



# **Restoration Advisory Board Biddle Air National Guard Base**

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NGB/A4VR

10 March 2022



# Updates Since December 8 2021



- Environmental Restoration Program Sites:
  - No Updates
- Coordinating with EPA/PADEP on the transition from SDWA AO to Navy Federal Facility Agreement
- PFAS Remedial Investigation:
  - 19 January 2022: Held technical consultation with EPA/PADEP covering bedrock characterization sampling methodology.
    - Leidos developed geologic cross sections to support data quality objectives and conceptual site model discussions for Phase II and Phase III RI to support monitoring well selection and data gap analysis
    - ANG agreed to use traditional monitoring wells in lieu of multiport wells to complete the RI
    - EPA/PADEP/ANG agreed to not conduct comparative analysis study of bedrock monitoring well groundwater quality versus multiport well groundwater quality
    - ANG is modifying Leidos contract to include scope of work changes to RI UFP QAPP to include additional wells and additional down hole geophysics/packer testing/groundwater sampling
- PFAS Interim Groundwater Action:
  - Scope of Work and Independent Government Cost Estimate (IGCE) submitted to contracting to support acquisition
- PFAS surface water treatment:
  - 11 August 2021 New Surface Water Treatment System started; as of 28 Feb 2022 treated 55M gallons
  - Submitted December 2021 and January 2022 NPDES Discharge Monitoring Reports to EPA/PADEP



# 3 Month Forecast of Activities



- Finalize Surface Sampling Events 8, 9 & 10 Regional Surface Water Sampling Technical Memorandums
- Meeting with EPA/PADEP to discuss future drinking water sampling/response action status/future level of effort
- UFP QAPP modifications related to bedrock groundwater characterization and revised scope of work Phase II and III RI.
- Continued storm water treatment operations (Warminster)
- Continued coordination with NWWA for residential drinking water connections and sampling



# Remedial Investigation Project Objectives



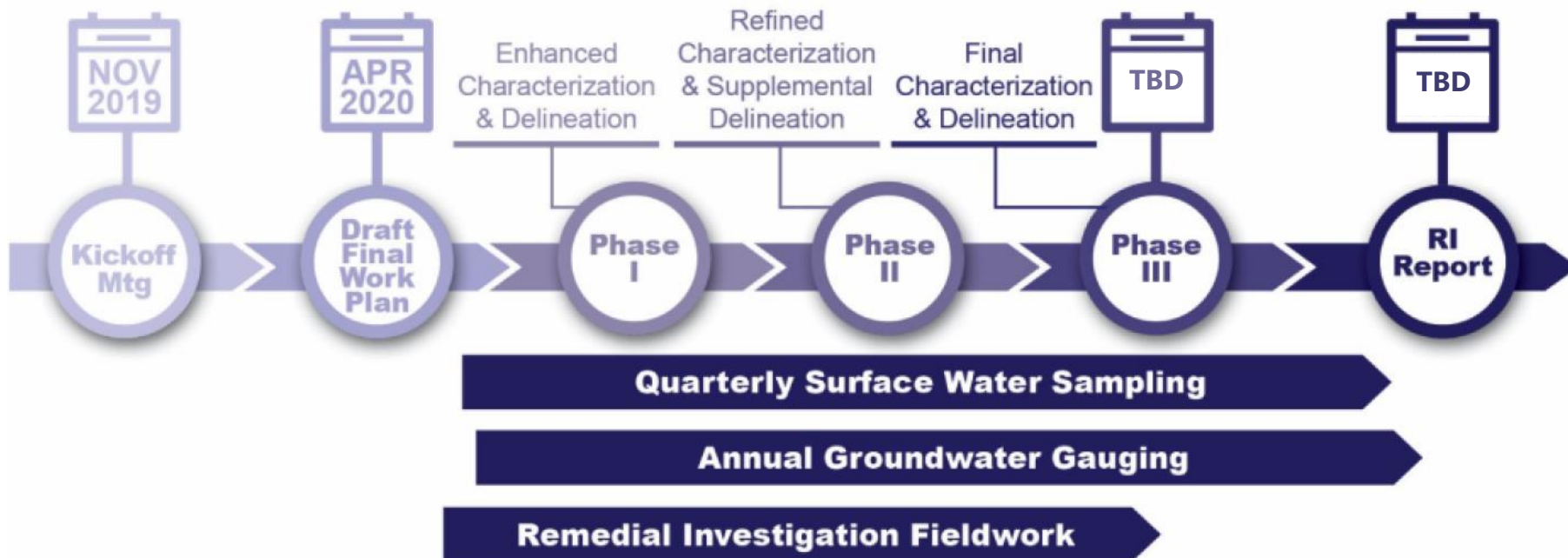
- Delineate the nature and extent of PFAS contamination, the threat to human health and the environment and prepare a Remedial Investigation (RI) Report.
  - Collect soil, sediment, surface water, and groundwater PFAS data on and around Biddle ANGB.
  - Conduct Baseline Risk Assessment (BRA).
  - Investigate link between groundwater and unnamed tributary to Park Creek.
  - Obtain data required to inform future development of a Feasibility Study.
  - Conduct quarterly surface water sampling for PFAS in coordination with the Navy.
  - Conduct annual potentiometric gauging, as needed to support USGS model.

