AFCEC BRAC
Former Pease AFB
RAB Meeting

Christopher King – USAF
Madi Dinsmore – WSP
Amy Quintin – WSP
Bria Robinson – WSP
Lauren Hoagland – WSP
Tony Rodolakis – WSP

31 March 2026

Agenda

- **Technical Check** – (Consensus Building Institute)
- **Welcome, Introductions, RAB Business** – (Consensus Building Institute)
- **Site 8 IMS Plant Tour**
- **Technical Presentations**
  - PFAS Treatment Plants Update – (WSP)
  - Newington Public School Sampling – (WSP)
  - Private Well PFAS Response – (WSP)
  - Remedial Investigation Update – (WSP)
  - BERA RAB comments discussion – (WSP)
- **AFCEC Presentations**
  - PFAS Background Study – (USAF)
  - BEC Change in Status – (USAF)
- **Pease Development Authority Update**
- **Open Discussion**
- **Meeting Recap and Next Steps** – Consensus Building Institute
- **Adjourn**

Treatment Plants Update

- **AIMS Update**
  - **To date, treated 1,020,960,000 gallons of groundwater, removing 18.5 pounds of PFAS**
  - **10 wells extracting ~290 gpm average**
    - Disposed of 39,100 pounds of sludge since plant startup
    - Disposed of 47,250 pounds of spent media (GAC/resin) since plant startup
- **Site 8 IMS Optimization Upgrades Complete**
  - **Commissioning began 19 March 2026**
  - **Averaging 90 GPM with 8/10 extraction wells online**
  - **Transition operations from WSP to ECC on 01 May 2026**
- **Site 8 IMS Update**
  - **To date, treated 107,870,000 gallons of groundwater, removing 27.1 pounds of PFAS**
  - **IDW disposal to date**
    - Disposed of 4.16 tons of hazardous waste in 2023
    - Disposed of 33.18 tons of hazardous waste in 2025
    - Disposed of 300,000 pounds of sludge since plant startup
    - Disposed of 71,350 pounds of spent media (GAC/resin) since plant startup

