FINAL

January 2013

Cultural Resource Protection Plan

Non-Time Critical Removal Action (NTCRA)
Operable Unit B-2 (OU B-2)
Various Remedial Action Areas

Former Naval Air Facility

Adak, Alaska

Department of the Navy
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FINAL Cultural Resource Protection Plan
NTCRA at OU B-2 – January 2013

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FINAL

CULTURAL RESOURCE PROTECTION PLAN

NON-TIME CRITICAL REMOVAL ACTION FOR THE OPERABLE UNIT B-2 (OU B-2) VARIOUS REMEDIAL ACTION AREAS

FORMER ADAK NAVAL AIR FACILITY ADAK, ALASKA

January 2013

Prepared For:

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Prepared Under:

Adak OU B-2, NTCRA Munitions Clearance
Contract Number N44255-12-C-3003

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Non-Time Critical Removal Action

for the

Operable Unit B-2 Various Remedial Action Areas
Former Adak Naval Air Facility
Adak, Alaska

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ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
ADEC	Alaska Department of Environmental Conservation
AHRS	Alaska Heritage Resources Survey
AMNWR	Alaska Maritime National Wildlife Refuge
AOC	area of concern
bgs	below ground surface
BIP	blow-in-place
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CRPP	Cultural Resource Protection Plan
DGM	digital geophysical mapping
DQO	data quality objective
FFA	Federal Facilities Agreement
GPS	Global Positioning System
GSV	geophysical system verification
IVS	instrument verification strip
MD	munitions debris
MDAS	material documented as safe
MDEH	material documented as an explosive hazard
MEC	munitions and explosives of concern
MPPEH	material potentially presenting an explosive hazard
NAF	Naval Air Facility
NAVFAC	Naval Facilities Engineering Command
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NTCRA	non-time critical removal action
OU	operable unit
RAA	Remedial Action Area
SAERA	State-Adak Environmental Restoration Agreement
SHPO	State Historic Preservation Office
TAC	The Aleut Corporation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UXO	unexploded ordnance

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1.0 INTRODUCTION

The Naval Facilities Engineering Command (NAVFAC) Northwest is conducting a non-time critical removal action (NTCRA) for munitions and explosives of concern (MEC) in selected Remedial Action Areas (RAAs) within Operable Unit (OU) B-2 at the former Naval Air Facility (NAF) Adak, Adak, Alaska. NTCRA activities consist of detection, removal, screening, and disposition of MEC and material potentially presenting an explosive hazard (MPPEH) (USA Environmental, Inc. 2012).

After a cultural resources survey was conducted within OU B-2 in September 2011, six resources were considered eligible for listing in the National Register of Historic Places (NRHP); these six resources are considered to be contributing elements to the WWII-era Army Base and Adak Naval Operating Base National Historic Landmark and the Adak Island Cultural Landscape Historic District (URS Group, Inc. 2012). The NTCRA activities will result in increased access and ground-disturbing actions which would adversely affect five of the six historic properties (i.e., cultural resources listed in or considered eligible for listing in the NRHP).

This cultural resources protection plan (CRPP) is designed to assist NAVFAC in the protection of five of the six historic properties during NTCRA activities within OU B-2 in accordance with Section 106 of the National Historic Preservation Act (NHPA). This plan is organized as follows:

- Section 2 of this plan presents the cultural context.
- Section 3 describes the NTCRA activities and their potential effects on historic properties.
- Section 4 describes five historic properties within the RAAs and appropriate protective measures.
- Section 5 provides a summary and recommendations.
- Section 6 provides references cited in the document.

1.1 PROJECT DESCRIPTION

The former Adak Naval Complex is located on Adak Island, which is approximately 1,300 air miles southwest of Anchorage, Alaska, in the Aleutian chain (Figure 1-1). The Navy base occupied the northern half of the island and closed operationally on March 31, 1997. The U.S. Fish and Wildlife Service (USFWS) manages the southern portion of the island (117,265 acres), which is a designated wilderness within the Alaska Maritime National Wildlife Refuge System. The developed portion of Adak is limited to the northern portion of the island. The former Adak Naval Complex had two main developed areas: Naval Air Facility (NAF) Adak and Naval Security Group Activity. NAF Adak was located in the downtown area of Adak, and Naval Security Group Activity was located approximately 5 miles north of downtown at the northwestern corner of Clam Lagoon.

1.2 PROJECT AREA HISTORY

Military presence on Adak began in 1942 with its occupation as a staging area to mount a counter-offensive to dislodge the Japanese from Attu and Kiska Islands [U.S. Navy, U.S. Environmental Protection Agency (USEPA), and Alaska Department of Environmental Conservation (ADEC) 2000]. Originally designated Mitchell Field, by the summer of 1943, approximately 100,000 U.S. Army personnel and 100 ships were stationed on Adak. In 1950, the U.S. Air Force took control of the airfield, renaming it Davis Air Force Base. The Navy presence at Adak was officially recognized by Public Land Order 1949, dated August 19, 1959, which withdrew the northern portion of Adak Island, approximately 76,800 acres, for use by the Navy for military purposes. The Navy also used the base to conduct a variety of Cold War-era military activities. NAF Adak was on the list of Department of Defense installations recommended for closure in 1995, and that recommendation became final when Congress did not disapprove the list. The active Navy mission ceased, and the base operationally closed on March 31, 1997, through the Base Realignment and Closure (BRAC) process.

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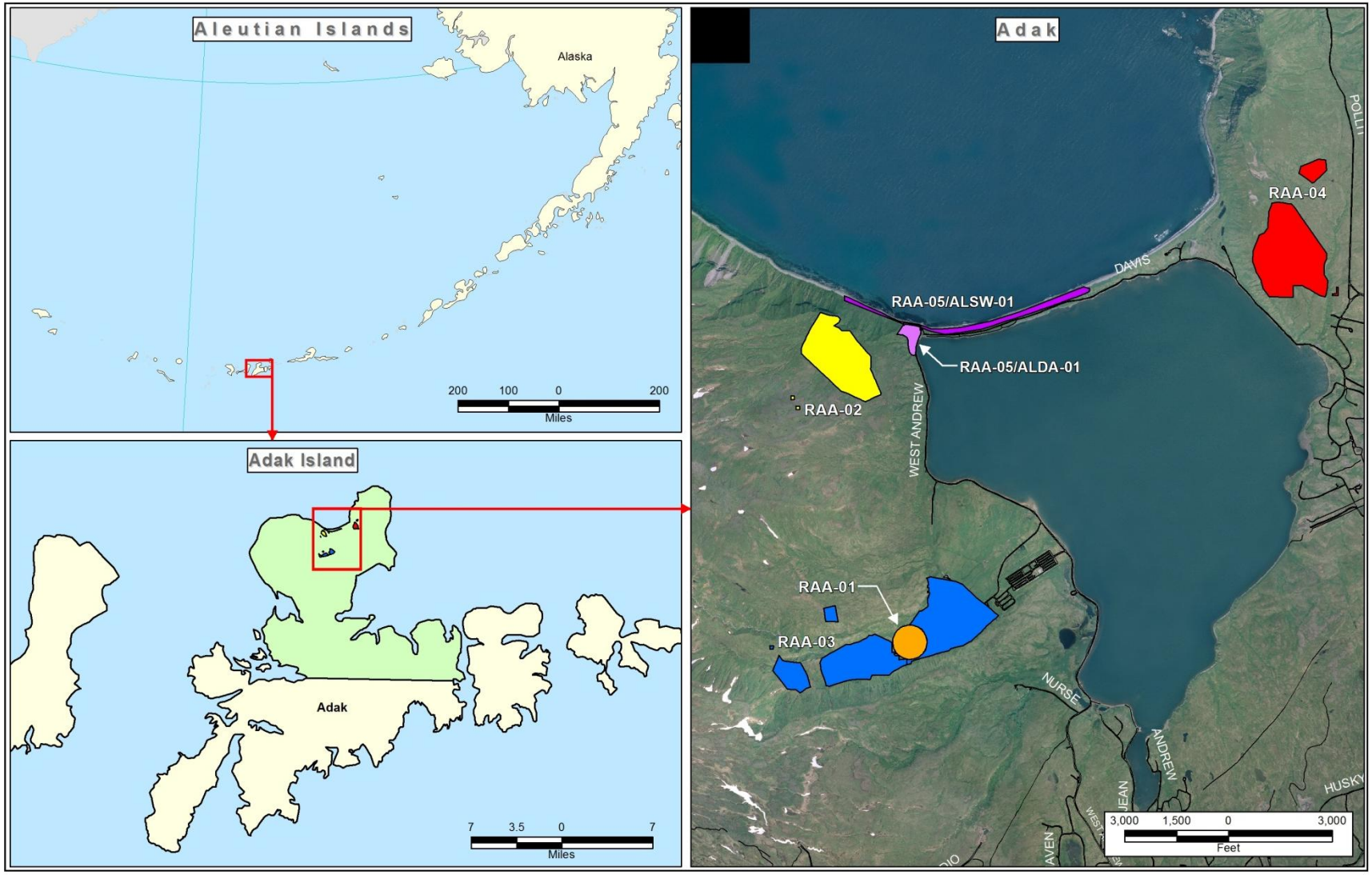

Figure 1-1: Adak Island Regional Location Map

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1.3 REMEDIATION HISTORY

In September 2000, the federal government entered into a land transfer agreement with The Aleut Corporation (TAC), a Native corporation, as documented in the Agreement Concerning the Conveyance of Property at the Adak Naval Complex, Adak, Alaska. This agreement set forth the terms and conditions for the conveyance of approximately 47,000 acres of the former Adak Naval Complex property to TAC. The actual conveyance or transfer of property occurred on March 17, 2004. The Navy retained control of 5,600 acres of land, known as Parcel 4 (Figure 1-2). The long-term goal for Parcel 4 is to relinquish the area to the USFWS for incorporation into the Alaska Maritime National Wildlife Refuge (AMNWR) System. At that time, it will have a designated wildlife refuge, subsistence, and recreation land use.

