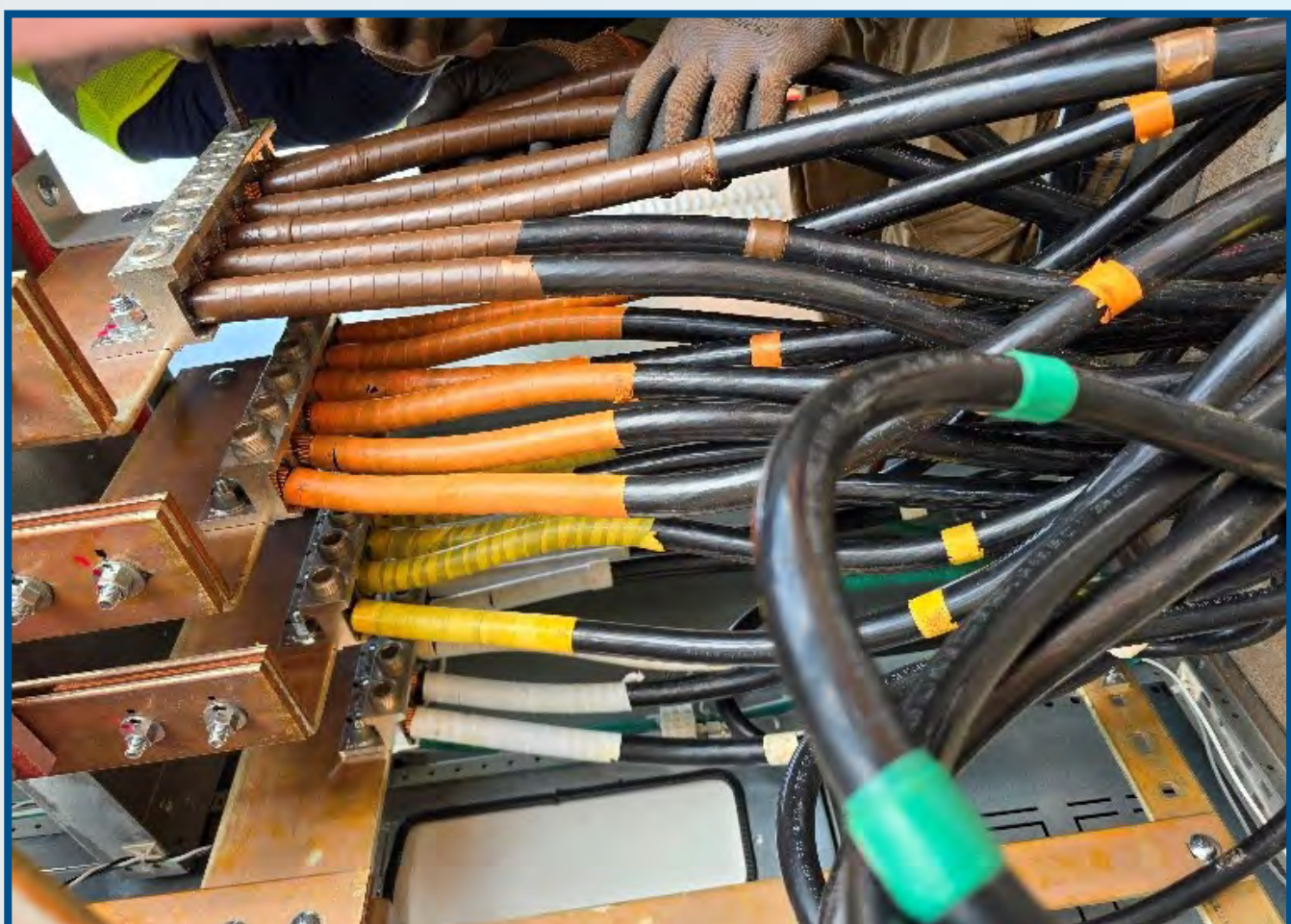
Interior liner panels being cut to fit in the interior of the Pre-Engineered Metal Building, June 2024.



Completed Pre-Engineered Metal Building, July 2024



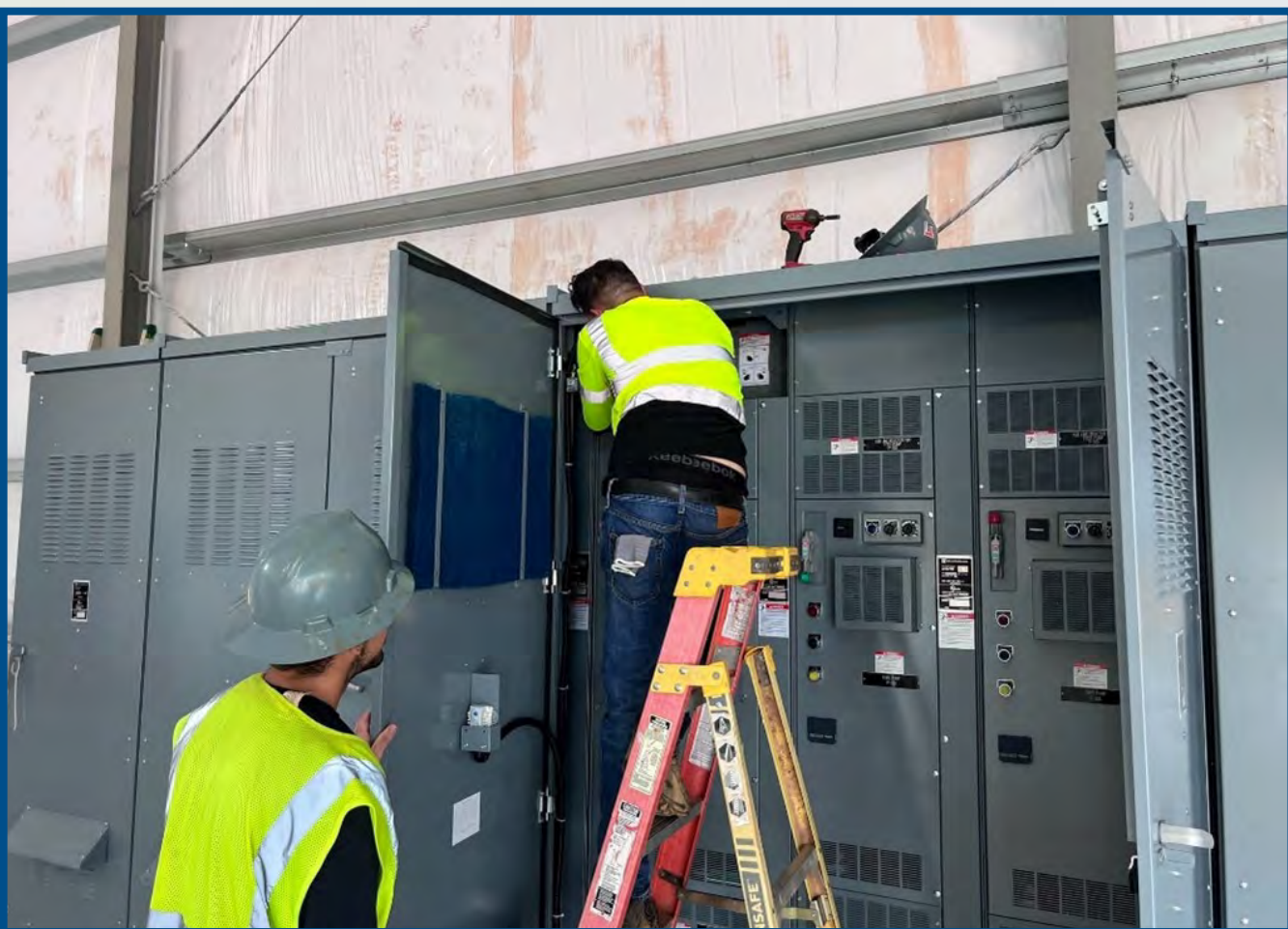
Installation of electrical wiring,



Wiring going into the electrical switchboard, July 2024.



A Motor Control Center being installed, July 2024.



Wiring a Motor Control Center in the Groundwater Treatment Plant, July 2024.



The electrical room of the Groundwater Treatment Plant, July 2024.



Inspecting breakers in the Motor Control Center, July 29 2024



The top of the Field Erected Tank being installed, July 2024.



The Field Erected Tank being constructed, July 2024.



