



**Camp Rilea
Warrenton, OR
Site Inspection
Oregon Army National Guard**

Technical Project Planning (TPP) Meeting 1 & 2

**Preliminary Assessments and Site Inspections
(PA/SI) for Perfluorooctanesulfonic Acid (PFOS) and
Perfluorooctanoic Acid (PFOA) Impacted Sites**

30 June 2021



Agenda

- Introductions
- Safety Moment
- TPP Meeting Goals
- Army National Guard (ARNG) PA/SI Overview
- Camp Rilea ARNG PA Results
- Camp Rilea SI Overview
- Stakeholder Involvement
- Questions and Open Discussion



Introductions

- ARNG G9
 - Dave Connolly, PFAS Program Manager
 - Bonnie Packer, Nationwide Project Manager
 - Joe Davis, SI Project Manager
- United States Army Corps of Engineers (USACE)
 - Tim Peck, Nationwide Program Manager
 - Briana Niestrom, SI Project Manager
- Oregon Army National Guard (ORARNG)
 - James Arnold, Environmental Program Manager
 - Kelly Toynton, Remediation Project Manager
- Oregon Department of Environmental Quality (Oregon DEQ)
 - Ann Farris, Environmental Cleanup Project Manager
- AECOM Technical Services, Inc.
 - Jeremy Haney, SI Task Manager
 - Anthony Palmieri, SI Senior Lead



Safety Moment

Site Safety Procedures

- SI will follow USACE Engineering Manual (EM) 385-1-1 requirements:
 - Accident Prevention Plan addresses all component plans for EM 385-1-1, including Construction Support during drilling operations
 - Site Safety and Health Plan (SSHP) addresses project participants, training, and hazard identification and mitigation
- Health and safety documents prepared during SI planning phase
 - SSHP has been revised to incorporate COVID-19 updates and protective measures



TPP Meeting Goals

- TPP1:
 - Provide an overview of the ARNG PA/SI Program
 - Regulatory framework
 - Discuss PA Findings
 - Define objectives for SI data collection
 - Encourage stakeholder involvement
 - Review project schedule
 - Capture action items
- TPP2: Discuss proposed SI approach
- TPP3: Discuss SI findings
- Participants:
 - TPP1 and 2: ARNG, USACE, Oregon DEQ
 - TPP3: ARNG, USACE, Oregon DEQ, other local stakeholders



ARNG PA/SI Overview

Work Phases



Notes: *Current stage of activity

- Follows the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Process
- An interim removal action can be conducted or a No Further Action determination can be made at any phase



ARNG PA/SI Overview

- Activities centrally contracted through USACE and managed by ARNG G9
 - USACE Baltimore manages the contract, with technical project support from Louisville, Omaha, Sacramento, Jacksonville, and Seattle Districts
 - Project support: chemistry, geology, risk screening
- ARNG evaluated 3,200 facilities in 54 states/territories with state ARNG input
- PA ranking (~200 facilities with potential for release)
 - Likelihood of release
 - Complete pathway to drinking water receptor
 - Priority assigned to facilities with highest likelihood of release near drinking water intake
- PA – facility-wide; SI – areas of interest (AOIs)



ARNG PA/SI Overview

- ARNG / ORARNG
 - Identify potential per- and polyfluoroalkyl substances (PFAS) release locations
 - Provide facility access and points of contact
 - Gather and provide appropriate documents
 - Identify/schedule personnel to interview
 - Supply final PA to the regulatory agencies
- SI Regulatory Involvement
 - CERCLA SI conducted in conjunction with the appropriate regulatory agency



