

**FY2016**

**WHEELER ARMY AIRFIELD**  
**Army Defense Environmental Restoration Program**  
**Installation Action Plan**

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## Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multiyear cleanup program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern (AOC), and proposes a comprehensive, installation-wide approach, along with the costs and schedules associated with conducting investigations and taking the necessary remedial actions (RA).

In an effort to coordinate planning information between the restoration manager, the US Army Environmental Command (USAEC), the Installation Management Command, Pacific Region (IMCOM-Pacific), Wheeler Army Airfield (WAAF), the executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and tentative budgets for all major Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is; therefore, subject to change.

## Acronyms

AEDB-R	Army Environmental Database- Restoration
AOC	Area of Concern
CAB	Combat Aviation Brigade
CAP	Corrective Action Plan
CC	Compliance-related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CLIN	Contract Line Item Number
CR	Compliance Restoration
CTT	Closed, Transferred, or Transferring
CY	Calendar Year
DD	Decision Document
DERP	Defense Environmental Restoration Program
DES	Design
DMM	Discarded Military Munition
DoD	Department of Defense
DU	Decision Unit
EOD	Explosive Ordnance Disposal
ER,A	Environmental Restoration, Army
FRA	Final Remedial Action
FS	Feasibility Study
FY	Fiscal Year
HDOH	Hawaii Department of Health
HRR	Historical Records Review
IAP	Installation Action Plan
IMCOM-Pacific	Installation Management Command, Pacific Region
IMP(C)	Implementation (Construction)
IMP(O)	Implementation (Operation)
INV	Investigation
IRA	Interim Remedial Action
IRP	Installation Restoration Program
IS	Increment Sampling
ISC	Initial Site Characterization
LTM	Long-Term Management
LUC	Land Use Control
MC	Munitions Constituents
MD	Munitions Debris
MDL	Maximum Detection Level
MEC	Munitions and Explosives of Concern
mm	millimeter
MMRP	Military Munitions Response Program
MR	Munitions Response
MRA	Munitions Response Area
MRS	Munitions Response Site
MRSPP	Munitions Response Site Prioritization Protocol
N/A	Not Applicable

## Acronyms

NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFA	No Further Action
NPL	National Priorities List
O&M	Operations and Maintenance
PA	Preliminary Assessment
PBA	Performance-Based Acquisition
PBR	Practice Bombing Range
PP	Proposed Plan
PRG	Preliminary Remediation Goal
RA	Remedial Action
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operation)
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-in-Place
ROD	Record of Decision
RSL	Regional Screening Level
SAR	Small Arms Range
SI	Site Inspection
TAPP	Technical Assistance for Public Participation
TCRA	Time Critical Removal Action
TRC	Technical Review Committee
USAEC	US Army Environmental Command
USAG-HI	US Army Garrison, Hawaii
USEPA	US Environmental Protection Agency
UXO	Unexploded Ordnance
WAAF	Wheeler Army Airfield
WAFB	Wheeler Air Force Base
XRF	X-ray Fluorescence

# Acronym Translation Table

## CERCLA

Preliminary Assessment(PA)

Remedial Investigation(RI)

Feasibility Study(FS)

Remedial Design(RD)

Remedial Action (Construction)(RA(C))

Remedial Action (Operation)(RA(O))

Long Term Management(LTM)

Interim Remedial Action(IRA)

## RCRA Underground Storage Tank (UST) Site Phase Terms

= Initial Site Characterization(ISC)

= Investigation(INV)

= Corrective Action Plan(CAP)

= Design(DES)

= Implementation (Construction)(IMP(C))

= Implementation (Operations)(IMP(O))

= Long Term Management(LTM)

= Interim Remedial Action(IRA)

## Installation Information

### Installation Locale

**Installation Size (Acreage):** 1430

**City:** Wahiawa

**County:** Honolulu

**State:** Hawaii

### Other Locale Information

Wheeler Army Airfield (WAAF) is located in the central part of the island of Oahu on the Schofield Plateau and covers 1,430 acres of land. The facility is located 22 miles northwest of the city of Honolulu. The area around the airfield is mostly agricultural land. The nearest municipality is Wahiawa, located one-half mile to the northeast supporting residential, commercial and light industrial uses. The town of Mililani lies two miles southeast of WAAF and supports mostly residential and commercial uses. Schofield Barracks borders WAAF to the north and Schofield Barracks East Range borders WAAF to the northeast.