SHAW AFB

GROUNDWATER CLEANUP OF PFAS CHEMICALS



GWTP OVERVIEW FACING NORTHEAST



GWTP OVERVIEW FACING SOUTHWEST



Motor Control Center Area 3



Bag Filter Skid



Transformer Delivery



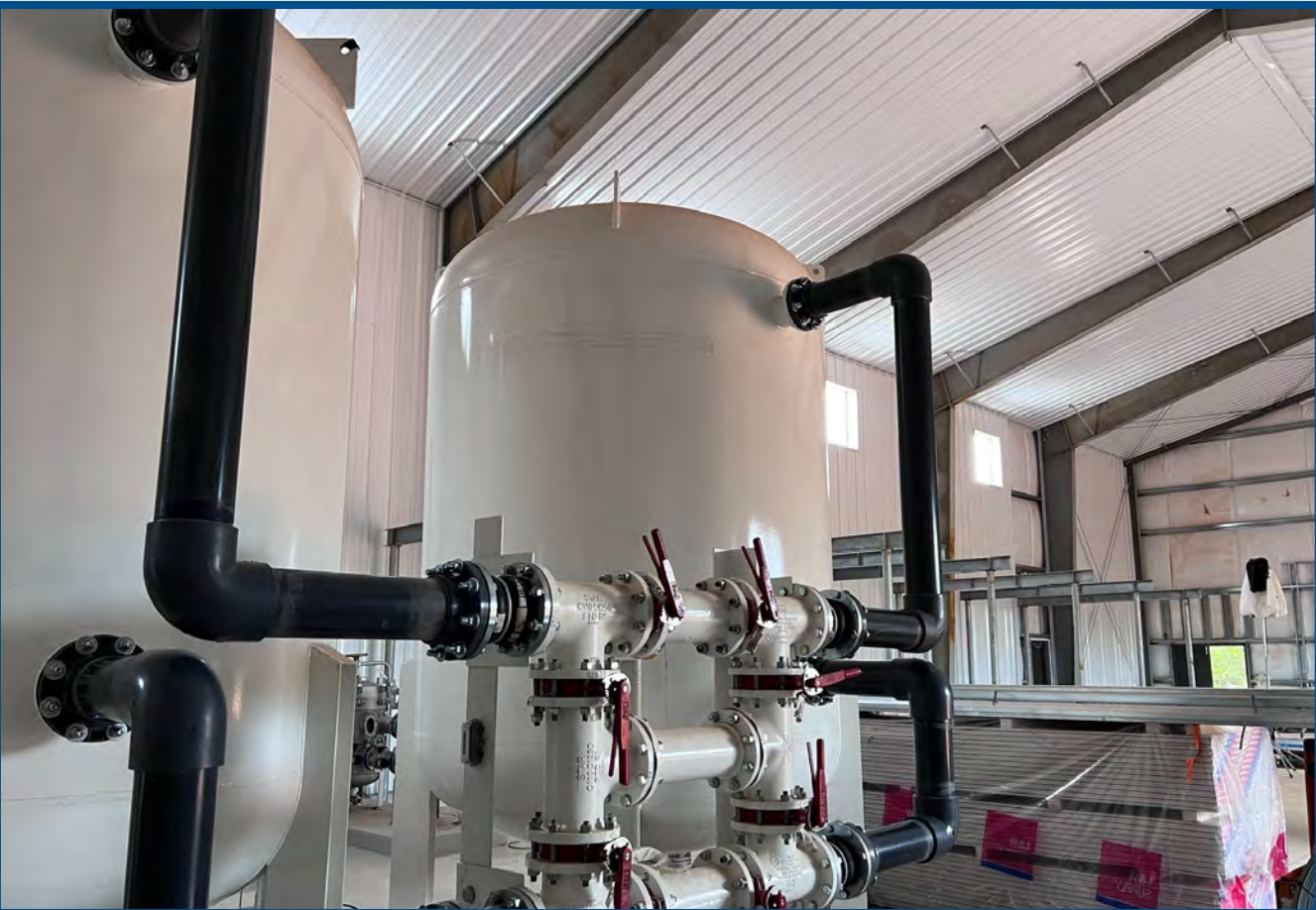
Transformer Installation



Crane and Nitrogen Tank



Nitrogen Delivery System



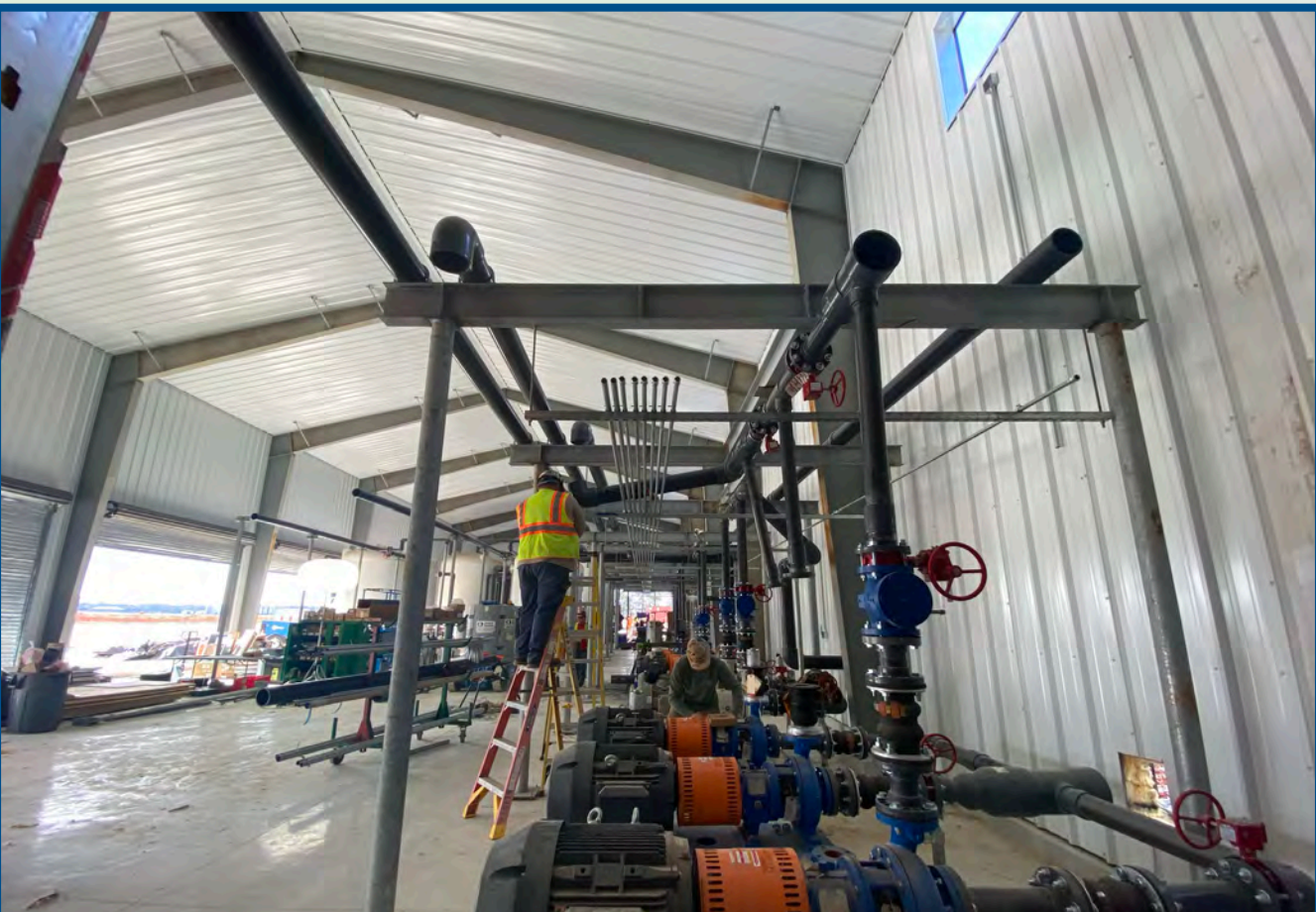
Ion Exchange Resin Tank Piping



Sectionalizing Cabinet Work



Canopy Construction



Conduit, Piping, and Pump Construction



