Final
Environmental Assessment
Airfield Improvements and Building Demolition
Marine Corps Base Hawaii, Kaneohe Bay, Oahu, Hawaii

Prepared for:
Marine Corps Base Hawaii

Prepared by:
Department of the Navy
Naval Facilities Engineering Command, Pacific
May 2018

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DEPARTMENT OF THE NAVY
UNITED STATES MARINE CORPS

FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR AN ENVIRONMENTAL ASSESSMENT FOR AIRFIELD IMPROVEMENTS AND BUILDING DEMOLITION AT MARINE CORPS BASE HAWAII KANEOHE BAY, OAHU, HAWAII

Pursuant to the Council on Environmental Quality (Code of Federal Regulations [CFR] Title 40, Parts 1500-1508 et seq.) regulations implementing the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] §4321, et seq.); Marine Corps Order P5090.2A, Change 3, Environmental Protection and Compliance Manual; and United States Marine Corps (USMC) NEPA Manual, version 2.0, USMC gives notice that an Environmental Assessment (EA) has been prepared for airfield improvements and building demolition at Marine Corps Base Hawaii (MCBH), Kaneohe Bay, Oahu, Hawaii. Based on the EA analysis, the proposed action will result in no significant impacts to the human or natural environment; therefore, an Environmental Impact Statement (EIS) is not required.

Proposed Action: The proposed action is to demolish facilities that are located in the airfield at MCBH, Kaneohe Bay, Oahu, Hawaii. Seven facilities are located within the runway lateral safety zone, the area parallel to the runway and required to be clear of obstructions to airfield traffic, and are proposed for demolition in order to eliminate them as aviation safety hazards. Three facilities are located outside the runway safety zone, but proposed for demolition under the Marine Corps' Infrastructure Reset (IR) initiative, which focuses on facility consolidation and demolition to reduce sustainment costs, particularly for facilities with no designated operational or mission requirement. All the facilities proposed for demolition are eligible for listing in the National Register of Historic Places (NRHP).

The proposed action will require renovation of three facilities (buildings 1359, 1360, and 1361) to relocate the Explosive Ordnance Detachment from building 605 (proposed for demolition) to outside the runway safety zone; relocation of the Environmental Department from buildings 1359, 1360, and 1361 to building 3089; and construction of a new storage facility at West Field, within the Marine Aviation Logistics Squadron compound, to replace building 603 (proposed for demolition).

The facilities proposed for demolition consist of three World War II aircraft revetments and seven facilities used primarily for general storage, one of them a Quonset hut. All of the facilities were constructed between 1941 and 1945. New construction and renovation work will conform to current building codes and anti-terrorism/force protection standards and comply with Federal building performance and sustainable design criteria.

Because the project will involve the demolition of buildings that are eligible for listing in the NRHP, measures to mitigate this work have been set forth in a National Historic Preservation Act Section 106 Memorandum of Agreement (MOA).

Background: Most of the facilities that are located within the current airfield safety zone were constructed in the 1940s, prior to formalization of airfield safety zones. Federal Aviation Regulations Part 77, identifying obstructions to civil aviation, became effective in May 1965. Naval Facilities Engineering Command guidance, NAVFAC P-80.3, Facility Planning Factor Criteria for Navy and Marine Corps Shore Installations, was published in January 1982.

Airfield safety zones have lateral and transitional components aligned parallel to a runway. These components apply from the runway centerline. The first two safety zones from the centerline of the runway are the focus of this analysis: the first component is the lateral or horizontal clear distance required from the runway centerline; the second component is a transitional zone, based on a 7 (horizontal) to 1 (vertical) distance that applies from the outer boundary of the first (horizontal) clear zone. The transitional zone, in effect, creates a "transitional surface", also referred to as an "imaginary surface," sloping up and away at the 7:1 ratio, from the outer boundary of the horizontal clear zone on either side of a given runway. The transitional surface marks the "ceiling" above which structures become potential hazards to navigation if their height penetrates the imaginary surface.

The Marine Corps' IR initiative, begun in 2016, has a goal of reducing infrastructure life-cycle and sustainment costs. The program's goal is to reduce and optimize infrastructure footprint by consolidation, implementing space management to maximize utilization, and eliminating excess and failing facilities.

Alternatives Analyzed: During normal project planning, general consideration was given to various options and alternatives. However, because the current situation involves airfield safety violations, combined with the lack of any serious environmental impacts or controversy, and the inherent advantage of the proposed action, only the proposed action was given serious consideration. Accordingly, the no-action alternative was considered and evaluated, but is not recommended for implementation due to the nature of the safety issue.

Environmental Effects: No adverse or long-term direct, indirect or cumulative impacts are expected to occur regarding air quality, noise, topography/geology, soils, water resources, drainage, natural resources, natural hazards, land use and visual resources, transportation, utilities/infrastructure/solid waste, or hazardous materials/waste. Environmental impacts will be limited to short-term effects upon air quality and noise, and increased potential for storm water runoff and soil erosion during demolition and construction activities. Construction activities will not be expected to significantly impact local or off-base traffic or circulation. Appropriate Best Management Practices, compliance with applicable regulatory requirements, and implementation of interim mitigation measures (e.g., traffic/dust) will minimize these temporary, construction-related impacts.

The Hawaii Coastal Zone Management Office has acknowledged that the proposed action is an activity that is covered by the Navy and Marine Corps *de minimis* list under the Coastal Zone Management Act and would not result in any reasonably foreseeable direct or indirect effects to uses or resources within the Hawaii Coastal Zone.

Cultural Resources: The proposed action includes demolition of facilities that are historic buildings eligible for listing on the NRHP. Demolition of the historic buildings may have adverse impacts on historic properties and the historic Naval Air Station Kaneohe Aviation District at MCBH. Section 106 of the National Historic Preservation Act has been completed, and the adverse effects will be mitigated by:

- conducting a Historic American Buildings Survey for structures 603 and 605, to be completed prior to demolition;

- updating the NRHP nomination for the historic Naval Air Station Kaneohe Aviation District that will evaluate the district following demolition of historic buildings that contributed to the district, to be initiated within three years after building demolition, subject to availability of funds;

- conducting a historic context and building inventory of World War II-era aircraft revetments across USMC installations in Hawaii, to be initiated within three years after execution of the MOA and completion of the EA, subject to availability of funds;

- initiating, within three years, consultation with native Hawaiian organizations for which Mokapu Peninsula has cultural significance, to begin development of a comprehensive agreement under the Native Graves Protection and Repatriation Act (NAGPRA), to address land management activities that may result in either intentional excavation or inadvertent discovery of NAGPRA cultural items; and to establish a process for consultation and determination of custody, treatment, and disposition of such items;

- conducting archaeological monitoring during all ground-disturbing activities associated with this proposed undertaking; and

- withdrawing building 620, a Quonset hut, from the proposed undertaking, and conducting a historic structural assessment by a qualified preservation professional to explore alternatives to demolishing the building, to be initiated within three years after execution of the MOA and completion of the EA, subject to availability of funds.

Public Involvement: A 15-day public review period of the draft FONSI was initiated with a Notice of Availability published in the Honolulu Star-Advertiser on February 22, 23, and 24, 2018, as well as in the February 23, 2018 edition of *The Environmental Notice,* the bi-monthly bulletin of the Hawaii Department of Health, Office of Environmental Quality Control. The draft FONSI and the EA were available to the public on the MCBH website. One comment, from the State of Hawaii Department of Health, Environmental Planning Office, which did not result in any changes to the EA or draft FONSI, was received during the public comment period.

Finding: Based on the EA analysis, and considering the context and intensity of anticipated environmental effects, the USMC has determined that the proposed action will have no significant impacts on the quality of the human or natural environment. Consequently, an EIS is not required.

10 MAY 2018
Date

R. LIANEZ
Colonel, U.S. Marine Corps
Commanding Officer
Marine Corps Base Hawaii

COVER SHEET

Responsible Agency: Department of the Navy
United States Marine Corps

Proposed Action: Demolish structures located in the airfield at Marine Corps Base Hawaii, Kaneohe Bay Oahu, Hawaii

Point of Contact: Naval Facilities Engineering Command, Pacific
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Joint Base Pearl Harbor-Hickam, HI 96860-3134
Attn: EV21Project Mgr. MCBH Airfield EA

Type of NEPA Document: Environmental Assessment

Abstract:

Marine Corps Base Hawaii, Kaneohe Bay is proposing to demolish buildings, structures or facilities that are located in the airfield at Marine Corps Air Station, Kaneohe Bay, Oahu, Hawaii. Seven of the facilities proposed for demolition are located within a specified airfield safety zone, constituting aviation hazards. Three of the facilities are proposed for demolition under an infrastructure-reduction initiative; all are eligible for listing in the National Register of Historic Places (NRHP). Related project activities include renovation of existing facilities and construction of a facility outside the airfield safety zone. No significant environmental impacts are anticipated.

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ACRONYMS AND ABBREVIATIONS

AAQS	Ambient Air Quality Standard
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos-containing material
AICUZ	Air Installation Compatible Use Zone
AST	Aboveground storage tank
AT/FP	Anti-terrorism/Force Protection
BEQ	Bachelor Enlisted Quarters
BMP	Best Management Practices
BWS	Honolulu Board of Water Supply
CAA	Clean Air Act
CFR	Code of Federal Regulations
cfs	Cubic feet per second
CIP	Capital improvement project
cm	Centimeters
CMU	Concrete masonry unit
CRM	Cultural Resources Manager
CWA	Clean Water Act
cy	Cubic yards
CZMA	Coastal Zone Management Act
dB	Decibel
DNL	Day-Night Average Sound Level
DoD	U.S. Department of Defense
DOH	State of Hawai‘i Department of Health
DoN	Department of the Navy
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
EPAct	Energy Policy Act of 2005
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FL	Fill land
FONSI	Finding of No Significant Impact
ft	Foot/feet
FY	Fiscal year

GHG	Greenhouse Gas
gpcd	Gallons per capita per day
HABS	Historic American Buildings Survey
HAER	Historic American Engineering Record
HAR	Hawaii Administrative Rules
HAZMAT	Hazardous materials
HECO	Hawaiian Electric Company
ICRMP	Integrated Cultural Resources Management Plan
IBC	International Building Code
in	Inch(es)
INRMP	Integrated Natural Resources Management Plan
IR	Installation Restoration/Infrastructure Reset
JP-5	Jet Propellant Grade 5
kph	Kilometers per hour
kV	Kilovolt
kvA	Kilovolt ampere
LAN	Local area network
LBP	Lead-based paint
LEED	Leadership in Energy and Environmental Design
LID	Low impact development
LOS	Level of Service
m	Meter(s)
MAG-24	Marine Air Group 24
MALS	Marine Aviation Logistics Squadron
MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
MCBH	Marine Corps Base Hawaii
MCDC	Mōkapu Central Drainage Channel
MCW	Mokapu Central Watershed
MEF	Marine Expeditionary Force
mgd	Million gallons per day
mi	Mile
MILCON	Military construction
MOA	Memorandum of Agreement
mph	Miles per hour
msl	Mean sea level
MV-22	Tilt-rotor aircraft, aka the Osprey
MVA	Megavolt ampere
MWSS	Marine Wing Support Squadron
NAGPRA	Native American Graves Protection and Repatriation Act
NAS	Naval Air Station

NAVFAC	Naval Facilities Engineering Command
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
SAIA	Sikes Act Improvement Act
sf	Square feet
SHPO	State Historic Preservation Officer
sm	Square meters
SOPs	Standard operating procedures
UFC	Unified Facilities Criteria
U.S.	United States
USC	United States Code
USA	Utility system assessment
USACE	United States Army Corps of Engineers
USMC	United States Marine Corps
UST	Underground storage tank
WMA	Wildlife Management Area
WRF	Water reclamation facility
WWTP	Waste water treatment plant
XFMR	Transformer

SUMMARY

Proposed Action. The proposed action is to demolish buildings, structures or facilities (these terms are considered to be interchangeable herein) located in the airfield at Marine Corps Base Hawaii (MCBH), Kaneohe Bay, Oahu, Hawaii. Seven facilities are located within the runway lateral safety zone, the area parallel to the runway and required to be clear of obstructions to airfield traffic. All facilities proposed for demolition are eligible for listing in the National Register of Historic Places (NRHP). The demolition of these deteriorated structures would improve the overall condition of the airfield and, where feasible, provide space for future site redevelopment.

The proposed action would require:

- relocation of the Explosive Ordnance Detachment from Building 605 (proposed for demolition) to Buildings 1359, 1360 and 1361, and relocation of the Environmental Department from Buildings 1359, 1360 and 1361 to Building 3089

- construction of a new storage facility within the Marine Aviation Logistics Squadron (MALS) compound, to replace Building 603 (proposed for demolition).

Alternatives. During normal project planning, general consideration was given to various options and alternatives. However, because the current situation involves airfield safety violations, only the proposed action was given serious consideration. Accordingly, the No-Action alternative was considered and evaluated but is not recommended for implementation.

Environmental Consequences. The proposed action is not expected to result in significant adverse environmental impacts, unresolved issues, or controversy. No adverse or long-term impacts are expected to occur regarding:

Air Quality, Noise, Topography/Geology, Soils, Water Resources, Drainage, Natural Resources, Natural Hazards, Land Use and Visual Resources, Transportation, Utilities/Infrastructure/Solid Waste, and Hazardous Materials/Waste.

The proposed action is not subject to the General Conformity Rule under the Clean Air Act.

Visual/Aesthetic Resources. Proposed new construction under this proposed action would conform to standard building design and would be constructed to be visually consistent with existing buildings on the base. In general, new construction would not have a pronounced effect on the overall scenic vistas of the base or its environs. Demolition of the buildings, which are ancillary airfield structures, would not significantly alter the visual or aesthetic nature of the Naval Air Station Kaneohe Aviation District.

Archaeological, Cultural and Historic Resources. The proposed action includes demolition of facilities that are historic buildings eligible for listing on the NRHP. Demolition of historic

buildings would have adverse impacts on historic properties and the historic Naval Air Station Kaneohe Aviation District at MCBH. Section 106 of the National Historic Preservation Act has been completed, and the adverse effects will be mitigated by:

- conducting a Historic American Buildings Survey (HABS) for structures 603 and 605, to be completed prior to demolition;

- updating the NRHP nomination for the historic Naval Air Station (NAS) Kaneohe Aviation District that will evaluate the district following demolition of the historic buildings that contribute to the district, to be initiated after building demolition and as soon as funding is secured;

- conducting a Historic Context and Building Inventory of World War II-era aircraft revetments across U.S. Marine Corps installations in Hawaii, to be initiated as soon as funding is secured following execution of the MOA and completion of the EA;

- initiating consultation with native Hawaiian organizations (NHOs) for which Mokapu Peninsula has cultural significance to begin development of a Comprehensive Agreement under the Native Graves Protection and Repatriation Act (NAGPRA), to address land management activities that may result in either intentional excavation or inadvertent discovery of NAGPRA cultural items; and to establish a process for consultation and determination of custody, treatment, and disposition of such items;

- conducting archaeological monitoring during all ground-disturbing activities associated with this proposed undertaking; and

- withdrawing Building 620, a Quonset hut, from the proposed undertaking, and conducting a historic structural assessment by a qualified preservation professional to explore alternatives to demolishing the building.

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1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

This Environmental Assessment (EA) addresses the demolition of buildings, structures or facilities that are either located in violation of required airfield lateral safety zones at MCAS, Kaneohe Bay, or are subject to the Marine Corps' Infrastructure Reset initiative, which focuses on facility consolidation and demolition to reduce sustainment costs. Seven facilities within the lateral safety zone are proposed for demolition in order to eliminate them as aviation safety hazards. Three facilities located outside the runway safety zone are proposed for demolition under the Marine Corps' Infrastructure Reset (IR) initiative.

This EA was prepared pursuant to the National Environmental Policy Act (NEPA), as amended (42 USC 4321 et seq.), and its implementing regulations issued by the Council on Environmental Quality (40 CFR Part 1500 - 1508), Marine Corps Order 5090.2A, Change 3, and the USMC NEPA Manual (Sep 2011).

The goal of this EA is to ensure that comprehensive and systematic consideration is given to potential environmental impacts that may result from implementing the proposed action, or any reasonable alternative action, upon the natural, man-made, or social environment. The information presented in this EA will result in either a Finding of No Significant Impact (FONSI), lead to preparation of an Environmental Impact Statement, or no action on the proposal.

1.2 PROJECT LOCATION AND SURROUNDING ENVIRONMENT

The proposed action is located in the state of Hawaii, at the existing U. S. Marine Corps Base Hawaii, Kaneohe Bay (hereinafter, MCBH). Refer to Figures 1-4 for project locator maps.

MCBH encompasses 2,951 acres (11.86 sq km) and is located on Oahu's eastern shore, on Mokapu Peninsula. Mokapu Peninsula is bounded by the waters of Kaneohe Bay on the west, the Pacific Ocean to the north, Kailua Bay to the east, and residential development to the south. Kailua and Kaneohe are the communities nearest to MCBH.

1.3 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The *purpose* of the proposed action is to: remove structures that are located within an airfield safety zone; and remove structures identified under the Infrastructure Reset initiative.

The *need* for the proposed action is to correct existing airfield safety zone violations (obstruction of navigable airspace), which exist contrary to FAA regulations and DoD guidelines, and to

comply with a Marine Corps initiative focusing on facility consolidation and demolition to reduce sustainment costs.

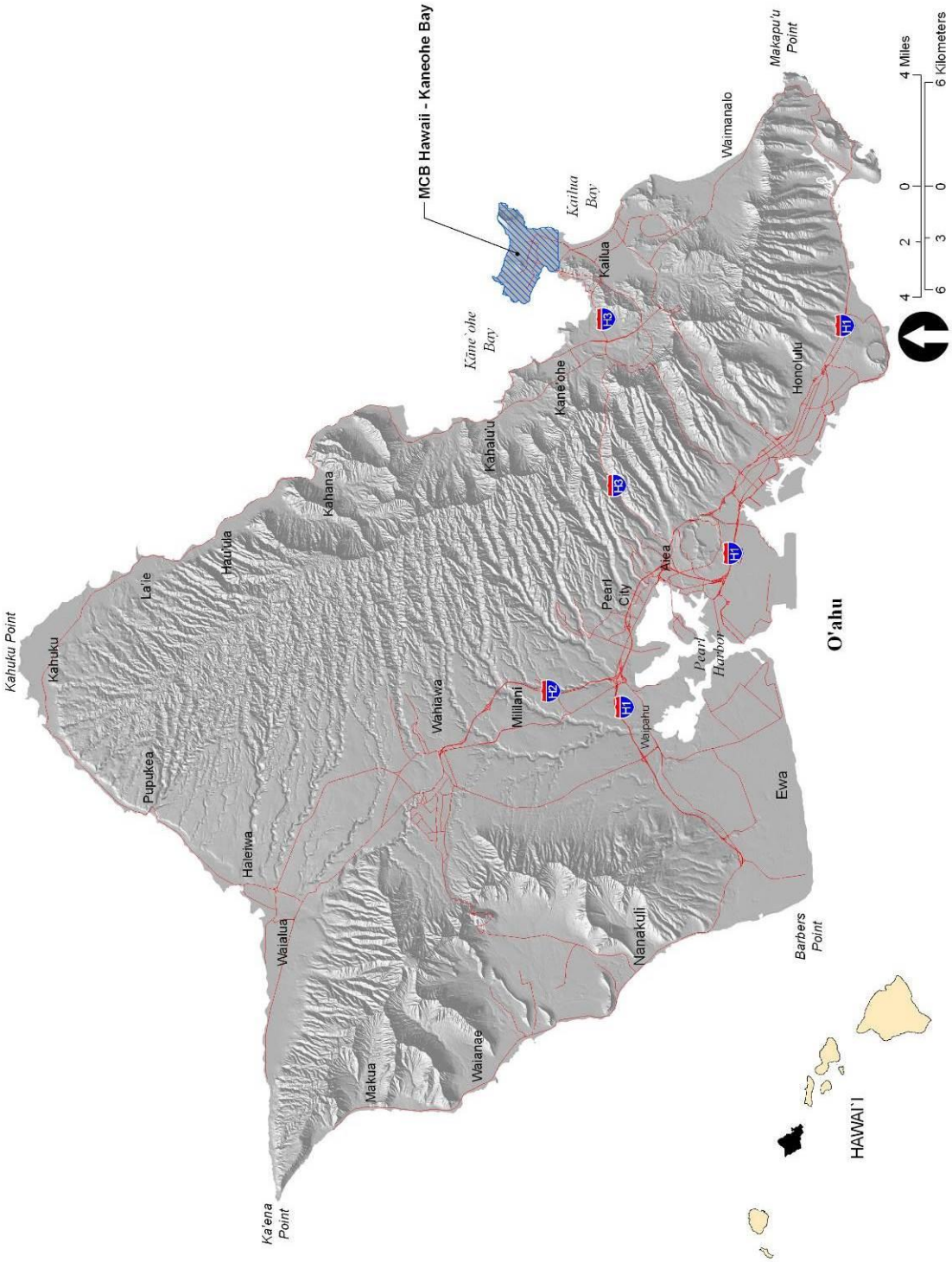

Figure 1. Proposed Action Location Map.

Figure 2. Proposed Action Location – MCBH Airfield Area.

Figure 3. Proposed Action Location – Proposed buildings for Demolition.

Figure 4. Location of proposed MALS Storage Facility.

1.4 PROJECT BACKGROUND

1.4.1 Airfield Safety Zone

The MCBH runway, oriented in a northeast-southwest direction, is 7,767 feet long and 200 feet wide. The west side of what is currently MCBH (where the runway is located) was initially commissioned as Naval Air Station (NAS) Kaneohe Bay in 1938. The original runway was 5,250 feet long and 1,000 feet wide. Following World War II, NAS Kaneohe was transferred to the Marine Corps and became MCAS Kaneohe Bay. The runway was lengthened and reoriented to accommodate new fighter aircraft. By 1952 the runway was 7,767 feet long and 200 feet wide, its current configuration. The airfield area at MCBH is still designated as Marine Corps Air Station (MCAS) Kaneohe Bay.

Most of the facilities that are located within the current airfield safety zone were constructed in the 1940s, prior to formalization of airfield safety zones. Federal Aviation Regulations (FAR) Part 77, identifying obstructions to civil aviation, became effective in May 1965. In response to FAR Part 77, Naval Facilities Engineering Command guidance, NAVFAC P-80.3, Facility Planning Factor Criteria for Navy and Marine Corps Shore Installations, was published in January 1982. Appendix A (Airfield Planning and Design Criteria) to this document illustrates safety criteria applicable to Navy and Marine Corps airfields.

Airfield safety zones have lateral and transitional components aligned parallel to a runway (there are also airfield ”clear zones” extending from the ends of DoD airfields, related to approaching and departing aircraft, which are not the subject of this document, although the lateral/parallel safety zones are often referred to as clear zones). These components apply from the runway centerline. The first two safety zones from the centerline of the runway are the focus of this analysis: the first component is the lateral or horizontal clear distance required from the runway centerline; the second component is a transitional zone, based on a 7 (horizontal) to 1 (vertical) distance that applies from the outer boundary of the first (horizontal) clear zone. The transitional zone, in effect, creates a “transitional surface”, also referred to as an “imaginary surface,” sloping up and away at the 7:1 ratio, from the outer boundary of the horizontal clear zone on either side of a given runway. The transitional surface marks the “ceiling” above which structures become potential hazards to navigation if their height penetrates the imaginary surface. The proposed action would remove a number of existing obstructions to navigable airspace at MCBH, allowing the correction of a violation of horizontal-distance requirements for clearance around the runway and between runway and taxiway/aircraft-parking areas.

Runways are classified as either Class A or Class B. The single operational runway at MCBH is a Class B runway, primarily intended for high-performance and large, heavy aircraft. Runway length varies and is computed based on use. Minimum runway width for Navy and Marine Corps airfields is 200 feet. Additional to this is a requirement for 150 feet of runway shoulder area on either side, with at least 10 feet of that as paved surface. The centerline of a Class B runway and a parallel taxiway must be no less than 500 feet apart. The lateral safety zone surrounding a Class B runway is required to be 2,000 feet, measured from the centerline of the runway (that is, 1,000 feet on either side of the runway centerline), and inclusive of any parallel taxiway.

Because the requirement for a 2,000-foot lateral safety zone was developed in 1981, well after the construction of the MCBH runway, the lateral clear zone surrounding the MCBH runway is "grandfathered" at 750-feet on either side of the runway from centerline (i.e., a 1,500-foot runway lateral safety zone). Figure 5 and Figure 6 illustrate the lateral and transitional safety zones and the positions of the facilities proposed for demolition in relation to these zones.

1.4.2 Infrastructure Reset Initiative

The Marine Corps Infrastructure Reset (IR) initiative (Appendix B), begun in 2016, has a goal of reducing infrastructure life-cycle and sustainment costs. One of the program's goals is to reduce and optimize infrastructure footprint by consolidation, implementing space management to maximize utilization, and eliminating excess and failing facilities. Three facilities, Buildings 313 (Armory Storage), 601 (Storage), and 620 (Storage) have been identified as qualifying for the IR initiative. Building 313 is single-story, constructed in 1942, and was used to store torpedo parts. Building 601 is single-story, constructed in 1941, and was used for smoke-drum storage. It is located close to the 750-ft runway lateral clearance zone, and its height places it very close to violation of the 7:1 transitional surface. Building 620 is a Quonset hut constructed in 1945. None of these three facilities has a current designated function, being used for miscellaneous storage; all three are eligible for listing in the National Register of Historic Places.

1.5 ENVIRONMENTAL PERMITS AND CONSULTATIONS

Table 1 includes, but is not limited to, permits and agency consultations that may be required to implement the proposed action:

Table 1. Permits and Agency Consultations.

Permit or Consultation	Agency
National Pollutant Discharge Elimination System	Department of Health (DOH), State of Hawaii
National Historic Preservation Act (NHPA), Section 106 Consultation	Historic Preservation Division, Department of Land and Natural Resources, State of Hawai‘i

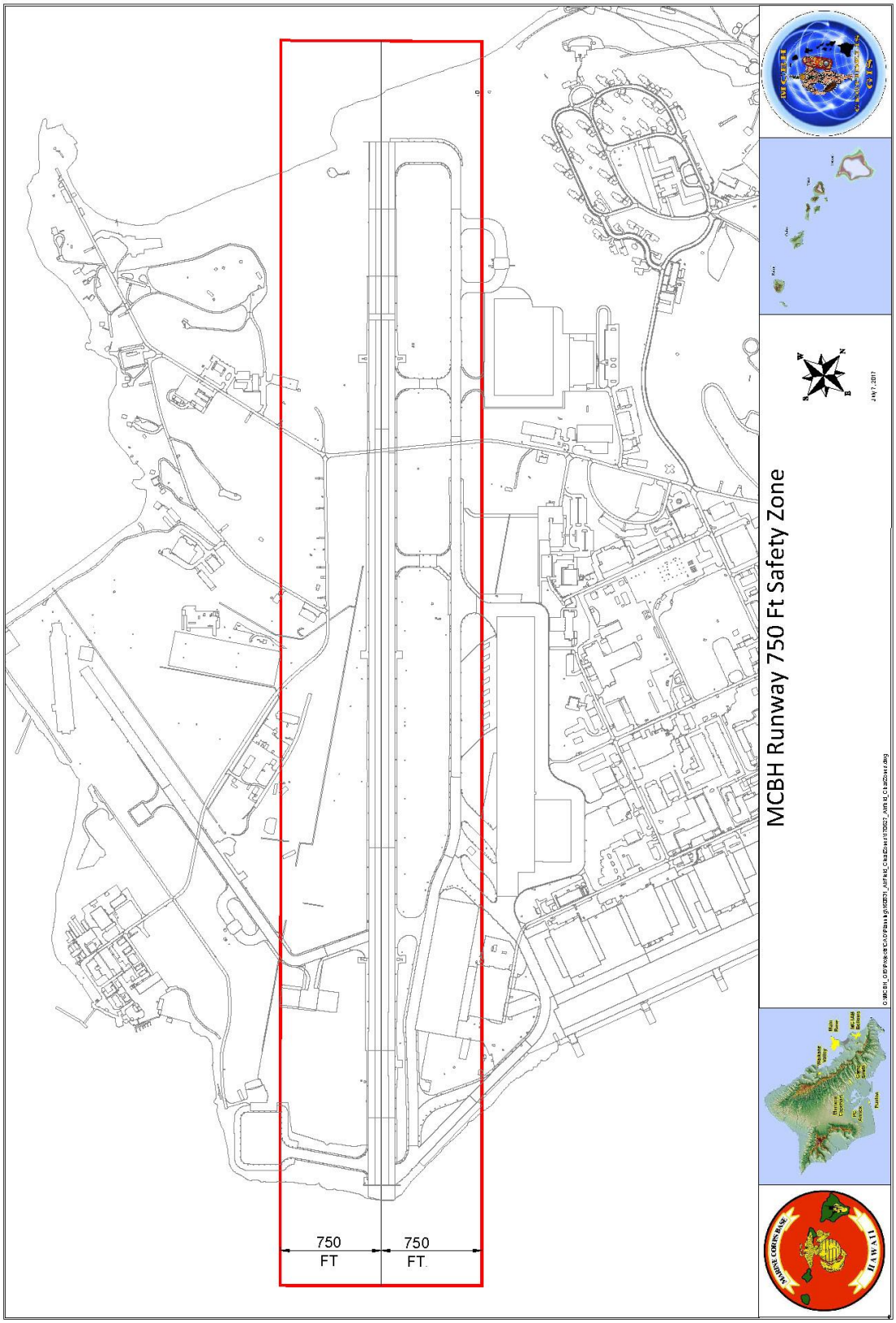

Figure 5. Runway 750-Foot Safety Zone.

