



Remediation at Radford High School

Makalapa Crater Geographic Study Area, Joint Base Pearl Harbor-Hickam, Oahu, Hawaii

Fact Sheet No. 1

August 2014

INTRODUCTION

Between December 2013 - January 2014, the State Department of Education (DOE) construction contractor encountered buried debris and stained soil during excavation work to replace the old cinder running track at Radford High School (RHS) with a new all-weather (synthetic) track.

BACKGROUND

The Hawaii Department of Health (DOH) Hazard Evaluation and Emergency Response (HEER) Office told the Navy about the DOE finding on January 24, 2014.

The debris was found to include asbestos containing material, chemical contaminants and small munitions related debris. The DOE took action to safely remove the asbestos material from the track area. Chemical analysis identified that a cleanup action was needed for the excavated soil, especially for arsenic, lead, mercury and dioxins.

In addition, one munitions related item was encountered by the DOE construction contractor. Air Force



Photo 1: Excavated debris at Radford track. (Photo from DOE)



Photo 2: Covered and fenced off debris. (Photo from DOE)

Explosive Ordnance Disposal (EOD) personnel visited the site and identified a small projectile fuze. Due to the item's deteriorated condition, it was removed from the site by EOD.

Potential munitions related debris (similar to the fuze found) pose little hazard to the public if a soil cover is maintained. The soil cover also ensures that handling does not occur.

DOE stopped construction work and closed off the track and field in January, making sure the excavated soil was covered with sheeting and secured to prevent access to the material. DOE hired an environmental consultant who collected soil samples from the stockpiles, excavated debris and football field in February 2014.

DOH conducted X-Ray Fluorescence (XRF) sampling of surface soil and bare areas of the RHS campus and Makalapa Elementary School (MES) in March. The

Navy received sampling results from DOE and DOH in March.

- **Football Field**—Contaminant concentrations in soil samples taken from the surface of the football field are at levels that do not require a cleanup action.
- **Soil Piles/Excavated Track**—Cleanup action is needed. The stockpiled soil and soil at the bottom of the excavated areas along the track contains arsenic, lead, mercury and dioxins at levels that could be unsafe if humans are exposed to the soil.
- **Other Surface Soil Areas**—DOE/DOH confirmed that the remaining RHS and Makalapa Elementary School (MES) campus areas are safe for students through XRF sampling of the surface soils.

In April 2014, the DOE construction contractor informed DOE, DOH and the Navy that other possible munitions related debris were seen during work in December and January, prior to the site shut down. EOD

personnel again visited the site finding a few empty small arms ammunition cartridge casings. The DOE contractor later provided photos of items they found during excavation in December 2013 - January 2014. The photos show what appears to be a cut and empty 5 inch projectile cartridge base. Based on this information, the Navy decided to reevaluate remediation plans and create a more comprehensive one that would not only address chemical contamination, but also possible munitions related items.

In May 2014, DOE notified the Navy that it's construction contractor transported some RHS excavated material to other locations during construction between December 2013 - January 2014. Since this information was revealed, the DOE, DOH and Navy have worked together to identify locations and coordinate cleanup actions for two offsite locations, one in Kaneohe and the other in Kapolei. Note: Both sites will be remediated by the Navy to make sure all safety and proper disposal actions are followed.

Previous and current students who have used the track and field areas were not exposed to underground debris.

WHERE DID THE DEBRIS COME FROM?

The RHS athletic complex is on former Navy property that is adjacent to an existing Navy environmental cleanup site called the Makalapa Crater Geographic

