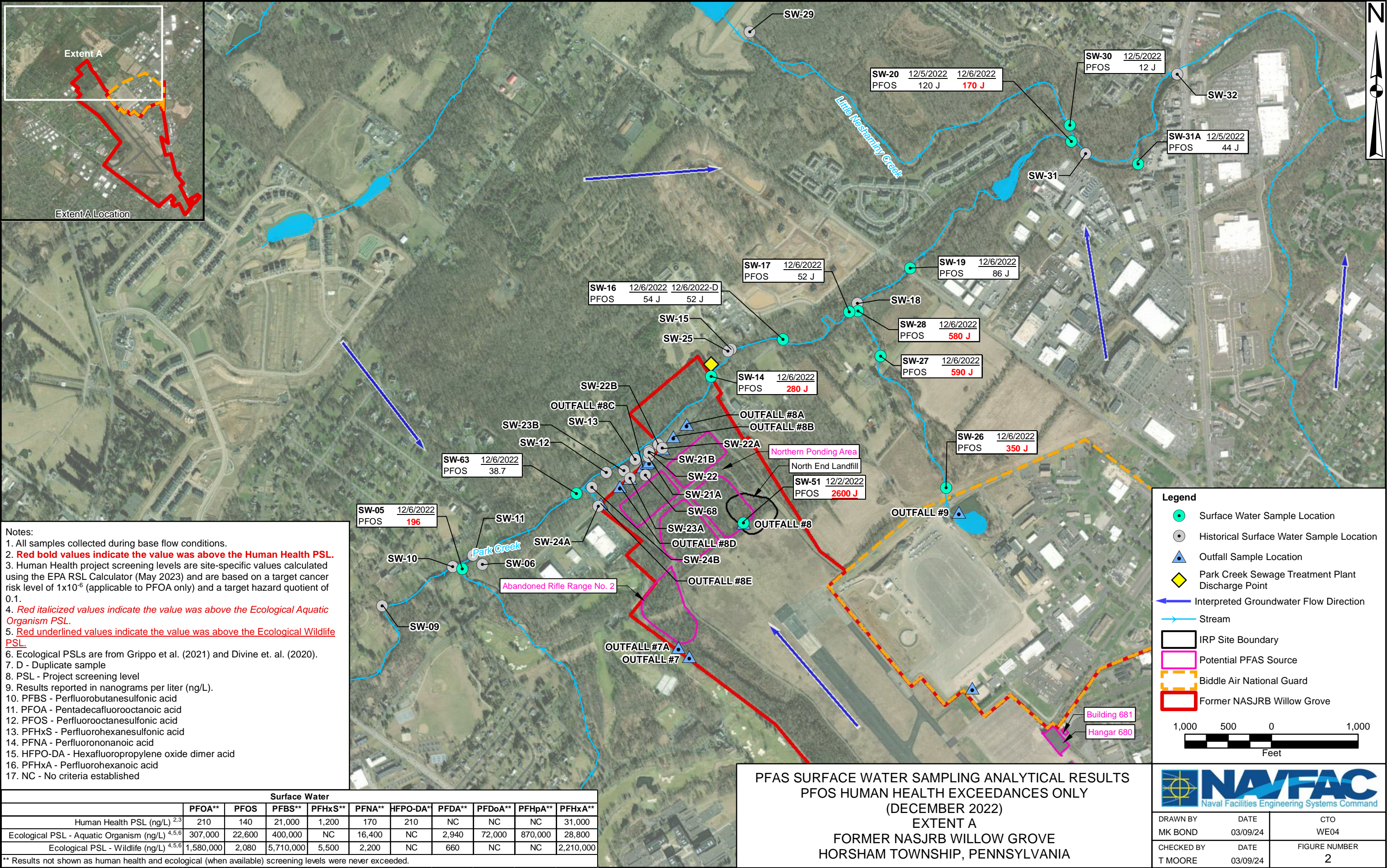


SURFACE WATER AND SEDIMENT SAMPLING AREAS
EXTENT LOCATION MAP
FORMER NASJRB WILLOW GROVE
HORSHAM TOWNSHIP, PENNSYLVANIA

		
DRAWN BY MK BOND	DATE 12/20/23	CTO WE04
CHECKED BY T MOORE	DATE 12/20/23	FIGURE NUMBER 1





Notes:

1. All samples collected during base flow conditions.
2. **Red bold values indicate the value was above the Human Health PSL.**
3. Human Health project screening levels are site-specific values calculated using the EPA RSL Calculator (May 2023) and are based on a target cancer risk level of 1×10^{-6} (applicable to PFOA only) and a target hazard quotient of 0.1.
4. **Red italicized values indicate the value was above the Ecological Aquatic Organism PSL.**
5. **Red underlined values indicate the value was above the Ecological Wildlife PSL.**
6. Ecological PSLs are from Grippo et al. (2021) and Divine et. al. (2020).
7. D - Duplicate sample
8. PSL - Project screening level
9. Results reported in nanograms per liter (ng/L).
10. PFBS - Perfluorobutanesulfonic acid
11. PFOA - Pentadecafluorooctanoic acid
12. PFOS - Perfluorooctanesulfonic acid
13. PFHxS - Perfluorohexanesulfonic acid
14. PFNA - Perfluorononanoic acid
15. HFPO-DA - Hexafluoropropylene oxide dimer acid
16. PFHxA - Perfluorohexanoic acid
17. NC - No criteria established

Surface Water										
	PFOA**	PFOS	PFBS**	PFHxS**	PFNA**	HFPO-DA*	PFDA**	PFDoA**	PFHpA**	PFHxA**
Human Health PSL (ng/L) ^{2,3}	210	140	21,000	1,200	170	210	NC	NC	NC	31,000
Ecological PSL - Aquatic Organism (ng/L) ^{4,5,6}	307,000	22,600	400,000	NC	16,400	NC	2,940	72,000	870,000	28,800
Ecological PSL - Wildlife (ng/L) ^{4,5,6}	1,580,000	2,080	5,710,000	5,500	2,200	NC	660	NC	NC	2,210,000

** Results not shown as human health and ecological (when available) screening levels were never exceeded.

Legend

- Surface Water Sample Location
- Historical Surface Water Sample Location
- Interpreted Groundwater Flow Direction
- Stream
- ▭ Biddle Air National Guard Base
- ▭ Former NASJRB Willow Grove