### Installation Mission

The mission of WAAF is to train, equip, and sustain Army forces in the Pacific Theater. Additionally, mission is to provide aviation support to the Hawaii Army Air National Guard and a number of Department of Defense (DoD) activities, including the Defense Communications Agency, the Air Force's 6010th Aerospace Defense Group, the Hawaii Army National Guard's Aviation Support Facility, and the 25th Infantry Division Combat Aviation Brigade.

### Lead Organization

IMCOM

### Lead Executing Agencies for Installation

USAEC

### Regulator Participation

**State** Hawaii Department of Health (HDOH)

### National Priorities List (NPL) Status

WHEELER ARMY AIRFIELD is not on the NPL

### Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status

The community has expressed no sufficient, sustained interest in a RAB.

### Installation Program Summaries

#### MMRP

**Primary Contaminants of Concern:** Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC)

**Affected Media of Concern:** Soil

# 5-Year / Periodic Review Summary

## 5-Year / Periodic Review Summary

Status	Start Date	End Date	End FY
Planned	201701	201707	2017

## 5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
DD for Archery Range WAAF-005-R-01	WAAF-005-R-01
WAAF Former 1940s SAR Decision Document	WAAF-006-R-01



## Land Use Control (LUC) Summary

**LUC Title:** Former 1940s SAR

**Site(s):** WAAF-006-R-01

**ROD/DD Title:** WAAF Former 1940s SAR Decision Document

**Location of LUC**

LUC area encompasses the entire MRS, approximately 1.05 acres and is surrounded by the former Wheeler Skeet Range (WAAF-008-R-01) MRS boundary.

**Land Use Restriction:** Media specific - Prohibit activities that results in contact with contaminated sediments, Media specific restriction - Prohibit, or otherwise manage excavation, Restrict land use - Mitigation area(s) protection, Restrict land use - No daycare/hospital/school use, Restrict land use - No residential use

**Types of Engineering Controls:** None

**Types of Institutional Controls:** Construction Permit, Dig Permits, Restrictions on land use, Zoning

**Date in Place:** 201207

**Modification Date:** N/A

**Date Terminated:** N/A

**Inspecting Organization:** Installation

**Record of LUC:** Master Plan or Equivalent

**Documentation Date:** N/A

**LUC Enforcement:** Annual Inspections, 5 Year Reviews

**Contaminants:** METALS

**Additional Information**

N/A

**LUC Title:** WAAF-005-R-01 AR North

**Site(s):** WAAF-005-R-01

**ROD/DD Title:** DD for Archery Range WAAF-005-R-01

**Location of LUC**

LUC is implemented over the entire Archery Range North MRS

**Land Use Restriction:** Media specific - Prohibit activities that results in contact with contaminated sediments, Restrict land use - Mitigation area(s) protection, Restrict land use - No daycare/hospital/school use, Restrict land use - No residential use

**Types of Engineering Controls:** None

**Types of Institutional Controls:** Construction Permit, Dig Permits, Restrictions on land use

**Date in Place:** 201309

**Modification Date:** N/A

**Date Terminated:** N/A

**Inspecting Organization:** Installation

**Record of LUC:** Master Plan or Equivalent

**Documentation Date:** 201309

**LUC Enforcement:** Annual Inspections, 5 Year Reviews

**Contaminants:** METALS

**Additional Information**

N/A

# Cleanup Program Summary

## Installation Historic Activity

In the past, the central plateau and WAAF area have been used for Hawaiian settlement, cattle ranching, agricultural production (pineapples), and the military. The area was densely forested through the early-1800s. Several Hawaiian villages were scattered across the plateau. There was some dry land cultivation and many of the gulches were cultivated with taro.

In 1848, King Kamehameha III designated the entire WAAF area as Crown Lands. In the second half of the 18th century, the land was leased for cattle ranching. Cattle grazing occurred in the southwestern portion. In 1900, pineapple cultivation began in the area. The pineapple fields were located in the northeastern portion of WAAF.

The area occupied by WAAF was originally acquired by the Secretary of War in 1899 for the Schofield Barracks Military Reservation. Although the US military formally arrived in 1899 (Executive Order 30, Statute 750), troops did not occupy the area until 1908 (Tomanaii-Tuggle and Bouthiller, 1993). In February 1922, construction at WAAF, at the time called Wheeler Field, began as an extension of Schofield Barracks. WAAF was a small operation, housing two squadrons of the Hawaiian Department of Air Corps. The installation was the site of several historic aviation events, such as the first nonstop mainland-to-Hawaii flight (1927) and the first Hawaii-to-mainland flight. Construction at the base resumed in the early-1930s. Officers' quarters, barracks, hangars, headquarters, runways, a fire station and other technical buildings were constructed at this time (Tomanaii-Tuggle and Bouthiller, 1993; Hirota, 1983).