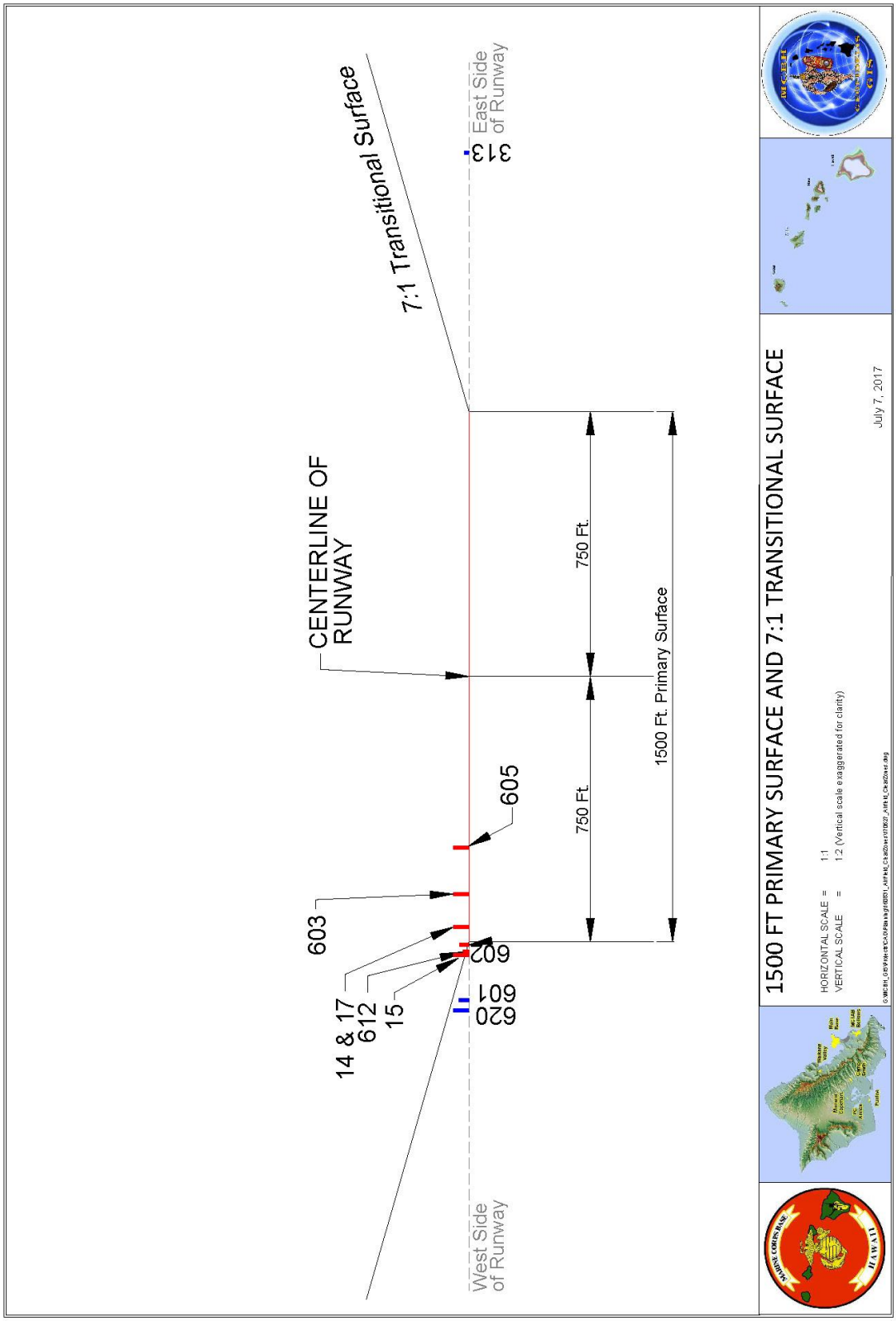

Figure 6. Buildings proposed for demolition within the 1500-foot primary surface and 7:1 transitional surface.

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2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 DETAILED DESCRIPTION OF THE PROPOSED ACTION

This Environmental Assessment (EA) addresses the demolition of structures located within the required airfield clear zone at MCBH. Under the proposed action, structures located within the runway clear zone would be demolished to eliminate the current runway safety violation they constitute. In addition, the proposed action includes demolition of three structures identified under the Marine Corps' Infrastructure Reset Initiative for reducing sustainment costs, and, as actions connected to the proposed action, renovation of several existing structures and construction of one new facility to house users displaced by the demolition. The facilities proposed for demolition are all World War II vintage, are deteriorated, and have no operational or mission-required use. The demolition of these deteriorated structures would improve the overall condition of the airfield and, in the case of Building 313, potentially provide space for future redevelopment on the space-constrained base.

2.1.1 Demolition/Construction/Renovation Projects

The proposed action would demolish seven facilities located within the runway safety zone in order to eliminate the current safety violation, as well as three facilities identified under the IR initiative, one of which is close to being in violation of the 7:1 transitional surface airfield safety zone (Table 2). Appendix C shows photographs of the facilities proposed for demolition.

Replacement facilities would be required for personnel and/or the uses related to some of the facilities identified for demolition. A new, single-story facility would be constructed for MALS Storage (see Figure 4), which would be displaced by the demolition of Building 603. The Environmental Department would move from its current location in Buildings 1359, 1360, and 1361 on the west side of the airfield, to a location on the east side of MCBH in existing Building 3089. The Environmental Department's current facilities would then be renovated for use by the Explosives Ordnance Detachment (EOD), currently occupying Building 605, located within the airfield safety zone. Demolition of facilities would include removal of foundations and all related utilities.

In general, any construction or renovation projects would incorporate the required anti-terrorism/force protection (AT/FP) measures, in accordance with Unified Facilities Criteria (UFC) 4-010-01, Minimum Anti-Terrorism Standards for Buildings.[1] Additionally, each project would incorporate, as applicable, sustainable design features to achieve, at a minimum, a

[1] *UFC 4-010-01, DoD Minimum Anti-Terrorism Standards for Buildings* was implemented in 2004 to minimize mass casualties from terrorist attacks on DoD buildings. Major strategies include, but are not limited to: maximizing standoff distances, maintaining unobstructed space, and incorporating structural features into building design to prevent building collapse and resist blast effects.

Table 2. Historic Buildings Proposed for Demolition at MCBH.

Item No.	Facility/ Bldg No.	Description	750/7:1//IR*	Sq. Ft.	Year Built
1	14	Power Check Pad	7:1	8136	1942
2	15	Aircraft Revetment	7:1	8136	1942
3	17	Power Check Pad	7:1	8136	1942
4	313	MAG Storage/ General Warehouse	IR	1330	1942
5	601	Storage	IR	1600	1941
6	602	Airfield Lighting Storage	7:1	1230	1942
7	603	Storage	750 ft	4160	1941
8	605	EOD Ops	750 ft	6170	1941
9	612	Engine Test Cell/Warehouse	7:1	1310	1942
10	620	Arresting Gear Equip Stor	IR	4100	1945

* 750-ft distance from runway centerline or 7:1 ratio transitional surface or Infrastructure Reset initiative.

Leadership in Energy and Environmental Design (LEED) Silver rating; Low-Impact Development (LID) features in compliance with UFC 3-210-10 and Section 438 of the Energy Independence and Security Act; and energy reduction features in compliance with the Energy Policy Act of 2005, Executive Order (EO) 13123 Greening the Government Through Efficient Energy Management, and other pertinent regulations, laws and EOs.

2.2 ALTERNATIVES CONSIDERED

2.2.1 No-Action Alternative

Under the no-action alternative, MCBH would not demolish facilities within the airfield safety zone, leaving the existing buildings and structures around the runway as a flight hazard and in violation of airfield safety regulations (obstruction of navigable airspace). Consequently, aircraft collisions with these obstructions could result in damage to aircraft and facilities, injury or death. Additionally, under the no-action alternative, the facilities proposed for demolition under the Infrastructure Reset initiative would not be demolished.

Under the no-action alternative, the airfield would continue to be used as it is currently, the purpose of and need for the proposed action would not be met, the airfield hazards would remain, safety would be compromised, and funds would continue to be expended to maintain facilities that have no current mission requirement.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER STUDY

Additional alternatives were considered, but eliminated from further evaluation because they did not fulfill the minimum objectives and criteria to achieve the purpose and need for the proposed action; they failed to meet the immediate need to address airfield safety requirements.

Table 3 shows alternatives considered but eliminated during planning.

Table 3. Alternatives considered but eliminated from further study.

Name of Alternative	Why alternative was excluded
Raise airfield above hazards in airfield clear zone	Closure of the airfield for lengthy period; high cost; impact to training and airfield readiness
West Field alternative – move airfield centerline west of current location	Closure of the airfield for lengthy period; high cost; impact to training and airfield readiness

To raise the entire airfield above the height of the hazards currently located within the lateral and transitional airfield safety zones would be costly, time-consuming, and extremely difficult to achieve. The tallest facilities located within the 750-ft lateral safety zone are buildings 603 and 605, at 22-feet each; the tallest facilities located within the 7:1 transitional safety zone are buildings 14, 15, and 17, at 20-feet each. Raising the entire runway surface by 22 feet would impact the entire airfield area, requiring closure of the airfield for a lengthy period of time, and also raising all taxiways, parking aprons and many other facilities such as hangars, and roads, making this alternative economically infeasible as well as impractical. For these reasons, raising the airfield is not considered a reasonable alternative and was eliminated from further study.

The alternative of moving the runway centerline west of the current centerline toward the West Field area would require demolition of historic World War II era small arms storage facilities located along the lower slopes of Keawanui as well as partially removing the hill. These facilities are eligible for listing on the National Register of Historic Places (NRHP), and archaeological sites are located on the slopes of Keawanui. Impacts of moving the centerline include costs, impacts to operations during airfield rehabilitation, and removal of significant amounts of excavation material that would be generated from the partial removal of the hill. Further, the West Field alternative would be constrained along the runway by accident potential zones at both ends of the runway, with water at both ends, which reduces the amount of developable area. For these reasons, moving the centerline west is not considered a reasonable alternative and was eliminated from further study.

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3.0 EXISTING ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES, AND MITIGATION

This chapter describes: (1) the environmental setting and baseline conditions of the existing environmental components within and adjacent to the project area encompassed by the proposed action and no-action alternatives; and (2) the potential impacts on these environmental components that could result from the proposed action and no-action alternatives.

3.1 AIR QUALITY

3.1.1 Existing Environment

Ambient air pollution concentrations are regulated under the federal Clean Air Act (CAA) regulations found in 40 CFR Part 50 and under the State of Hawaii Ambient Air Quality Standards (AAQS) found in Hawaii Administrative Rules (HAR) Title 11, Chapter 59. Federal AAQS are grouped into primary and secondary standards. Primary standards are intended to protect public health, with an adequate margin of safety, while secondary standards are intended to protect public welfare through the prevention of damage to soils, water, vegetation, animals, wildlife, man-made materials, visibility, climate, and economic values. State AAQS are intended to "protect public health and welfare and to prevent the significant deterioration of air quality."

The State of Hawaii Department of Health (DOH) operates a network of air quality monitoring stations across the state. In 2016, DOH had four monitoring stations on Oahu. Long-term data from the air quality monitoring stations reflect the generally good air quality in the state and in the City and County of Honolulu, with the State of Hawaii being in attainment of National Ambient Air Quality Standards (NAAQS) (Hawaii DOH Clean Air Branch public website, 2017). Within MCBH, sources of airborne emissions generally include fuel combustion by aircraft engines and motor vehicles, boilers, and generators. There are no identified sources of air pollution at MCBH that would result in non-compliance with State standards. Two facilities, an engine test cell and a corrosion-control hangar, are covered under a State of Hawaii Department of Health Clean Air Branch "non-covered" (i.e., minor) emissions permit.

Air quality analysis generally considers ambient (outdoor) air quality and emissions of air pollutants regulated by the Clean Air Act, as well as the greenhouse gases water vapor, carbon dioxide, tropospheric ozone, nitrous oxide, and methane. Project actions are determined to have a significant adverse environmental impact on air quality if the following consequences occur: potential air emission concentrations from the implementation of a proposed action, combined with the ambient concentrations for criteria pollutants, exceed State or Federal AAQS or exposes the public (especially areas that house sensitive receptors [e.g., children, the elderly and the infirm] such as schools, day-care centers, hospitals, retirement homes, convalescence facilities,

and residences) to substantial pollutant concentrations that are above acceptable health-effects levels.

The U.S. Environmental Protection Agency refers to areas that do not meet the National Ambient Air Quality Standards as nonattainment areas. The project area, MCBH, meets air quality standards. Currently, no major area or point sources of air pollutant emissions exist on or near the site of the proposed action.

3.1.2 Environmental Consequences

Air quality within the vicinity of the project area may be affected temporarily during the demolition and construction period. Emissions and dust would be generated by construction and demolition equipment and vehicles. Dust displaced during demolition and construction-related activities would increase the amount of particulate matter in the air. However, the impacts these emissions would have on air quality are not expected to be significant due to the emissions' short-term nature. Further, implementation of construction site Best Management Practices (BMPs) would minimize emissions and dust. BMPs include proper maintenance and management of construction vehicles and equipment and standard dust control measures, such as erecting dust screens around the construction site and dust suppression of exposed soils. Dust can be further minimized by landscaping areas of bare earth as soon as practicable. Any air permits, as required by DOH, would be obtained for demolition and construction-related activities, including operation of a concrete crusher, if applicable.

The proposed action will not inherently increase vehicular activity at MCBH. Motor vehicles are considered an indirect source of air pollution, as defined in the federal CAA. However, long-term air quality impacts due to mobile sources associated with the proposed action are expected to be insignificant due to the overall low traffic volumes at the base and improved vehicular emissions controls. The proposed action would demolish buildings around the airfield and construct administrative space and warehousing/storage spaces, none of which are expected to be a significant stationary source of emissions. Therefore, the proposed action would result in no significant long-term impacts on air quality.

No-Action Alternative

The no-action alternative would not result in significant impact upon the air quality at MCBH.

3.2 NOISE

3.2.1 Existing Environment

The federal government supports an environment free from noise that threatens human health and welfare and the environment. Response to noise varies, depending on the type and characteristics of the noise, distance between the noise source and whomever hears it (the

receptor), receptor sensitivity, and time of day. The impacts of sound on the environment are determined by several factors, including sound level (loudness), duration of exposure to the noise, frequencies of the sound, and variations or fluctuations in noise levels during exposure.

For land use planning purposes, the base's *Air Installation Compatibility Use Zones (AICUZ) Study Update, Marine Corps Base Hawaii Kaneohe Bay* (AECOM 2016) delineates three noise exposure zones that are defined by day/night sound level (DNL) analysis. DNL is a time-average sound level generated by aircraft operating at the facility, represented in decibels (dB), which represents an average-day or 24-hour period, with nighttime sound levels expressed in terms of A-weighted sound, since people are more sensitive to noise during sleeping hours when ambient noise levels are lower. A-weighting is a method of adjusting the frequency of sound event to closely resemble the way the average human ear responds to aircraft sound and is considered a good indication of the impact of noise produced by aircraft operations (AECOM 2016). Table 4 describes the three noise zones, and Figure 7 illustrates these, for MCBH.

The runway safety zone project area is located in an area with a DNL of 75 dB or greater. This area is located around the periphery of the runway and is exposed to aircraft noise, which accounts for the elevated sound levels.

3.2.2 Environmental Consequences

Project actions are determined to have a significant adverse environmental impact on the noise environment if construction-related or on-site operational noise levels exceed applicable regulations and guidelines.

Personnel working around the airfield may be temporarily subjected to elevated, but not detrimental, noise levels associated with the demolition and construction of the proposed action. This area is within a land use zone that would not be significantly affected by demolition or construction projects because it is already located in a generally higher noise zone of the base.

Reducing construction-related noise to inaudible levels at any of the project sites is not a realistic goal. However, to attenuate the short-term noise effects on sensitive receptors near office areas, construction site BMPs would be implemented, properly-muffled construction equipment would be used, and construction would be conducted in accordance with all applicable noise regulations and time restrictions.

Table 4. Description of Designated Noise Zones at MCBH.

Noise Zone	Criteria/Description
1	Areas with a DNL of less than 65 dB; essentially areas of no impact
2	Areas with an DNL between 65-75 dB; moderate impact where some land use controls are needed
3	Areas with an DNL of 75 dB or greater; the most-severely impacted areas, requiring the greatest degree of land use controls

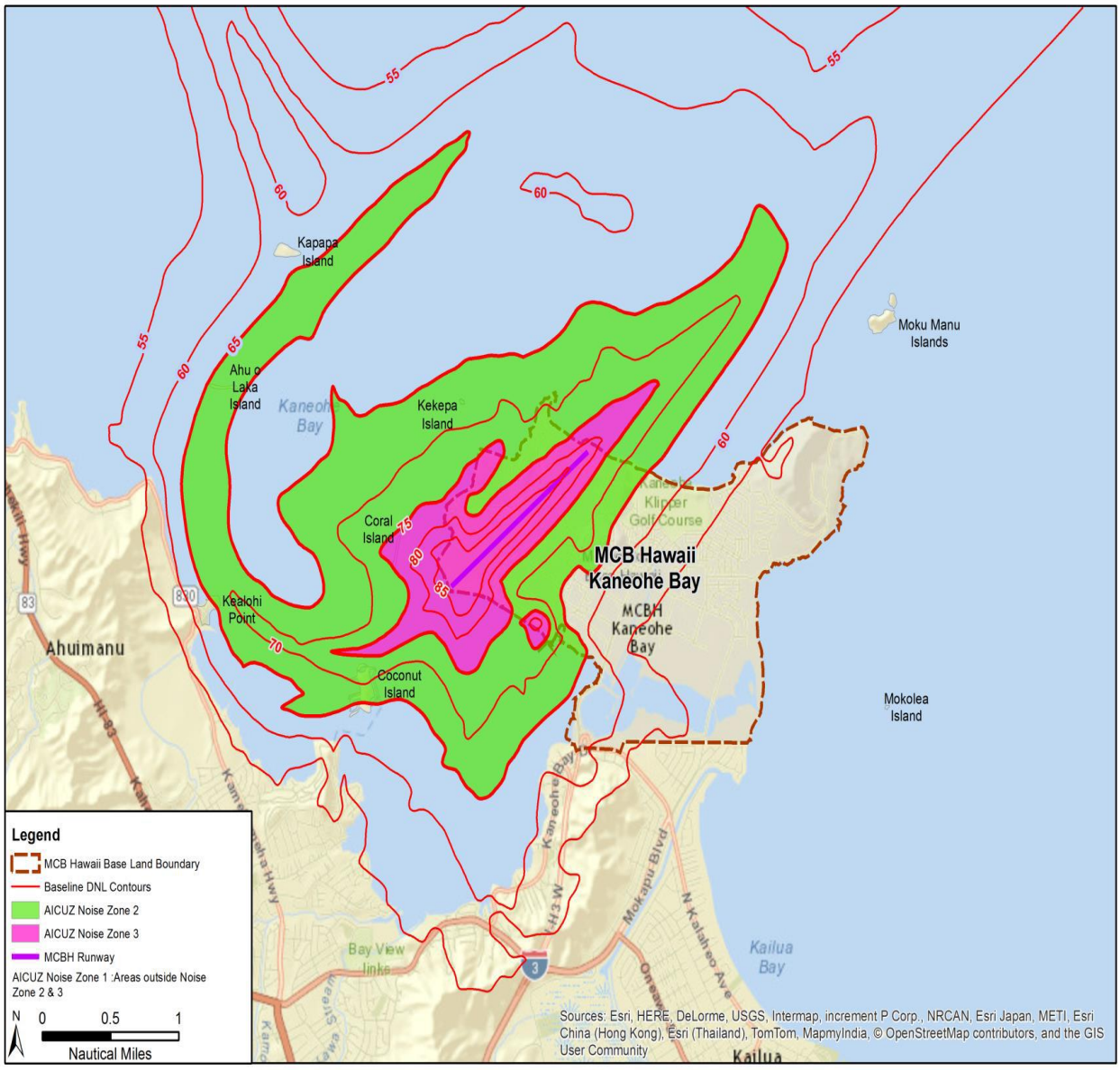

Figure 7. MCBH Aircraft Noise Zones.

In the short-term, noise associated with demolition and construction activity associated with the proposed action, including traffic-related noise may increase, but the anticipated increases would not result in significant impacts on the existing ambient noise environment over the long-term.

No-Action Alternative

The no-action alternative would not result in significant impacts on the ambient noise environment.

3.3 TOPOGRAPHY, GEOLOGY, AND SOILS

3.3.1 Existing Environment

Shoreline areas of Mokapu Peninsula begin at a topographical elevation of mean sea level (msl) and rise to approximately 600 feet (183 m), at the top of Ulupau Crater, the highest point on the peninsula. Other prominent geological features on the base are Pyramid Rock (traditionally called Kuau), located at the northwestern tip of the peninsula, and Puu Hawaiiloa, an approximately 400 feet (122 m) volcanic cone near the center of the base. Developed areas of MCBH, Kaneohe Bay are generally flat, with elevations ranging from msl to about 20 feet (6.1 m) above msl. Typical of central portions of the base, the topography of the various project areas is generally flat.

The soil occurring at the airfield is classified as Fill land, mixed (FL) (Figure 8), which is typical of land developed for airports on Oahu. This area contains gravelly sandy loam and fine sandy loam, much of which are includes fill materials dredged from the ocean, excavated from nearby areas, or refuse. The airfield has an average elevation of 10 feet (3 m) above msl. This soil type is generally well drained, with slope ranging from 0 to 3 percent.

3.3.2 Environmental Consequences

Project actions are determined to have a significant adverse impact on soils if there is an increase in erosion and transport of soils and sediment off site, particularly if the resulting transport of sediment would cause significant impacts on water quality or aquatic habitats. Project actions are determined to have a significant adverse environmental impact on topography if significant changes are made to the topography resulting from construction associated with the proposed action. Significant topographical changes are those of such a degree that they adversely impact on-site or adjacent land use, infrastructure, or drainage patterns. Topographical changes may include such actions as creating excessively steep slopes that produce unstable ground conditions.

Proposed Action

In the short-term, impacts on soils in all project areas could be caused by land-disturbing activities associated with demolition and construction, such as clearing, excavating, grading, and

filling. Impacts on soils include erosion and sedimentation. During the construction phase of various projects, exposed soils are susceptible to erosion during heavy rain, which may result in silt runoff. Wind erosion may result in some unavoidable soil loss.

With appropriate implementation of construction BMPs, no significant impacts to soils or topography are expected to result from the proposed construction activities. BMPs may include berms, cut-off ditches, silt fences, vegetative ground cover, dust fences, and soil stabilization. No significant, long-term, adverse impacts on topography or soils are anticipated as a result of implementing the proposed action.

No-Action Alternative
Under the no-action alternative, there would be no related demolition or construction activities and there would be no short- or long- term impacts on soils or topography within the project areas.

3.4 WATER RESOURCES

3.4.1 Existing Environment

Water resources include surface and ground waters on and near the project area.

Surface Water. Ocean water on all sides of Mokapu Peninsula is regulated by the State of Hawaii. The airfield is located on the western side of Mokapu Peninsula, which extends into Kaneohe Bay. The bay is used for recreation and as a wildlife refuge. Hawaii Administrative Rules (HAR) 11-54 Water Quality Standards classifies Kaneohe Bay as marine water quality Class AA. The state's goal for Class AA marine waters is that they remain as pristine as possible.

On-base at MCBH, surface waters consist of the eight delineated ponds of the Nuupia Ponds Complex and the Mokapu Central Drainage Channel (MCDC). A man-made, muddy-bottomed channel approximately 6,235 feet (1,900 meters) long designed to facilitate rapid flow of storm water runoff from the relatively flat, low-lying inland areas of the peninsula to the Nuupia Ponds Complex. An extensive system of box culverts, pipes, swales, and ditches conveys surface runoff into the MCDC.

It is typical of Mokapu Peninsula to receive an average of 40 in (102 cm) of rain every year. This leaves low-lying, open areas throughout the base subject to flooding. Depending on the volume of precipitation and its duration, temporary pools or puddles can appear that eventually evaporate. In low-lying areas where there is sparse vegetation, such as the airfield, transitory marshes may appear. These temporary areas of surface water have been documented to provide short-lived waterbird and shorebird habitat until they dry up and are considered a healthy part of the natural hydrologic system.

8

Figure 8. Soil survey map of western Mokapu Peninsula (USDA 2016).

Groundwater. Groundwater results from the infiltration of water through surface soils and permeable rock materials. It is the principal source of potable water in Hawaii and occurs in two modes: (1) high-level groundwater that is perched atop low-permeability strata or confined within a dyke system, or as (2) a basal aquifer (Juvik and Juvik 1998). Mokapu's thin layer of surface soil, combined with its layer of rock and sediments, provide little depth for groundwater drainage.

Proposed Action
The proposed project area, located on the western side of Mokapu Peninsula, is near Kaneohe Bay. Facilities proposed for demolition vary in distance from the bay: Facility 620 is about 1,314 feet (400 m) southeast of the bay, and Facility 605 is about 1,553 feet (473 m) south of the bay. Runoff is carried by an extensive system of box culverts, pipes, and ditches that lead to Kaneohe Bay.

Groundwater resources at Mokapu Peninsula consist of two aquifers: an unconfined, low salinity caprock aquifer above a confined, freshwater basalt aquifer. There are no potable groundwater wells on Mokapu Peninsula because the peninsula sits atop an area known to have brackish basal groundwater. The project area shares the same groundwater source.

3.4.2 Environmental Consequences

Project actions could be considered to have an adverse impact on the existing environment if the quality of surface water is affected by runoff or pollutants or the basic function of groundwater systems are altered, contaminated, or recharge is significantly reduced.

Proposed Action
No significant adverse effects on surface or groundwater quality or groundwater recharge are anticipated due to the proposed action.

The proposed action is not expected to result in short-term adverse impacts on surface waters resulting from demolition or construction activities. Removed materials, debris, and soil resulting from demolition activities would be contained during the demolition period and properly disposed of, in accordance with all applicable regulations.

However, as with all construction activities that involve the disturbance of soil, the potential for temporary erosion, sedimentation, and runoff from a project site exists during storm events. Clean Water Act (CWA) mandated protective measures such as a general or individual National Pollution Discharge Elimination System (NPDES) permit, if required for any of the proposed action projects, would necessitate development of a Site-Specific Construction BMP Plan for storm water runoff prior to commencing construction activities. The Site-Specific Construction BMP Plan would identify the most effective erosion, sedimentation, and runoff control measures to reduce the amount of soil and sediment transported off-site as a result of construction activities.

The area around the airfield has been previously developed, existing paved areas, roads, walkways, or parking lots could facilitate the movement of sediment-bound pollutants contained in runoff into drainage lines that discharge into Kaneohe Bay. Application of BMPs would ensure that the quality of any surface waters within or surrounding the base would not be degraded. BMPs for sediment control include the use of silt fences, storm drain inlet protection measures, sediment traps, and sediment basins.

In the long-term, the proposed action is not expected to result in adverse impacts to surface waters. Application of appropriate site drainage control measures, as discussed in Section 3.5 (Drainage), would minimize the potential for contaminants to be discharged into surface waters from runoff.

In addition, construction and renovation projects would not involve deep digging, filling or grading that would breach the caprock aquifer to contaminate groundwater. Furthermore, potable groundwater does not exist at any of the project areas; therefore, contamination of drinking water is not a concern.

No-Action Alternative
The no-action alternative would have no significant impacts on surface waters or groundwater.

3.5 DRAINAGE

3.5.1 Existing Environment

Mokapu Peninsula is located within the Mokapu Central Watershed (MCW), which spans freshwater, marine, and estuarine ecosystems. The peninsula features two distinct drainage basins—Nuupia Basin, which encompasses a portion of the southeastern area of the peninsula, and Mokapu Drainage Basin, which accounts for most of the central and northern areas of the peninsula. The Mokapu Central Drainage Basin area captures and releases surface water to Nuupia Basin and the MCDC. The MCDC receives surface runoff from approximately 482 acres that comprise the Mokapu Drainage Basin.

Storm water runoff is channelized into an extensive system of box culverts, pipes, and ditches. There are 22 outlets ranging in size from a 24-inch pipe draining one catch basin to a 10-ft by 4-ft (3.1-m by 1.2-m) box culvert that drains much of the airfield area. Four of the storm drain outlets discharge into Nuupia Ponds, fourteen discharge into Kaneohe Bay, two discharge into the ocean at Ulupau Crater and two discharge into Kailua Bay. In general, drainage water in the Mokapu Drainage Basin and at all project areas is composed of surface runoff.

Box culverts and existing drainage lines around the airfield are installed along the edges and beneath the paved areas. Storm water runoff from the airfield is conveyed to a main underground drainage line that runs parallel to Taxiway C and eventually empties into Kaneohe Bay, in a discharge area south of the airfield.

Storm water drainage from this area is regulated under MCBH's storm water NPDES permit. An increase in storm water could temporarily increase erosion around demolition and construction sites.

3.5.2 Environmental Consequences

Specific actions or occurrences that could be considered significant impacts related to drainage include the placement of structures and the alteration of a site's existing drainage patterns such that an increase in the rate or volume of surface or storm water runoff would substantially exceed the capacity of existing or planned storm water drainage systems. This could result in increased erosion and/or siltation, thereby eventually causing sediment-bound pollutants to be discharged to receiving waters. Increasing the potential for flooding on- or off-site would also be considered a significant impact related to drainage.

Proposed Action
Implementing the proposed action would entail demolishing existing facilities, constructing a new facility, and renovation of other facilities. Included in demolition is removal of building foundations and utilities, with the area to be left unpaved afterward. This would decrease the area of impermeable surface at all demolition sites and, accordingly, increase the amount of pervious land area to absorb storm water and reduce surface runoff. The one proposed construction site, for the MALS storage facility, is proposed to be built over an existing concrete pad, with an additional 1,762 square feet of impervious area being added for the required size of the building footprint. The proposed action would result in a rough estimated net decrease of 38,446 square feet or about 0.9 acre of impervious surface. A summary of the change in impervious surface is shown in Table 5.

Table 5. Change in Impervious Surface Summary.

