

INSTALLATION RESTORATION PROGRAM



NAVAL SUPPORT FACILITY
INDIAN HEAD
3838 STRAUSS AVENUE
INDIAN HEAD, MARYLAND
20640-5133



RESTORATION ADVISORY BOARD (RAB) MEETING MINUTES

Date of Meeting: **CANCELLED from October 14, 2021**

RAB Member Attendees:

N/A

Additional Attendees:

N/A

RAB Members Not in Attendance:

N/A

RAB Update:

1. Latest Events

Due to restrictions from the COVID virus, the October 14, 2021 RAB meeting was cancelled. In lieu of a meeting, this minutes package was compiled that includes all of the information that would have been presented at the meeting. A copy of the proposed agenda from the cancelled meeting is included in Attachment A and the RAB presentations are included in Attachment C. The next RAB meeting is tentatively scheduled for Thursday, October 13, 2022. A copy of the draft agenda is included in Attachment B.

2. RAB Presentations

Presentations and updates prepared by NAVFAC Washington include the FY22 Budget Update, the Five Year Review Update, the Site 43 Engineering Evaluation/Cost Analysis (EE/CA) & Action Memo Update, the Site 67 Non-Time Critical Removal Action Update, the Site 71 PFAS Preliminary Assessment Progress, and the Stump Neck Small Arms/Skeet Range Removal Action Update. Copies of all presentations are included in Attachment C.

3. Comments, Questions and Answers

Any comments or questions on this information package or any additional correspondence concerning the Installation Restoration Program (IRP) or the Munitions Response Program (MRP) at the facility can be directed to:

Public Affairs Officer
Naval Support Facility South Potomac
Attn: Public Affairs Officer, Code 00P
6509 Sampson Rd.
Dahlgren, VA 22448-5108
PHONE: (540) 284-0129
FAX: (540) 653-4269
Email: jeron.l.hayes.civ@us.navy.mil

**NAVAL SUPPORT FACILITY INDIAN HEAD
INSTALLATION RESTORATION (IR) PROGRAM
RESTORATION ADVISORY BOARD (RAB) MEETING AGENDA**

October 14, 2021

- 6:00 - 6:05 pm** **ARRIVAL/WELCOME**
Mr. Joseph Rail
Naval Facilities Engineering Command, Washington (NAVFACWASH)
Remedial Project Manager
- 6:05 – 6:15 pm** **FY22 BUDGET UPDATE**
Mr. Joseph Rail
- 6:15 – 6:30 pm** **FIVE YEAR REVIEW UPDATE**
Mr. Andrew Louder
- 6:30 – 6:45 pm** **SITE 43 ENGINEERING EVALUATION/COST ANALYSIS
(EE/CA) & ACTION MEMO UPDATE**
Mr. Joseph Rail
- 6:45 – 7:00 pm** **SITE 67 NON-TIME CRITICAL REMOVAL ACTION (NTCRA)
UPDATE**
Mr. Joseph Rail
- 7:00 – 7:15 pm** **SITE 71 PFAS PRELIMINARY ASSESSMENT PROGRESS**
Mr. Alex Scott
- 7:15 – 7:30 pm** **STUMP NECK UXO 14 & 15 SMALL ARMS/SKEET RANGE
REMOVAL ACTION UPDATE**
Mr. Joseph Rail
- 7:30 pm** **ADJOURN**

Attachment A

**NAVAL SUPPORT FACILITY INDIAN HEAD
INSTALLATION RESTORATION (IR) PROGRAM
RESTORATION ADVISORY BOARD (RAB) **DRAFT** MEETING AGENDA
October 13, 2022**

- 6:00 - 6:05 pm** **ARRIVAL/WELCOME**
Mr. Joseph Rail
Naval Facilities Engineering Command, Washington (NAVFACWASH)
Remedial Project Manager
- 6:05 – 6:15 pm** **FY23 BUDGET UPDATE**
Mr. Joseph Rail
- 6:15 – 6:25 pm** **UXO 9-SINGLE-BASE PROPELLANT GRAIN SPILL AREA SAMPLING
UPDATE**
Mr. Andrew Louder
- 6:25 – 6:35 pm** **SITE 43 NON-TIME-CRITICAL REMOVAL ACTION UPDATE**
Mr. Andrew Louder
- 6:35 – 6:45 pm** **BASEWIDE FIVE YEAR REVIEW UPDATE**
Mr. Alex Scott
- 6:45 – 7:00 pm** **SITE 57-BUILDING 292 TCE CONTAMINATION VAPOR INTRUSION
(VI) EVALUATION**
Mr. Alex Scott
- 7:00 – 7:15 pm** **SITE 67-HOG-OUT FACILITY NON-TIME-CRITICAL REMOVAL
ACTION UPDATE**
Mr. Joseph Rail
- 7:15 – 7:25 pm** **SITE 68-FORMER BUILDING 259 CONTAMINATION NON-TIME-
CRITICAL REMOVAL ACTION UPDATE**
Mr. Joseph Rail
- 7:25 – 7:35 pm** **SITE 69-BUILDING 1018 PROPOSED PLAN/RECORD OF DECISION
UPDATE**
Mr. Andrew Louder
- 7:35 – 7:45 pm** **SITE 71-PFAS AREAs OF CONCERN PRELIMINARY ASSESSMENT
UPDATE**
Mr. Alex Scott
- 7:45 – 8:00 pm** **STUMP NECK UXO 26-VALLEY IMPACT AREA REMEDIAL
INVESTIGATION UPDATE**
Mr. Joseph Rail
- 8:00 pm** **ADJOURN**

Attachment B

Attachment C- RAB Presentations



FY22 BUDGET & SCHEDULE UPDATE

Presented By
Joseph Rail
Naval Facilities Engineering Command (NAVFAC)
Washington

10/14/21

FY22 Budget & Schedule Update



Approximate budget for FY 2022:

- \$10.9 mil for Installation Restoration Program (IRP) **(SUBJECT TO REDUCTION)**
- \$814K for Munitions Response Program (MRP)

Planned work includes:

- Remedial Action (RA)
- Interim Removal Action (IRA)
- Remedial Action-Operation (RA-O)
- Long-Term Monitoring (LTM)

FY22 Budget & Schedule Update



- **RA for:**

- Site 43 – Toluene Disposal Area
- Site 66 – Turkey Run Disposal Area (SUBJECT TO BUDGET CUT)
- Site 69 – Building 1018 (SUBJECT TO BUDGET CUT)
- UXO 9 – Single-Base Propellant Grains Spill

- **IRA for:**

- Site 57 – Building 292 TCE Contamination
- Site 68 – Former Building 259 Contamination

FY22 Budget & Schedule Update



- **RA-O for:**
 - Site 17 – Disposed Metal Parts Along Shoreline

- **LTM for:**
 - Site 38 – Rum Point Landfill

Contacts and Questions



Points of Contact:

- **NAVFAC Washington:** Joseph Rail
- **NAVFAC Washington (Base RPM):** Andrew Louder

Questions ?



NSF INDIAN HEAD – FIVE YEAR REVIEW

Presented By
Andrew Louder
Naval Facilities Engineering Command (NAVFAC)
Washington

10/14/2021

Presentation Objectives



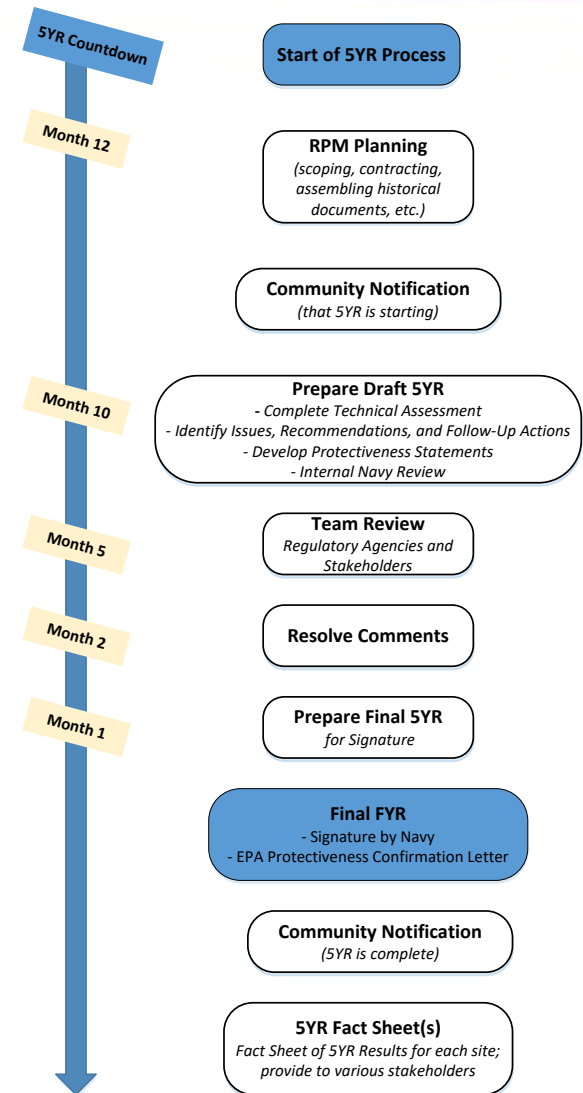
Objective:

- Brief Overview of the Five-Year Review (5YR) process for Navy Environmental Restoration sites / facilities
- Brief Overview of sites undergoing 5YR

5YR Process



- A 5YR occurs at sites that have a record of decision (ROD) that implement a selected remedy at a site to address contamination per the 1980 Comprehensive Environmental Response Compensation and Liability Act (CERCLA).
- 5YR is required for sites with remedial action that does not (or does not yet) allow for unlimited use and unrestricted exposure (UU/UE), per CERCLA §121, as amended.
- Ultimate 5YR outcome is protectiveness determination for human health and the environment for each site/remedy, per EPA (2001) 5YR Comprehensive Guidance:
 - ✓ Protective
 - ✓ Will Be Protective
 - ✓ Protective in the Short-Term
 - ✓ Not Protective
 - ✓ Protectiveness Deferred
- Indian Head's next 5YR process is underway and expected to be completed by the end of September 2022



5YR Technical Assessment Questions (EPA, 2001):

- **Question A:**
Is the Selected Remedy functioning as intended by Record of Decision (ROD)?
- **Question B:**
Are the exposure assumptions, toxicity data, and remedial action objectives (RAOs) used at the time of the remedy selection and ROD still valid?
- **Question C:**
Has any other information come to light that calls into question the protectiveness of the selected remedy?