In 1939, WAAF became a permanent military post. Units stationed at the installation included the 18th Pursuit Group and the 4th and 5th Reconnaissance Squadrons. WAAF was bombed during the attack on Pearl Harbor. Anecdotal information suggests that 83 aircraft were destroyed and subsequently buried at the end of the runway or bulldozed into a nearby gulch. Two additional runways were constructed after the attack. They formed a triangle so that all three runways could be used simultaneously. Ammunition storage structures, bunkers, a new hangar, family housing, and support structures were also constructed during World War II. In 1944, the 7th Air Service Command was established at the base to provide service and supply for B-29 bombers (Tomanaii-Tuggle and Bouthiller, 1993; Hirota, 1983; Harding Lawson Associates, 1990). Several small arms ranges were established around this time. All have been subsequently closed, and are undergoing cleanup under the Military Munitions Response Program (MMRP).

In April 1948, the installation was renamed Wheeler Air Force Base (WAFB). In 1949, it was deactivated and placed in caretaker status. WAFB was reactivated in 1952 during the Korean War, which resulted in the organization of the 1508th Support Squadron. In the 1960s, the Air Force, Army, Navy, and Hawaii National Guard shared the installation's facilities. Documents indicate that aircraft maintenance was limited to flightline maintenance and minor frame and engine work (Dames and Moore, 1986). There were no heavy maintenance shops, such as engine rebuilding or metal plating, at the air base. Therefore, shop-generated wastes were not extensive.

The US Army assumed control of administration, maintenance, and operations at WAFB in 1977. It became the center for all Army aviation activities in the Pacific (primarily helicopters).

In 1991, the installation came under formal control of the US Army and was renamed WAAF. (Tomanaii-Tuggle and Bouthiller, 1993; Hirota, 1983).

## Installation Program Cleanup Progress

### MMRP

- Prior Year Progress:** A contract will be awarded in fiscal year (FY) 16 to complete the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process at WAAF-011-R-02. Fieldwork was completed at WAAF-005-R-01. Long-term management (LTM) was conducted at WAAF-006-R-01.
- Future Plan of Action:** Complete CERCLA process at WAAF-011-R-02. LTM will continue at WAAF-005-R-01 and WAAF-006-R-01.

**WHEELER ARMY AIRFIELD**  
**Army Defense Environmental Restoration Program**  
**Military Munitions Response Program**

# MMRP Summary

**Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count:** 14/11

## Installation Site Types with Future and/or Underway Phases

- 2 Firing Range  
(WAAF-005-R-01, WAAF-011-R-02)
- 1 Small Arms Range  
(WAAF-006-R-01)

## Most Widespread Contaminants of Concern

Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC)

## Media of Concern

Soil

## Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY
WAAF-006-R-01	1940s Small Arms Range	FRA	REMOVAL	2013
WAAF-003-R-01	FIRING RANGE 2A	FRA	REMOVAL	2015
WAAF-005-R-01	Archery Range North	FRA	REMOVAL	2016
WAAF-011-R-03	WAAF Saddle Club Horse Stables	IRA	UXO CLEARANCE	2016

## Duration of MMRP

**Date of MMRP Inception** 200204

**Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC):** 201603/201603

**Date of MMRP completion including Long Term Management (LTM):** 204609

# MMRP Contamination Assessment

## Contamination Assessment Overview

The DoD established the MMRP under the Defense Environmental Restoration Program (DERP) to address DoD sites with MEC, including unexploded ordnance (UXO), discarded military munitions (DMM), and MC. MMRP-eligible sites include other than operational ranges where UXO, DMM, and MC are known or suspected. Properties classified as operational ranges are not eligible. Therefore, they are excluded from the MMRP.

The MMRP began in the early-2000s as a result of key drivers such as processes outlined in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP - 40 CFR 300) as authorized by the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 US Code 9605, as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. 99-499. The process began with three phases of range inventories. Phase I consisted of installations completing an initial data call. The USAEC managed the implementation of Phases II and III of the MMRP inventory. The Phase II inventory dealt with active and inactive range considerations. Phase III involved the closed, transferred, or transferring (CTT) range inventory conducted in 2002. Included were extensive mapping, data collection for upload to the Army range inventory database, an assessment on explosives safety risk using the risk assessment code methodology for CTT (ranges or sites with UXO or DMM identified in the inventory were included in this phase), and a determination of which sites on the inventory potentially qualify for the MMRP.