Building		Existing Impervious Surface (SF)	Impervious to be Removed/Added (SF)	Future Impervious Surface (SF)
14	Power Check Pad (former revetment)	8,136	-8,136	0
15	Former revetment	8,136	-8,136	0
17	Power Check Pad (former revetment)	8,136	-8,136	0
313	MAG Stor/Gen Whse	1,330	-1,330	0
601	Storage	1,600	-1,600	0
602	Airfield Lighting Storage	1,230	-1,230	0
603	Storage	4,160	-4,160	0
605	EOD Ops	6,170	-6,170	0
612	Engine Test Cell/Warehouse	1,310	-1,310	0
620	Arresting Gear Equipment Storage *	4,100	0000	4,100
NA	New MALS Storage Building	6,555	+1,762	+8,317
	Total	**50,863**	**Net -38,446**	**12,417**

Bldg 620 was deleted from demolition list as mitigation

Due to the net decrease in impervious surface, there could be a resultant decrease in surface runoff volume and reduced potential for localized flooding around the airfield.

The proposed action would be implemented in compliance with the Department of the Navy's low-impact development (LID) policy, the goal of which is to manage storm water on-site and result in no net increase in storm water volume, rate, sediment or nutrient loading from major construction or renovation projects. In accordance with this policy, site design strategies and features intended specifically to address storm water runoff would be incorporated within the proposed action to reduce the rate of runoff, volume and pollutants. Strategies and project features could include, among others, bio-retention areas, permeable paving, vegetated swales, rainwater harvesting, and underground detention devices, as required. As a result, runoff is expected to be minimal and would not exceed the capacity of existing drainage systems. Therefore, it is expected that the proposed action would not significantly impact drainage or receiving waters.

In addition to the design features incorporated into the individual actions, short-term protective measures may include the development of a Construction BMP Plan for storm water runoff. The Construction BMP Plan would identify the most effective erosion, sedimentation, and runoff control measures to reduce the amount of soil and sediment that may be transported by runoff during the construction period. The BMPs would be intended to confine sediment and silt runoff to the project area. Therefore, there should be no degradation of water quality in nearby water bodies.

Significant adverse impacts on drainage are not expected due to specifically-designed features incorporated into the demolition/construction projects to minimize and filter runoff in compliance with the Navy's LID policy. The rate and volume of runoff would not exceed the capacity of existing or planned drainage systems and would not contribute to the potential for flooding on- or off-site.

No-Action Alternative
The no-action alternative would not have impacts on drainage systems.

3.6 NATURAL RESOURCES

This resource area covers a wide variety of resources types, including wetlands; coastal zones, threatened and endangered and other special status species such as migratory birds and habitats of those species.

3.6.1 Existing Environment

Wetlands on Mokapu Peninsula provide essential habitat to many federally-protected native and migratory birds, native fish, and other aquatic fauna and flora. The wetlands also serve to filter sediments and pollution and help to reduce shoreline erosion. Eight protected wetland complexes are located at MCBH: (1) Hale Koa Wetland; (2) Sag Harbor Wetland; (3) Salvage Yard Wetland; (4) Percolation Ditch Wetland; (5) Motor Pool Wetland; (6) Kaneohe Klipper Golf Course Ponds; (7) Temporary Lodging Facility Wetland; and, (8) Nuupia Pond Complex—

a designated and protected Wildlife Management Area (WMA) that harbors endangered flora and fauna. Among the fauna are numerous bird species, all of which are federally protected under either the Endangered Species Act (ESA) or the Migratory Bird Treaty Act (MBTA). Over 50 species of waterbirds, shorebirds, and seabirds have been noted in 50 years of bird count records (MCBH INRMP 2016). Among the MBTA-protected birds, commonly observed are great frigatebirds (ʻiwa or *Fregata minor palmerstoni*), native black-crowned night herons (ʻaukuʻu or *Nycticorax nycticorax hoactli*), and the Pacific golden plovers (kolea, *Pluvialis fulva*). Although native plants significant to Hawaiian culture exist on MCBH (including a recent self-colonized population of the Listed Endangered ʻohai plant (*Sesbania tomentosa*), none are known to occur in the project area. Low manicured grass typically grows between the runway and taxiway as well as areas around the airfield.

The closest wetland to proposed project area is the Sag Harbor Wetland, which is about 1,172 feet (357 m) west of Facilities 14, 15, and 17. The Hale Koa Wetland is located along the coast, northeast of the Sag Harbor Wetland, about 1,204 feet (337 m) northwest of Facilities 14, 15, and 17. Refer to Figure 9 for a map of the wetlands at MCBH and the proposed action project sites.

The small, grassy areas around the airfield are often used by native and non-native foraging birds. When present during the winter months, the migratory Pacific golden plover (kolea; *Pluvialis fulva*) may occasionally forage on the site. The area around the airfield does not host any plant or animal life that is considered threatened or endangered under the ESA.

There are no known natural occurrences of plants pending, or currently listed, as threatened or endangered under the ESA within the project areas.

3.6.2 Environmental Consequences

Significant impacts from project actions would result if destruction of wetlands or if there are any disturbances to or removal of threatened or endangered species at MCBH were to occur. In addition, project actions should not degrade water quality at delineated wetlands and designated wildlife management areas, or be detrimental to wildlife inhabiting these areas.

Proposed Action
The project sites are not located within close proximity to any wetlands at MCBH. The proposed action is not expected to result in direct or indirect short- or long-term impacts to on-base wetlands or on threatened or endangered species. Application of BMPs during construction, NPDES permit conditions, and LID site design features that minimize runoff and prevent or minimize the pollutants and sediment conveyed by surface runoff would ensure that significant adverse impacts to wetlands or sensitive habitats are avoided.

Fledgling seabirds and waterfowl can be attracted to non-shielded, non-directed exterior lighting, causing them to become disoriented and collide with power lines, buildings, trees, or the light structures themselves, and fall to the ground. Once grounded, they are vulnerable to predators

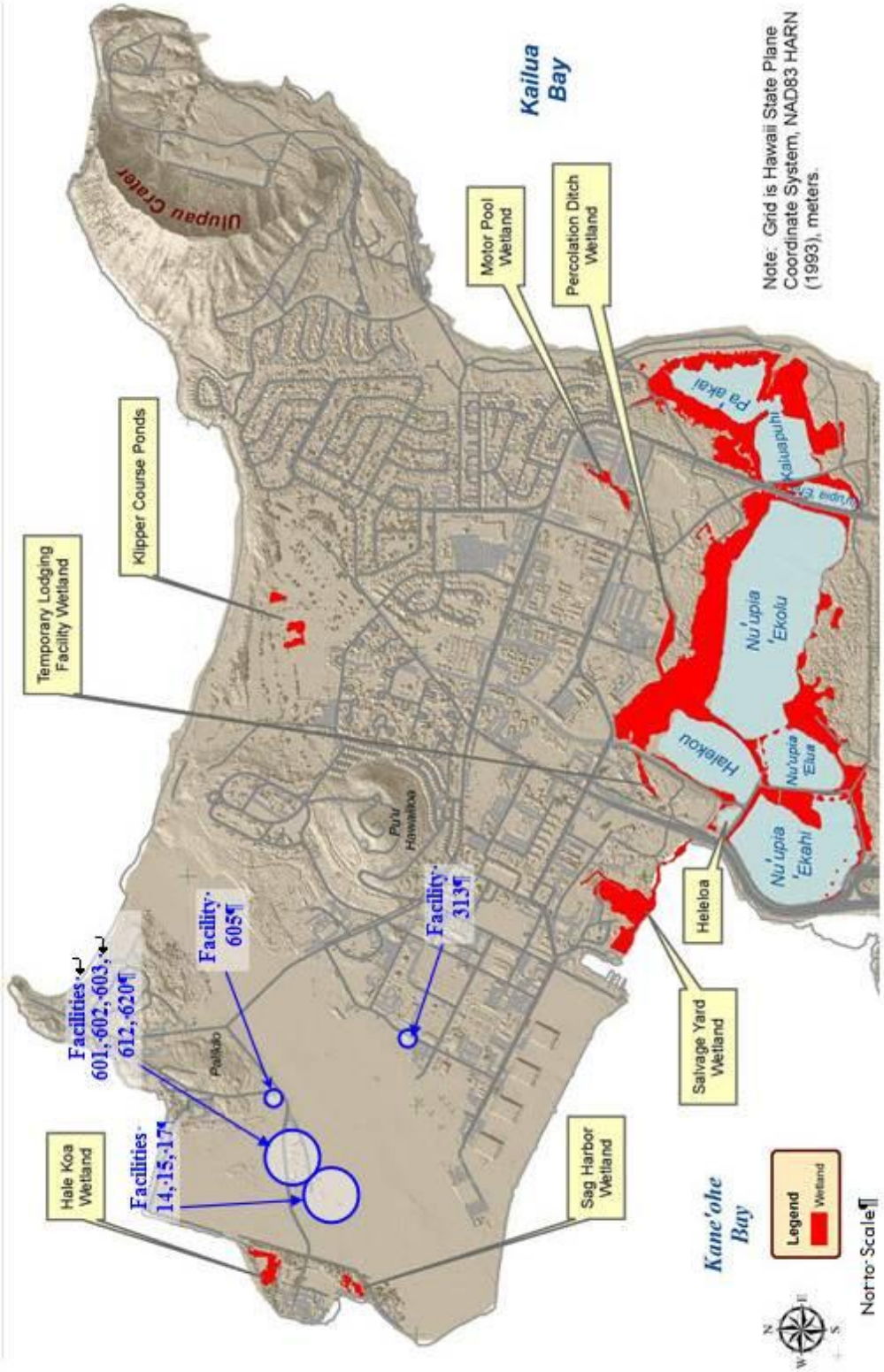

Figure 9. MCBH, Kaneohe Bay Wetlands (Wetlands of Marine Corps Base Hawaii 2009).

such as mongooses; they can also be injured or killed by vehicles, or die of starvation or dehydration. If non-shielded, non-directed lighting were used it could impact seabirds and shorebirds that frequent Nuupia Ponds. Properly shielded lights reduce the potential for light shining upward, thereby providing less of an attractant to birds.

The proposed action would demolish existing buildings along with associated exterior lights, thereby decreasing exterior lighting and minimizing the potential for impacts on seabirds and shorebirds. The new facility to be constructed would be equipped with properly shielded lights to reduce the potential for light shining upward, thereby providing less of an attractant to birds. Therefore, no significant adverse impacts on faunal resources are expected to result from the proposed action.

There are no known natural occurrences of plants that are currently listed, or pending listing, as threatened or endangered under the ESA within any of the project areas. The proposed action would have no impacts on these resources.

No-Action Alternative
The no-action alternative would not have impacts on natural resources at MCBH.

3.7 NATURAL HAZARDS

3.7.1 Existing Environment

Floodplains
As directed by Executive Order 11988, federal agencies must evaluate the potential effects of actions occurring in a floodplain to reduce the risk of flood loss; impacts to human health, safety and welfare; and to preserve the natural and beneficial functions served by floodplains. Actions must consider direct and indirect impacts on floodplains. The term "floodplain" generally refers to a defined area that is subject to inundation by a flood. A 100-year flood is an event that, based on historical records and calculated statistical probabilities, has a one in 100 chance (a one percent chance) of occurring in any given year.

There are two types of flood-designated areas at MCBH. The first are the flood zones as shown on the Flood Insurance Rate Maps (FIRM), prepared and distributed by the Federal Emergency Management Agency (FEMA). FEMA-designated flood zones are defined by varying levels of risk and reflect the type and severity of flooding to which an area may be subject. The FEMA-designated flood zones are located along the coastal areas of the Mokapu Peninsula.

According to the FIRM, City and County of Honolulu, Panel 280 of 395, Map Number 15003C0280F, dated September 2004 (FEMA), all project areas are located within Flood Zone D. Zone D comprises areas in which flood hazards are undetermined, but possible. Figure 10 shows the location of each project site in relation to the FEMA-designated flood zones.

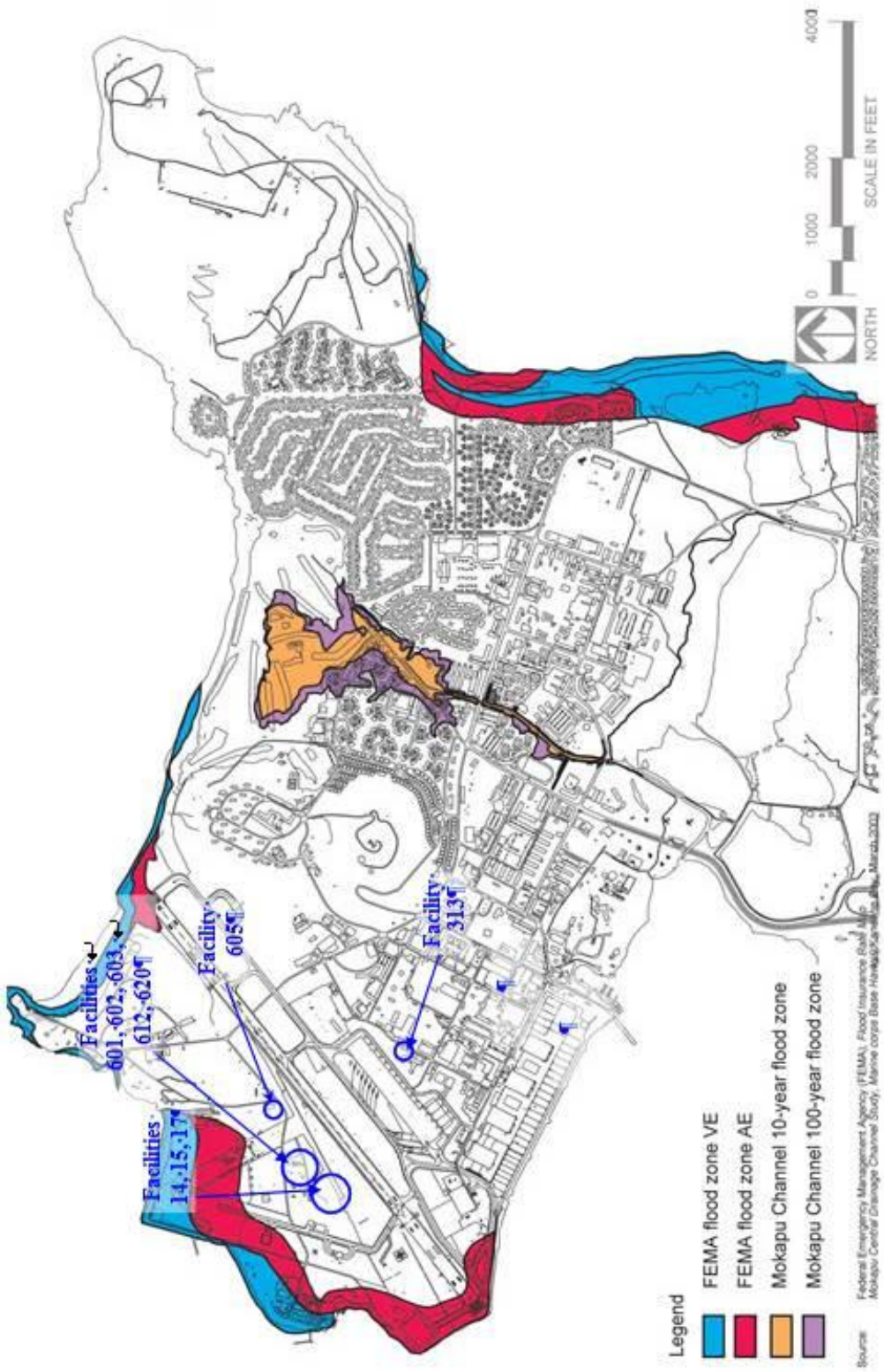

Figure 10. FEMA-designated flood zones on MCBH.

Seismic Activity
The entire state of Hawaii is susceptible to seismic activity. Most earthquakes in Hawaii are harmonic tremors associated with volcanic activity. Severe seismic activity can damage or destroy buildings and other structures, including infrastructure, which often results in disruption of service.

The International Building Code (IBC) provides minimum structural design requirements to resist the effects of earthquakes. Structural requirements vary and are based on the predicted potential strength of ground movement in a particular geographic area. The new facilities will incorporate these requirements.

Hurricanes and Tsunamis
The peninsula's coastal areas, beaches, and low-lying areas within the installation are subject to storm hazards and hurricanes and could be inundated in the event of a tsunami. MCBH has identified and delineated areas on base that would need to be evacuated in such events. Emergency evacuation shelters have been established for persons living or working in these areas.

The project areas around the airfield are located within the hurricane evacuation area and tsunami evacuation area.

Proposed Action
The Natural Hazards in this area include floodplains, seismic activity, hurricanes, and tsunamis. These threats exist in the natural environment with unpredictable frequency and intensity. World War II era facilities around the airfield were constructed prior to flood zone maps and the establishment of the International Building Code, and are susceptible to the natural hazards.

3.7.2 Environmental Consequences

Project actions are determined to have a significant adverse environmental impact if they increase the potential for exposure, harm, or damage to people or properties from hazards such as earthquakes, floods, or tsunamis. It is important to note that the threat from these hazards always exists because humans have no control over the frequency or intensity of these relatively unpredictable events.

Proposed Action
The proposed action would have no effect on the frequency or severity of the occurrences of the natural hazards to which Mokapu Peninsula may be exposed. However, the proposed action could minimally decrease the potential for exposure to these events. The projects would demolish facilities in the areas susceptible to natural hazards and would be conducted in accordance with applicable codes and requirements to protect occupants from natural hazards. New facilities would be constructed following the International Building Code in order to provide minimum structural design requirements to resist the effects of earthquakes.

No-Action Alternative
The no-action alternative would not have any impact on the severity of natural hazards to which the base is exposed.

3.8 LAND USE AND VISUAL RESOURCES

3.8.1 Existing Environment

Land use in the airfield area at MCBH is designated primarily as operational (Figure 10), with some areas of administrative use, base operations and community support, and training. The natural features of Mokapu Peninsula create a scenic and photogenic landscape in windward Oahu. Overall, the base has a remarkable sense of place, openness, and scale, as the characteristics of its natural environment have been complemented by good planning and development practices. Among the many visual and aesthetic resources of Mokapu Peninsula are the wetland/wildlife areas of Nuupia Ponds; the marine coastline surrounding the peninsula to the east, north, and west; undeveloped conservation lands; the slopes of Ulupau Crater; the crest of Puu Hawaiiloa; and the Naval Air Station Kaneohe Aviation District.

Aesthetic/visual impacts would be considered significant if project actions would substantially degrade the character of the area, degrade existing viewsheds or scenic vistas, or alter the character of the viewshed by the introduction of anomalous structures or elements. Significant aesthetic/visual impacts would also be considered to occur if project actions would substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings and districts or if they would create new sources of substantial light or glare that would adversely affect night views from or to the shoreline and other areas.

The historic Naval Air Station Kaneohe Aviation District is considered a significant visual resource in the project area. Visual resources observable from the project area include Kaneohe Bay to the south of the airfield and Puu Hawaiiloa to the northeast.

3.8.2 Environmental Consequences

Proposed Action
The proposed action would not result in a change to the land use designation in the area encompassed by the proposed action, nor in any significant impacts on visual or aesthetic resources. Facilities to be demolished under the proposed action, which are located in the Naval Air Station Kaneohe Aviation District, are generally low-profile in character and would not alter the overall view of the airfield. The proposed action would not have a pronounced effect on the overall scenic vistas of the base and surrounding environs. The facilities proposed for demolition are clustered in the southwest and southeast portion of the airfield. These areas include aircraft maintenance facilities and facilities related to air operations. Although many of the facilities proposed for demolition have been repurposed as storage facilities, their location in the airfield poses a hazard for aircraft.

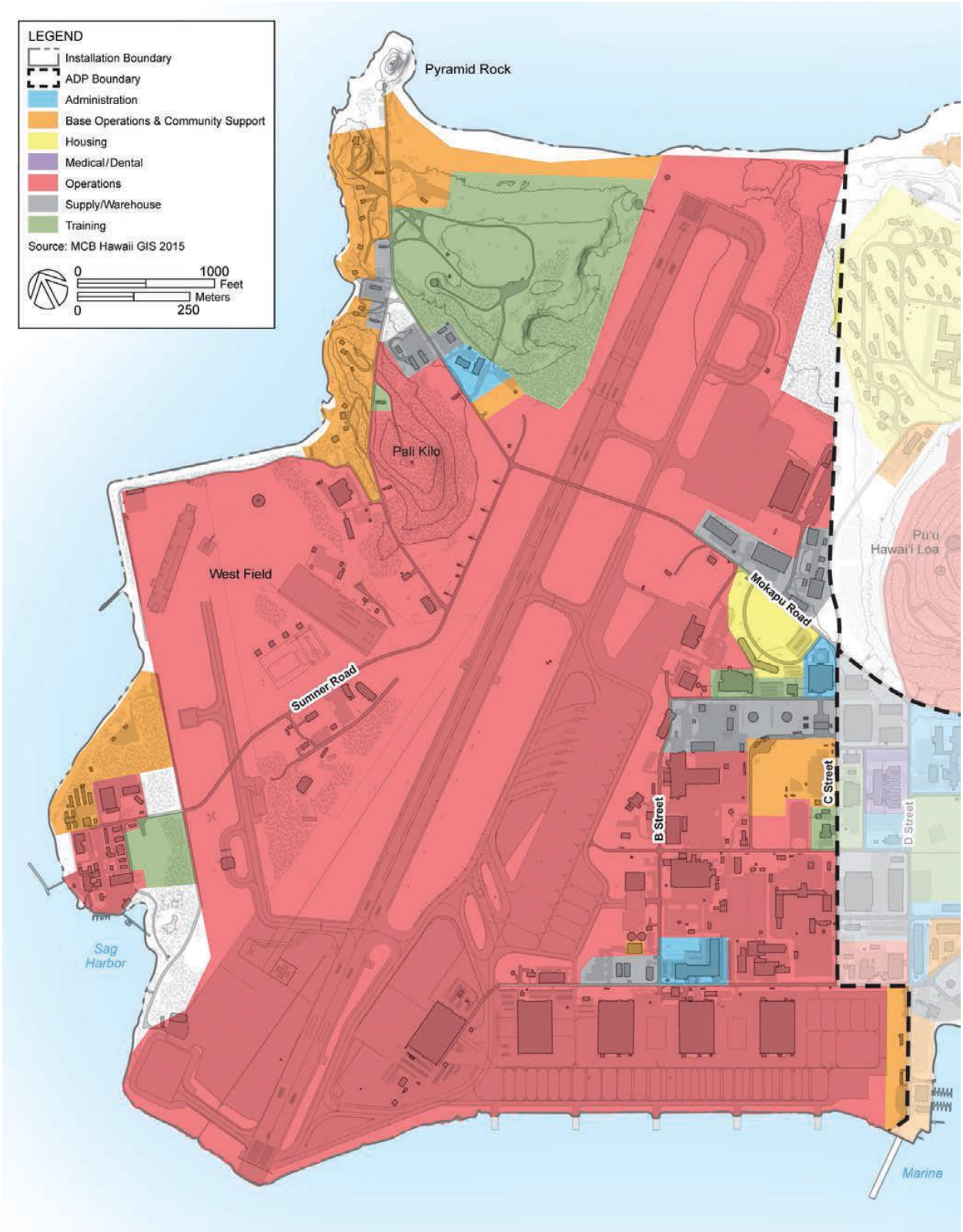

Figure 10. Land use near the airfield on MCBH.

Most of the proposed action projects to demolish existing aircraft support facilities are located within the airfield safety zone. Therefore these projects would not represent a change in use and would not result in adverse impacts to surrounding land use.

The projects encompassed by the proposed action are consistent with the MCBH Installation Master Plan (2016) and Aviation District Area Development Master Plan (2016) and with the land use surrounding the various project sites. No adverse impacts on surrounding land use would result from the proposed action.

No-Action Alternative
The no-action alternative would result in no changes to existing land use and result in no impacts on visual or aesthetic resources.

3.9 CULTURAL RESOURCES

3.9.1 Existing Environment

MCBH is located on Mokapu Peninsula. Archaeological evidence suggests that Hawaiians traditionally established temporary fishing camps along the shorelines and edges of former wetlands on Mokapu. Historic development of the peninsula began in the mid-19th century and included creation of homesteads, churches and the introduction of commercial agriculture and ranching. During the early 20th century, the peninsula experienced major changes. A housing development on the western side of the peninsula drew residents from Honolulu, who purchased lots and constructed houses for weekend use. By the middle of the 20th century, the U.S. military had acquired the peninsula for defense and training. The eastern side of Mokapu Peninsula became the Army's Fort Hase and the western side became the Navy's seaplane base, which was commissioned Naval Air Station Kaneohe on 15 February 1941. Construction included dredge and fill operations that added 280 acres to the Kaneohe Bay side of the installation in the area around the airfield. By late 1941, there were about 150 facilities on the air station. On 7 December 1941, Naval Air Station Kaneohe was attacked by the Japanese. The attack focused on the airfield in order to destroy the aircraft and reduce retaliation as the Japanese planes headed toward Pearl Harbor. During the attack, Hangar 101 was nearly destroyed and Hangars 102 and 103 and smaller buildings along the airfield suffered damage. Nineteen people were killed.

Many of the buildings and structures associated with the attack, as well as those constructed in response to the attack, are historic buildings that have been determined eligible for listing on the National Register of Historic Places (NRHP). Under the National Historic Preservation Act (NHPA), a historic property includes any pre-historic or historic district, site, building, structure, or object included in or eligible for inclusion on the NRHP, and also includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization (NHO) that also meet the National Register criteria (800.16(I)(1)). The NHPA and other statutes require federal agencies to consider the effects of their actions on historic properties.

Collectively, the historic World War II buildings and structures around the airfield form the Naval Air Station Kaneohe Aviation District.

The buildings and structures proposed for demolition are eligible for listing on the NRHP. These historic buildings and structures (Buildings 14, 15, 17, 313, 601, 602, 603, 605, 612, and 620) were constructed during World War II and were used primarily as airfield support facilities (Table 6). Currently, many of the facilities are vacant and no longer used (Buildings 14, 15, 17, 313, and 605). Others are used for storage (Buildings 601, 602, 603, and 612). Building 605, originally a small-arms magazine, is now occupied by the Unexploded Ordnance Disposal (EOD) Unit, and Building 620, a Quonset hut, is used as an aircraft recovery operations ground-support equipment shop.

All of the facilities discussed above are eligible for listing on the NRHP for their role in World War II. All ten facilities were standing during the Japanese attack on December 7, 1941 or were constructed as part of the rapid and extensive expansion of Naval Air Station Kaneohe that occurred as the result of World War II. All of these buildings are located within the Naval Air Station Kaneohe Aviation District, which includes historic buildings and structures along the historic World War II portion of the runway. The major contributing buildings to the proposed district include aircraft hangars, seaplane ramps, a torpedo workshop, and a bombsight workshop. The original Navy Bureau of Yards & Docks 1939 master plan shows this area with the buildings, streets, and airstrip in nearly the same configuration as it is today.

Table 6. NRHP Status of Affected Facilities in Proposed Project Area.

Facility Number	Year Constructed	Proposed Action	NRHP Status
14	1942	Demolition	Aircraft Revetment used as Power Check Pad; Determined Eligible*
15	1942	Demolition	Aircraft Revetment; Eligible
17	1942	Demolition	Aircraft Revetment used as Power Check Pad; Determined Eligible
313	1942	Demolition	MAG Stor/Gen Whse; Determined Eligible.
601	1941	Demolition	Storage; Determined Eligible
602	1942	Demolition	Airfield Lighting Storage; Determined Eligible
603	1941	Demolition	Storage; Determined Eligible
605	1941	Demolition	EOD Ops; Determined Eligible
612	1942	Demolition	Engine Test Cell/Warehouse; Determined Eligible
620	1945	Demolition	Quonset hut used as an aircraft recovery operations ground support equipment shop; Determined Eligible

* Eligibility determinations made following consultation with the State Historic Preservation Officer.

There are no archaeological sites eligible for listing on the National Register of Historic Places located within the proposed project area. There are archeological deposits near the proposed project area that are buried below the airfield in an area formerly along a wetland. These deposits, designated as Sites 4453, 4933, and 5829, include fire pit features and remnants of stone tool manufacturing. Radiocarbon dating of one of the fire pit features at Site 4933 yielded a date of 240 ± 50 before present (B.P.). A similar date was obtained from charcoal recovered from Site 5829, which yielded a date of 300 ± 40 B.P. As with other habitation sites in Hawaii, isolated in situ burials have been discovered at these sites. While the probability of encountering buried archaeological or cultural resources is considered to be minimal, there is potential to encounter buried cultural items within dune sand that was used as fill material under World War II-era buildings.

3.9.2 Environmental Consequences

Proposed Action
The proposed action to demolish the buildings located within the airfield at MCBH would adversely affect the eligible historic buildings, as well as the NAS Kaneohe Aviation District**.** MCBH consulted with the SHPO and other historic partners, including the National Trust for Historic Preservation, the Historic Hawaii Foundation, and NHOs regarding this effect and has entered into a Memorandum of Agreement (MOA) to mitigate the adverse effects. The Advisory Council on Historic Preservation (ACHP) declined participation in the consultation. Correspondence with the SHPO, other consulting parties, and the MOA can be found in Appendix D.

No-Action Alternative
The no-action alternative would not cause any effects on known cultural resources.

Mitigation Measures

Mitigation proposed to resolve the adverse effects includes withdrawing Building 620 from the undertaking in order for the USMC to explore options other than demolition for this facility. A historic structural assessment of Building 620 will be conducted. In addition, mitigation includes a historic context and building inventory of all World War II era aircraft revetments on Marine Corps installations in Hawaii; a Historic American Building Survey (HABS) to document Buildings 603 and 605 prior to demolition. A Comprehensive Agreement under NAGPRA will be initiated in consultation with NHOs affiliated with Mokapu Peninsula. Further, MCBH will update the NHRP nomination for the NAS Kaneohe Aviation District in order to assess the historic district, following the proposed demolitions.

Archaeological monitoring will be conducted during all ground-disturbing activities associated with the proposed undertaking, since there is potential for finding NAGPRA cultural items, including human skeletal remains, in the sand fill used below the foundations of buildings, buried utilities, and the aircraft runway built during the earlier period of base construction dating from 1939 to 1970.