Mass Air Handling Units



Backwash Tank and Crane

SHAW AFB

GROUNDWATER CLEANUP OF PFAS CHEMICALS



Clarifier Installation



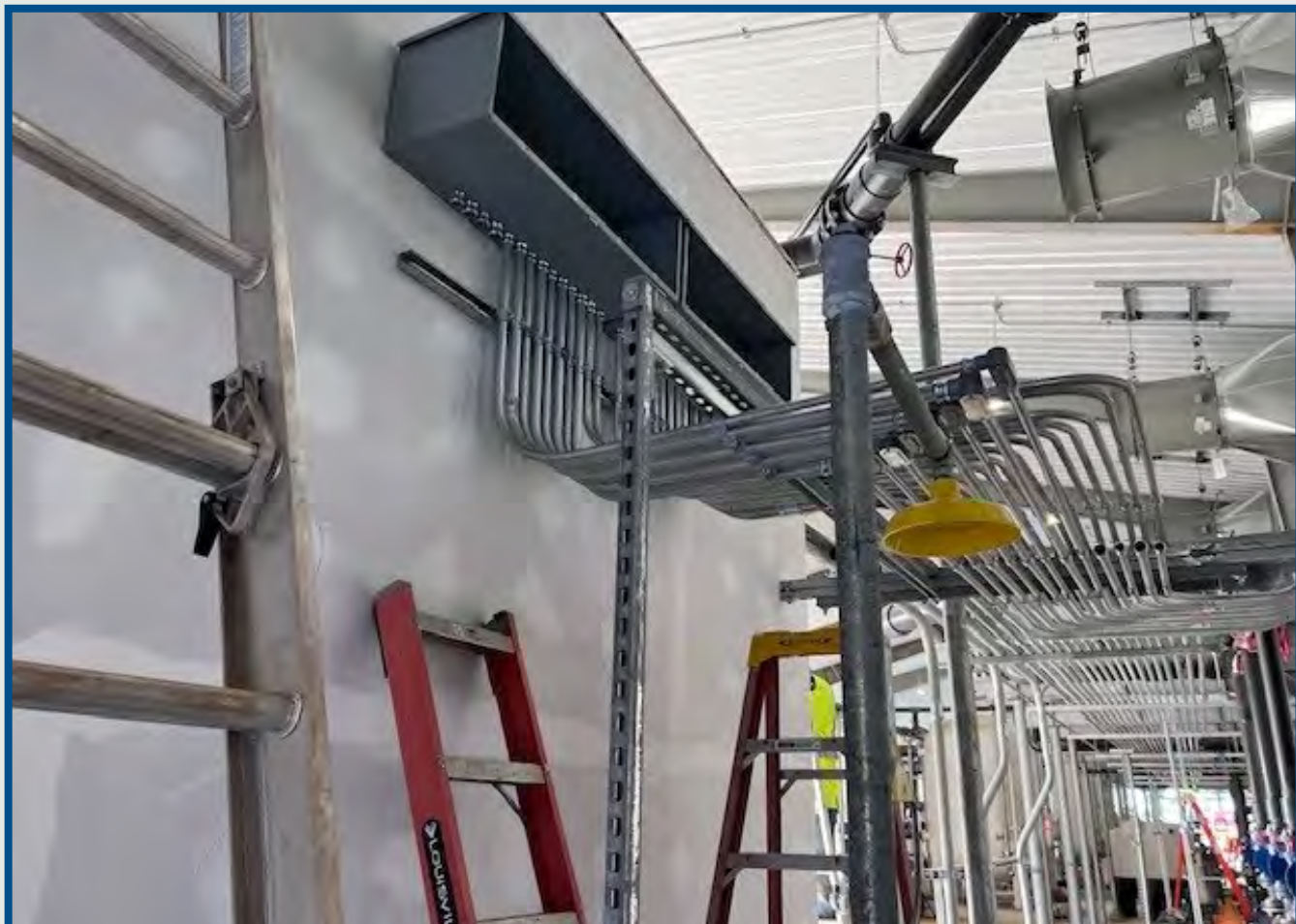
Fan Vent Installation



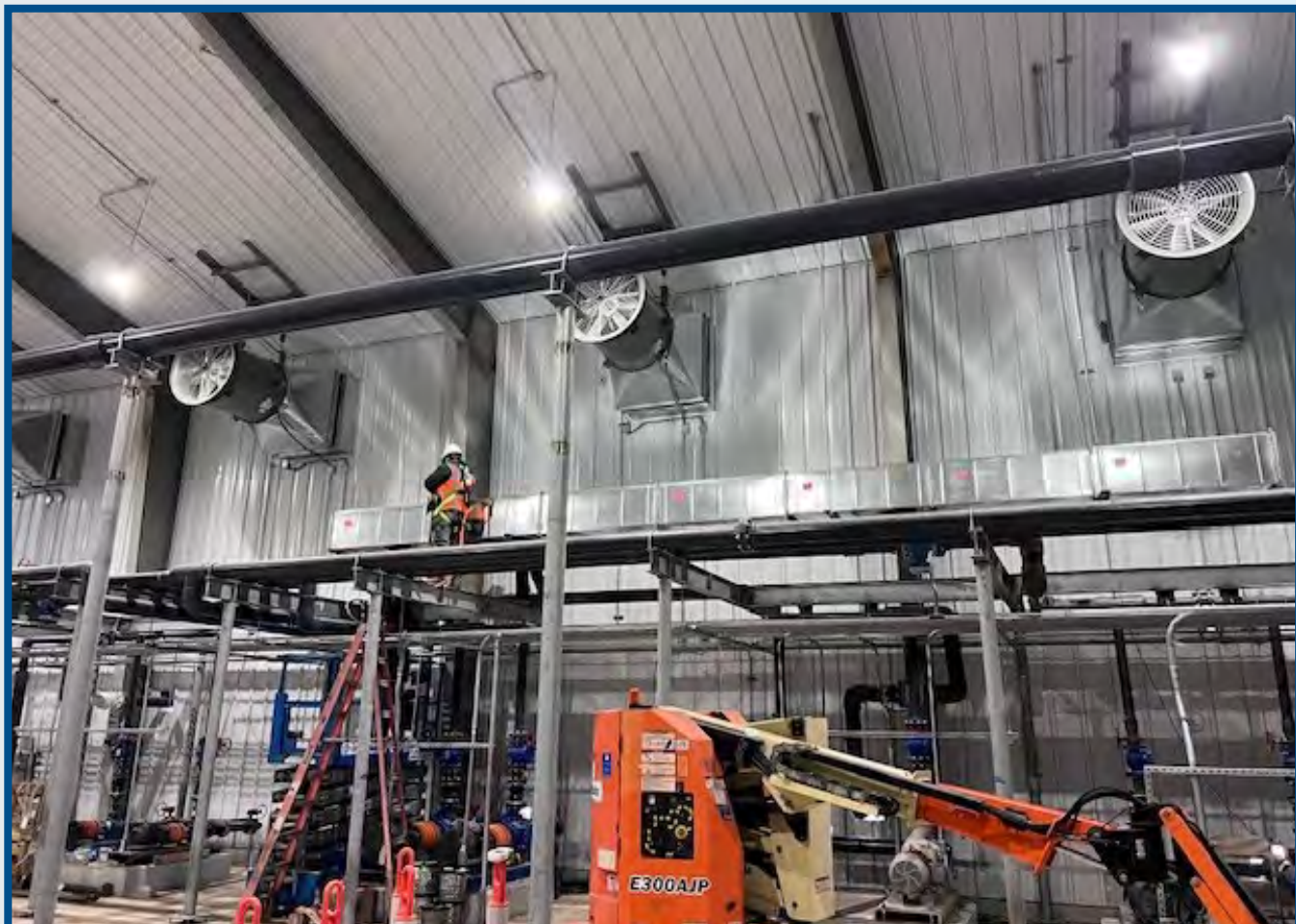
Nitrogen Tank Pipe Install



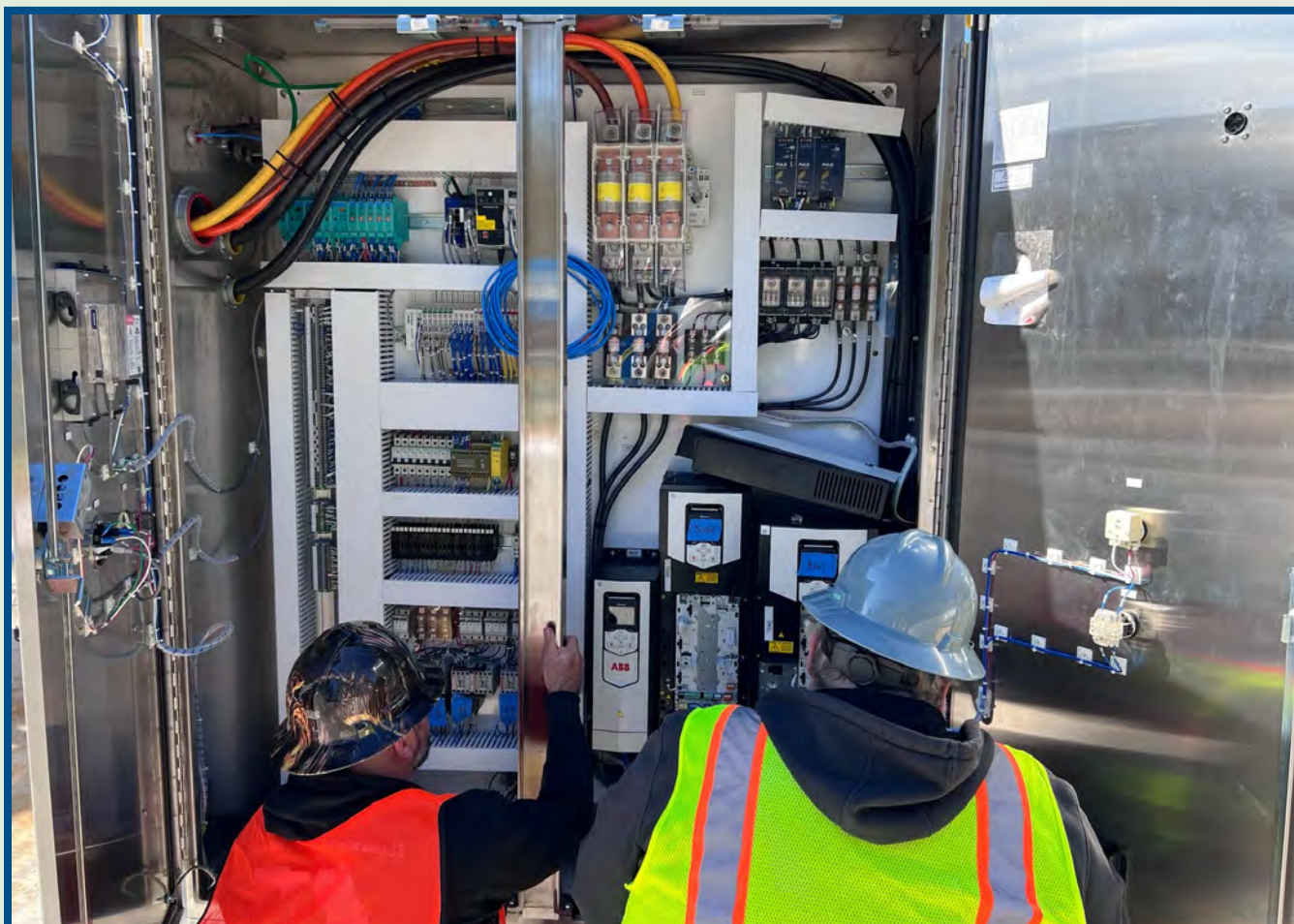
Exhaust Fan Installation



Conduit Electrical Trough Box



Air Duct Install



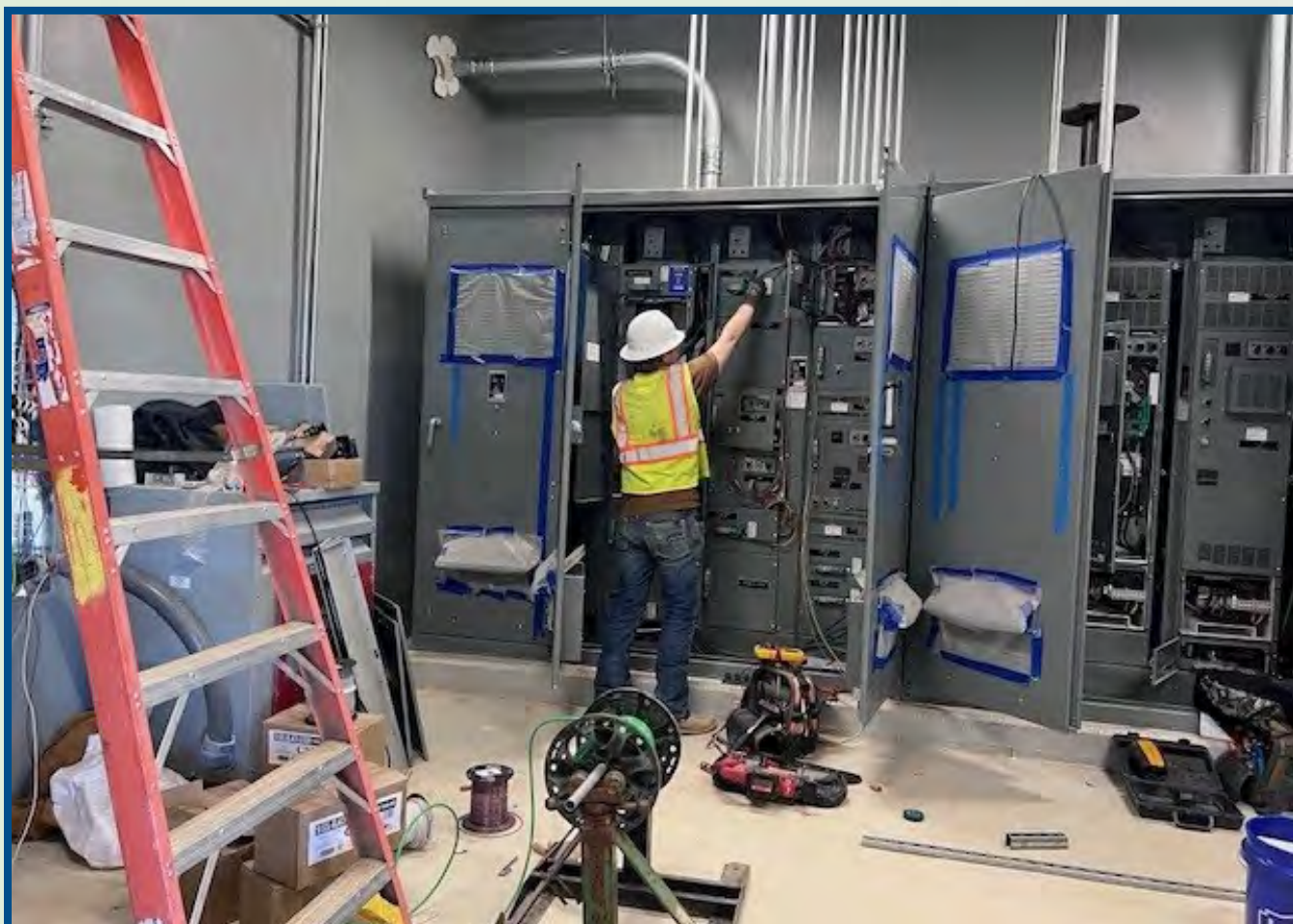
Centrifuge Control Panel



Road Restoration



Control Panel 2



