

Former Fort Devens Army Installation Project Status Update 25 July 2019

Restoration
Advisory Board
Meeting



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US Army Corps of Engineers
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Agenda

- Per- and Polyfluoroalkyl Substances (PFAS)
 - ▶ Municipal Water Supply Well Sampling Update
 - Ayer, Devens, Shirley
 - ▶ Time Critical Removal Action (TCRA)
 - ▶ Well Sampling Update for Community/Non-Community Systems and Private Wells
 - ▶ Community Involvement Plan (CIP) Status
 - ▶ Remedial Investigation (RI) updates
 - Ongoing field activities
 - Sampling results to date





Ayer & Devens Public Supply Wells Detections of PFAS, May 2019

	Grove Pond Wells (ppt)			Spectacle Pond Wells (ppt)
	Well 1	Well 7	Finished Water (wells 1,7)	Well 1A
PFBS	2.32	2.54	2.37	1.98
PFHxA	4.01	60.7	27.2	9.77
PFHpA	ND	40.2	17.4	3.51
PFHxS	5.46	9.65	7.26	3.89
PFOS	2.71	13.1	8.45	7.10
PFOA	6.43	32.6	17.9	7.54
PFOS+PFOA	9.14	45.7	26.4	14.6
Proposed GW-1	14.6	95.6	51.0	22.0

	PATTON WELL (ppt)	SHABOKIN WELL (ppt)
PFHxA	6.90	5.12
PFHpA	3.01	ND
PFHxS	6.47	17.4
PFOS	3.33	5.43
PFOA	9.33	9.25
PFOS+PFOA	12.7	14.7
Proposed GW-1	22.1	32.1

Results show the detected PFAS out of 14 analytes tested (including the 6 analytes in the proposed GW-1).

Yellow shading shows concentrations below and green shading shows concentrations above the EPA LHA (70 ppt) and/or proposed GW-1 (20 ppt).

ND = non-detect

Town of Shirley wells were non-detect.





Update on Grove Pond Wellfield

- Time Critical Removal Action (TCRA)
 - ▶ Temporary treatment of Well #8 using granular activated carbon
 - ▶ Permanent upgrade to Grove Pond Water Treatment Plant (WTP) – installation of ion exchange system

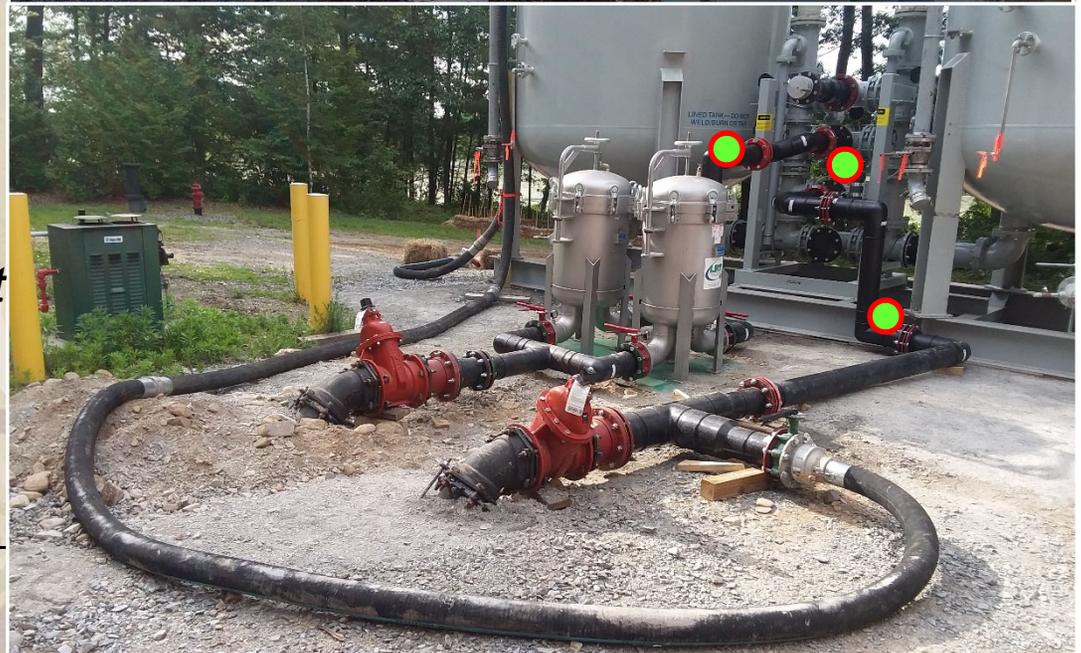




Well #8 Treatment

- Temporarily install two 20,000 pound carbon vessels
- Treat water before pumped to WTP until full upgrade is on-line
- Installed June 2019 – Finishing startup/testing now

