



Restoration Advisory Board Biddle Air National Guard Base

Lt Col Lydia Stefanik

NGB/A4VR

11 July 2024



Updates Since 28 March 2024



- Environmental Restoration Program Sites:
 - Willow Grove Site 1 (Privet Road):
 - Completed groundwater sampling 23-24 April 2024 (3rd sampling event for EA on LTM contract)
- Coordinating with SAF IEE on signing amendment to Navy Federal Facility Agreement
 - Pending legal coordination for all stakeholders to discuss proposed changes and way forward
- PFAS Remedial Investigation:
 - Completed all remaining field work for RI
 - Compiling Draft RI report
- Biddle ANGB Community Involvement Plan
 - Biddle ANGB has a public affairs staffing shortfall which has delayed progress with the CIP
- Interim Groundwater Action:
 - Draft Final Pilot Test report submitted to regulators on 29 May 2024. Once report is final ANG will start NTCRA EE/CA for interim groundwater action at the former building 201/ wash rack area
 - Allonnia started foam fractionation pilot test effort on 23 May using ANG groundwater extraction wells at the former building 201/ wash rack area



3 Month Forecast of Activities



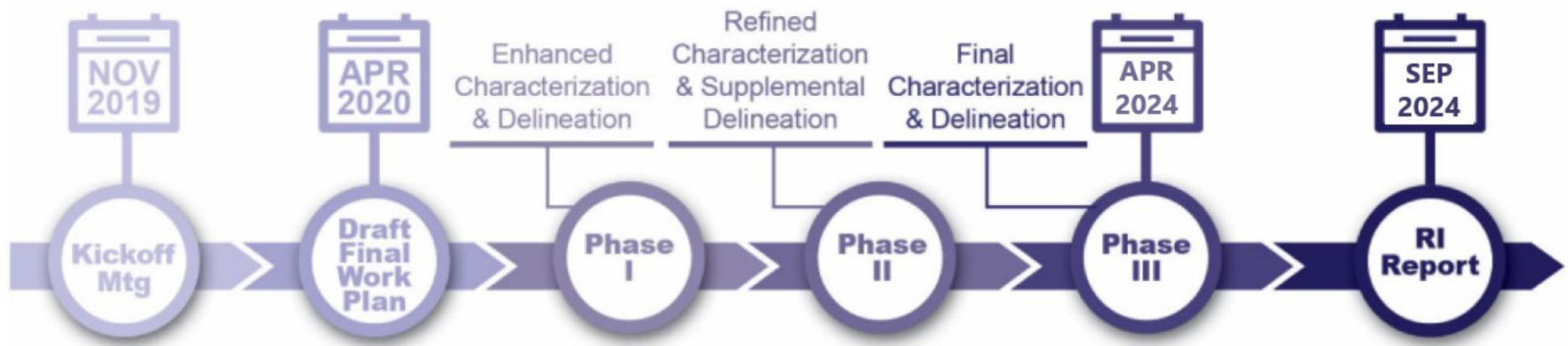
- Sign Navy Federal Facilities Agreement:
 - Complete Surface Water Response Action Memorandum
 - Complete Residential Drinking Water Action Memorandum
- Continued drinking water response actions (sampling, bottled water, and coordination with North Wales Water Authority (NWWA) and Warminster
- Submit Draft Final PFAS RI Report to regulators
- Baseline Human Health and Eco-risk assessment (part of RI)
- Biddle ANGB collect surface water sample SW-026 per US EPA Region III and PADEP direction/agreement
- Continued storm water treatment operations (Warminster)
- Long Term Monitoring Groundwater Sampling, July 2024, Site 1 Privet Road
- Final Pilot Test Report (Draft Final Report submitted to EPA and PADEP 30 May 2024)
- Draft Non-Time Critical Removal Action Engineering Evaluation (EE)/cost analysis (CA) for interim groundwater action



Remedial Investigation Project Objectives



Remedial Investigation Objective: Delineate the nature and extent of PFAS contamination, the threat to human health and the environment and prepare a Remedial Investigation Report.