Investigation and cleanup activities at the former Adak Naval Complex have been ongoing since 1986. Adak was initially proposed for placement on the National Priorities List in 1992 and was officially listed in 1994. The Navy, as lead agency, entered into a three-party Federal Facilities Agreement (FFA) with the USEPA and the ADEC, as well as a two-party State-Adak Environmental Restoration Agreement (SAERA) with ADEC to facilitate investigation and cleanup activities.

In May 1997, the Navy and ADEC agreed to integrate the cleanup-decision process for petroleum with the cleanup-decision process being conducted for hazardous-substance-release sites under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Adak was divided into Operable Unit (OU) A and OU B in 1998 for technical and administrative purposes. OU B includes munitions and explosives of concern (MEC) sites; OU B was further divided into OU B-1 and OU B-2 to accommodate land transfer under the BRAC program. The OU B-1 Record of Decision was signed in December 2001. Thirty-nine MEC sites currently comprise OU B-2, and all of the OU B-2 sites are located within the boundaries of Parcel 4. Of the 39 sites, 15 sites met the requirements for no further action (U.S. Navy 2000) and 24 sites were evaluated further in the remedial investigation and feasibility study (U.S. Navy 2012).

The 24 sites were divided into four distinct categories of sites in the feasibility study. Three of the categories consist of those OU B-2 sites that require either additional investigation or limited actions only (institutional controls). The fourth category consists of 11 OU B-2 sites that require active remedies to address explosive hazards incompatible with the designated future land use. The areas where active remedies are planned are designated as RAAs. Five RAAs were created and the 11 sites have been grouped into these RAAs based on the expected types and depths of MEC. In most cases the entire OU B-2 site is not included within the boundaries of the RAA, because only the areas of a site where active remedies are planned are included within the RAA. All of the RAAs are located within the boundary of the current military reservation known as Land Transfer Parcel 4 (Figure 1-2). The five RAAs and the 11 OU B-2 sites are:

- RAA-01: OB/OD-01
- RAA-02: C1-01
- RAA-03: HG-01, RR-01, MI-01, MI-02, and MI-03
- RAA-04: SA93-01 and SA93-03
- RAA-05: ALDA-01 and ALSW-01.

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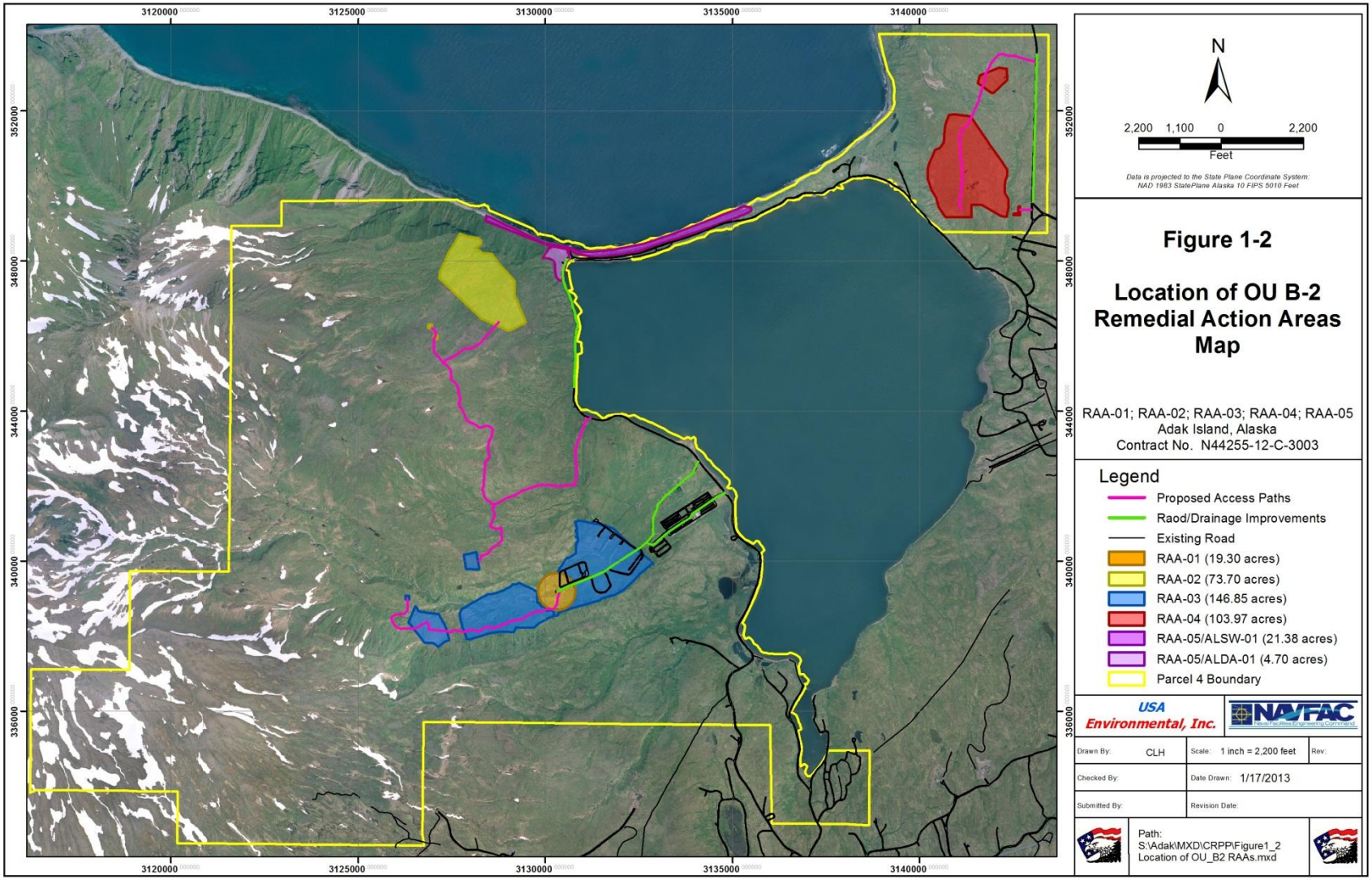

Figure 1-2: Location of OU B-2 RAAs, Adak Island, AK

Proposed NTCRA activities for each RAA are presented in Table 1-1.

Table 1-1: Proposed NTCRA Activities in OU B-2

Remedial Action Area	Area of Concern (AOC)	Proposed Activity	Acres (approx.)
RAA-01	OB/OD-01	Instrument assisted surface clearance [down to 6-in below ground surface (bgs)], vegetation removal, digital geophysical mapping (DGM), target selection, target reacquisition, and intrusive investigation of targets to a minimum depth of 2-ft, with the option to further investigate deeper targets if required by the Navy.	19.3
RAA-02	C1-01	Surface clearance, vegetation removal, DGM survey, reacquisition of select targets, removal of targets to depth of 2-ft, with the option to further investigate deeper targets if required by the Navy.	73.70
RAA-03	HG-1, RR-01, MI-01, MI-02 and MI-03	Surface clearance, vegetation removal, DGM survey, reacquisition of select targets, removal of targets to depth of 2-ft, with the option to further investigate deeper targets if required by the Navy.	146.85
RAA-04	SA93-01 and SA93-03	Surface clearance, vegetation removal, DGM survey, reacquisition of select targets, removal of targets to depth of 4-ft, with the option to further investigate deeper targets if required by the Navy.	109.97
RAA-05	ALDA-01	Surface clearance, vegetation removal, mechanically assisted intrusive investigation of targets to a minimum depth of 4-ft, with the option to further investigate deeper targets if required by the Navy.	4.7
RAA-05*	ALSW-01	Monthly surface sweeps (Surface MPPEH removal)	21.38

* RAA-05/ALSW-01 is not part of the NTCRA. However, monthly surface sweeps will be conducted on the seawall portions of RAA-05.

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2.0 CULTURAL CONTEXT

The following information is excerpted from the *Final OU B-2 Cultural Resources Survey Report, Former Adak Naval Complex, Adak Island, Alaska* (URS Group, Inc. 2012).

2.1 HISTORY OF THE ADAK NAVAL COMPLEX

The United States declared war on Japan in December 1941, following the attack on Pearl Harbor. In June 1942, the Japanese attacked Dutch Harbor, on the Aleutian Island of Unalaska. Following the attack, the Japanese forces retreated west and occupied the islands of Kiska and Attu, at the western end of the Aleutian chain. Because of its strategic position, Adak was selected by the military as a base of operations to counteract the invasion. Mitchell Field, the first naval facility on the island, was established in 1943. The U.S. Army established a base at the same time and by the summer of 1943, 100,000 soldiers and 100 ships were stationed at Adak. After WWII, the military presence on the island was dramatically reduced. The U.S. Army controlled operations in the downtown area until 1950, when the U.S. Air Force took control of the airfield and renamed it Davis Air Force Base. The Navy conducted seaplane operations in Andrew Lake (as well as on Mitchell Field) from 1943 to 1959, when all operations were moved to Davis Air Force Base. In August 1959, Public Land Order 1949 designated the northern portion of Adak for use by the Navy for military purposes. The OU B-2 areas, like other MEC areas on Adak, were used primarily during and just after WWII for military training purposes (for example, as firing ranges and target areas). Some areas dedicated to small-arms training and MEC disposal were used until the late 1980s, and others became dormant soon after the war. Other areas of Adak were dedicated to infrastructure and support of military operations.