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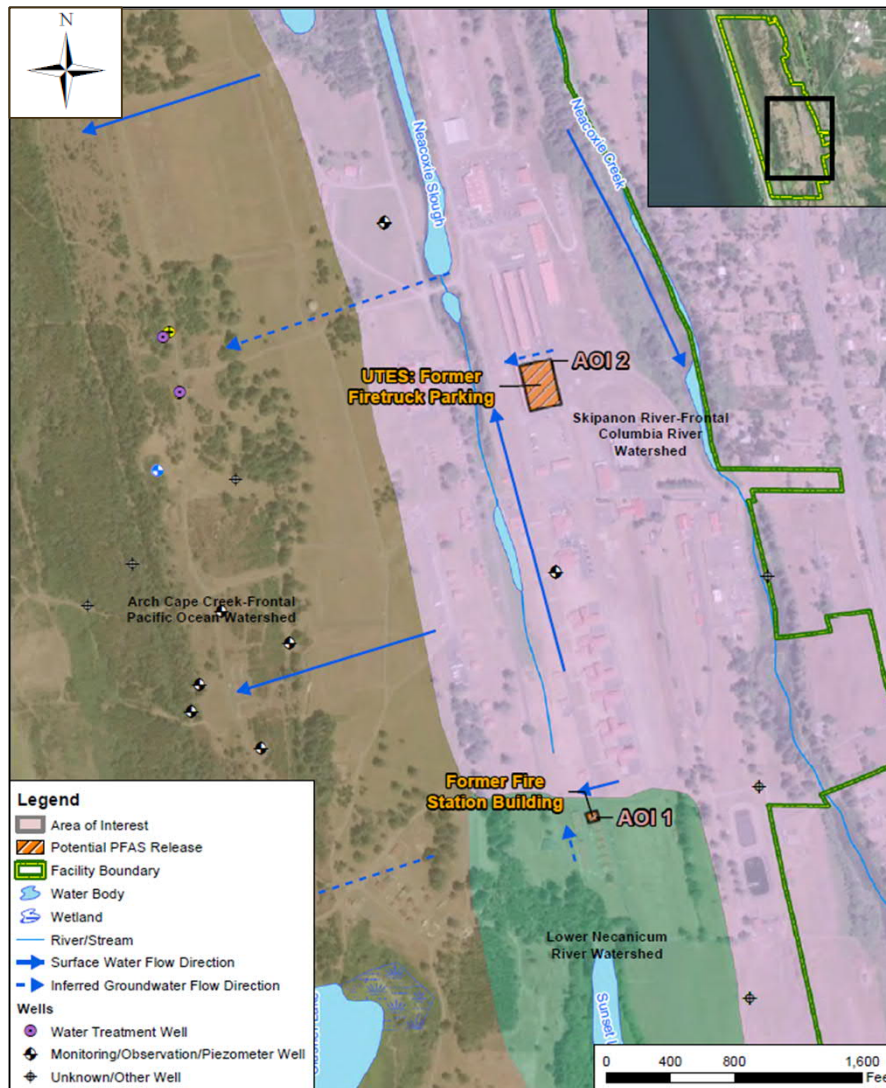
ARNG PA Results

- Potential PFAS release areas: 2 identified during the PA and placed in 2 AOIs
- PFAS release attributed to storage of aqueous film forming foam (AFFF) on firetrucks:
 - Firetrucks on site from as early as the 1970s may have been equipped with AFFF
 - Firetrucks may have been washed or had their lines flushed



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Summary of Findings and AOIs





Camp Rilea PA Findings

AOI 1 – Former Fire Station – Building 7241

- Former Fire Station dates back to the early 1970s to until 1980
- Interviewees could not confirm if a firetruck was parked or operated at this location
- AFFF could have been present in the firetruck





Camp Rilea PA Findings

AOI 2 – Utility Training Equipment Site (UTES)

- Two firetrucks historically parked at this location from 1989 to 1995 and 1995 to an unknown year
- AFFF stored in unknown volumes on these trucks
 - AFFF was never deployed at the facility
 - Flushing of the lines and the water/foam tanks reportedly occurred off-Post
 - No known releases or leaks





Camp Rilea SI Overview

Data Quality Objectives (DQOs)