Remedial Investigation Progress



- Phase I – complete
 - Work performed between July 2020 and March 2021
 - Installed 10 shallow monitoring wells and three multiport wells (shallow to deep intervals)
 - Collected soil and groundwater at each new well location
 - Performed on-site surface water and sediment sampling
- Phase II – complete
 - Work performed between 2021 and June through December 2023
 - Collected off-site surface water and sediment sampling in the unnamed tributary leaving the Base
 - Installed 6 shallow and 9 intermediate wells to investigate 6 data gap areas
 - Collected site-wide groundwater samples in April 2021 and November/December 2023
 - Performed a 1 month long, automated groundwater level monitoring event involving 30 wells that will be used for groundwater modeling purposes



Remedial Investigation Progress



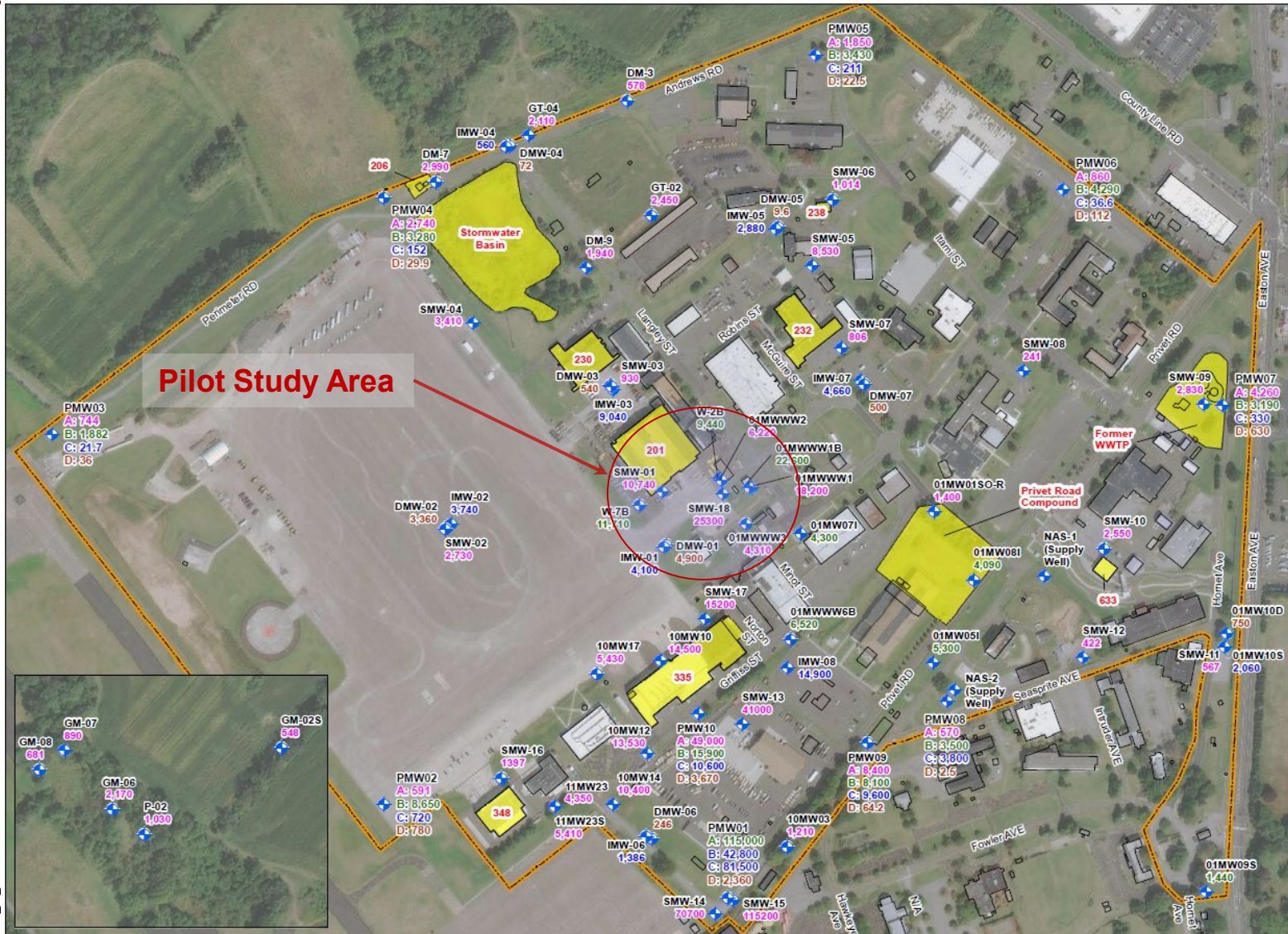
- Phase III Activities – complete
 - Hosted 4 scoping meetings with EPA Region III and PADEP to evaluate Phase II results and build Phase III sampling approach for:
 - Human Health and Ecological Risk Assessments
 - Additional on-site soil, groundwater, and surface water/sediment characterization
 - Phase III soil investigation completed April 2024
 - Shallow well installation and sampling completed May 2024
 - Supplemental surface water/sediment sampling completed April 2024
- Remedial Investigation Report
 - Target completion: late September 2024