2.2 ADAK ARMY BASE AND ADAK NAVAL OPERATING BASE NATIONAL HISTORIC LANDMARK

The Adak Army Base and Adak Naval Operating Base National Historic Landmark was officially designated as a landmark in February 1987, and at the same time, the landmark was placed within the NRHP. The landmark was listed as a site of historical and cultural value associated with Adak's role as a WWII military base (Thompson 1984). Although no formal boundary was delineated for the landmark, a set of Universal Transverse Mercator coordinates was provided to mark the location of the landmark. Eighteen contributing elements of the landmark were identified, and among these are Andrew Lake, Clam Lagoon, and the Andrew Bay Infantry Outpost (Thompson 1984).

2.3 ADAK WORLD WAR II CULTURAL LANDSCAPE HISTORIC DISTRICT

Two WWII-era historic resources at Adak have been determined eligible for listing in the NRHP, including the Old Chapel and what has been named the Adak Island Cultural Landscape Historic District (U.S. Navy 1996). The Cultural Landscape Historic District is identified as a defined area of the Army and Navy bases associated with events important to the broad pattern of U.S. history (Criterion A) that embodies distinctive characteristics of U.S. military construction, style, and technology (Criterion C). According to Birnbaum (1994), there are four basic types of cultural landscapes, including historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes, of which none is mutually exclusive. The Adak Island Cultural Landscape Historic District includes both designed landscapes and historic sites. Significant landscape features associated with the Cultural Landscape Historic District include abandoned bunkers and Quonset huts, depressions formed by the removal of Quonset huts, roads, dams, waterlines, and other ruins. Also included in the proposed Cultural Landscape Historic District are Clam Lagoon and Andrew Lake, two water bodies important for their use as water runways for naval amphibious patrol aircraft (U.S. Navy 1996).

2.4 CULTURAL RESOURCES WITHIN OU B-2

A cultural resources survey was conducted within OU B-2 in September 2011 (URS Group, Inc. 2012). Areas that received an intensive cultural resources survey (10-m pedestrian transects) included OB/OD-01, the southern part of RR-01, ALDA-01, and ALSW-01, while HG-01 and the northern part of RR-01 were examined with more widely spaced 30-m transects. The survey effort resulted in the

identification and recordation of 10 cultural resources, including 7 historic sites containing landscape features and 3 historic isolates. Other than the newly discovered resources, no previously recorded cultural resource occurs within the OU B-2 project area. No prehistoric cultural material was encountered.

Of the 10 newly recorded cultural resources (historic sites and historic isolates), 8 are considered to be associated with the WWII occupation of the island (Table 2-1). These eight resources comprise elements of the Adak National Historic Landmark and form part of the Adak Island Cultural Landscape Historic District. However, not all eight resources are considered contributing elements to the Adak National Historic Landmark and the Adak Island Cultural Landscape Historic District. These eight WWII-related resources include an underground bunker and four Quonset hut depressions [Alaska Heritage Resources Survey (AHRS) # ADK-00296), an underground bunker (AHRS # ADK-00297), two diversion dams (AHRS # ADK-00299), three collapsed wooden structures and earthen berm (AHRS # ADK-00300), a debris pile (AHRS # ADK-00301), an abandoned bridge (AHRS # ADK-00302), a rifle range (AHRS # ADK-00303), and a redwood water pipe (AHRS # ADK-00305)]. The remaining two resources, a yarder (AHRS # ADK-00304) and a hand grenade range containing protective walls, bunkers, and a magazine (AHRS # ADK-00298), appear to relate to Cold War activities on the island, rather than to WWII activities.

Evaluation of the identified cultural resources in terms of historic significance, integrity, and NRHP eligibility indicates that six of the seven recorded historic sites are eligible for inclusion in the NRHP (Table 2-1), based on their association with events important to the broad pattern of U.S. history (Criterion A). These six historic sites are also NRHP eligible, based on their direct association with the WWII-era Adak National Historic Landmark and the Adak Island Cultural Landscape Historic District pending concurrence from the Alaska State Historic Preservation Office (SHPO). While these features may not be unique on an individual basis, the number and integrity of these features clearly contributes to the characteristics of the Adak historic landscape. Although the structures themselves are no longer standing, the patterned distribution of depressions, extant road system, and other archaeological features remain largely intact, while few modern intrusive features have been added to the landscape. As a result, aspects of integrity, such as context, association, and setting, remain undisturbed.

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Table 2-1: Cultural Resources Located within OU B-2

OU B-2 Location RAA/ AOC	Temporary Field Designation	Alaska SHPO site number	Type	Description	Time Period	Individually Eligible	Adak Army Base and Adak Naval Operating Base National Historic Landmark	Adak WWII Cultural Landscape Historic District
RAA-05/ ALDA-01	ALDA-01-01	AHRS # ADK-00296	Site	Underground bunker and four Quonset hut depressions	WWII	Eligible	Contributing element	Contributing element
RAA-05/ ALSW-01	ALSW-01-01	AHRS # ADK-00297	Site	Underground bunker	WWII	Eligible	Contributing element	Contributing element
RAA-03/ MI-03/NA	MI-03-01	AHRS # ADK-00299	Site	Two diversion dams	WWII	Eligible	Contributing element	Contributing element
RAA-01/ OB/OD-01	OB/OD-01-01	AHRS # ADK-00300	Site	Three collapsed wood structures and an earthen berm	WWII	Eligible	Contributing element	Contributing element
RAA-01/ OB/OD-01	OB/OD-01-03	AHRS # ADK-00302	Site	Abandoned bridge	WWII	Eligible	Contributing element	Contributing element
RAA-03/ RR-01	RR-01-01	AHRS # ADK-00303	Site	Rifle range complex	WWII	Eligible	Contributing element	Contributing element
RAA-03/HG-01	HG-01-01	AHRS # ADK-00298	Site	Hand Grenade Range	Cold War	Not eligible	n/a	n/a
RAA-01/ OB/OD-01	OB/OD-01-02	AHRS # ADK-00301	Isolate	Debris Scatter	WWII	Not eligible	n/a	n/a
RAA-03/ RR-01	RR-01-02	AHRS # ADK-00304	Isolate	Logging Yarder	Cold War	Not eligible	n/a	n/a
RAA-03/ RR-01	RR-01-03	AHRS # ADK-00305	Isolate	Redwood Water Pipeline fragments	WWII	Not eligible	n/a	n/a

AHRS=Alaska Heritage Resources Survey

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3.0 NTCRA ACTIVITIES AND POTENTIAL EFFECTS

The technical approach to the NTCRA at the OU B-2 RAAs follows a standard MEC remedial approach of prepare-surface clear-map-reacquire-investigate-dispose and restore model including managing the resulting MEC, MPPEH, material documented as safe (MDAS), or other anomaly source materials in compliance with Federal, state and local requirements. Based on Table 1-1, the following types of activities will be conducted within the 376 acres comprising RAA-01, RAA-02, RAA-03, RAA-04, RAA-05/ALDA-01, and RAA-05/ALSW-01 (USA Environmental, Inc. 2012). NTCRA activities consist of detection (visual inspection and remote sensing using hand held metal detectors and DGM systems), removal (manual and mechanical excavation), screening (manual), and disposition [blow-in-place open detonation, consolidation and open detonation, thermal treatment of munitions debris (MD), and MD and metal scrap processing, inspection, certification and disposal] (USA Environmental, Inc. 2012).

3.1 DETECTION

In preparation for detection activities, limited vegetation removal may be conducted. Detection activities consist of visual inspection using metal detectors, and remote sensing using DGM systems.

3.1.1 Vegetation Removal

The RAAs may require some level of brush clearance (grass cutting) before MEC-related activities can be performed. The primary reason for cutting the grass is to provide better visibility of surface MEC and/or to prevent the high and often wet grass from impeding the progress of the DGM teams or causing malfunctions of the DGM sensors, thereby affecting the quality of the data. Both mechanized and manual methods will be used to cut the vegetation to facilitate the MEC detection and clearance effort. Where appropriate for use, light weight amphibious grass cutting machinery with mower deck (e.g., Marsh Master) will be used to cut the grass. For manual method, weed eaters with metal blades are the standard equipment used. Manual cutting will be conducted in areas containing materials associated with NRHP eligible sites. Grass and brush is cut as close to the ground or tundra surface as safely possible but not to exceed a maximum height of 6-in. Only grass will be cut. Tundra mat will not be removed during vegetation removal.

3.1.2 Surface Clearance

Surface clearance will be conducted in RAA-01, RAA-02, RAA-03, RAA-04, and RAA-05/ALDA-01 prior to DGM. Monthly surface sweeps along the RAA-05/ALSW-01 will also be conducted. The purpose for the surface clearance is to locate and remove surface MEC and to locate and remove metallic objects and other obstructions which may interfere with the DGM.