Motor Control Panel Tie-In



Bollard Construction



Air Duct Insulation



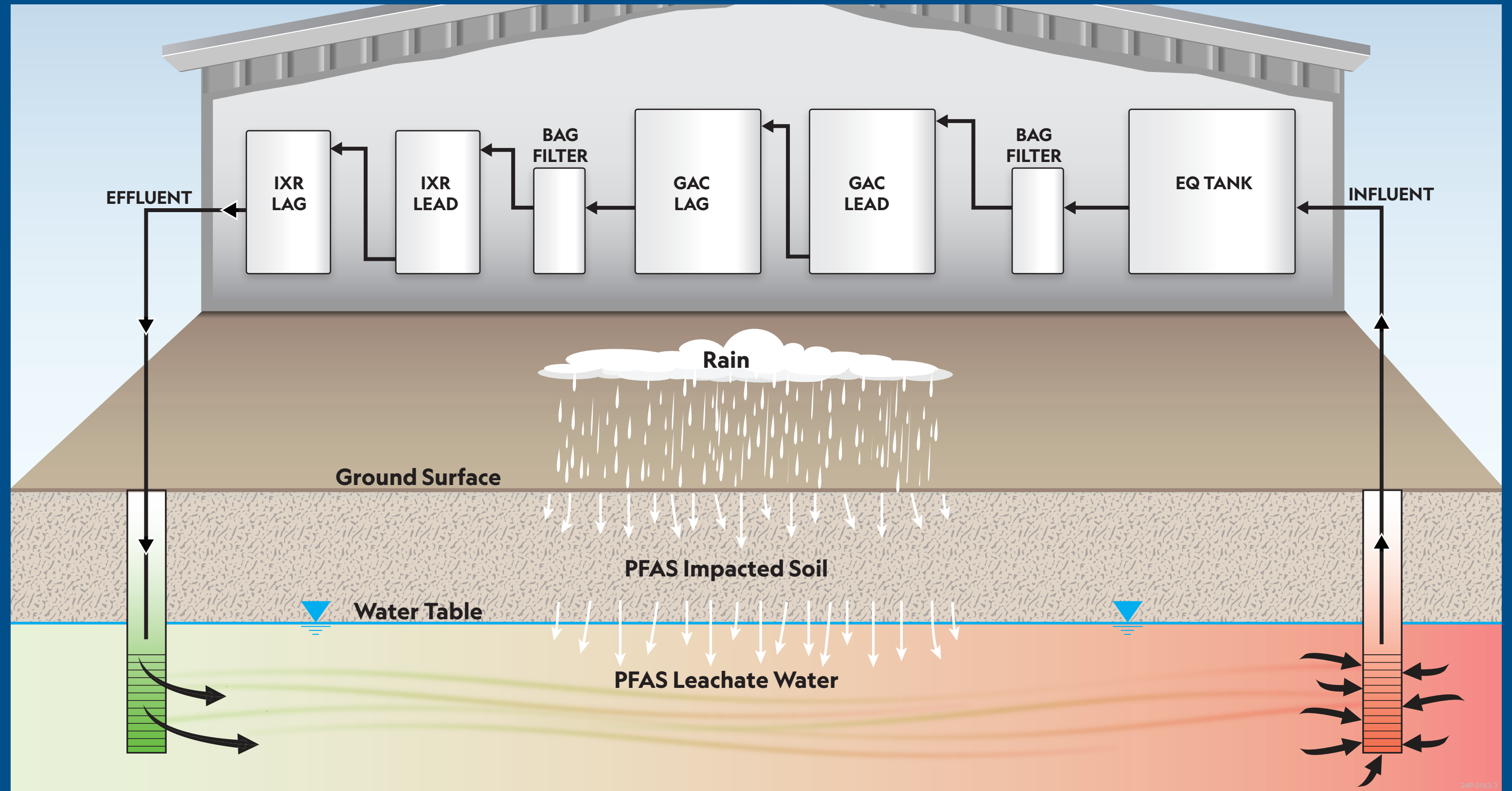
Weston-ER Engineer at CP-02



GWTP 2 Interior

SHAW AFB GROUNDWATER CLEANUP OF PFAS CHEMICALS

WESTON-ER



Attachment B

Shaw Air Force Base

RAB Agenda

&

Slides

June 2, 2025

**Shaw Air Force Base
Restoration Advisory Board
Meeting Agenda**

DATE/TIME: Monday, June 2, 2025
LOCATION: Cherryvale Elementary School, Cafeteria
1420 Furman Dr., Sumter, SC 29154