● = sample port





Permanent Upgrade to Grove Pond WTP

- New Ion Exchange (IX) system to remove PFAS from extracted water
- IX removes PFAS more efficiently than activated carbon
 - ▶ Smaller vessels;
 - ▶ Last longer before breakthrough

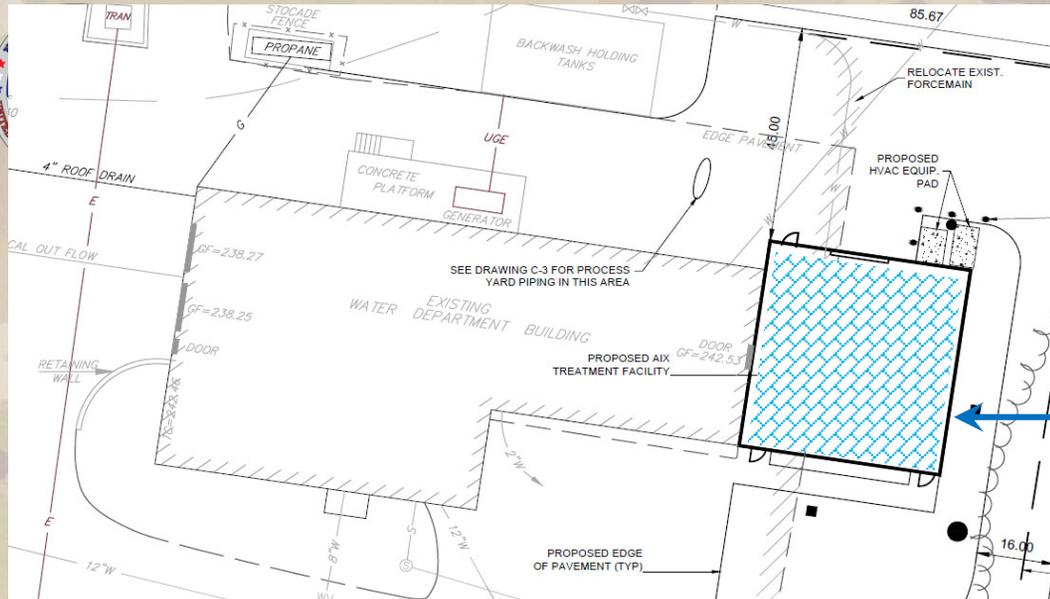
Evoqua IX Resin



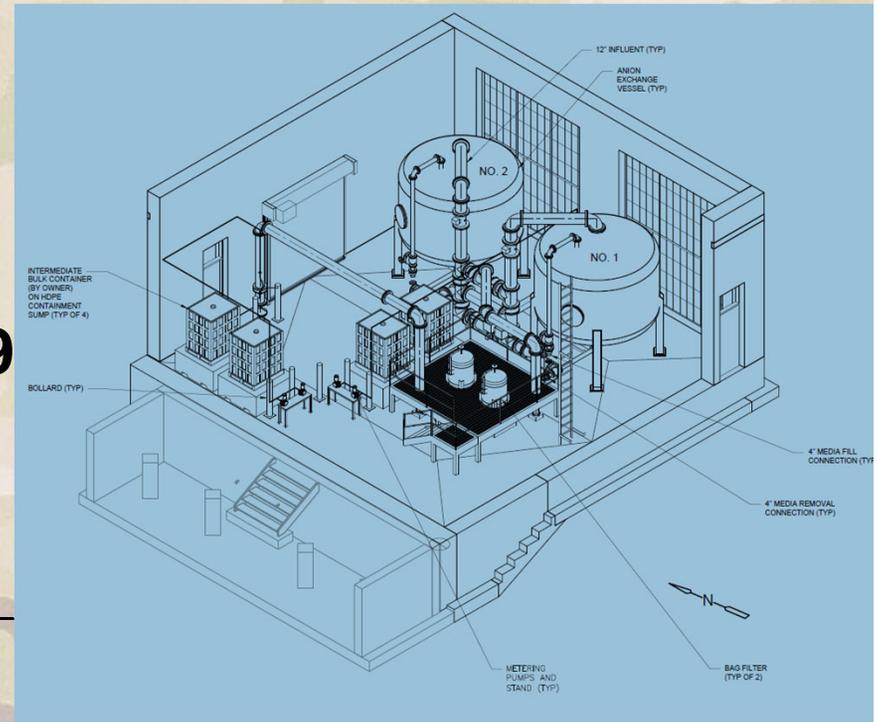


Permanent WTP Upgrade

New Ion Exchange System/Addition



- WTP requires new addition for IX system; other system upgrades required
- Bids received / Project awarded
- Installation to start ~ **August 2019**
- On-line expected ~ **Fall 2020**





Well Sampling Update for Community/ Non-Community Systems and Private Wells

- Summer 2018 - Sampled 21 wells in Town of Shirley and Harvard
- PFAS detected in some wells but below Lifetime Health Advisory