3.10 TRANSPORTATION

3.10.1 Existing Environment

Vehicles enter and exit MCBH through one of two guarded gates. The primary entrance is via the H-3 Freeway. The other entrance is at Mokapu Gate, located at the end of Mokapu Boulevard, near Aikahi Park, in Kailua. Within the base, Mokapu Boulevard transitions into Mokapu Road, in an east-west direction, where it ends in West Field. On-base traffic flow is controlled by signalized intersections and stop signs. The major on-base roadways that would service the project sites include Mōkapu Road, Sumner Road, and First Street.

The population utilizing MCBH includes deployed and non-deployed active duty personnel (Navy and Marines), civilian workers, and on-base dependents. The proposed action is located on a developed airfield with roads and intersections. The runway extends along the middle of the airfield in a north-south direction the airfield support facilities located on either side, accessible by side streets and access roads.

3.10.2 Environmental Consequences

Project actions are determined to have a significant adverse impact if the project results in an increase in traffic volume such that existing levels-of-service are degraded to a point requiring substantial road improvements to increase the capacity of relevant street systems.

Proposed Action

In the short-term, traffic and circulation in the immediate vicinity of each project site may be affected during construction. Transportation of building demolition and construction materials to and from the site and construction worker vehicles could temporarily disrupt traffic patterns and movement. These impacts are temporary in nature and are expected to be less than significant.

Construction-related, short-term impacts on traffic could be alleviated by implementing standard construction site procedures including detouring and flagging operations, maintaining access to other driveways near project sites, and scheduling construction to minimize disruption to normal traffic flow and patterns. If warranted, a traffic management plan could also be developed to alleviate traffic inconveniences caused by construction and demolition activities.

Demolition of the facilities as proposed would not increase on-base traffic nor traffic transiting the two base gates over the long term.

No-Action Alternative

The no-action alternative would have no impacts on on-base or off-base traffic.

3.11 UTILITIES, INFRASTRUCTURE, AND SOLID WASTE

3.11.1 Existing Environment

The utility, infrastructure, and solid waste services required for the proposed action would be provided by existing infrastructure and service providers. Utility connections, including electricity, water and sanitary and storm sewers would be required for new facilities.

Electricity
Electrical power is supplied to MCBH by Hawaiian Electric Company (HECO). HECO's main service enters at the HECO Mokapu Substation. Three transformers (XFMR) at the Mokapu Substation step down the incoming 46 kV to the base distribution of 11.5 kV. MCBH owns and operates the electrical distribution system within the base. The main components of the base's electrical distribution system include a main incoming switching station and three downstream switching stations (Substations 1, 2 and 3). Substations 1 and 2 are centrally located near housing and community facilities. Substation 3 largely serves the industrial-type facilities, such as the hangars and the airfield. From these three substations, primary feeders distribute power throughout the base.

Potable Water
There are no potable water wells at MCBH. MCBH purchases potable water from the City and County of Honolulu Board of Water Supply (BWS). A system of distribution lines, which are owned and maintained by MCBH, distribute water throughout the base.

Wastewater
Wastewater at MCBH is treated at the installation's water reclamation facility (WRF). The proposed action will not affect wastewater

Solid Waste
Most of the solid waste produced at MCBH, including that from administrative, industrial, military, commercial, bachelor quarters areas, is disposed of in the MCBH sanitary landfill. Solid waste from various construction and renovation projects is also disposed of off-base. Hazardous and regulated waste is not accepted at the MCBH landfill. Executive Order 13693, Planning for Federal Sustainability During the Next Decade, includes provision for the annual diversion of at least 50 percent of non-hazardous construction/demolition debris from landfills.

All utility services are available on or near the project sites. The proposed sites would obtain electric service from HECO, potable water from the City BWS, sanitary sewer service from MCBH's water reclamation facility, and solid waste disposal at either the Kaneohe sanitary landfill or the City's H-Power Plant or Waimanalo Gulch Landfill.

3.11.2 Environmental Consequences

An impact would be considered significant if the proposed action caused demand for electrical, water, wastewater, and solid waste to exceed the capacity of existing and planned systems, including system upgrades.

Proposed Action
Demand for electrical, water, and wastewater is not anticipated to change under the proposed action, since only a few facilities would be demolished, one of which is regularly occupied and would be rebuilt. Solid wastes resulting from construction and demolition activities would be handled in accordance with all related requirements, including EO 13693, and are not expected to negatively impact the environment. The proposed construction would be designed to achieve, at a minimum, a LEED Silver rating.

No-Action Alternative
The no-action alternative would have no impacts on utilities, infrastructure or solid waste.

3.12 HAZARDOUS MATERIALS AND WASTE

MCBH conducts an Installation Restoration (IR) program that manages sites where remediation or other efforts are being undertaken due to the release of hazardous materials or petroleum products. Handling and disposal of hazardous materials at MCBH are regulated by policies set forth by the EPA and the State of Hawaii DOH.

3.12.1 Existing Environment

Building 313, located on the east side of the MCBH airfield, is the only one of the facilities proposed for demolition under the proposed action that is within a reasonable distance of a 1987 leak from an above-ground storage tank (AST 1253) at the station's Fuel Farm, which contaminated the subsurface soil nearby. Data from this investigation was used to construct a fuel thickness contour map, indicating that JP-5 (jet fuel) had migrated approximately 315 feet from the center of AST 1253. However, the plume from the fuel leak stops well short of Building 313 and should not be an issue during building demolition.

3.12.2 Environmental Consequences

A project action is determined to have a significant adverse environmental impact if it results in the release of hazardous or toxic materials, particularly if it increases the potential for human exposure.

Proposed Action
Demolition of facilities in the airfield safety zone and construction of a new storage facility for MALS-24 outside the airfield safety zone would be located on the opposite side of the airfield from the AST 1253 fuel leak plume, and would not be affected by it.

Proper removal, handling, transport and disposal of hazardous materials from the premises of buildings that contain lead-based paint (LBP) and asbestos-containing material (ACM) would be conducted by qualified professionals, in compliance with all applicable state and federal health, safety, and environmental regulations. In accordance with HAR 11-501 Asbestos Requirements, DOH would be notified of any demolition or renovation work involving asbestos, if required. BMPs would be employed during demolition or renovation work to prevent and/or minimize the release of hazardous materials and to protect workers. This would minimize the risk of persons on base being exposed to health hazards associated with these hazardous materials.

In the long-term, any hazardous materials used or stored during demolition of the facilities for the airfield clear zone projects would continue to be handled and managed in accordance with established protocol. This includes bar coding and tracking of material by the base's Hazard Minimization Center, waste-screening, and disposal of hazardous waste at the base's Hazardous Waste 90-day accumulation site. Hazardous waste is not allowed in base dumpsters or in the base landfill.

No significant short-term or long-term adverse impacts related to hazardous materials are expected to result from the proposed action.

No-Action Alternative
The no-action alternative would not increase the risk of release of hazardous materials or waste, increase the risk to base personnel of exposure to hazardous waste, or affect IR sites near project areas.

3.13 CUMULATIVE IMPACTS

Cumulative impacts are the result of two or more individual effects that, when considered together, compound or increase the overall impact. Cumulative impacts can arise from the individual effects of a single action or from the combined effects of past, present and/or future actions. Therefore, cumulative impacts can result from individually minor actions that collectively amount to significant actions over time.

The capital improvement projects proposed or underway for the airfield area at MCBH were considered in conducting the cumulative impact analysis. Projects listed in Table 7 are underway or are planned for construction concurrent with or shortly after the airfield clear zone projects encompassed by the proposed action.

3.13.1 Air Quality

Greenhouse gas (GHG) emissions result from both natural processes and human activities. GHGs trap heat in the atmosphere and re-radiate some of that heat downward. Common GHGs emissions include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). The natural greenhouse effect regulates Earth's temperature; however, this natural process is being intensified by human activity, primarily the combustion of fossil fuels and deforestation, and

contributes to climate change. Due to the global nature of GHG emissions, individual projects are not likely to have an appreciable effect on climate change, though could contribute to cumulative impacts. The proposed action would utilize sustainable design, including reducing energy consumption and reducing GHG emissions by incorporating LEED-rated design principles. As a result, the proposed action could contribute to cumulative effects on GHG emissions, but this would be minimized through sustainable design and practices.

Implementing the proposed action is not expected to result in any cumulative impacts on air quality. Potential temporary and short-term impacts during construction under the proposed action, or any project listed in Table 7, would be addressed by applying standard construction BMPs to reduce construction vehicle and dust emissions. While the proposed action would result in a temporary increase in on-base personnel and associated vehicular activity, it would be a marginal increase above existing conditions. Further, long-term air quality impacts from mobile sources (i.e., vehicle movements) associated with the proposed action are not anticipated to increase and are expected to remain insignificant due to the relatively low traffic volumes within MCBH.

Table 7. Aviation-Related Capital Improvement Projects.

Project Number	Title	Description	Fund Year*
P-907	Parking Apron and Infrastructure	Construct parking apron and infrastructure improvements for second MV-22 hangar	2016
P-908	Construct Hangar	Construct second MV-22 hangar	2016
P-116	P-8A Detachment Support Facilities	Renovate Hangar 104 and Bldg 6470 and enlarge and realign aircraft rinse facility	2016
P-902	Airfield Lighting Improvements	Replace and modernize various lighting system components, install new standby generator and lighting vault, and demolish Bldgs 138 and 1674	2016
P-887	LHD Pad Conversion and MV-22 Landing Zone	Convert LHA Pad to LHD pad and construct LZ at MCAS	2018
P-876	Airfield Security Fence	Construct a new security fence around the airfield	2021
P-946	MV-22 Infrastructure Upgrades Phases I and II	Paint hangar, construction 2-story parking structure at corner of First and C Streets, and demolish Bldgs 5096 and 1631	2021

* Estimated project start date as discussed in MCBH Installation Master Plan (2016).

3.13.2 Noise

The proposed action would not result in cumulative significant adverse impacts due to noise. Construction-related noise impacts would be temporary and short-term. During operation, any human and vehicular traffic noise associated with the facilities is expected to be minimal and confined to the immediate vicinity of each project area.

3.13.3 Topography, Geology and Soils

No cumulative impacts on topography or soils are expected to result from the proposed action. During the demolition and construction phase, land disturbing activities could result in soil loss

from erosion and sedimentation, particularly during heavy rain. However, application of construction site BMPs would minimize the potential for soil loss. It is expected that all construction projects would similarly implement standard construction site BMPs and adhere to NPDES permit conditions, so that there would be no cumulative impacts on soils.

The proposed action is expected to have no impact on topography, geology or soils and thus would not contribute to cumulative impacts.

3.13.4 Water Resources

The proposed action should not result in any cumulative adverse impacts on groundwater, surface waters or water quality. In compliance with the Navy's LID policy, it is expected that each individual project encompassed by the proposed action would incorporate design features to control drainage and runoff within project limits so that no significant adverse impacts on surface waters or water quality are expected. Similar to the proposed action, it is expected that each individual project listed in Table 7 would also incorporate features to minimize and filter surface runoff, so that no cumulative impacts on water resources are anticipated.

No significant adverse cumulative impacts on groundwater are expected from the proposed action or any of the potential projects listed in Table 7. The groundwater underlying the base is not a source of potable water.

3.13.5 Drainage

The proposed action is not expected to result in cumulative adverse impacts relating to drainage. In compliance with the Navy's LID policy, each individual project would incorporate design features to maintain drainage patterns and control surface drainage within project limits, so that there would be no significant increase in the amount of surface runoff entering receiving waters or degradation of the quality of receiving waters. Further, the proposed action is not expected to increase the rate or volume of surface runoff such that it would exceed the capacity of existing or planned storm water infrastructure. It is expected that each project listed in Table 7 would similarly incorporate design features to address drainage.

3.13.6 Natural Resources

The proposed action is not expected to result in any cumulative adverse impacts on flora or fauna and proposed projects would incorporate site design strategies and features that minimize and filter runoff in wetlands. The various project areas encompassed by the proposed action are either already developed with facilities along the paved airfield or consist of a managed landscape. The various project sites do not provide habitat for any threatened or endangered faunal species. Further, the projects would incorporate down-shielded lighting, providing less of an attractant to endangered seabirds, thus minimizing the potential for collisions and fallouts for the portion of the project that includes construction. Therefore, implementation is not expected to result in any cumulative adverse impacts on natural resources, including jurisdictional wetlands. Implementation of BMPs and provisions of the CWA would ensure that any planned

construction project, whether the proposed action or any project listed in Table 7, would not adversely affect natural resources. Thus, no cumulative impacts on natural resources are expected.

3.13.7 Natural Hazards

The proposed action would not result in cumulative adverse impacts related to natural hazards. The proposed project would demolish facilities located within flood zones or tsunami inundation areas and therefore would not cumulatively contribute to any risk related to these natural hazards.

3.13.8 Land Use and Visual Resources

The aviation-related capital improvement projects and the projects encompassed by the proposed action are consistent with the land use designations contained in the MCBH Installation Master Plan (2016) and Aviation District Area Development Master Plan (2016). The proposed construction project is one story high and would be designed to be visually compatible with surrounding structures pre-existing in the MALS compound. Demolition of facilities in the airfield would increase the open space on the base, improving visual and aesthetic resources; these facilities are within the historic Naval Air Station Kaneohe Aviation District, and consist of ancillary airfield facilities, and therefore will not significantly alter the view of the district. Thus, the proposed action, when viewed collectively with the projects listed in Table 7, is not expected to result in cumulative impacts on land use and visual resources.

3.13.9 Archaeological, Cultural, and Historic Resources

The proposed action would have no adverse impacts on archaeological resources; however, it would have an adverse impact on the Naval Air Station Kaneohe Aviation District and the historic buildings within the district and therefore would contribute to cumulative adverse impacts. The various project areas are located in areas that were previously developed and the probability of encountering archaeological resources is minimal.

3.13.10 Transportation

The runway clear zone project is not expected to result in significant adverse impacts on the on-base intersection Level of Service (LOS) or for approach roads. Even under worst-case conditions, MCBH generally has a fairly low volume of traffic and maintains a moderate to high LOS along the approach roads and within the base. All of the project areas are located within the western side of the base central to western half of the base. The projects would only temporarily increase traffic from contractors during demolition and construction. Thus, the proposed action is not expected to result in cumulative impacts to traffic and circulation.

3.13.11 Utilities, Infrastructure, and Solid Waste

The proposed action is not expected to result in cumulative adverse impacts upon base utilities, infrastructure, or solid waste. Goals related to reducing energy, recycling, and other saving mechanisms would reduce the consumption/demand resulting from these projects.

3.13.12 Hazardous Materials and Waste

The proposed action is not expected to result in any impacts as a result of hazardous materials or waste and, therefore, would not contribute to any cumulative impacts.

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4.0 SUMMARY AND CONCLUSIONS ON THE IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

Based on the analysis of environmental impacts of the proposed action and the no-action alternative, this EA concludes that no significant adverse environmental impacts are expected as a result of implementing the proposed action. Table 8 summarizes the potential impacts that could result from the alternatives evaluated.

Table 8. Comparison of Alternatives.

Environmental Resource	Proposed Action	No Action
Air Quality	Short-term, temporary impacts during demolition and construction	No Impact
Noise	Short-term, temporary impacts during demolition and construction	No Impact
Topography, Geology, and Soils	Short-term, temporary impacts during demolition and construction	No Impact
Water Resources	No Adverse Impact	No Impact
Drainage	No Impact	No Impact
Natural Resources	No Impact	No Impact
Natural Hazards	No Impact	No Impact
Land Use and Visual Resources	No Impact	No Impact
Archaeological, Cultural and Historic Resources	Impacts to historic buildings within the Naval Air Station Kaneohe World War II Aviation District; these buildings are ancillary airfield facilities and removal will not significantly alter the proposed district.	No Impact
Transportation	Short-term, temporary impacts during construction	No Impact
Utilities, Infrastructure, Solid Waste	No Impact	No Impact
Hazardous Materials and Waste	No Impact	No Impact

4.1 DIRECT IMPACTS

In general, most expected impacts resulting from the proposed action would be demolition/construction-related and temporary. Adherence to standard construction BMPs would minimize potential construction-related impacts to Air Quality, Noise, Topography and Soils, and Traffic and Circulation. Although the proposed action would have an impact on historic properties, plans for the proposed action include impact mitigations. No direct impacts would occur under the no-action alternative. Table 9 summarizes, for each environmental factor,

the protective measures incorporated as part of the proposed action that would minimize any potential impacts.

Table 9. Summary of Project Features that Minimize Potential Impacts.

Environmental Factor	Project Feature
Air Quality	BMP dust control measures (e.g., dust screens, frequent watering of exposed soils, landscaping of bare earth)
Noise	Use of properly muffled construction equipment, adherence to all applicable noise regulations
Topography, Geology, and Soils	BMP erosion and sedimentation control measures during construction (e.g., berms, cut-off ditches, silt fences, vegetative ground cover, soil stabilization)
Water Resources	BMP sediment control measures (e.g., silt fences, storm drain inlet protection, sediment traps) and site grading
Drainage	Incorporate LID features into project design (e.g., bioswales, below grade detention devices and addition of drainage infrastructure at undeveloped sites)
Natural Resources	Incorporate LID features into project design (e.g., bioswales, below grade detention devices and addition of drainage infrastructure at undeveloped sites); installation of downward-shielded exterior lighting
Natural Hazards	Briefing of personnel and dependents regarding safety issues and suitable responses to natural hazards
Land Use and Visual Resources	None required
Archaeological, Cultural, and Historic Resources	Removal of Bldg 620 from the proposed action (and conduct of a historical structural assessment of it); HABS documentation of Bldgs 603 and 605; update the NRHP nomination for the historic NAS Kaneohe Aviation District following building demolitions; historic context and building inventory of World War II-era aircraft revetments; initiation of a NAGPRA Comprehensive Agreement; and archaeological monitoring during construction.
Transportation	Traffic Management Plan, detouring, flagging operations, and construction scheduling to minimize temporary traffic inconveniences
Utilities, Infrastructure, and Solid Waste	Implement recommended electrical system upgrades
Hazardous Materials and Waste	Adherence to all applicable regulations during removal and transport of any hazardous materials or waste

4.2 INDIRECT IMPACTS

Although there might be some minor indirect impacts on soils, topography, and traffic, there are no indirect impacts to these resources from the proposed action. No indirect impacts would occur under the no-action alternative. Table 10 summarizes the proposed action and planned mitigation for each environmental factor. Cumulative Impacts Analysis conducted for the proposed action found some cumulative impacts on cultural resources which are addressed with proposed mitigation. No cumulative impacts would occur under the no-action alternative.

Table 10. Environmental Effects of the Proposed Action, Planned Mitigation, and Avoidance.

Environmental Factor	Nature of Effect	Not Significant because USMC Will	
Air Quality	Direct – potential increase in dust from demolition/ construction	Install BMP dust control measures (e.g., dust screens, frequent watering of exposed soils, landscaping of bare earth)	
Noise	Direct – potential increase in noise from equipment and vehicles during demolition and construction	Use properly muffled construction equipment, adherence to all applicable noise regulations	
Topography, Geology, and Soils	Direct – potential increase in erosion and sedimentation during demolition and construction	Install BMP erosion and sedimentation control measures during construction (e.g., berms, cut-off ditches, silt fences, vegetative ground cover, soil stabilization)	
Water Resources	Direct – potential increase in runoff during demolition and construction	Install BMP sediment control measures (e.g., silt fences, storm drain inlet protection, sediment traps) and site grading	
Drainage	Direct – potential increase in runoff during demolition and construction	Incorporate LID features into project design (e.g., bioswales, below grade detention devices and addition of drainage infrastructure at undeveloped sites)	
Natural Resources	Direct – potential increase in runoff during demolition and construction; installation of facilities lighting	Incorporate LID features into project design (e.g., bioswales, below grade detention devices and addition of drainage infrastructure at undeveloped sites); install of downward-shielded exterior lighting	
Natural Hazards	No Impact		
Land Use and Visual Resources	No Impact		
Archaeological, Cultural, and Historic Resources	Direct – disturbed/impacted by demolition	Removal of Bldg 620 from the proposed action (and conduct of a historical structural assessment of it); HABS documentation of Bldgs 603 and 605; update the NRHP nomination for the historic NAS Kaneohe Aviation District following building demolitions; historic context and building inventory of World War II-era aircraft revetments; initiation of a NAGPRA Comprehensive Agreement; and archaeological monitoring during construction.	
Transportation	Direct – potential increase in traffic during demolition and construction	Detouring, flagging operations, and construction scheduling to minimize temporary traffic inconveniences	
Utilities, Infrastructure, and Solid Waste	No Impact		
Hazardous Materials and Waste	Direct – potential increase in generation of hazardous materials and waste during demolition and construction	Adherence to all applicable regulations during removal and transport of any hazardous materials or waste	

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5.0 CONSISTENCY WITH FEDERAL POLICIES AND EXECUTIVE ORDERS

The proposed action is consistent with various federal policies and Executive Orders, including but not limited to: the National Environmental Policy Act; National Historic Preservation Act; Clean Water Act; Clean Air Act; Endangered Species Act; Migratory Bird Treaty Act; Sikes Act; EO 11990 – Protection of Wetlands; EO 12898 – Environmental Justice in Minority Populations and Low-Income Populations; EO 13045 – Environmental Health Risks and Safety Risks to Children; EO 13693 – Planning for Federal Sustainability in the Next Decade; and EO 13186 – Protection of Migratory Birds. Among those that may be particularly relevant to this EA are the following:

5.1 FEDERAL POLICIES

5.1.1 The National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations (36 CFR 800), require federal agencies, while reviewing and evaluating their programs, to identify and consider the potential effects of their proposed actions on historic, archaeological, and architectural resources. Before approval of an undertaking, agencies are required to consult under Section 106.

The proposed action includes demolition of historic buildings. This area was previously disturbed during construction of the buildings and the probability of encountering archaeological or cultural resources is minimal. During Section 106 consultation, SHPD concurred with MCBH's determination that the proposed action may have an adverse effect on historic properties. Facilities 14, 15, 17, 313, 601, 602, 603, 605, 612, and 620 were constructed during World War II and determined eligible for listing on the NRHP. All these facilities are located within the proposed Naval Air Station Kaneohe Aviation District. They are considered individually eligible as well as contributing elements to the district. Although Facility 620 is covered under Program Alternative (36 CFR 800): Programmatic Memorandum of Agreement for World War II Temporary Buildings (1939-1946), it is the last remaining Quonset hut at MCBH and as such it is the last representative example of a once very common building type.

The proposed action is not expected to result in significant impacts on archaeological, cultural, or historic resources. Adherence to SOPs contained in the ICRMP will ensure that appropriate measures are taken in the unlikely event that inadvertent discoveries occur during construction. The proposed action is, therefore, in compliance with the NHPA.

5.1.2 The Clean Water Act

The Clean Water Act, 33 USC 1251 et seq., is the major piece of federal legislation that makes it illegal for any person, including federal agencies, to discharge pollutants from a point source into waters of the U.S. without a permit. The CWA also provides for establishment of the NPDES

program for issuance of such permits. The CWA Amendments of 1987 also require that the NPDES permitting program include permits for the discharge of storm water (non-point sources of water pollution). Any construction activity that results in the disturbance of at least 1 acre, which includes clearing, grading, and excavating, must apply for an NPDES general permit for the discharge of storm water associated with construction activities.

If warranted, an NPDES permit would be obtained from the DOH Clean Water Branch prior to initiating construction. Also, the implementation of BMPs would confine sediment and silt runoff to the project areas, resulting in no degradation of water quality in any nearby body of water. Further, removed materials, debris, and soil resulting from the proposed action would be contained during demolition or construction and properly disposed of in accordance with all applicable regulations. Therefore, the proposed action would be in compliance with the CWA.

5.1.3 Sikes Act

The Sikes Act seeks to promote effectual planning and coordination of conservation and rehabilitation efforts for wildlife, fish, and game on military land. It provides for cooperation by the Departments of the Interior and Defense with state agencies in planning, developing, and maintaining fish and wildlife resources on military reservations throughout the U.S.

In compliance with the Sikes Act Improvement Act (SAIA) of 1997, an *Integrated Natural Resources Management Plan* (INRMP) was developed for MCBH in 2001 and has undergone required five-year review and update (current update under preparation for five-year period 2017-2021) by the MCBH Environmental Compliance and Protection Department. The proposed action complies with the guidelines contained in the INRMP and supports "no net loss" in capability of the base's land and waters to support the installation's mission, while not adversely impacting fish and wildlife or other natural resources covered by the INRMP's implementation program.

5.1.4 Coastal Zone Management Act

The Coastal Zone Management (CZM) Act of 1972, as amended (16 USC 1451 et seq.), is administered in Hawai'i by the State Department of Business Economic Development and Tourism's (DBEDT) Office of Planning. The CZM program objectives and policies are to provide coastal recreational opportunities; preserve and protect historic, scenic and coastal ecosystem resources; provide economic uses; reduce coastal hazards; improve public awareness in coastal zone management; and manage development within the coastal zone.

The proposed action is located on federal land and is excluded from the state (Hawai'i) coastal zone under the CZM Act. However, the CZM Act requires federal agencies to conduct their planning, management, development, and regulatory activities in a manner consistent with the State's CZM program.

By letter date 9 June 2009, DBEDT concurred with DoN's proposed modifications to the Navy list of *de minimis* activities under the CZM Act. Modifications included expansion of coverage

to Marine Corps activities in Hawaii. Provided that the proposed action complies with the items listed under "Mitigation/Conditions," no significant direct or indirect impacts on the coastal zone are expected. The proposed action would be in compliance with the CZM Act. Correspondence and the Navy/Marine Corps *de minimis* list under the CZM Act are attached to the EA as Appendix E.

5.1.5 Indoor Radon Abatement Act of 1988

In recognition of the public health hazard presented by indoor radon, the US Congress passed the Indoor Radon Abatement Act (IRAA) of 1988. In response to IRAA, the Navy created the Navy Radon Assessment and Mitigation Program (NAVRAMP). Radon is a naturally occurring, odorless, colorless radioactive gas that is released from rock, soil, and water as part of the natural decay of uranium. Exposure to indoor radon is the second leading cause of lung cancer in the United States and the number one cause among nonsmokers. New Navy/Marine Corps construction projects, as well as certain types of renovation projects – particularly those involving housing and occupied facilities, may be subject to radon-abatement measures. With respect to the proposed action that is the subject of this EA, the only proposed construction is for a storage facility, which would not require radon abatement measures since regular human presence would not normally occur. The proposed building renovation included in the proposed action would comply with NAVRAMP as applicable.

5.2 EXECUTIVE ORDERS

5.2.1 Executive Order 11988 – Floodplain Management

EO 11988 requires federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of flood plains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.

Project is not located in the 100 year floodplain.

5.2.2 Executive Order 11990 – Protection of Wetlands

EO 11990 necessitates that federal agencies implement measures that prevent the degradation of wetlands, and that construction in a wetland be the last option if no other practical alternatives can be taken. Although none of the proposed action sites are located in a wetland, wetland areas exist near the project areas. The nearest wetland to a facility proposed for demolition under the project is about 0.2 mile.

The proposed action is not anticipated to increase or pose any risk to the wetlands in the vicinity of the project areas. Construction is not occurring within a wetland area, and no impacts are anticipated to the surrounding wetlands. Protective measures, such as containing runoff, controlling drainage, and phasing the development of projects to minimize adverse impacts,

would be implemented to reduce or eliminate risk to the wetland habitats that surround MCBH. The proposed action would be in compliance with EO 11990.

5.2.3 Executive Order 13693 – Planning for Federal Sustainability in the Next Decade

EO 13693 was signed in March, 2015, and introduced new requirements and expanded upon requirements established by EO 13514, EO 13423, the Energy Policy Act of 2005 (EPAct 2005), and the Energy Independence and Security Act (EISA) of 2007, including topics such as energy conservation/renewable energy, green buildings, water and storm water management, climate change resiliency, and solid waste diversion/pollution prevention, among others. As a Federal agency, the DoD is responsible for addressing these topics, as are its subordinate departments (e.g., Army, Navy/Marine Corps, Air Force).

The proposed project would be in compliance with EO 13693, as applicable, including the EO provision for the annual diversion of at least 50 percent of non-hazardous construction/demolition debris from landfills.

5.2.4 Executive Order 13186 – Protection of Migratory Birds

EO 13186 was issued to assist federal agencies with their efforts to comply with the Migratory Bird Treaty Act (MBTA) (16 USC 703-711). It should be noted that the EO does not constitute any legal authorization that in any way supersedes the requirements outlined in the MBTA. The EO directs federal agencies undertaking actions that have, or are likely to have, a measurable adverse impact on migratory bird populations to develop and implement a Memorandum of Agreement with the U.S. Fish and Wildlife Service addressing the conservation of these populations.

The implementation of the proposed action is not anticipated to negatively impact migratory bird species. Migratory birds at MCBH are found mostly along the peninsula's shoreline and in the Nuupia Wetland Management Area. Any displacement or disturbance of individual birds by implementing the proposed action would not result in measurable adverse impacts on their populations. To further reduce the potential for any impacts on migratory and local bird populations, downward-shielded exterior lighting would be used to minimize the potential for lighting to interfere with the natural behavior of birds and to prevent disorientation and the resulting collisions between birds and surrounding objects and structures. The proposed action would be in compliance with EO 13186 by implementing these protective measures.

6.0 CONSULTATION AND COORDINATION

6.1 LIST OF AGENCIES CONSULTED

State

Hawaii Department of Land and Natural Resources, Historic Preservation Division
Hawaii Office of Planning, Coastal Zone Management Program

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7.0 LIST OF PREPARERS AND REVIEWERS

Preparers

Naval Facilities Engineering Command, Pacific

John Bigay	Planner-in-Charge, NAVFAC PACIFIC, EV21
Coral Rasmussen	Archaeologist, NAVFAC PACIFIC, EV23

Reviewers

MCBH - Kaneohe Bay

Karen Balabis	Solid Waste Manager, MCBH Environmental Compliance and Protection Department
Lance Bookless	Natural Resources Manager, MCBH Environmental Compliance and Protection Department
Bret Chambers	Environmental Engineer, MCBH Environmental Compliance and Protection Department
June Cleghorn	Cultural Resources Manager, MCBH Environmental Compliance and Protection Department
Richard Mestan	Environmental Engineer, MCBH Environmental Compliance and Protection Department
Jeff Telling	MCBH Airfield Operations
Ron Yamada	NEPA Program Manager, MCBH Environmental Compliance and Protection Department
Daryl Yasunari	MCBH Facilities Department, Planning Branch

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Wil Chee – Planning, Inc., Helber Hastert & Fee, Planners, Mason Architects, Inc – Planning, Inc. (2014 May). *Historic Context and Building Inventory Marine Corps Base Hawaii*. Prepared for Marine Corps Base Hawaii.