Open House: 5:00-7:00pm (view informational posters and talk with the Air Force team)

RAB Meeting: 7:00-8:00pm

Topic	Purpose	Presenter	Time (ET)
Opening/RAB Business			
Welcome	<ul style="list-style-type: none">Air Force and Community Co-chairs welcome RAB members	Raymond Magby Daniel Burkett	7:00-7:05
Introductions	<ul style="list-style-type: none">RAB Members and other parties	Attendees	7:05-7:10
Stakeholder/ RAB Member Updates	<ul style="list-style-type: none">Community RAB membersGovernment RAB members	RAB members	7:10-7:15
Air Force Technical Presentations			
Air Force Update	<ul style="list-style-type: none">Environmental program and path forwardCommunity Involvement Plan Update	Juv Salomon Leigh-Ann Fabianke	7:15-7:45
Public Comment			
Public Comment	<ul style="list-style-type: none">Public comment period to the RAB	Public participants	7:45-7:55
Conclusion			
Conclusion	<ul style="list-style-type: none">Review action itemsCo-chairs offer closing remarks	Co-chairs	7:55-8:00
RAB Meeting Adjourns			8:00

- **More Info?** Visit www.shaw.af.mil/Public-Affairs/Community-Engagement/Environmental for more information about the Shaw AFB Environmental Restoration Program.
- **Questions?** Contact Shaw AFB Public Affairs at (803) 895-2019 or 20FWPublicAffairs@us.af.mil
- **Administrative Record:** Official record of Shaw AFB cleanup action decision documents <https://ar.cce.af.mil/>

Air Force Civil Engineer Center



Shaw Air Force Base Restoration Advisory Board

*Annual Meeting
June 2, 2025*



Agenda



- **Welcome**
- **Introductions**
- **Air Force Update**
- **Public Comment**
- **Conclusion**



RAB Purpose Mission



■ Purpose:

- Promote community awareness
- Obtain constructive community review and input on current and proposed environmental cleanup actions

■ Mission:

- Open and interactive dialogue
 - Among the Air Force, South Carolina Department of Environmental Services, and our neighbors
 - Concerning Shaw AFB's Environmental Restoration Program



Housekeeping



- Please silence cell phones
- Save questions for the end of each presentation
- Avoid side-bar conversations
- Sign-in sheet
- Action items
- Use question/comment cards



Question/Comment Cards



Question/Comment:

What is ...?
The Air Force should...

John Doe
123 Question St.
Sumter, SC 29154
(803) 895-XXXX
Email

Please hand completed cards to the facilitator.



Introductions



- **Welcome from Co-Chairs**
 - **Community – Mr. Daniel Burkett**
 - **Air Force – Mr. Raymond Magby**
- **Shaw AFB Remedial Project Manager/RAB Coordinator**
 - **Mr. Juv Salomon**
 - **Mr. Chris Wargo**
- **RAB Members**
- **Elected or Appointed Officials**
- **South Carolina Department of Environmental Services (previously DHEC)**
- **Public Affairs**



Program Update



- **Background Information**
- **Cleanup of Legacy Sites**
- **Per- and Polyfluoroalkyl Substances (PFAS) response**

Juvenal Salomon
Shaw Remedial Project Manager
June 2, 2025

- PFAS are a group of synthetic fluorinated chemicals
- Invented in the 1930s
- Used in industrial and consumer products to resist heat, oil, stains, grease, and water
- Also found in firefighting agents called aqueous film-forming foam (AFFF)
 - Air Force used AFFF in fire response vehicles, hangar fire suppression systems and fire training areas
 - At [Shaw](#), AFFF has been removed from all Fire and Emergency Services vehicles and replaced with new fluorine free foam (F3)





Maximum Contaminant Levels



Enforceable cleanup standards:

■ Legacy contaminants

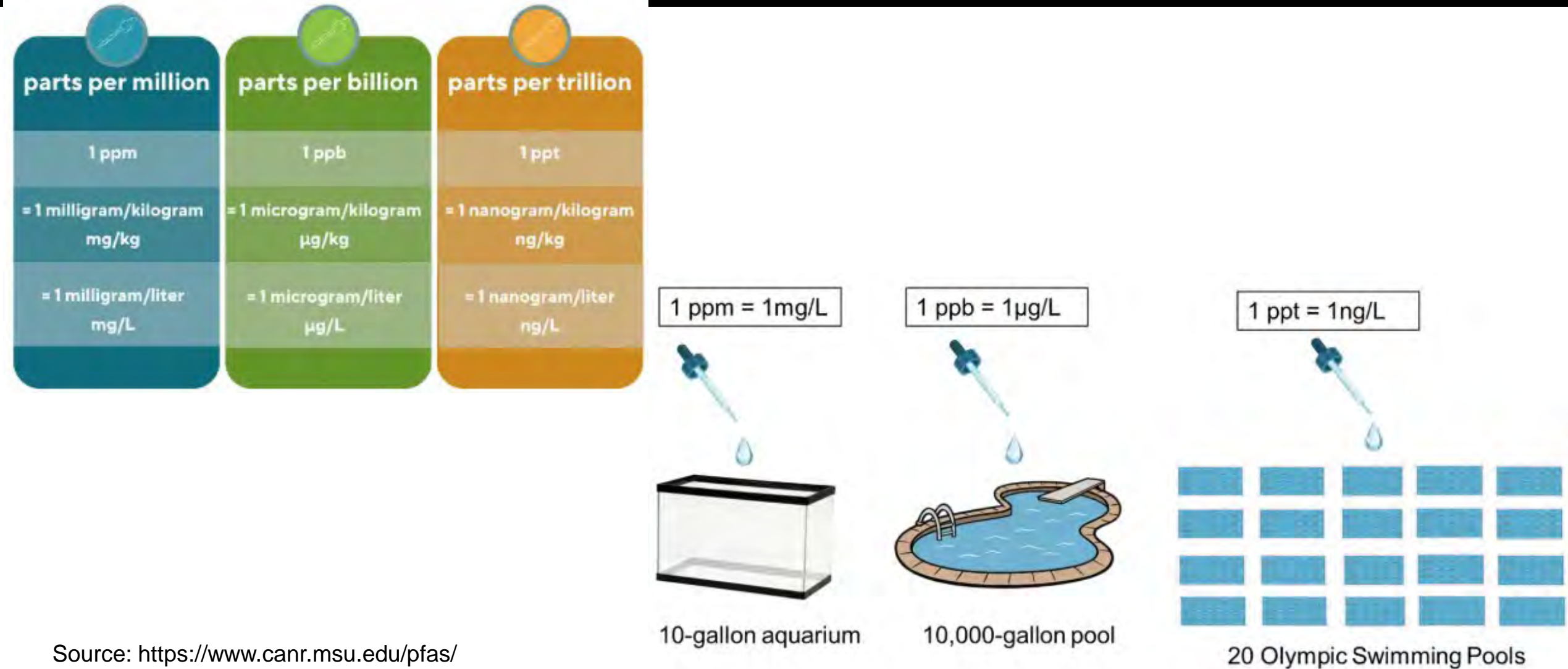
- Perchloroethylene (PCE) 5 ppb MCL (Maximum Contaminant Level)
- Trichloroethylene (TCE) 5 ppb MCL

■ Per- and polyfluoroalkyl substances (PFAS):

- Perfluorooctanoic acid (PFOA) 4 ppt
- Perfluorooctane sulfonate (PFOS) 4 ppt
- GenX, PFNA, & PFHxS 10 ppt
- Hazard Index = 1 (for mixture of GenX, PFNA, PFHxS, & PFBS)
- New PFAS drinking water standards (MCLs) became effective **25 June 2024***
- Affected Public Water Systems have **five years** to comply
- **DoD/AF will conduct prioritized responses**

*EPA announced upcoming changes to MCLs on May 14, 2025. No changes to DAF approach until EPA regulations DoD guidance are final.