500 250 0 500

Feet

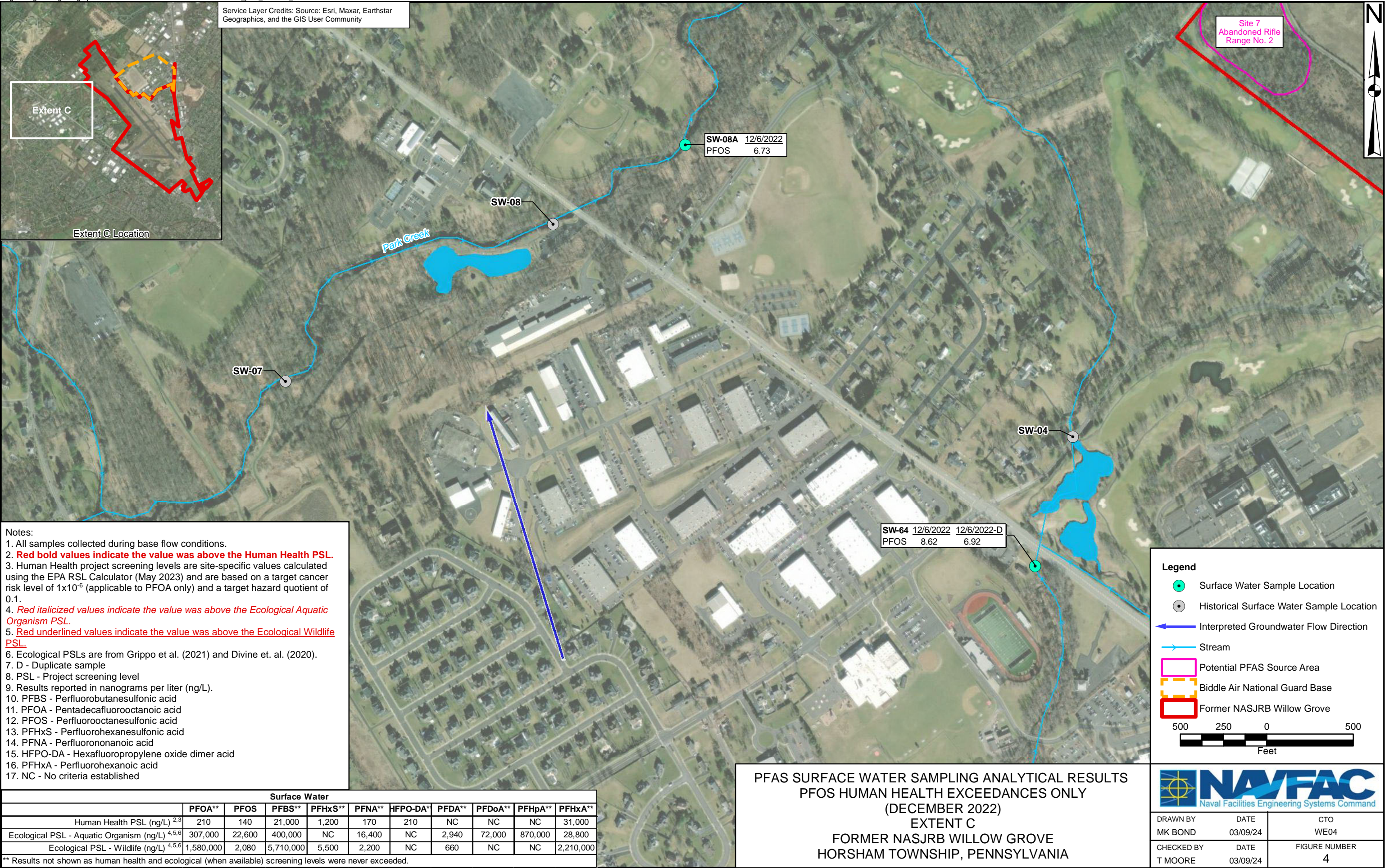
PFAS SURFACE WATER SAMPLING ANALYTICAL RESULTS
PFOS HUMAN HEALTH EXCEEDANCES ONLY
(DECEMBER 2022)
EXTENT B
FORMER NASJRB WILLOW GROVE
HORSHAM TOWNSHIP, PENNSYLVANIA