12 Sites for the 2022 5YR

- **Site 11** – Caffee Road Landfill
- **Site 12** – Town Gut Landfill
- **Site 17** – Disposed Metal Parts Along Shoreline
- **Site 21** – Bronson Road Landfill
- **Site 28** – Original Burning Ground
- **Site 36** – Closed Landfill
- **Site 38** – Rum Point Landfill
- **Site 42** – Olsen Road Landfill
- **Site 47** – Mercuric Nitrate Disposal Area
- **Site 57** – TCE Building 292 Area
- **Lab Area** (Sites 14, 15, 16, 49, 50, 53, 54, and 55)
- **UXO 32** – Scrap Yard (formerly IRP Site 41)

2022 5 YR

Site Locations



NSFIH
Main
Area



NSFIH
Stump Neck Annex

Site 11 – Caffee Road Landfill



Site 11 – Caffee Road Landfill



ROD date: September 2009

Contamination/Risk:

Post-Closure Landfill groundwater monitoring.

Selected Remedy:

Protective soil cover. Shoreline stabilization. Land-Use controls (LUCs).
Groundwater Monitoring.

Remedy / Site Operations Status:

Construction completed in January 2012. Groundwater monitoring and LUCs inspections semiannual since 2014.

Previous 5YR (2017):

- **Protective.** Remedy protective and functioning as intended.
- No actions resulting from 2017 5YR.
- .

Site 12 – Town Gut Landfill



Site 12 – Town Gut Landfill



ROD date: September 2004

Contamination/Risk:

Post-Closure Landfill groundwater monitoring.

Selected Remedy:

2002 Interim-Removal Action (IRA) removed waste, regraded, and provided a protective soil cover over remaining wastes. Land-Use controls (LUCs).
Groundwater and Surface Water Monitoring.

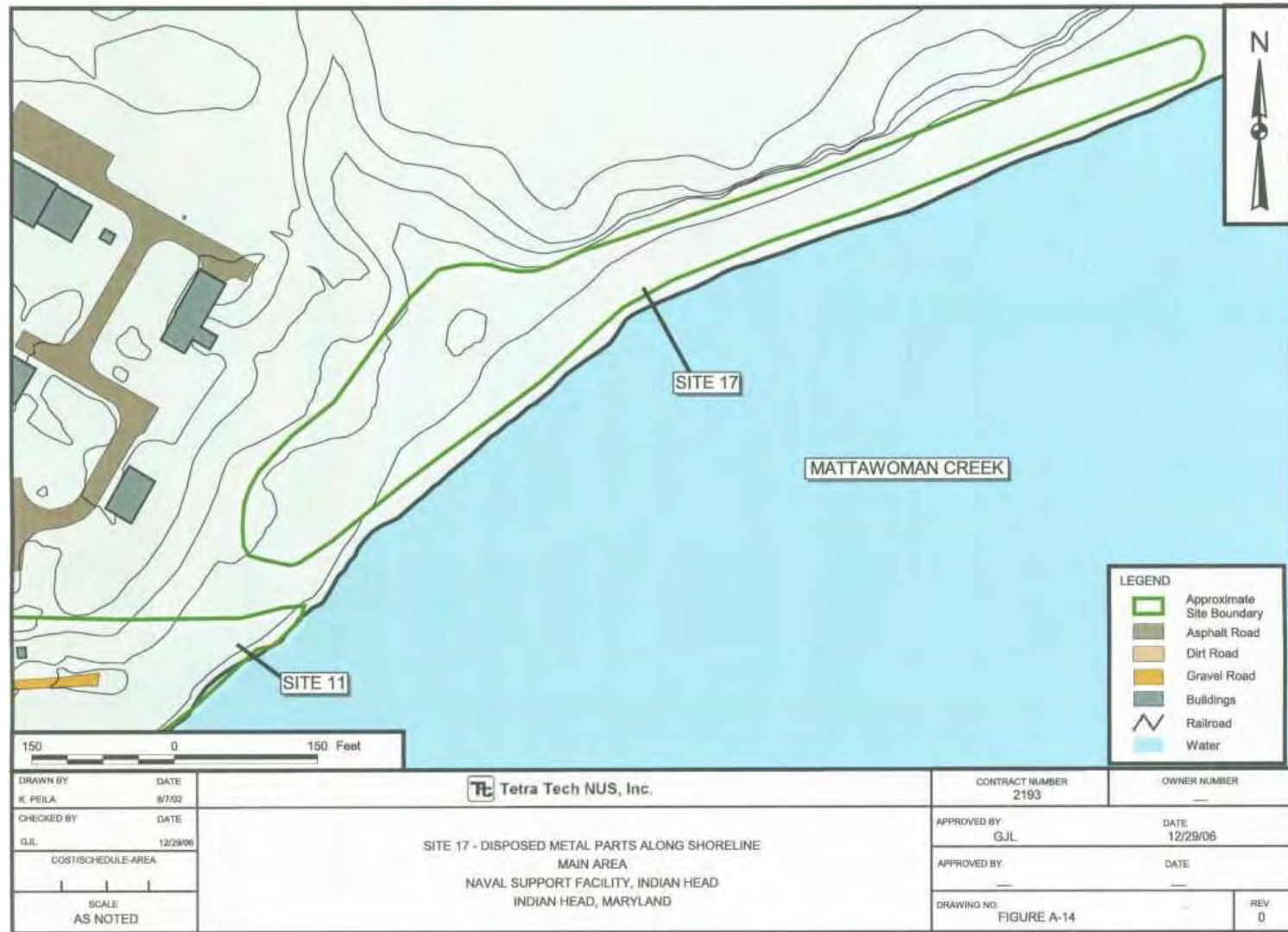
Remedy / Site Operations Status:

Construction completed in 2003 via the IRA. Groundwater monitoring and LUCs inspections semiannual since 2004. Surface water monitoring discontinued in 2007.

Previous 5YR (2017):

Deemed to be protective and operating as intended.

Site 17 – Disposed Metal Parts Along Shoreline



Site 17 – Disposed Metal Parts Along Shoreline



ROD date: January 2010

Contamination/Risk:

Buried drums removed in 2003. Metals in surface soil removed in 2005. Site's groundwater contaminated with Volatile Organic Compounds (VOCs), metals and explosives constituents (e.g. TNT and RDX).

Selected Remedy:

Clearing and removal of munitions. Treatment of the aquifer with zero-valent iron (ZVI) to chemically-reduce aquifer contamination in-situ (in place). Groundwater monitoring and LUCs.

Remedy / Site Operations Status:

Removal Actions completed in 2012. ZVI pilot study injections and reporting completed by 2014. Quarterly groundwater sampling has occurred since the pilot study. However, additional groundwater contamination (north plume) remains under investigation to determine a final groundwater remedy.

Previous 5YR (2017):

- Remedy was found to be short term protective
- Contaminant of concern (COC) concentrations in north plume that are not decreasing will need to be addressed.

Site 21 – Bronson Road Landfill



Site 21 – Bronson Road Landfill



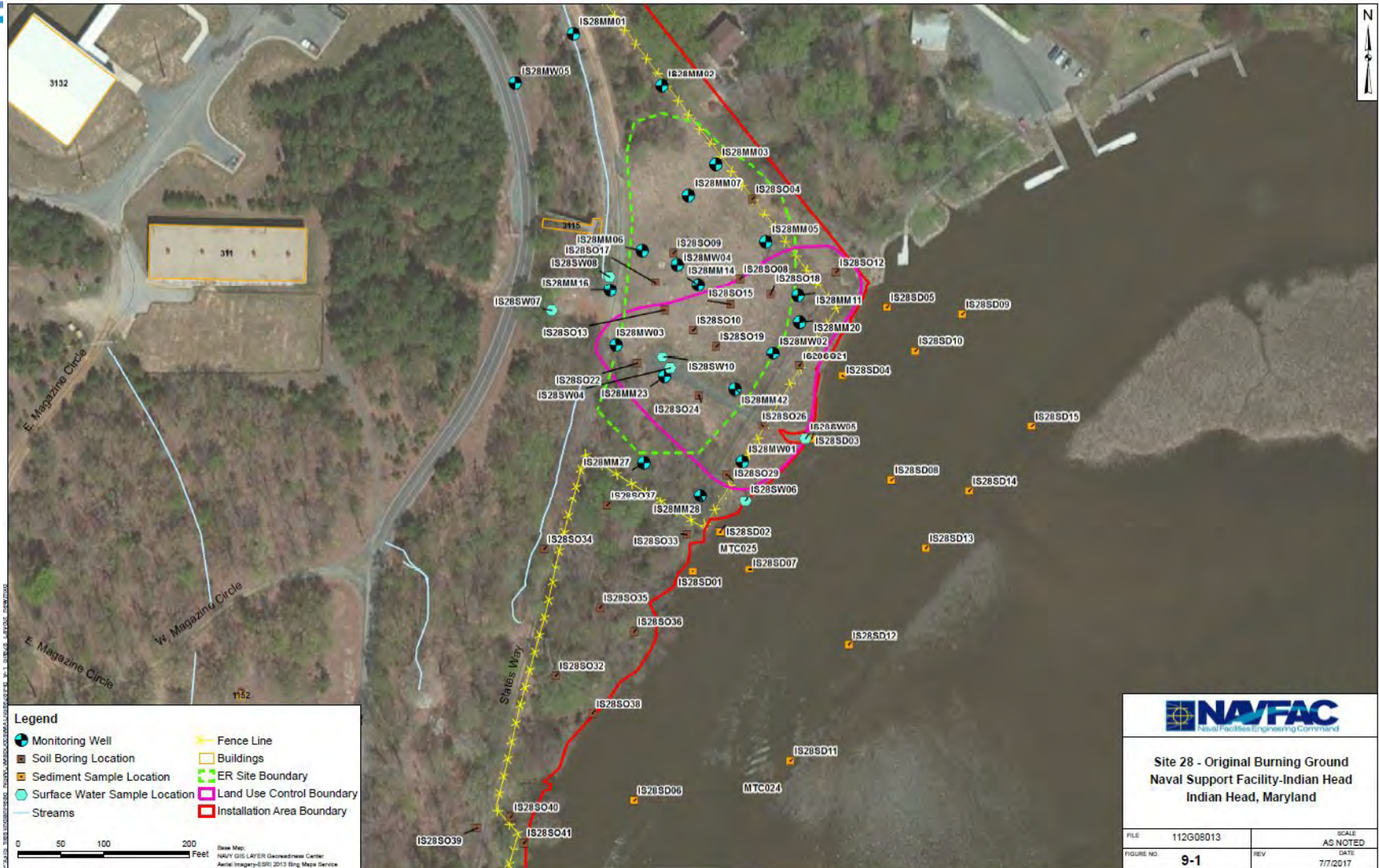
- **Remedy / Site Operations Status:**

- Landfill cover completed in Jan 2013. Remedial Action Completion Report (RACR) in June 2014.
- Groundwater long-term monitoring (LTM) and LUC inspections semiannual since 2014.
- LTM Optimization Tech Memo (Helios, 2021)
 - Recommends reducing VOC sampling frequency to every 4 years. Eliminate VOCs from upgradient wells MW04 and MW05.
 - Recommends reducing metals sampling frequency to every 2 years.
 - Recommends reducing metals analytes to only those above screening criteria and eliminate dissolved metals analysis.

- **Previous 5YR (2017):**

- **Protective.** Remedy protective and functioning as intended.
- No actions resulting from 2017 5YR.