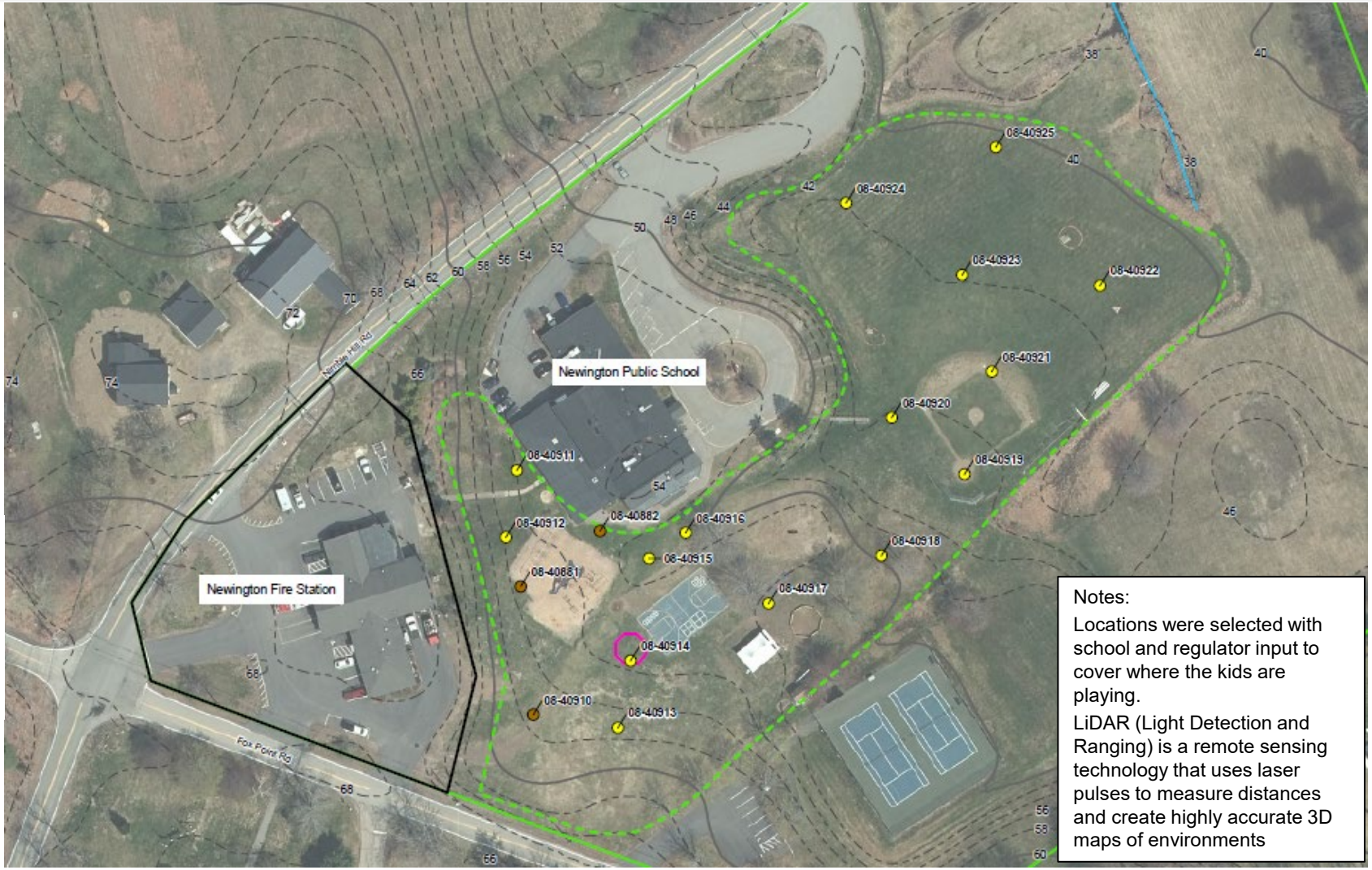
Site 8 Treatment Plant Overview

Newington School Sampling

- 15 Locations
  - 0-1 ft bgs
  - 1-5 ft bgs
- PFAS and TOC

SYMBOL KEY

- New Soil Sampling Locations
- Historical Soil Sampling Locations
- Newington Fire Station
- Gaga Ball Pit
- Newington Public School
- Recreation Area at Newington Public School
- Surface Water Bodies
- 10-foot LiDAR contour
- 2-foot LiDAR contour



Notes:

Locations were selected with school and regulator input to cover where the kids are playing.

LiDAR (Light Detection and Ranging) is a remote sensing technology that uses laser pulses to measure distances and create highly accurate 3D maps of environments

Risk Assessment Methodology

- **Focused Risk Evaluation Methodology - Follows USEPA/DoD guidance**
  - Step 1 - Hazard Identification
    - PFAS > screening levels pulled through the calculations (PFOS, PFOA, PFDA)
  - Step 2 - Exposure Assessment
    - Identify exposure assumptions for school children and workers (days per year, etc)
  - Step 3 - Toxicity Assessment
    - Pull in DoD accepted toxicity values for PFAS
  - Step 4 - Risk Characterization
    - Calculate potential risks for incidental ingestion of soil and dermal contact
    - Compare results to USEPA risk management thresholds

Risk Assessment Calculations

- For ingestion and dermal soil exposure routes, the general equation for calculating intake is as follows:
  - **ADD =(EPC×CR×EF×ED×CF)/(BW×AT)**
    - ADD = Average Daily Dose (mg/kg-day)
    - EPC = Exposure Point Concentration (mg/kg for soil)
    - CR = Contact Rate: the amount of contaminated medium contacted orally or dermally per unit of time or event:
      - Ingestion: Ingestion rate (mg/day)
      - Dermal absorption: Skin surface area (cm2/day) x adherence factor (mg/cm2) x absorption factor (unitless)
    - EF = Exposure Frequency: how often the exposure occurs (days/year)
    - ED = Exposure Duration: the number of years in which a receptor is assumed to contact the contaminated medium (years)
    - CF = Conversion Factor (kg/mg)
    - BW = Body Weight: the average body weight of the receptor over the exposure period (kilograms)
    - AT = Averaging Time: the period over which exposure is averaged. For carcinogens, the averaging time is 25,550 days on the basis of a lifetime exposure of 70 years, which represents the average United States life expectancy. For non-carcinogens, the averaging time is equal to the ED expressed in days (ED × 365 days/year) for oral and dermal exposures.
- **HAZARD QUOTIENT = ADD / RfD**
  - RfD = Noncancer Reference Dose
- **CANCER RISK = ADD x CSF**
  - CSF = Cancer Slope Factor

Newington School Sampling Results

- **Focused Risk Evaluation**
  - School attendees (children 4-13 years) & School outdoor workers
  - Surface Soil Contact (touching/incidental ingestion) across recreational area
  - Toxicity values - consistent with DoD accepted values (Jan 2025)
  - Risk Characterization:

Current (0-1 ft soil)	USEPA cancer risk management range	Cancer Risk Results*	USEPA Noncancer Hazard Threshold	Noncancer Hazard Results*
School Attendee	$1x10^{-6}$ to $1x10^{-4}$	$8x10^{-6}$	1	0.8
School Outdoor Worker	$1x10^{-6}$ to $1x10^{-4}$	$7x10^{-6}$	1	0.3

- **Risks are below USEPA thresholds = no unacceptable risks***

**Pending Regulatory review and concurrence*.

Private Well PFAS Response

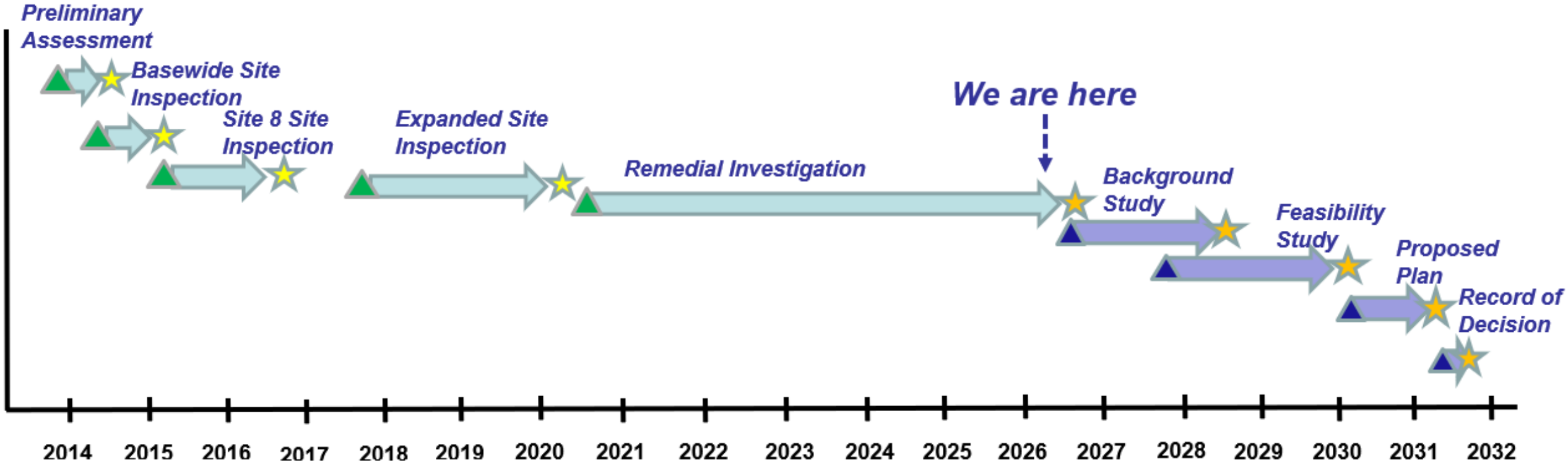
- **Private Response Actions**
  - Phased Approach - Phase 1 includes response to 4 homes over 3 times the EPA MCLs
  - Municipal Waterline Connections (3 units)
  - Point of Entry Treatment System Installation (1 unit)
- **Decision Documents**
  - Engineering Evaluation/Cost Analysis & Non-Time Critical Removal Action Memorandum for Phase 1 homes under review
- **Next steps**
  - Procurement of subcontractors for waterline connection in progress
  - Implement Response Action at Phase 1 homes
  - Prepare decision documents for Phase 2 homes (homes over 2 times the MCL, but less than 3 times the MCL)

Waterline Connection Steps

- Conduct permitting with the City of Portsmouth to allow the appropriate connection to municipal water.
- Mark out approximate path of water conveyance line on the property.
- Conduct subcontractor site walk.
- Notify Dig Safe and conduct a ground penetrating radar survey for preliminary utility clearance.
- Utilize direct push drilling technology to drill to a depth of up to 8 ft below ground surface (bgs) to identify shallow soils.
- Utilize an excavator to excavate along the proposed path of the conveyance line to a depth of up to 6 ft bgs
- Install and backfill the conveyance line piping with certified clean fill in accordance with the City of Portsmouth specifications.
- Remove pump from well and disconnect at the breaker panel.
- Connect the conveyance line from the public water supply line to home water system and perform plumbing and electrical inspections..
- Conduct ground surface restoration activities.
- City of Portsmouth biological testing, meter installation and connection inspection.

