



NAVFAC Pacific Overview

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Overall Classification of this brief is **UNCLASSIFIED**

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NAVFAC Pacific Highlights



- **Priority: Shipyard Infrastructure Optimization Program (SIOP)**
- **Priority: Major Construction Programs**
 - Guam Defense Policy Review Initiative (DPRI)
 - China Lake Earthquake Recovery Program
- **Priority / Future: Theater Posture and Pacific Deterrence Initiative (PDI)**
 - Atypical approach required
 - Whole of Engineer Effort
- **Priority: Red Hill Bulk Fuel Storage Facility**
 - NAVFAC response to fuel release incidents

Large, complex problems demand that we organize and execute differently

NAVFAC Pacific Laydown



Designated DoD (MILCON) Construction Agent (DoDD 4270.5)

- Naval Facilities Engineering Systems Command (NAVFAC)
- United States Army Corps of Engineers (USACE)

- 7 Ech. IV Commands (5 FEC / 2 OICC)
- 23 PWDs / 3 ROICCs / 11 USMC FEADs
- Support to 5 Navy & 2 USMC Regions
- Business Volume: \$5B Products & Services
- 9,000 MIL/CIV/FN Employees

- Echelon III:** NAVFAC Pacific
- Echelon IV:** Facility Engineering Commands (FEC)
 - Military Design & Construction
 - Public Works
 Officer in Charge of Construction (OICC)
 - Military Construction
- Units of Action:** Public Works Departments (PWD)
 - Military Construction
 - Public Works
 Resident Officer in Charge of Construction (ROICC)
- Contingency Engineering (CE) Offices**
 - Security Cooperation Programs
 - Crisis / Contingency Ops

Stretching Across the Indo-Pacific

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Major Programs

Pacific Deterrence Initiative (PDI)



- **PDI Scope**

- FY22 NDAA – Identifies \$7.1B in investments (increase from FY21)
- INDOPACOM has requested \$27B across FY22-27
- Covers weapons to infrastructure

- **PDI Purpose**

- Enhance U.S. deterrence and defense posture in the Indo-Pacific region
- Assure allies and partners
- Increase capability and readiness in the Indo-Pacific region

- **NAVFAC Roles**

- Program Management on behalf of U.S. Indo-Pacific Command
- Project Delivery – from planning through construction
 - Improvement of logistics / maintenance capabilities
 - Infrastructure improvement

Developing Program Requires Rapid Program and Project Development – in Austere Locations

Whole of Engineer Effort

Contractors + Seabees + NAVFAC



NMCB 3 with Reyes Construction measuring for batter boards onboard NAWS China Lake



NMCB 3 placing concrete alongside Reyes Construction onboard NAWS China Lake



NMCB 3 with Reyes Construction Installing Concrete Forms on SCI



NMCB 3 excavating for Combat Aircraft Loading Area on SCI

SIOP Overview



Comprehensive approach to support the Fleet's maintenance requirements at Navy's four public shipyards

- ✓ Capital Equipment (OP,N)
- ✓ Military Construction (MILCON)
- ✓ Facility Sustainment Restoration & Modernization (FSRM, O&M,N)
- ✓ Select planned, emergent & local NSY innovation projects



Puget Sound Naval Shipyard & Intermediate Maintenance Facility (PSNS&IMF)

Bremerton, WA

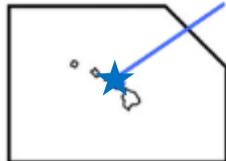
- DD1 • DD4
- DD2 • DD5
- DD3 • DD6



Pearl Harbor Naval Shipyard & Intermediate Maintenance Facility (PHNSY&IMF)

Pearl Harbor, HI

- DD1 • DD3
 - DD2 • DD4
- Fwd/Aft



Portsmouth Naval Shipyard (PNSY)

Portsmouth, NH / Kittery, ME

- DD1
- DD2
- DD3

Washington Navy Yard (WNY)

Washington, DC
PMS 555 (NAVSEA, NAVFAC, CNIC Headquarters)

Norfolk Naval Shipyard (NNSY)

Portsmouth, VA

- DD2
- DD3
- DD4
- DD8



• Average Navy facility age: 61 years

• Average Navy dry dock age: nearly 100 years

Pearl Harbor Naval Shipyard

P-209 Dry Dock 3 Replacement



Pre-Decisional Concept Rendering

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Shipyard Infrastructure Optimization Program

Puget Sound Naval Shipyard Future Projects



- **New Multi-Mission Dry Dock (M2D2)**

- Enable continued nuclear powered aircraft carrier (CVN) maintenance

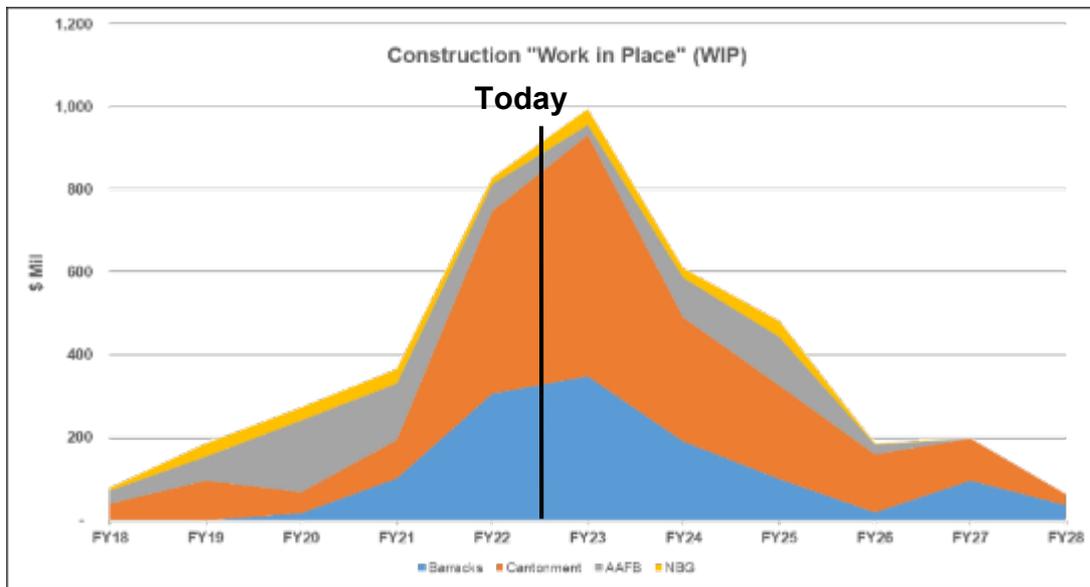
- **Seismic upgrade of existing Dry Dock 6 following M2D2 construction.**