Surface clearance will be conducted by pedestrian teams with metal detectors at a transect interval approximately double-arm's width or at a distance that allows proper operation of the metal detectors. The teams will proceed down the line of movement, visually checking the surface for MEC and for metal large enough to interfere with the DGM equipment (e.g., 3-in in any dimension or larger). MEC will be conspicuously marked for disposal. Metal meeting the removal criteria will be physically removed from the grid/sweep area and will be consolidated to undergo the appropriate inspection process.

3.1.3 Digital Geophysical Mapping

Prior to DGM, a Geophysical System Verification (GSV) process will be installed. The GSV process will be used by contractors performing the fieldwork to demonstrate that the DGM instrumentation (sensors and positioning), instrument operators, data acquisition methodologies, and data processing and analysis procedures meet the specific data quality objectives (DQOs) established for the project. The results of the GSV testing will demonstrate that the appropriate equipment is being used, and that technically sound processes have been applied to the investigation process. The GSV process is comprised of two main components, as described below.

- An instrument verification strip (IVS), which is comprised of a line of a few (typically five or six) objects buried in a representative, open area convenient to the location where the geophysical

survey equipment is set up or operated. The objective of the IVS is to verify that the geophysical detection system is operating properly at the outset of the project. It is also used as an ongoing check during the project (at the beginning and end of each data collection day). The objects should be observed in the data with signals that are consistent with both historical measurements and physics-based model predictions. The IVS also serves to verify that the geo-location system provides accurate sensor location data. The IVS typically contains a nearby noise strip that does not contain buried targets. The noise strip is used to characterize and check the noise level of the geophysical instrument and site background noise.

- Blind seeds are targets buried in the production site at surveyed locations that are blind to the data collection and processing teams. Seeds provide ongoing monitoring of the quality of the geophysical data collection and target selection process as it is performed in the production survey areas throughout the project.

The DGM teams will collect geophysical data in RAA-01, RAA-02, RAA-03, and RAA-04 with the objective to collect DGM data over 100 percent of each RAA. DGM crews will utilize the Geonics EM61 MK2 as the geophysical detector. The DGM teams include unexploded ordnance (UXO) technicians, craft labor, and geosciences field operators. Pedestrian surveys include two-person tethered carry of the geophysical detector and motorized DGM techniques involving eight-wheel, low ground pressure utility vehicles (e.g., Argos). These utility vehicles may be used to access portions of the work site far from established roads and to tow an array of three geophysical sensors in flat, smooth sections of the site in order to collect DGM data more efficiently. When towing an array, the DGM teams will drive back and forth across the survey area along parallel tracks spaced at approximately 8-ft intervals.

The DGM teams will document inaccessible areas during data collection. In OU B-2, inaccessible areas are defined as:

- Areas with a slope greater than 30 degrees (verified with an inclinometer); or
- Areas with water (standing or running) which makes it either unsafe or impossible to collect DGM data; or
- Areas with debris (e.g., building foundations, concrete structures, target assemblies, etc.) which cannot be removed and which make it either unsafe or impossible to collect DGM data.

3.2 REMOVAL

Removal activities include both manual and mechanized excavation of anomalies identified during the DGM survey. Using the Global Positioning System (GPS) rover unit, the Reacquisition Team navigates to the selected target anomaly coordinates taken from the DGM data. They are trained to achieve an accuracy of ±0.5-ft of the original coordinates provided. The Reacquisition Team refines the anomaly source location using a handheld metal detector and marks the location with a pin flag containing the unique target number. The Team logs the refined point coordinate in the GPS data logger.

The removal team is typically comprised of a UXO Technician III (Team Leader) and up to three, two-man dig teams. Each dig team is comprised of UXO Technicians. The teams may be staffed with an equipment operator and mini-excavator to assist in removing the overburden from single anomalies and to assist in excavating larger anomalies or burial pits when encountered. Archaeological features within NRHP eligible sites will not be altered in order to remove subsurface anomalies.

When the team occupies the position, the target is checked using a handheld metal detector to confirm its exact location. Each target anomaly location is searched to a maximum 2.5-ft lateral radius and 2-ft (RAA-01, RAA-02 and RAA-03) or 4-ft depth below the mineral surface (RAA-04 and RAA-05/ALDA-01) of the pin flag position or to the confirmed anomaly source. Grass or tundra mat will be cut and rolled back away from the excavation site or cut into a ‘plug’ and removed from the excavation site prior to any digging. Manual excavation will be conducted with hand tools such as shovels; mechanical excavation will be conducted with mini-excavators. Upon completion of the investigation, the hole will be backfilled and the grass or tundra mat will be replaced and pressed down to make contact with the soil.

Soil samples must be collected when teams find breached munitions, identify staining adjacent to munitions or identify a strange odor coming from the ground around an excavation. If these conditions do not exist at an excavation, no sampling is required.

3.3 SCREENING

Manual screening of all materials recovered during the removal phase will be conducted to identify the type of material: MEC, MDAS, or MPPEH. Specific handling and disposal protocols are associated with each type. All materials discovered that are not identified as MEC are to be classified as either MDAS or MPPEH. MPPEH is to be inspected, documented and segregated into two categories: Material Documented as an Explosive Hazard (MDEH) or MDAS. MDAS is sub-categorized into "Demilitarization Required" or "No Demilitarization Required" and is inspected, segregated, stored and secured in appropriately marked containers within the RAA or sited storage facility awaiting thermal flashing. When MEC, MPPEH, and MDAS items are discovered, they are inspected and positively identified using a three-tiered inspection process: Inspected first by the UXO technician discovering it, second by the Team Leader and third by the Senior Unexploded Ordnance Specialist (SUXOS).

All MEC items require a RAA 15-m buffer. Therefore, whenever a MEC item is found within 15-m of any border of an RAA, a step-out grid is required. The step-out grid is a 30-m by 30-m grid which is centered on the MEC item. The step-out grid requires 100 percent DGM mapping, processing and target selection the same as for any other grid within that RAA. The target anomalies are intrusively investigated and if additional MEC is found, another step-out grid is centered and mapped. This procedure continues until the 15-m buffer is established.

3.4 DISPOSITION

Disposition activities include blow-in-place (BIP) open detonation, consolidation and open detonation, thermal treatment of MPPEH, and MDEH and metal scrap processing, inspection, certification and disposal. BIP open detonation will be conducted for MEC that is too volatile or unstable to move provided the area can withstand a high order detonation. All safe-to-move MEC, MPPEH and MDEH will be consolidated and stored in appropriate explosive magazines; open detonation/demolition operations for these materials will be scheduled weekly or at the end of each field season. MDAS will be inspected, segregated, stored and recycled or demilitarized and recycled. MDAS must be inspected, certified and verified prior to transporting to storage or processing for shipping off-island for final disposal.

3.5 POTENTIAL EFFECTS TO CULTURAL RESOURCES

Based on the NTCRA procedures described above, activities that may affect cultural resources are:

Vegetation removal using light weight amphibious grass cutting machinery with mower deck (e.g., Marsh Master) could affect cultural resources with structural elements (i.e. collapsed wood structures) if the machinery mowed over the top of the resource or if the mower/weed eater blades cut into the edges of the resource.

Surface clearance and DGM survey are both pedestrian surveys; no off-road vehicle use, other than utility vehicles, will occur. However, pedestrian surveys provide increased access to areas with cultural resources which could lead to disruption of the archaeological pattern through artifact displacement or vandalism of standing structures such as graffiti. The DGM survey will not be conducted specifically in areas with debris (e.g., building foundations, concrete structures, target assemblies, etc.) which cannot be removed and which make it either unsafe or impossible to collect accurate DGM data.

Surface debris that will be collected does not reflect how the area existed during the periods of significance associated with the Adak Army Base and Adak Naval Operating Base National Historic Landmark or the Adak Island Cultural Landscape Historic District. This debris represents materials that have been introduced to the landscape throughout Navy occupation of the island and not necessarily from the periods of significance associated with the Adak Army Base and Adak Naval Operating Base National Historic Landmark or the Adak Island Cultural Landscape Historic District. Removal of the debris does not adversely affect the qualities that make the Adak Army Base and Adak Naval Operating Base National Historic Landmark and the Adak Island Cultural Landscape Historic District eligible for inclusion

in the NRHP. Surface debris within the specific Contributing Elements (such as a structural member in place or debris that retains functionality or historic form) will not be removed from the six identified eligible sites.

Ground disturbing activities consist of IVS and blind seed excavation associated with DGM verification, manual and mechanized removal (excavation) of MEC, and BIP open detonation. (Consolidation and open detonation will occur at existing disposal pits and would not affect cultural resources.) Any type of excavation would disturb the horizontal and vertical stratigraphy of archaeological sites if present in the project area. Removal of MEC associated with cultural resources that were historic firing ranges may affect the physical integrity of the resource if the ordnance is considered a contributing artifact type pertinent to the NRHP eligibility of the resource. BIP open detonation could also cause cratering around the munitions during demolition as well as create vibration in adjacent metal or wood structures. Vibration could cause structural damage and disturb or destroy the architectural integrity of the resource.

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4.0 HISTORIC PROPERTIES IN THE RAAS AND PROTECTIVE MEASURES

Six historic properties (i.e., cultural resources eligible for or listed in the NRHP) have been identified in OU B-2 (URS Group, Inc. 2012) and are contributing elements of the Adak National Historic Landmark and form part of the Adak Island Cultural Landscape Historic District (Table 2-1). One of the six historic properties that is considered to be a Contributing Element, the two diversion dams (AHRS # ADK-00299), are currently located outside the boundaries of the five NTCRA RAAs. This historic property will not be affected by the proposed NTCRA activities.