- Primary SI DQOs
 - Confirm the presence/absence of a release
 - Gather data for conceptual site model (CSM):
Understanding of Source-Pathway-Receptor relationships required for establishing sampling strategy
- Extended SI DQOs
 - Determine the presence/absence at facility boundary
 - Check for alternate sources
 - Measure PFAS at/near receptor, if warranted



Camp Rilea SI Overview

Screening Levels

- Results compared to Office of the Secretary of Defense (OSD) Screening Levels (SLs) for soil and groundwater
 - Memorandum from the OSD dated 15 October 2019
 - SLs for groundwater based on direct ingestion
 - SLs for soil based on incidental ingestion; 0-2 ft compared to Residential SL, 2-15 ft compared to Industrial SL, >15 ft not compared to either SL
- AOIs exceeding OSD SLs will proceed to the next phase under CERCLA (i.e., Remedial Investigation)

Analyte	Residential (Soil) (µg/kg) ^{a,b} 0-2 feet bgs	Industrial/ Commercial Composite Worker (Soil) (µg/kg) ^{a,b} 2-15 feet bgs	Tap Water (Groundwater) (ng/L) ^{a,b}
PFOA	130	1,600	40
PFOS	130	1,600	40
PFBS	1,900	25,000	600

Notes:

- Assistant Secretary of Defense, 2019. Risk Based Screening Levels Calculated for PFOS, PFOA, PFBS in Groundwater and Soil using United States Environmental Protection Agency's (USEPA's) Regional Screening Level Calculator. Hazard Quotient (HQ) = 0.1. 15 October 2019.
- USEPA, 2021. Risk Based Screening Levels Calculated for PFBS in Groundwater and Soil using USEPA's Regional Screening Level Calculator. HQ = 0.1. 8 April 2021.