- A second CVN-capable dry dock to resolve dry dock capacity shortage at PSNS & IMF



Pre-Decisional Concept Rendering

Guam Defense Policy Review Initiative (DPRI) Overview



Most intense phase of buildup: FY21-FY24

- Relocation of
 - 5,000 Marines
 - 1,300 family members
- \$8.7B Program
- Guam Program Management Office (NAVFAC PAC)
- Officer in Charge of Construction (OICC) Marine Corps Marianas (on Guam)
- Constructs brand new Camp Blaz

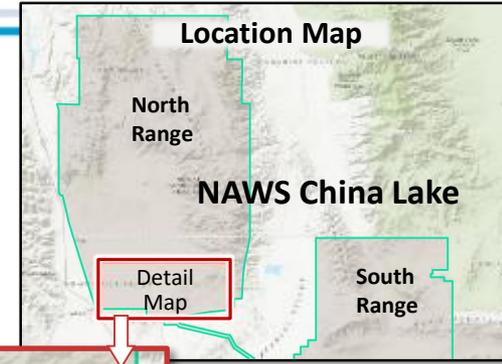


China Lake Earthquake Recovery



Total = \$3.87B

MCON	\$2,282M
OMN (Repairs, Minor Equipment, Other)	\$846M
OPN (Equipment)	\$439M
RDT&E:	\$305M



Temporary Space: Total: 254,559 SF

27 Modulares, 15 Classified Modulares,
3 VX-31 Maintenance Shops, 6 TFS Hangars
Space for 1,100 personnel and programs

South Airfield:

- *P1900 Hangar 3 Replacement (Nov 2023)
- *P1901 Integration Lab (Nov 2023)
- P1902 Air Ops and ATC Tower (Nov 2023)
- P1907 Aircraft Parking Apron for Hangar 2 (Nov 2023)
- *P1908 Advanced Weapons Hangar (Nov 2023)
- P1914 Aircraft Rescue & Fire Fighting Station (Nov 2023)

Range Control Complex:

- *P1911 Range Control Complex (Dec 2024)

Main Magazine Area:

- P1910 Magazines & Inert Storage Facility (Aug 2022)

Propulsion Lab / Salt Wells:

- P1918 Ordnance Test Supt & Tech Svcs Lab (Mar 2023)
- P1919 Radiographic Building (Jan 2024)
- P1922 Skytop Firing Bays (Jan 2024)
- P1917 Cast Propellant Mix Building (Feb 2024)
- P1920 Warhead Casing Operations (Jul 2023)
- P1921 Motor Assembly Compound (Feb 2024)
- RM19-1835: T-Range (Jul 2024)
- 800MR CT-6 Firing Range Support Facility LRP (Mar 2023)
- 810MR Inert Storage Warehouse LRP (Mar 2023)
- 440MR CLPL Prototype Laboratory LRP (Mar 2023)
- 450MR CLPL Admin Bldg. LRP (Mar 2024)

Legend:

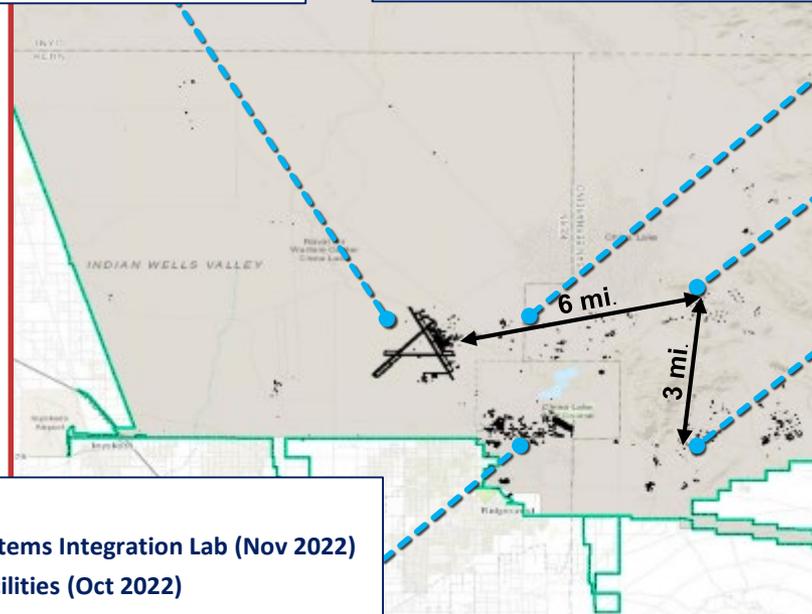
* ICD-705 Space (BOD)

ICD-705 SF Totals

• P1900	10,000 SF
• P1901	68,000 SF
• P1903	105,000 SF
• P1908	54,000 SF
• P1911	37,000 SF
• ML Wings 2-5	48,000 SF
ICD-705 Total Space:	322,000 SF

Main Site:

- *P1903 Michelson Mission Systems Integration Lab (Nov 2022)
- P1916 Community Support Facilities (Oct 2022)
- *RM19-1867 Michelson Lab Wings 2-5 (Jul 2023)
- P1924 Academic Training Building (Feb 2023)
- P1904 Michelson Lab Complex (Nov 2023)
- RM19-1867 Michelson Lab Wings 6-7 (Aug 2025)