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Appendices

Appendices

Appendix A:

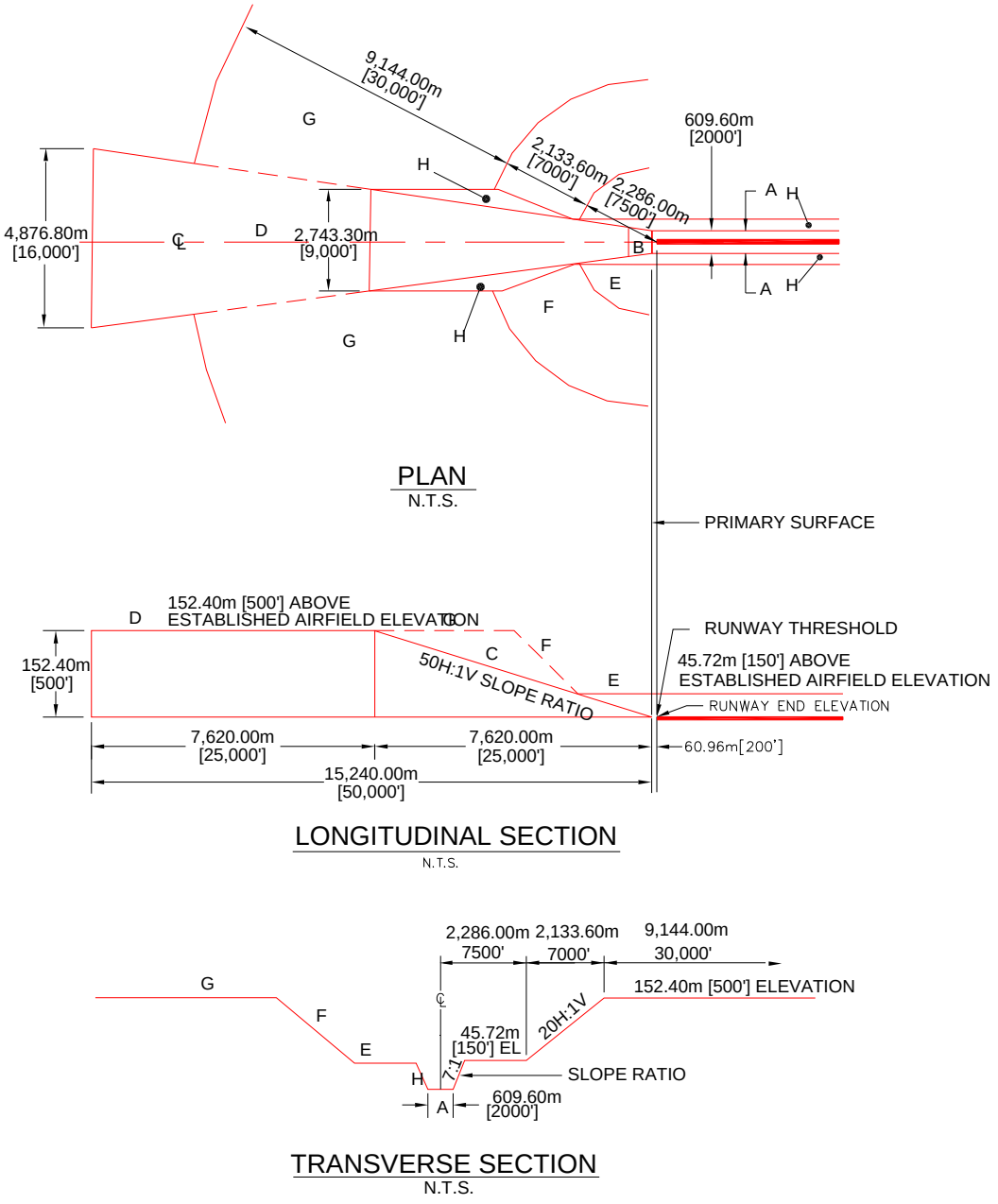
Airfield Planning and Design Criteria

UFC 3-260-01
17 NOVEMBER 2008

UNIFIED FACILITIES CRITERIA (UFC)

AIRFIELD AND HELIPORT PLANNING AND DESIGN

Figure 3-18. Class B Navy Runway Airspace Plan and Profile Runway Imaginary Surfaces



LEGEND

A PRIMARY SURFACE
B CLEAR ZONE SURFACE
C APPROACH-DEPARTURE CLEARANCE SURFACE (SLOPE)
D APPROACH-DEPARTURE CLEARANCE SURFACE (HORIZONTAL)
E INNER HORIZONTAL SURFACE
F CONICAL SURFACE
G OUTER HORIZONTAL SURFACE
H TRANSITIONAL SURFACE
I NOT USED
J ACCIDENT POTENTIAL ZONE (APZ) (NOT SHOWN)

NOTES

1. DATUM ELEVATION FOR:
   a. SURFACES D, E, F AND G ARE THE ESTABLISHED AIRFIELD ELEVATION.
   b. SURFACE C IS THE RUNWAY CENTERLINE ELEVATION AT THE THRESHOLD.
   c. SURFACE H VARIES AT EACH POINT ALONG THE RUNWAY CENTERLINE. SEE TABLE 3.7
2. THE SURFACES SHOWN ON THE PLAN ARE FOR THE CASE OF A LEVEL RUNWAY.

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Appendix B:

U.S. Marine Corps Infrastructure Reset Strategy

U. S. Marine Corps Infrastructure Reset Strategy

General Robert B. Neller
37th Commandant of the Marine Corps

The state of facilities is the single most important investment to support training, operations, and quality of life. – ***Commandant's Posture of the Marine Corps, March 2016***

VISION

Sustain infrastructure and installations as capable, resilient, right-sized platforms to generate force readiness and project combat power across the range of military operations.

SITUATION – *The Infrastructure Reset Imperative*

We are facing future facilities challenges as we try to sustain current installations. We are struggling to keep pace as adversaries rapidly modernize. This is not healthy for the Marine Corps. – ***Commandant's Posture of the Marine Corps, March 2016***

Over the past two decades, the infrastructure footprint of the Marine Corps has grown dramatically as we modernized to meet the emerging and dynamic demands of combat operations. The infrastructure footprint continues to grow with our execution of the Aviation Plan, Rebalance to the Pacific, and support of forward presence and distributed operations around the globe. Today, we have too much obsolete and costly infrastructure to sustain readiness and provide required future capabilities given the realities of declining budgets. Continued growth in infrastructure footprint and complexity increases the cost of ownership and further widens the growing gap between available resources and facility maintenance costs. This strategy provides a comprehensive framework to close this gap and ensure our installations remain a key enabler to generate and sustain combat readiness.

The practice of consistently "accepting risk" in our infrastructure is inadequate to deal with future challenges. Continued underfunding of facilities sustainment and recapitalization jeopardizes the progress we've made in recapitalizing obsolete barracks, and operations and training facilities over the last decade. More importantly, it degrades required capabilities, negatively impacts quality of life, and creates a bow wave of future costs to return assets to proper condition. Left unchecked, this approach negatively impacts our ability to generate force readiness and project combat power.

We will take a revolutionary approach to tackle these tough challenges with a specific focus on optimization and efficiency across the enterprise. We will reset our infrastructure by recapitalizing and reducing our footprint to support our mission and nothing more. We will maintain the critical capabilities of the facilities we retain at the lowest possible total lifecycle cost. Infrastructure Reset is not a onetime effort.

This Infrastructure Reset (IR) Strategy and the associated Campaign Plan initiate a long-term effort to fundamentally change infrastructure lifecycle management. This strategy, and its implementation and governance, will define the ways and means to optimize installation capability within constrained resource availability, while supporting the Operating Forces (OPFOR) and Supporting Establishment (SE) to achieve the specified end state. Most importantly, this will be executed in collaboration with the OPFOR.

COMMANDANT'S INTENT – ***The Strategic Objective and Guiding Principles***

The Strategic Objective is derived from FRAGO 01/2016, Advance to Contact:

> ***We will maintain and man our bases and stations to enable deployment for contingencies, provide realistic training, and provide support to Marines and their families that is essential to their preparedness and resilience to live successfully in our high operational tempo culture.*** ***– The Commandant's Planning Guidance, FRAGO 01/2016***

We will drive down infrastructure costs to sustainable levels, while continuing to support current and future missions. Marine Corps Installations Command will lead the effort to balance and optimize management of the facilities continuum of building, operating, maintaining, consolidating, and divesting of infrastructure. It will require a long-term leadership commitment and a collaborative effort across the entire Marine Corps to find innovative approaches that will: drive down requirements, increase space utilization, optimize infrastructure footprint, and maximize efficiency in delivering installation services. Installation assets and services must be adaptable to evolving requirements and operational changes. As we continue to operate in an environment of declining budgets, we will divest of excess and failing facilities as well as improve processes, policies, and standard business practices to effectively support an expeditionary Marine Corps.

Three Guiding Principles will align and unify efforts to achieve the objectives of this strategy:

1. **Spend every infrastructure dollar on the right long-term investment.** Ensure every dollar is targeted and spent on the highest priority for the Marine Corps. Optimize investment over the long-term to support Marine Corps missions within validated facility requirements at the lowest total lifecycle cost. Processes and governance will align infrastructure investment with our strategic priorities.

2. **Make every infrastructure dollar go further - drive efficiency with consistent use of best practices.** Aligned and dedicated installations management will drive down costs of operating and maintaining our installations by standardizing processes through consistent employment of best practices, innovation, policies, and tools.

3. **Make better-informed infrastructure investment decisions.** Develop and implement authoritative data systems, geospatially linked decision tools, and performance metrics that are clearly linked to Marine Corps missions and capabilities. Make informed decisions and trade-offs based on analysis of associated costs, risks, and impacts.

This strategy will be executed in concert with the OPFOR and all stakeholders to ensure we continue to provide exemplary installations support to Marine Forces, Marines, Sailors, and their families.

END STATE

- Marine Corps infrastructure investments are aligned with OPFOR and SE capability-based requirements to support the warfighting mission and contribute directly to current and future Force readiness.
- The infrastructure capacity necessary to support validated Marine Corps capabilities is clearly defined; infrastructure excess to constrained requirements is demolished; and required infrastructure is recapitalized, configured, and sustained to properly support enduring missions.
- Enterprise governance and installation management continuously ensure that infrastructure capacity and readiness are optimized to support Marine Corps Force Management strategies through investment and lifecycle management processes.

LINES OF EFFORT

We will advance the IR Strategy along four primary Lines of Effort (LOEs). Each LOE and its associated goal, objectives and tasks will establish the long-term ways and means of achieving the strategic ends as prescribed above, and in our Marine Corps Operating Concept (MOC) and the Marine Corps Service Strategy 2016.

LOE 1: Reduce and Optimize Infrastructure Footprint

Goal: We will reduce and optimize infrastructure footprint by consolidation, implementing space management to maximize utilization, and eliminating excess and failing facilities.

- Disciplined enterprise infrastructure planning processes will ensure that validated facility requirements will not be exceeded and excess infrastructure is divested.
- Basic Facility Requirements (BFRs) will be constrained to the minimum footprint necessary to support validated mission requirements and standard BFRs will be established and consistently applied to like units.
- Region and Installation commanders will employ personnel loading and space utilization data for disciplined space management and exploit this data to continuously right-size the inventory by identifying and executing consolidation and divestiture plans in coordination with affected OPFOR and other tenants.
- Long range Global Infrastructure Plans identifying requirements and gaps for the OPFOR and SE, along with Regional Optimization Plans to develop infrastructure solutions that include the potential relocation of units to best use existing infrastructure, will be developed for enterprise Capabilities Based Assessment and prioritization.
- Infrastructure plans will consider unique regional requirements.
- Consolidation and divestiture plans will place first priority on vacating and demolishing excess failing facilities by fiscal year 2022.
- Plans will be developed to complete divestiture of remaining excess underutilized facilities by the end of fiscal year 2027 including consolidation to enhance force protection and improve support of total force requirements aboard installations.

LOE 2: Ensure Investment Decisions Enable Lowest Total Lifecycle Costs

Goal: We will develop a facilities investment strategy with supporting processes and governance to balance the portfolio supporting basic facility requirements at lowest total lifecycle costs.

- A capital improvement project prioritization model will be developed and employed with enterprise governance processes to ensure investment decisions align with Marine Corps strategic guidance and Capabilities Based Assessment to achieve the objectives of this strategy.
- Five-year Facility Investment Plans for execution of the enterprise infrastructure planning process will be developed and prioritized to balance the facility investment portfolio of construction, sustainment, recapitalization, and demolition at lowest total lifecycle cost.
- Infrastructure condition, configuration, capacity, resiliency, and mission dependency will be assessed regularly and continuously monitored to guide facility investment decisions for basic facility requirements according to lowest lifecycle cost principles.
- Data-driven infrastructure investment decisions will link facility readiness as measured by condition, configuration, and capacity to mission impact reflected in the Defense Readiness Reporting System-Marine Corps.
- Annual infrastructure investment plans will target demolition of excess and failing (Q4) facilities and recapitalization of poor (Q3) enduring facilities to right-size the inventory and optimize facility readiness.
- Workforce optimization strategies and business case driven delivery models will be employed to reduce long-term costs and maximize the output of facility investments.
- Savings and cost avoidance generated through divestiture will be targeted at recapitalization and sustainment of required enduring facility capabilities.
- New footprint construction will be offset by an equivalent footprint reduction or be approved only when supportable with total lifecycle operations and maintenance costs as determined by established regional and enterprise governance.

LOE 3: Implement Best Practices and Process Efficiencies

Goal: We will drive efficiencies through standardized organizations, processes, levels of service, and consistent implementation of best practices in support of Marine Corps priorities.

- Service contracts will be consolidated and regionalized to deliver Base Operating Support aligned with prescribed Marine Corps Common Output Levels of Service and risk at lowest total cost.
- Alternative service delivery models will be used to foster enduring partnerships with surrounding communities, leverage private sector expertise and efficiencies, and divest of unnecessary overhead where justified by business case analysis.
- Performance metrics will be benchmarked and monitored for all facilities services, operations, and maintenance and used to reduce cost through standardization and streamlining of organizations and processes to consistently implement best practices.
- Standard barracks and transient quarters management, operations and maintenance models will be identified and implemented to continuously assess requirements, monitor utilization, divest of excess capacity, and sustain required infrastructure at the lowest total cost to the Marine Corps.

LOE 4: Align Installation Management and Establish Enterprise Governance

Goal: We will align and consolidate installation management to improve effectiveness, maximize efficiency, reduce support costs, and establish enterprise governance as a necessary condition to produce and sustain the desired outcomes of this Strategy. The enterprise governance will align the installations, the OPFOR, and SE to create a unified approach.

- Enterprise and regional governance bodies with appropriate OPFOR representation and supporting processes will be established to institutionalize the Infrastructure Reset Strategy and oversee its implementation and consistent, long-term application through all phases of the Planning, Programming, Budgeting, and Execution process.
- Installation management structures will be aligned to provide the dedicated leadership and management required to implement and sustain this strategy for optimizing installation support, reducing and managing infrastructure footprint, and driving efficiencies in service delivery.
- Installation management consolidations at the regional, installation, and functional level will be assessed to improve effectiveness, reduce support costs, and establish the reinforced regional capacity for aligned installation and infrastructure management.
- Installation management structures will be aligned to provide the necessary support to Marine Corps components, commands, units, and tenants for infrastructure planning and lifecycle management of global, total force Marine Corps real property.

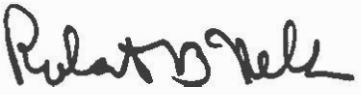
WAY AHEAD

With the end state in mind, our global framework of installations, facilities, ranges, and other vital infrastructure must support increased readiness and improved efficiencies within budget constraints. We must maintain and sustain only the essential infrastructure with an expeditionary mindset in garrison, supported by an affordable total lifecycle management model.

We will staff and publish the Marine Corps IR Campaign Plan early in 2017 and it will detail specific goals, objectives, tasks, measures of effectiveness, and timelines for executing this strategy along the four stated LOEs.

Our ability to remain the Nation's crisis response force rests on our resourceful and innovative spirit to address these imperatives. Despite a constrained resource environment, our management of installations and global infrastructure investments will support ready and relevant expeditionary forces, able to respond rapidly across the range of military operations. We have a defined focus with clear objectives. Now, it's time to Move out.

Semper Fidelis,



Robert B. Neller
General, U.S. Marine Corps
Commandant of the Marine Corps

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Appendix C:

Building Photographs

Revetments (Facilities 14, 15, 17), west side of flight line - view to west.

Facility 313, former torpedo storage facility, east side of flight line - view to north.

Facility 601, former smoke drum storage facility, west side of flight line - view to southwest.

Facility 602, former smoke drum storage facility, west side of flight line - view to southwest.

Facility 603, west side of flight line - view to southeast.

Facility 605, west side of flight line - view to west.

Facility 612, former torpedo storage facility located on the back (north) side of Facility 17(aircraft revetment) - view to south.

Facility 620, west side of flight line - view to northeast.

Facility 1359, west side of flight line, proposed for renovation – view to north.

Facility 1360, west side of flight line, proposed for renovation – view to north.

Facility 1361, west side of flight line, proposed for renovation – view to northeast.

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Appendix D:

NHPA Section 106 Correspondence

MEMORANDUM OF AGREEMENT (MOA)
BETWEEN
THE UNITED STATES MARINE CORPS
AND
THE HAWAII STATE HISTORIC PRESERVATION OFFICER (SHPO)
REGARDING THE
AIRFIELD IMPROVEMENTS AND BUILDING DEMOLITION
AT MARINE CORPS BASE HAWAII, KANEOHE BAY

WHEREAS, Marine Corps Base Hawaii (MCBH) plans to carry out airfield improvements including demolition and renovation of buildings, structures, or facilities ("the undertaking") located within the vicinity of the airfield at MCBH Kaneohe Bay; and

WHEREAS, the undertaking plans to demolish nine (9) total airfield facilities, including seven (7) facilities (14, 15, 17, 602, 603, 605, 612) located within the specified airfield safety or clear zone that constitute navigational hazards [Attachment 1: List of nine buildings planned for demolition; Attachment 2: Location of nine buildings planned for demolition]; and

WHEREAS, the undertaking plans to demolish two (2) facilities (313, 601) that do not have a mission requirement and as such meet the requirements for footprint reduction under the Commandant of the Marine Corps' Infrastructure Reset Strategy initiative issued in March 2016; and

WHEREAS, the undertaking also includes one (1) facility (620) that was planned for demolition but, as the result of consultation, has been withdrawn from the proposed demolition in order to provide more time for MCBH to further explore options for adaptive reuse; and

WHEREAS, related activities include the renovation of facilities 1359, 1360, and 1361, and the construction of a new storage facility in the Marine Aircraft Logistics Support(MALS)Compound and outside the airfield safety zone to replace facility 603; and

WHEREAS, MCBH has defined the undertaking's area of potential effects (APE) as the footprints of the buildings affected by this undertaking, as well as the historic Naval Air Station (NAS) Kaneohe Aviation District [Attachment 3: Map showing location of the buildings affected by this undertaking within the historic district]; and

WHEREAS, MCBH has determined that the undertaking may have an adverse effect on the nine (9) buildings planned for demolition, which are eligible for listing in the National Register of Historic Places (NRHP) and contribute to the historic NAS Kaneohe Aviation District (shown on Attachment 3), and has consulted with the Hawaii State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part §800, the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

WHEREAS, MCBH has therefore determined that the undertaking may also have an adverse effect on the historic NAS Kaneohe Aviation District that is eligible for listing in the NRHP, and has consulted with the Hawaii SHPO pursuant to 36 CFR Part §800, the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

WHEREAS, MCBH has consulted with Native Hawaiian organizations (NHOs) for which Mokapu Peninsula has cultural significance regarding the effects of this undertaking on historic properties and has invited each of these NHOs to sign this MOA as a concurring party; and

WHEREAS, MCBH has consulted with the National Trust for Historic Preservation and Historic Hawaii Foundation regarding the effects of this undertaking on historic properties and has invited them to sign this MOA as concurring parties; and

WHEREAS, in accordance with 36 CFR §800.6(a)(1), MCBH has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation, and the ACHP has chosen not to participate in this consultation pursuant to 36 CFR §800.6(a)(1)(iii); and

WHEREAS, pursuant to 36 CFR §800.6(b)(1)(iv), MCBH shall submit a copy of the executed agreement, along with documentation specified in 36 CFR §800.11(f), to the ACHP prior to approving the proposed undertaking.

NOW, THEREFORE, MCBH and the Hawaii SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the undertaking on historic properties.

STIPULATIONS

MCBH shall ensure that the following measures are carried out as part of this undertaking:

I. PROFESSIONAL QUALIFICATIONS

A. All work within the APE pertaining to the identification and treatment of archaeological resources, including sites and objects, will be carried out by, or under the direct supervision of, a person or persons meeting the professional qualification for archaeology as found in "The Secretary of the Interior (SOI) Historic Preservation Professional Qualification Standards" (SOI Qualification Standards), per 36 CFR Part §61, Appendix A (Volume 48, No 190 dated September 29, 1983), referred to hereinafter as Qualified Archaeologist.

B. All work within the APE pertaining to historic buildings or new buildings located within historic districts will be carried out in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties with guidelines for preserving, rehabilitating, restoring and reconstructing historic buildings. This work will be conducted by a Historical Architect or Architectural Historian, meeting the Secretary of the Interior's Historic Preservation Professional Qualification Standards (36 CRF Part 61), referred to hereinafter as Qualified Preservation Professional (QPP).

II. MITIGATION MEASURES

MCBH shall ensure that the following measures are carried out as part of this undertaking:

A. A historic structural assessment of Facility 620 (Quonset hut) by a Qualified Preservation Professional to explore options for reuse and relocation. It will be initiated no later than three (3) years after execution of this MOA and the associated Environmental Assessment, subject to the availability of funding per Stipulation VIII.

B. A "Historic Context and Building Inventory" of World War II-era aircraft revetments across U.S. Marine Corps

installations in Hawaii. It will be initiated no later than three (3) years after execution of this MOA and the associated Environmental Assessment, subject to the availability of funding per Stipulation VIII.

C. An update of the National Register of Historic Places (NRHP) nomination for the historic NAS Kaneohe Aviation District (2007 Casen and Stiber) that will evaluate the district following demolition of the historic buildings that contributed to the district. It will be initiated no later than three (3) years following demolition of the historic buildings that contributed to the district subject to the availability of funding per Stipulation VIII.

D. Historic American Building Survey (HABS) documentation of Facility 603 (small arms magazine) and Facility 605 (inert ordnance storehouse), which are some of the earliest facilities constructed in support of NAS Kaneohe's aviation mission during World War II. This will be completed prior to demolition of these buildings. MCBH will consult with the National Park Service (NPS) HABS/HAER/HALS Coordinator in the Pacific West Regional Office as to the required type and level of documentation and on the guidelines and protocols for submission. MCBH will ensure that all documentation activities will be performed or directly supervised by professionals meeting the qualifications of their field as specified in the Secretary of Interior's Professional Qualifications Standards (36 CFR 61; Appendix A). MCBH will provide an original HABS/HAER/HALS report to the NPS.

E. MCBH will initiate consultation with NHOs for which Mokapu Peninsula has cultural significance to begin development of a Comprehensive Agreement (CA) under the Native Graves Protection and Repatriation Act (NAGPRA), to address land management activities that may result in either intentional excavation or inadvertent discovery of NAGPRA cultural items; and to establish a process for consultation and determination of custody, treatment, and disposition of such items. This CA will be initiated no later than three (3) years after execution of this MOA and the associated Environmental Assessment, subject to the availability of funding per Stipulation VIII. Any NAGPRA cultural items encountered prior to execution of a CA will be treated in accordance with

procedures for inadvertent discoveries as found at 43 CFR §10.4.

F. Archaeological monitoring during all ground disturbing activities associated with this proposed undertaking since there is potential for finding NAGPRA cultural items, including human skeletal remains, in the sand fill used below the foundations of buildings, buried utilities, and the airfield runway built during the earlier period of base construction dating from 1939 to 1970. The draft archaeological monitoring plan and draft archaeological monitoring report will be sent to the SHPO for review. Electronic copies (PDF) of the final plan and report will be sent to the SHPO; anyone other than SHPO staff requesting to view these documents shall obtain written authorization from MCBH.

III. DURATION

This MOA shall become effective upon execution by all Signatories and shall remain in effect until all projects associated with the Undertaking are completed or 10 years from the date of execution (whichever occurs first), unless the MOA is terminated prior to that in accordance with Stipulation XII below. Prior to such time, MCBH may consult with the other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation VII below.

IV. POST-REVIEW DISCOVERIES

The Signatories and Concurring Parties shall be notified by the Marine Corps within 24 hours of discovery that a historic property has been affected by the undertaking, or portion thereof, implemented under this MOA.

A. If during the undertaking, previously unidentified historic properties are discovered, or previously unanticipated effects occur to known historic properties within the APE, MCBH shall stop work in the vicinity of the discovery. MCBH shall work with the Qualified Archaeologist or Qualified Preservation Professional to investigate and document the historic property.

1. The Marine Corps shall determine actions that can be taken to avoid or minimize further impacts to the historic property, and shall notify SHPO and any NHO

that has requested to be notified within 48 hours of the telephone notification, followed by written notification to be sent by email. The notification shall include an initial assessment of National Register eligibility and proposed actions to resolve potential adverse effects.

2. The SHPO and any NHO that requests to be notified shall respond within 48 hours of the telephone notification. Any requests for access to the area of the discovery by representatives of these organizations will be subject to reasonable requirements for identification, escorts (if necessary), safety, and other administrative and security procedures.

3. MCBH will take into account any recommendations regarding NRHP eligibility and proposed actions, and then carry out appropriate actions. Should such actions include archaeological investigations, such will be carried out by a Qualified Archaeologist. The Marine Corps shall provide SHPO and any NHO that has requested to be notified with a report of the actions when they are completed.

4. If the discovery is determined to be *not* eligible for inclusion in the National Register, after consultation with SHPO and any NHO that requested notification, then a Qualified Archaeologist or Qualified Preservation Professional shall record the discovery. Once documentation is completed, work may proceed.

5. If human remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony ("cultural items") are discovered within the APE by any action taken pursuant to this undertaking, MCBH shall stop all ground-disturbing activities in the vicinity, barricade, stabilize, and protect the discovery and the surrounding area to the extent that further subsurface cultural items may reasonably be expected to be present. The appropriate culturally affiliated claimant(s) shall be notified.

6. MCBH shall consult with culturally affiliated claimants regarding the appropriate treatment and

disposition of those cultural items in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. 3001 et seq., as appropriate) and their respective regulations.

V. MONITORING AND REPORTING

Each year, following the execution of this MOA until it expires or is terminated, MCBH shall provide all parties to this MOA a summary report detailing work undertaken pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in MCBH's efforts to carry out the terms of this MOA.

VI. DISPUTE RESOLUTION

Should any signatory or concurring party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, MCBH shall consult with such party to resolve the objection. If MCBH determines that such objection cannot be resolved, MCBH will:

A. Forward all documentation relevant to the dispute, including the MCBH's proposed resolution, to the ACHP. The ACHP shall provide MCBH with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, MCBH shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories, and concurring parties and provide them with a copy of this written response. MCBH will then proceed according to its final decision.

B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, MCBH may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, MCBH shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.

C. MCBH's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

VII. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all signatories is filed with the ACHP.

VIII. ANTI-DEFICIENCY ACT

All requirements set forth in the MOA requiring expenditure of Marine Corps funds are expressly subject to the availability of appropriations and the requirements of the Anti-Deficiency Act (31 U.S.C. 1341). No obligation undertaken by the Marine Corps under the terms of this MOA shall require or be interpreted to require a commitment to expend funds not appropriated for a particular purpose. If the Marine Corps cannot perform any obligation set forth in this MOA because of unavailability of funds, that obligation must be renegotiated among the Marine Corps and the SHPO.

IX. TERMINATION

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other signatories to attempt to develop an amendment per Stipulation VI, above. If within thirty (30) days an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, MCBH must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. MCBH shall notify the signatories as to the course of action it will pursue.