Camp Rilea SI Overview

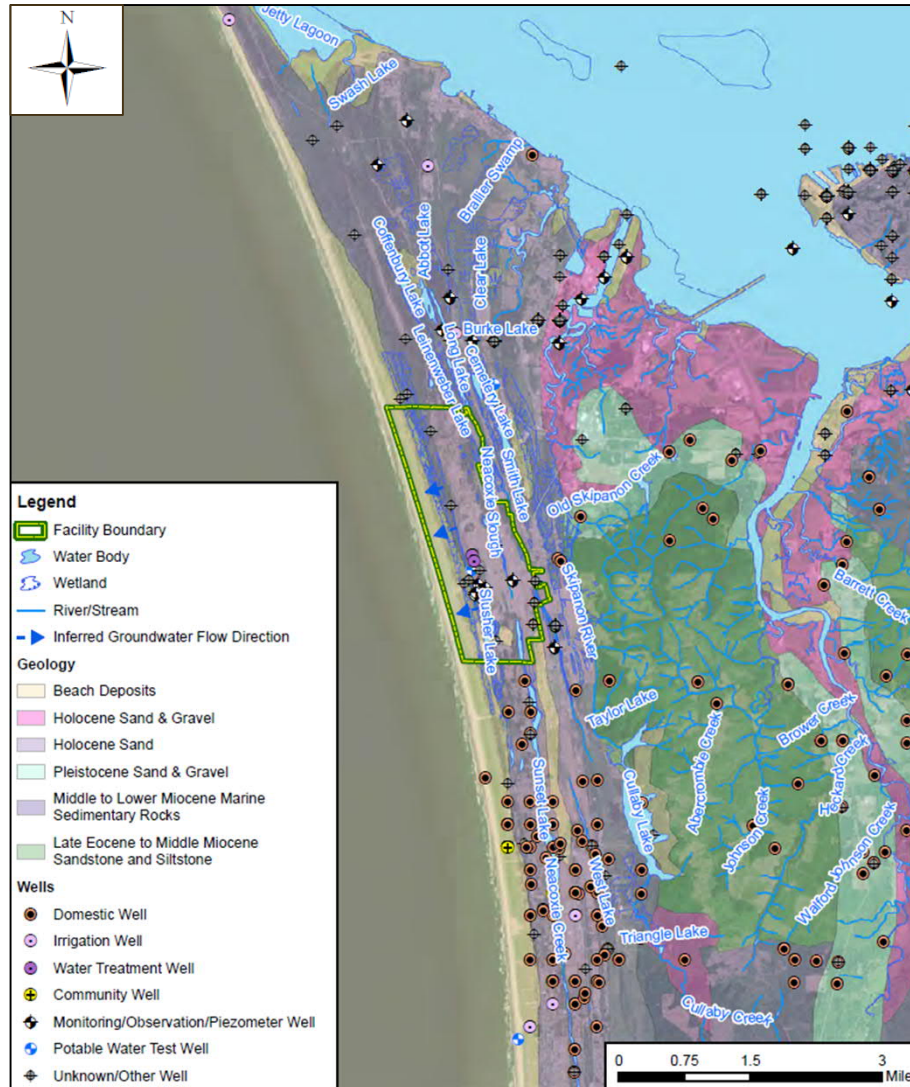
CSM – Surface Water Features





Camp Rilea SI Overview

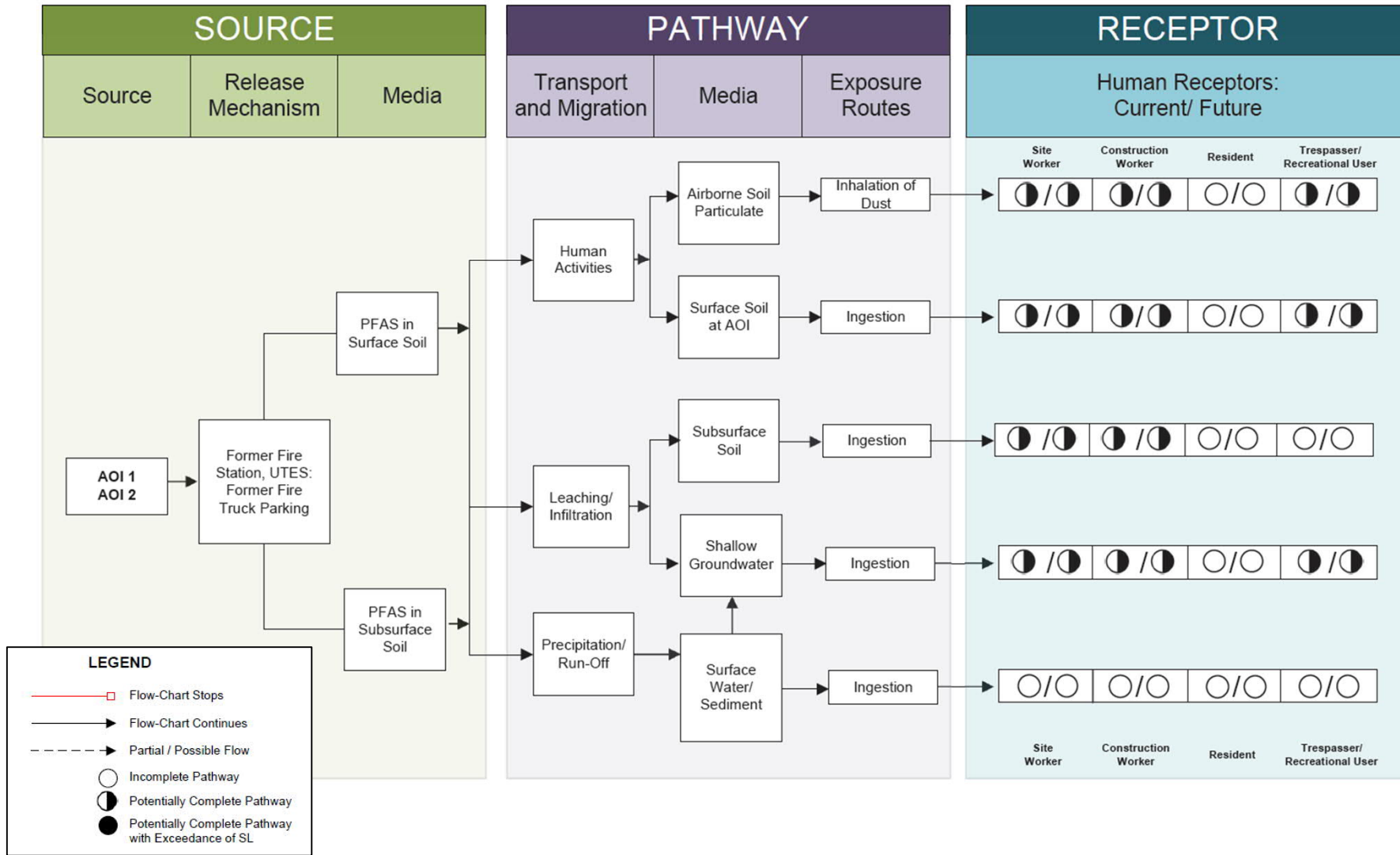
CSM – Groundwater Features





Camp Rilea SI Overview

CSM





Camp Rilea SI Overview

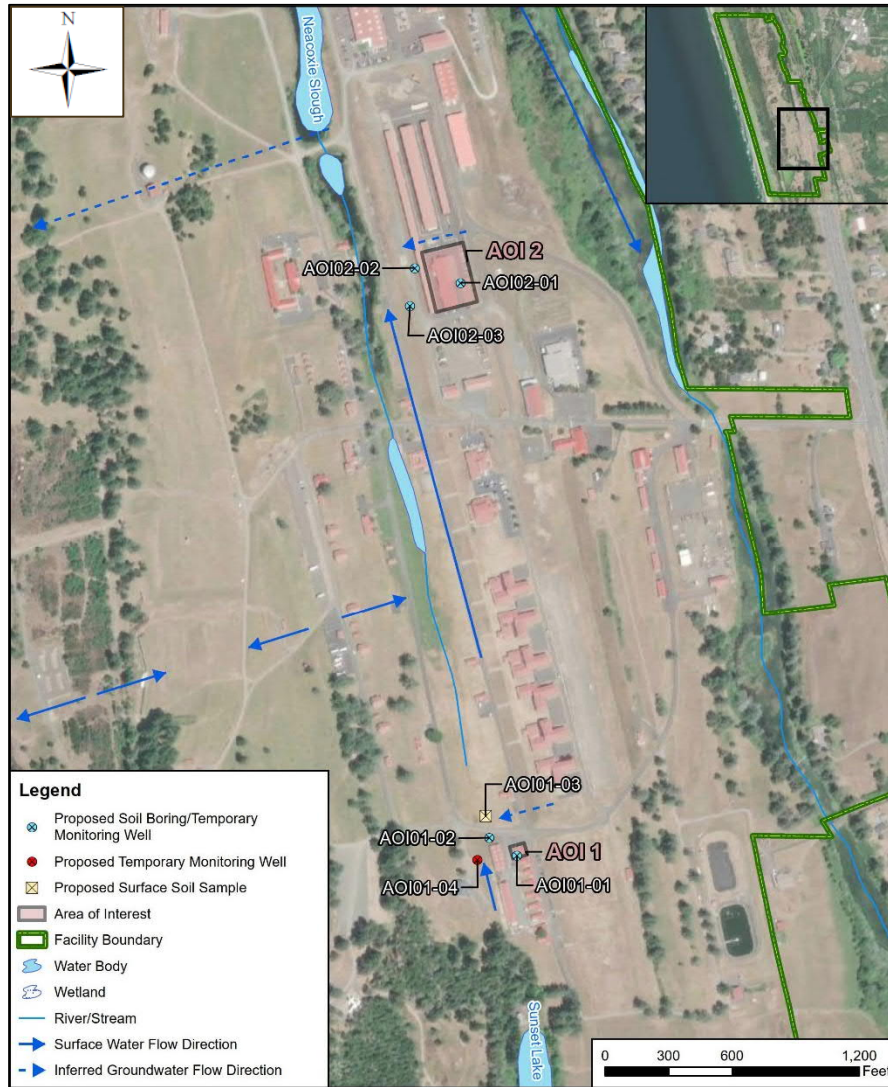
Planning and Sampling

- Finalize Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP) Addendum
 - Draft Final submitted on 4 June 2021
 - Final to be submitted following the TPP 1&2 meeting
- Continuous soil cores to target depth
 - Soil samples collected at surface, mid point, above water table for new temporary well locations
- Collect a groundwater sample from each temporary well
- Collect surface soil sample from infiltration area
- Survey of temporary wells to assess groundwater gradient