Site 28 – Original Burning Ground



Site 28 – Original Burning Ground

- **ROD date:** June 2014
- **Contamination/Risk:**
 - **Soil:** metals in surface soil and sediment (Eco) (addressed by removal action)
 - **Groundwater:** Arsenic and Zinc
 - **Aquatic (sediment):** Zinc (addressed by pilot study and Mattawoman Creek Study)
- **Selected Remedy:**
 - Apatite amendment to sediment pilot study in 2004.
 - Mattawoman Creek Study in 2004.
 - Interim Removal Action for soil completed in Nov 2008.
 - Final Remedy: Groundwater and surface water LTM (monitored natural attenuation-MNA) with LUCs.

Site 28 – Original Burning Ground



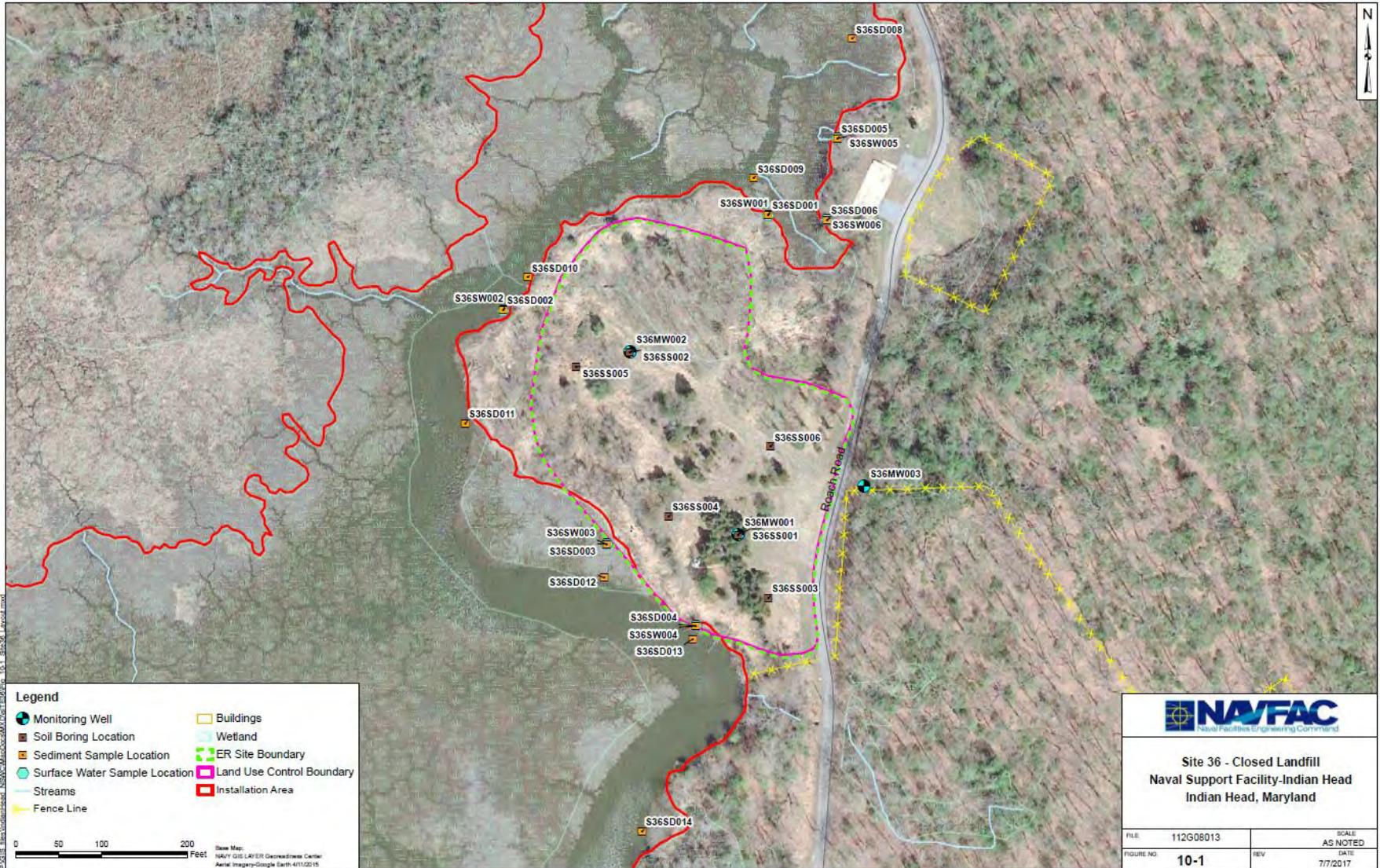
- **Remedy / Site Operations Status:**

- Interim removal action for surface soil and drainage swale sediment (HH and Eco risk) completed in Nov 2008. Post-removal action surface water monitoring occurred for 2 years.
- RACR finalized in September 2016.
- Groundwater LTM and LUC Inspections ongoing since ~2018.

- **Previous 5YR (2017):**

- **Protective.** Remedy protective and functioning as intended.
- Issue (resolved) – Required warning signs prohibiting groundwater use were not posted during the inspection, but they were installed by the Navy in September 2017.
- No actions resulting from 2017 5YR.

Site 36 – Closed Landfill



Site 36 – Closed Landfill

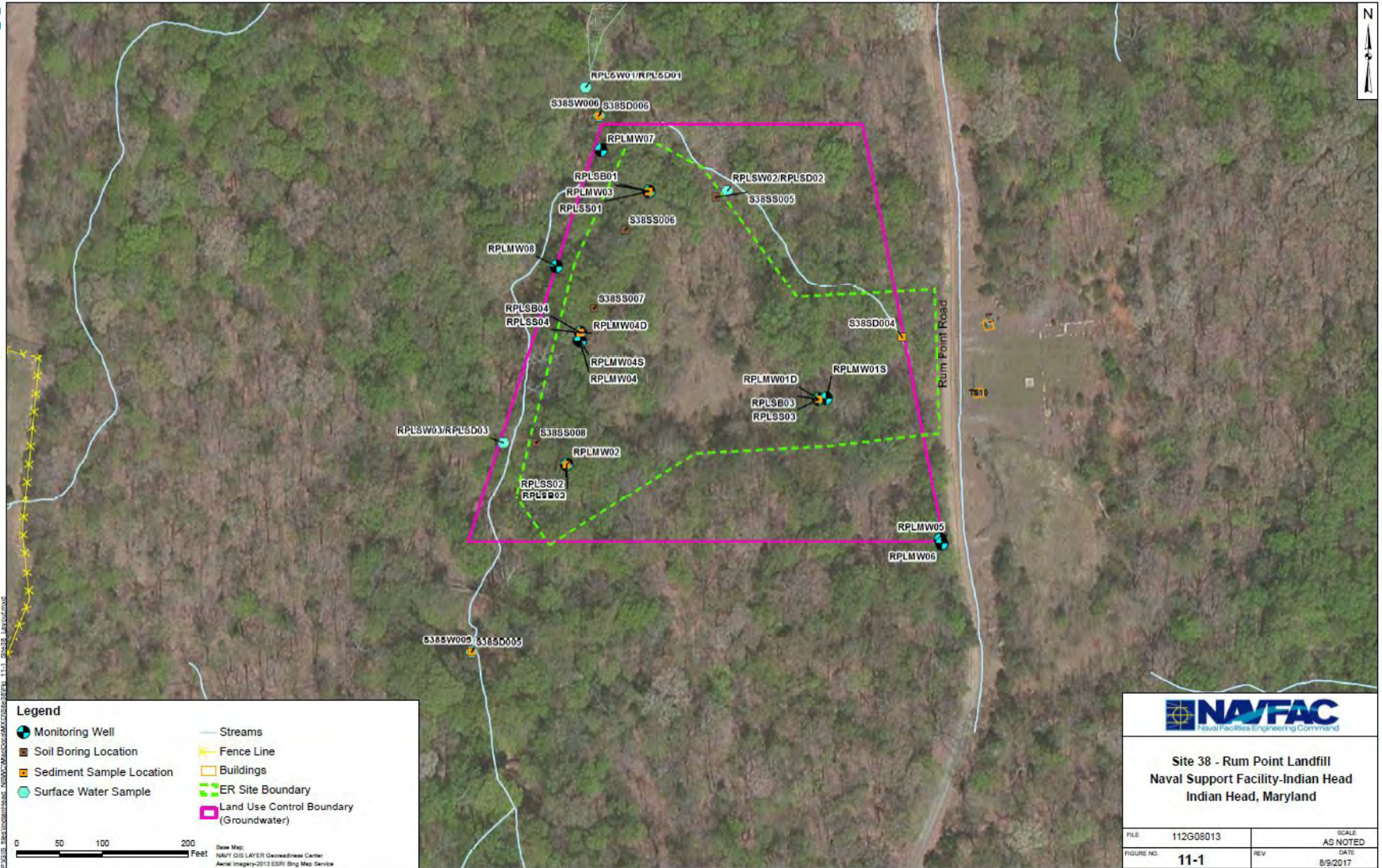
- **ROD date:** September 2011
- **Contamination/Risk:** Post-Closure Landfill groundwater monitoring (MDE RCRA Tables I and II) .
- **Selected Remedy:**
 - Removal and recycling of large pieces of metal debris along the shoreline.
 - Maintenance of the existing effective soil cover. LUCs.
 - Groundwater LTM (MNA).
- **Remedy / Site Operations Status:**
 - Debris removal completed in April 2014. RACR in Sept 2014.
 - Groundwater (and pore water) LTM and LUC Inspections semiannual since 2014.
 - LTM Optimization Tech Memo (Helios, 2021)
 - Recommends reducing VOC sampling frequency to every 2 years.
 - Recommends reducing metals sampling frequency to annual.
 - Recommends reducing metals analytes to only those above screening criteria.

Site 36 – Closed Landfill



- **Previous 5YR (2017):**
 - Remedy **protective in the short-term**.
 - Issue: Elevated contaminant (manganese) concentrations at [downgradient] pore water sample locations
 - Recommendation: Continue LTM and evaluate potential migration of site contaminants to Chickamuxen Creek.
 - Action: Semiannual LTM ongoing.
 - Potential migration of site contaminants to be evaluated further during fourth 5YR data review (when enough LTM data is available).

Site 38 – Rum Point Landfill



Site 38 – Rum Point Landfill



- **ROD date:** May 2014
- **Contamination/Risk:**
 - **Soil/Waste:** Debris, waste, munitions & explosives of concern (MEC), and contaminated soil
 - **Groundwater:** Manganese
- **Selected Remedy:**
 - Landfill Removal: Excavation and disposal of contaminated soil, waste, and MEC.
 - Groundwater LTM (MNA) per MDE closure requirements and LUCs.
- **Remedy / Site Operations Status:**
 - Landfill excavation began in October 2015 and was completed in September 2017. RACR in September 2017.
 - Three LTM events (and LUC inspections) completed per Maryland Solid Waste requirements. Groundwater Evaluation Report will evaluate final groundwater conditions for site closeout.
- **Previous 5YR (2017):**
 - **Protective.** Remedy protective and functioning as intended.
 - No actions resulting from 2017 5YR.