Execution of this MOA by MCBH and the Hawaii SHPO and implementation of its terms evidence that MCBH has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

SIGNATORIES:

MARINE CORPS BASE HAWAII, KANEOHE BAY

By: _____ Date: 04 DEC 2017

Raul Lianez, Colonel, United States Marine Corps
COMMANDING OFFICER, MCBH

HAWAII STATE HISTORIC PRESERVATION OFFICER

By: _____ Date: 11.2.17
Alan Downer, Ph.D, Deputy State Historic Preservation Officer

CONCURRING PARTIES:

NATIONAL TRUST FOR HISTORIC PRESERVATION

By: _____ Date: _____
Elizabeth Merritt, Deputy General Counsel

HISTORIC HAWAII FOUNDATION

By: _____ Date: _____
Kiersten Faulkner, Executive Director

OFFICE OF HAWAIIAN AFFAIRS (OHA)

By: _____ Date: _____
Chair, OHA

OAHU ISLAND BURIAL COUNCIL (OIBC)

By: _____ Date: _____
Chair, OIBC

HAWAII STATE HISTORIC PRESERVATION OFFICER

By: _____ Date: _____
Alan Downer, Ph.D, Deputy State Historic Preservation Officer

CONCURRING PARTIES:

NATIONAL TRUST FOR HISTORIC PRESERVATION

By: _____ Date: _____
Elizabeth Merritt, Deputy General Counsel

HISTORIC HAWAII FOUNDATION

By: Kiersten Faulkner Date: NOV. 8, 2017
Kiersten Faulkner, Executive Director

OFFICE OF HAWAIIAN AFFAIRS (OHA)

By: _____ Date: _____
Chair, OHA

OAHU ISLAND BURIAL COUNCIL (OIBC)

By: _____ Date: _____
Chair, OIBC

TEMPLE OF LONO

By: Date:
Clive Cabral

PAOA/KEA/LONO `OHANA

By: Date:
Donna Ann Camvel

KEKUMANO `OHANA

By: Date:
Cy Harris

VICTOR KELI`IMAIKA`I BOYD `OHANA

By: Date:
Na`u Kamali`i

KEOHOKALOLE `OHANA

By: Date:
Emalia Keohokalole

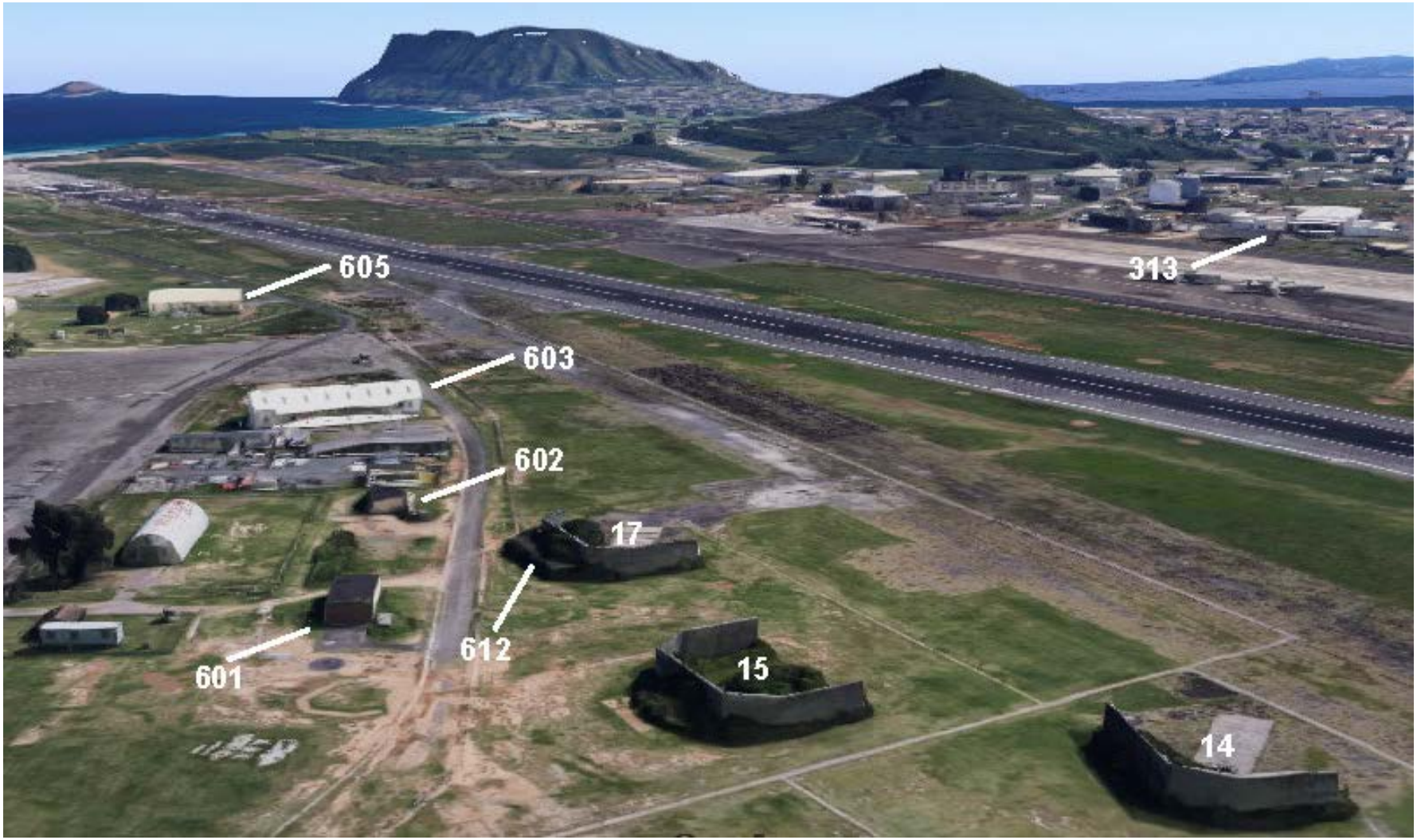
PRINCE KUHIO HAWAIIAN CIVIC CLUB

By: Date:
Norman Llanos

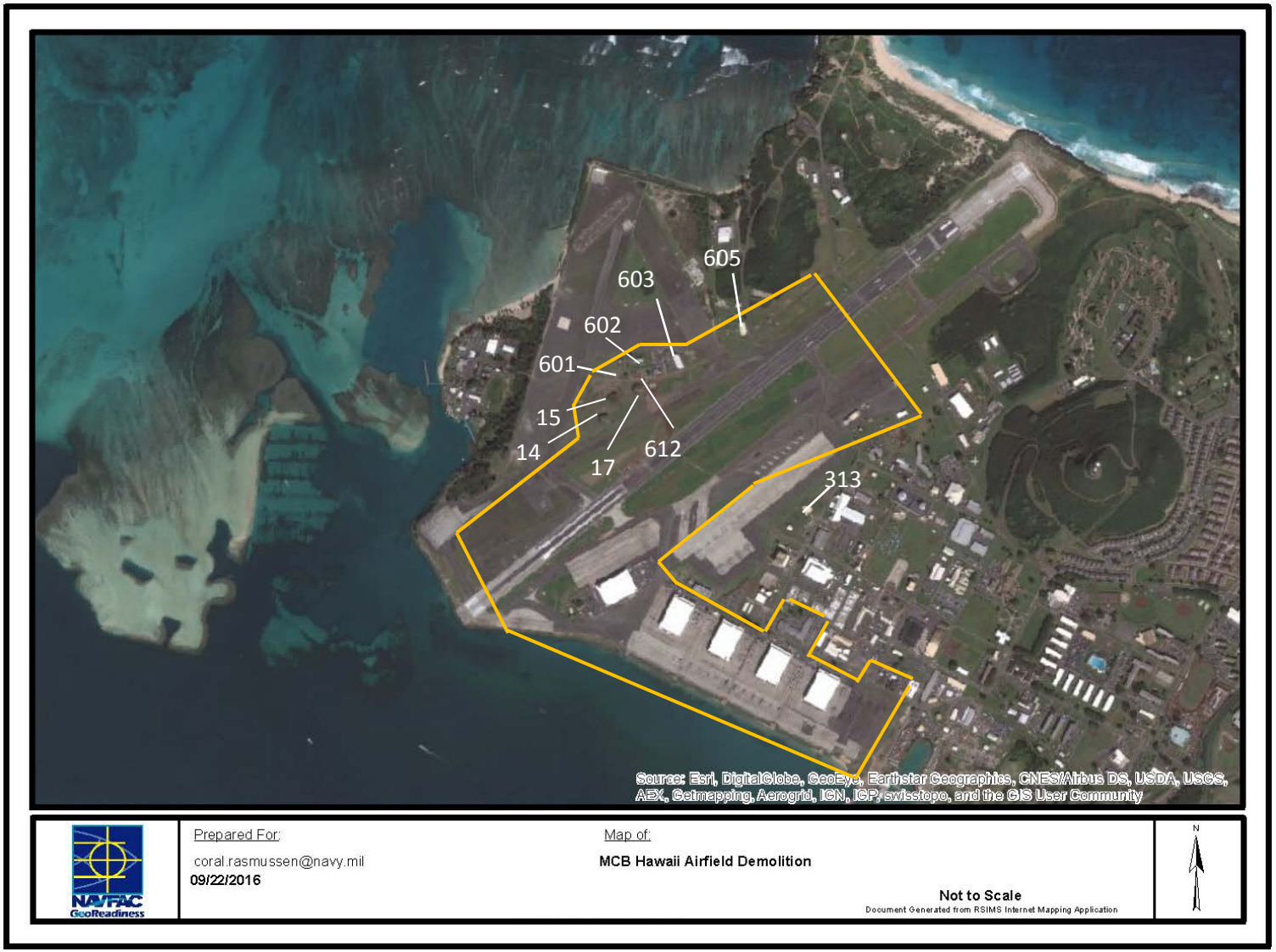
Attachment 1. List of the nine buildings planned for demolition.

Facility Number	*Year Constructed*	NRHP Status	Within Runway Clear zone	2016 Infrastructure Reset
14	1942	Aircraft Revetment, eligible for NRHP. Tall reinforced concrete structure creating an open, five-sided (semi-circular) area; altered for use as an engine check facility; three of five sides remain.	Yes	No
15	1942	Aircraft Revetment, eligible for NRHP. Intact, reinforced concrete structure creating an open, five-sided (semi-circular) area.	Yes	No
17	1942	Aircraft Revetment, eligible for NRHP. Tall reinforced concrete wall creating an open, five-sided (semi-circular) area; altered for use as an engine check facility; four of five sides remain.	Yes	No
313	1942	Former torpedo storage facility, eligible for NRHP. Rectangular concrete structure, flat roof and large sliding doors. HABS documentation previously conducted.	No	Yes
601	1941	Warehouse built to store smoke drums, eligible for the NRHP. Rectangular concrete and concrete-masonry-unit (CMU) structure with sliding doors.	No	Yes
602	1942	Warehouse built to store smoke drums, eligible for the NRHP. Rectangular concrete and concrete-masonry-unit (CMU) structure with sliding doors.	Yes	No
603	1941	Constructed as a small arms magazine, eligible for the NRHP. Design based on standard plans developed by the Army; 160 feet long with eight bays.	Yes	No
605	1941	Constructed as an inert ordnance storehouse, eligible for the NRHP. Design based on standard plans developed by the Army.	Yes	No
612	1942	Former torpedo storage facility, eligible for the NRHP. Rectangular concrete structure with a flat roof and large sliding doors. HABS previously conducted.	Yes	No

Attachment 2. Location of the nine buildings planned for demolition.



Attachment 3. Area of Potential Effects including building footprints and the historic NAS Aviation District (shown in orange).



UNITED STATES MARINE CORPS
MARINE CORPS BASE HAWAII
BOX 63002
KANEOHE BAY, HAWAII 96863-3002

5090
LE/046-17

APR 1 2 2017

Dr. Alan Downer
State Historic Preservation Officer
Department of Land and Natural Resources
Kakuihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, HI 96707

SUBJECT: SECTION 106 CONTINUING CONSULTATION: PROPOSED MITIGATIONS FOR MEMORANDUM OF AGREEMENT (MOA) FOR AIRFIELD IMPROVEMENTS AND BUILDING DEMOLITION ABOARD MARINE CORPS BASE HAWAII (MCBH), DISTRICT OF KO'OLAUPOKO, ON THE ISLAND OF O'AHU, TMK 1-4-4-008:001.

Dear Dr. Downer:

MCBH is continuing consultation with your office in compliance with Section 106 of the National Historic Preservation Act regarding the undertaking to carry out airfield improvements and building demolition that we have determined will have an adverse effect on historic properties. We sent an initial consultation letter (LE/135-16) on 22 December 2016 and held a consultation meeting on 10 January 2017 to explore mitigation measures that would be implemented through a Memorandum of Agreement (MOA). Since the January meeting, MCBH has received written comments from the State Historic Preservation Officer (SHPO)(Log: 2016.02986/ Doc:1701JLP02); Historic Hawaii Foundation; and the Kekumano 'Ohana. The Advisory Council on Historic Preservation (ACHP) has declined participation. This letter seeks to address these comments regarding ways to avoid, minimize, or mitigate the adverse effects on historic properties from the proposed demolition through development of an MOA.

The proposed undertaking, as described in the MCBH initial Section 106 consultation letter referenced above, included demolition of the following ten (10) World War II (WWII) era historic properties: Facilities 14, 15, and 17 (aircraft revetments); Facility 620 (Quonset hut); Facilities 601 and 602 (smoke drum storage); Facilities 313 and 612 (torpedo storage structure); and two sister structures, Facilities 603 (small arms magazine) and 605 (inert ordnance storehouse).

MITIGATIONS PROPOSED FOR INCLUSION IN THE MOA

1. HISTORIC STRUCTURAL ASSESSMENT OF FACILITY 620: At this time, MCBH has decided to postpone demolition of Facility (Fac.) 620 and remove it from this proposed undertaking. MCBH has made this decision in order to address the numerous comments and questions received from consulting parties regarding the condition, structural feasibility, reuse options, and documentation status of this Quonset hut. For example, one of the requests received from historic partners at the MCBH Cultural Resources Management Annual Meeting held on 31 March 2017, was that we conduct an historic structural assessment of the Quonset by a Qualified Preservation Professional. MCBH proposes to include this request in the MOA and continue exploring options for reuse and relocation. For your information, we have attached the historic integrity assessment of Fac. 620 with photos showing the current condition [enclosure 1]; HABS documentation of a similar Quonset hut (HI-311-F) [enclosure 2 via AMRDEC]; and relevant excerpts from the context study on Quonset huts in Hawai`i [enclosure 3 via AMRDEC]. Once the proposed undertaking with respect to Fac. 620 has been re-defined, and after results of the historic structural assessment are considered and shared with historic partners, MCBH will initiate a new Section 106 consultation.

2. CONTEXT STUDY FOR WWII ERA AIRCRAFT REVETMENTS: To address the proposed demolition of the revetments (Facilities 14, 15, and 17) within the runway clear zone, the historic partners requested that a context study be conducted for aircraft revetments across all U.S. Marine Corps installations in Hawaii. WWII era aircraft revetments are located at the following two Marine Corps installation areas in Hawaii: Marine Corps Base Hawaii, Kaneohe Bay (includes the three revetments proposed for demolition) and Marine Corps Training Area Bellows (MCTAB). MCBH agrees that a context study of revetments is preferable to HABS documentation since a revetments is a simple structure composed of a semi-circular wall [enclosure 4].

   The revetments at MCBH, Kaneohe Bay, consist of aircraft protection bunkers built by Contractors Pacific Naval Air Bases (CPNAB) in 1942. During World War II, this area was part of Naval Air Station (NAS) Kaneohe. These former Navy revetments each consisted of an open five-sided (semi-circular) wall with camouflage netting on top. Aircraft that used these revetments frequently consisted of the flying boats (PBYs) and smaller fighter planes like the F-4s.

   The revetments at MCTAB were different. During World War II, MCTAB was part of the Army Air Corps' Bellows Field. Revetments constructed around Bellows Field consisted of Bomber Revetments and smaller Pursuit Plane Revetments. The Army constructed these revetments by either excavating into the hillside or constructing structures made of rubble. The revetments were coated with gunite. The bomber revetments were generally either semi-circular or semi-octagonal in shape with an opening about 138 feet wide, 88 feet long and about 20 feet high. The bomber revetments included both single and paired revetments. Many of the larger bomber revetments have personnel shelters. Two of the revetments have octagonal concrete turrets for observation and possibly anti-aircraft gun positions. The pursuit plane revetments were narrow, rectangular revetments approximately 48 feet wide at the opening, 43 feet long, and at least 20 feet high.

3. NRHP NOMINATION FOR THE NAS KANEOHE AVIATION HISTORIC DISTRICT: Comments received included a request that MCBH complete and submit a nomination for the NAS Kaneohe Aviation Historic District to be listed in the Register of Historic Properties (NRHP). The purpose would be to re-assess the district after the demolition of contributing historic facilities, including the district's boundaries and contributing resources. The MOA would provide for updating the previous draft NRHP nomination for the district, completed in 2007 (Casen and Stiber), following demolition, and for submittal of the updated nomination to Headquarters Marine Corps, where it would be considered for submittal to the Keeper of the National Register of Historic Places.

4. HABS DOCUMENTATION: Other mitigation measures were suggested, including HABS documentation of the Torpedo Storage facilities (Fac. 313 and 612). However, HABS documentation (HI-311-I) has been conducted on all the torpedo storage facilities at MCBH, including Fac. 313 and 612, as mitigation for the prior demolition of one of the torpedo storage facilities (Fac. 611). There have been no modifications of Fac. 612 since the HABS was completed. MCBH is providing an electronic copy of the HABS documentation to all consulting parties [enclosure 5 via AMRDEC].

   Although HABS has not been requested for Fac. 603 (small arms magazine) and 605 (inert ordnance storehouse), these were some of the earliest facilities constructed at NAS Kaneohe in support of the base's aviation mission. MCBH proposes that the MOA include HABS documentation as an appropriate mitigation for their demolition.

5. FORESEEABLE EFFECTS: MCBH was asked to provide information on foreseeable effects on other locations or buildings that would occur from relocating the Environmental Department, including swing space during construction. Upon inquiring, we have been informed that the relocation of the Environmental Department will be covered under another NEPA document and Section 106 consultation, as it is not within the scope of this proposed undertaking. Nonetheless, MCBH's goal for this future project would be to investigate renovation or refurbishment of an existing building before any new construction alternatives are considered. If new construction is considered, demolition of non-historic buildings would be considered first and the impact to historic resources would be minimized to the maximum extent practical. The intent would be to reduce the overall facility footprint and create greenspace.

6. NEW CONSTRUCTION FOR ORDNANCE STORAGE: MCBH conducted a drive-by site visit of the MALS Ordnance Compound on 31 March 2017 to provide the opportunity for consulting parties to see that the Ordnance Compound is not near the NAS Kaneohe Aviation Historic District, and thus, not an appropriate place for historic design guidelines for new construction. This compound is located on the west side of Pali Kilo, behind the Keawanui Hill (the hill west of the airfield), and is not visible from the historic district. The majority of buildings date circa the 1980s and have been evaluated as not eligible for listing on the NRHP by a Qualified Preservation Professional (Mason Architects et al. 2014:B-41).

7. ARCHAEOLOGICAL RESOURCES: With respect to archaeological resources, MCBH has been asked to develop a Comprehensive Agreement under the Native Graves Protection and Repatriation (NAGPRA). MCBH will work with the Native Hawaiian Organizations (NHOs) affiliated with the base to develop a Comprehensive Agreement. The Comprehensive Agreement would address land management activities that could result in the intentional excavation or inadvertent discovery of NAGPRA items and establish a process for consultation and determination of custody, and treatment and disposition of such items.

   Although we were asked to stockpile sand excavated from the demolition site to return to the sand dunes on Mokapu Peninsula, MCBH does not have a policy or plans to stockpile sand at this time. During demolition, an archaeologist will monitor all ground disturbing activities where sand fill is present, which may contain human remains.

MCBH would like to thank all consulting parties for your participation in this ongoing consultation and for submitting written comments. We look forward to continuing to work with you to develop the MOA to resolve the project's adverse effects and invite you to a meeting on **26 April 2017 at 9:00am** at the Environmental Department's Conference Room in Building 1359. MCBH is forwarding copies of this letter to the consulting parties listed below as part of the Section 106 consultation process for this proposed undertaking. Should you or your staff have any questions or concerns please contact the MCBH Senior Cultural Resources Manager, Ms. June Cleghorn at 257-7126 or via email at june.cleghorn@usmc.mil.

Sincerely,

W. M. ROWLEY
Major, U. S. Marine Corps
Director, Environmental Compliance and
Protection Department

Enclosures:

(1) Facility 620 (Quonset hut) Integrity Assessment.
(2) HABS documentation of Quonset hut, Fac. 477 (HABS HI-311-F) via AMRDEC.
(3) Excerpt from *Quonset Hut Survey and Context Report For Hawaii and Navy Supported Activities In The Pacific* (Fung Associates et al. 2014) via AMRDEC.
(4) Historic photos of the aircraft revetments at MCBH Kaneohe Bay and Marine Corps Training Area Bellows.
(5) HABS documentation of Torpedo Storage facilities (HI-311-I) via AMRDEC.

References:

AECOM
2017 *Marine Corps Base Hawaii, Kaneohe Bay, Cultural Landscape Report.* Draft report prepared for Naval Facilities Engineering Command, Pacific, Pearl Harbor, Hawaii. AECOM Technical Services, Honolulu.

Casen, George, and Angela Stiber
n.d. Naval Air Station Kaneohe Bay Aviation District. National Register of Historic Places nomination form. Prepared for Marine Corps Base Hawaii. Mason Architects, Inc., Honolulu.

Environmental Protection and Compliance Department
2011 *Historic Building Inventory: World War II Era Buildings Aboard Marine Corps Base Hawaii, Kaneohe Bay.* Environmental Compliance and Protection Department, Marine Corps Base Hawaii.

Fung Associates et al.
2014 *Quonset Hut Survey and Context Report for Hawaii and Navy Supported Activities in the Pacific.* Prepared for Naval Facilities Engineering Command, Hawaii, Pearl Harbor, Hawaii. Fung Associates, Inc., and WCP Inc., Honolulu.

Mason Architects et al.
2015 *Repair and Maintenance Management Guidelines, U.S. Marine Corps Base Hawaii Oahu, Hawaii.* Helber Hastert & Fee Planners, Inc., and Mason Architects, Inc., Honolulu.

Salo, Edward, and Geoffrey Mohlman
2012 Torpedo Storage Buildings (Buildings 106, 120, 313, 610, 612, and 615). HABS No. HI-311-I. Prepared for Marine Corps Base Hawaii. Southeastern Archaeological Research, Inc., Honolulu.

Ruzika, Dee and David Franzen.
2006 U.S. Marine Corps Base Hawaii, Kaneohe Bay, Bulding No. 477. HABS No. HI-311-F. Prepared for Marine Corps Base Hawaii. Mason Architects, Inc., Honolulu.

Copy to:

Ms. Elizabeth Merritt, National Trust for Historic Preservation
Ms. Kiersten Faulkner, Historic Hawaii Foundation
Ms. Elaine Jackson-Retondo, National Park Service
Ms. Ah Lan Diamond; Diamond ʻOhana
Ms. Nalani Olds; Olds ʻOhana
Ms. Delilah Ortiz; Ortiz ʻOhana
Ms. Emalia Keohokalole, Keohokalole ʻOhana
Ms. Clara Sweets Matthews; Ka Lahui Hawaii
Ms. Ella Paguyo; Paguyo ʻOhana
Mr. Norman Llamos; Prince Kuhio Hawaiian CC
Ms. Nau Kamalii; Boyd ʻOhana
Ms. Donna Ann Camvel; Paoa Kea Lono ʻOhana
Dr. Kamanaʻopono Crabbe; Office of Hawaiian Affairs
Mr. Cy Harris; Kekumano ʻOhana
Ms. Terrilee Napua Kekoolani Raymond; Kekoolani ʻOhana
Chair; Oahu Island Burial Council
Ms. Cathleen Mattoon; Koolauloa Hawaiian Civic Club
Mr. Clive Cabral; Temple of Lono
Ms. Kaleo Paik
Ms. Paulette Kaanohi Kaleikini, ʻOhana Keaweamahi
Mr. Kalahikiola Keliinoi, ʻOhana Keliinoi
Mr. Kala Waahila Kaleikini, ʻOhana Kaleikini
MR. Kilinahe Keliinoi, ʻOhana Kahekilinuiahumanu
Mr. Kimball Kekaimalino Kaopio; ʻOhana Naihe
Mr. JR Keoneakapu Williams; ʻOhana Kapu
Mr. Norman Caceres; ʻOhana Huihui

ENCLOSURE 1

Integrity Assessment:
Facility 620- Aircraft Recovery Operations
Constructed 1945 as Aircraft Engine Salvage Shop
Quonset hut, 40 x 100 ft

Materials: The concrete slab foundation/floor, exposed metal ribs and purlins, and thick, corrugated metal cladding appear to be largely original to construction with minor repairs and patching. The north elevation door opening has been infilled and replaced with a single door. Some corrosion of the corrugated metal siding, addition of concrete sills, and other degradation of original materials negatively affect the integrity of the building. However, overall, Facility 620 retains integrity of materials.

Design: No major design changes have been made to the barrel sides of Facility 620 and overall changes to the exterior of the building are minor. Some alterations have occurred on the building ends. The distinctive Quonset hut form and characteristics distinctive to the type are readily recognizable. Alterations to the door and window openings on the bulkhead ends of the building may have occurred since construction; however, insufficient evidence is available at this time to determine when these changes may have occurred. Notably, windows on both ends have jalousie inserts. The building interior is almost completely unaltered. The steel ribs of the building's structure are visible and intact, as is the underside of the thick corrugated metal siding. The open shop plan remains largely free of partitions (recently a small partitioned restroom was demolished; some curbing remains). A new concrete sill was added (poured as infill between the ribs). However, Facility 620 retains integrity of design.

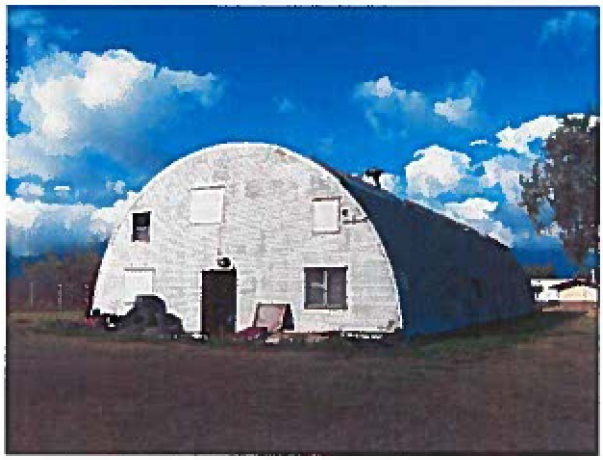
Feeling: The Quonset hut form of Facility 620 is distinctive of the time and circumstances (World War II) during which it was constructed. The building was originally used as the Aircraft Engine Salvage Shop, a support facility for the airfield, and is used as airfield storage today. However, with the disuse and removal of other airfield support facilities (such as aircraft revetments), the majority of airfield activities are on the other side of the runway. This contributes to Facility 620's somewhat diminished integrity of feeling.

Location: Facility 620 does not appear to have been moved from its original location and research does not indicate previous relocation efforts. Facility 620 retains integrity of location.

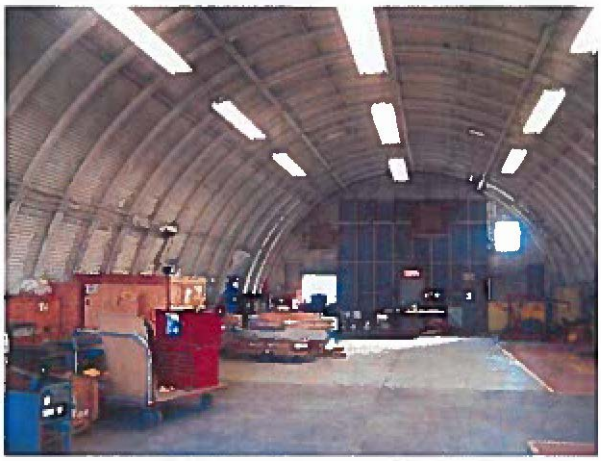
Association: Facility 620 was originally used as the Aircraft Engine Salvage Shop, a support facility for the airfield, and is used as aircraft recovery operations storage today. However, with the disuse and removal of other airfield support facilities (such as aircraft revetments), the majority of airfield activities are on the other side of the runway. The Quonset hut form of Facility 620 is distinctive of the time and circumstances (World War II) during which it was constructed, but is not otherwise unusual. Facility 620 retains some integrity of association.

Workmanship: Facility 620 is a 40 x 100 ft Building, Standard Basic Unit (Quonset hut) - a mass produced building designed and constructed during wartime. The building was shipped to Oahu as crates of prefabricated pieces and constructed by the Seabees according to a booklet of instructions and plans. This type of well-organized military execution is reflected in the building's fabric, design and construction, especially in the connections between rib sections and purlins (the building's structural elements). The original bulkhead framing seems to have been altered to accommodate changes to window and door openings; however, insufficient evidence is available at this time to determine when these changes may have occurred. Degradation (largely corrosion) and addition of a concrete sill between the metal ribs has compromised original materials. However overall, Facility 620 retains integrity of workmanship.

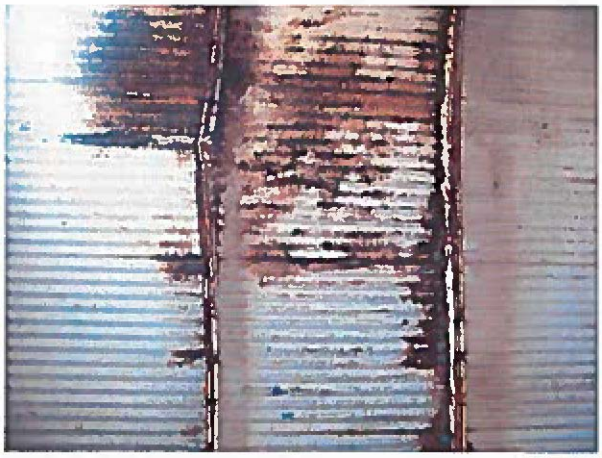
Setting: The immediate setting of Facility 620 has changed little since its construction in 1945. The building is located in a small group of support facilities along the airfield and is located next to the smoke drum storehouse; the base's remaining aircraft revetments, and ready magazines. Beyond these immediate surroundings, Facility 620 is located adjacent to a very active airfield (in the location of the original base landing mat), but removed from the majority of present-day airfield support facilities. A portion of the airfield east of the Quonset hut is now used as a motorcycle training area. Despite encroachments on and changes to the historic setting of the building, Facility 620 retains some integrity of setting.



Exterior of Facility 620, view to southwest.



Interior of Facility 620, view to east.



Detail showing rusted framing.

Horizontal ribs embedded in the infill concrete sill.

Interior detail.

Exterior detail.