- Source of PFAS in wells uncertain based on hydrogeology
- Spring 2019 - Completed additional sampling at 3 locations in Town of Harvard; continuing to sample 1 location quarterly
- Fall 2019 – Plan to sample additional wells requested by Harvard Board of Health





Community Involvement Plan (CIP) Update for PFAS

Step	Date
Mail letters of introduction Post written questionnaire on website (https://ftdevens.org)	1-3 Jul 2019
Post online survey on website/place hard copy questionnaire in town hall, library and local business	23-25 Jul 2019
Schedule interviews	through 2 Aug 2019
Conduct community interviews	through 9 Aug 2019
Close written questionnaire and online survey	18 Aug 2019
Submit draft CIP	11 Oct 2019



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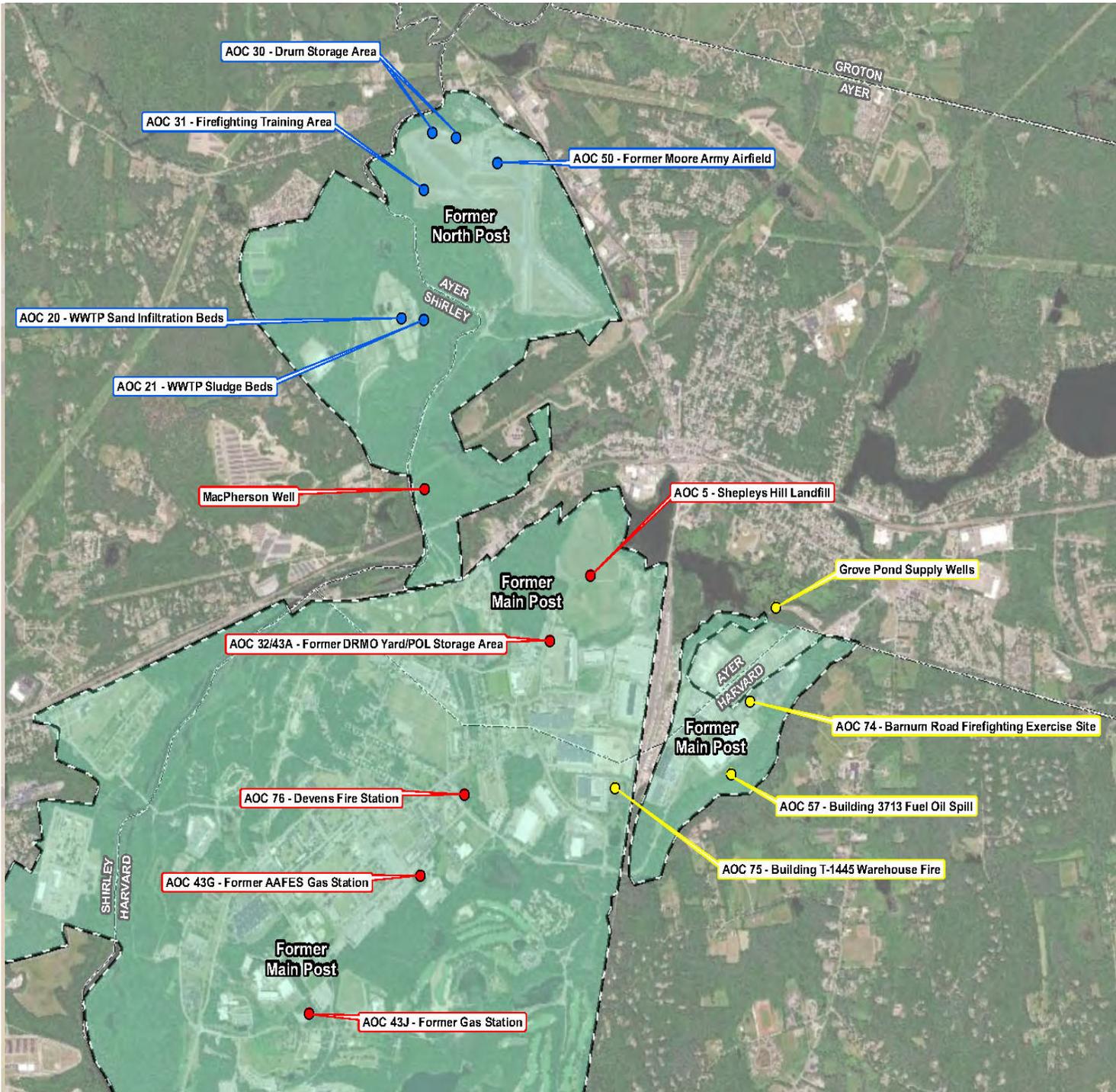