The five remaining historic properties include an underground bunker and four Quonset hut depressions (AHRS # ADK-00296), an underground bunker (AHRS # ADK-00297), three collapsed wood structures and earthen berm (AHRS # ADK-00300), an abandoned bridge (AHRS # ADK-00302), and a rifle range (AHRS # ADK-00303). The underground bunker (AHRS # ADK-00297) is located within RAA-05/ALSW-01; the underground bunker and four Quonset hut depressions (AHRS # ADK-00296) are located in RAA-05/ALDA-01; the abandoned bridge (AHRS # ADK-00302) and the three collapsed wood structures and an earthen berm (AHRS # ADK-00300) are located in RAA-01/OB/OD-1; and the rifle range complex (AHRS #ADK-00303) is located within RAA-03/RR-01. The following descriptions are excerpted from the *Final OU B-2 Cultural Resources Survey Report, Former Adak Naval Complex, Adak Island, Alaska* (URS Group, Inc. 2012).

4.1 UNDERGROUND BUNKER AND FOUR QUONSET HUT DEPRESSIONS (ALDA-01-01, AHRS # ADK-00296)

This historic site includes the remains of four above-ground features and one below-ground feature. These include four WWII-era Quonset hut depressions and one underground bunker cut into the base of a slope at the west end of the Andrew Lake seawall (Figure 4-1). The Quonset huts are now gone, but rectangular depressions show that they were semi-subterranean because of the strong winds, similar to other huts on the island. These rectangular depressions are believed to represent Quonset hut locations because they have similar dimensions to existing Quonset huts found south of Andrew Lake. A road once extended below the Quonset huts at ALDA-01-01. In addition, there are many large, deep, circular craters (visible in the modern aerial photographs) in the old road bed.

Feature 1 is a rectangular Quonset hut depression measuring approximately 15- by 30-ft and 6-ft deep at the base of the slope. Feature 1 is the southernmost of the four depressions. One portion of a 10-in-diameter telephone pole with guy wire is present within the structure, possibly having fallen in after abandonment. Adjacent to the pole is a large bomb fragment.

Feature 2 is a rectangular Quonset hut depression measuring approximately 20- by 55-ft. It lies 50-ft to the north of Feature 1 and is at a slightly lower elevation. One upright wood 4- by 4-in post is located at the north end of the depression.

Feature 3 is a rectangular Quonset hut depression measuring approximately 20- by 55-ft cut approximately 6-ft into the hillside at its upslope side. It is located 50-ft upslope and slightly west of Feature 2.

Feature 4 is a rectangular Quonset hut depression and an underground bunker cut into the hillside. The Quonset hut depression measures 18- by 30-ft. It is similar in form to the other depressions, but includes a subterranean observation post in the north wall. The entrance of the bunker is lined with a corrugated pipe that leads to an opening facing the north mouth of the bay. The steel portal entrance tunnel measures 36 inches in diameter, and the viewing portal is approximately 30-in in diameter. The interior room of the underground bunker is composed of an 8-ft-diameter corrugated-steel pipe with wood planking and burlap lining at both ends and measures approximately 108-in in diameter.

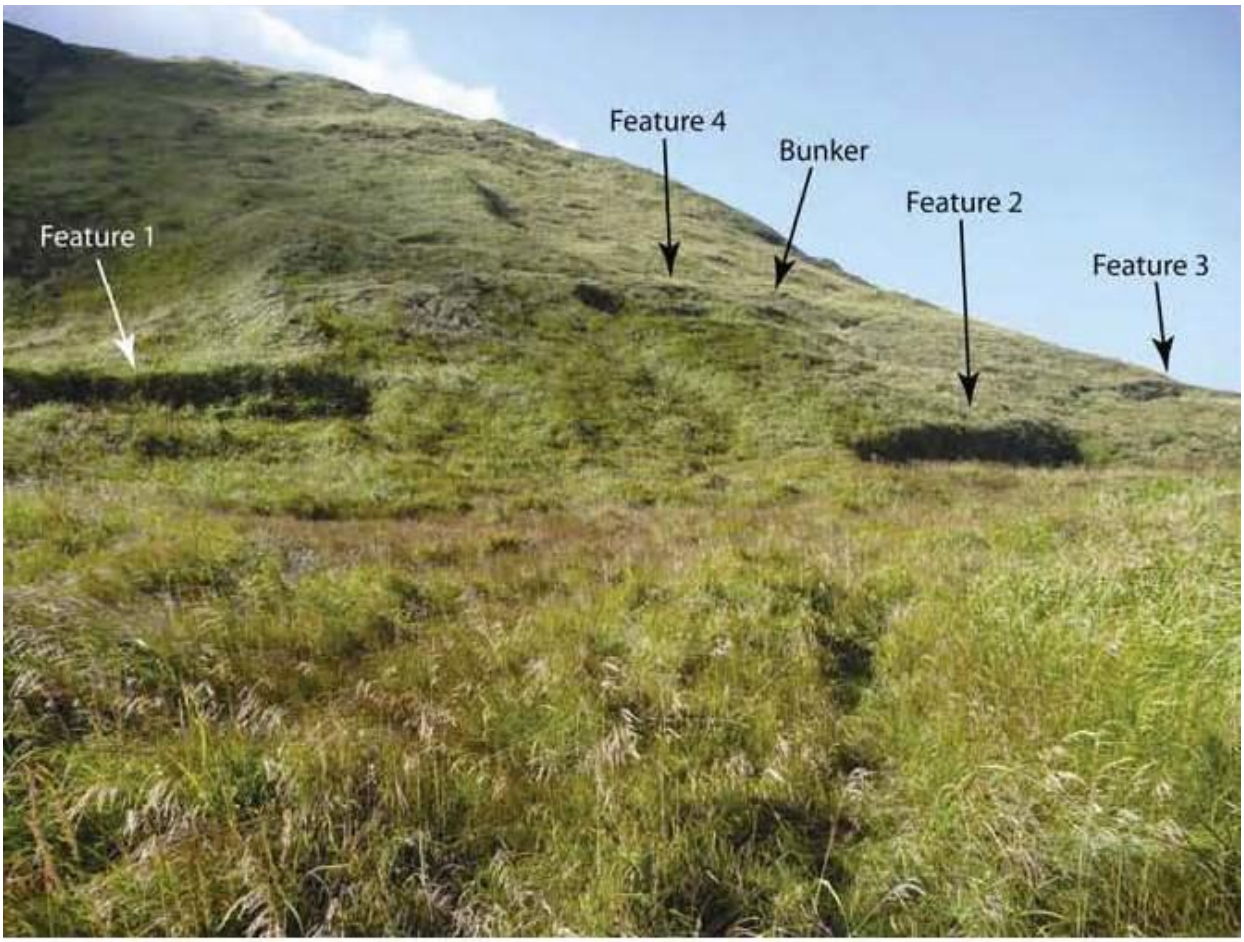

Figure 4-1: Four Quonset Hut Depressions and Underground Bunker (AHRS # ADK-00296) Along the Andrew Lake Seawall, view northwest (Source: URS Group, Inc. 2012)

4.1.1 Project Effects

This historic property is located within RAA-05/ALDA-01. NTCRA activities consist of vegetation removal, surface clearance, DGM survey, MEC and MD removal, and BIP open detonation as needed. Vegetation removal using light weight amphibious grass cutting machinery with mower deck (e.g., Marsh Master) on top of the underground bunker could damage the historic property if the roof caved in from the weight of the equipment.

Surface sweep is a pedestrian survey which provides increased access to the historic property which could lead to vandalism of the underground bunker.

The DGM survey will be conducted within the site boundary but no closer than 6-in to the Quonset hut depressions and underground bunker because the structural features cannot be disturbed or removed [without extensive data recovery activities in accordance with Section 106 of the NHPA and further consultation with the Alaska SHPO and the Advisory Council on Historic Preservation (ACHP)] and which make it impossible to collect accurate DGM data within and under these features.

Excavation associated with munitions removal will occur within the site boundary.

4.1.2 Protective Measures

The following protective measures are recommended to protect the four WWII-era Quonset hut depressions and one underground bunker:

- Cultural resources sensitivity training for all personnel prior to implementation of project activities
- No mechanical vegetation removal (using grass cutting machinery with mower deck) within 3-ft of the underground bunker
- Use of manual vegetation removal (a hand held weed eater) within the four Quonset hut depressions
- Upon completion of munitions removal, each excavation will be backfilled and the grass or tundra mat will be replaced and pressed down to make contact with the soil to restore the original archaeological site surface
- If it is necessary to remove munitions from structural features (i.e. Quonset hut depressions), removal will be conducted using hand tools and the profiles of the hut depressions returned to their original contour
- Any BIP open detonation conducted within 200-ft of the historic resource will be implemented using the minimal amount of explosives necessary to trigger the detonation to avoid excessive vibration

4.2 UNDERGROUND BUNKER (ALSW-01-01, AHRS # ADK-00297)

This small WWII-era underground observation bunker, located on the seaward side and halfway across the Andrew Lake seawall, is situated within a WWII-era Anti-Aircraft Training Center range. The WWII-era observation bunker (Feature 1) consists of an upright corrugated steel culvert surrounded by timbers forming a roof (Figure 4-2). The observational bunker is heavily overgrown with earth and vegetation and is embedded in cobbles that form the outer edge of the Andrew Bay seawall. The upright culvert measures 6-ft high by 8-ft in diameter, and approximately 4-ft of the culvert are imbedded in the ground. Several large upright timber posts surround the outside of the culvert, extending 4-ft above the sides. Several timbers are planked across the upright posts forming a flat roof. At the bottom of the culvert is a collapsed tunnel that appears to provide a horizontal entry and exit into the bunker. The interior of the bunker is filled with debris washed in from the ocean.