Comparisons of Units of Measure



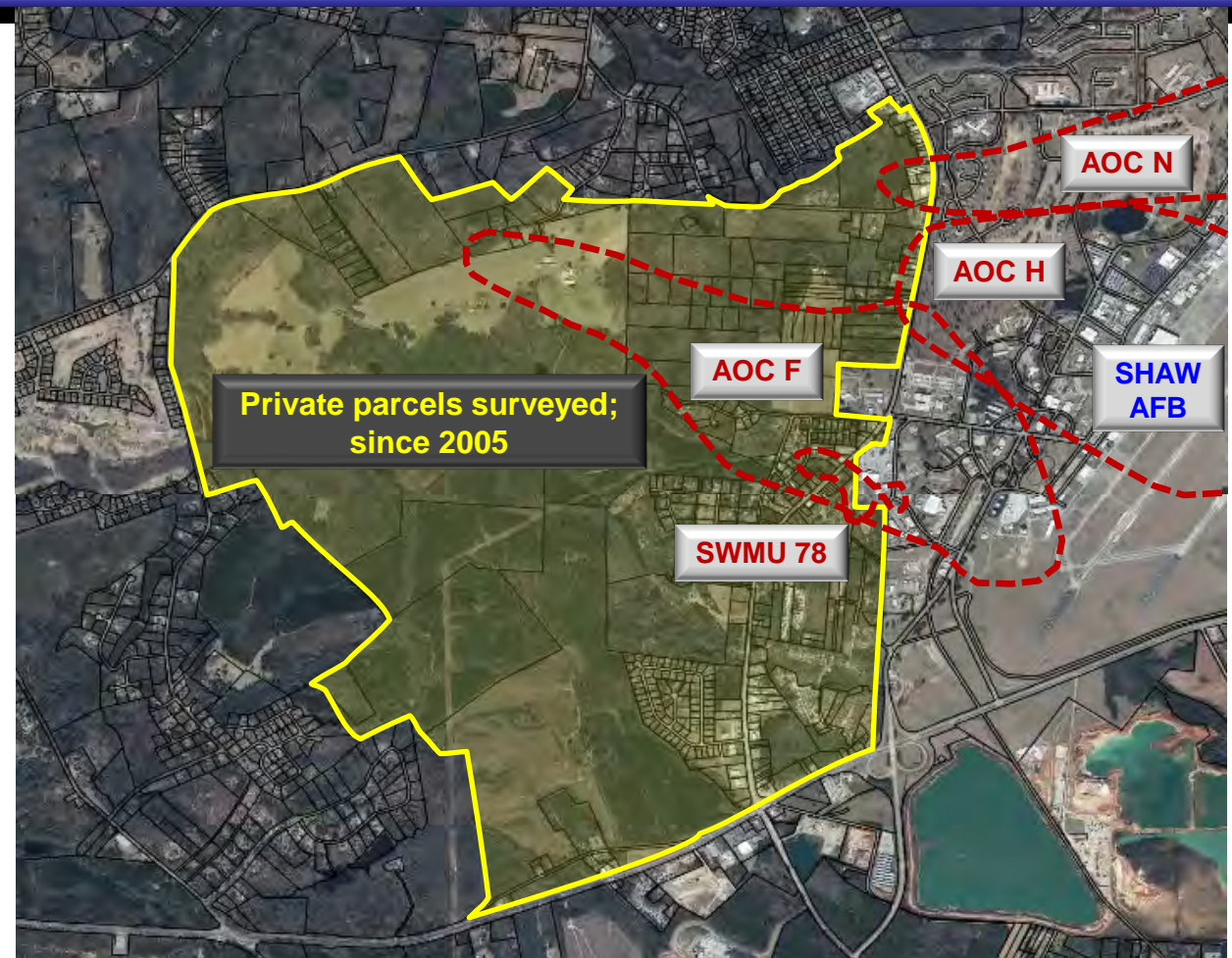
Source: <https://www.canr.msu.edu/pfas/>



Cleanup of Legacy Sites



- Very mature program
 - Final remedies constantly optimized to reduce cleanup life cycles
- Since 1983 program start
 - ~\$150M spent to date
- Managed under State's RCRA permitting program since 1992
 - SCDES is Lead Agency
 - 124 sites; **104 are closed**
 - **18 on active cleanup**
 - **2 sites deferred until base closes**
- Staying in regulatory compliance
 - Multi-year basewide cleanup contract
 - **Cradle-to-grave commitment**



Recurring Land Use Control Activities at West Boundary of Base



Shaw PFAS Response



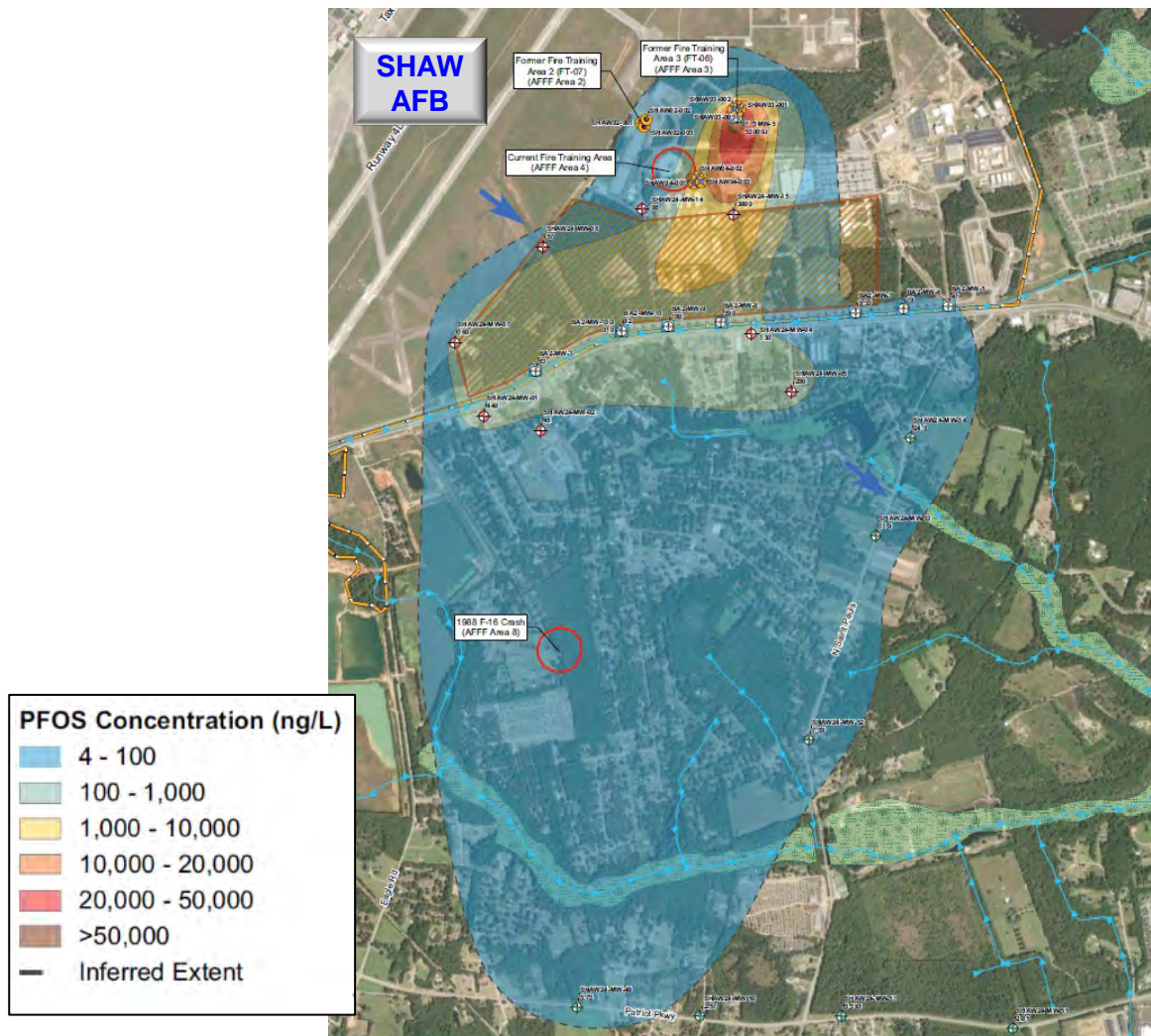
- **PFAS Remedial Investigation**
- **On-Base response**
 - Removal Action – PFAS Filter for GWTP #1
 - Removal Action - PFAS Filter for Base Well #3 (BW-3)
 - Interim Remedial Action - Point Source Removal (GWTP #2)
- **Off-Base response**
 - Removal Action - Drinking Water Mitigation

Amount spent on all PFAS response at Shaw: ~\$75M

• GWTP – Groundwater Treatment Plant



PFAS Phase I Remedial Investigation (RI)



■ Preliminary Assessment (PA), January 2016

- Evaluated 11 suspected AFFF release areas

■ Site Inspection (SI), January 2019

- Elevated PFAS levels in all 6 AFFF areas sampled
- All 6 AFFF areas recommended for RI