RI Areas of Investigation

Area 1 = yellow

Area 2 = red

Area 3 = blue



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Area 1

- AOC 57 Building 3713 Fuel Oil Spill Site
- AOC 74 Barnum Road Firefighting Exercise Site
- AOC 75 Former Building T-1445 Warehouse Fire
- Grove Pond Area

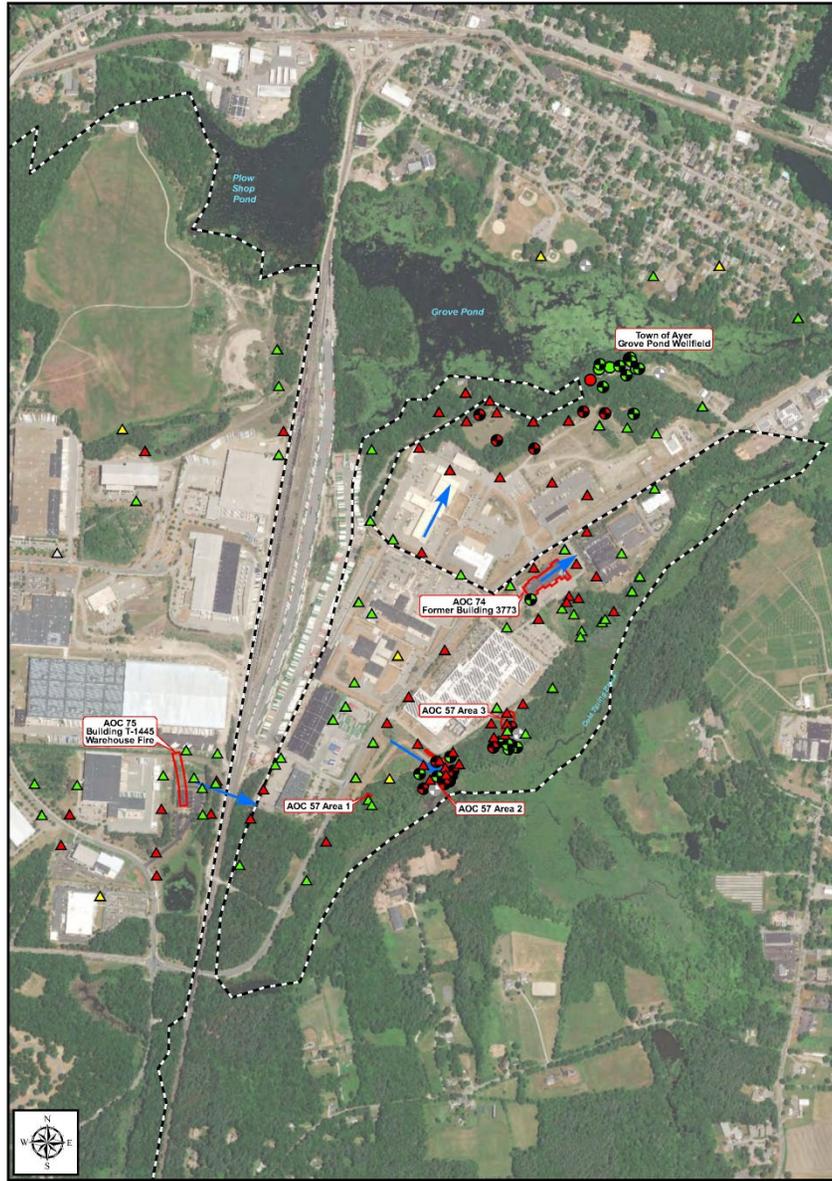




Area 1 Activities

- Completed
 - ▶ 95 Vertical profiles conducted
 - ▶ 9 Piezometers installed
 - ▶ 37 Soil borings conducted
 - ▶ 31 Monitoring wells sampled
 - ▶ 14 Surface water and sediment samples collected
 - ▶ 2 Synoptic water level surveys
- Planned
 - ▶ Monitoring well and piezometer installation
 - ▶ Monitoring well sampling
 - ▶ Synoptic water level survey
 - ▶ Cold Spring Brook investigation





Legend	
● PFOA+PFOS > 70 ng/l	△ Vertical Profiling Location
● PFOA+PFOS < 70 ng/l	○ Monitoring Well
□ Drilled, results pending	⊕ Monitoring Well - Damaged/Unable to Locate
● Yet to be Drilled	○ Water Supply Well
	→ Groundwater Flow Direction
	⋯ Former Fort Devens Boundary

Area 1	
Former Fort Devens Army Installation Devens, Massachusetts	
