



Naval Air Station Whidbey Island Restoration Advisory Board Meeting March 1, 2018



Agenda



5:00 – 5:10	Welcome and Introductions
5:10 – 5:20	Overview <ul style="list-style-type: none">• Ground Rules• Review October 2017 RAB Action Items
5:20 – 6:20	Environmental Restoration Program Overview/Update
6:20 – 6:50	Community Comments
6:50 – 6:55	Action Items
6:55 – 7:00	Next Meeting Date and Agenda Topics



Ground Rules



- **Please turn cell phones off or to vibrate.**
- **If you must take an urgent call, please take the call outside the room.**
- **Be respectful of others.**
- **Please talk one at a time and wait to be recognized by a Co-Chair.**
- **Please limit side conversations.**
- **Be patient when listening to others speak and do not interrupt them please.**
- **Please stay on topic, while limiting conversation to agenda topics.**
- **Please address any concerns about the discussion or the meeting with the Co-Chairs.**



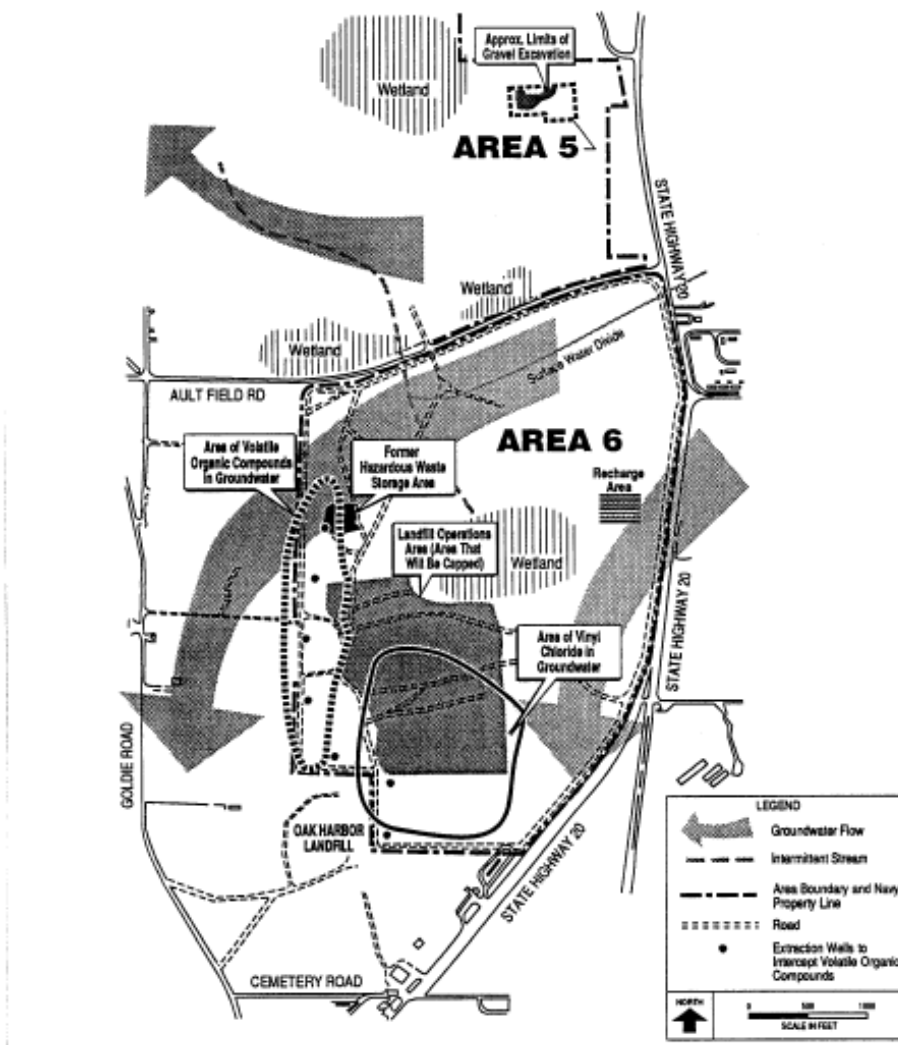
October 2017 RAB Action Items



- Revitalize RAB memberships (on-going)
- Revise and finalize RAB charter (not complete)
- Finalize meeting minutes from October 2017 RAB meeting (complete)
- Navy disposal operations near Hoffman gate
- Groundwater flow direction at Area 5, Hoffman Landfill (next slide)



Area 5 and 6 – Conceptual Groundwater Flow



- From ROD 1993
- Pre-Groundwater Treatment System Operation in Area 6



NAS Whidbey Island Environmental Restoration Sites





Ault Field “Active Sites”





Seaplane Base “Active Sites”





Outlying Landing Field (OLF) Coupeville





Area 1, Former Beach Landfill

Shoreline Erosion Protection System Construction



- Seawall construction completed in March 2017
- Final grading/restoration completed in September 2017 – delayed due to wet conditions
- Planning on seawall repair every 5 years
- Pictures from January 19th