Camp Rilea SI Overview

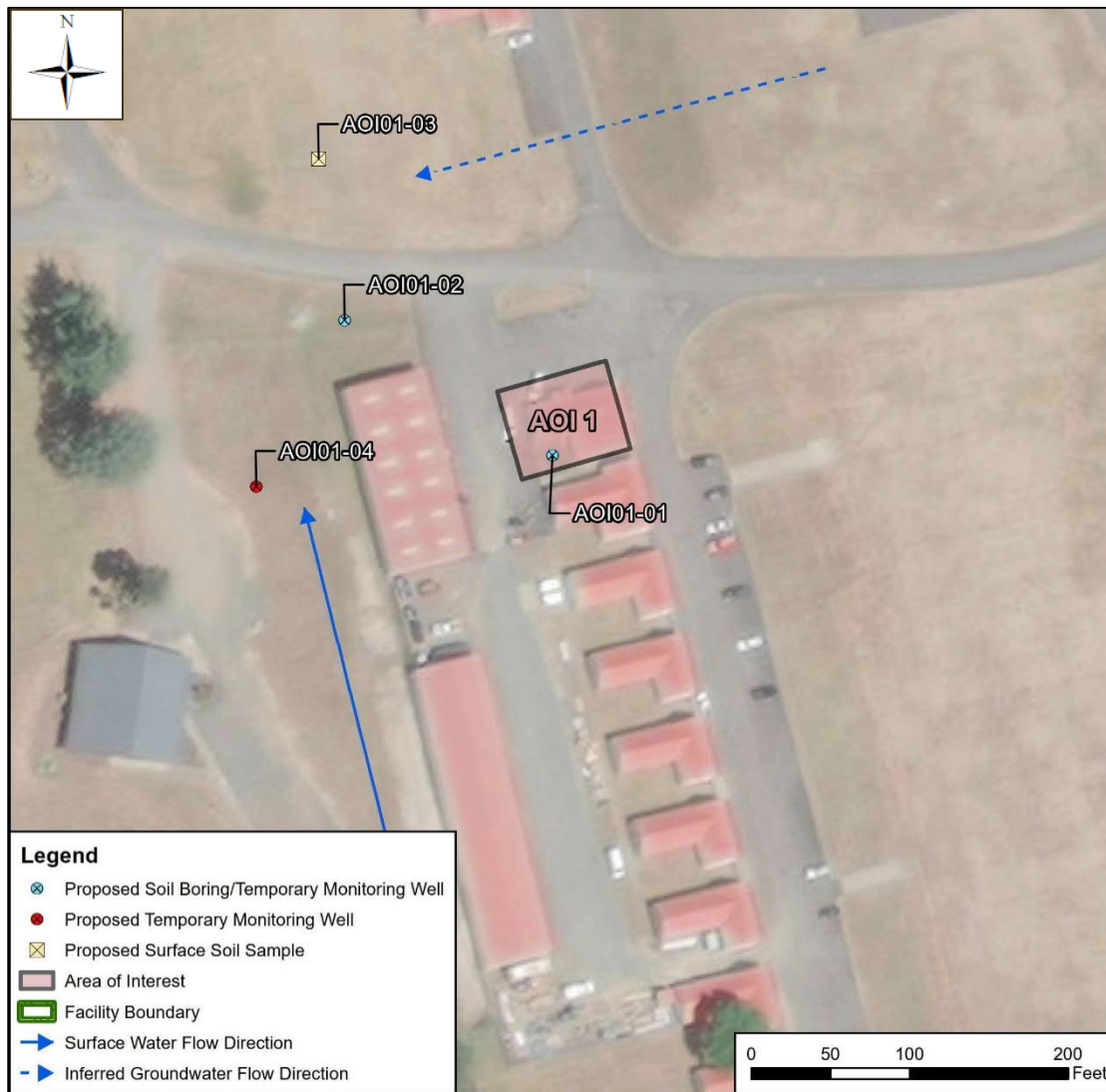
Proposed Sampling Locations





Camp Rilea SI Overview

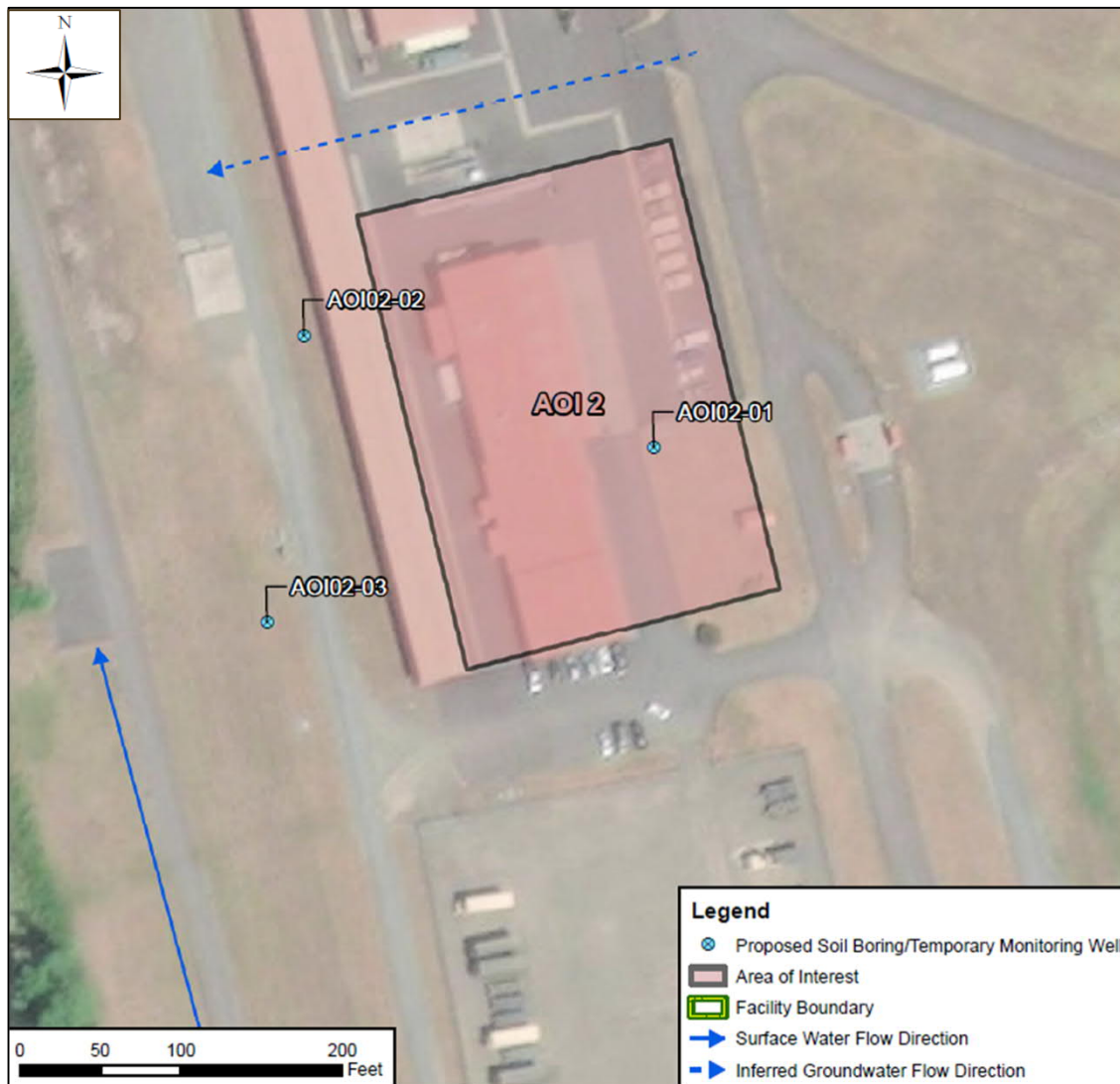
AOI 1 - Proposed Sampling Locations





Camp Rilea SI Overview

AOI 2 - Proposed Sampling Locations





Camp Rilea SI Overview

AOI	# of DPT Boring Locations	Target Depth(s) for Borings	Soil Samples	Target Interval(s) for GW samples	Groundwater Samples	Surface Soil Samples	Decontamination Water Samples
1	3	30 ft	7	Mid-screen	3	1	1*
2	3	30 ft	9	Mid-screen	3		

*Decontamination water sample not associated with any given AOI

- Sample locations will be refined in the field
 - Confirm placement is accessible and will meet DQOs at time of the utility mark-out



Camp Rilea SI Overview

Analytical Parameters

Perfluorooctanesulfonic acid (PFOS)	Perfluoroheptanoic acid (PFHpA)
Perfluorohexanesulfonic acid (PFHxS)	Perfluorononanoic acid (PFNA)
Perfluorooctanoic acid (PFOA)	Perfluorobutanesulfonic acid (PFBS)
Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)