Eleven MMRP sites were initially identified at WAAF. In FY08, a site inspection (SI) was completed for eight munitions response sites (MRS) at the installation. The SI recommended no further action (NFA) at WAAF-001-R-01, WAAF-002-R-01, WAAF-004-R-01, and WAAF-007-R-01 for both MEC and MC.

An RA was conducted at WAAF-003-R-01 which removed all surface and subsurface MEC hazard and contamination and the site achieved RC. An RA has started at WAAF-005-R-01 to remove lead impacted soil and lead shot. Upon completion of the RA, LTM will be required. An RA was completed at WAAF-006-R-01 to remove lead impacted soil and LTM is underway.

In FY08, a Compliance-related Cleanup (CC) site (CCWAAF0004) was transferred to the MMRP as WAAF-009-R-01. An SI was conducted which included digital geophysics and an anomaly investigation. Based on the results of the SI, an NFA was achieved.

Site WAAF-010-R-01 was opened in FY09. It is suspected that bombing debris was buried within the site after the Japanese aerial attack in 1941. The site was previously site CCWAAF0005 under the CC database. An RI was completed in FY11 and NFA was achieved at the site.

An RI was conducted at WAAF-011-R-01 and NFA recommended. The NFA DD is being developed. A TCRA was completed at WAAF-011-R-03 and NFA recommended. The NFA DD is being developed. An RI was completed at WAAF-011-R-02. LUCs will be required at the site and will be documented in future documents which include FS/PP/DD.

## Cleanup Exit Strategy

Complete RA fieldwork and start LTM at WAAF-005-R-01; Complete NFA DD for WAAF-005-R-02 and WAAF-011-R-01; Continue LTM at WAAF-006-R-01; Complete FS/PP/DD for WAAF-011-R-03.

## MMRP Previous Studies

Year	Title	Author	Date
1983	IRP Phase I Records Search, Wheeler AFB, Oahu, HI	Hirota	MAR-1983
1986	Final IRP Phase II, Confirmation/Qualification Stage 1, Wheeler Army Airfield, Oahu, HI	Dames and Moore	JUL-1986
1990	Final IRP Stage II Technical Report, Hickam Air Force Base, HI, Volume I	Harding Lawson Associates	AUG-1990
1993	Final RI, Phase II Stage 3, Informal Technical Information Report, Wheeler AAF, Oahu, HI	Tomanaii-Tuggle and Bouthiller	APR-1993
2002	Final CTT Inventory Report	TechLaw	OCT-2002
2007	Final Historical Records Review	TLI Solutions, Inc.	JAN-2007
	Final Site Inspection Work Plan for Fort Shafter, Schofield Barracks, Makua MR, Wheeler AAF, and Waikakalaua Ammo Tunnels	TLI Solutions, Inc.	MAR-2007
2008	Final SI Report	TLI Solutions, Inc.	MAY-2008
	Addendum to Final SI Report	TLI Solutions, Inc.	OCT-2008
2009	Anomaly Resolution, Environmental Sampling and Analysis, Site-specific Final Report, Wheeler Army Airfield	Zapata Inc.	MAR-2009
2010	Preliminary Assessment/Site Inspection Wheeler Army Airfield Combat Aviation Brigade	CH2M Hill	SEP-2010
2011	Final Decision Document Proposed Barracks Location, WAAF, Oahu, Hawaii	Environmental Science International	FEB-2011
	Final Supplemental Historical Records Review for Practice Bomb Range MRS AEDB-R No. WAAF-011-R-01, WAAF, Oahu, Hawaii.	Bering Sea Environmental, LLC	APR-2011
	Final Remedial Investigation Report Wheeler Army Airfield Hawaii Phase II MMRP Oahu, Hawaii	Weston Solutions, Inc	JUN-2011
	Remedial Investigation Report WAAF Combat Aviation Brigade MRS, Oahu, Hawaii	CH2M Hill	NOV-2011
2012	Final Feasibility Study Wheeler Army Airfield 1940's Small Arms Range (WAAF-006-R-01) Hawaii Phase II MMRP Oahu, Hawaii	Weston Solutions, Inc	JAN-2012
	Final Supplemental Site Inspection Report for Wheeler Gulch Munitions Response Area AEDB-R No. WAAF-011-R-00. WAAF, Oahu, Hawaii	TLI Solutions, Inc.	MAR-2012
	Final Decision Document Wheeler Army Airfield Former 1940's Small Arms Range (WAAF-006-R-01) Hawaii Phase II MMRP, Oahu, Hawaii.	Weston Solutions, Inc.	JUL-2012