Area 6 Landfill

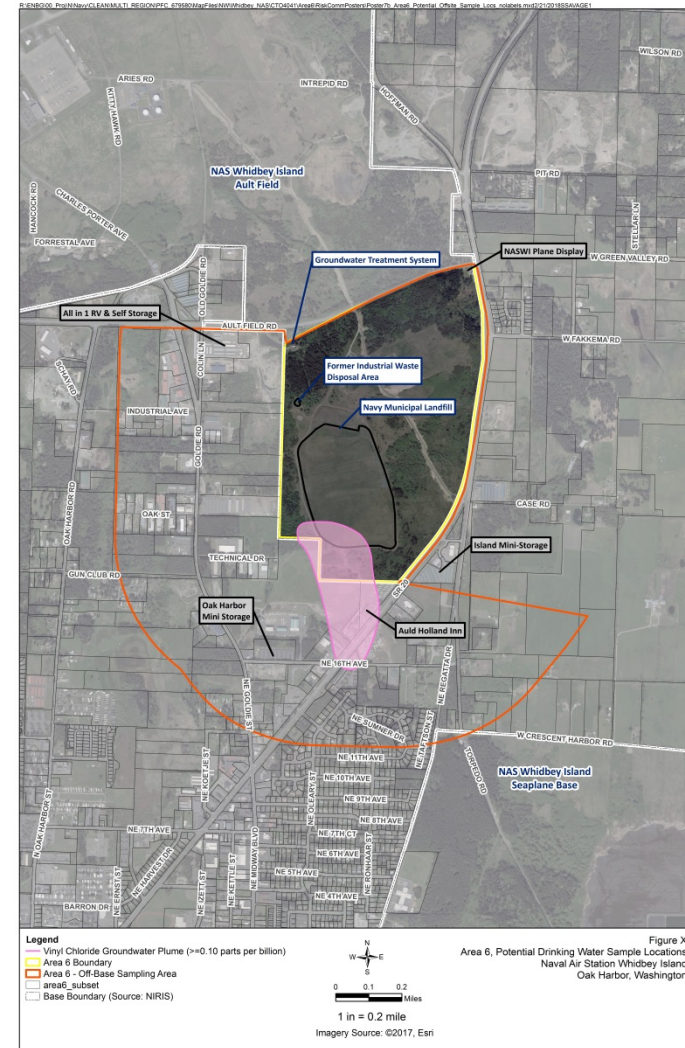
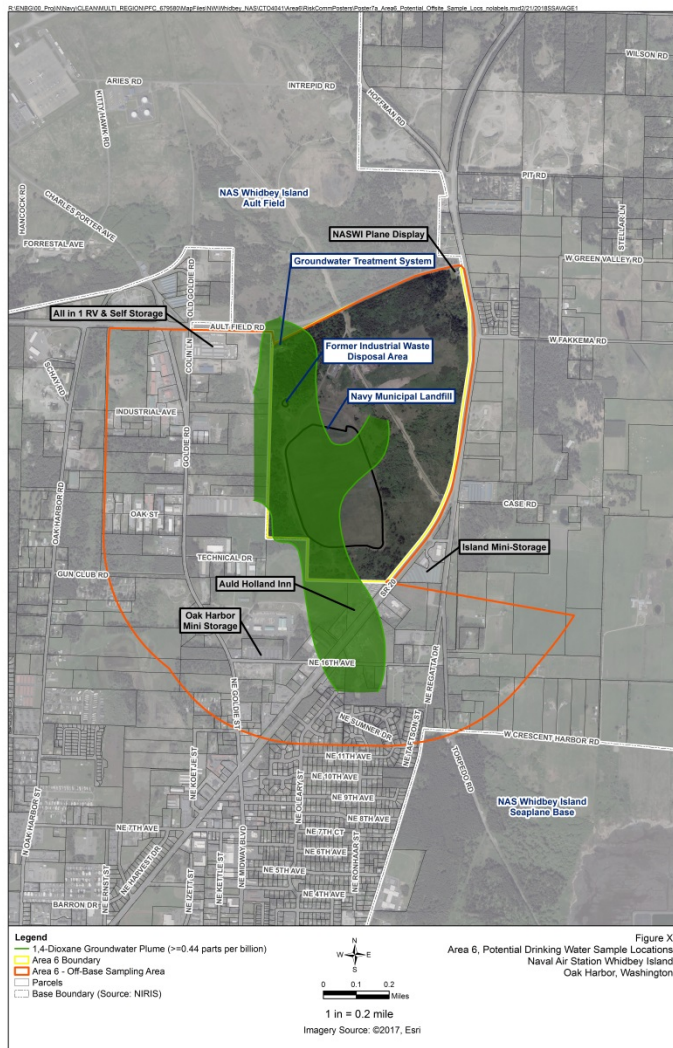


Work conducted since last RAB...

- **Investigation Related (PFAS, 1,4-Dioxane, & Vinyl Chloride)**
 - PFAS detected at Area 6 in December 2017
 - Conducted Off-based Groundwater and Drinking Water Investigation Public Meeting on February 1st
 - Began Off-base Groundwater and Drinking Water sampling
- **Feasibility Study Related (1,4-Dioxane)**
 - Finalized phased timeline for FFS
 - Prepared final draft for EPA
- **Remedial Action Operation Related (all VOCs)**
 - LUC inspection
 - On-going groundwater treatment system and landfill maintenance and operation
 - Conducted annual groundwater monitoring

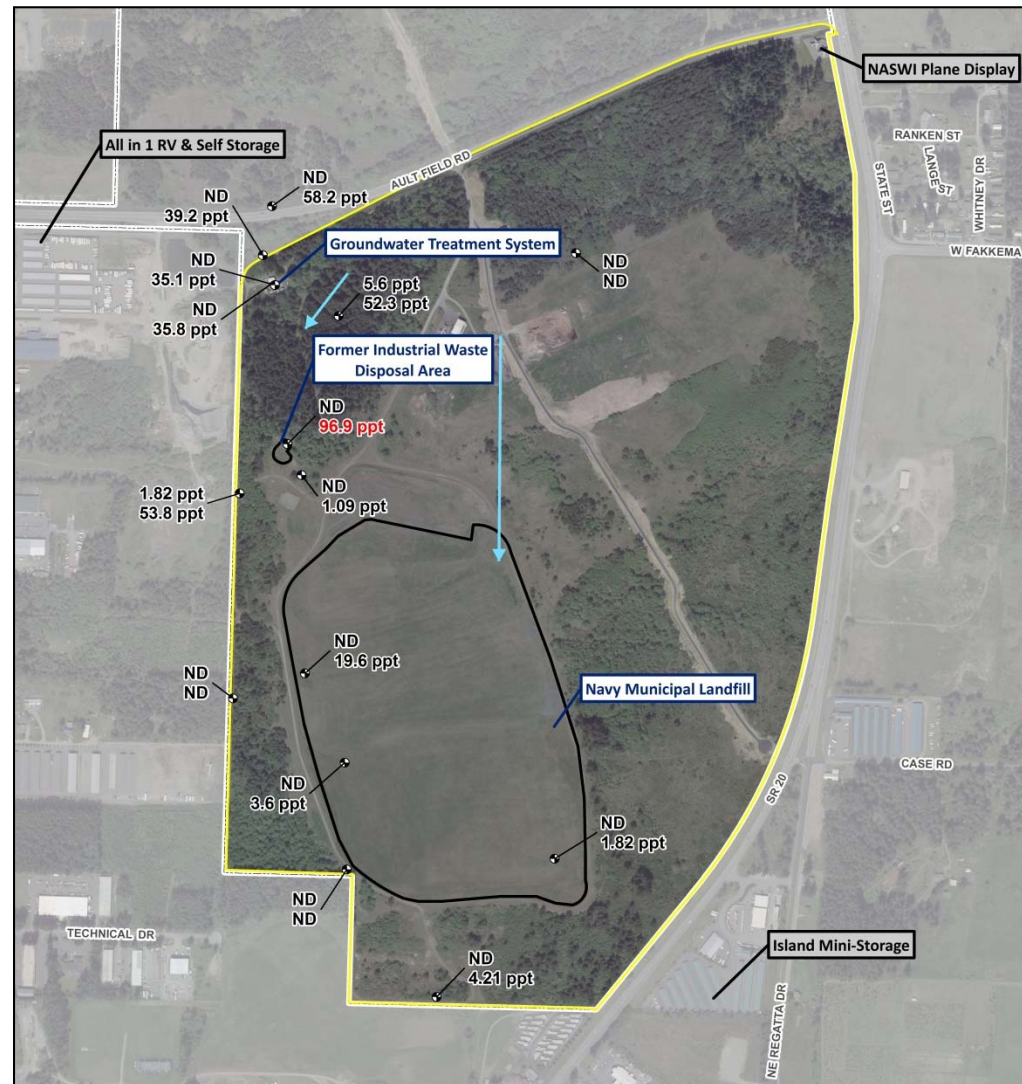


Area 6 Landfill 1,4-Dioxane and Vinyl Chloride Plumes





Area 6 Landfill PFAS Results





Area 6 Landfill



Work planned before next RAB...