Remedial Investigation Update

- Remedial Investigation, including the Baseline Human Health Risk Assessment and Baseline Ecological Risk Assessment, are being reviewed by the Air Force
- USEPA and NHDES review is expected to begin in May 2026
- The Report and Risk Assessments are expected to be finalized in September 2026



Baseline Ecological Risk Assessment (BERA) Update

- **Response to RAB comments**
  - Nature & Extent
  - New England Cottontail
  - Shellfish
  - American Eel
  - Monarch Butterfly

AFCEC Update

- BEC Change in Status
- Data Sharing with Private Well Owners
- Updated Waste Disposal Policy
- PFAS Background Study Update

Personnel Changes

- Pease BEC duties have been restructured due to recent federal workforce restructuring
  - BRAC lost several personnel, forcing reorganization
  - Pease BEC to spend more time on other duties, support coming from other BECs
  - Pease BEC support remains in place with no change
- No change in PFAS RI contract support or legacy contaminant contract support
- PFAS treatment plants being switched from WSP to ECC under an environmental services contract
  - Introduce new ECC team members

Data Sharing with Private Well Owners

- **Process for informing of upcoming Residential:**
  - **Regular Sampling**
    - **Requires access agreement**
    - **Data sharing requirements are stipulated in each agreement**
  - **Result Transmittal**
    - **Accomplished shortly after data is validated**
    - **Letter-format data and written notification of any exceedances**
  - **Follow-Up**
    - **Residents encouraged to contact BEC for general, or DES for health-related concerns**

Waste Disposal Policy

- **Updated Interim Guidance on Destruction or Disposal of Materials Containing Per and Polyfluoroalkyl Substances in the United States, 20 Feb 2026**
- **Allows additional PFAS-impacted waste disposal methods:**
  - **Hazardous waste landfills with environmental permits (current process)**
  - **Solid waste landfills with environmental permits that have composite liners, and gas and leachate collection and treatment systems**
  - **Hazardous waste incinerators with environmental permits and that meet specific temperature requirements**
  - **Others are allowed as well, but require specific and complicated approvals**
- **We are investigating potential options as costs continue to rise**

Background Study

- **OSD Guidance: *Prioritization of Department of Defense Cleanup Actions to Implement the Federal Drinking Water Standards for Per- and Polyfluoroalkyl Substances Under the Defense Environmental Restoration Program*, dated 3 Sept 2024**
  - **DoD Components to work with EPA and state regulators, as appropriate, to evaluate anthropogenic background levels of PFAS on an installation-specific basis**
  - **Risk assessments to include consideration of background levels of chemicals present at a site, which can be highly variable across the country**
  - **If PFAS background levels are higher than the MCL, DoD components will work with regulators to determine the appropriate remedial goals for the site**