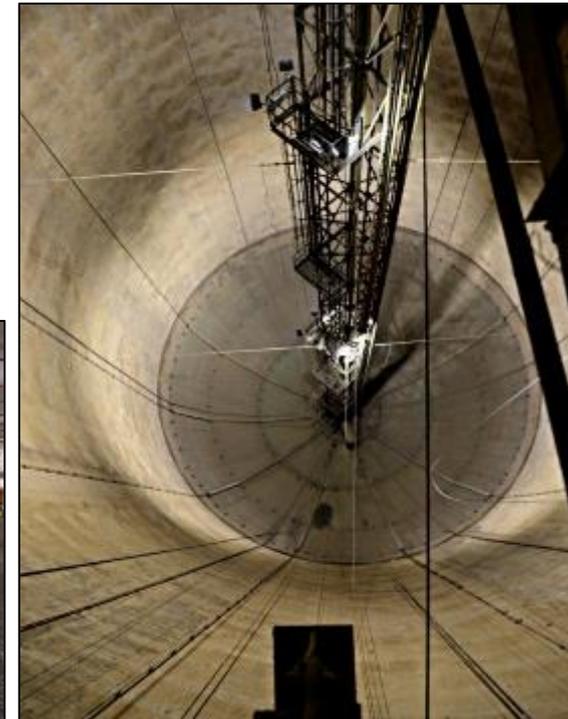


Red Hill Bulk Fuel Storage Facility

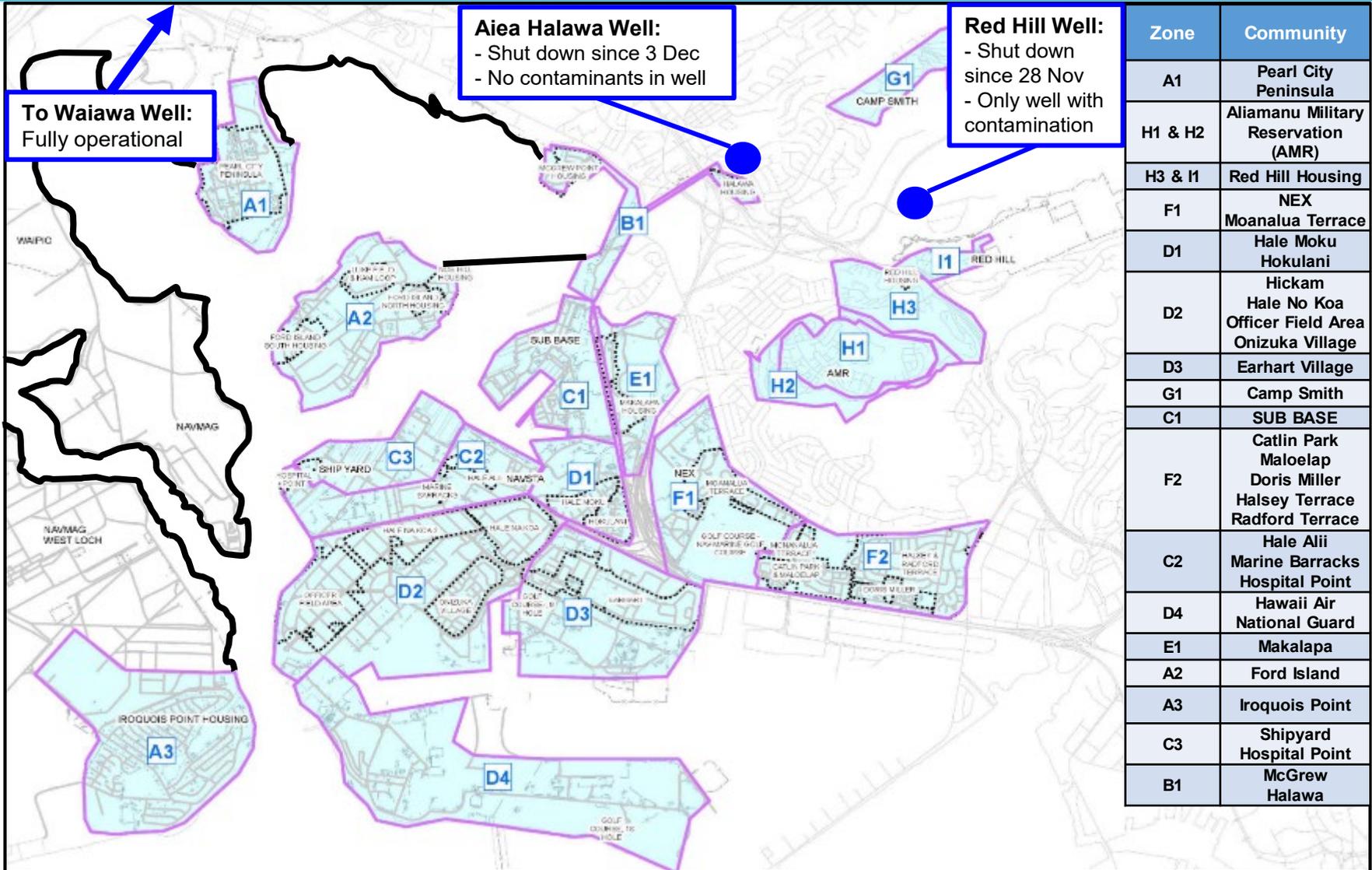
Facility Overview



- **20 tanks**
 - 250 feet high, 100 feet in diameter
- **~2.5 miles of pipeline to Joint Base Pearl Harbor Hickam**
 - F-76 (Marine Diesel)
 - JP-5 (Jet Fuel)
 - F-24 (Jet A Aviation Fuel)



Joint Base Pearl Harbor Hickam Drinking Water System Overview



Joint Base Pearl Harbor Hickam Drinking Water System Recovery



Water distribution flushing

Initiation of GAC filtration of residential water mains prior to discharge into storm drains or overland.



Stage 1

Residence system flushing

Water samples taken and results evaluated.



Stage 2

Team members visit residence for flushing.