Groundwater Pilot Study Overview



- ANG conducted a Pilot Study to inform plans for subsequent interim remedial action for PFAS in groundwater
- Pilot Study included design/install 3 extraction wells, design, construction, operation of 30-day pilot test to evaluate feasibility of hydraulic containment of groundwater plume near Building 201
- Pilot Study included a series of variable rate step-tests, followed by series of constant rate pump tests with hydraulic and chemical monitoring throughout 30-day period performed in November 2023





Groundwater Pilot Study Overview



- The results were analyzed to determine pertinent aquifer properties, to evaluate full-scale system design needs, and to update the groundwater flow model.
- Results, conclusions, and recommendations compiled into a Report
 - Draft Final Report submitted to EPA and PADEP on 29 May 2024
- Report provided recommendations for interim remedial action to provide hydraulic containment and treatment of groundwater across a wide portion of Biddle ANGB.

PFOS/PFOA Water Treatment

Biddle ANGB



- PFOS/PFOA has been detected in surface water leaving Biddle.
- 500 gallon per minute treatment plant began operations on 11 August 2021. Approximately 330M gallons treated through June 2024.
- 35 monthly composite samples collected from treatment plant effluent. PFOS+PFOA:
 - 1 month exceeded discharge limit - April 2023 exceeded due to algae interference, PADEP and EPA notified.
- Construction and O&M through Warminster Cooperative Agreement. Modification to add an additional year of O&M in process.

NWWA Activities



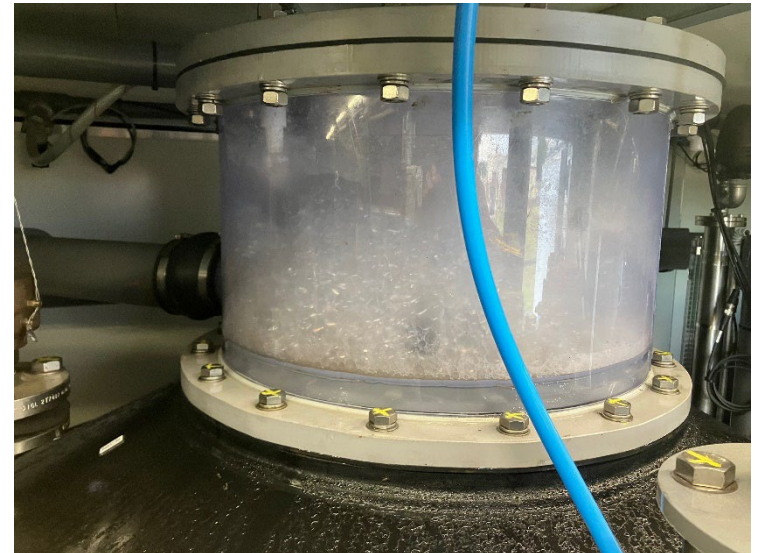
- North Wales Water Authority assumed responsibility for Warrington water service area. Cooperative agreement for water system actions.
- Installation of GAC treatment for Wells 1, 2, 3, 6 and 9 complete.
- Modification to the Cooperative Agreement in process to add additional year of O&M of GAC systems and for possible additional main extensions and service connections.

GW Pilot



- Foam fractionation – PFAS adsorbs on air bubbles added to water.
- Foam further concentrated to minimize waste volume.

- Using the same 3 extraction wells used by Leidos.
- 45 GPM total



Private Well Sampling



- Philadelphia USACE contract with Verina-Pars Joint Venture drinking water response actions for next 4 years.
- Four of the six residents sampled in Spring 2024 allowed for a quarterly samples to be collected. Two residents receiving bottled water (part of the six sampled in September 2023) refused re-sampling and continued delivery of bottled water
- Verina-Pars coordinating next sampling event of the four residents



Private Well Sampling



- ANG has contract in place with Verina-Pars to provide PFOS/PFOA testing of private drinking water wells and supply bottled water to properties with PFOS/PFOA at or above the EPA Health Advisory level (HA) for residents within our area of responsibility in Horsham, Warminster, and Warrington.
 - Horsham:
 - 6 wells sampled
 - 5 were above HA
 - 4 have been connected to municipal water
 - 1 well abandoned by Wood
 - Warrington:
 - 156 well sampled
 - 53 are above HA
 - 6 are below State MCL
 - 68 have been connected



Private Well Sampling (cont.)