ENCLOSURE 2 (VIA AMRDEC)

U.S. MARINE CORPS BASE HAWAII, KANEOHE BAY, GOLF COURSE EQUIPMENT & REPAIR SHOP
(Building No. 477)
Reeves & Moffett Roads
Kaneohe
Honolulu County
Hawaii

HABS HI-311-F
HI-311-F
HABS
HI-311-F

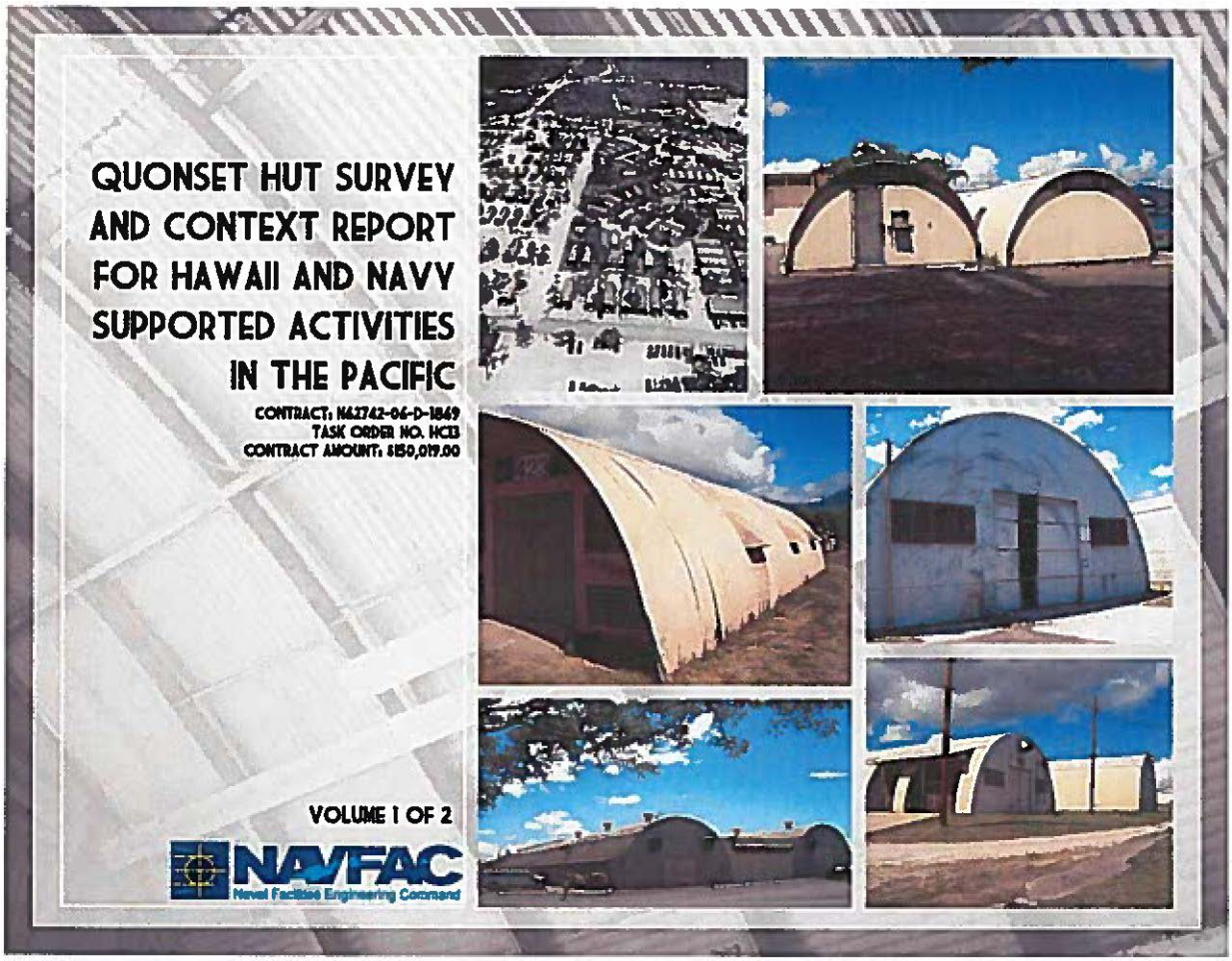
PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY
PACIFIC WEST REGIONAL OFFICE
National Park Service
U.S. Department of the Interior
1111 Jackson Street, Suite 700
Oakland, CA 94607

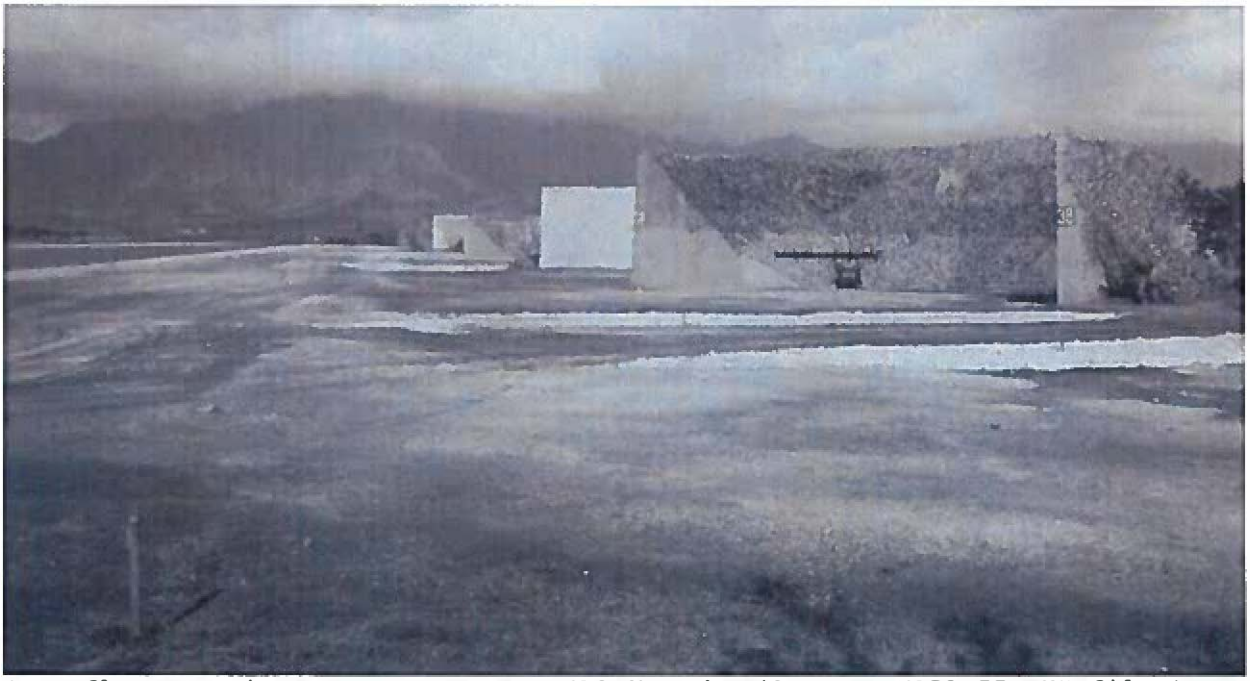
ENCLOSURE 3 (VIA AMRDEC)

EXCERPT FROM CONTEXT STUDY OF WORLD WAR II QUONSET HUTS IN HAWAII
BY FUNG ASSOCIATES AND WILL CHEE PLANNING, INC.



ENCLOSURE 4

Revetments under construction at NAS Kaneohe, February 1942 (Source: NARA II;80G-1703).



Camouflage netting on revetment at NAS Kaneohe (Source: NARA II; UH files).

Revetments at NAS Kaneohe along the western side of the landing mat, April 1942 (Source: NARA II;80G-1283).

Revetments at Bellows Field: pursuit plane revetments in the northern portion of the airfield and bomber revetments in the southern portion, July 1943 (BAFS).

Camouflaged bomber revetment at Bellows Field, photo dated 1949 (Source: Hickam History Office).

Pursuit plane revetments at Bellows Field with parked P-47 fighter aircraft (Source: HIAVPS).

ENCLOSURE 5 (VIA AMRDEC)

U.S. MARINE CORPS BASE HAWAII, KANEOHE BAY, TORPEDO STORAGE BUILDINGS
(Buildings 106, 120, 313, 610, 612, and 615)
Kaneohe
Honolulu County
Hawaii

HABS No. HI-311-I

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

PHOTOGRAPHS

HISTORIC AMERICAN BUILDINGS SURVEY
National Park Service
U.S. Department of the Interior
333 Bush Street
San Francisco, CA 94104

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD, STE 555
KAPOLEI, HAWAII 96707

January 19, 2017

IN REPLY REFER TO:
LOG: 2016.02986
DOC: 1701JLP02
Architecture, Archaeology

W.M. Rowley, Major, U.S. Marine Corps
Director, Environmental Compliance and
Protection Department
United States Marine Corps
Marine Corps Base Hawaii
Box 63002
Kaneohe Bay, Hawaii 96863-3002

Dear Major Rowley:

SUBJECT: **National Historic Preservation Act Section 106 Cultural Resources Management Consultation**
United States Marine Corps, Marine Corps Base Hawaii (MCBH), 5090 LE/135-16
Airfield Improvements and Building Demolition, Marine Corps Base Hawaii
Kāneʻohe and Heʻeia Ahupuaʻa, Koʻolaupoko District, Island of Oʻahu
TMK: (1) 1-4-4-008:001

Thank you for the opportunity to comment on this request from the United States Marine Corps, Marine Corps Base Hawaii (MCBH) for consultation and concurrence with MCBH's determination of **adverse effect** for the proposed Airfield Improvements and Building Demolition project. MCBH has determined that this project is an undertaking, as defined in 36 CFR 800.16(y), and that the Area of Potential Effect (APE) includes the footprint of the buildings affected by this project, including new construction, as well as the NAS Kaneohe Historic Aviation District. The State Historic Preservation Division (SHPD) received this submittal on December 22, 2016.

The proposed undertaking is located in the western portion of Mokapu Peninsula in the area adjacent to and including the airfield, which is designated as Marine Corps Air Station (MCAS) Kaneohe Bay. The airfield includes the runway, taxiways, ramps, and support facilities. The project's scope of work includes demolition of ten facilities. Seven of the ten facilities to be demolished (Facilities 14, 15, 17, 602, 603, 605, and 612) are located within the runway clear zone and are in violation of Naval Air Systems Command and Federal Aviation Administration clearance criteria and operational standards. The project proposes demolition of facilities too close to the runway and are a flight safety hazard. Three of the ten facilities to be demolished (Facilities 313, 601, and 620) do not currently have a mission requirement under the Infrastructure Reset (IR) Strategy issued in March 2016 by General Robert B. Neller, Commandant of the U.S. Marine Corps. The IR Strategy reduces and optimizes the infrastructure footprint by consolidation, implementing space management to maximize utilization, and eliminating excess and failing facilities. The proposed undertaking will also renovate three facilities (Facilities 1359, 1360, and 1361) for the relocation of explosive ordinance disposal personnel who currently use Facility 605. Lastly, the undertaking will construct a new storage facility in the West Field Area near the Marine Aircraft Group Ordinance Compound to replace Facility 603.

The runway clear zone project is located within the World War II Aviation District, which was an integral part of the former Naval Air Station Kaneohe that was attacked on December 7, 1941 and drew the United States into World War II. The Aviation District is eligible for listing in the National Register of Historic Places at the national level of significance under Criteria A, B, C, and D. It includes 55 buildings and structures and a portion of the existing runway. It also includes the wreckage of a PBY patrol bomber offshore in Kaneohe Bay. The district's major contributing historic buildings include six aircraft hangars, five seaplane ramps, an office building, utilities shop, torpedo workshop, and bombsight workshop.

MCBH has determined that no archaeological historic properties occur within the APE for the proposed demolition, renovation or new construction work.

MCBH made a no historic properties affected determination for archaeological historic properties and an adverse effect determination for architectural resources. Based on the findings, the MCBH's undertaking determination is adverse effect. The MCBH indicates they are notifying the Advisory Council on Historic Preservation (ACHP) of their adverse effect, their intention to develop a Memorandum of Agreement (MOA), and that the initial MOA meeting would be on January 10, 2017. At this meeting, staff from SHPD, MCBH, Historic Hawaii Foundation (HHF), and the National Trust for Historic Preservation (National Trust) discussed the proposed undertaking, adverse effects to historic properties, and potential mitigation for resolving adverse effects to historic properties.

Based on the information provided and pursuant to 36 CFR 800.5(a), the State Historic Preservation Officer (SHPO) **concurs** with MCBH's determination of **adverse effect** on the National Register eligible Aviation District at Kaneohe Bay. Further, based on the January 10, 2017 discussion, SHPO recommends the following mitigation measures be considered for incorporation into the MOA:

- Complete a HABS documentation update for Facility 620, Quonset Hut;
- Complete a conditions assessment which includes a feasibility analysis for reusing and moving Facility 620, Quonset Hut, instead of demolition;
- Complete a context study for revetments across all U.S. Marine Corps installations in Hawaii prior to demolition of Facilities 14, 15, and 17; and
- Complete and submit a National Register nomination for the Aviation District at Kaneohe Bay to the National Park Service. The purpose of which is to assess the district after demolition of facilities is completed and to identify the district's boundaries and contributing resources.

Federal agencies are required to avoid, minimize, or mitigate adverse effects. Please note that if the federal agency and the SHPO concur that the adverse effect cannot be avoided, the Section 106 process will not conclude until the consultation process is complete, an MOA is developed, executed, and implemented, and, if applicable, the formal comments of the Advisory Council have been received, 36 CFR 800.6.

MCBH is the office of record for this undertaking. Please maintain a copy of this letter with your environmental review record. If you have any questions about this undertaking or if there is a change to the APE or the scope of work, please contact Jessica Puff, Architectural Historian, at (808) 692-8023 or at Jessica.L.Puff@hawaii.gov.

Sincerely,

Alan S. Downer, PhD
Administrator, State Historic Preservation Division
Deputy State Historic Preservation Officer

cc: June Cleghorn, MCBH, june.cleghorn@usmc.mil
Coral Rasmussen, NAVFAC Pacific, coral.rasmussen@navy.mil
Betsy Merritt, NTHP, emerritt@savingplaces.org
Kiersten Faulkner, HHF, kiersten@historichawaii.org

HISTORIC HAWAI'I FOUNDATION

January 17, 2017

Major W.M. Rowley
U.S. Marine Corps
Director, Environmental Compliance & Protection Department
Marine Corps Base Hawai'i
Box 63002
Kāne'ohe Bay, HI 96863-3002

Re: Section 106 Consultation Airfield Improvements and Building Demolition Aboard Marine Corps Base Hawai'i, District of Ko'olaupoko, Ahupua'a of Kāne'ohe and He'eia, on the Island of O'ahu, Hawai'i

TMK: 1-4-4-008:001

Dear Major Rowley:

Thank you for referring the above-mentioned project to Historic Hawai'i Foundation (HHF) under Section 106 of the National Preservation Act (NHPA). HHF received your letter of December 22, 2016 (received via email on January 4, 2017) opening consultation, containing the scope of work and attached exhibits. HHF subsequently was copied on notice to the Advisory Council on Historic Preservation (ACHP) notifying them of the determination of "adverse effect" from the undertaking (received via email on January 13, 2017).

The project was discussed at a meeting on January 10, 2017 between MCBH Environmental, Navy Facilities Engineering Command Pacific (NAVFACPAC), the Hawai'i State Historic Preservation Division (SHPD), the National Trust for Historic Preservation (NTHP) and HHF. Following the consultation meeting, the consulting parties on base conducted a brief site visit to the affected historic resources.

Historic Hawai'i Foundation is a statewide organization established in 1974 to encourage the preservation of sites, buildings, structures, objects and districts that are significant to the history of Hawai'i. HHF is a consulting party to the Marine Corps pursuant to the implementing regulations of the NHPA at 36 Part 800.2(c)(5) as an organization with a demonstrated interest in the undertaking and a concern for the effects on historic properties.

HHF accepts the invitation to participate in the consultation for the MCBH Airfield Improvements and Building Demolition and efforts to avoid, minimize and mitigate adverse effects on historic properties.

Undertaking: The project proposes to demolish ten (10) facilities adjacent to the runway at MCBH to comply with the runway clear zone (seven facilities) and the Infrastructure Reset Strategy (three facilities). The undertaking also includes construction of a new facility in the Marine Aircraft Group (MAG) Ordnance Compound and renovation of three facilities currently used by the Environmental

Department for reuse for EOD personnel. The undertaking has not included information on relocation of Environmental personnel that would be displaced for EOD, or for the need for potential "swing space" to accommodate the construction schedule.

HHF requests information on any further foreseeable effects on other locations or buildings that would occur from relocating Environmental and/or swing space during construction.

APE: The Area of Potential Effect (APE) is described as the footprint of the buildings affected by the project, including new construction, as well as the NAS Kāneʻohe Historic Aviation District.

HHF agrees with the APE.

Identification of Historic Resources:

The undertaking is located within the Kāneʻohe Historic Aviation District and the individual buildings and structures are contributing resources to the district. Specific properties affected by the undertaking are:

Facility Number	Structure	Action	Reason	National Register Eligible
14	Aircraft Revetment	Demolition	Clear Zone	Yes
15	Aircraft Revetment	Demolition	Clear Zone	Yes
17	Aircraft Revetment	Demolition	Clear Zone	Yes
602	Warehouse	Demolition	Clear Zone	Yes
603	Small arms storage	Demolition	Clear Zone	Yes
605	Inert ordnance storage	Demolition	Clear Zone	Yes
612	Torpedo storage	Demolition	Clear Zone	Yes
313	Torpedo storage	Demolition	IR	Yes
601	Warehouse	Demolition	IR	Yes
620	Quonset Hut	Demolition	IR	Yes
1359	Administration/Office	Renovation	Personnel Relocation	No
1360	Administration/Office	Renovation	Personnel Relocation	No
1361	Administration/Office	Renovation	Personnel Relocation	No
1304, 5061, 5062, 5064,6776C3	MAG Ordnance Compound	New construction, infill in compound	Relocate storage facility	No (preliminary assessment, to be confirmed)

No archaeological resources are located within the Area of Potential Effect. Two sites are located nearby but are not anticipated to be affected.

HHF agrees with the identification of historic resources. We would like to see the MAG Ordnance Compound to confirm the determination of "not eligible" for the National Register of Historic Places (NRHP).

Determination of Effect
MCBH has determined that the undertaking will have an adverse effect from demolition of ten historic properties and to the Aviation District overall.

MCBH has determined that the new construction and renovation of existing facilities will result in no historic properties affected.

HHF agrees with the determinations of effect.

HHF Comments on Resolving Adverse Effects
At the on-site consultation meeting on January 10, 2017, HHF provided comments that included concern with the cumulative effect on the Aviation District and the specific effect on key structures, including the Quonset Hut (Facility 620) and the Aircraft Revetments (Facilities 14, 15 and 17). These structures are unique building types and the last of their kind on Marine Corps Base Hawai'i. The other facilities contribute to the Aviation District but are not individually distinctive.

Avoid and Minimize Effects
HHF requests additional information on the feasibility of reusing and/or relocating the Quonset Hut. It is the only remaining one of 145 original structures that were established during World War II. It is not located within the Runway Clear Zone so does not have the same constraints on reuse as those that are in non-compliance for safety concerns.

HHF would like to see an analysis of the historic integrity, structural condition and possibilities for reuse, either in place or after relocation. In particular, can the function proposed for the new storage facility in the MAG compound instead be housed in Facility 620?

If the new construction within the MAG compound proceeds, design parameters addressing location, scale, materials and architecture need to be developed to ensure compatibility.

Mitigation

Additional mitigation measures should focus on the effects on the resources, including ways to better understand and document particular types. HHF recommends:

- Preparing and submitting a National Register of Historic Places nomination for the Kāne'ohe Historic Aviation District, leading to an official listing on the National Register.

- Preparing and disseminating a Historic Context Study into aircraft revetments, including their history, design, construction, and inventory of remaining structures in the Hawaiian Islands (particularly at MCBH, Bellows and MCAS 'Ewa).

- Completing Historic American Building Survey (HABS) or Historic American Engineering Record (HAER) documentation on the aircraft revetments, torpedo storage buildings and Quonset Hut.

We also anticipate additional mitigation recommendations from other consulting parties and look forward to hearing more from them.

Historic Hawai'i Foundation looks forward to continuing consultation to resolve the outstanding issues and adverse effects and preparation of a Memorandum of Agreement.

Very truly yours,

Kiersten Faulkner, AICP
Executive Director

Copies via email:
MCBH: June Cleghorn, Wendy Wichman
NAVFACPAC: Coral Rasmussen
SHPD: Jessica Puff
NTHP: Betsy Merritt
ACHP: Katharine Kerr

UNITED STATES MARINE CORPS
MARINE CORPS BASE HAWAII
BOX 63002
KANEOHE BAY, HAWAII 96863-3002

5090
LE/135-16

DEC 2 2 2016

Dr. Alan Downer
Deputy State Historic Preservation Officer
Department of Land and Natural Resources
Kakuihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, HI 96707

Dear Dr. Downer:

SUBJECT: SECTION 106 CONSULTATION: AIRFIELD IMPROVEMENTS AND BUILDING DEMOLITION ABOARD MARINE CORPS BASE HAWAII (MCBH), DISTRICT OF KOOLAUPOKO, AHUPUAA OF KANEOHE AND HEEIA, ON THE ISLAND OF OAHU, TMK 1-4-4-008:001.

MCBH is consulting with your office in compliance with Section 106 of the National Historic Preservation Act regarding the proposed project to carry out airfield improvements and building demolition aboard MCBH. MCBH has determined that the proposed project is an undertaking as defined in §800.16(y). The proposed project is currently undergoing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). This letter initiates our Section 106 consultation for this undertaking.

PROJECT DESCRIPTION

The proposed project is located in the western portion of Mokapu Peninsula in the area adjacent to and including the airfield, which is designated as Marine Corps Air Station (MCAS) Kaneohe Bay [enclosure 1]. The airfield includes the runway, taxiways, ramps, and support facilities. The runway is oriented in a northeast/southwest direction and is 7,767 feet (2,367 m) long and 200 feet (61 m) wide.

Runway Clear Zone Demolition

This project proposes to demolish seven (7) airfield facilities located within the runway clear zone. MCBH's airfield currently operates in violation of Naval Air Systems Command (NAVAIR) and Federal Aviation Administration (FAA) clearance criteria and operational standards: the facilities proposed for demolition are too close to the active runway and are a flight safety hazard. The runway clear zone includes an area 750 feet on either side of the runway centerline as well as a 7:1 transitional surface area [enclosure 2]. The transitional surface area slopes upward at an angle of 7:1 in which the facilities along the airfield can become progressively taller without becoming a flight safety risk. The following seven (7) facilities are proposed for demolition within the runway clear zone (including the 7:1 transition zone): Facilities 14, 15, 17 (former aircraft revetments); Facility 602 (former smoke drum storage); Facility 603, 605 (former small arms magazine and inert storehouse); and Facility 612 (former torpedo storage).

IR Strategy Demolition

This project also proposes to demolish three (3) facilities that do not have a current mission requirement under the Infrastructure Reset (IR) Strategy issued in March 2016 by General Robert B. Neller, Commandant of the U.S. Marine Corps. The IR Strategy was issued to support the pressing need for increased readiness and improved efficiencies of the U.S. global framework of

installations, facilities, ranges, and other vital infrastructure within budget constraints. It reduces and optimizes the infrastructure footprint by consolidation, implementing space management to maximize utilization, and eliminating excess and failing facilities [Appendix A]. The facilities proposed for demolition include: Facility 313(former torpedo storage); Facility 601 (former smoke drum storage); and Facility 620 (former aircraft engine salvage shop). Following demolition, the areas would be restored to match existing conditions adjacent to the buildings.

Renovation/New Construction

This project will also renovate Facilities 1359, 1360, and 1361 for the relocation of explosive ordnance disposal (EOD) personnel who currently use Facility 605. In addition, it will construct a new storage facility in the West Field area near the Marine Aircraft Group (MAG) Ordnance Compound to replace Facility 603.

IDENTIFICATION OF HISTORIC PROPERTY

Historic Properties affected by Runway Clear Zone Project

The runway clear zone project is located within the World War II Aviation District, which was an integral part of the former Naval Air Station (NAS) Kaneohe that was attacked on 7 December 1941 and drew the United States into World War II [enclosure 3]. The Aviation District includes 55 buildings and structures and the historic portion of the present runway. It also includes the wreckage of a PBY (patrol bomber) offshore in Kaneohe Bay (Van Tilburg 2000, 2015). The district's major contributing historic buildings include six aircraft hangars, five seaplane ramps, an office building, utilities shop, torpedo workshop, and bombsight workshop.

The seven (7) historic facilities proposed for demolition under the runway clear zone project are eligible for listing on the NRHP and contribute to the historic Aviation District.

Facilities 14, 15, and 17 are former aircraft revetments located on the western side of the airfield near Sumner Road. These revetments were constructed in 1942 following the Japanese attack on Naval Air Station Kaneohe. After the attack, the Navy constructed over 50 aircraft revetments along the airfield to protect aircraft in the event of another attack [enclosure 4]. The revetments separated the aircraft, making it more difficult for the enemy to attack all the aircraft; if an aircraft exploded, the explosion would not damage neighboring aircraft. The revetments consisted of tall, reinforced concrete walls that created an open, five-sided (semi-circular) area. Steel hooks were attacked to the tops of the wall. These hooks originally held camouflage netting to help disguise the planes [enclosure 5]. Of the three remaining revetments, only Facility 15 is intact [enclosures 6 and 7]. The other two revetments have been altered at a past date that cannot be determined based on current records; alterations include removal of significant portions of their perimeter walls. Engine check pads have been installed inside Facilities 14 and 17 [enclosures 8 and 9].

Facility 602 is a warehouse constructed in 1941 and 1942 to store smoke drums [enclosure 10]. Smoke drums held fog oil that was deployed to create a smokescreen for air defense. It is rectangular concrete and concrete-masonry-unit (CMUU) structure that originally had large three-leaf metal sliding doors. The original doors have been removed. The doors for Facility 602 were replaced with wooden doors. Fixed wooden louvers are present on the sides of the structure near the roof. A former discharging platform for the smoke drums is

located near the entry doors [enclosure 11]. Parts of the platform have been removed and interior storage tracks and catwalks in both buildings have been removed at a past date that cannot be determined based on current records.

Facilities 603 and 605 are concrete structures built near the shoreline and completed in July 1941 [enclosure 12]. Facility 603 was originally a small arms magazines and Facility 605 was an inert ordnance storehouse. The design for these buildings was based on standard plans for ordnance storage facilities developed by the Army and utilized by all branches of the military. Each building is about 51 feet wide. Facility 603 is about 160 feet long with eight bays [enclosure 13] and Facility 605 is about 121 feet long with five bays [enclosure 14]. The buildings' exteriors have a regular pattern of concrete pilasters and recessed panels. A loading platform is located along the long side of each building. The roofs and windows in each facility have been replaced, although many retain the original vertical bar window guards on the interior. The historic double metal doors with strap hinges remain in Facility 603; they have been replaced in Facility 605.

Facility 612 is one of five former torpedo storage buildings constructed in 1942 remaining at MCBH [enclosure 15]. Torpedo storage buildings were designed to store non-volatile components of aerial torpedoes, such as 2,000 lb. Mark 13 torpedoes that were widely used during World War II. The torpedo storage buildings are one-story rectangular concrete structures with flat roofs. Originally steel sliding doors were located at the narrow end of the buildings. These have been replaced with wooden doors. These buildings also had earthen floors. The floor in Facility 612 is still earth. As part of earlier mitigation for the demolition of Facility 611 under the MCAS Operations construction project, and in anticipation of future demolition projects, all torpedo storage buildings at MCBH were documented through a Historic American Building Survey (HABS) (HI-311-O).

Historic Properties affected by the 2016 IR Strategy

The three (3) facilities proposed for demolition in accordance with the 2016 Infrastructure Reset Strategy are eligible for listing on the NRHP:

Facility 313 is one of five former torpedo storage buildings constructed in 1942 remaining at MCBH [enclosure 16 to 17]; it is similar to Facility 612 which was discussed above under the runway clear zone project. The original earthen floor in Facility 313 has been filled with concrete. As mentioned above, part of mitigation for demolition of Facility 611 under the MCAS Operations construction project, and in anticipation of future demolition projects, all torpedo storage buildings at MCBH were documented through a Historic American Building Survey (HABS) (HI-311-O).

Facility 601 is a warehouse constructed in 1941 to store smoke drums; it is similar to Facility 603, which was discussed above under the runway clear zone project [enclosure 18]. Facility 601 still has a tin-clad door, but it is a replacement door with a different pattern than the original.

Facility 620 is a Quonset hut erected in 1945 as an Aircraft Engine Salvage Shop [enclosure 19]. Quonset huts were mass-produced buildings with standardized erection techniques. Most were erected in the later part of World War II, between 1943 and 1945. Although more than 145 Quonset huts were constructed at Naval Air Station Kaneohe during the war, only one Quonset hut remains on the western side of the airfield along Sumner Road. Facility 620 is 40 by 100 feet in size [enclosure 20].

Historic Properties affected by Renovation/Construction

Facilities 1359, 1360, and 1361, which are proposed for renovation to accommodate EOD personnel being relocated due to the demolition, are located on Mokapu Road on the west side of the airfield (outside the runway clear zone)[enclosures 21 to 23]. These buildings were constructed in 1969 as the operations and vehicle repair facilities for Marine Air Control Squadron (MACS)-II. Currently the Environmental Department occupies these facilities. The facilities have been evaluated as not eligible for the NRHP (Wil Chee Planning et al. 2014: B-23).

The proposed construction of a new storage facility to replace Facility 603 would be located in the Marine Aircraft Group (MAG) Ordnance Compound in the West Field area. This compound is comprised of a cluster of buildings: Facilities 1304, 5061, 5062, 5064, and 6776C3. Facility 1304 was constructed in 1968 as an aviation armaments shop used to assemble guided missiles; it is currently used as an operational vehicle garage [enclosures 24 to 25]. Facility 1304 has been evaluated as not eligible for listing on the NRHP for Cold War significance due to extensive alterations (WFP et al. 2014:B-23). Facility 5061 is a hazardous waste accumulation storage facility constructed in 1988; it has also been evaluated as not eligible for listing on the NRHP for Cold War significance (WFP et al.2014:B-41). Facilities 5062 and 5064 are air compressor sheds constructed in 1988. Facility 6776C3 is a temporary structure for storage, made of canvas and erected about five years ago. These facilities have not been evaluated but they are less than 50 years of age and not distinctive or historically significant.