■ Expanded SI, November 2021

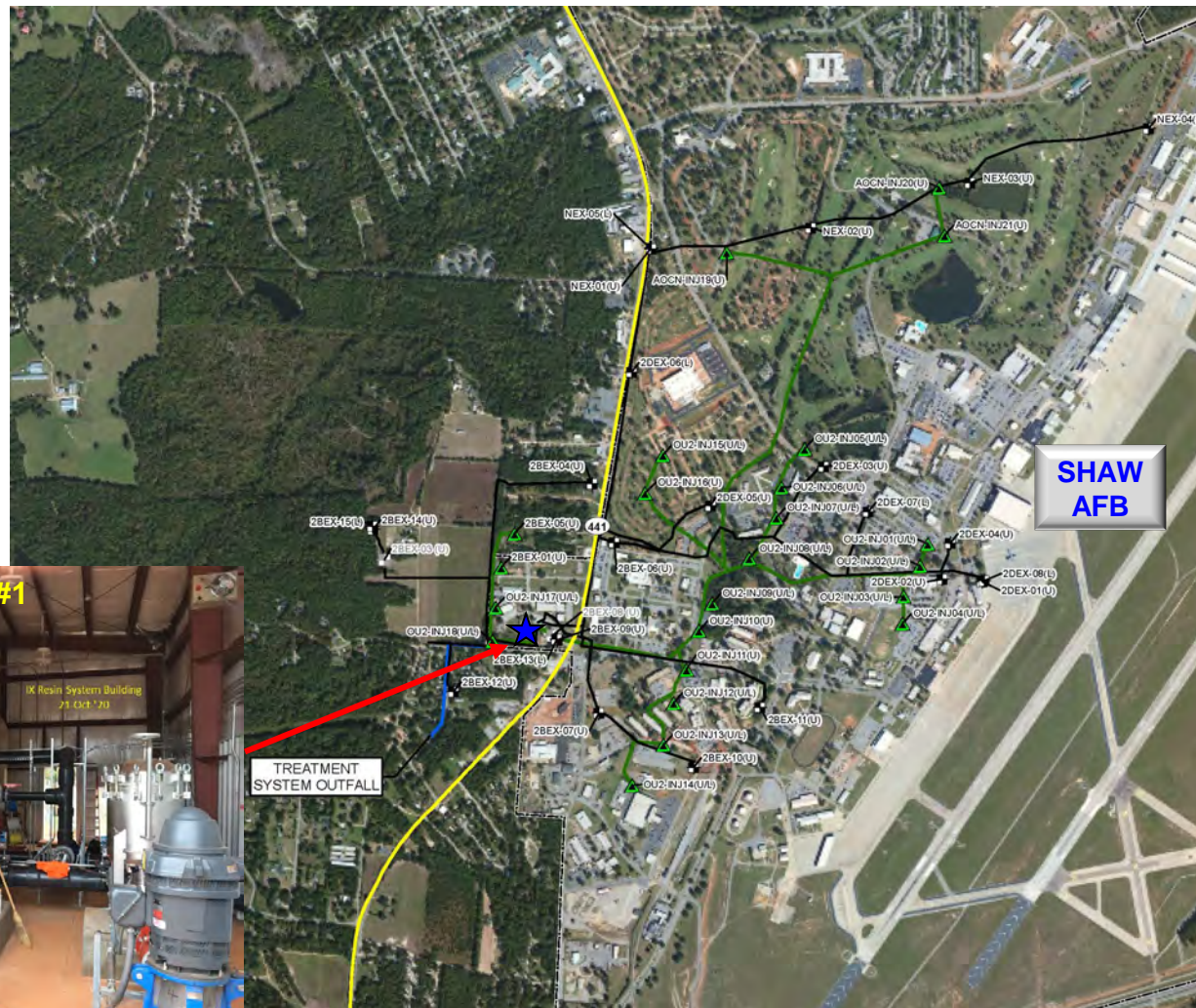
- Took samples along base boundaries
- Confirmed potential groundwater flow off-base

■ Phase I Remedial Investigation

- Contract awarded July 2020,
- Delineate extent of 6 identified release areas from SI
- Field work completed December 2023
- **Next Steps: January 2025 Final Phase 1 Remedial Investigation Report findings recommend expanding remedial investigation**

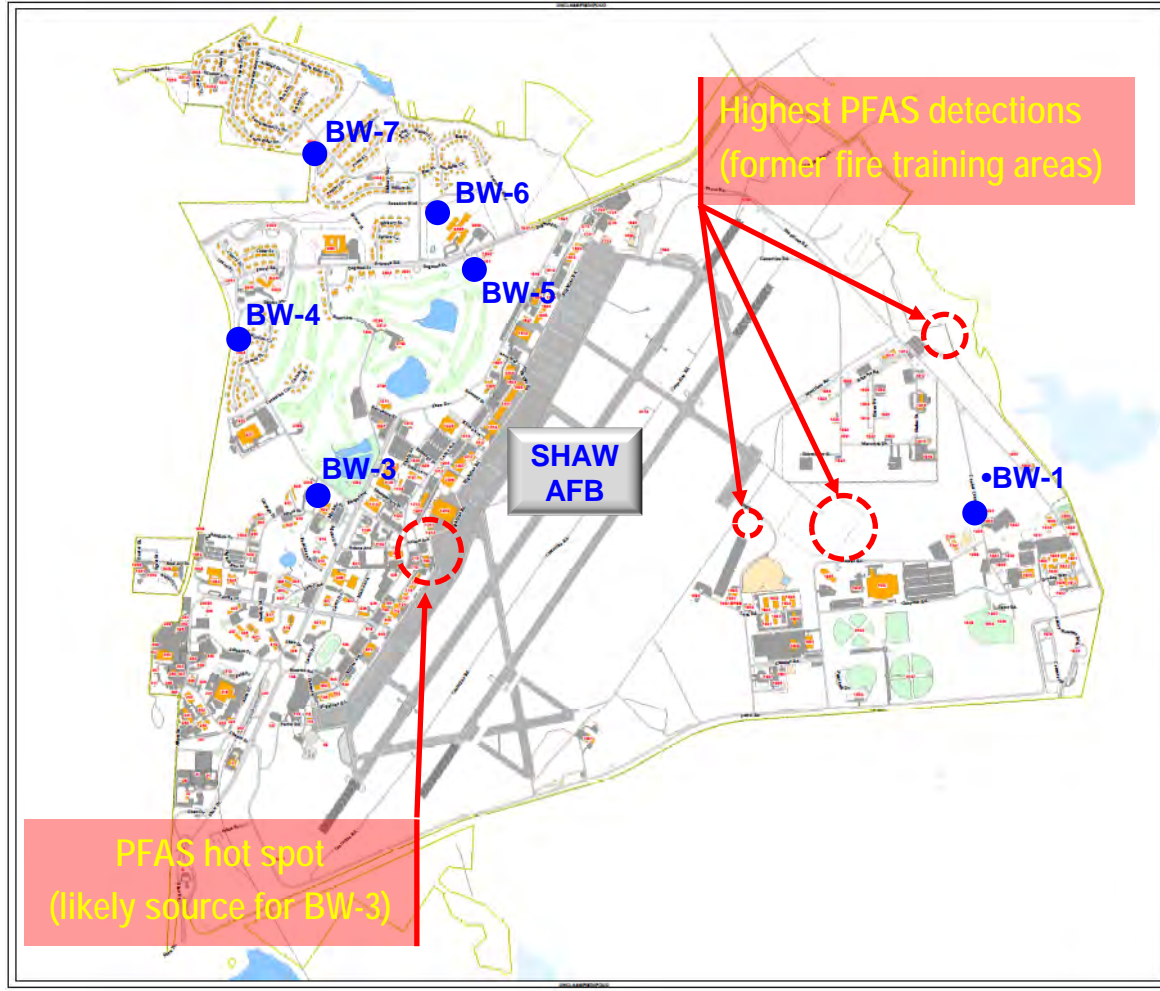
PFAS Filter for GWTP #1

- Early 2019, PFOS/PFOA above the DoD action level in GWTP #1 influent & effluent
- March 2019, GWTP #1 was paused
- PFAS filter system **completed December 2020**;
- Full operation treats ~1,500 GPM of groundwater
- *Next Steps: FY24 contracts awarded for system optimization and resiliency upgrades, \$6.8M*



• GWTP – Groundwater Treatment Plant

PFAS Filter for BW-3



- October 2022: BW-3 shut down
- December 2022: project awarded
- May 2024: construction started
- **December 2024: project completed**