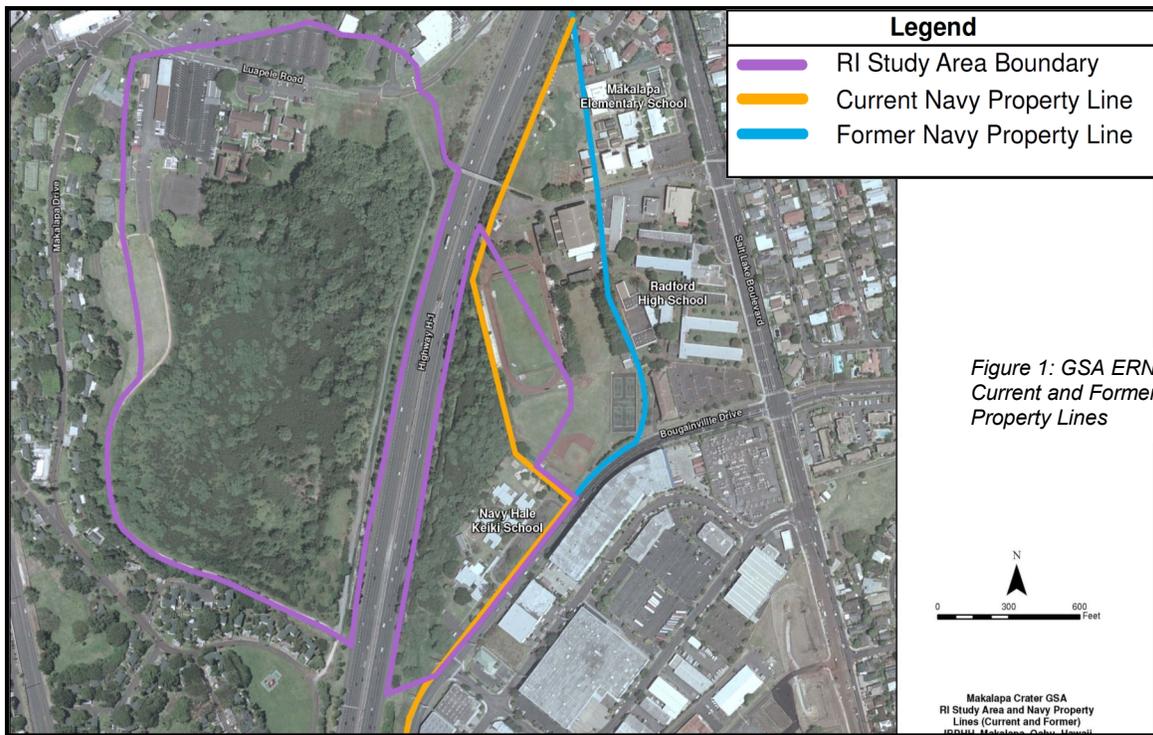


Figure 1: GSA ERN Site and Current and Former Navy Property Lines

Study Area (GSA), Joint Base Pearl Harbor-Hickam (JBPHH). The Makalapa Crater site is currently being studied under the Navy's Environmental Restoration (ERN) Program. The purpose of the Navy's ERN Program is to identify and cleanup contamination from past Navy activities.

Due to the location and type of debris found at RHS, it is most likely part of past disposal actions by the Navy (e.g. salvage operations conducted in the area during World War II). The Navy is planning to perform environmental response actions under the ERN program. Cleanup/investigative actions for former Navy property areas will become part of the Navy's Makalapa Crater GSA project. The former Navy property areas include the RHS athletic complex and MES playground.

Since the discovery at RHS, the DOE, DOH and Navy have been working together to develop an appropriate remedy for the situation to ensure long-term protection of human health and the environment.

NAVY ACTION

Since January 2014, the Navy has been working on plans to conduct a cleanup of the RHS track and field, to allow the DOE to complete its track renovation project safely. In addition, the Navy has arranged for the cleanup of excavated material that was removed from RHS to two off-site locations.

Contracting actions began soon after the Navy was contacted about the discovery. Naval Facilities Engineering Command (NAVFAC) Hawaii environmental remediation personnel visited the site multiple times and put together two contracts (1) AECOM (awarded March 20, 2014) to perform initial soil and groundwater sampling, under an existing contract task order and (2) CAPE Environmental Management Inc. awarded April 22, 2014) to remove and dispose of stockpiled soil at RHS. The second contract was later altered to include additional planning for possible munitions related debris once that information became known in April.

As RHS and MES property does not currently belong to the Navy, letters were sent to the City and County and the State requesting right of entry. Approval to access the RHS track and field property was received August 25, 2014.

TIME-CRITICAL REMOVAL ACTION

The Navy is coordinating an accelerated cleanup of the RHS track and field area under the Navy Environmental Restoration Program. The work will include:

- **Access Road**—A temporary access road will be built behind Navy Hale Keiki School, close to the H-1 Freeway, to reduce truck traffic at RHS and MES main student access from Salt Lake Boulevard. The road access road will exit onto Bougainville Drive.
- **Track**—There will be an additional excavation of the track to a depth of approximately 1 foot beyond where the DOE construction project intended to excavate. Then a geo-fabric barrier will be placed, followed by clean soil. This will protect construction workers from exposure while the track resurfacing is completed.