Site 42 – Olsen Road Landfill



Site 42 – Olsen Road Landfill

- **ROD date:** September 2005
- **Contamination/Risk:** Post-Closure Landfill monitoring. MDE RCRA Tables I & II.
- **Selected Remedy:**
 - Removal action at nearby Site 5 for silver in drainage swale sediment in 1994.
 - Engineered cap and offsite disposal of excess waste.
 - Wetlands construction.
 - Groundwater and surface water LTM (MNA). LUCs.

Site 42 – Olsen Road Landfill



- **Remedy / Site Operations Status:**

- Construction completed in 2006.
- LTM and LUC inspections since 2006:
 - Surface water monitoring discontinued in 2007.
 - Groundwater analytes reduced to select TCE, DCE, VC, arsenic, iron, and lead in 2012. Groundwater LTM on 9-month schedule since 2012.
 - Additional wells installed in 2014 in order to evaluate source of TCE, per recommendation in 2012 5YR Report. Incorporated into groundwater LTM program.
 - 1,4-Dioxane added to analyte list in 2017, per recommendation in 2017 5YR Report.

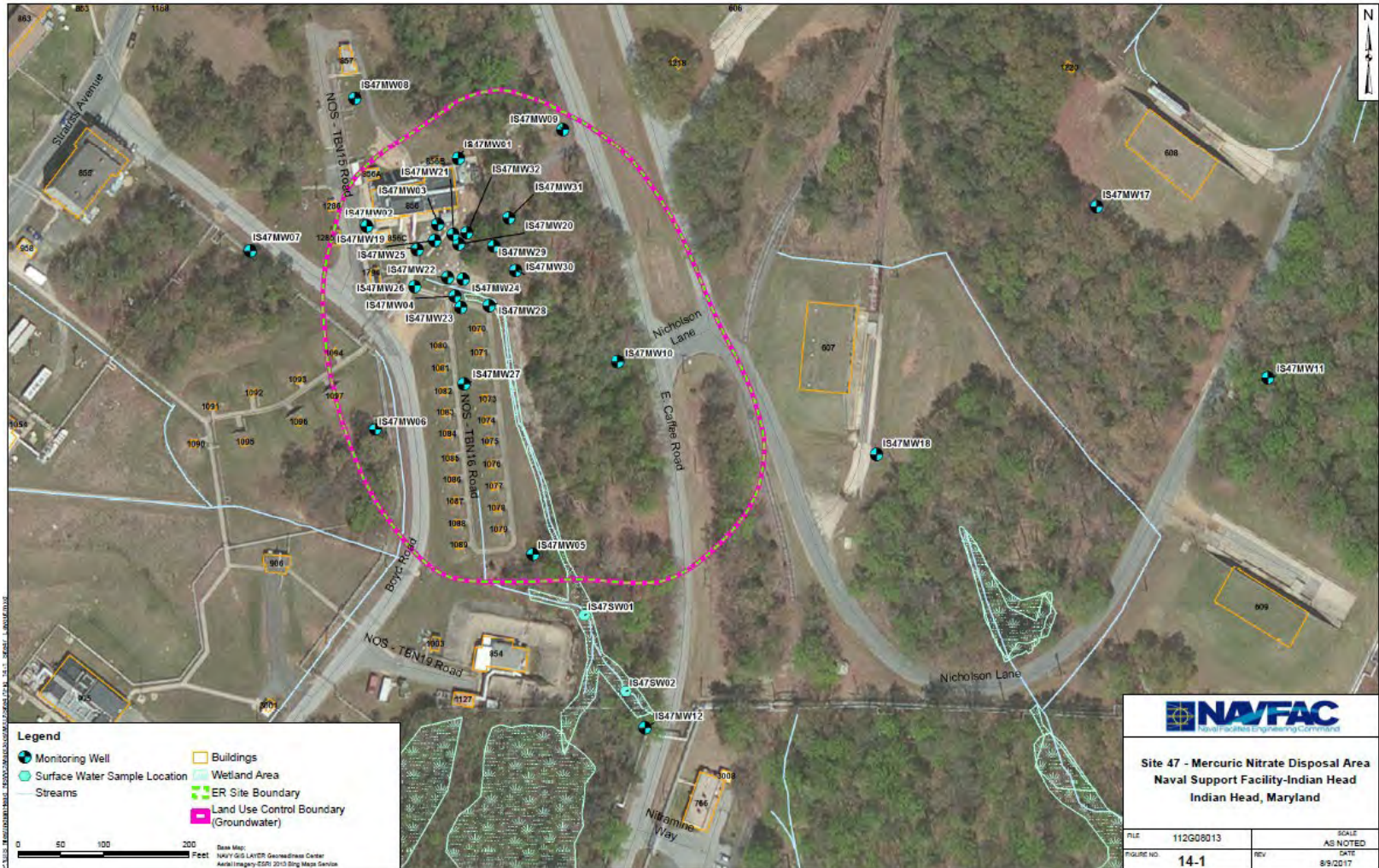
Site 42 – Olsen Road Landfill



- **Previous 5YR (2017):**

- Remedy **protective in the short-term**.
- Issues/Recommendations:
 - Issue: Elevated contaminant concentrations at downgradient monitoring wells.
 - Recommendation: Continue LTM and evaluate contaminant migration.
 - Issue: Analysis of 1,4-Dioxane needed due to historical presence of TCA.
 - Recommendation: Modify LTM program to add analyte.
- Action: LTM (every 9 months) ongoing. Remedial optimization. 1,4-Dioxane added to analyte list, beginning with Round 30 (April 2017 sampling event).
 - Potential contaminant migration to be reevaluated during fourth 5YR data review.

Site 47 – Mercuric Nitrate Disposal Area



Site 47 – Mercuric Nitrate Disposal Area

- **ROD date:** February 2013
- **Contamination/Risk:**
 - **Groundwater** (HH) - VOCs (Carbon Tetrachloride, DCA, chloroform, PCE, TCE) and metals (arsenic, iron, thallium, and vanadium).
- **Selected Remedy:**
 - Bench-scale and Pilot Study tests for oxidative and reductive amendments in 2007-2010.
 - Final Remedy:
 - In Situ Chemical Oxidation (ISCO) using alkaline-activated sodium persulfate (AAP) and catalyzed hydrogen peroxide. Horizontal injection wells with recirculation.
 - Performance monitoring / Groundwater LTM (MNA). LUCs.

Site 47 – Mercuric Nitrate Disposal Area

- **Remedy / Site Operations Status:**

- Remedial action construction (well drilling, installations, and injections) completed in January 2014. RACR in May 2015.
- Groundwater LTM / Performance Monitoring and LUC inspections since 2014.
- Post Remedial Action Groundwater Investigation fieldwork in October 2020. Pilot study may be conducted based on the results of the investigation.

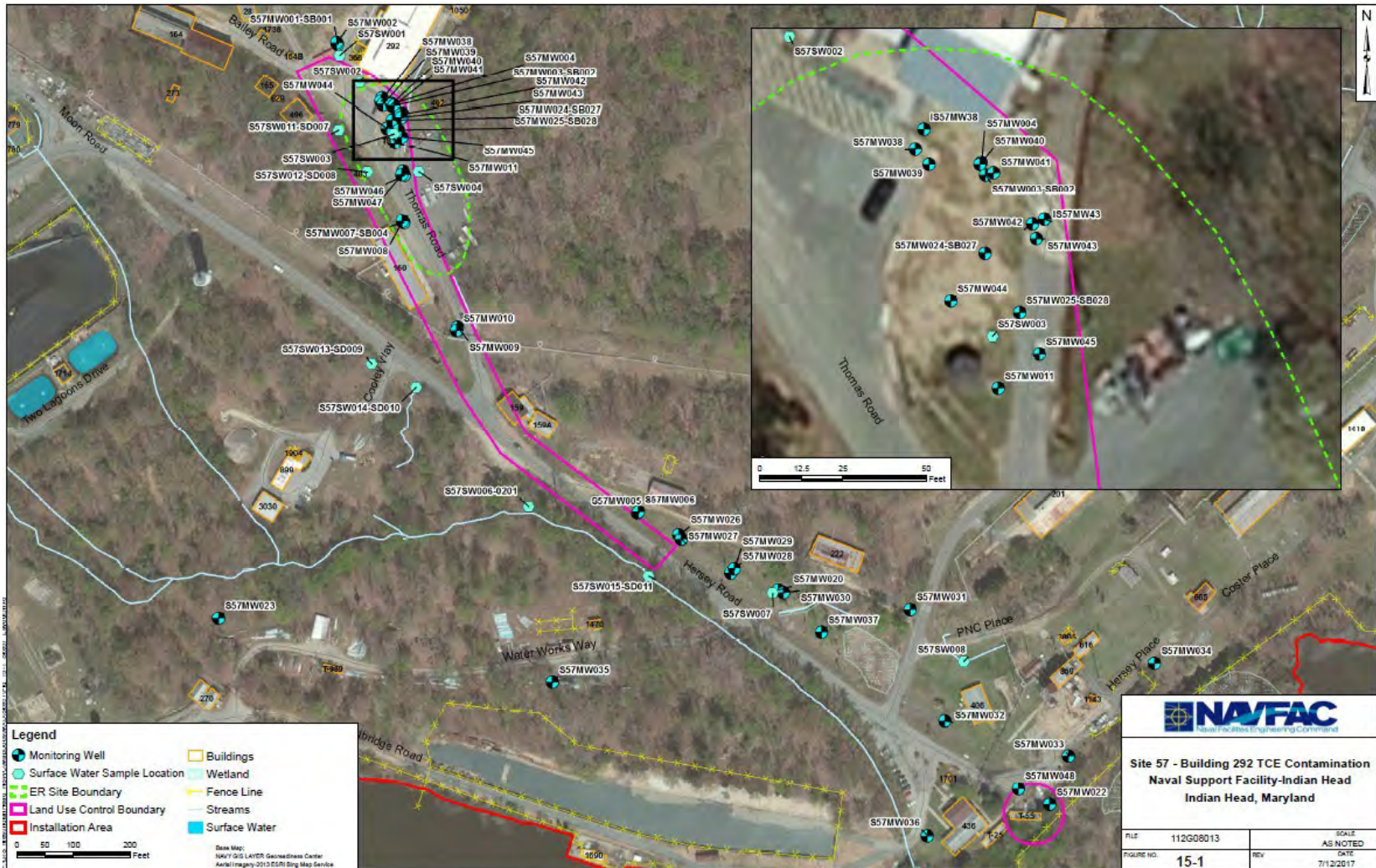
- **Previous 5YR (2017):**

- Remedy **protective in the short-term**.
- Issues/Recommendations:
 - Issue: Cumulative risk of current PRGs.
 - Recommendation: Reassess risk before closing out the site.
 - Issue: Performance data show source area CT and PCE concentrations are not decreasing as quickly as expected.
 - Recommendation: Evaluate remedy optimization options for source area treatment.
 - Issue: Analysis of 1,4-Dioxane needed due to historical presence of TCA.
 - Recommendation: Modify LTM program to add analyte.