Stage 3

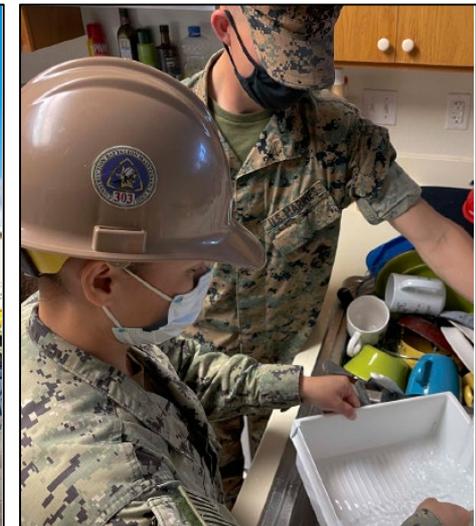
Water samples taken from selected homes and results evaluated.



Stage 4

Resident returns to home

Interagency experts review results and declare drinking water is fit for human consumption.



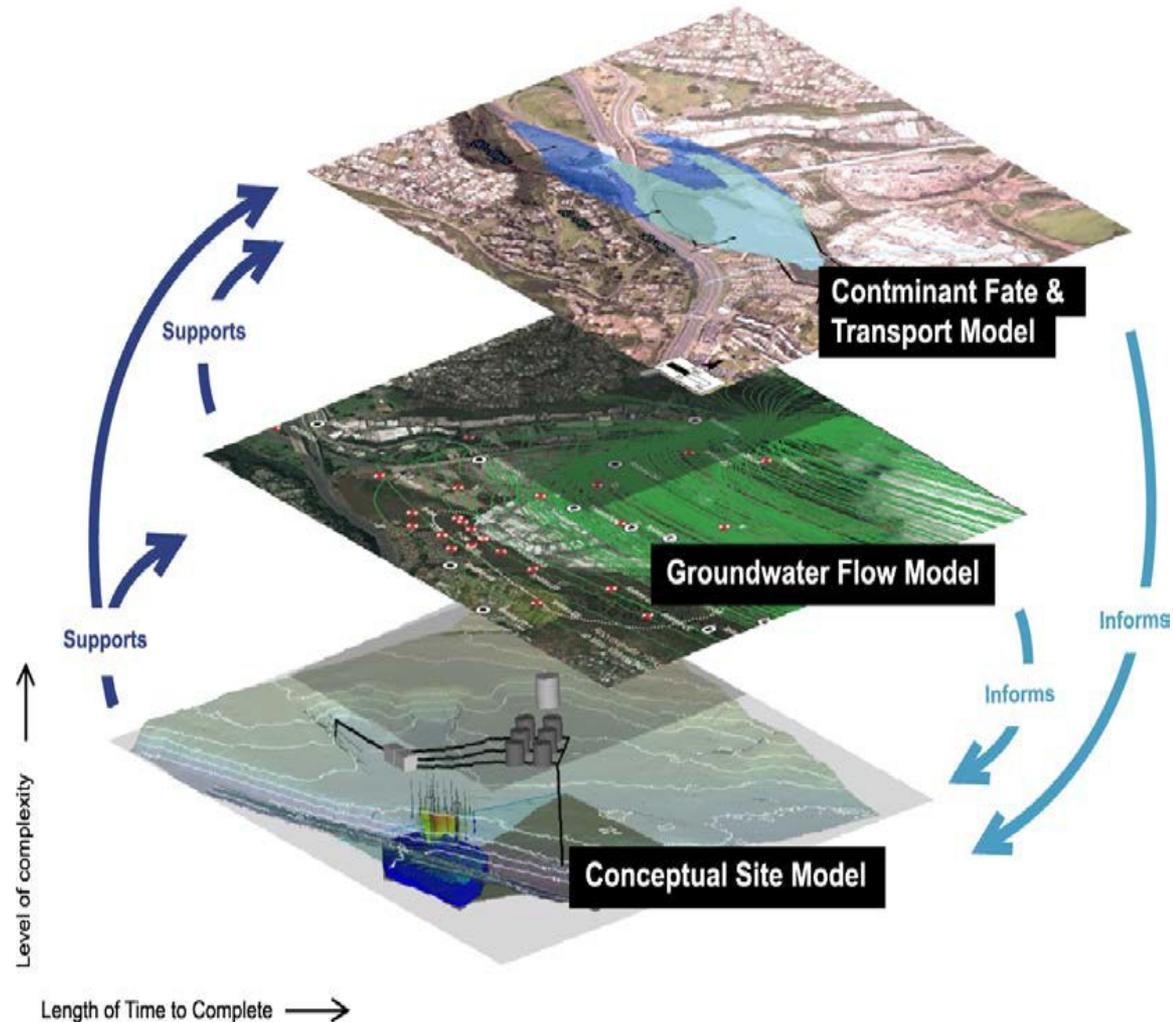
Aquifer

Recovery and Remediation Planning



- **Interagency Aquifer Recovery Focus Group**

- Recovery and Remediation
- Monitoring and Sampling
- Groundwater Modeling



Red Hill Well

Recovery Operations



- **Booms, Absorbent Pads, and Skimming**

- Active recovery of product (contaminants)

- **Pumping**

- ~4.6 million gallons per day to create capture zone in the aquifer
- Effluent from GAC system discharged to Halawa Stream under Department of Health permit
- Tested pre- and post- GAC filtration
- Halawa Stream ecological monitoring conducted by University of Hawaii and Navy

- **Beneficial Use of Filtered Water**

- NAVFAC contract underway to identify beneficial use options



Red Hill Well Fuel Recovery



Operation	Recovery Type	Process	Timeline
Physical Recovery	Soil	Excavation	Start: April 2022
	Well	Skimming	Ongoing
	Well	Absorbent Materials	Ongoing
	Soil	Soil Vapor Extraction	Confirming Technology for this effort
Evaporation	Atomization	Tunnel Air Flow	Complete
Natural Decay	Soil	Enhanced Aerobic Bioremediation	Confirming Technology for this effort
	Soil	Monitored Decay	Ongoing