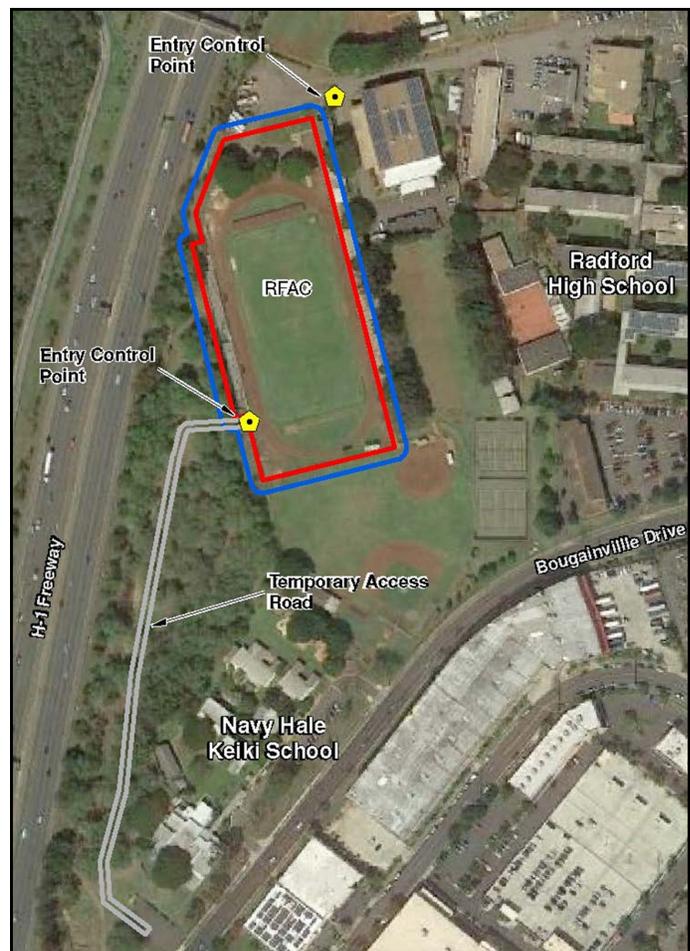


Figure 2: Map of RHS and Navy Hale Keiki School showing location of temporary access road.



Photo 3: An orange geofabric liner will provide a protective barrier.

Photo 4: (below): A mechanical power screen will help separate debris.



- **Sept. 5 - mid-October:** Excavate contaminated soil, screening debris and properly dispose of material.
 - **Mid-October:** Place geo-textile liner and clean soil.
 - **November:** Shape football field with DOE's design.
- Once the Navy completes all remediation work, the DOE's construction contractor will complete a new irrigation system for the football field and finish resurfacing the track.
- In addition to the work planned for RHS as part of the Time-Critical Removal Action, the Navy is developing plans to conduct further sampling on the formerly owned Navy property on the RHS campus and MES playground area to evaluate the extent of buried debris. A determination will then be made on whether more cleanup actions are required.
- **Football Field**—Even though the surface of the field is safe, the Navy will remove approximately 1 foot of clean soil and 1-3 feet of contaminated soil. The depth to be excavated depends on the depth/location of the irrigation system or utilities in the field. Then a geo-fabric barrier will be placed over contaminated soils and debris remaining at the bottom of the excavation, followed by clean soil. This will prevent exposure to buried debris during future maintenance or renovations.
 - **Excavated Soil**—This material will be screened to remove any possible munitions related debris before the material is disposed. Certified personnel will ensure explosive hazards are safely addressed.
 - **Transportation of Screened Material**—All material will be moved in properly covered trucks to an appropriate permitted disposal facility.

NAVY TIMELINE

Remediation work at RHS is scheduled from August 2014 - November 2014, with sodding of the football field to occur in late spring. Tentative dates are as follows:

- **Aug. 25 - Sept. 4:** Secure the site, establish access road, and bring equipment to the site.

WHAT'S NEXT?

The current removal action and additional sampling results will be used to re-evaluate the area of the Makalapa Crater GSA Site around the former Navy property areas and determine if other action is needed under the Navy's Environmental Restoration program. This evaluation and plans for any additional action will be shared with DOE, DOH and the public as part of the JBPHH Restoration Advisory Board (RAB) meetings. The RAB JBPHH meetings are typically held quarterly.

For More Information

All Makalapa Crater GSA site-related documents are available for review at the Navy information repositories established at the Pearl City Public Library and University of Hawaii's Hamilton Library.

For questions please contact Ms. Denise Emsley, Public Affairs Officer, Naval Facilities Engineering Command, Hawaii, (808) 471-7300 or denise.emsley@navy.mil.

QUESTIONS/ANSWERS

1. When was the contaminated soil and debris found at the RHS track?

Between December 2013 - January 2014, the State Department of Education (DOE)'s construction contractor encountered buried debris and stained soil during excavation work to replace the old cinder running track at Radford High School (RHS) with a new all-weather (synthetic) track. Preliminary data in January determined that the soil is contaminated.