4.2.1 Project Effects

This small WWII-era underground observation bunker is located within RAA-05/ALSW-01. No intrusive NTCRA activities will occur in RAA-05/ALSW-01; activities are limited to a monthly visual surface sweep for munitions that may wash up on the shore.

The surface sweep is a pedestrian survey which provides increased access to the historic property which could lead to vandalism or souvenir collection from the underground bunker.

BIP open detonation could also cause cratering around the munitions during demolition as well as create vibration in adjacent metal or wood structures. Vibration could cause structural damage and disturb or destroy the architectural integrity of the resource.

4.2.2 Protective Measures

The following protective measures are recommended to protect this WWII-era underground bunker:

- Cultural resources sensitivity training for all personnel prior to implementation of project activities
- MEC will be relocated to the MEC holding magazine and disposed with other demolition activities
- Any BIP open detonation conducted within 200-ft of the historic resource will be implemented using the minimal amount of explosives necessary to trigger the detonation to avoid excessive vibration

Figure 4-2: Underground Bunker (AHRS # ADK-00297) Along the Andrew Lake Seawall, view south

(Source: URS Group, Inc. 2012)

4.3 COLLAPSED WOOD STRUCTURES AND EARTHEN BERM (OB/OD-01-01, AHRS # ADK-00300)

This WWII- and Cold War-era complex consists of three collapsed structures and an earthen berm located on the valley floor south of Moffett Creek on the west side of Andrew Lake (Figure 4-3). The remains of the structures are likely associated with a WWII-era Radio-Controlled Airplane Target Range (URS Group, Inc. 2012). For example, the Radioplane Company in California produced hundreds of unmanned radio-controlled planes during WWII for use as targets in training anti-aircraft gunners (O'Connor 2012).

Feature 1 consists of a shallow rectangular depression containing the remains of a collapsed wood structure measuring approximately 12-ft by 12-ft. Tongue and groove floorboards (2-in wide) run north-south, are overlaid by 2-by-4, 2-by-6, and 2-by-8 lumber. The 2-by-4s appear to have been in an "A-Frame" construction style to support walls. Nails and bolts were used in construction. The depression is less than 1-ft deep, but water is present below the floorboards. Fragments of sheet metal are also present.

Feature 2 is the wood floor of a larger structure to the west of Feature 1 and measures approximately 30-by 60-ft. It consists almost entirely of floorboards laid end to end in a north-south arrangement; floorboards vary from 1- to 12-in in width and 10- to 15-ft in length. Some fragments of 2-by-6 and

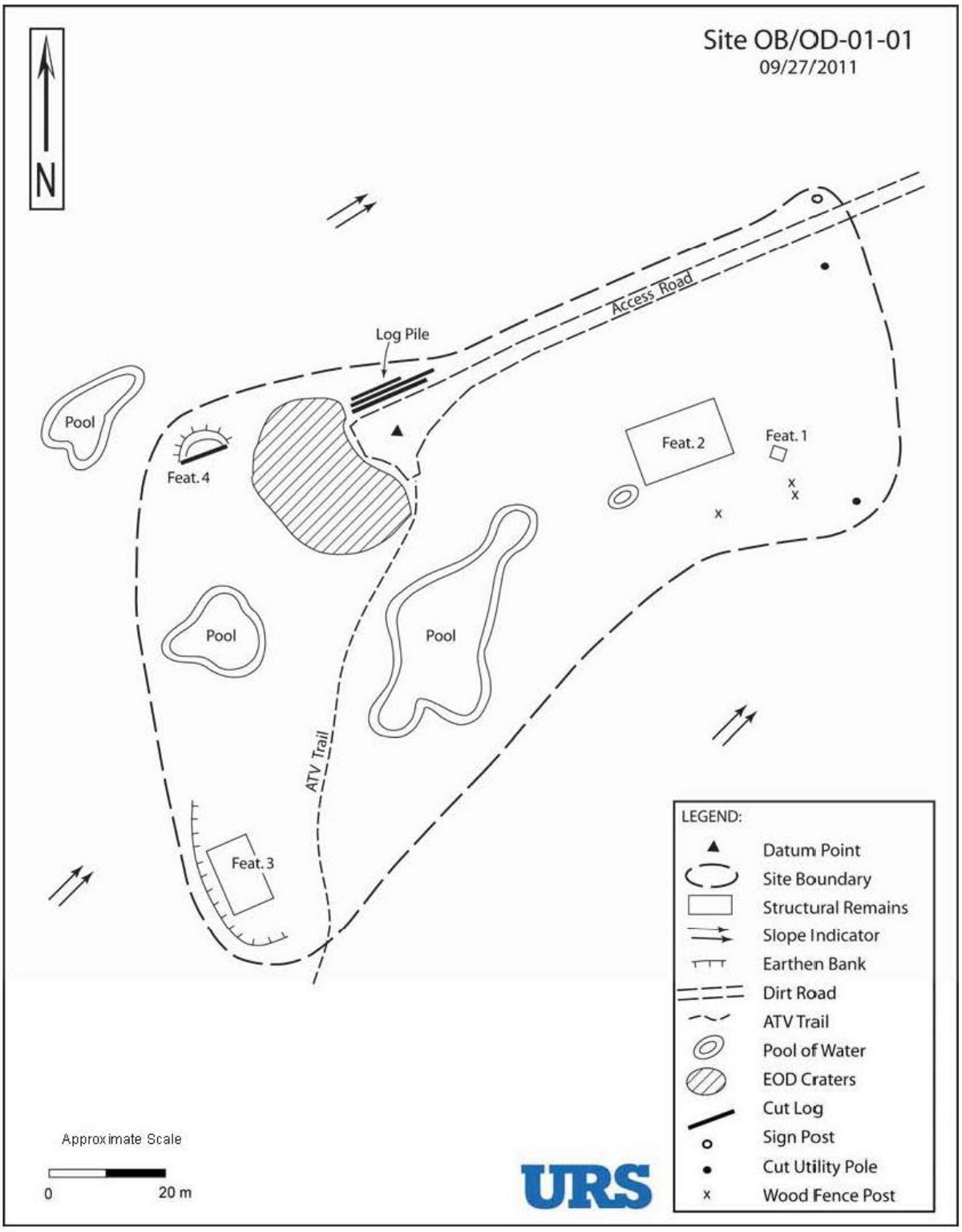

Figure 4-3: Three Collapsed Structures and Earthen Berm (AHRS # ADK-00300)
(Source: URS Group, Inc. 2012)

6-by-6 timbers are present, but little of the superstructure is present. Construction used 3½-in nails and 1-in spikes. The structure is enclosed within a 2-ft-wide by 2-ft-high earthen berm and the floorboards are located directly on the original ground surface. Modern "M60 fuse igniters" are also present within the feature area. This feature may be the floor of a canvas structure.

Feature 3 consists of the remains of a third wood structure, measuring approximately 20- by 30-ft, located within a 2- to 3-ft-deep rectangular depression. Some floorboards are present, overlain by a variety of 2-by-4, 2-by-6, 2-by-8, 4-by-4, and 6-by-6 lumber. The structure is oriented north-south. Large 4-by-12 timbers 15-ft in length are also present, as are large wood blocks that may have supported a wood foundation. Some of the boards show evidence of charring.

Feature 4 is an earthen berm supported by 12-in horizontal wood poles 25-ft in length and two upright wood poles extending 3-ft above ground surface. Earth is banked to a height of about 4-ft on the north side of the wood poles to a width of about 4-ft. This appears to be a protective wall used by explosive ordnance disposal crews.

4.3.1 Project Effects

This historic property is located within RAA-01/OB/OD-01. NTCRA activities consist of vegetation removal, surface clearance, DGM survey, MEC and MD removal, and BIP open detonation as needed. Vegetation removal using light weight amphibious grass cutting machinery with mower deck (e.g., Marsh Master) on top of the collapsed structures or using hand held weed eaters with metal blades among the wood planks of the collapsed structures could damage the historic property if the wood elements were cut by the mower or weed eater blades.

Surface sweep is a pedestrian survey which provides increased access to the historic property which could lead to disruption of the archaeological pattern through artifact displacement (e.g., moving the wood elements).

The DGM survey will be conducted within the site boundary but no closer than 6-in to the collapsed structures and earthen berm because the structural features cannot be removed (without extensive data recovery activities in accordance with Section 106 of the NHPA and further consultation with the Alaska SHPO and the ACHP) and which make it impossible to collect accurate DGM data under these features.

Excavation associated with munitions removal will occur within the site boundary.

4.3.2 Protective Measures

The following protective measures are recommended to protect the WWII-era collapsed structures and earthen berm:

- Cultural resources sensitivity training for all personnel prior to implementation of project activities.
- No mechanical vegetation removal (using grass cutting machinery with mower deck) within the site (AHRS # ADK-00300) boundary.
- Use of manual vegetation removal (a hand held weed eater) within the site boundary.
- No vegetation removal within 6-in of the structural elements (wood planks).
- Upon completion of munitions removal, each excavation will be backfilled and the grass or tundra mat will be replaced and pressed down to make contact with the soil to restore the original archaeological site surface.