Primary Physical Recovery Locations; natural decay occurring at both locations



Excavation

Well Recovery

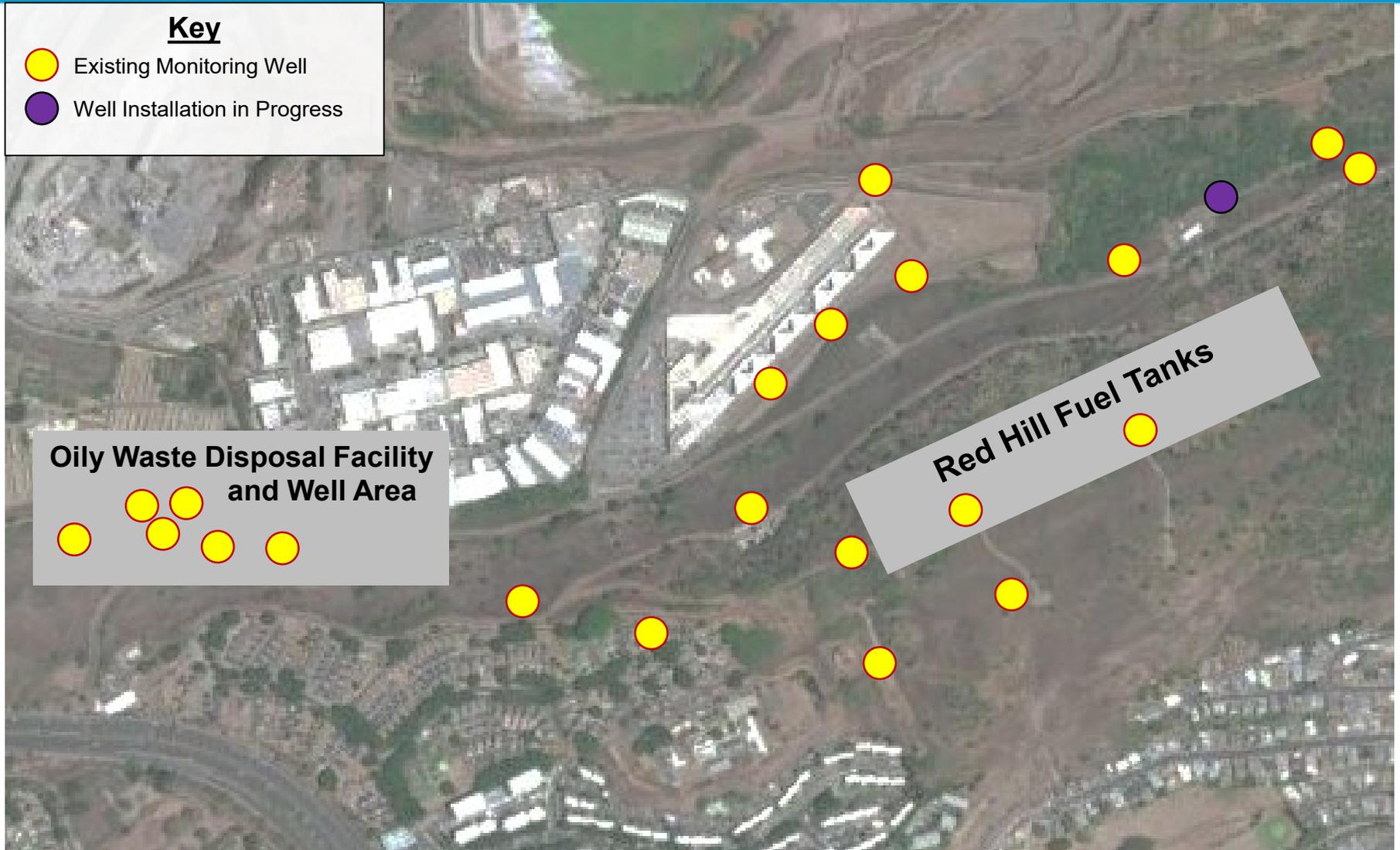
Red Hill Monitoring

Existing Monitoring Wells



Key

-  Existing Monitoring Well
-  Well Installation in Progress



Red Hill Monitoring

Future Plume Delineation Wells Near Red Hill Well



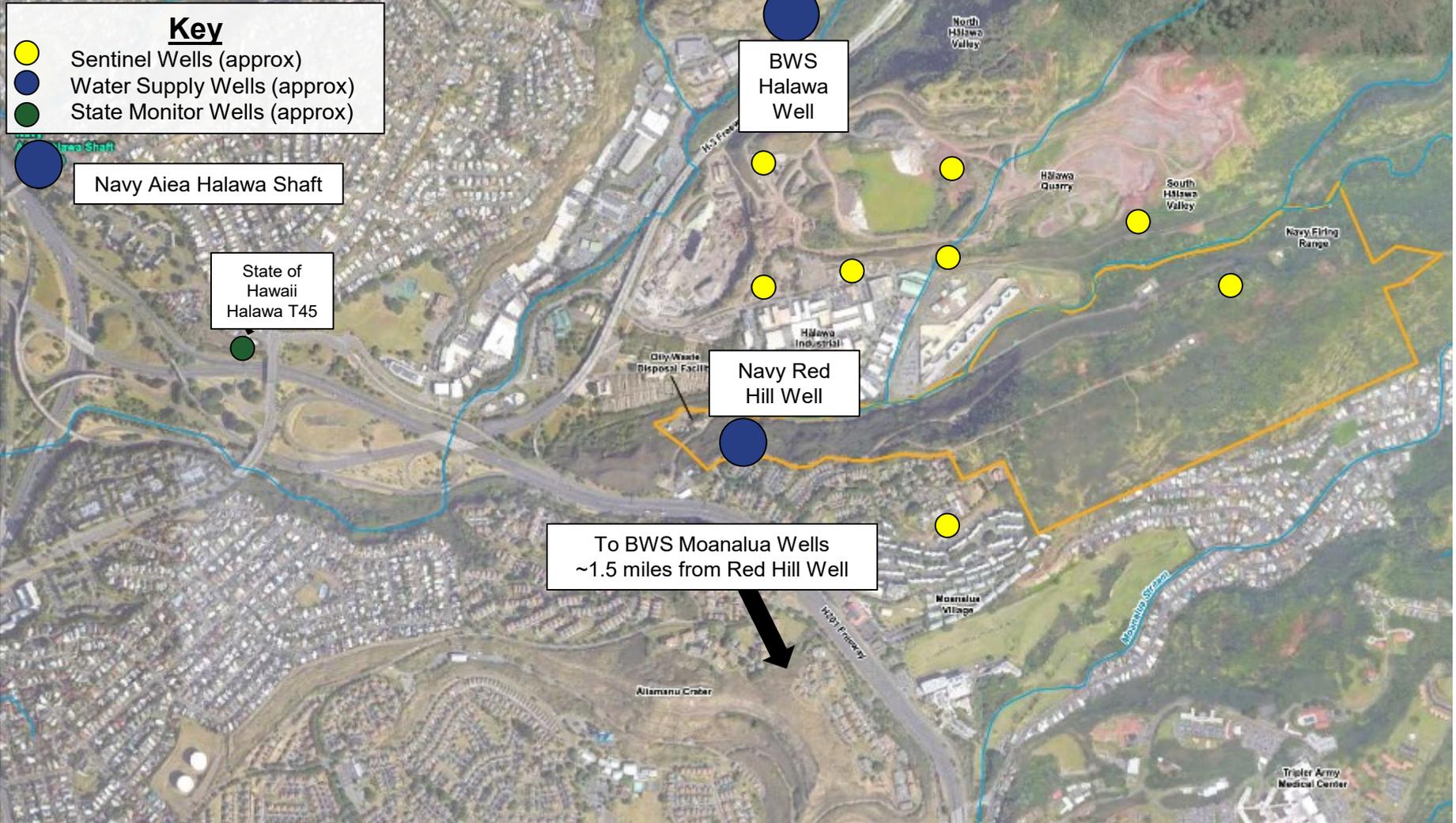
Characterize the extent of the contamination plume around Red Hill Well



Red Hill Monitoring Proposed Sentinel Wells



Early detection to ensure contaminants don't migrate toward BWS water supply wells



Questions?