# Previously Identified Potential PFOS/PFOA Source Areas





# Remedial Investigation General Process and Schedule





# Remedial Investigation Progress



- EPA provided updated comments on the UFP-QAPP, previously approved in July 2020
- EPA, ANG, and Leidos are developing the path forward for RI. UFP-QAPP addendum will be developed to address revised scope
- Revised scope of work and contract modification in progress for additional/modified RI effort
- Held discussions with EPA and PADEP regarding revised scope of work for Phase II and III
- Developing a series of cross-sections to evaluate nature and extent of PFAS impacts to guide subsequent investigation



# Quarterly Surface Water Sampling



- Performed regional Surface Water Sampling with Navy and USGS between December 14 & 15, 2021
- Finalized Sampling Memo for Round 7
- Delivered Draft Final Sampling Memo for Round 8.
- Memos for Draft Sampling Memos for Rounds 9 and 10 provided to ANG
- The next Surface Water sampling event is planned for the week of March 21





# Actions Planned for Next 3 Months



- Actions Planned for Next 3 Months
  - Pending contract modification, refine scope of work for RI Phase II and III in consultation with EPA and PADEP
  - Conduct regional Surface Water sampling in coordination with the Navy and USGS
  - Finalize quarterly Surface Water memos for Rounds 8, 9, and 10
  - Perform next Surface Water sampling event the week of March 21

# PFOS/PFOA Water Treatment

## Biddle ANGB



- PFOS/PFOA has been detected in surface water leaving the Biddle Air National Guard Base. This water is primarily groundwater that discharges to a storm water detention basin on the northwest boundary of the Base and flows to Park Creek which flows to the Little Neshaminy Creek.
- 500 gallon per minute treatment plant began operations on 11 August 2021. ~ 55M gallons treated through the end of February 2022.
- Typical base flow treated = 100,000 - 120,000 gallons/day
- Monthly treatment plant effluent sampling required by NPDES Permit: PFOS+PFOA < 2ppt.
- Construction and O&M through Warminster Cooperative Agreement.

# NWWA Activities



- North Wales Water Authority assumed responsibility for Warrington water service area
- Cooperative agreement for water system actions
- PFAS treatment added to 3 municipal wells
- Construction underway to add PFAS treatment to 2 additional wells – 2022 completion
- Two water main extensions are in design with construction bidding expected in 1<sup>st</sup> quarter 2022
- Service line connections and private well decommissioning ongoing