Site 47 – Mercuric Nitrate Disposal Area

- **Previous 5YR (2017) (continued):**
 - Action: Site in remedial action optimization phase. LTM phase forthcoming.
 - Post Remedial Action Groundwater Investigation fieldwork completed in October 2020.
 - 1,4-Dioxane being added to Pilot Study Sampling & Analysis Plan (SAP) under development.

Site 57 – Building 292 TCE Contamination



Site 57 – Building 292 TCE Contamination



- **ROD date:** September 2007
- **Contamination/Risk:**
 - Soil (HH) – chlorinated VOCs (soil source area addressed via removal action in July 2006).
 - Groundwater (HH) – PCE, TCE, DCE, VC, and diethyl ether
- **Selected Remedy:**
 - In Situ Bioremediation Pilot Study in 2003 using Hydrogen Release Compound (HRC).
 - Interim Removal Action for source soil contamination completed in July 2006.
 - Final Remedy: In Situ Bioremediation via substrate injections
 - HRC (electron donor) in source area to create anaerobic conditions suitable for reductive dechlorination of TCE, DCE, and VC.
 - Oxygen Release Compound (ORC) (electron acceptor) in the downgradient area to create aerobic conditions suitable for treatment of DCE and VC.
 - Groundwater LTM (MNA) and LUCs.

Site 57 – Building 292 TCE Contamination



- **Remedy / Site Operations Status:**

- Bioremediation injection remedy implemented starting in 2011:
 - Downgradient plume – ORC injected via direct-push technology (DPT) in November 2011
 - Source area – Emulsified vegetable oil (EVO) injection began in November 2011 but stopped due to infiltration into underground storm sewers.
- Installed passive A-SOX delivery system for distribution of EHC (mixed carbon donor and ferrous substrate) in mid-plume area in April 2012.
- Proton Reduction Technology (PRT) in source area.
 - Active PRT demonstration fieldwork was completed in July 2013.
 - Full-scale PRT system installation completed in May 2015.
 - Aquifer adjustment (KOH injections) and sodium lactate injections using slow-rate injection approach prior to PRT system startup in October 2015.
 - Operation of the PRT system from October 2015 – September 2016 with quarterly performance monitoring.

Site 57 – Building 292 TCE Contamination



- **Remedy / Site Operations Status (continued):**
 - **Enhanced reductive dechlorination (ERD) injection in source area in 2018**
 - Treatment area expanded with new injection wells
 - Slow-rate injection approach with emulsified vegetable oil (EVO)
 - Semiannual performance monitoring since April 2018
 - **Investigation of Low Permeability Layer in 2021. Tech Memo to follow.**
 - **Vapor intrusion evaluation fieldwork planned to start winter 2022.**
 - **ROD change under consideration by Team.**

Site 57 – Building 292 TCE Contamination



- **Previous 5YR (2017):**

- Remedy **protective in the short-term**.
- Issues/Recommendations:
 - Issue: Vapor intrusion has not been evaluated. Current workers utilize industrial air monitoring, but an evaluation under CERCLA using site data is warranted.
 - Recommendation: Perform vapor intrusion evaluation for current conditions.
 - Issue: Potential risk from indoor air vapors if site conditions or usage changes.
 - Modify land use control (LUC) Remedial Design (Tetra Tech, 2009) to include future vapor intrusion evaluation requirement if site usage or structures change.
 - Issue: Analysis of 1,4-Dioxane needed due to historical presence of TCA.
 - Modify LTM program to add analyte
- Action: 1,4-Dioxane analyzed during RA-O performance monitoring from April 2018 – October 2019. Analysis discontinued following data evaluation and IHIRT approval. Site still in remedial optimization phase. LTM forthcoming.
 - Vapor intrusion fieldwork currently scheduled to begin winter 2022. LUC Remedial Design (RD) to be modified pending results.

Lab Area

(Sites 14, 15, 16, 49, 50, 53, 54, and 55)



- **ROD date:** September 2011
- **Contamination/Risk:**
 - Surface Soil (HH): arsenic, lead, and mercury
 - Surface Soil/Sediment (Eco): mercury
- **Selected Remedy:**
 - Excavation and offsite disposal of surface soil and wetland sediment.
 - Wetland construction / restoration.
 - Clean fill (barrier) and LUCs.
- **Remedy / Site Operations Status:**
 - Soil excavation and site restoration were completed in February 2012.
 - Wetland plantings were completed in May 2012.
 - RACR in July 2014.
 - LUC inspections ongoing since 2014.
- **Previous 5YR (2017):**
 - **Protective.** Remedy protective and functioning as intended.
 - No actions resulting from 2017 5YR.

UXO 32 – Scrap Yard (Formerly IRP Site 41)



UXO 32 – Scrap Yard (Formerly IRP Site 41)



ROD date: June 2014

- **Contamination/Risk:**

- Soil (Eco): PAHs and others (addressed by removal action in 2011)
- Soil (HH): PAHs, PCBs, lead, arsenic
- Groundwater (HH): Arsenic and VOCs. Addressed separately as IRP Site 70 (RI/FS ongoing).

- **Selected Remedy:**

- Debris and MEC addressed via interim removal action in 2002 and 2006-2007.
- Eco soil addressed by IRA (excavated)
- Current receptor HH addressed by IRA (excavated and/or covered).
- Final Remedy: LUCs in place for current/future HH (maintain barrier to subsurface soil contamination).
- Groundwater being addressed separately as IRP Site 70.

UXO 32 – Scrap Yard (Formerly IRP Site 41)



- **Remedy / Site Operations Status:**
 - RIP Oct 2014. RACR in January 2015.
 - LUC inspections annually since 2015.
 - Groundwater being addressed as separate IRP Site 70 (RI/FS ongoing).
- **Previous 5YR (2017):**
 - **Protective.** Remedy protective and functioning as intended.
 - No actions resulting from 2017 5YR.

5YR Schedule



- **Community notice** that 5YR is starting.
 - **Completed in August 2021** via Southern Maryland News legal ad and via NSA South Potomac's Facebook post.
- **Data gathering, site visits and interviews, data evaluation, document preparation, Pre-Draft review and RTCs, etc.**
 - September – December 2021.
 - Site inspections in October 2021.
 - Pre-Draft to Navy in Nov 2021.
- **Draft 5YR Report for Team review**
 - Submit Draft to Team - **January 2022**.
 - Team review and RTCs (and other document iterations) and all resolutions – **by August 2022**.
- **Final, signed 5YR Report - by Sept 27, 2022**.
- **Community Notice** that 5YR completed - **October 2022**.
- **5YR Fact Sheet(s)** for each site- **October 2022**.

Contacts and Questions



Points of Contact:

- **NAVFAC Washington PM:** Alex Scott
- **Indian Head PM:** Andrew Louder

Questions ?

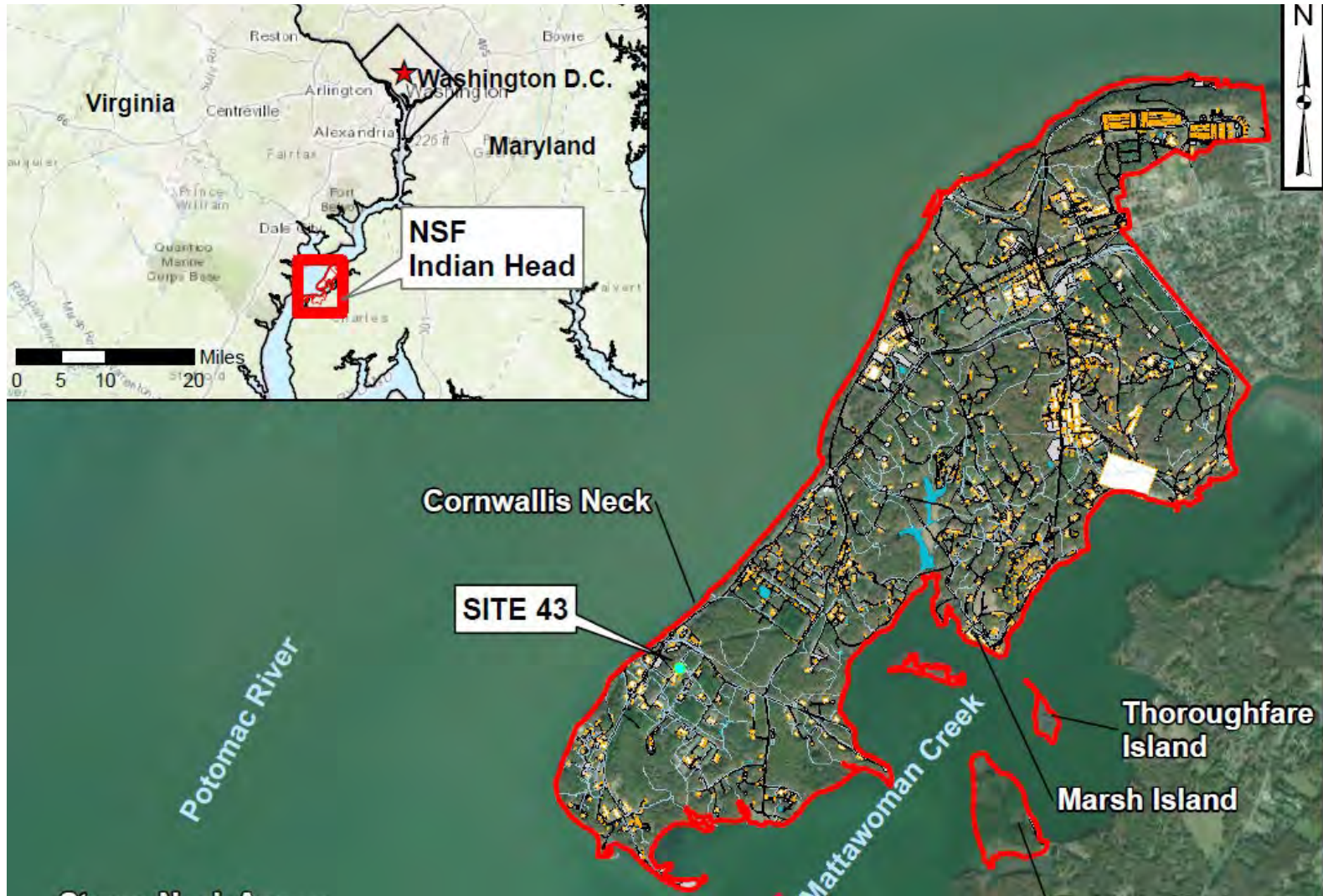


Site 43 Engineering Evaluation/Cost Analysis (EE/CA) & Action Memo Update

Presented By
Joseph Rail
Naval Facilities Engineering Command (NAVFAC)
Washington

10/14/21

Site 43- Toluene Disposal Area Location



Site 43 Background Information



- Located in the southwestern portion of the restricted Main Area of NSFIH.
- Mostly an industrial area with several buildings, paved roads, grass-covered bunkers, drainage ditches, and drainage channels.
- Between the 1950s and 1989, unknown quantities of spent solvents were used in the Cast Plant (Buildings 720, 1040, and 1041) to remove propellants and oily residues from various metal parts.
- Solvents were reportedly dumped on the ground outside Building 1040 at the drainage ditch and at the utility pole across from Building 1041.
- A multi-phase SSP and RI Investigation were completed between 2005 and 2013 which identified a soil source area of trichloroethene (TCE) and potential human health risks from CVOCs and cobalt in groundwater.