Pearl Harbor Naval Shipyard

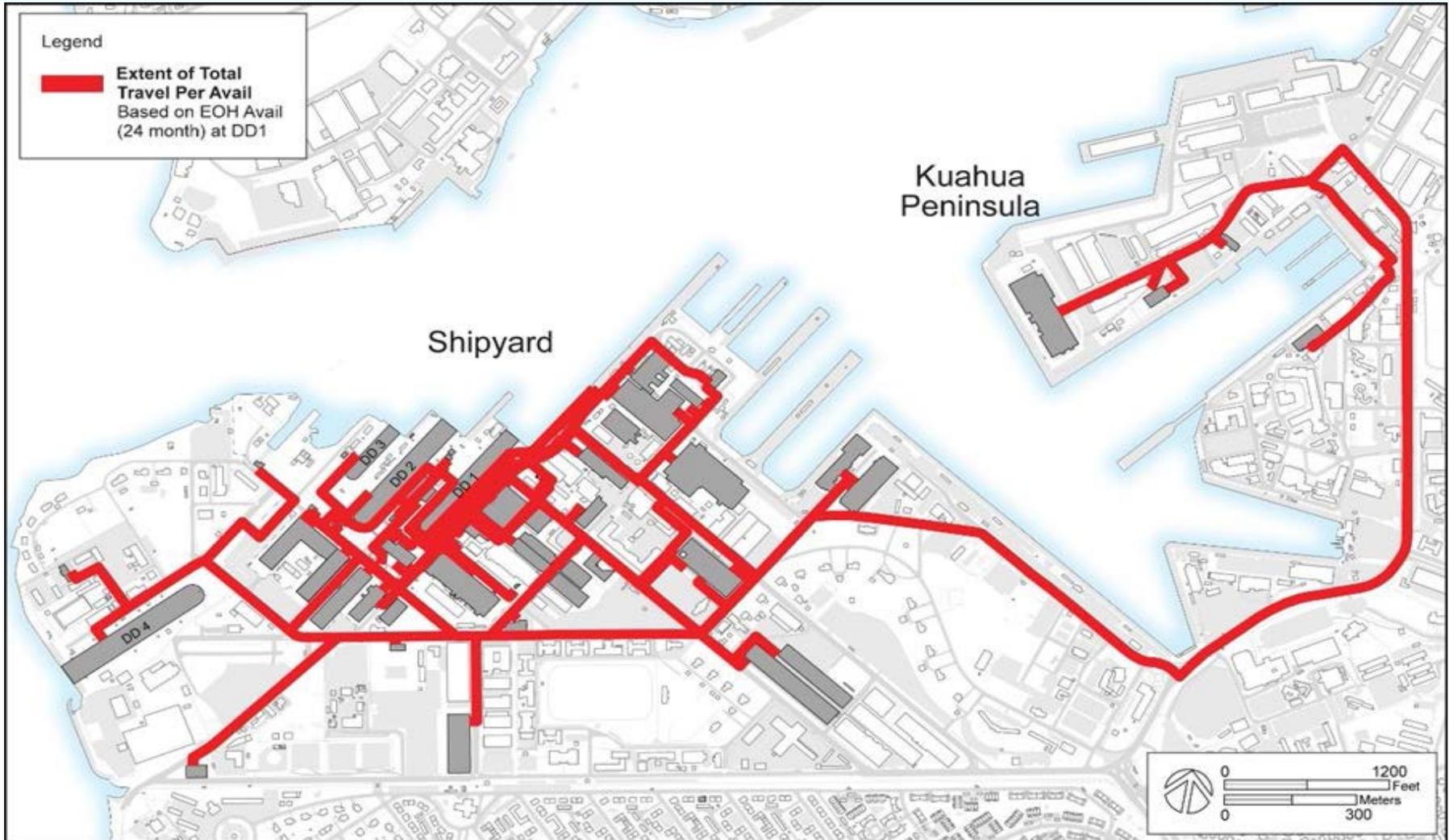
LOE 1: P-209 Dry Dock 3 Replacement



- **Project Scope:** Construct a new graving dry dock (DD5) including supporting facilities.
 - Pump stations, water treatment system, crane maintenance area, power, and utilities.
- **Design Vessel:** Virginia Class (VACL) submarine
- **Construction:** SIOP MACC
 - Early Contractor Engagement
- **Design:** underway (90%)
- **Electrical Feeder Upgrades**
 - Hawaiian Electric Company (HECO)
- **Draft Environmental Impact Statement**
 - Public Release - 4 Feb 2022
 - Virtual Public Meeting – 24 Feb 2022
 - Public Comment Period Ends 21 Mar 2022
- **Economic Impact - Employment**
 - Projected 2,500 jobs during construction
 - Projected \$200M in annual salaries during construction.
- **Economic Impact – Tax Revenue**
 - Projected \$23M annual increase in state and local tax revenues for the City and County of Honolulu during construction.

SIOP LOE 2

Recapitalize and Reconfigure Infrastructure



Key Metrics: Reduction in availability duration and reduction in total workdays

SIOP LOE 2

Recapitalize and Reconfigure Infrastructure



Requirements