## MMRP Previous Studies

2012	Title	Author	Date
	Final Feasibility Study Data Collection Report Firing Range 2A (WAAF-003-R-01) and Archery Range (WAAF-005-R-01) MRS Wheeler Army Airfield, Oahu, Hawaii	CH2M Hill	SEP-2012
	Explosive Site Plan, RI, Amendment 1, 40mm Range and Practice Bombing Range	Weston Solutions, Inc.	OCT-2012
2013			
	Final Community Relations Plan, Hawaii Garrison MMRP, Wheeler Army Airfield , Oahu, Hawaii - Practice Bombing Range, 40mm Range and Combat Aviation Brigade	Weston Solutions, Inc.	FEB-2013
	Final Remedial Action Report, Former 1940's Small Arms Range (WAAF-006-R-01), Wheeler Army Airfield Hawaii Phase II MMRP, Oahu, Hawaii	Weston Solutions, Inc.	FEB-2013
	Final Feasibility Study Report, Firing Range 2A, Wheeler Army Airfield, Oahu, Hawaii	CH2M Hill	MAR-2013
	Final Supplemental Data Collection Work Plan, Skeet Range, Wheeler Army Airfield (WAAF-008-R-01)	CH2M Hill	MAR-2013
	Final Feasibility Study Report, Archery Range, Wheeler Army Airfield (WAAF-005-R-01)	CH2M Hill	APR-2013
	Final Remedial Investigation Work Plan Hawaii Garrison MMRP, Wheeler Army Airfield, Oahu, Hawaii, Practice Bombing Range (WAAF-011-R-01) & 40mm (WAAF-011-R-02)	Weston Solutions, Inc.	MAY-2013
	Final Decision Document, Combat Aviation Brigade, Wheeler Army Airfield, Oahu, Hawaii	Weston Solution, Inc.	MAY-2013
	Final Land Use Control Implementation Plan, Former 1940's Small Arms Range (WAAF-006-R-01), Wheeler Army Airfield, Oahu, Hawaii	Weston Solutions, Inc.	JUN-2013
	Final Remedial Action Work Plan, Firing Range 2A (WAAF-003-R-01), Wheeler Army Airfield, Oahu, Hawaii	CH2M Hill	AUG-2013
	Revision 0, Field Implementation Plan, Remedial Action, Firing Range 2A (WAAF-003-R-01), Wheeler Army Airfield, Oahu, Hawaii	CH2M Hill	AUG-2013
	Final Decision Document, Firing Range 2A (WAAF-003-R-01), Wheeler Army Airfield, Oahu, Hawaii	CH2M Hill	SEP-2013
	Final Decision Document Archery Range North (WAAF-005-R-01), Wheeler Army Airfield, Oahu, Hawaii	CH2M Hill	SEP-2013
	Final Operational Range Assessment Program, Phase I Qualitative Assessment Report Addendum, Wheeler Army Airfield	EA Engineering, Science & Technology, Inc.	NOV-2013
	Final Remedial Action Work Plan, Archery Range North (WAAF-005-R-01), Wheeler Army Airfield, Oahu, Hawaii	CH2M Hill	DEC-2013
	Final Annual Review Report for Long-Term Monitoring, Former 1940's Small Arms Range (WAAF-006-R-01), Wheeler Army Airfield, Oahu, Hawaii	Weston Solutions, Inc.	DEC-2013
2014			
	Revision 0, Fieldwork Implementation Plan for Remedial Action, Archery Range North (WAAF-005-R-01), Wheeler Army Airfield, Oahu, Hawaii	CH2M Hill	JAN-2014
	Final RI Report, 40mm (WAAF-011-R-02) MRS, Wheeler Army Airfield, Oahu, Hawaii	Weston Solutions, Inc.	APR-2014