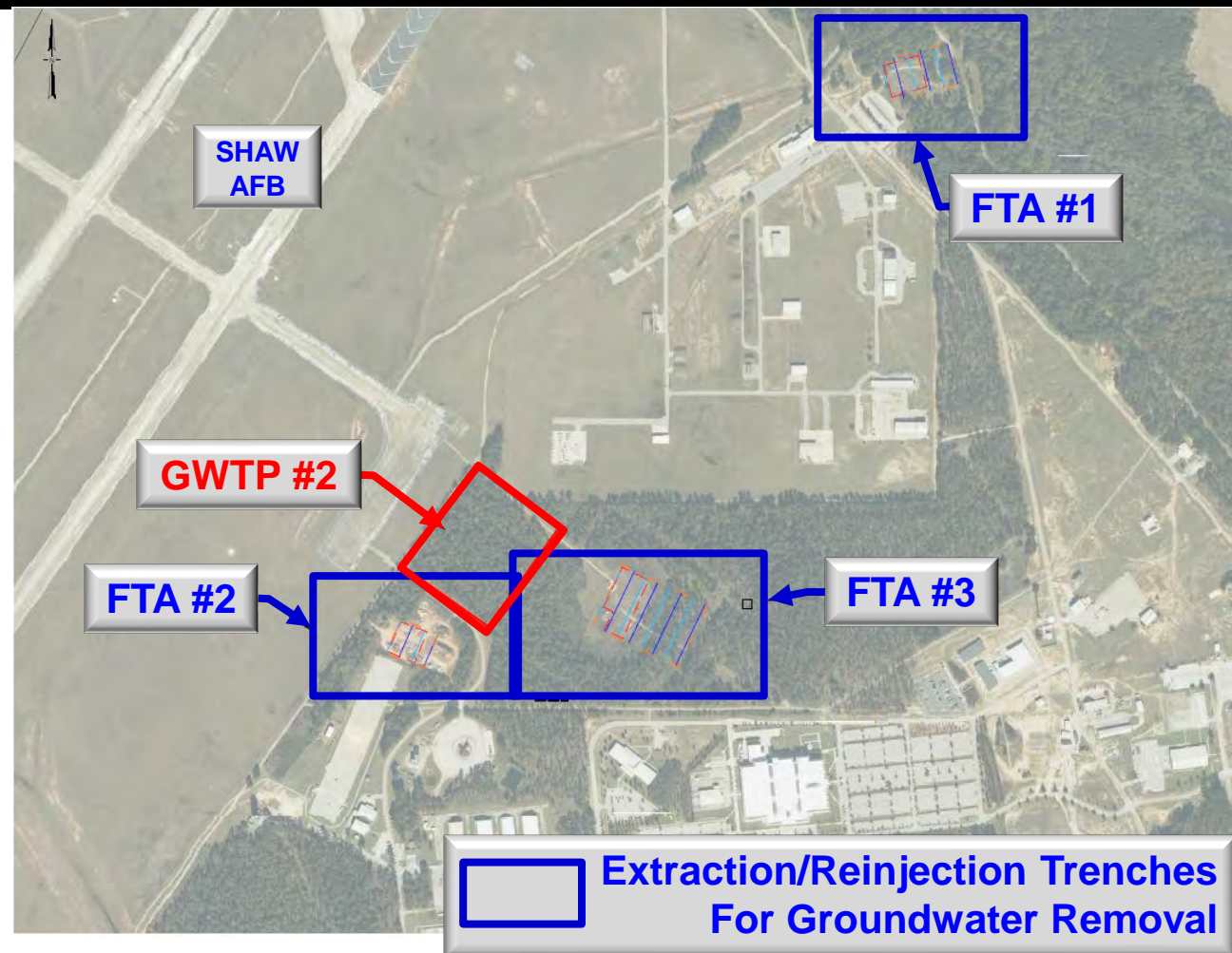




Groundwater Source Removal at 3 FTAs (GWTP #2)



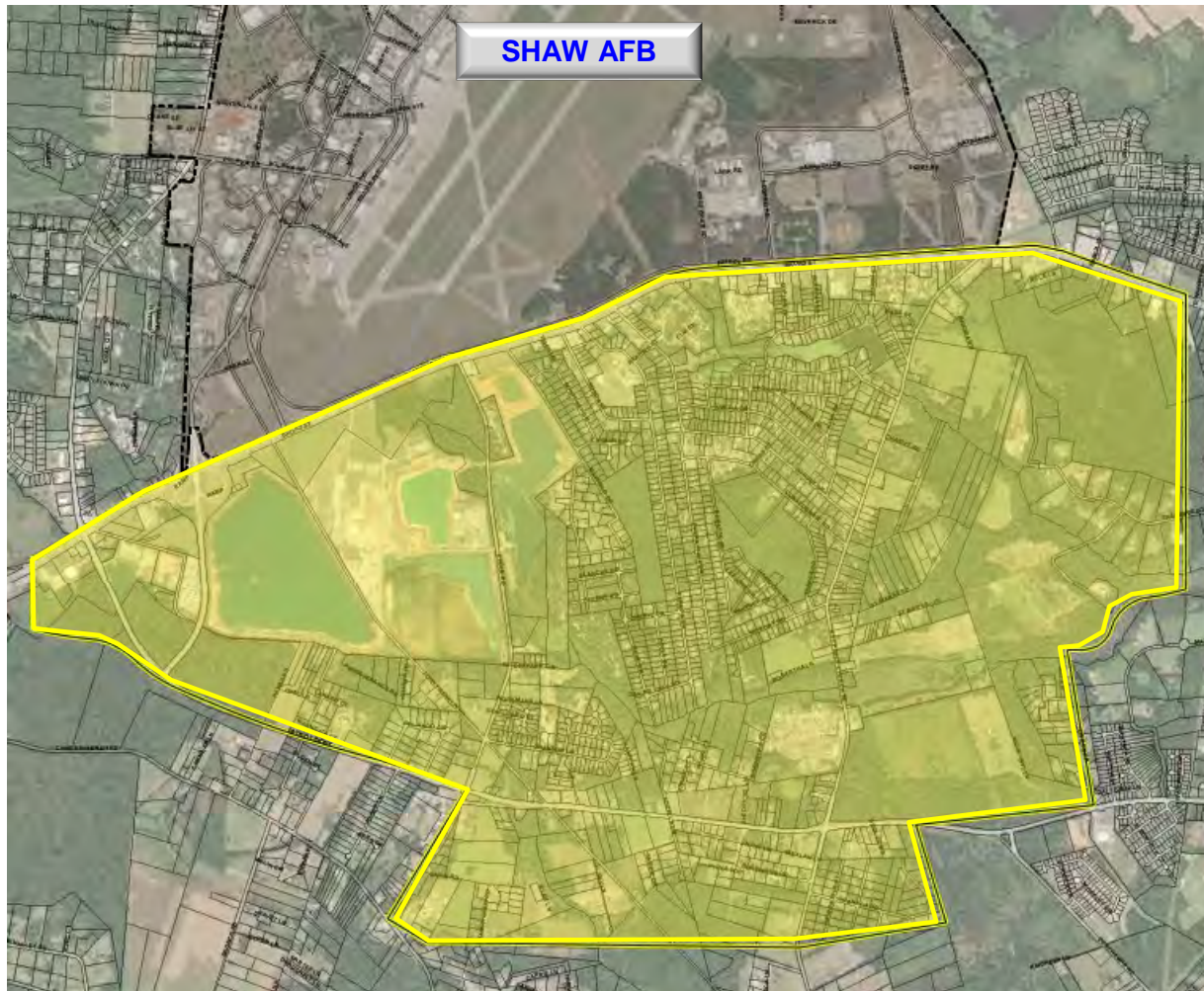
- These 3 former fire training areas (FTA) registered highest PFAS concentrations
- Interim Remedial Action contract awarded May 2021
- Projected completion: July 2025
- *Next Steps: GWTP #2 operations & maintenance; performance monitoring*



• GWTP – Groundwater Treatment Plant



PFAS Off-Base Drinking Water Mitigation



- Since February 2020, 265+ drinking water wells sampled
- 1,120+ parcels surveyed; south/east/west of base
- 165+ wells impacted, on **prioritized** corrective action
- 30 municipal connections completed so far
- *Next Steps: Expanding number of municipal connections, including 3 Mobile Home Parks*

Please help us reach out to private drinking water well owners!



Public Comments



- Please keep comments brief (approx. 3 mins)
- Use question/comment cards as needed
- Action Items will be documented, and the Air Force will follow-up as needed



- **Board Members comments**
- **Action Items**
- **Questions? Contact Shaw AFB Public Affairs**
 - (803) 895-2019 or 20FWPublicAffairs@us.af.mil
- **Administrative Record**
 - Official record of cleanup action decision documents
 - <https://ar.afcec-cloud.af.mil/>
- **Next meeting**
 - June 2026 (Tentative)



Questions on Health Issues



■ Agency for Toxic Substances and Disease Registry (ATSDR)

Ms. Leann Bing

ATSDR Region IV

KBing@cdc.gov

(770) 488-3002

ATSDR Physician: PFAS@cdc.gov

PFAS Webpage: www.atsdr.cdc.gov/pfas/



Closing Remarks



- RAB Co-Chairs
- Adjourn the meeting