Perfluorodecanoic acid (PFDA)	Perfluorotetradecanoic acid (PFTeDA)
Perfluorododecanoic acid (PFDoA)	Perfluorohexanoic acid (PFHxA)
Perfluorotridecanoic acid (PFTTrDA)	Perfluoroundecanoic acid (PFUdA)
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)

- Analysis completed by Environmental Laboratory Accreditation Program (ELAP)/ National Environmental Laboratory Accreditation Program (NELAP)-certified laboratory
- Level IV data package will be received from the laboratory
- Data will undergo Stage 2b validation as defined in the Department of Defense (DoD) General Data Validation Guidelines



Stakeholder Involvement

- Use TPPs and open communication to encourage stakeholder involvement
- Key involvement topics
 - Proposed approaches
 - Document review time for Oregon DEQ and other stakeholders
- Schedule:
 - Address remaining comments and issue Final UFP-QAPP Addendum: July 2021
 - Field Investigation: August 2021



Questions and Open Discussion

- Coordination
 - Data transfer
 - Utility mark-out and clearance process
 - Report distribution (paper, electronic, portable document format)
 - IDW Handling
 - Site Walk
 - Stakeholder relations
- Schedule



Acronyms

- AFFF – aqueous film forming foam
- AOI – areas of interest
- ARNG – Army National Guard
- CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
- COVID-19 – Coronavirus Disease 2019
- CSM – conceptual site model
- DEQ – Department of Environmental Quality
- DQO – data quality objective
- ELAP – Environmental Laboratory Accreditation Program
- EM – Engineering Manual
- NELAP – National Environmental Laboratory Accreditation Program
- ORARNG – Oregon Army National Guard
- PA – Preliminary Assessment
- PFAS – per- and polyfluoroalkyl substances
- PFOS – perfluorooctanesulfonic acid
- PFOA – perfluorooctanoic acid
- SI – Site Inspection
- SSHP – Site Safety and Health Plan
- TPP – Technical Project Planning
- UFP-QAPP – Uniform Federal Policy-Quality Assurance Project Plan
- USACE – United States Army Corps of Engineers
- UTES – Utility Training Equipment Site