KOMAN Government Solutions, LLC 293 Boston Post Road West, Suite 100, Marlborough, MA 01752	
0 350 700 Feet	Date: 07/15/2019 Figure

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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Area 2

- AOC 5 Shepley's Hill Landfill
- AOC 32/43A Former DRMO/POL Storage
- AOC 43G Historical Gas Station G
- AOC 43J Historical Gas Station J
- AOC 76 Devens Fire Station
- MacPherson Watery Supply Well
- Patton Water Supply Well
- Shabokin Water Supply Well





Area 2 Activities

- Completed
 - ▶ 73 Vertical profiles conducted
 - ▶ 25 Piezometers installed
 - ▶ 15 Soil borings conducted
 - ▶ 75 Monitoring wells sampled
 - ▶ 26 Surface water and sediment samples collected
 - ▶ 2 Synoptic water level surveys
- Planned
 - ▶ Vertical profiling
 - ▶ Monitoring well and piezometer installation
 - ▶ Monitoring wells sampling
 - ▶ Synoptic water level survey
 - ▶ Soil borings





Area 3

- AOC 20/21 Devens Waste Water Treatment Sand Filter Beds/Sludge Drying Beds
- AOC 30 Former Moore Army Airfield Drum Storage Area
- AOC 31 Former Moore Army Airfield Fire Training Area
- AOC 50 Former Moore Army Airfield