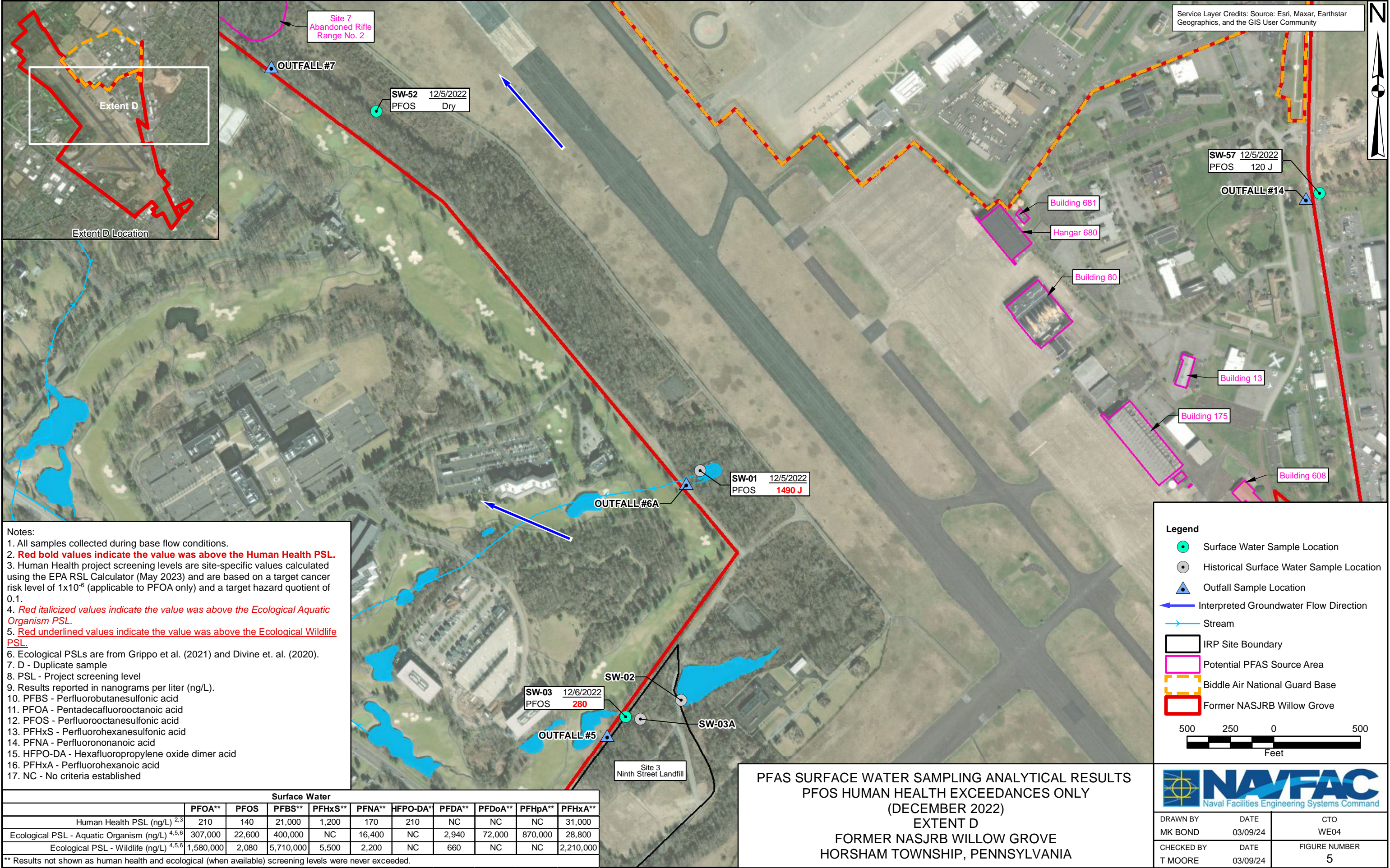


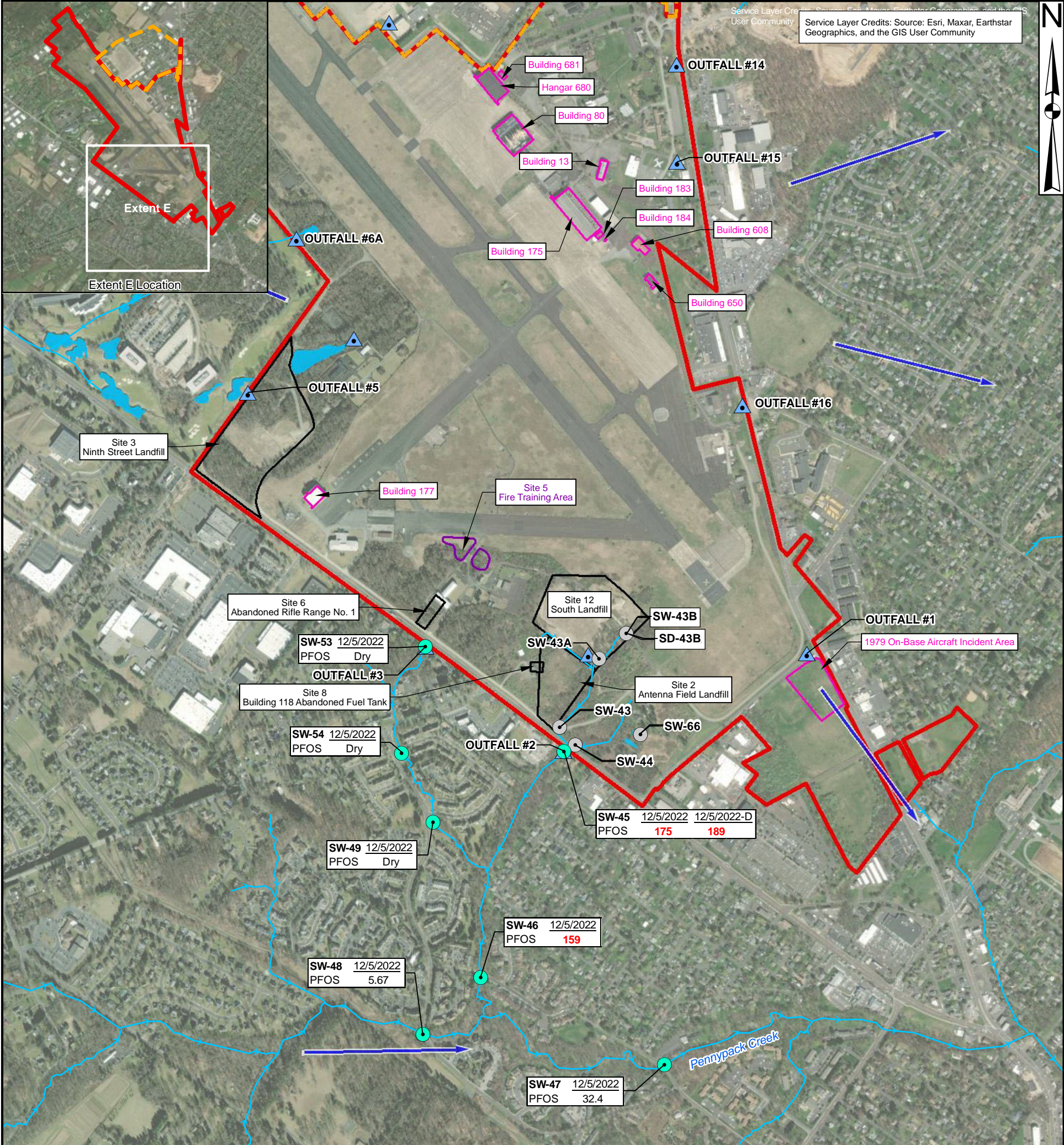
Naval Facilities Engineering Systems Command