- **Investigation Related (PFAS, 1,4-Dioxane & Vinyl Chloride)**
 - Results of Off-base sampling for 1,4-dioxane, vinyl chloride, and PFAS
- **Feasibility Study Related (1,4-Dioxane)**
 - Finalize FFS
- **Proposed Plan (1,4-Dioxane)**
 - Begin Proposed Plan for Record of Decision Amendment
- **Remedial Action Operation Related (VOCs)**
 - Continued on-going groundwater treatment system and landfill maintenance and operation



PFAS Drinking Water Investigation



Work conducted since last RAB...

▪ Off-Base Residences

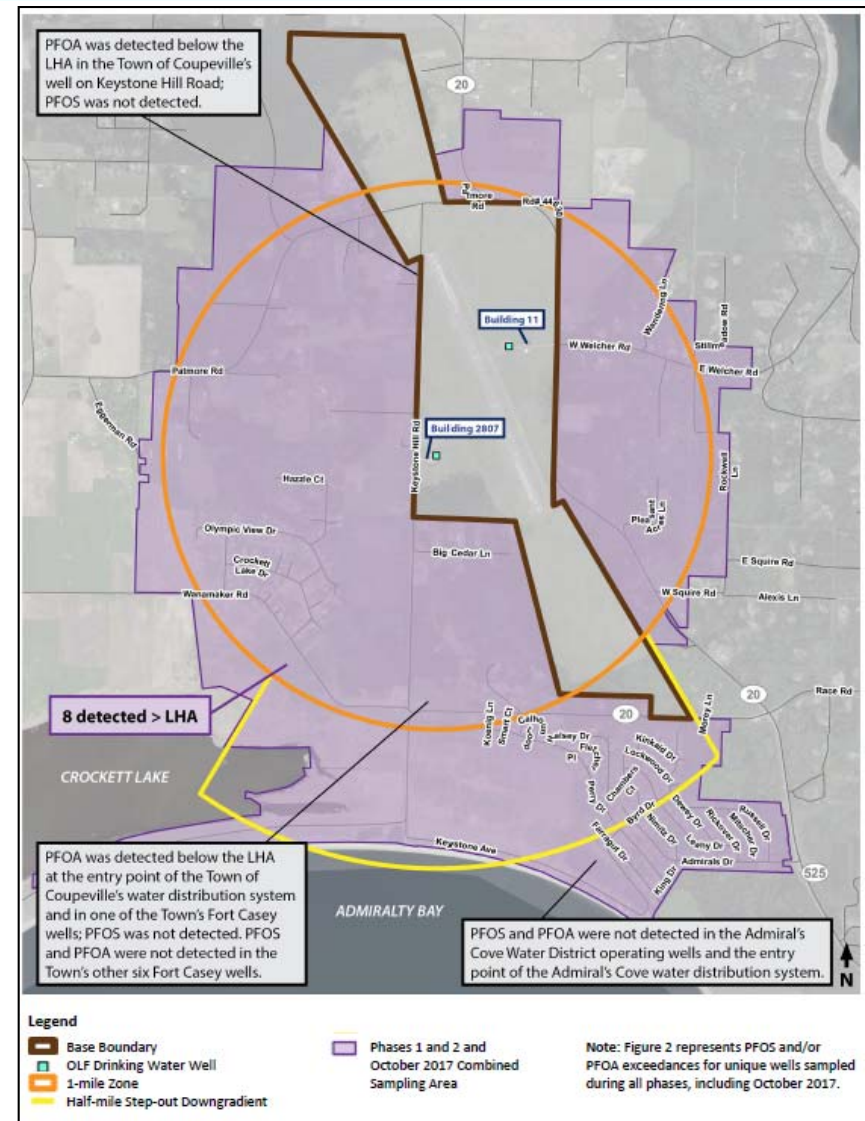
- Continue to provide bottled water to homes with PFOS/PFOA exceedances
- October 2017 drinking water well re-sampling
- Interim solution discussions with residents (filter for kitchen sink)
- Select long-term solution for residents in Coupeville
 - Connect impacted residences to Town of Coupeville water supply
 - Add PFAS treatment to Town of Coupeville water supply
- Continue to evaluate and discuss long-term solution for residents near Ault Field
 - Install new monitoring well



OLF Coupeville PFAS Drinking Water Well Results



- **October 2017** well re-sampling for PFAS detections and wells located adjacent to properties with PFOS and/or PFOA h exceedances
- 112 distinct wells sampled
- 8 wells exceed PFOA LHA (10 homes) (one new well identified in October 2017)
- Next re-sampling effort in **March 2018**





PFAS Drinking Water Investigation



Work planned before next RAB...

▪ Off-Base Residences

- Re-sample drinking water wells in March 2018
- Implement and verify performance of interim solution at impacted residences (i.e., kitchen sink filter)
- Continue to work on PFAS treatment design for Town of Coupeville's water supply
- Continue to work on water distribution design for impacted residences in Coupeville
- Continue to evaluate long-term solutions for impacted residences near Ault Field



PFAS Groundwater Investigation



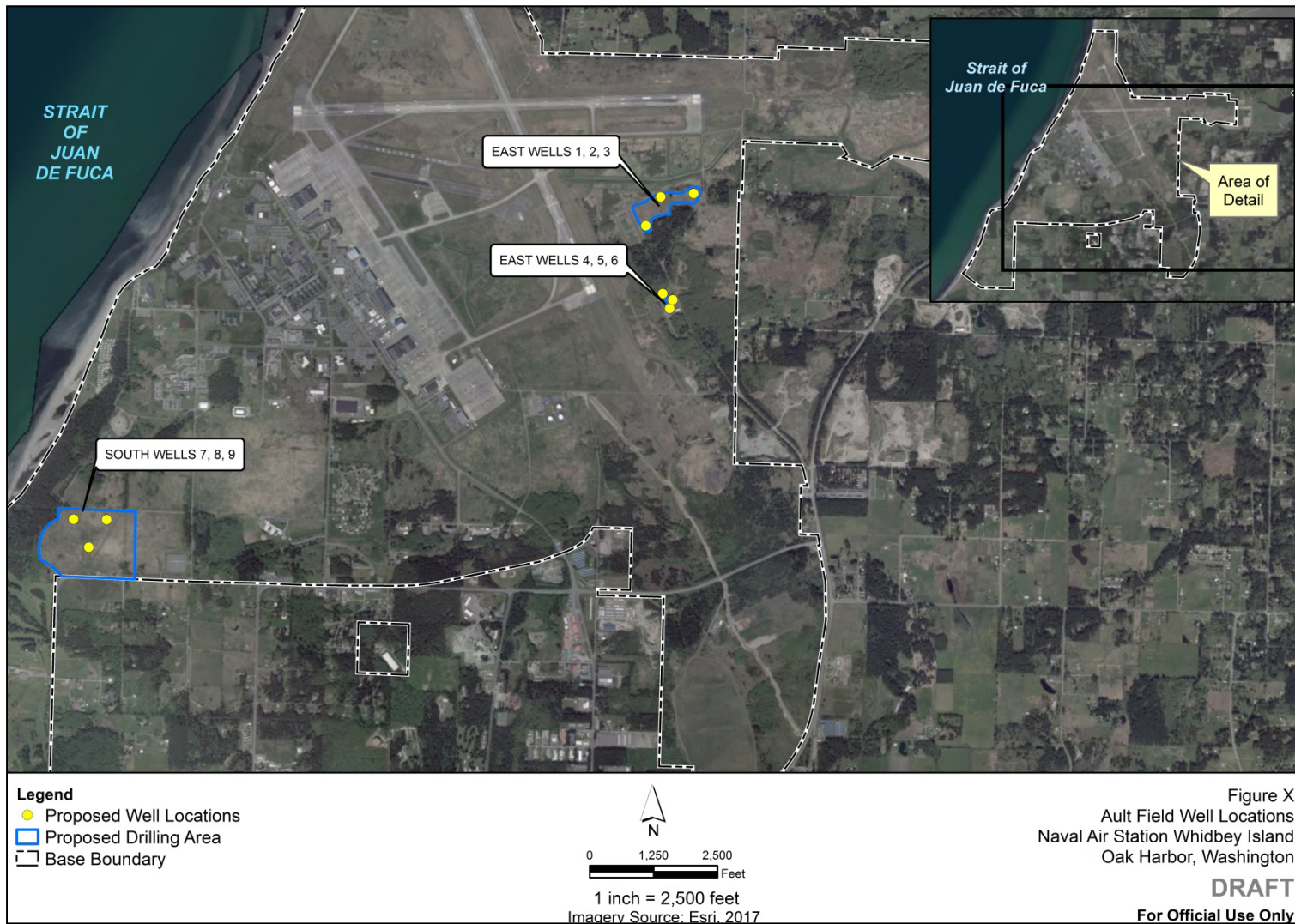
Work conducted since last RAB...