## MMRP Previous Studies

2014	Title	Author	Date
	Revision 1, Field Implementation Plan, Remedial Action, Firing Range 2A (WAAF-003-R-01), Wheeler Army Airfield, Oahu, Hawaii	CH2M Hill	APR-2014
	Project Management Plan, TCRA, Wheeler Saddle Club Horse Stables (WAAF-011-R-03), Wheeler Army Airfield, Oahu, Hawaii	Dawson-Zapata, JV, LLC	JUN-2014
	Final Work Plan, TCRA, Wheeler Saddle Club Horse Stables (WAAF-011-R-03), Wheeler Army Airfield, Oahu, Hawaii	Dawson-Zapata JV, LLC	JUL-2014
	Final Decision Document, Skeet Range MRS (WAAF-008-R-01), Wheeler Army Airfield, Oahu, Hawaii	CH2M Hill	SEP-2014
	Final Remedial Investigation Report, Practice Bombing Range MRS (WAAF-011-R-01), Wheeler Army Airfield, Oahu, Hawaii	Weston Solutions, Inc.	DEC-2014
	Revision 1, Fieldwork Implementation Plan Remedial Action, Archery Range North MRS (WAAF-005-R-01), Wheeler Army Airfield, Oahu, Hawaii	CH2M Hill	DEC-2014
	Final Remedial Investigation Practice Bombing Range	Weston Solutions	DEC-2014
2015	Final Remedial Action Completion Report, Firing Range 2A (WAAF-003-R-01), Wheeler Army Airfield, Oahu, Hawaii	CH2M Hill	FEB-2015



**WHEELER ARMY AIRFIELD**  
**Military Munitions Response Program**  
**Site Descriptions**

# Site ID: WAAF-005-R-01

## Site Name: Archery Range North

### STATUS

**Regulatory Driver:** CERCLA

**MRSPP Score:** 04

Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern: Soil

Phases	Start	End
PA.....	200204.....	200305
SI.....	200604.....	200806
RI/FS.....	200906.....	201310
RD.....	201106.....	201312
RA(C).....	201106.....	201512
LTM.....	201512.....	204609

**RIP Date:** N/A

**RC Date:** 201512

### SITE DESCRIPTION

Archery Range North is comprised of approximately 4.0 acres of land located along an auxiliary runway in the southwestern portion of WAAF. The site consists of a grassy, open lot bounded to the south and southeast by bluffs that are approximately 60 to 80 feet high. The site was used as a small arms firing range by the Air Force since the 1950s and was converted to an archery range by the Army in 2003. The range is currently closed.

An SI was completed at the site in May 2008. Munitions debris (MD) associated with small arms and 40 millimeter (mm) practice grenades were observed within and beyond the southern boundary of the site. MEC were not identified during the investigation. Soil samples contained MC (metals only) above the US Environmental Protection Agency (USEPA) region 9 regional screening levels (RSL). Further investigation for MEC and MC was recommended based on the presence of 40mm practice grenades and MC in site soils.

An RI was completed which included 29.1 line miles of instrument aided visual survey, investigative intrusive activities, and increment sampling (IS). MEC was not identified during the RI fieldwork; however several items of MD were found. Soil samples were collected from the site using 14 decision units (DU). Analytical results showed antimony, arsenic, copper, lead, and manganese to be present in surface soil. The current land use of the site is commercial/industrial. The 7.75 Munitions Response (MR) site acreage was reduced to 5.15 acres by excluding the southeastern portion containing MD and adding it to the MR site WAAF-011-R-01. The archery range site was recommended for NFA for MEC.

An additional data collection was conducted to improve the quality of remedial alternatives. Surface soil sampling for x-ray fluorescence (XRF) correlation was performed. Results demonstrate that the XRF device would be an efficient tool to guide excavation. Subsurface soil sampling for treatability testing was also performed at the site. Stabilization was successful in reducing the concentration below the hazardous waste action level but does not reduce bioavailability.

The FS was completed in April 2013. It was recommended that the site be subdivided into two separate MRSs, Archery Range North (in need of response actions to address concentrations in soil above preliminary remediation goals (PRG) and Archery Range South (eligible for unrestricted land use due to below residential PRGs and recommended for NFA). The recommended remedial alternative for Archery Range North includes: excavation, ex situ treatment, on-site reuse, and on-island disposal of soil; and LUCs. A PP and DD to formally document and present the alternative to the public was completed in October 2013. The RD was completed in December 2013.

RA fieldwork and RC was achieved in December 2015. However, concentrations of lead in soil above unrestricted land use action levels remain at the site, therefore, LUCs will be implemented. LTM is underway and consists of operation & maintenance (O&M) and five-year reviews and is funded under a PBA contract which extends to the end of FY19.

**Site ID: WAAF-005-R-01**  
**Site Name: Archery Range North**

## **CLEANUP/EXIT STRATEGY**

RA fieldwork is underway, but delayed due to MEC finds at the MRS. Following the completion of the RA, LTM is anticipated.