Site 43 Background Information (cont.)



- A Feasibility Study (FS) was drafted in 2015 to address unacceptable risks to human receptors in groundwater and TCE soil-to-groundwater source.
- Additional work activities were performed from 2017 to 2020 as a Pre-Design Investigation (PDI.) This included vapor intrusion indoor air samples, delineation of TCE soil source & CVOCs in groundwater, and addressing cobalt data gaps.
- Consequently, an Engineering Evaluation/Cost Analysis (EE/CA) and Action Memo (AM) were finalized in 2021 to address contaminated soil and groundwater in the source area only by an interim removal action.

Site 43 EE/CA Overview



- An Engineering Evaluation/Cost Analysis (EE/CA) was finalized in July 2021 which addressed contaminated soil & groundwater within the source area.
- Public comment period held between 8/11/21 - 9/9/21.

Removal Action Objectives (RAO) included:

- Reduce risk to human receptors (residential child/adult and construction worker) associated with inhalation (including potential vapor intrusion), ingestion, or dermal exposure of volatile groundwater Chemicals of Concern (COCs) by addressing highest concentrations of TCE in groundwater and soil.
- Minimize potential leaching of source soil TCE contamination to groundwater that would impact groundwater in excess of cleanup levels.
- Perform pilot study to evaluate treatment efficacy of cobalt and TCE groundwater contamination using biodegradation (for TCE) and biogeochemical transformation (for cobalt.)

Site 43 EE/CA Overview (cont.)



Removal Action Alternatives developed and evaluated in the EE/CA:

- Alternative 1- No Action
- Alternative 2- Soil Excavation and Groundwater Enhanced In Situ Bioremediation (EISB) and In Situ Chemical Reduction (ISCR)
- Alternative 3- Soil Vapor Extraction (SVE) and Groundwater Air Sparging (AS)

Alternative 2 is recommended because it's the most cost-efficient alternative that meets RAOs.

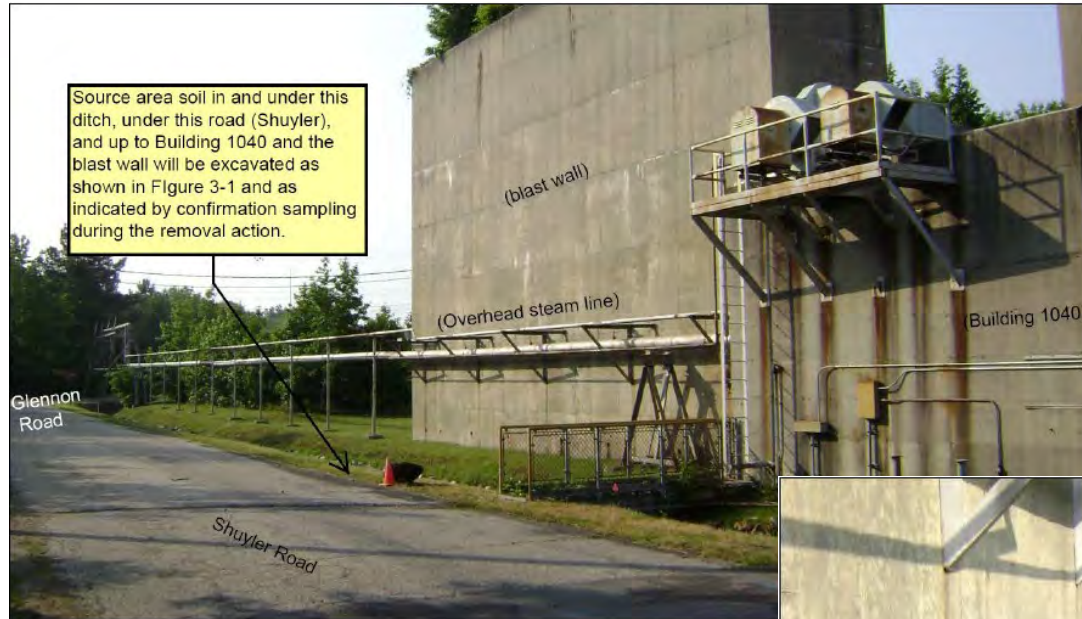
Site 43 EE/CA Overview (cont.)



Alternative 2 Parameters:

- Contaminated soils with TCE concentrations greater than 300 ug/kg would be excavated at source area and transported off-site for disposal.
- Total excavation would be approximately 17,800 square feet; total in-place volume of contaminated soils and asphalt to be excavated is approximately 5,274 c.y.
- Confirmatory sampling to be conducted to confirm soil cleanup goals have been achieved.
- Excavation will extend to a depth of 1 foot below water table.
- Approximately 1,978 pounds of EHC dry powder to be added to saturated soil excavation bottom to create very strong reducing conditions.
- Use combined in situ biological and chemical treatment for contaminated groundwater in source area with TCE greater than 500 ug/kg.

Site 43 Area Photos



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Site 43 Action Memo



- Action Memo finalized in September 2021 following the EE/CA public review period (no comments received.)
- Action Memo documented the decision by the Navy to conduct a non-time-critical removal action (NTCRA) at Site 43 utilizing Alternative 2.
- Only addresses TCE soil source; groundwater contamination will be addressed in forthcoming FS and subsequent selected groundwater remedy in the Record of Decision (ROD.)
- Project was awarded at end of FY21 and is expected to be completed within 2 years.

Site 43 EE/CA & Action Memo Update



Points of Contact:

- **NAVFAC Washington:** Joseph Rail
- **NAVFAC Washington (Base RPM):** Andrew Louder

Questions ?



Site 67 Non-Time Critical Removal Action (NTCRA) Update

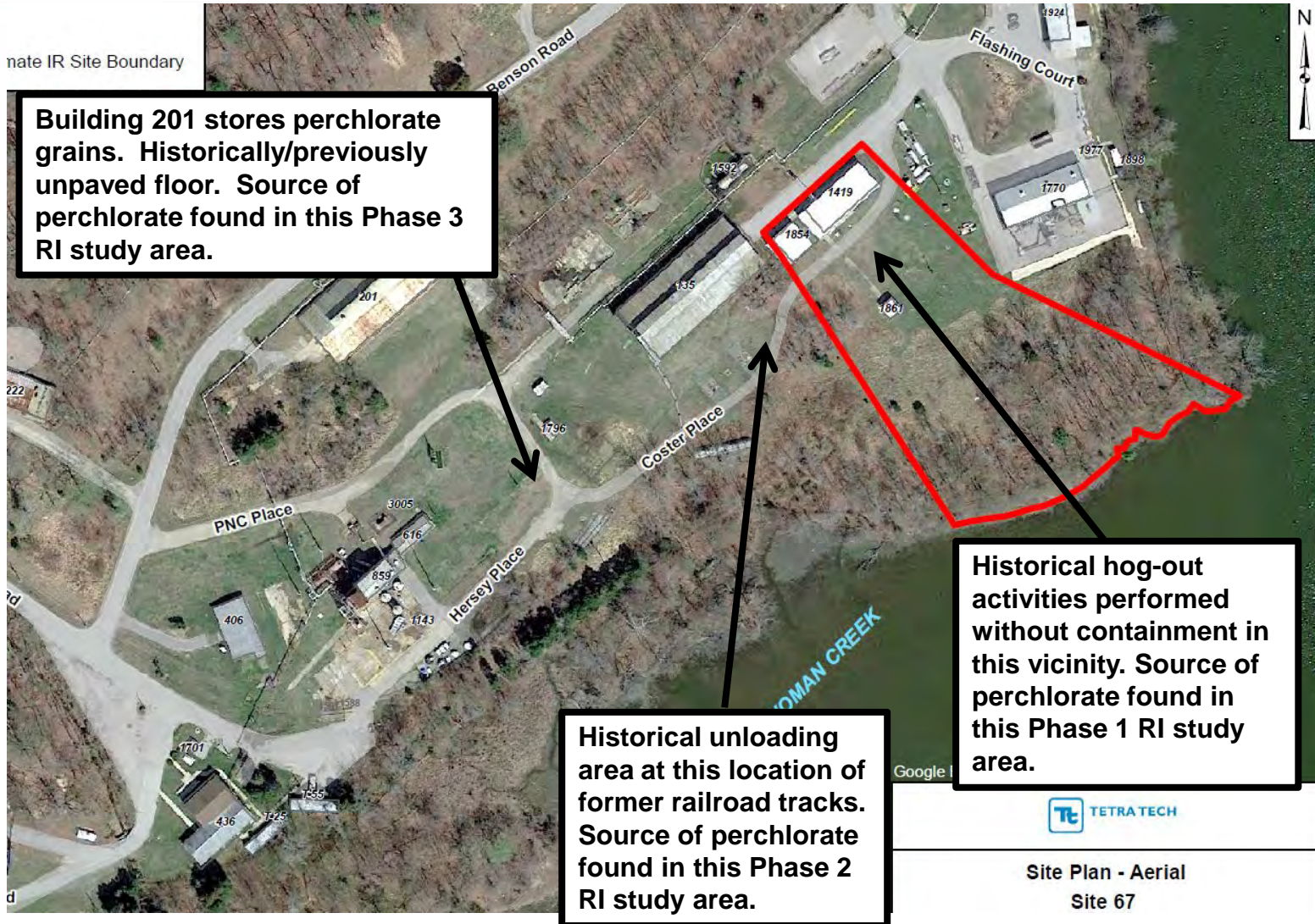
Presented By
Joseph Rail
Naval Facilities Engineering Command (NAVFAC)
Washington

10/14/21

Site 67- Hog-Out Facility Location



Site Information



Site 67 EE/CA Overview



- Engineering Evaluation/Cost Analysis (EE/CA) addressed contaminated soil and sediment and was finalized in July 2019.
- Public comment period held between 8/3/19 - 9/2/19.

Removal Action Objectives (RAO) included:

- Reduce unacceptable risks to human and ecological receptors from exposure to chemicals of concern (COCs) in the Unloading Area soil.
- Reduce unacceptable risks to ecological receptors from exposure to zinc in surface soil and sediment.
- Reduce migration of zinc from upland soil to sediment in Mattawoman Creek.