▪ On-Base

- Internal Draft Preliminary Assessments for PFAS at Ault Field, OLF Coupeville, and Seaplane Base
- Finalized Work Plans for Focused Site Inspections at Ault Field and OLF Coupeville
- Installed four new monitoring wells at OLF Coupeville
- Installed nine new monitoring wells at Ault Field
- Sample existing groundwater wells near Current Fire Fighting School

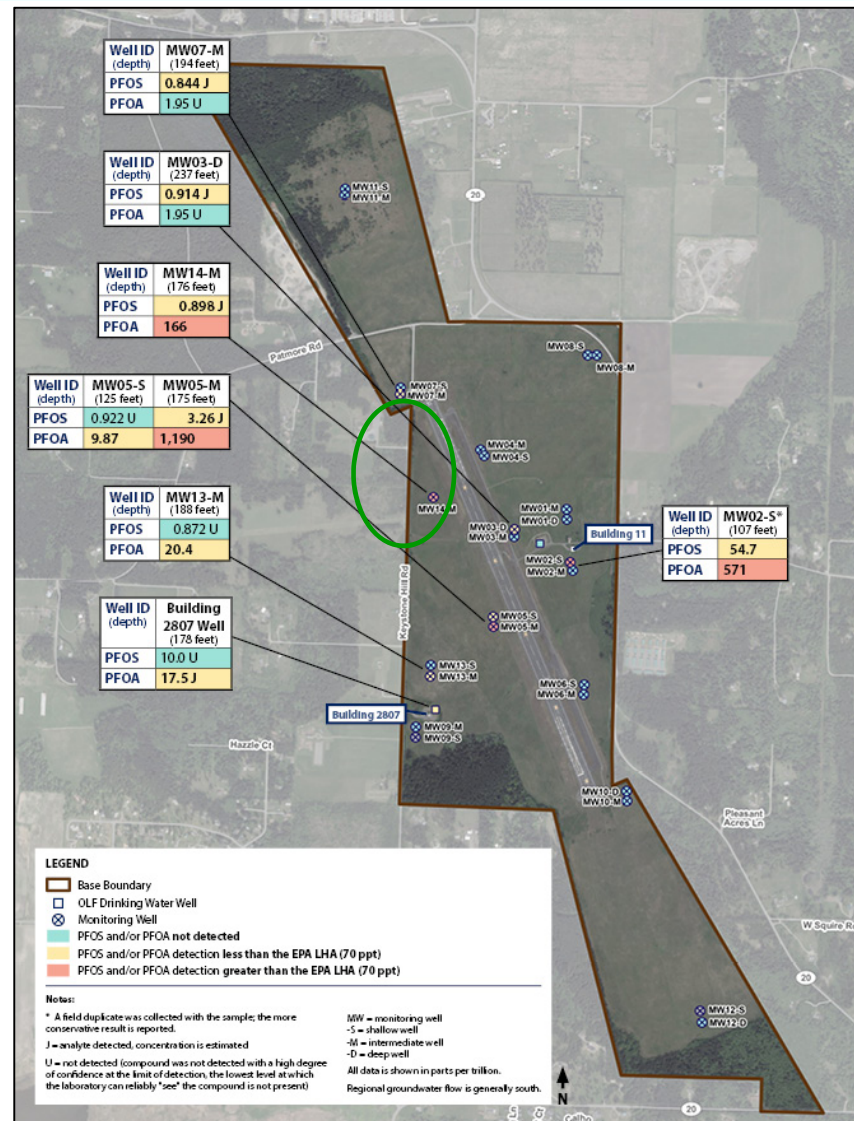


New monitoring wells at Ault Field



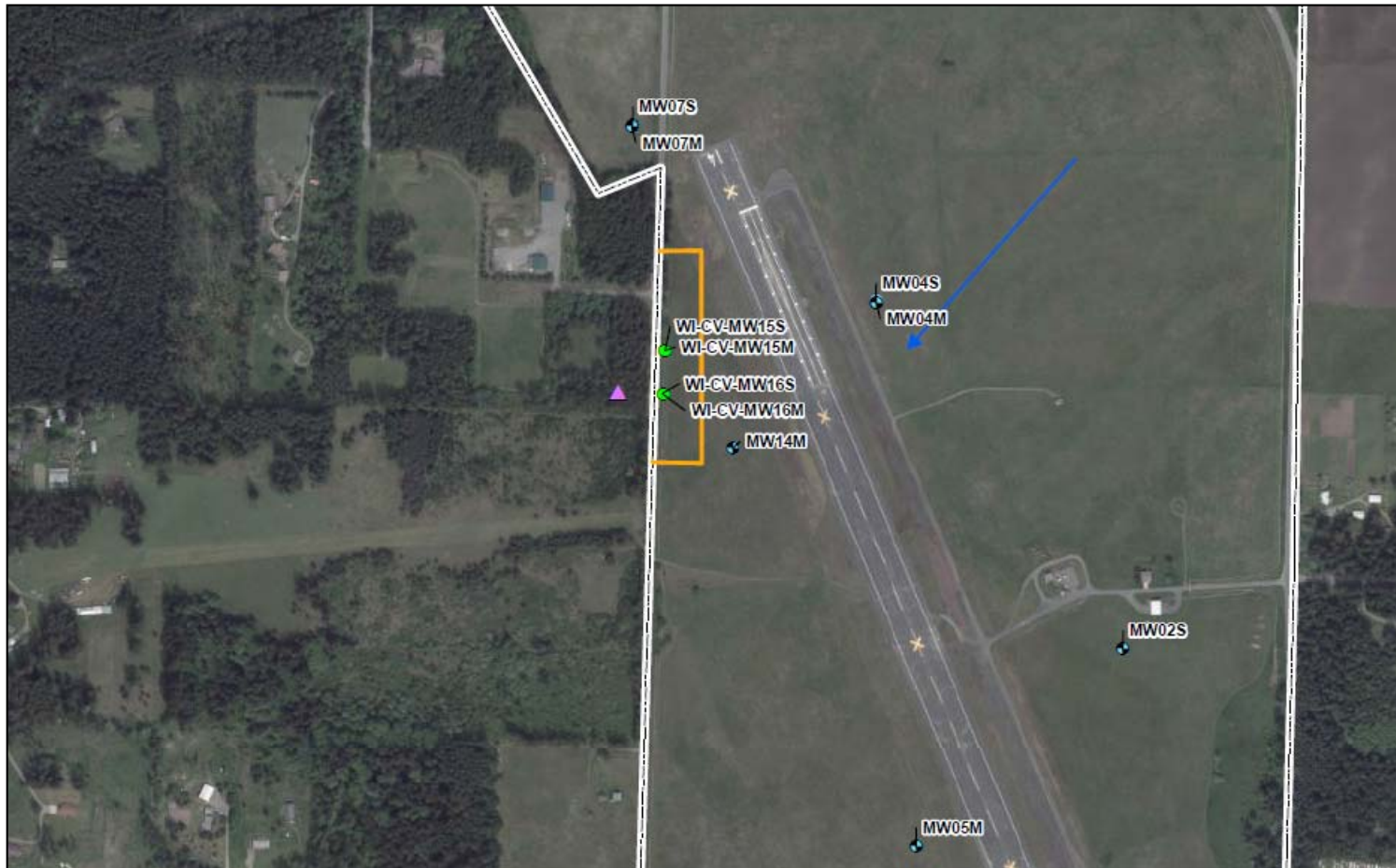


2016/2017 OLF Site Inspection





New monitoring wells at OLF Coupeville





PFAS Groundwater Investigation



Work planned before next RAB...

▪ On-Base

- Finalize 2016/2017 OLF Coupeville Site Inspection Report
- Finalize Preliminary Assessments for PFAS at Ault Field, OLF Coupeville, and Seaplane Base
- Develop reports for Focused Site Inspections at Ault Field and OLF Coupeville
- Draft Site Inspection Work Plans for Ault Field and Seaplane Base



Petroleum Restoration Program Update

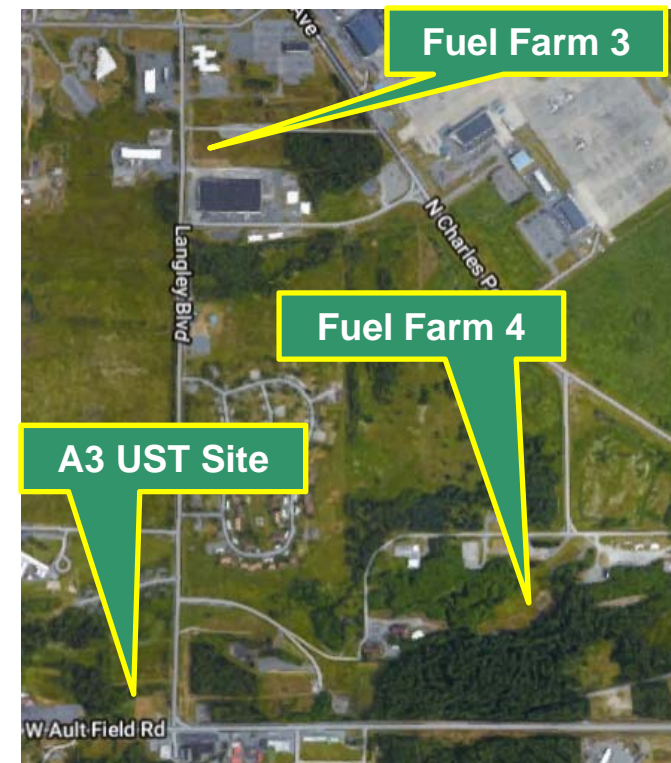


Work conducted since last RAB:

- Finished Five-Year Review
- Groundwater monitoring/sampling

Work planned before next RAB:

- Continue free-product recovery and groundwater monitoring/sampling





Petroleum Sites Five-Year Review



Why conduct a Five-Year Review?

- It is required by the Decision Documents for each of the sites.
- Required by WAC 173-340-420(3) for sites where contaminants left in place above unrestricted land use in order to restrict site use.
- Ensure that the cleanup actions (remedies) chosen for the sites are functioning properly and are protective of human health and the environment.
- Provide recommendations to address any issues.

2.9.6 Periodic Reviews

Because Alternative 2 will result in some exceedances of state cleanup levels remaining in soils and groundwater, a periodic review of the environmental data will be required annually for 5 years (WAC 173-340-420). Changes to the monitoring schedule will require concurrence from Ecology. After the initial 5-year period, frequency will be every 5 years.



Petroleum Sites Five-Year Review



All interested parties including:

- **U.S. Navy, which conducts the review.**
- **WA Department of Ecology, which provides input/comments.**
- **Other interested parties and community members, including the RAB.**





Petroleum Sites Five-Year Review



The U.S. Navy asked the following questions:

- Are the cleanup actions (remedies) functioning as intended?
- Are the cleanup assumptions still valid?
- Is there any new information to consider?

These questions are answered through:

- Interviews with U.S. Navy and Department of Ecology personnel
- Document and Data Reviews
- Site Inspections
- Review of Environmental Regulations and Toxicological Standards