Modeling & Simulation (M&S)



Existing Condition, Configuration & Capacity Planning Studies



Plan

Area Development Plan (ADP)



Program

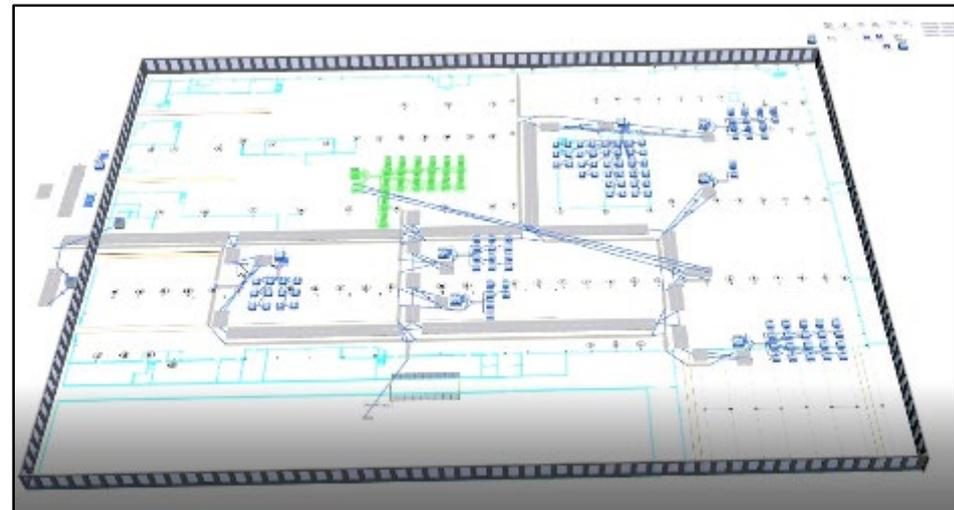
Capital Investment Plan

• Modeling and Simulation

- Enable process modeling and optimization
- Enable manipulation of buildings and equipment

• Area Development Plan Requirements

- Enhance Mission Readiness
- Optimize Real Property Assets
- Provide a Safe and Secure Environment
- Practice Exemplary Resource Stewardship
- Enhance Workforce Support



SIOP LOE 3

Modernize Industrial Plant Equipment



- **Avg Private Shipyard equipment age:**
 - 7-10 years
- **Avg Navy Shipyard equipment age:**
 - Puget Sound: 22 years
 - Pearl Harbor: 15 years
- **Largest amount of equipment procurement will follow ADP completion**



Red Hill Bulk Fuel Storage Facility

Tank Maintenance and Condition



- **Tank Inspection, Repair, and Maintenance (TIRM) Process**

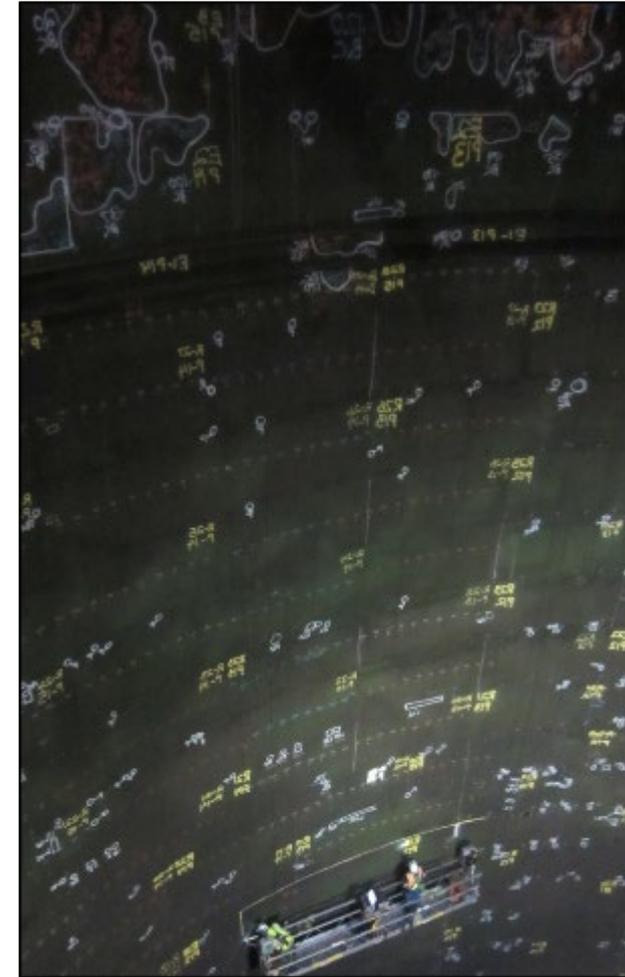
- Approved by U.S. EPA and Hawaii DOH
- Navy standard for Red Hill inspection and repair
- 3rd Party oversight of all repairs
- Exceeds API Standard 653 (industry standard)