**Site ID: WAAF-006-R-01**  
**Site Name: 1940s Small Arms Range**

**STATUS**

**Regulatory Driver:** CERCLA  
**MRSPP Score:** 05  
**Contaminants of Concern:** Munitions constituents (MC)  
**Media of Concern:** Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
PA.....	200204.....	200305
SI.....	200604.....	200806
RI/FS.....	200906.....	201206
RD.....	201103.....	201209
RA(C).....	201103.....	201301
LTM.....	201301.....	204609
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201301	

**SITE DESCRIPTION**

The 1940s Small Arms Range is a 0.55-acre site completely encompassed by WAAF-008-R-01, Skeet Range, located 1,400 feet south of the airplane parking lot and motor pool area on WAAF. The site was identified on a 1940s aerial photograph; however limited information about duration and use of the range exists. An SI was completed in May 2008. No MEC was found during visual surveys; however, MD including 7.62mm casings, and MC (lead and antimony) were found in soils above USEPA Region 9 RSLs. Further investigation of MC was recommended for the site.

The current use of the site is commercial/industrial.

The RA the 1940s Small Arms Range was conducted in FY12 and was executed as recorded in the final DD. The remedial action included excavation of lead contaminated soil exceeding the recreational land use action level, stabilization of metals in excavated soil using ECOBOND Chemical Stabilization Technology, disposal of soil in an off-site disposal facility, installation of a soil cap, and LUCs. A land use control implementation plan (LUCIP) was completed in FY13.

A PBA contract was awarded to reach RC by January 2013. RC was achieved in FY13. Due to remaining contamination exceeding unrestricted use environmental action levels, LTM and five-year reviews will be conducted to ensure that the LUCs continue to be protective of human health and the environment.

Under the same PBA contract, the first year LTM was completed under the optional contract line item numbers (CLIN) 2004EE in FY13. The PBA contract expired in December 2014. LTM at the site will be conducted in house until a contract can be awarded. Maintenance of the LUC at this site will fall under a PBA contract that is anticipated to be awarded in FY16.

**CLEANUP/EXIT STRATEGY**

LTM will continue at this MRS.

**Site ID: WAAF-011-R-02**  
**Site Name: Wheeler Gulch 40mm Range**

**STATUS**

**Regulatory Driver:** CERCLA  
**MRSPP Score:** 03  
Contaminants of Concern: Munitions and explosives of concern (MEC)  
Media of Concern: Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
PA.....	201005.....	201008
SI.....	201009.....	201203
RI/FS.....	201201.....	201412
LTM.....	201608.....	204606
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201603	

**SITE DESCRIPTION**

SI field activities conducted at the Wheeler Gulch Munitions Response Area (MRA) included a visual survey of the site and the collection of 20 surface soil/sediment samples.

At the 40mm MRS, the field team encountered fragments of 40mm practice grenades and .50 caliber rounds. Evidence of military activity including target stands and target drums was identified within the MRS boundary. No explosive compounds were detected above maximum detection limits ((MDL)at the 40mm range MRS. The SI recommended an RI/FS at this MRS.

The RI/FS was funded in FY12. The RI Work Plan was completed in June 2013, and the RI/FS is now complete.

A contract will be awarded in FY16 for this site to the complete the PP, DD and LUCIP by FY17. The site is expected to achieve RC/RIP with LTM which will begin in FY18.

**CLEANUP/EXIT STRATEGY**

The PP/DD will be completed in FY16 and LTM will be required.

## Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
WAAF-001-R-01	SMALL ARMS RANGE 1	200806	The Final SI Report (2008) recommended NFA at this site for both MEC and MC.
WAAF-002-R-01	SMALL ARMS RANGE 1 (TD)	200806	The Final SI Report (2008) recommended NFA at this site because the off-post location of this range does not exist according to the HRR.
WAAF-003-R-01	FIRING RANGE 2A	201502	
WAAF-004-R-01	FIRING RANGE 2B	200806	The Final SI Report (2008) recommended NFA at this site for both MEC and MC.
WAAF-005-R-02	Archery Range South	201602	
WAAF-007-R-01	Pursuit Gunnery 1,000"Range	200806	The Final SI Report (2008) recommended NFA at this site for both MEC and MC.
WAAF-008-R-01	Skeet Range	201501	Final DD Skeet Range MRS, Sep 2014
WAAF-009-R-01	WAAF PH6B	201108	Final Decision Document, Proposed Barracks Location, Wheeler Army Airfield, Oahu, Hawaii
WAAF-010-R-01	WAAF CAB	201309	
WAAF-011-R-01	WAAF Practice Bombing Range	201503	
WAAF-011-R-03	WAAF Saddle Club Horse Stables	201512	