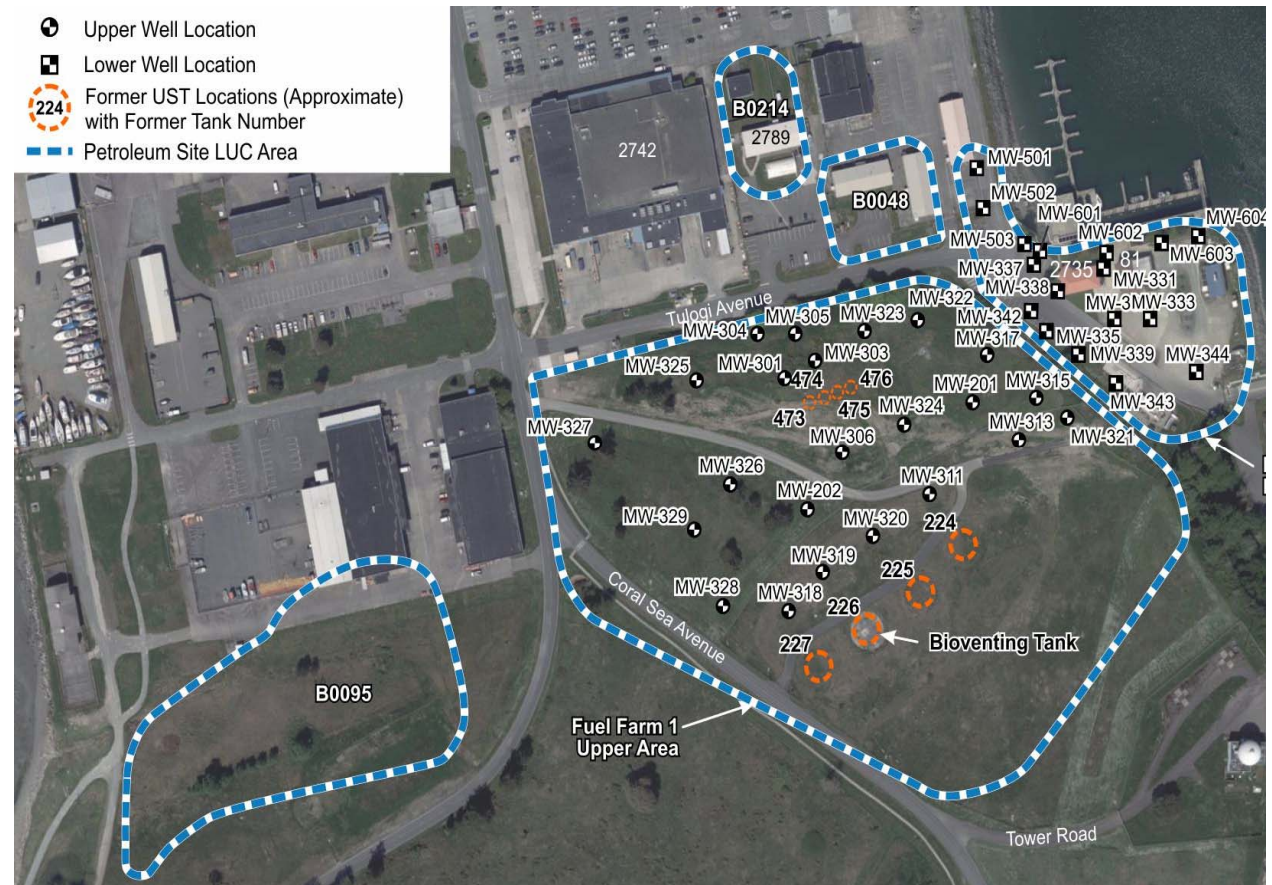


Petroleum Sites Five-Year Review



Fuel Farm 1 Remedy:

- Release prevention measures - *tank closure in 2009*
- Free product recovery
- Land Use Controls (LUCs)
- Natural attenuation
- Compliance/groundwater monitoring



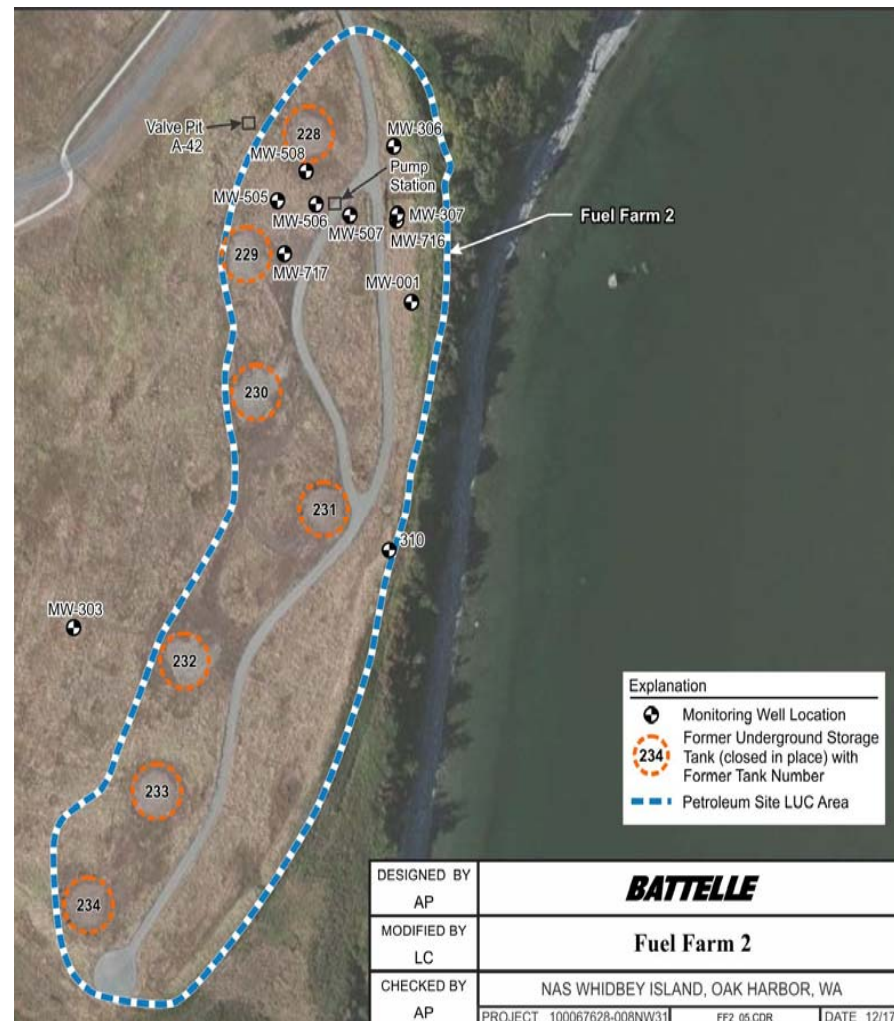


Petroleum Sites Five-Year Review



Fuel Farm 2 Remedy:

- Intertidal biological monitoring
- *discontinued in 2001 with Ecology approval*
- Modifications to subsurface drainage systems
- *modifications completed in 2000*
- Free product recovery
- LUCs
- Natural attenuation
- Compliance/groundwater monitoring