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4.4 ABANDONED BRIDGE REMAINS (OB/OD-01-03, AHRS # ADK-00302)

The remains of a bridge that once crossed Moffett Creek are represented by 15 upright 12-in-diameter wood posts (Figure 4-4). When complete, the bridge would have spanned approximately 20-ft, running north-south. This historic property is located within RAA-01.

An additional set of wood posts and timbers, of an unknown function, is located within the road bed 50-ft to north that includes a 50-gallon drum. The road leading to and from the bridge is now barely visible, because it is covered with tall, thick grass. It appears as a raised berm near the bridge remains.

4.4.1 Project Effects

This historic property is located within RAA-01/OB/OD-01. NTCRA activities consist of vegetation removal, surface clearance, DGM survey, MEC and MD removal, and BIP open detonation as needed. Vegetation removal using light weight amphibious grass cutting machinery with mower deck (e.g., Marsh Master) or hand held weed eaters with metal blades near the wood timbers could damage the historic property if the wood elements were cut by the mower or weed eater blades. Surface clearance is a pedestrian survey which provides increased access to the historic property which could lead to vandalism of the upright timber posts (e.g., graffiti).

The DGM survey will be conducted within the site boundary but no closer than 6-in to the abandoned bridge because the structural features cannot be removed (without extensive data recovery activities in accordance with Section 106 of the NHPA and further consultation with the Alaska SHPO and the ACHP) and which make it impossible to collect accurate DGM data under the structural elements.

Excavation associated with munitions removal will occur within the site boundary.

4.4.2 Protective Measures

The following protective measures are recommended to protect the WWII-era abandoned bridge remains:

- Cultural resources sensitivity training for all personnel prior to implementation of project activities
- No mechanical vegetation removal (using grass cutting machinery with mower deck) within the site boundary
- Use of manual vegetation removal (a hand held weed eater) within the site boundary
- No vegetation removal within 6-in of the structural elements (wood timbers)
- Upon completion of munitions removal, each excavation will be backfilled and the grass or tundra mat will be replaced and pressed down to make contact with the soil to restore the original archaeological site surface

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Site OB/OD-01-03, bridge, view north

Figure 4-4: Abandoned Bridge Remains (AHRS # ADK-00302), view north
(Source: URS Group, Inc. 2012)

4.5 RIFLE RANGE (RR-01-01, AHRS # ADK-00303)

The Andrew Lake Known Distance Rifle Range consists of the remains of one fixed target line with a mechanical pop-up target system and three firing lines used during the WWII/Cold War-era for small arms weapons training, including pistols, small bore rifles, and shotguns. This historic property is located within RAA-03.

Feature 1 is the target complex, consisting of a very large earthen berm oriented east-west (Figure 4-5). The eastern portion of the berm is backed by an 8-ft-high concrete wall with a mechanized metal target raising system, allowing the raising and lowering of 10 sets of targets. The concrete wall is embossed with "MCB/9/1962." A more recent prefabricated Federal Aviation Administration building (an aluminum sided field office/site trailer) behind the berm is also present and has been used for the more recent storage of targets. Paper and plastic targets are present in very large quantities, and these items appear modern, likely dating to within the past 20 years. A dumpster and metal target storage container are also present. A metal container is at the far western end of berm. At least 25 boxes and multiple piles of paper targets and six boxes of plastic silhouettes are present within the storage facility.

Numerous artifacts are present, including ammunition cans, barrels, plywood, rope, chain, and other debris, most appearing to be more modern items. While the exact age of these items cannot be determined, it is clear that much of the material associated with this feature and several of the other

features present at the site have been recently deposited and are not associated with the WWII use of this facility.

Feature 2 is a smaller berm oriented east-west and stacked with sand bags. It is located to the east of Feature 1, in alignment with the larger berm (Figure 4-4). The presence of thousands of expended automatic Colt pistol cartridges suggests use as a pistol range. Evidence of shotgun firing is also present. The back and sides of the berm are supported by 4- by 4-in and 4- by 6-in timbers.

Feature 3 is a large, heavy-duty wall constructed behind the concrete wall that fences in the target range. It is constructed of very large 12-ft by 16-in creosote-impregnated poles six courses in height supported by double upright posts and steel cable.

Feature 4 is a collapsed plywood 2- by 4-ft structure with large amounts of trash also present (Figure 4-4). Folding tables, barbed wire, telephone poles, boxes of nails, ammunition boxes, expended cartridges, bullets, tools, and wire are present. Although expended cartridges and bullets are physically associated with the pistol range (Features 2 and 4), information on the age of the ordnance (e.g., cartridge headstamp dates) was not recorded. These artifacts may not be temporally associated with the historic use of these features and may represent modern activities.

Feature 5 is a row of four waist-high vertical posts fashioned from cut utility poles. These posts are located at the south end of a raised berm firing line. Attached hardware indicates that this alignment formed a small barrier fence.

Feature 6 is a wood foot bridge over Moffett Creek, located below and east of the access road. The foot bridge is constructed of two wood pilings, 2-by-8 planks, and a single 2-by-4 railing, 16-ft in length and 2½-ft wide, with a tar paper cover. Below the bridge are two 36-in corrugated steel culverts supported by 15 courses of solidified concrete bags. The adjacent roadway also crosses over these culverts.

4.5.1 Project Effects

This historic property is located within RAA-03/RR-01. NTCRA activities consist of vegetation removal, surface clearance, DGM survey, MEC and MD removal, and BIP open detonation as needed. Vegetation removal using light weight amphibious grass cutting machinery with mower deck (e.g., Marsh Master) or hand held weed eaters with metal blades near the wood timbers could damage the historic property if the wood elements were cut by the mower or weed eater blades.

Surface sweep is a pedestrian survey which provides increased access to the historic property which could lead to vandalism of the structural features (e.g., graffiti).

Excavation associated with munitions removal will occur within the site boundary.

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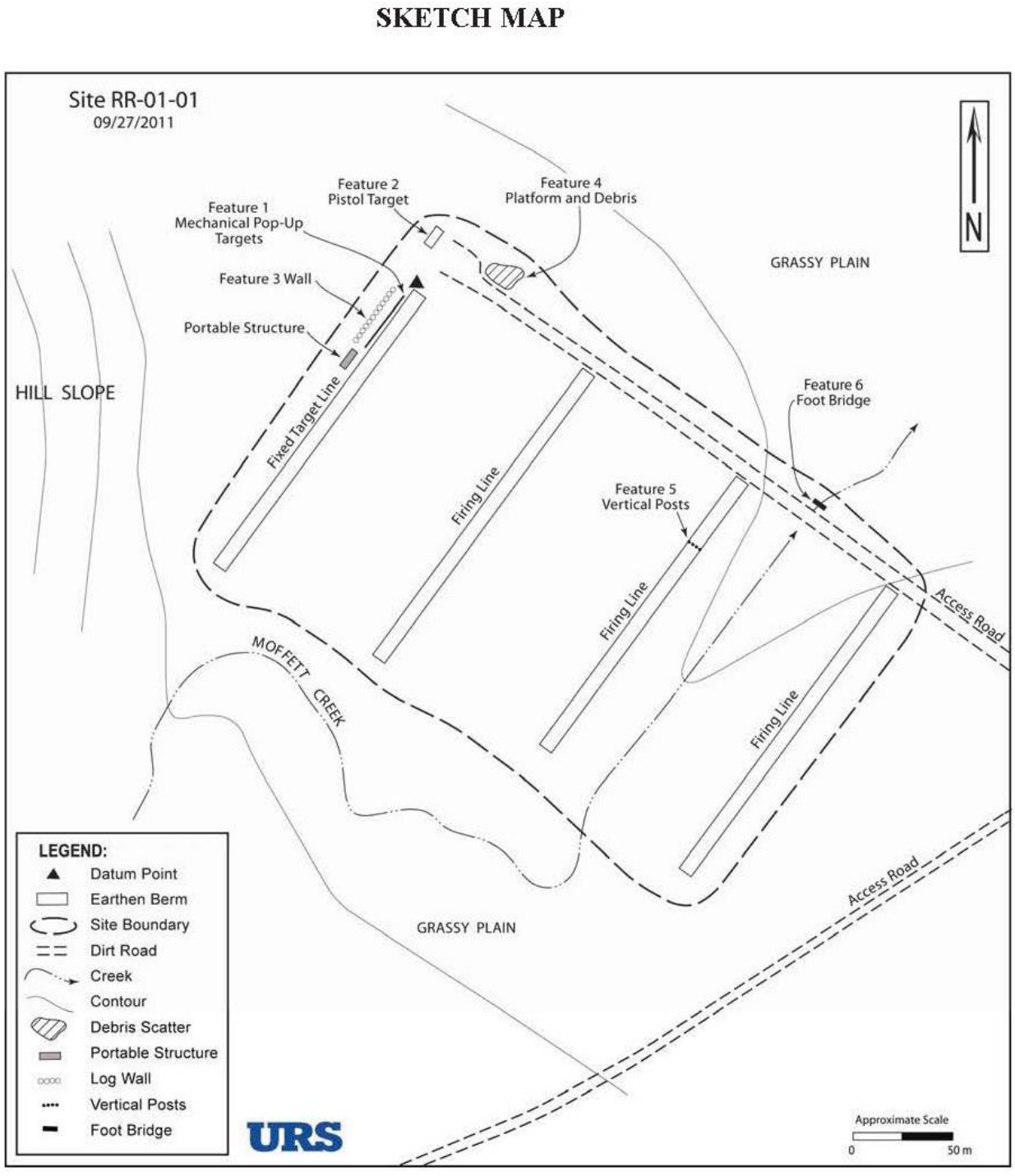

Figure 4-5: Sketch Map of Rifle Range (AHRS # ADK-00303)
(Source: URS Group, Inc. 2012)

The DGM survey will be conducted within the site boundary of the rifle range but no closer than 6-in from structural features because the structural features cannot be removed (without extensive data recovery activities in accordance with Section 106 of the NHPA and further consultation with the Alaska SHPO and the ACHP) and which make it impossible to collect accurate DGM data under these features.