Area 3 Activities

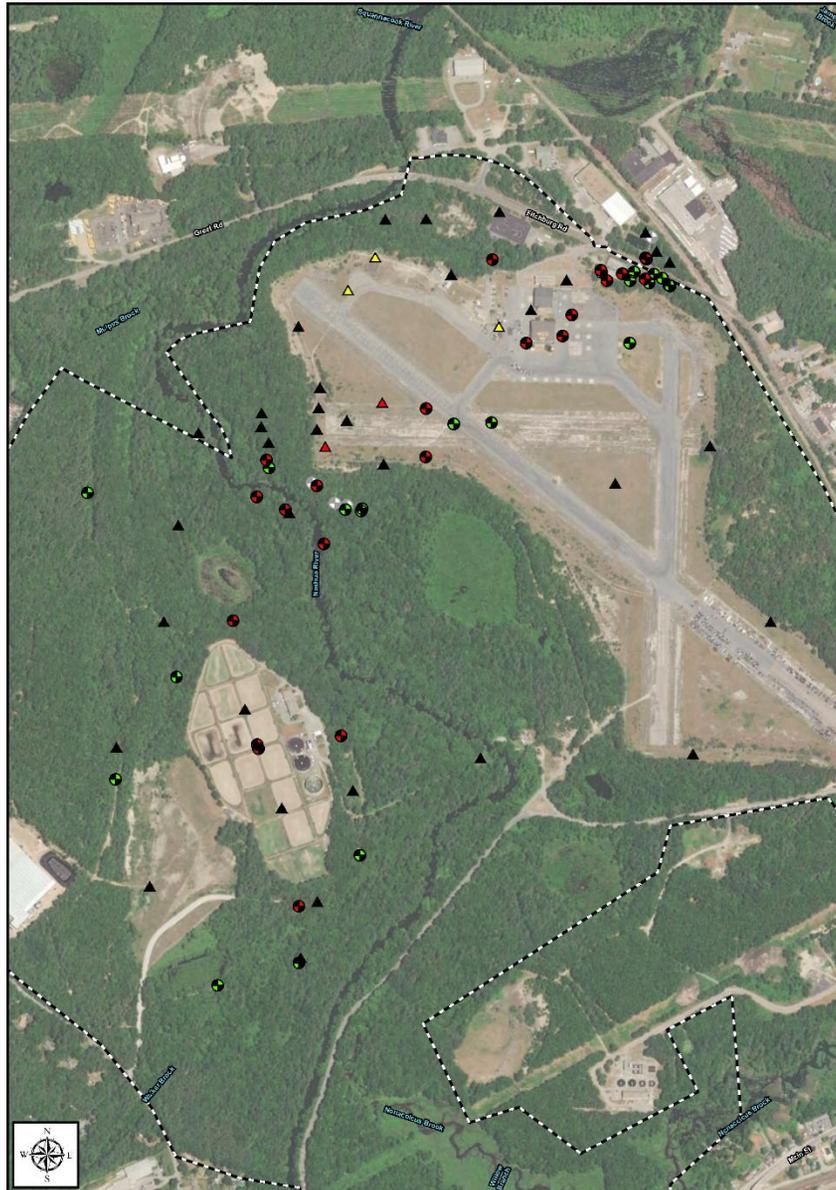
■ Completed

- ▶ 3 Vertical profiles conducted
- ▶ 1 Piezometer installed
- ▶ 43 Monitoring wells sampled

■ Planned

- ▶ Vertical profiling/Piezometer installation
- ▶ Soil borings
- ▶ Surface water and sediment sampling
- ▶ Monitoring well and piezometer installation
- ▶ Monitoring well sampling
- ▶ Synoptic water level surveys





<p>Legend</p> <ul style="list-style-type: none"> ● PFOA+PFOS > 70 ng/l ● PFOA+PFOS < 70 ng/l ● Drilled, results pending ● Yet to be Drilled ▲ Vertical Sampling Location ● Monitoring Well ⊗ Monitoring Well - Damaged/Unable to Locate Former Fort Devens boundary 		<p>Area 3</p> <p>Former Fort Devens Army Installation Devens, Massachusetts</p> <p>KOVAN Government Solutions, LLC 293 Boston Post Road West, Suite 100, Marlborough, MA 01752</p>	
<p>0 300 600 Feet</p>		<p>Date: 07/15/2019</p>	<p>Figure 1</p>

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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Next Steps

- Continue RI sampling efforts in Areas 1, 2, and 3
- 2019-Q3 Town Water Supply Well Sampling (August)
- Community Interviews (summer) and draft CIP (fall)
- Continue to operate TCRA
- Private well sampling Town of Harvard per list from Board of Health (fall)





Former Fort Devens Army Installation Project Status Updates

Questions?