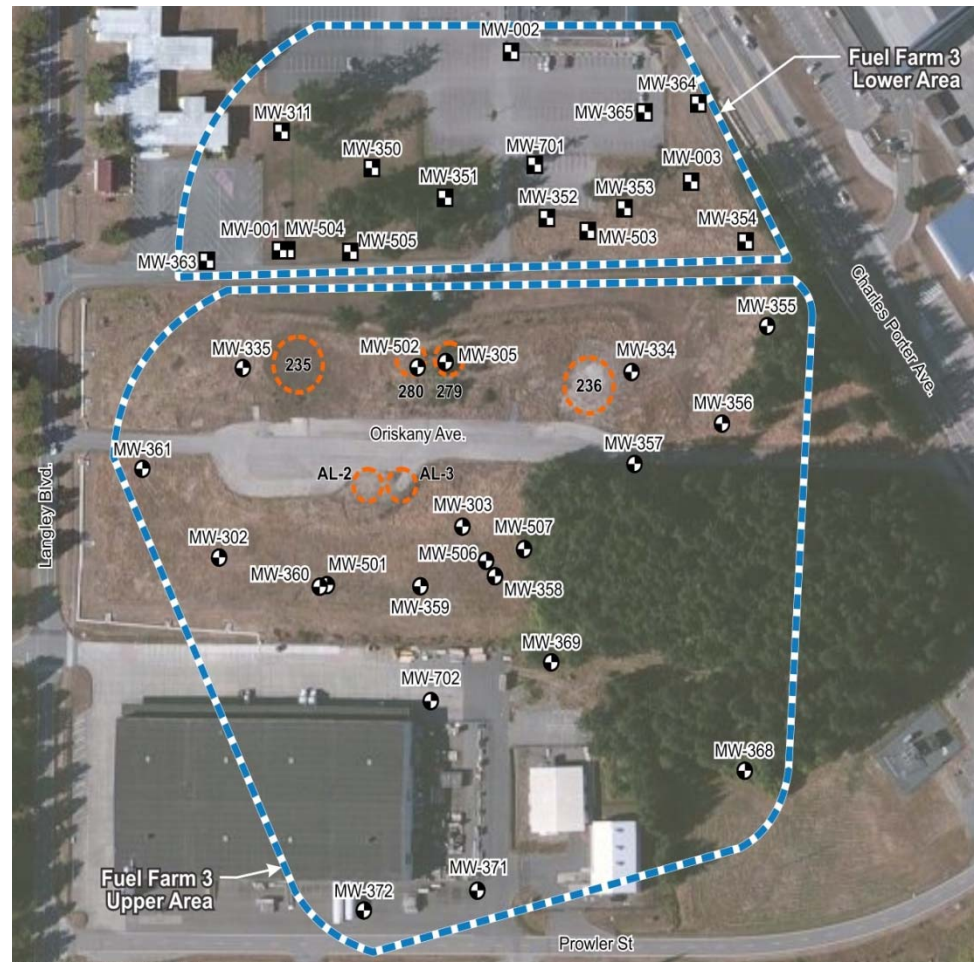


Petroleum Sites Five-Year Review



Fuel Farm 3 Remedy:

- Release prevention measures - *tank closure in 2009*
- Free product recovery
- LUCs
- Natural attenuation
- Compliance/groundwater monitoring





What are the Cleanup Actions?



Fuel Farm 4 Remedy:

- Release prevention measures - *tank closure in 2009*
- Free product recovery
- LUCs
- Compliance/groundwater monitoring



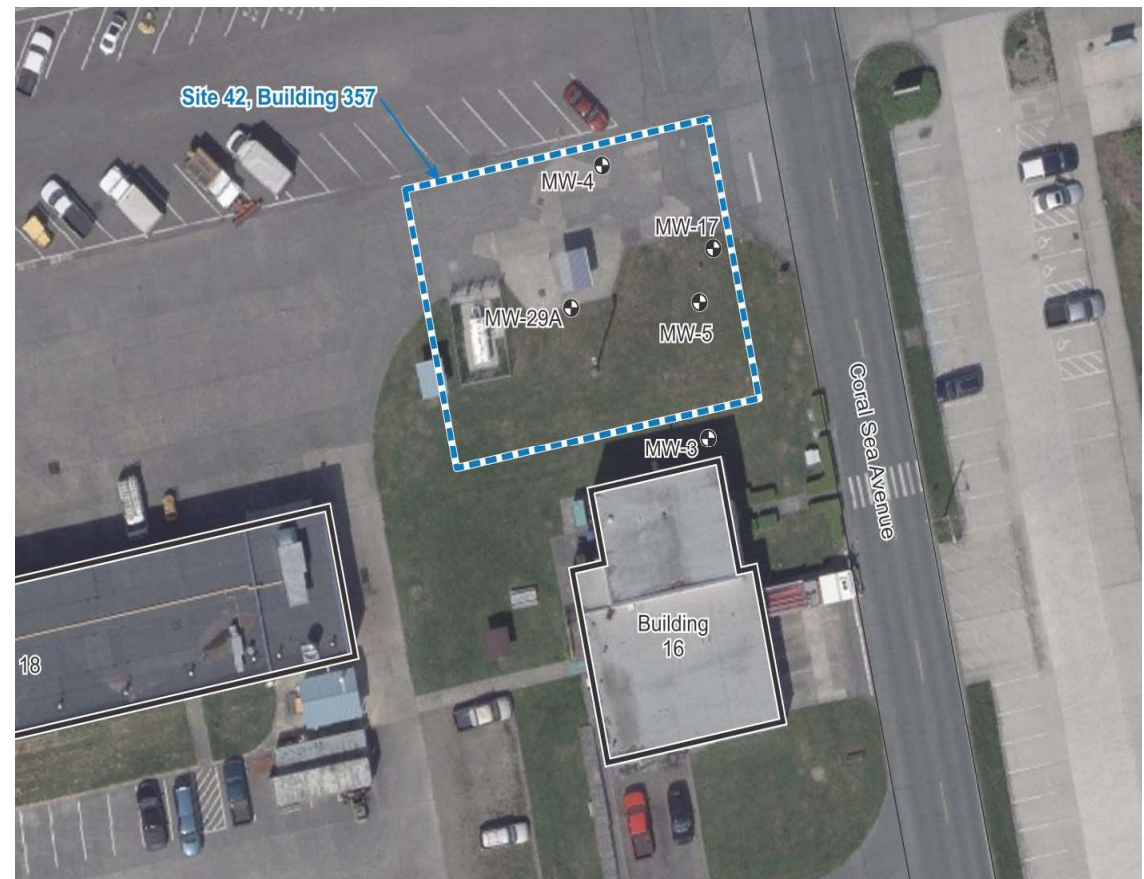


Petroleum Sites Five-Year Review



Building 357 Remedy:

- LUCs
- Natural attenuation
- Compliance/groundwater monitoring





Petroleum Sites Five-Year Review



Remedies at Fuel Farms 1, 2, 3, and 4 and Building 357 are functioning as intended and are protective of human health and the environment.

- ***Free product recovery*** being conducted during winter months when free product thickness is greatest.
- ***Land use controls*** are effective in preventing exposure to contaminants at concentrations above cleanup levels (CULs).
- ***Natural attenuation is occurring.***
- ***Compliance/groundwater monitoring activities*** are not being conducted exactly at the frequency (or analytes) as specified in the Decision Document, but ***still characterize nature and extent of dissolved-phase petroleum hydrocarbon plumes***
 - Building 357 groundwater monitoring last conducted 2007. Annual sampling will be conducted 2018.