Site 67 EE/CA Overview



Removal Action Alternatives developed and evaluated in the EE/CA:

- Alternative 1- No Action
- Alternative 2- Excavation and Off-Site Disposal
- Alternative 3- Treatment, Excavation, and Off-Site Disposal

Alternative 2 is recommended because it's the most cost-efficient alternative that meets RAOs and achieves unrestricted use/unlimited exposure (UU/UE) FOR SOIL ONLY.

NOTE: Groundwater to be addressed separately.

Site 67 EE/CA Overview



Removal Action Cleanup Goals

Chemical of Concern	Location	Cleanup Goal (mg/kg)	Basis
Ecological Risk⁽¹⁾			
Zinc	Surface soil at multiple locations; Sediment along shoreline of Mattawoman Creek.	219	Ecological risk-based value used at Site 28 for non-time-critical removal action of zinc in soil and creek sediments based on the no-observed-adverse-effects-level (NOAEL) sample concentration from Site 47 Baseline ERA. ⁽²⁾ This cleanup goal results in site-wide average soil concentrations and creek sediment concentrations at less than 100 mg/kg.
Human Health Risk⁽³⁾			
Benzo(a)pyrene	Unloading Area (south of Building 135) surface and subsurface soils	0.367	Lifelong Resident apportioned cancer risk (TCR=10 ⁻⁵).
Dibenzo(a,h)anthracene		0.367	Lifelong Resident apportioned cancer risk (TCR=10 ⁻⁵).
Aluminum		14,500	Construction Worker apportioned noncancer risk (HI=1 for target organ/effect).
Arsenic		10.5	Background. Child Resident and Lifelong Residents apportioned cancer risk(s) (TCR=10 ⁻⁵), but not below background value.
Cobalt		23	Child Resident apportioned noncancer risk (HI=1 for target organ/effect)
Copper		1,550	Child Resident apportioned noncancer risk (HI=1 for target organ/effect)
Iron		29,368	Background. Child Resident apportioned cancer risk (TCR=10 ⁻⁵), but not below background value.
Lead		400	Child Resident
Lithium		50	Child Resident apportioned noncancer risk (HI=1 for target organ/effect)
Manganese		250	Child Resident apportioned noncancer risk (HI=1 for target organ/effect)
Vanadium		100	Child Resident apportioned noncancer risk (HI=1 for target organ/effect)

Notes:

mg/kg – milligrams per kilogram

TCR – Target Cancer Risk

BERA – Baseline Ecological Risk Assessment

HI – Hazard Index

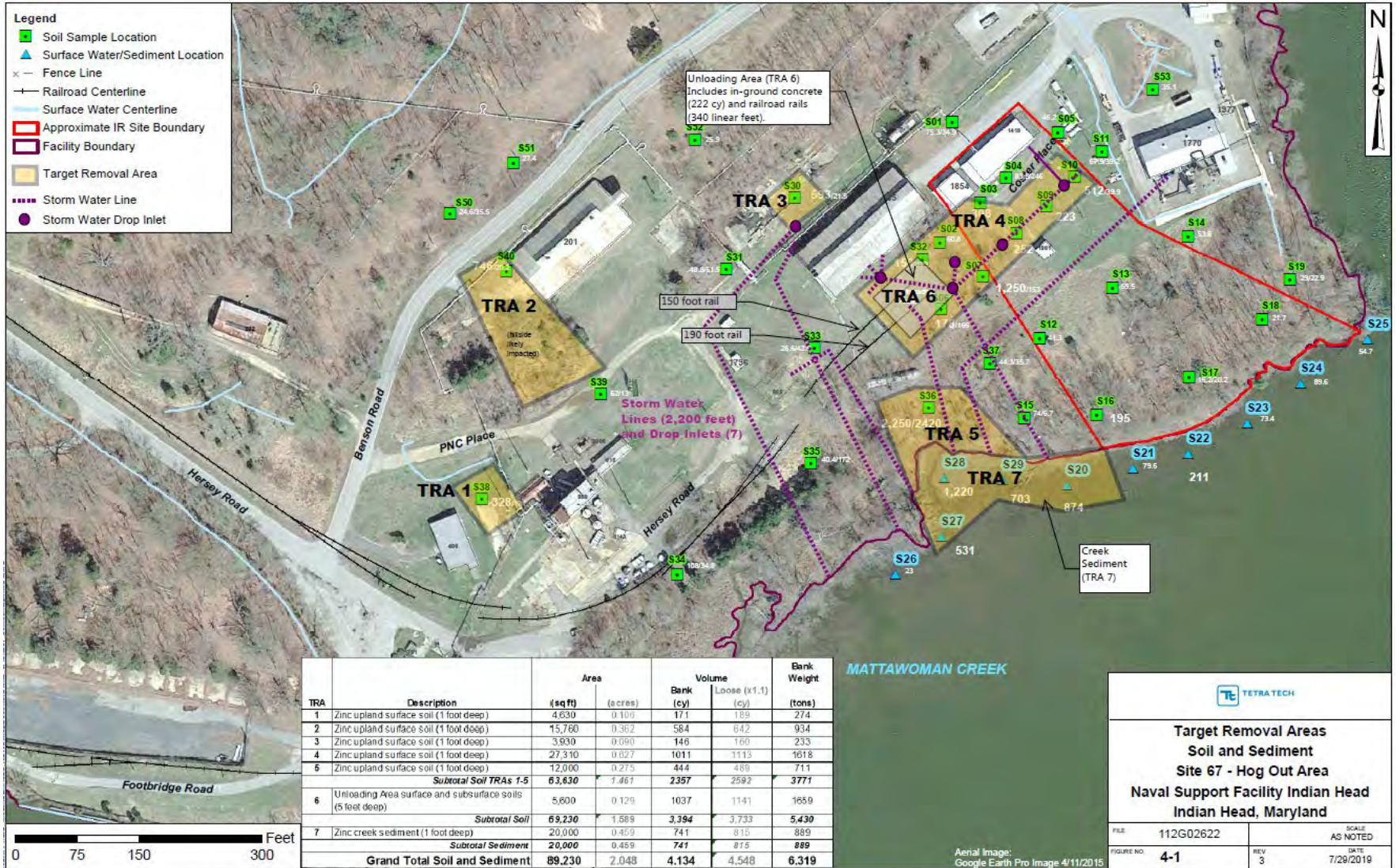
1. A surface soil from a test pit in the Unloading Area indicated potential risks to plants from lead and selenium; however, the soil in this area is being removed to mitigate human health risks at depth, which obviates the need to address lead and selenium in surface soils in this area.
2. Value is the maximum zinc soil concentration submitted for toxicity testing for the Site 47 Baseline ERA (CH2M HILL, 2006a and 2006b). No adverse effects (survival or growth) were observed in any of the bioassay samples from Site 47 (28-day tests with earthworm, *Eisenia foetida*).
3. See selection of human health cleanup goals for soil in the Unloading Area in Table 3-5 of the EE/CA (Tetra Tech, 2019a).

Site 67 NTCRA Overview



- Contractor mobilized to site in February 2021
- Stormwater infrastructure inspection completed via closed-circuit television (CCTV)
- Trees, shrubs, and other vegetation removed
- Property survey, pre-construction survey, and pre-excavation sampling completed
- Excavation completed for target removal areas (TRAs) 1-5
- Additional contamination found in TRA 6 & 7; excavation expanded via step-outs
- TRA 7 is mostly sediment removal within Mattawoman Creek; turbidity curtain used for sediment control

Site 67 Target Removal Areas



Site 67 Area Photos



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Site 67 Area Photos



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Site 67 Area Photos



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Site 67 Sediment Removal Photos



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Site 67 T&D Photos



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Site 67 Current Status



- Continue placement of select fill and topsoil in excavated areas
- Continue transportation & disposal (T&D) of on-site soils (3,559 tons transported off-site as of 10/14/21)
- Stormwater repairs/pipe lining to be completed after excavation is finished
- Wetland restoration postponed to Spring 2022
- Excavated material totals are shown below...

Waste Accumulation Table:

Stockpile	Date Created	Estimated Volume
Excavated Soil	3/29/21	6,828 cy
ACM Soil	5/25/21	49 cy
Concrete #1	3/16/21	453.36 tons (T&D complete 8/2/21)
Concrete #2	8/11/21	60 cy
Stumps	3/15/21	150 cy (T&D complete 7/8/21)
Metal (rebar, tracks, etc.)	3/16/21	55 cy
Creosote Timber (poles, rail ties, etc.)	3/30/21	18 cy
Total Soil, Concrete, Stump, Metal, & Timber Stockpiles		~7,160 cy + 453.36 tons of concrete

Points of Contact:

- **NAVFAC Washington:** Joseph Rail
- **NAVFAC Washington (Base RPM):** Andrew Louder

Questions ?



NSF INDIAN HEAD – PFAS PRELIMINARY ASSESSMENT (PA) PROGRESS (FY22)

Presented By
Alex Scott, Remedial Project Manager (RPM)
Naval Facilities Engineering Command (NAVFAC)
Washington

[10/20/2021]

Presentation Objectives



Objective:

- Summarize the goals of the Preliminary Assessment (PA) for polyfluoroalkyl substances (PFAS) at NSF Indian Head.
- Update on the progress of the PA.
- Future steps for evaluating the environmental impact of PFAS.

What is a PA?

A Preliminary Assessment (PA) under CERCLA is review of existing information and reconnaissance, to identify if a contaminant release has occurred that may require additional investigation or action.

- CERCLA is the Comprehensive Environmental Response, Compensation, and Liability Act, known also as Superfund, passed and signed into law in 1980.
- The intent is to protect human health and the environment via the process.
- 40 CFR 300 is the regulation that describes the CERCLA process from the identification of potential contaminant releases to their cleanup effort.
- This regulation's text is publicly available at www.ecfr.gov/current/title-40/chapter-I/subchapter-J/part-300

What is PFAS?



Polyfluoroalkyl Substances, known as PFAS for short, are a group of thousands of chemicals that persist in the environment.

- Their many formulations are widely used in numerous consumer, commercial, and industrial products for their unique properties.
- Because PFAS are widespread and commonly found in the blood of humans and animals as well as the water and soil at locations across the world, they are challenging to study and assess their potential human health and environmental risks.
- More information regarding PFAS according to the EPA can be found at: <https://www.epa.gov/pfas/pfas-explained>

PFAS PA Objectives



The PFAS PA is currently in progress at NSF-Indian Head (NSFIH). The goals of this effort include are to:

- Identify and catalog all potential or actual PFAS releases into the environment
- Eliminate from further consideration those areas where there is no evidence of PFAS release or suspected release and document the rationale for elimination
- Identify areas requiring further PFAS investigation

If applicable and within reason based on available information, the PA will identify which PFAS compounds may be present, how these compounds could migrate in the environment, and what receptors could be impacted by the PFAS. Gathering this information will guide the sampling and analysis approach of future site investigations (SI).