- Warminster: 12* wells sampled
 - 11 are above HA
 - 10 have been connected municipal water
 - 1 residence above HA not connected
 - * Some of these properties are on Valley Road with Warminster mailing addresses but are located in Warrington Township
 - * wells sampled using the US EPA 2016 Health Advisory standards, 70 part per trillion (ppt) for PFOA and PFOS
- Sampling contact for ANG area of responsibility: Transitioning to Verina-Pars, Mr. Eric White, 609-838-9414, epwhite@montrose-env.com



Private Well Sampling Continued



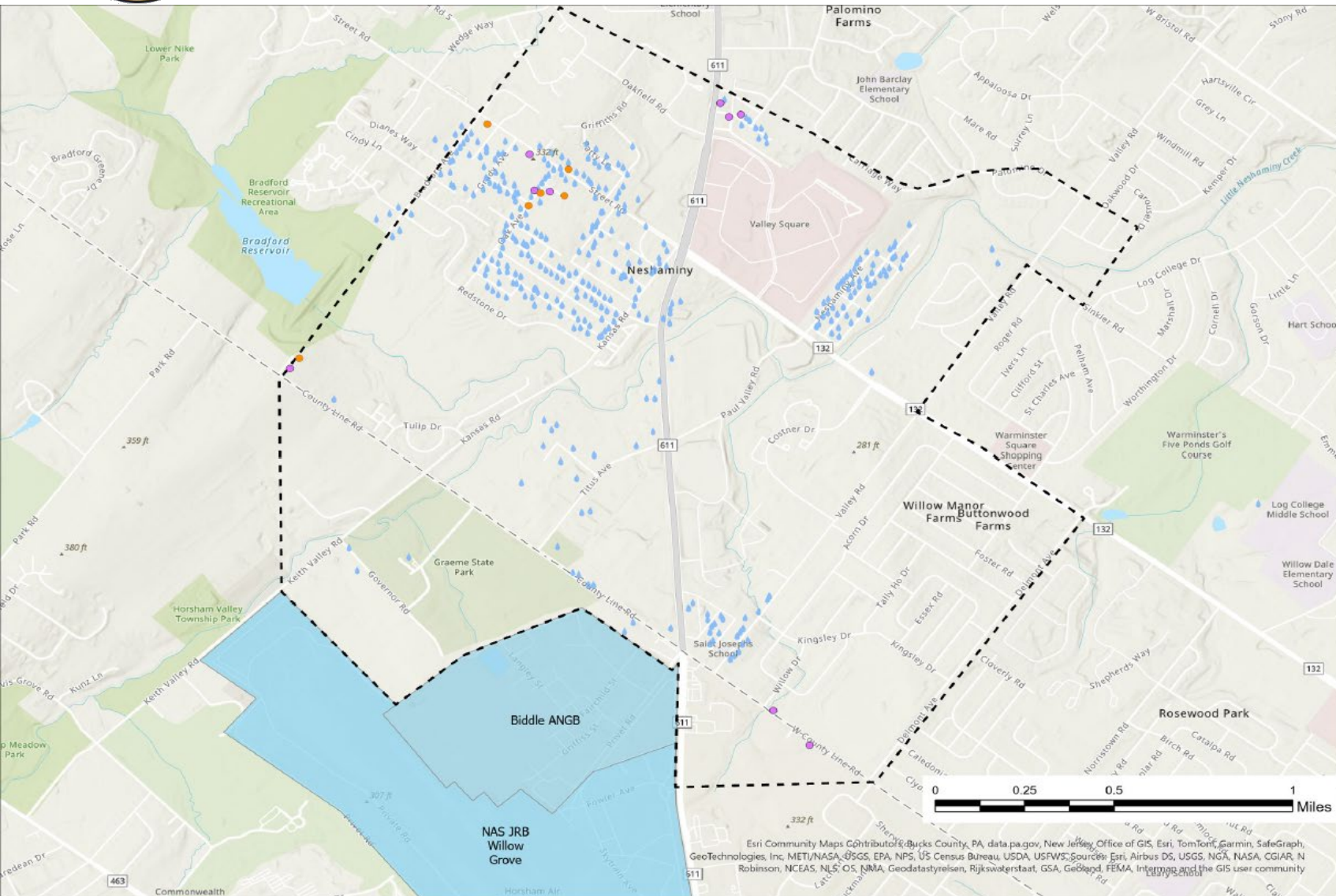
Legend

PFOS or PFOA Detections

- NOT DETECTED
- BELOW 1/2 MCL
- ABOVE 1/2 MCL
- ABOVE MCL
- Public Water
- Elevated detection, Unable to resample

Facility

- NAS JRB Willow Grove
- Biddle ANGB
- Sampling Area



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