# Private Well Sampling

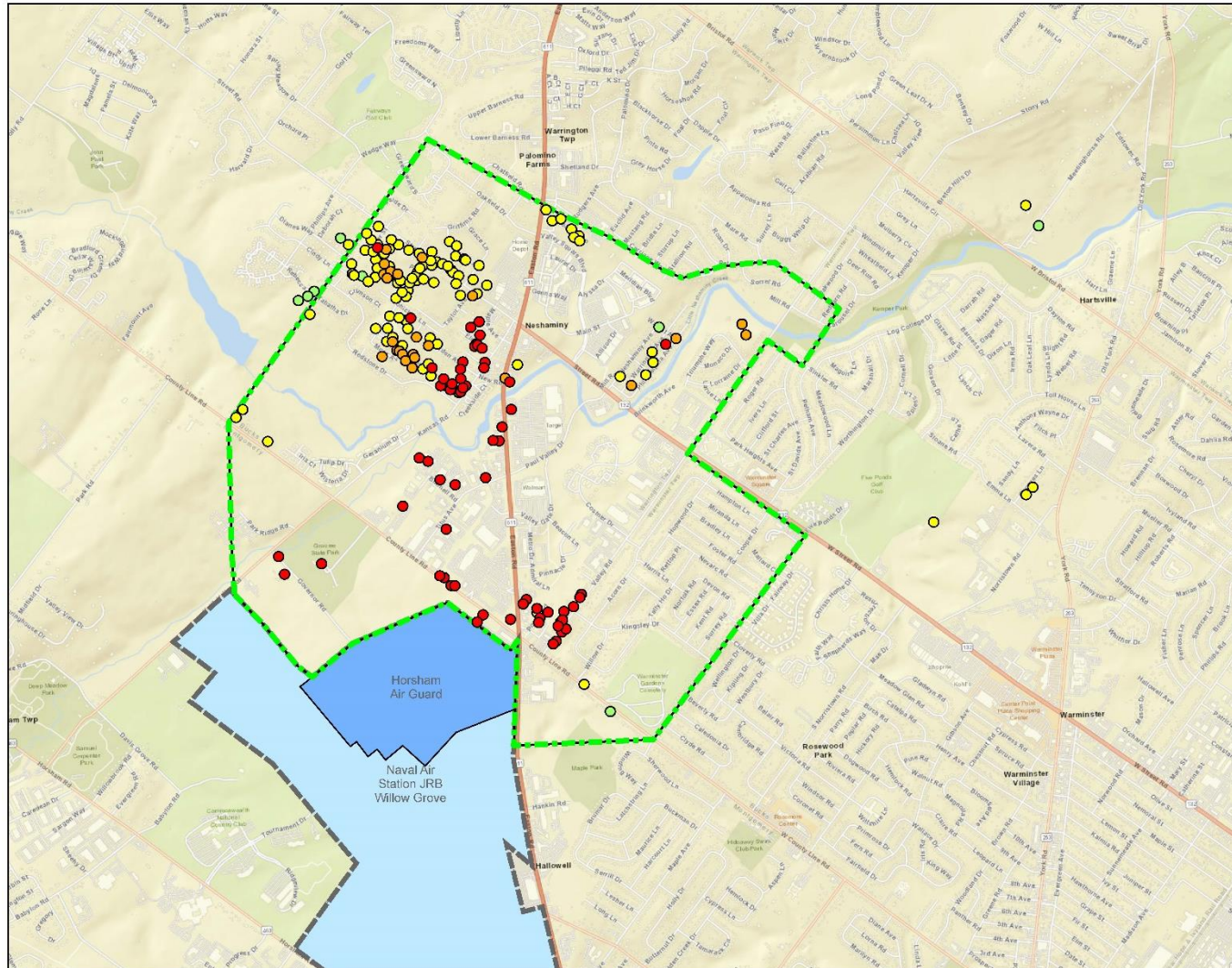


- ANG has contract in place with Wood to provide PFOS/PFOA testing of private drinking water wells and supply bottled water to properties with PFOS/PFOA at or above the EPA Health Advisory level (HA) for residents within our area of responsibility in Horsham, Warminster, and Warrington
  - Total number of private wells sampled by ANG are:
    - Horsham
      - 6 wells sampled
      - 5 were above HA
      - 4 have been connected to municipal water
      - 1 well abandoned by Wood
    - Warrington:
      - 150 well sampled
      - 46 are above HA
      - 44 have been connected
      - 16 met the >40<70 HA: 5 have completed 4 quarters sampling rounds <70
    - Warminster: 12\* well sampled
      - 11 are above HA
      - 8 have been connected municipal water
- \*Some of these properties are on Valley Road with Warminster mailing addresses but are located in Warrington Township
- Sampling contact for ANG area of responsibility: Brad LaForest at [brad.laforest@woodplc.com](mailto:brad.laforest@woodplc.com) or (207) 828-3620





# Private Well Sampling Map



## PFAS Sample Results for January 2021

Horsham Air Guard Station  
Horsham and Warrington  
Townships, Pennsylvania

## Legend

- PFOS+PFOA not detected
- PFOS+PFOA at or below 0.040 µg/L
- PFOS+PFOA between 0.040 and 0.070 µg/L
- PFOS+PFOA above 0.070 µg/L
- ANG Sampling Area
- Horsham Air Guard
- Former NAS JRB Willow Grove

## Notes & Sources

Notes:  
µg/L - micrograms per liter

PFAS - Per- and polyfluoroalkyl substances  
PFOS - Perfluorooctanesulfonic acid  
PFOA - Perfluorooctanoic acid

Health Advisory Level (HAL) is the sum  
of PFOS+PFOA (0.070 µg/L)

Base Map Source:  
Street map data from ArcGIS Online map services.  
Map service information available at:  
[http://gto.arcgisonline.com/maps/World\\_Street\\_Map](http://gto.arcgisonline.com/maps/World_Street_Map)

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# Private Well Sampling Map