2. When did the Navy learn about the debris?

Naval Facilities Engineering Command (NAVFAC) Hawaii was told by Hawaii Department of Health (DOH) Hazard Evaluation and Emergency Response (HEER) Office on January 24, 2014 about the finding.

3. Where did the contaminated material originate?

NAVFAC Hawaii Environmental Remediation Specialists have determined that the material found at RHS track area is most likely part of past disposal actions by the Navy salvage yard operations and dredged wastes at its Makalapa Crater site adjacent to the H-1 Freeway and the school. That site is currently under a Remedial Investigation (RI) with data being evaluated and boring logs and analytical information reviewed. Historical aerial photos show the area of the track appears to have been built out from the side of the crater in the 1950s.

The Navy will take appropriate action to remediate the RHS track and field as necessary to create a safe environment for students and faculty at the school.

4. Who is responsible for the cleanup?

The Navy takes full responsibility for legacy contamination from past disposal practices and programs money to conduct clean ups from the most hazardous to the least. This site was unknown and is being treated as a Time-Critical Removal Action.

5. Where is the underground debris near RHS, MES and NHKS?

For RHS, the current finding identifies underground debris from a former salvage yard is located in the track and field area.

The Navy is conducting a cleanup action for this location to address the debris.

For the former Navy property located at the RHS sports complex and MES playground, the Navy will be investigating where the debris might exist after the RHS track/field remediation is done.

For NHKS and the former Child Development Center area, a recent Navy study identified underground debris. However, the debris found at this location is more similar to construction debris, rather than the salvage yard type material found at the RHS track. The buried debris is approximately 2 feet below ground which makes the property safe for current use.

Note: Our understanding is that the land, which the RHS sports complex, MES playground and NHKS is on top of, was built up from the site of the Makalapa Crater former rim. Based on information we currently have, the depth of debris may vary from 1 foot down to 30 feet below ground. Our future study will help us understand this better.

6. Are the students at RHS in any danger from the chemical contamination or the possible munitions related debris?

No, DOE covered and fenced off the contaminated excavated soil when they shut down the project site. Prior to excavation, the debris was underground and not accessible. As far as the possible munitions related debris, the Navy is confident that their location in the stock-piled material at RHS pose no danger to students or faculty at the school as long as they do not enter the closed off area.

Once remediation work begins, the site will be secured with established safety exclusion zones and certified personnel on hand to ensure any explosive hazards are safely addressed.

The Navy, DOH and DOE agree students are safe to continue to use the RHS and MES campuses while track and field construction is underway and during any additional investigation work in the future.

7. What safety measures will be taken to protect RHS, MES and Navy Hale Keiki School students during remediation efforts?

The Navy has properly planned this work to ensure that all operations are done safely and appropriately. Using experts in the environmental field to remediate the site and conduct oversight, we will take the following actions to protect all students, faculty, family members and the public during remediation work:

- New Temporary Access Road – A temporary access road will be built behind Navy Hale Keiki School, close to the H-1 Freeway, to reduce truck traffic at RHS and MES main student access from Salt Lake Boulevard. The road access road will exit onto Bougainville Drive. It will be built with fencing and dust screens to protect students at NHKS.
- Securing the Site – The site will be secured with a safety standoff distance identified to ensure that all work on debris/potential munitions will not endanger the public.
- Installing Dust Screens/Fences – Best management practices will be employed to ensure dust does not leave remediation site, i.e. keeping soil moist to so it does not become airborne and covering various areas when not being remediated. In addition, dust screens and fences will be erected.
- Screening Debris – A special screening machine will be used to sift for all possible munitions related debris. Certified personnel will ensure explosive hazards are safely addressed.
- Transportation of Screened Material – All material will be moved in properly covered trucks to an appropriate permitted disposal facility.

8. Why has this remediation project taken months to start?

The Navy's main focus is the safety and health of the students, faculty, family members and the public that work or play at RHS. Acquiring funding, awarding contracts, receiving access to non-Navy property, and special planning for work with chemical contamination and possible munitions related debris took time to complete.

9. What is the cost for this remediation action?

The Navy has obtained funds for the RHS cleanup action. We have awarded approximately \$8 million to date.

10. When will work commence?

The Navy received right of entry access to RHS on August 25, 2014 and began work that day.

11. When will remediation work be completed?

The cleanup is expected to take three months. The estimated completion date is end of November 2014, with the exception that the Navy will schedule to sod the football field in late spring 2015.

12. What will be the final results of this remediation action?

The Navy's actions will ensure that the RHS track and field remain safe for students and for workers on this and any future projects for the football field.