Petroleum Sites Five-Year Review

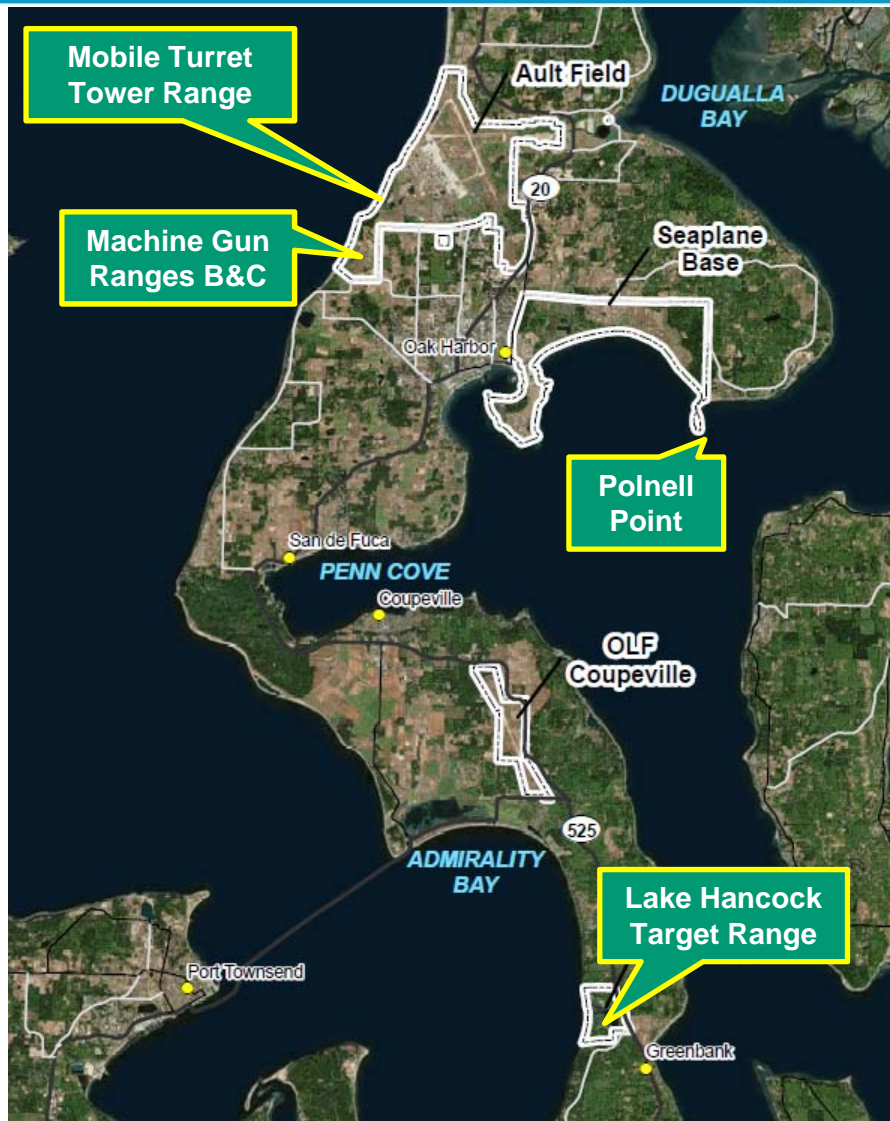


In order to ensure long-term protectiveness, the Navy plans to:

- Continue to optimize the compliance/groundwater monitoring activities;
- Begin a vulnerability assessment of the remedies to climate change impacts at Fuel Farms 1 and 2;
- Prepare a LUC Instruction to ensure LUC are maintained by NAS Whidbey Island personnel;
- If land use changes, the Navy will revisit:
 - *Soil and groundwater CULs based on current regulatory standards; and*
 - *Site-specific LUCs and LUC boundaries based on updated/revised soil and groundwater CULs;*



Military Munitions Response Program

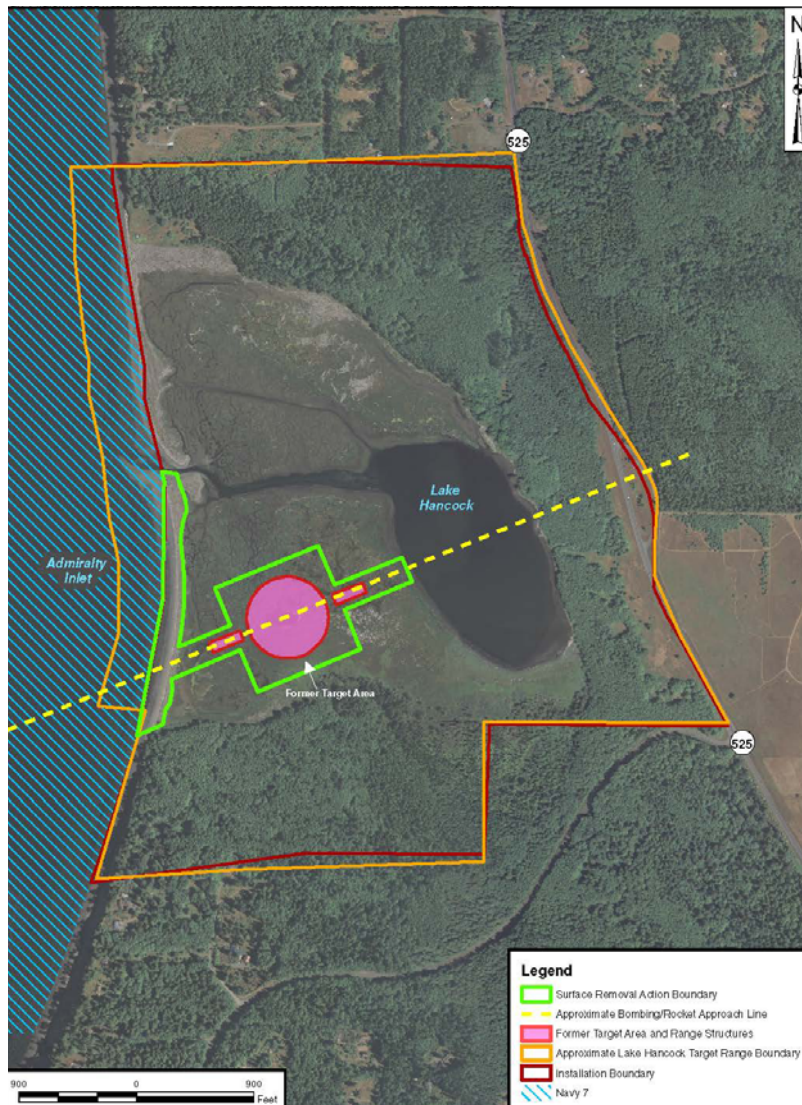


- Lake Hancock Target Range
- Machine Gun Ranges
 - Mobile Turret Tower Range
 - Machine Gun Ranges B & C
- Polnell Point Explosive Ordnance Disposal/Burn Area



Lake Hancock Target Range

Remedial Action



- **Surface Removal Only (within green outlined area)**
- **Future Land use controls, including:**
 - Annual inspections and surface removal of munitions debris (if required) around target area;
 - Five-year inspections and surface removal of munitions debris (if required) within the entire removal action area;
- **Repair and/or replace fencing and signage.**





Lake Hancock Target Range

Timeline



November 2017 – July 2018: Project Planning

- Remedial Action Work Plan
- Explosive Safety Submission

August 2018 – November 2018: Field Work

- **September:** Vegetation Removal and Boundary Survey
- **September – October:** Surface MEC/MPPEH Removal
- **October – November:** Fencing and Signage Installation
- **November:** LUC Survey

November 2018 – July 2018: Reporting

- After Action Report



Community Input



- **Community Comments**
- **Action Items**
- **Next Meeting Date, Time and Location**
- **Future Agenda/Discussion Topics**
- **Meeting Adjournment**