DRAWN BY MK BOND	DATE 03/09/24	CTO WE04
CHECKED BY T MOORE	DATE 03/09/24	FIGURE NUMBER 3

Service Layer Credits: Source: Esri, Maxar, Earthstar
Geographics, and the GIS User Community







Notes:

1. All samples collected during base flow conditions.
2. **Red bold values indicate the value was above the Human Health PSL.**
3. Human Health project screening levels are site-specific values calculated using the EPA RSL Calculator (May 2023) and are based on a target cancer risk level of 1×10^{-6} (applicable to PFOA only) and a target hazard quotient of 0.1.
4. **Red italicized values indicate the value was above the Ecological Aquatic Organism PSL.**
5. **Red underlined values indicate the value was above the Ecological Wildlife PSL.**
6. Ecological PSLs are from Grippo et al. (2021) and Divine et. al. (2020).
7. D - Duplicate sample
8. PSL - Project screening level
9. Results reported in nanograms per liter (ng/L).
10. PFBS - Perfluorobutanesulfonic acid
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13. PFHxS - Perfluorohexanesulfonic acid
14. PFNA - Perfluorononanoic acid
15. HFPO-DA - Hexafluoropropylene oxide dimer acid
16. PFHxA - Perfluorohexanoic acid
17. NC - No criteria established

Surface Water										
	PFOA**	PFOS	PFBS**	PFHxS**	PFNA**	HFPO-DA*	PFDA**	PFDoA**	PFHpA**	PFHxA**
Human Health PSL (ng/L) ^{2,3}	210	140	21,000	1,200	170	210	NC	NC	NC	31,000
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** Results not shown as human health and ecological (when available) screening levels were never exceeded.