Excavation associated with munitions removal will occur within the site boundary.

BIP open detonation could create vibration in adjacent metal or wood structures. Vibration could cause structural damage and disturb or destroy the architectural integrity of the resource.

4.5.2 Protective Measures

The following protective measures are recommended to protect the WWII-era rifle range:

- Cultural resources sensitivity training for all personnel prior to implementation of project activities
- No mechanical vegetation removal (using grass cutting machinery with mower deck) within 3-ft of the structural features 1, 2, 3, 5, and 6
- Use of manual vegetation removal (a hand held weed eater) to remove any vegetation closer than 3-ft of the structural features 1, 2, 3, 5, and 6
- No vegetation removal within 6-in of the structural features 1, 2, 3, 5, and 6
- If it is necessary to remove munitions from structural features (i.e., berms), removal will be conducted using hand tools and the profiles of the berms returned to their original contour
- Upon completion of munitions removal, each excavation will be backfilled and the grass or tundra mat will be replaced and pressed down to make contact with the soil to restore the original archaeological site surface
- Any BIP open detonation conducted within 200-ft of structural features 1, 2, 3, 5, and 6 will be implemented using the minimal amount of explosives necessary to trigger the detonation to avoid excessive vibration

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5.0 SUMMARY AND RECOMMENDATIONS

The NAVFAC Northwest is conducting an NTCRA for MEC in selected RAAs within OU B-2 at the former NAF Adak, Adak, Alaska. NTCRA activities consist of detection, removal, screening, and disposition of MEC and MPPEH (USA Environmental, Inc. 2012). Eleven OU B-2 sites require active remedies to address explosive hazards incompatible with the designated future land use. Five RAAs were created and the 11 sites have been grouped into these RAAs based on the expected types and depths of MEC. NTCRA activities will be conducted within RAA-01, RAA-02, RAA-03, RAA-04, and RAA-05/ALDA-01; even though RAA-05/ALSW-01 is not part of the NTCRA, monthly surface sweeps will be conducted on the seawall portions of RAA-05.

A cultural resources survey was conducted within OU B-2 in September 2011 and six resources are considered eligible for listing in the NRHP as contributing elements to the WWII-era Army Base and Adak Naval Operating Base National Historic Landmark and the Adak Island Cultural Landscape Historic District (URS Group, Inc. 2012). NAVFAC NW initiated Section 106 Consultation with the SHPO through correspondence submitted in December 3, 2012 (NAVFAC NW 2012), in accordance with 36 CFR 800.4(d)(1) and 36 CFR 800.5(c) (30 day review to make comment on determinations of eligibilities and 30 day review to make comment on finding of effects, respectively). No response from the SHPO was received within the regulated timeframe and it is the Navy's intent to move forward with the understanding that the SHPO concurs with the determinations. In this case, the determination is that six archaeological sites are eligible for the NRHP as both individual resources and as contributing elements to the Adak Army Base and Adak Naval Operating Base National Historic Landmark and the Adak Island Cultural Landscape Historic District; that the remaining archaeological site and three isolated finds are not eligible; and that the undertaking does not adversely affect historic properties.

One of the six historic properties that is considered to be a Contributing Element, the two diversion dams (AHRS # ADK-00299), are currently located outside the boundaries of the five NTCRA RAAs. This historic property will not be affected by the proposed NTCRA activities. The five remaining historic properties include an underground bunker and four Quonset hut depressions (AHRS # ADK-00296), an underground bunker (AHRS # ADK-00297), three collapsed wood structures and earthen berm (AHRS # ADK-00300), an abandoned bridge (AHRS # ADK-00302), and a rifle range (AHRS # ADK-00303). The underground bunker (AHRS # ADK-00297) is located within RAA-05/ALSW-01; the underground bunker and four Quonset hut depressions (AHRS # ADK-00296) are located in RAA-05/ALDA-01; the abandoned bridge (AHRS # ADK-00302) and the three collapsed wood structures and an earthen berm (AHRS # ADK-00300) are located in RAA-01/OB/OD-01; and the rifle range complex (AHRS #ADK-00303) is located within RAA-03/RR-01.

Specific NTCRA activities that could cause physical damage to historic properties consist of vegetation removal, surface clearance, DGM survey, MEC and MD removal, and BIP open detonation. Equipment used for vegetation removal could cut or mar structural elements of the historic properties. Surface clearance and DGM survey, both pedestrian surveys, provide increased access to areas with historic properties which could lead to disruption of the archaeological pattern through artifact displacement or vandalism of standing structures such as graffiti. Ground disturbing activities consist of IVS and blind seed excavation associated with DGM verification, manual and mechanized removal (excavation) of MEC, and BIP open detonation. BIP open detonation could create vibration in adjacent metal or wood structures. Vibration could cause structural damage and disturb or destroy the architectural integrity of the resource.

Protective measures to protect historic properties during NTCRA activities are use of less invasive equipment for vegetation removal within set distances from archaeological and structural features; cultural resources sensitivity training for all NTCRA personnel, and carefully controlled BIP open detonation. Specific protective measures for each historic property within the RAA are identified in Table 5-1.

Table 5-1: Summary of Protective Measures for Historic Properties within OU B-2

Remedial Action Area	Alaska SHPO site number	Description	Protective Measures
RAA-05/ALDA-01	AHRS # ADK-00296	Underground bunker and four Quonset hut depressions	Cultural resources sensitivity training for all personnel prior to implementation of project activities No mechanical vegetation removal (using grass cutting machinery with mower deck) within 3-ft of the underground bunker Use of manual vegetation removal (a hand held weed eater) within the four Quonset hut depressions Upon completion of munitions removal, each excavation will be backfilled and the grass or tundra mat will be replaced and pressed down to make contact with the soil to restore the original archaeological site surface If it is necessary to remove munitions from structural features (i.e., Quonset hut depressions), removal will be conducted using hand tools and the profiles of the hut depressions returned to their original contour Any BIP open detonation conducted within 200-ft of the historic resource will be implemented using the minimal amount of explosives necessary to trigger the detonation to avoid excessive vibration
RAA-05/ALSW-01	AHRS # ADK-00297	Underground bunker	Cultural resources sensitivity training for all personnel prior to implementation of project activities Any BIP open detonation conducted within 200-ft of the historic resource will be implemented using the minimal amount of explosives necessary to trigger the detonation to avoid excessive vibration
RAA-01/OB/OD-01	AHRS # ADK-00300	Three collapsed wood structures and an earthen berm	Cultural resources sensitivity training for all personnel prior to implementation of project activities No mechanical vegetation removal (using grass cutting machinery with mower deck) within the site boundary Use of manual vegetation removal (a hand held weed eater) within the site boundary No vegetation removal within 6-in of the structural elements (wood planks) Upon completion of munitions removal, each excavation will be backfilled and the grass or tundra mat will be replaced and pressed down to make contact with the soil to restore the original archaeological site surface
RAA-01//OB/OD-01	AHRS # ADK-00302	Abandoned bridge remains	Cultural resources sensitivity training for all personnel prior to implementation of project activities No mechanical vegetation removal (using grass cutting machinery with mower deck) within the site boundary Use of manual vegetation removal (a hand held weed eater) within the site boundary No vegetation removal within 6-in of the structural elements (wood timbers) Upon completion of munitions removal, each excavation will be backfilled and the grass or tundra mat will be replaced and pressed down to make contact with the soil to restore the original archaeological site surface

Remedial Action Area	Alaska SHPO site number	Description	Protective Measures
RAA-03/RR-01	AHRS # ADK-00303	Rifle range complex	Cultural resources sensitivity training for all personnel prior to implementation of project activities No mechanical vegetation removal (using grass cutting machinery with mower deck) within 3-ft of the structural features 1, 2, 3, 5, and 6 Use of manual vegetation removal (a hand held weed eater) to remove any vegetation closer than 3-ft of the structural features 1, 2, 3, 5, and 6 No vegetation removal within 6-in of the structural features 1, 2, 3, 5, and 6 Upon completion of munitions removal, each excavation will be backfilled and the grass or tundra mat will be replaced and pressed down to make contact with the soil to restore the original archaeological site surface If it is necessary to remove munitions from structural features (i.e. berms), removal will be conducted using hand tools and the profiles of the berms returned to their original contour Any BIP open detonation conducted within 200-ft of structural features 1, 2, 3, 5, and 6 will be implemented using the minimal amount of explosives necessary to trigger the detonation to avoid excessive vibration

AHRS=Alaska Heritage Resources Survey

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