Where PFAS may have been used

Although PFAS occurs in many commonly available products, the CERCLA process and this PA is primarily concerned with potential releases of PFAS from mission activities. Examples of areas evaluated in the PA include (but are not limited to):

- Fire stations and firefighting training areas
- Aqueous film-forming foam (AFFF) Test Spray /storage areas
- Refueling and fire truck maintenance
- Bulk fuel storage areas
- Plating Operations/Bath-Mists with Surfactant
- Waste Water Treatment Plants and sludge beds
- Oil Water Separators
- Car washes and auto body shops
- Disposal areas/landfills where known PFAS disposal occurred
- Open Burn/Open Detonation areas
- Former Ranges where PFAS-containing materials may have been released

Progress on the PFAS PA So Far



- **Interview Questionnaires**
 - Sent to current installation personnel beginning in February 2019
 - Continued conversation with obtaining information to support the PFAS PA through emails and phone calls
- **Site Reconnaissance**
 - Conducted in August 2020
 - Accessed areas to identify any evidence of PFAS use, release, disposal
 - Filled information gaps identified in document review and interviews
 - Documented physical site characteristics for areas with potential releases
- **Follow-up to Site Reconnaissance**
 - Continued follow-on research and conversations with interviewees to thoroughly consider and analyze all available information through August 2021

Anticipated Timeline for the PA



- *Preliminary Draft Preliminary Assessment for PFAS, NSF Indian Head* – submitted for initial Navy review - October 2021
- Draft PFAS PA to regulators for review anticipated May 2022
- Final PA anticipated - October 2022

All finalized CERCLA process documents are available for the public to view on Navy's Environmental Restoration website for NSF Indian Head. Please visit:

<http://go.usa.gov/DyQF>

Contacts and Questions



Points of Contact:

- **NAVFAC Washington Remedial Project Manager:**
 - Alex Scott, email: alex.e.scott5.civ@us.navy.mil
- **Indian Head PM:** Andrew Louder

Questions ?

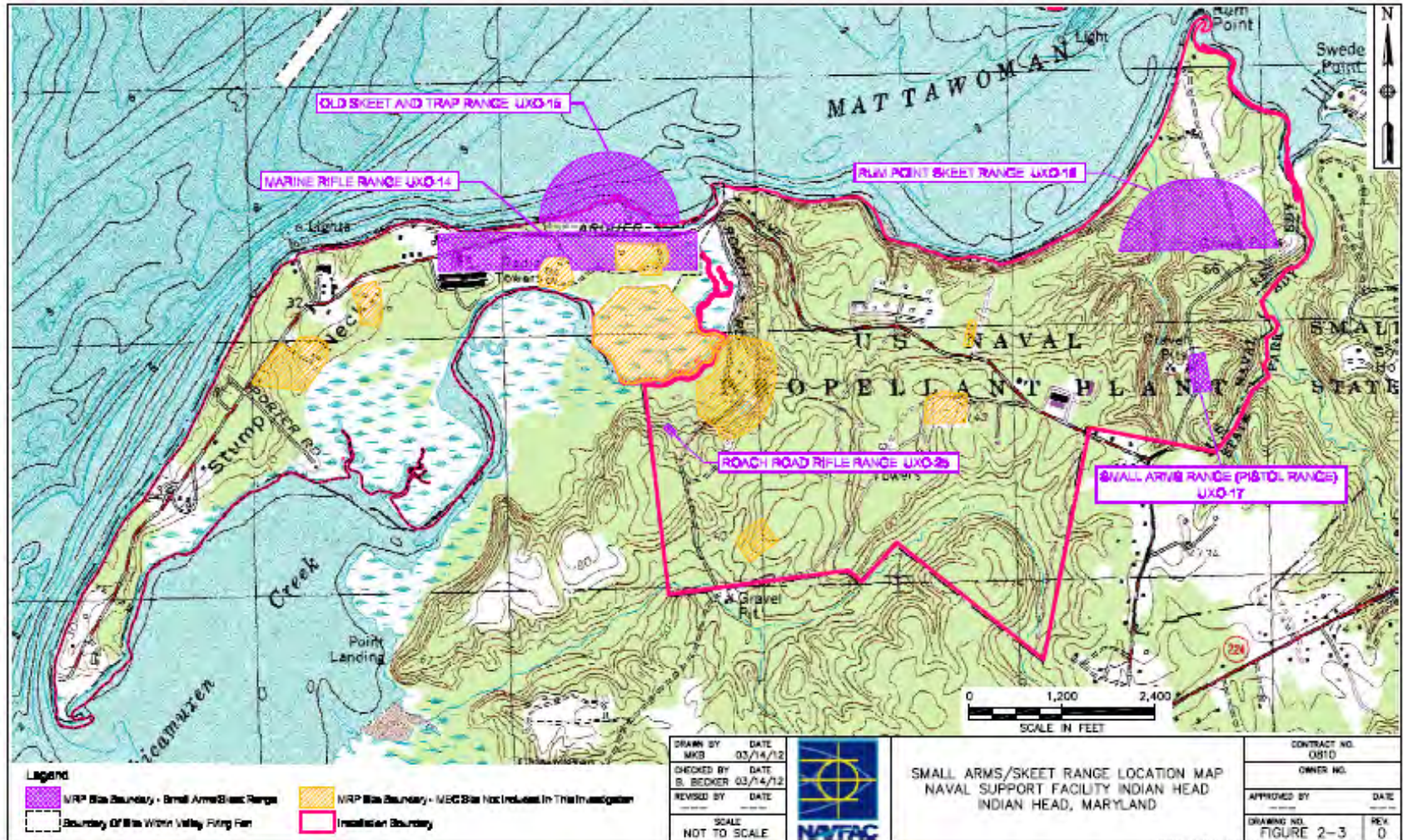


STUMP NECK UXO 14 & 15 SMALL ARMS/SKEET RANGE REMOVAL ACTION UPDATE

**Presented By
Joseph Rail
Naval Facilities Engineering Command (NAVFAC)
Washington**

10/14/21

Small Arms/Skeet Range Locations



Site Background & Contaminants of Concern



UXO 14- Marine Rifle Range (MRR)- 30.4 acres, used from 1911 to 1918 for rifle training, includes multiple firing lines, two target berms, and hillside impact area.

UXO 15- Old Skeet and Trap Range (OSTR)- 29.3 acres, used from 1967 to 1991 for small arms recreational activity, includes two firing points and associated impact area.

Site	Subarea	COC ¹	
		Surface Soil	Subsurface Soil
MRR - UXO 14	Hillside Impact Area	Lead	Lead
OSTR - UXO 15	Firing Points/Target Area	PAHs	--
	NW Shot Fall Area	Lead	--
	NE Shot Fall Area	Lead	--
RPSR - UXO 16	Firing Points/Target Area	PAHs	--
SAPR - UXO 17	Firing Line Area	Nitroglycerin	--
	Target Area	Lead ²	--
RRRR - UXO 25	Target Area	Lead	--

¹ COCs include contaminants that are present at concentrations that pose unacceptable risks to potential human health and ecological receptors. Contaminants discussed in the text as ecological COPCs are not included on this list of COCs, but are addressed in Section 3.4 and Appendix E. Addressing human health risk in soil at the site(s) also will address ecological risks.

² Due to the visible evidence of soil sloughing from the face of the backstop berm in the UXO 17 Target Area, "surface soil" was considered to be soil from 0 to 4 feet bgs along the base of the berm.

Removal Action Objectives Include:

- **Mitigate potential human health risks due to direct exposure to lead and PAH contamination in soil;**
- **Mitigate the potential erosion of contaminated soil, transport of contaminants, and subsequent exposure; and**
- **Ensure that post-removal action conditions provide an acceptable level of protection for ecological receptors against direct exposure and exposure via the food chain to lead and PAHs in soil.**

UXO 14 & 15:

- **Due to discovery of potential munitions items (57mm projectile), work was halted and an Explosive Safety Submission (ESS) was prepared and submitted to Naval Ordnance Safety and Security Activity (NOSSA) for review.**
- **Final ESS approval was granted in February 2020 and work resumed in April 2020.**
- **Final restoration was completed in June 2021 and the contractor demobilized from site.**

Site Summary



UXO 14:

- 4,777 tons of lead-contaminated soil excavated from 12-48 inches below grade.
- Excavations were re-graded to match approximate pre-excavation conditions.
- Site was restored with native seed mix and planting of 242 trees.
- In September 2021, a Removal Action Completion Report (RACR) was finalized and a Close-Out Document was signed by Navy, EPA, & NSFIH.

UXO 15:

- 531 tons of lead-contaminated soil excavated from three locations at 6 to 12 inches below grade.
- 2,465 tons of PAH-contaminated soil excavated from one large area at 12 to 24 inches below grade.
- Site was restored with native seed mix.
- Closeout of UXO 15 is pending additional monitoring of groundwater (sampling events tentatively planned for November 2021, February & May 2022.)

UXO 14-Marine Rifle Range



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UXO 15-Old Skeet & Trap Range



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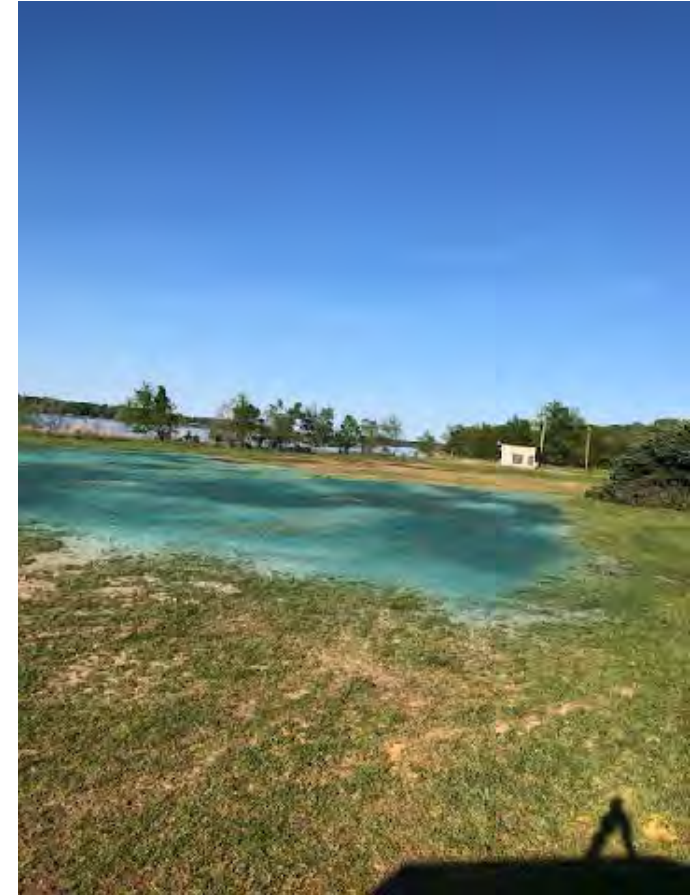


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UXO 15-Old Skeet & Trap Range



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Contacts and Questions



Points of Contact:

- **NAVFAC Washington:** Joseph Rail
- **NAVFAC Washington (Base RPM):** Andrew Louder

Questions ?