Legend

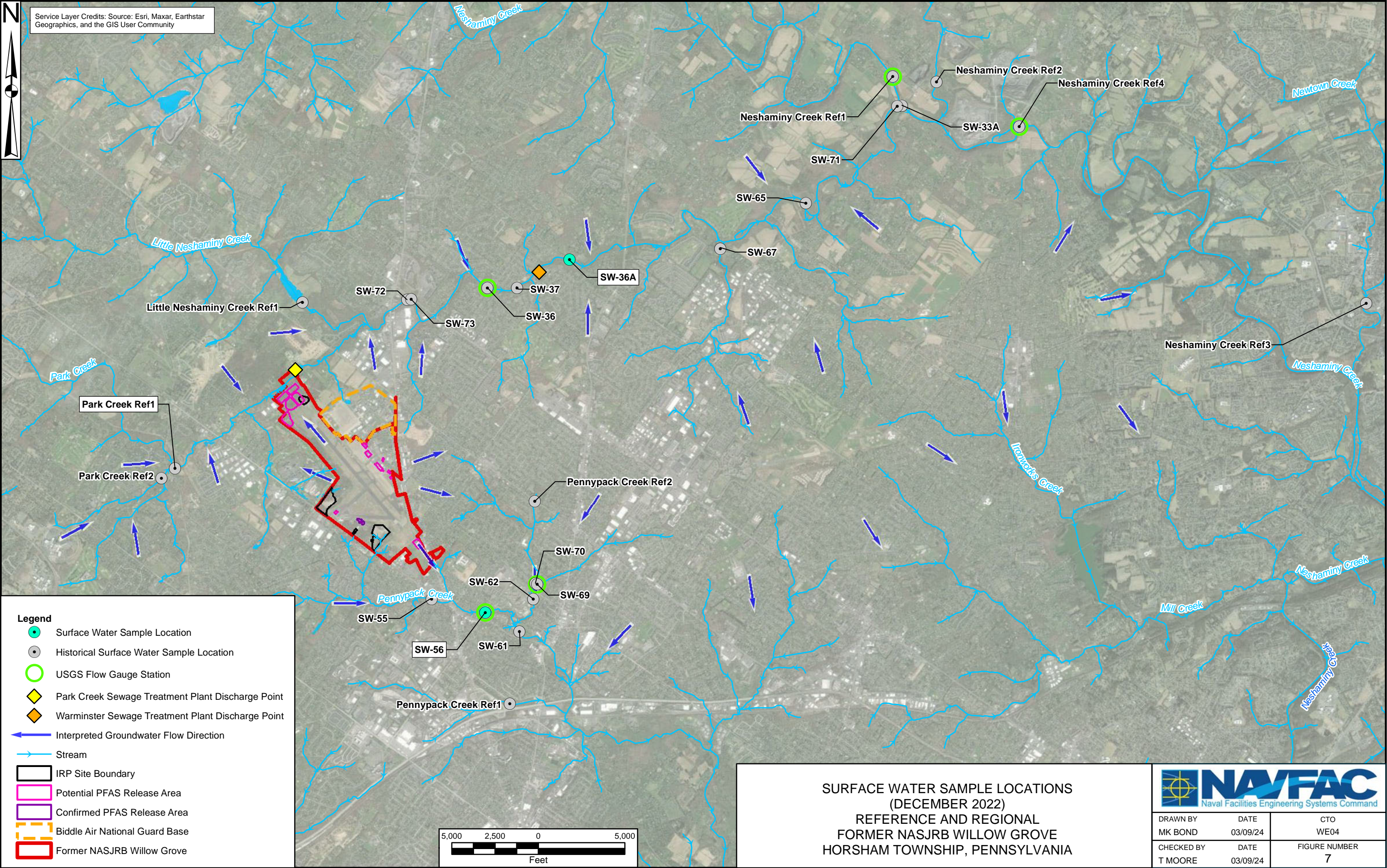
- Surface Water Sample Location
- Historical Surface Water Sample Location
- ▲ Outfall Sample Location
- Interpreted Groundwater Flow Direction
- Stream
- IRP Site Boundary
- Potential PFAS Source Area
- Confirmed PFAS Source Area
- Biddle Air National Guard Base
- Former NASJRB Willow Grove



PFAS SURFACE WATER SAMPLING ANALYTICAL RESULTS
PFOS HUMAN HEALTH EXCEEDANCES ONLY
(DECEMBER 2022)
EXTENT E
FORMER NASJRB WILLOW GROVE
HORSHAM TOWNSHIP, PENNSYLVANIA



DRAWN BY MK BOND	DATE 03/09/24	CTO WE04
CHECKED BY R MERCURI	DATE 03/09/24	FIGURE NUMBER 6



SURFACE WATER SAMPLE LOCATIONS
(DECEMBER 2022)
REFERENCE AND REGIONAL
FORMER NASJRB WILLOW GROVE
HORSHAM TOWNSHIP, PENNSYLVANIA



DRAWN BY MK BOND	DATE 03/09/24	CTO WE04
CHECKED BY T MOORE	DATE 03/09/24	FIGURE NUMBER 7

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