SAF Background Study Guidance

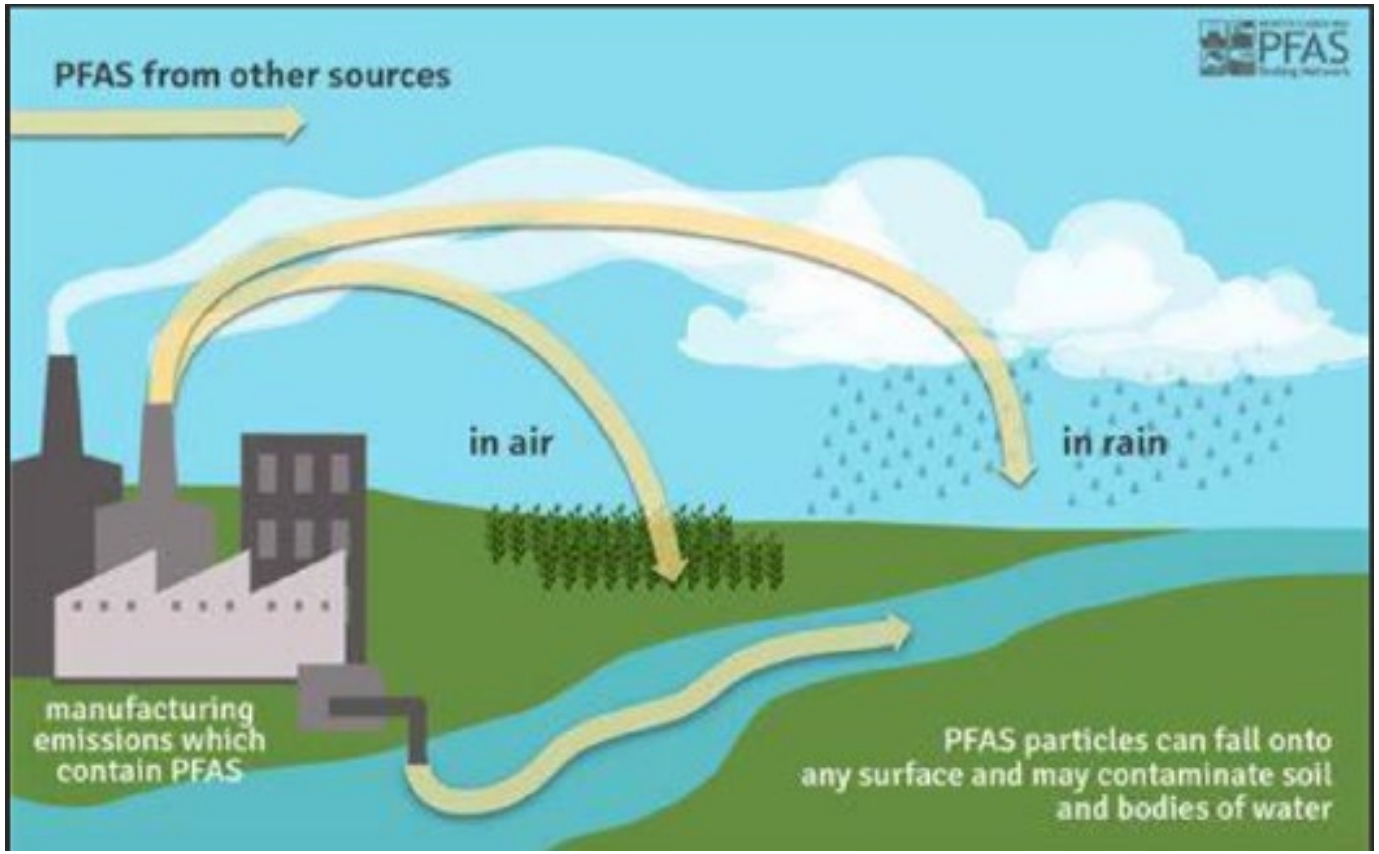
- **SAF Guidance: *Department of the Air Force Private Drinking Water Policy Regarding the 2024 EPA PFAS Maximum Contaminant Levels*, dated 7 Feb 2025**
  - **SAF/IEE guidance directs DAF to execute PFAS Background Studies for soil, groundwater, surface water, and sediment as part of the risk assessment during the Remedial Investigation phase of CERCLA.**

EPA Definition of Anthropogenic Background

- **EPA *Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites*, September 2002**
  - **Background definition**
    - **Substances or location(s) that are not influenced by the releases from a site**
    - **Natural or human-made substances present in the environment as a result of human activities**
    - **"Background information is important to risk managers because the CERCLA program, generally, does not clean up to concentrations below natural or anthropogenic background levels."**

Anthropogenic Background

- Definition of anthropogenic: relating to, or resulting from the influence of human beings on nature (Merriam-Webster.com)
- Presence based on anthropogenic sources associated with atmospheric deposition
- Background concentrations inform our understanding of baseline levels of contamination that can be expected even in “pristine” or “non-impacted” areas



SAF Guidance Plan

- Determine anthropogenic baseline PFAS levels in environmental media (soil and groundwater) that are not the result of DAF activities
- The purpose of conducting a PFAS background investigation is not to identify "clean" versus impacted areas
  - The goal of the DAF Environmental Restoration Program is to address unacceptable risks to human health or the environment from contamination attributable to DAF activities, not to alter the natural environment or to remediate anthropogenic contamination
  - Contaminant cleanup goals for a site consider naturally occurring or anthropogenic background concentrations

Data Sources

- **Critically important to evaluate all available existing PFAS data for an installation to develop an appropriate sampling plan**
  - **PA/SI data**
  - **Available RI data**
  - **Drinking water data (on and off-base)**
  - **Third party data**
  - **USGS**
  - **Federal, state, local sampling data**
  - **University studies**
  - **Non-DAF private entity PFAS sample data**
  - **Third party background studies**

RAB Membership

RAB Community Concerns

DAF/PDA/Regulator Development Process Checks and Balances

- Discuss ASN Process
- Measures to prevent impact to PFAS and other remedial efforts

PEASE DEVELOPMENT AUTHORITY
Helping New Hampshire's Economy Thrive

City of Portsmouth Water Updates

Public Comment Period

Your Success is Our Mission!