# MMRP Schedule

**Date of MMRP Inception** 200204

## Past Phase Completion Milestones

### 2003

PA (WAAF-001-R-01 - SMALL ARMS RANGE 1, WAAF-002-R-01 - SMALL ARMS RANGE 1 (TD), WAAF-003-R-01 - FIRING RANGE 2A, WAAF-004-R-01 - FIRING RANGE 2B, WAAF-005-R-01 - Archery Range North, WAAF-005-R-02 - Archery Range South, WAAF-006-R-01 - 1940s Small Arms Range, WAAF-007-R-01 - Pursuit Gunnery 1,000"Range, WAAF-008-R-01 - Skeet Range)

### 2008

PA (WAAF-009-R-01 - WAAF PH6B, WAAF-010-R-01 - WAAF CAB)  
 SI (WAAF-001-R-01 - SMALL ARMS RANGE 1, WAAF-002-R-01 - SMALL ARMS RANGE 1 (TD), WAAF-003-R-01 - FIRING RANGE 2A, WAAF-004-R-01 - FIRING RANGE 2B, WAAF-005-R-01 - Archery Range North, WAAF-005-R-02 - Archery Range South, WAAF-006-R-01 - 1940s Small Arms Range, WAAF-007-R-01 - Pursuit Gunnery 1,000"Range, WAAF-008-R-01 - Skeet Range)

### 2010

PA (WAAF-011-R-01 - WAAF Practice Bombing Range, WAAF-011-R-02 - Wheeler Gulch 40mm Range)

### 2011

SI (WAAF-009-R-01 - WAAF PH6B, WAAF-010-R-01 - WAAF CAB)

### 2012

RI/FS (WAAF-006-R-01 - 1940s Small Arms Range)  
 SI (WAAF-011-R-02 - Wheeler Gulch 40mm Range)  
 RD (WAAF-006-R-01 - 1940s Small Arms Range)

### 2013

RA(C) (WAAF-006-R-01 - 1940s Small Arms Range)  
 PA (WAAF-011-R-03 - WAAF Saddle Club Horse Stables)  
 SI (WAAF-011-R-01 - WAAF Practice Bombing Range, WAAF-011-R-03 - WAAF Saddle Club Horse Stables)  
 RI/FS (WAAF-010-R-01 - WAAF CAB)

### 2014

RD (WAAF-003-R-01 - FIRING RANGE 2A, WAAF-005-R-01 - Archery Range North)  
 RI/FS (WAAF-003-R-01 - FIRING RANGE 2A, WAAF-005-R-01 - Archery Range North)

### 2015

RA(C) (WAAF-003-R-01 - FIRING RANGE 2A)  
 RI/FS (WAAF-008-R-01 - Skeet Range, WAAF-011-R-01 - WAAF Practice Bombing Range, WAAF-011-R-02 - Wheeler Gulch 40mm Range)

## Additional Past Phase Completion Milestones

PA - 200305

## Projected Phase Completion Milestones

See attached schedule

## Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

Site ID	Site Name	ROD/DD Title	ROD/DD Date
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**Final RA(C) Completion Date:** 201512

**Schedule for Next Five-Year Review:** 2017

**Estimated Completion Date of MMRP at Installation (including LTM phase):** 204609

## WHEELER ARMY AIRFIELD MMRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
WAAF-005-R-01	Archery Range North	LTM						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
WAAF-006-R-01	1940s Small Arms Range	LTM						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
WAAF-011-R-02	Wheeler Gulch 40mm Range	LTM						



## Community Involvement

**Technical Review Committee (TRC):** None

**Community Involvement Plan (Date Published):** 201402

**Restoration Advisory Board (RAB):** No

**Reason Not Established:** The community has expressed no sufficient, sustained interest in a RAB.

**Community Interest Solicited on:** 201507

**Efforts Taken to Determine Interest**

In July 2015, the installation solicited interest in establishing a RAB. A public notice was published in the Honolulu Advertiser on July 20, 2015.

**Results**

The installation received one response to the solicitation.

**Follow-up Procedures**

The installation will solicit again in FY17.

**Additional Community Involvement Information**

A community involvement plan was finalized in 2014.

**Administrative Record is located at**

Department of Public Works  
948 Santos Dumont Ave., Bldg. 105  
Wheeler AAF, Schofield Barracks, HI 96857-5013  
(808) 656-2419

**Information Repository is located at**

Wahiawa Public Library  
820 California Avenue  
Wahiawa, HI 96786  
(808) 622-6345

Mililani Public Library  
95-450 Makaimoimo Street  
Mililani, HI 96789  
(808) 627-7470

**Current Technical Assistance for Public Participation (TAPP):**N/A

**TAPP Title:** N/A

**Potential TAPP:** N/A