- **Tightness Testing**

- Twice annually
- Can detect a leak as small as 0.5 gallons per hour

- **Projects with University of Hawaii**

- Continued research into the potential for concrete degradation and corrosion
- Enhancements to non-destructive test methods



SIOP – Needs of the Navy



- **2017 GAO Report found**
 - \$4.865B facilities maintenance backlog for naval public shipyards
 - Navy did not have a comprehensive plan to address and monitor its infrastructure investments
- **SECNAV Report to Congress 12 Feb 2018, “The Shipyard the Nation Needs”**
 - Provided a framework for recapitalizing the infrastructure at the four public nuclear shipyards.
- **NAVSEA Long-Range Plan for Maintenance and Modernization of Naval Vessels for FY20**
 - Noted that gaps in capacity and configuration will lead to an estimated 68 missed availabilities through FY40
 - SIOP’s goal is to restore most of the missed availabilities

SIOP Introduction



Department of the Navy (DoN) official definition of SIOP:

SIOP integrates infrastructure and Industrial Plant Equipment investments at the four public shipyards to meet nuclear fleet maintenance requirements and improve industrial processes through expanding capacity and replacing failing infrastructure in an optimized configuration.

3 Lines of Effort (LOEs):

1. Construct and recapitalize dry docks

2. Recapitalize and reconfigure infrastructure

- a. Industrial production modeling & simulation
- b. Integrated infrastructure master plans
- c. Infrastructure construction

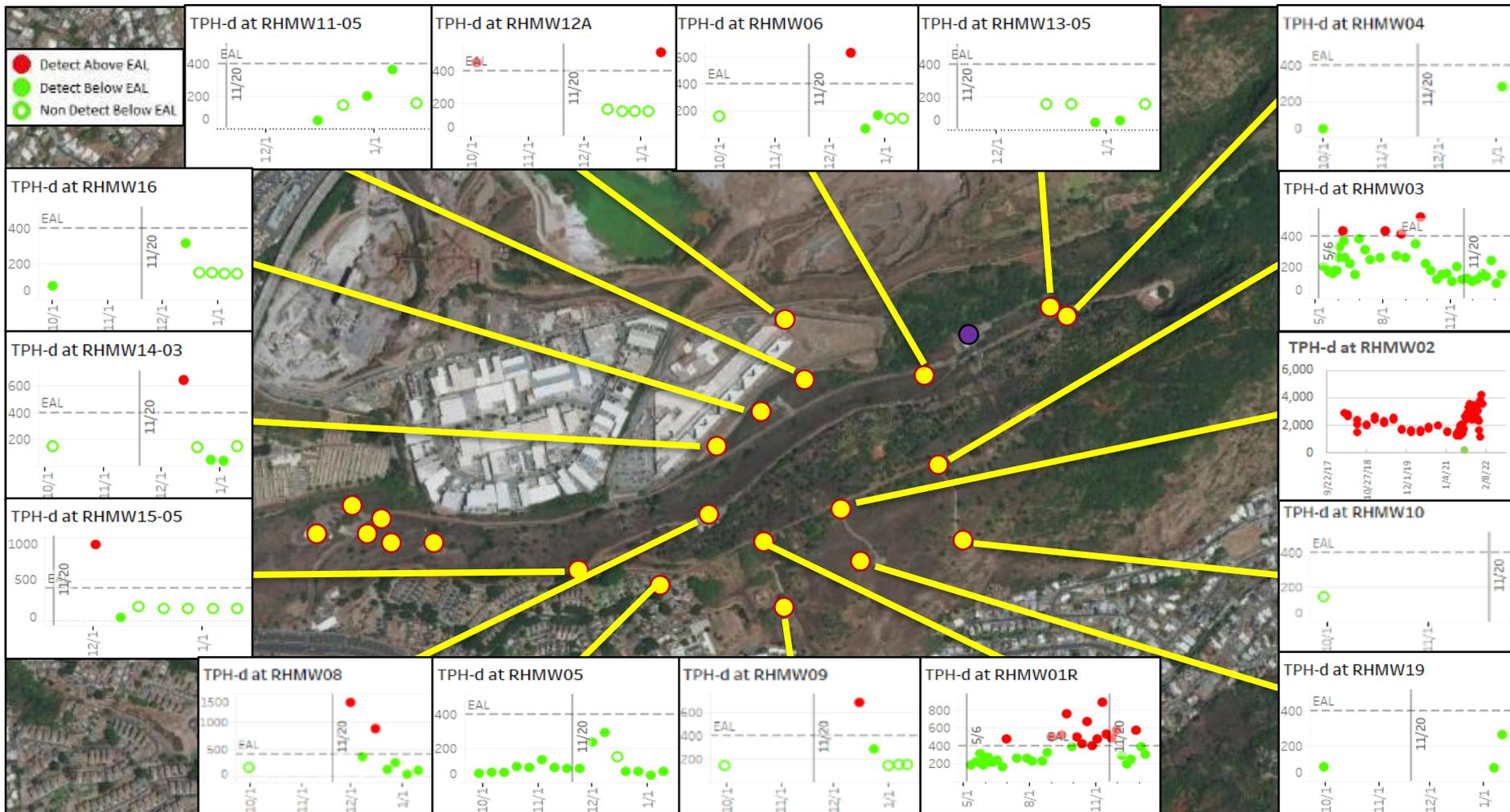
3. Modernize industrial plant equipment

Red Hill Monitoring

Existing Monitoring Wells Near Tank Farm



Except for RHMW02 and RHMW01R, detections above EAL have been sparse and intermittent



Red Hill Monitoring

Existing Monitoring Wells Near Red Hill Well



Monitoring wells in vicinity of Red Hill Well do not show contamination of aquifer