Archaeology

No archaeological sites or deposits have been identified within the footprints of the buildings that are proposed for demolition, renovation, and new construction (Charvet-Pond and Rosendal 1992a and 1992b; Dixon et al. 2002; Prishmont et al. 2001; Rieth 2007; Roberts et al. 2002; Rosendahl 1999). Enclosure 26 shows locations of previous archaeological projects near buildings proposed for demolition. Archaeologists recorded extensive fill materials around the airfield overlying coralline limestone. During monitoring of cable installation, Stokes et al. (2012) recorded 45 cm of crushed coralline and sand fill above coralline bedrock along Third Street. Schilz and Allen, archaeologists who monitored a water main located along Third Street, report that "ground disturbances have been extensive…Landscape grading, landfill applications, and excavations for various purposes have probably removed signs of other cultural deposits (Schilz and Allen 1996:51)." Archaeological monitoring for water main repairs along Sumner Road uncovered similar fill overlaying areas of gleyed sediment and possible natural sand deposits. No archaeological deposits were identified.

A previously identified archaeological site is located near Facility 313 on the east side of the airfield: Site 4933 [enclosure 27]. Site 4933 is located about 170 m (560 feet) northwest of Facility 313 on the southeast side of the airfield. Site 4933 consists of a traditional Hawaiian temporary habitation area formerly situated on a beach berm adjacent to wetlands (Allen and Schilz 1996 and 1997; Kaschko 1996; Prishmont et al. 2001; Rechtman and Wolforth 2000; Allen 2015). Sparse charcoal, basalt flakes, midden, and faunal remains were recovered from this site and are likely associated with procurement and processing of wetland resources during the mid- to late pre-Contact period (Roberts et al. 2002:47). Radiocarbon dating of the charcoal yielded dates of 150 ± 50 B.P. and 140 ± 60 B.P. A firepit feature containing charcoal yielded a date of 240 ± 50 B.P. This deposit ranged in

depth from 80 to 105 cm below surface. This site will not be affected by the proposed project to demolish Facility 313.

On the west side of the airfield, Site 4614 is located approximately 285 meters (935 feet) northwest of Facility 605. It is a pre-World War II house site that was formerly part of a community of ranchers, farmers, and fishermen on Mokapu Peninsula (Tomonari-Tuggle 2014:27). The Mokapu House Tract subdivision, known as "A Fisherman's Paradise," was developed on the west side of the peninsula in the 1930s. Friends and families bought shoreline parcels to share in weekend and vacation retreats. Site 4614 was part of this development. It is located on the lower southwest slope of Keawanui. This site consists of rock alignments with concrete steps and tofu block footings (O'Day 2007).

AREA OF POTENTIAL EFFECT

The area of potential effect (APE) has been determined to include the footprint of the buildings affected by this project, including new construction, as well as the NAS Kaneohe Historic Aviation District.

PUBLIC PARTICIPATION

Pursuant to 36 CFR §800.2(d), MCBH plans to solicit input from the public through Public Notices.

DETERMINATION OF AFFECT

MCBH has determined that the proposed demolition will result in an adverse effect to ten (10) facilities: Facilities 14, 15, 17, 313, 601, 602, 603, 605, 612, 620, as well as the NAS Kaneohe Historic Aviation District, in accordance with Section 106 Implementing Regulations at 36 CFR 800.5(a)(2)(i).

With respect to the proposed new construction and renovation of Facilities 1359, 1360, and 1361, MCBH has determined that this project will result in no historic properties affected, in accordance with Section 106 Implementing Regulations at 36 CFR 800.4(d)(1);

In considering the effect on archaeological sites 4614 and 4933, MCBH has determined that this project will result in no historic properties affected, in accordance with Section 106 Implementing Regulations at 36 CFR 800.4(d)(1), because they are not located within the footprint of the buildings proposed for demolition, renovation, and new construction.

MCBH is simultaneously consulting with other consulting parties, including Native Hawaiian organizations, in accordance with the Section 106 Implementing Regulations at 36 CFR 800.6(a), and we are notifying the Advisory Council on Historic Preservation of our adverse effect determination in order to determine Advisory Council participation in this consultation pursuant to the Section 106 Implementing Regulations at 36 CFR 800.6(a)(1). Finally, in accordance with the Section 106 Implementing Regulations at 36 CFR 800.6(b) and (c), MCBH wishes to develop a Memorandum of Agreement with your office and the aforementioned consulting parties that would document ways to avoid, minimize, and mitigate the adverse effects described above. The initial meeting with all consulting parties will be held on **10 January 2017** at the Environmental Department at 9:30 am to begin the dialogue regarding the proposed undertaking, the effect determinations, and ways to mitigate adverse effects. If you would like to attend, please contact the MCBH Cultural Resources Manager to access the base or receive call-in

information. If you know of others who would be interested in participating, please have them contact the MCBH Cultural Resources Manager in writing. Should you or your staff have any questions or concerns please contact the MCBH Cultural Resources Manager, Ms. June Cleghorn at (808) 257-7126 or via email at june.cleghorn@usmc.mil.

Sincerely,

W. M. ROWLEY
Major, U. S. Marine Corps
Director, Environmental Compliance and Protection Department
By direction of the Commanding Officer

Appendix A:
U.S. Marine Corps Infrastructure Reset Strategy, 2014.

Enclosures:

1. Location of ten (10) facilities proposed for demolition aboard MCBH.
2. Profile of runway clear zone showing ten (10) buildings proposed for demolition aboard MCBH.
3. NAS Kaneohe Historic Aviation District.
4. Oblique aerial photograph of NAS Kaneohe, dated June 4, 1946, showing numerous aircraft revetments constructed on the west side of the airfield following the Japanese attack.
5. Aircraft revetment (Facility 14) at NAS Kaneohe with PBY Catalina. Note: camouflage netting over the revetment.
6. Revetments (Facilities 14, 15, and 17) on the west side of the flight line, view to northwest.
7. Facility 15 showing the steel members that originally held camouflage netting at the top of the wall, view to northwest.
8. Facility 14 with engine check pad inside revetment, view to north.
9. Facility 17 showing the engine check pad and steel sheeting in the rear of the revetment, view to southwest.
10. Detail of aerial photo dated 1944, showing former smoke drum storage buildings, Facilities 601 and 602.
11. Facility 602, former smoke drum storage facility, on the west side of the airfield. View to southwest.
12. Oblique aerial view to west, circa 1941, showing Facilities 603 and 605 visible along the shoreline on the west side of the airfield.
13. Facility 603 showing loading platform, view to southeast.
14. Facility 605 showing loading platform, view to west.
15. Facility 612, former torpedo storage facility, located on the back (north) side of Facility 17 (aircraft revetment).
16. Oblique aerial photograph of Facility 313, ca. 1945, showing location in relation to the World War II runway, view to northwest.
17. Facility 313, former torpedo storage facility, on the east side of the airfield.
18. Facility 601, former smoke drum storage facility, on the west side of the airfield. View to southwest.

19. Oblique view of West Field, ca. 1947, showing Facility 620, Quonset hut, view to east.
20. Quonset hut, Facility 620, on the west side of the airfield, view to northeast.
21. Facility 1359 proposed for renovation.
22. Facility 1360 proposed for renovation.
23. Facility 1361 proposed for renovation.
24. Facility 1304 in the MAG Ordnance Compound (south side of building).
25. Facility 1304 in the MAG Ordnance Compound (north side of building).
26. Previous archaeological projects around the airfield.
27. Location of archaeological sites 4933 and 4614 near proposed airfield demolition.

Copy to:

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Dr. Kamanaʻopono Crabbe; Office of Hawaiian Affairs
Mr. Cy Harris; Kekumano ʻOhana
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Mr. Kala Waahila Kaleikini, ʻOhana Kaleikini
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Ms. Kiersten Faulkner, Historic Hawaii Foundation
Ms. Elizabeth Merritt, National Trust for Historic Preservation

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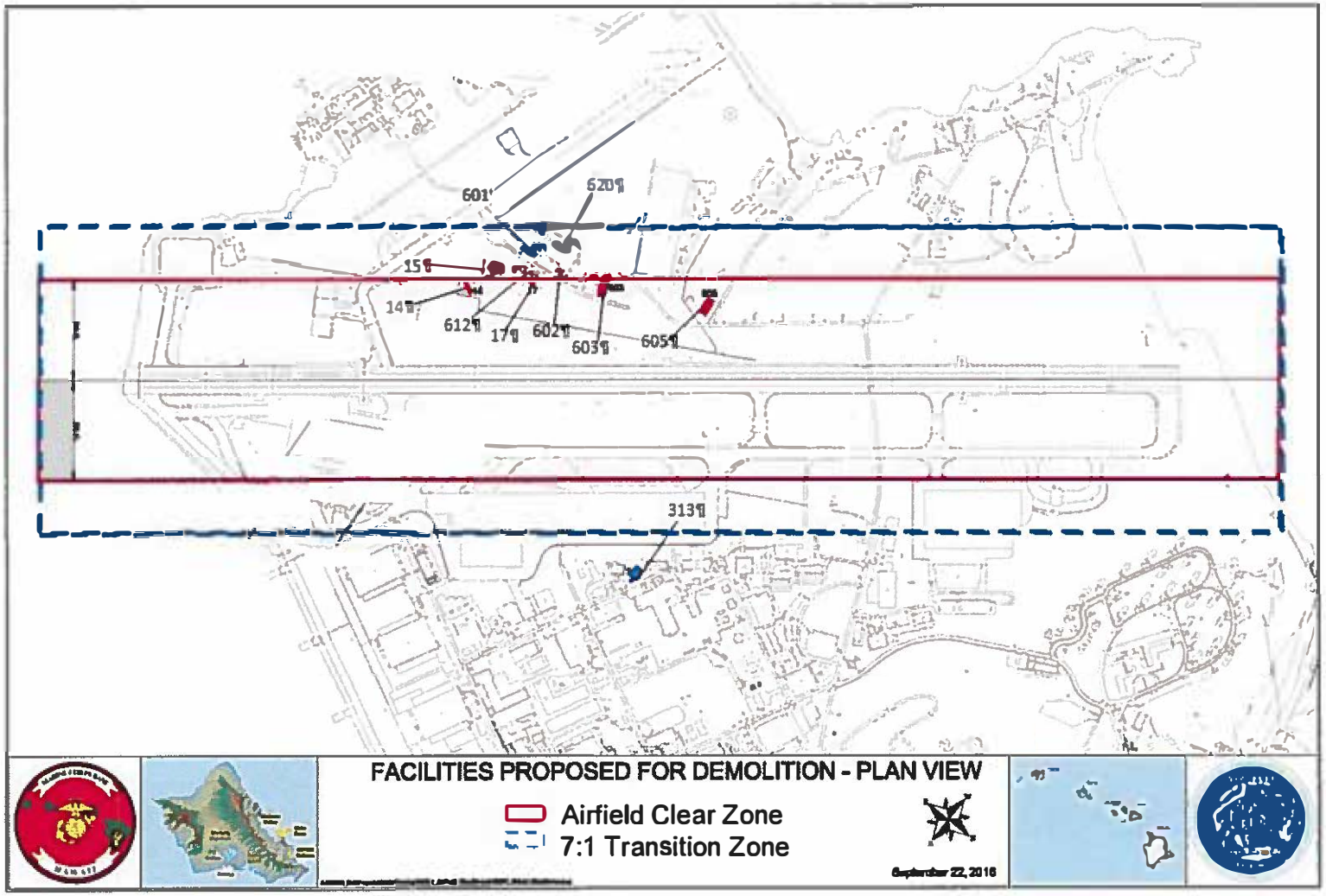
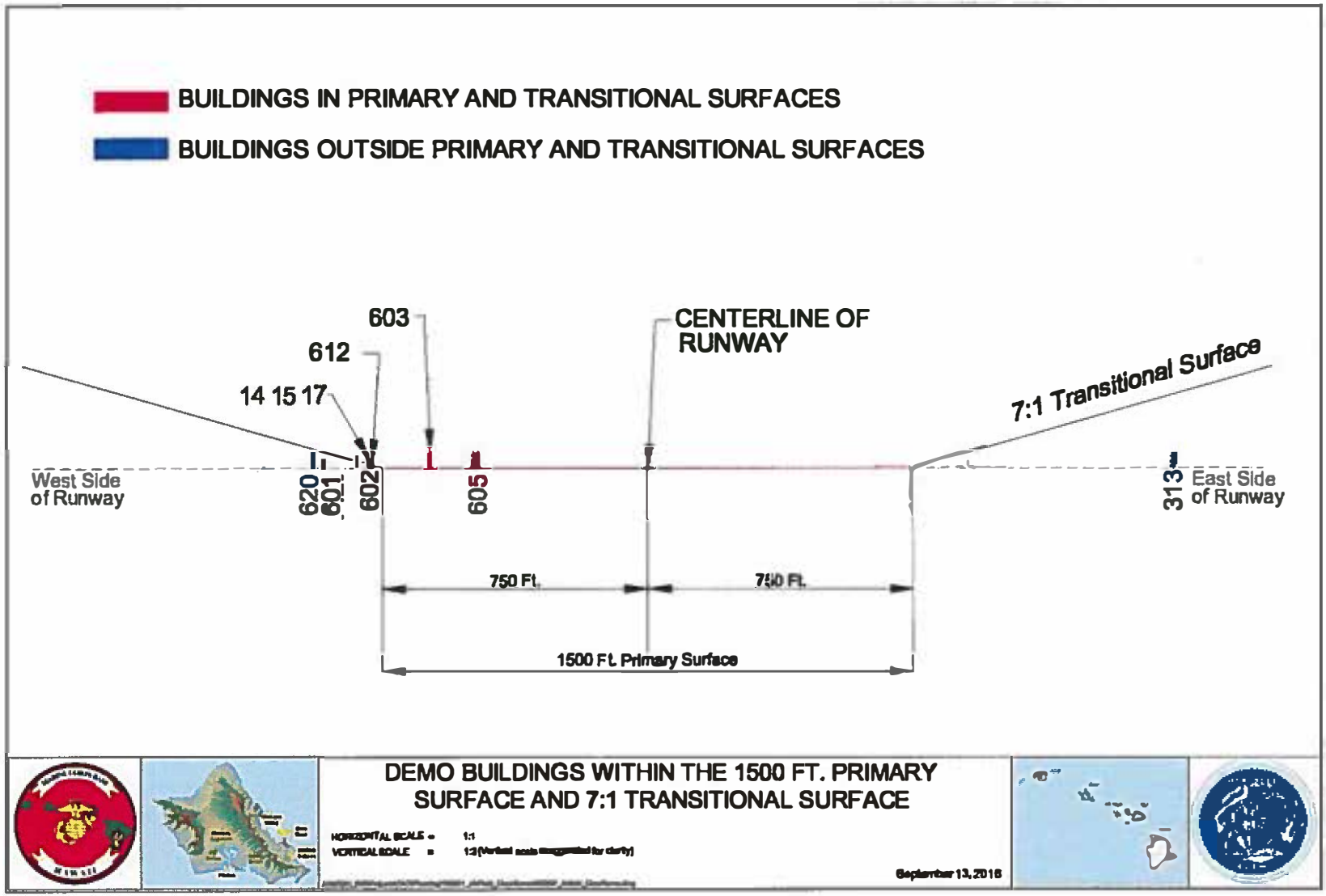


Enclosure 1. Location of the ten (10) facilities proposed for demolition aboard MCBH. Red rectangle indicates facilities within the runway clear zone; blue dashed line indicates facilities within the clear zone 7:1 transitional zone.

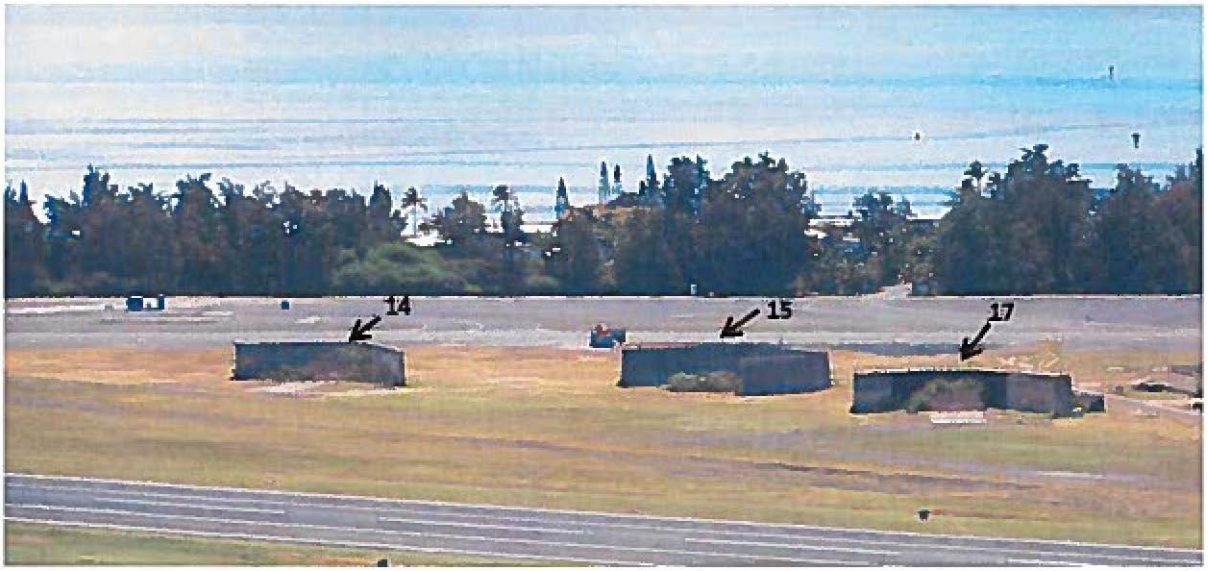


Enclosure 2. Profile of runway clear zone showing buildings proposed for demolition at the airfield aboard MCBH.

Enclosure 4. NAS Kaneohe Historic Aviation District (shown in pink).

Enclosure 4. Oblique aerial photograph of NAS Kaneohe showing numerous aircraft revetments (see arrows) constructed on the west side of the airfield following the Japanese attack. Photograph dated 4 June 1946.

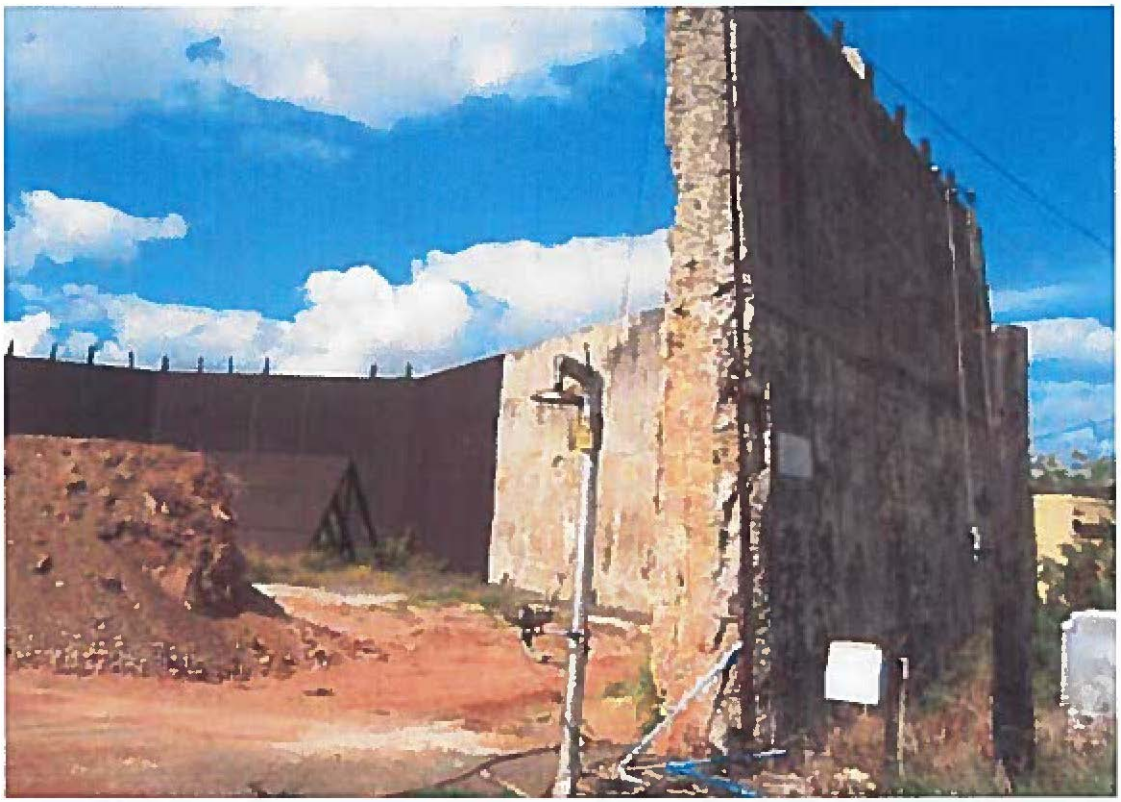
Enclosure 5. Aircraft revetment (Facility 14) at NAS Kaneohe with PBY Catalina. Camouflage netting over the revetment.



Enclosure 6. Revetments (Facilities 14, 15, and 17) on the west side of the flight line. Note: only Facility 15 retains its entire wall. View to southwest.

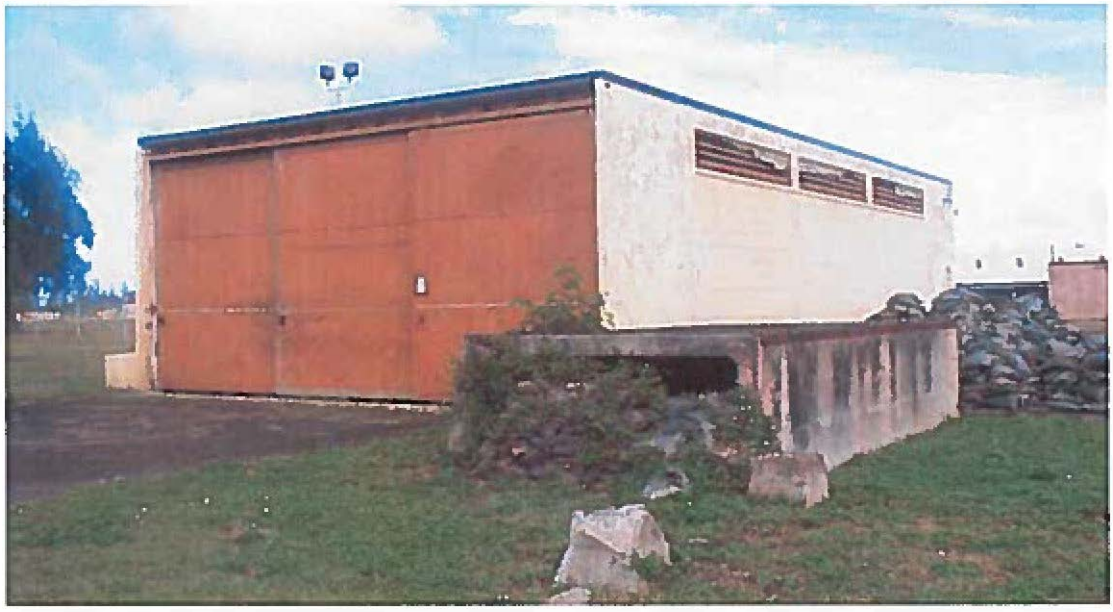
Enclosure 7. Facility 15 showing the steel members that originally held camouflage netting at the top of the wall, view to northwest.

Enclosure 8. Facility 14 with engine check pad inside revetment. Note: the northeastern (right side of image) portion of the wall has been removed, view to north.

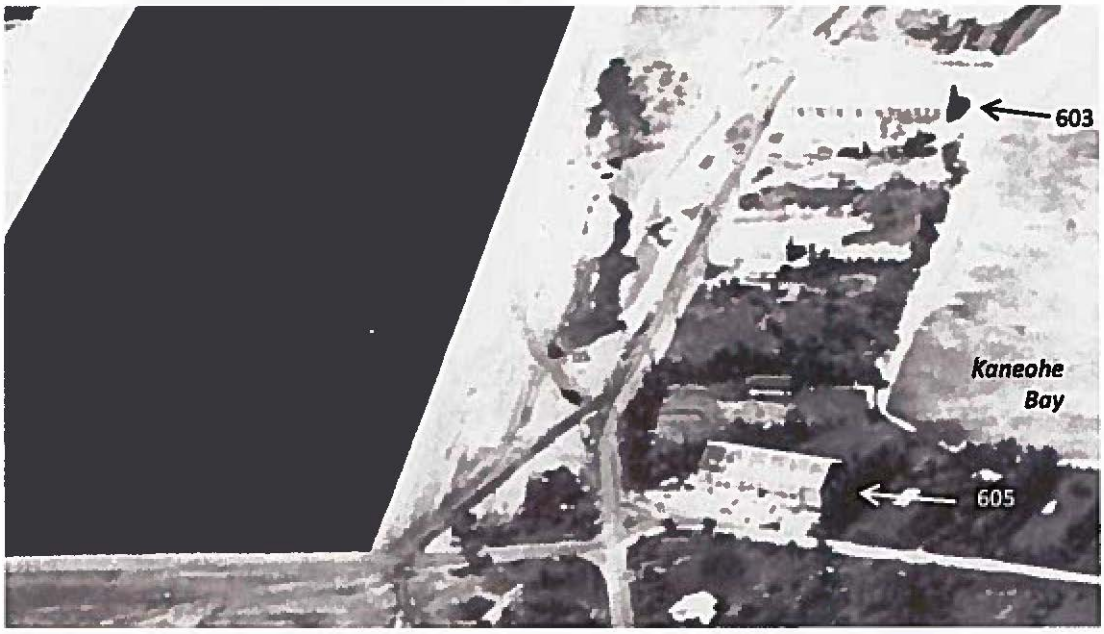


Enclosure 9. Facility 17 showing the engine check pad and steel sheeting in the rear of the revetment. The northernmost wall section (foreground) has been removed. The steel members that originally held camouflage netting are visible on top of the wall, view to southwest.

Enclosure 10. Detail of 1944 aerial photo showing former smoke drum storage buildings, Facilities 601 and 602.



Enclosure 11. Facility 602, former smoke drum storage facility, on the west side of the airfield. The former discharging platform is visible near the entrance, view to southwest.

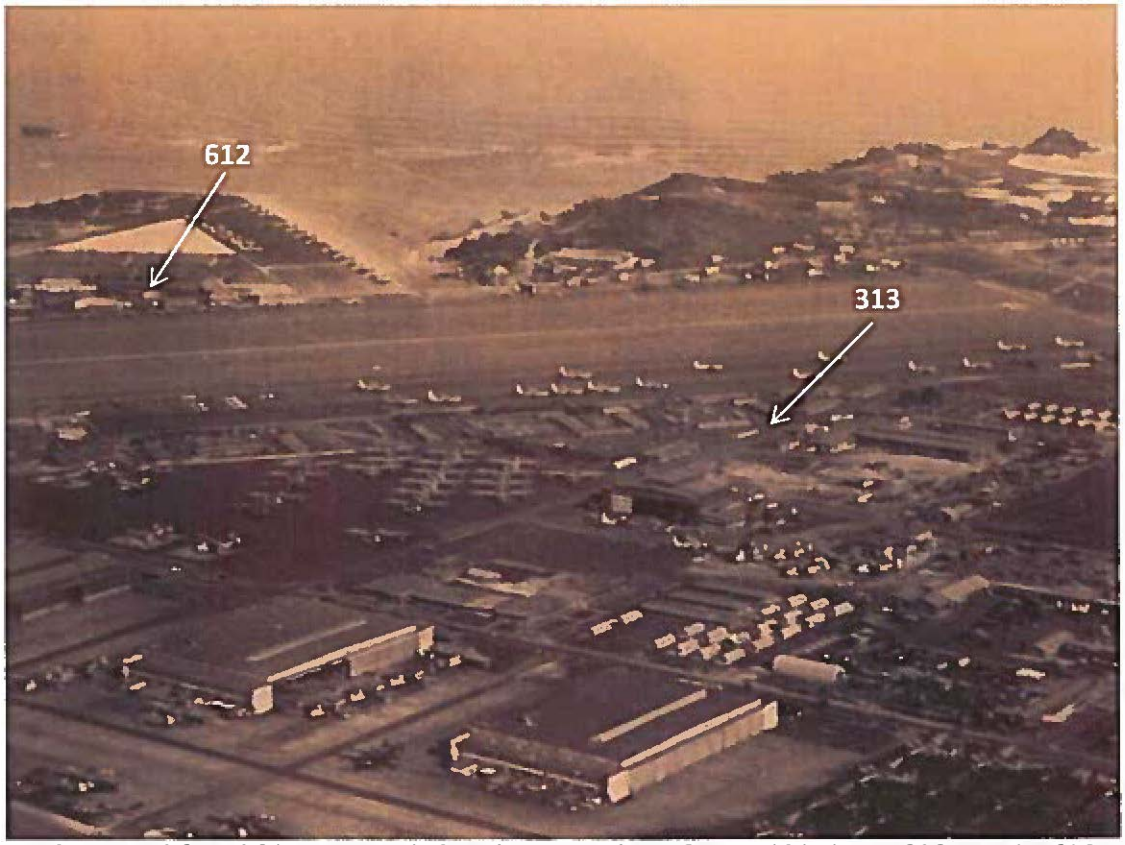


Enclosure 12. Oblique aerial to west, ca. 1941, showing Facilities 603 and 605 visible along the shoreline on the west side of the airfield.

Enclosure 13. Facility 603 showing loading platform, view to southeast.

Enclosure 14. Facility 605 showing loading platform, view to west.

Enclosure 15. Facility 612, former torpedo storage facility located on the back (north) side of Facility 17(aircraft revetment), view to south. Note: non-historic wooden door.



Enclosure 16. Oblique aerial photograph of Facilities 313 and 612, showing location in relation to the World War II runway, view to northwest, photo ca. 1945.

Enclosure 17. Facility 313, former torpedo storage facility on the east side of the airfield, view to north. Note: non-historic wooden door.

Enclosure 18. Facility 601, former smoke drum storage facility on the west side of the airfield, view to southwest.

Enclosure 19. Oblique view of West Field showing Facility 620, Quonset hut (see arrow), view to east. Note the presence of aircraft revetments near the Quonset hut, photo ca. 1947.

Enclosure 20. Quonset hut, Facility 620, on the west side of the airfield, view to northeast.

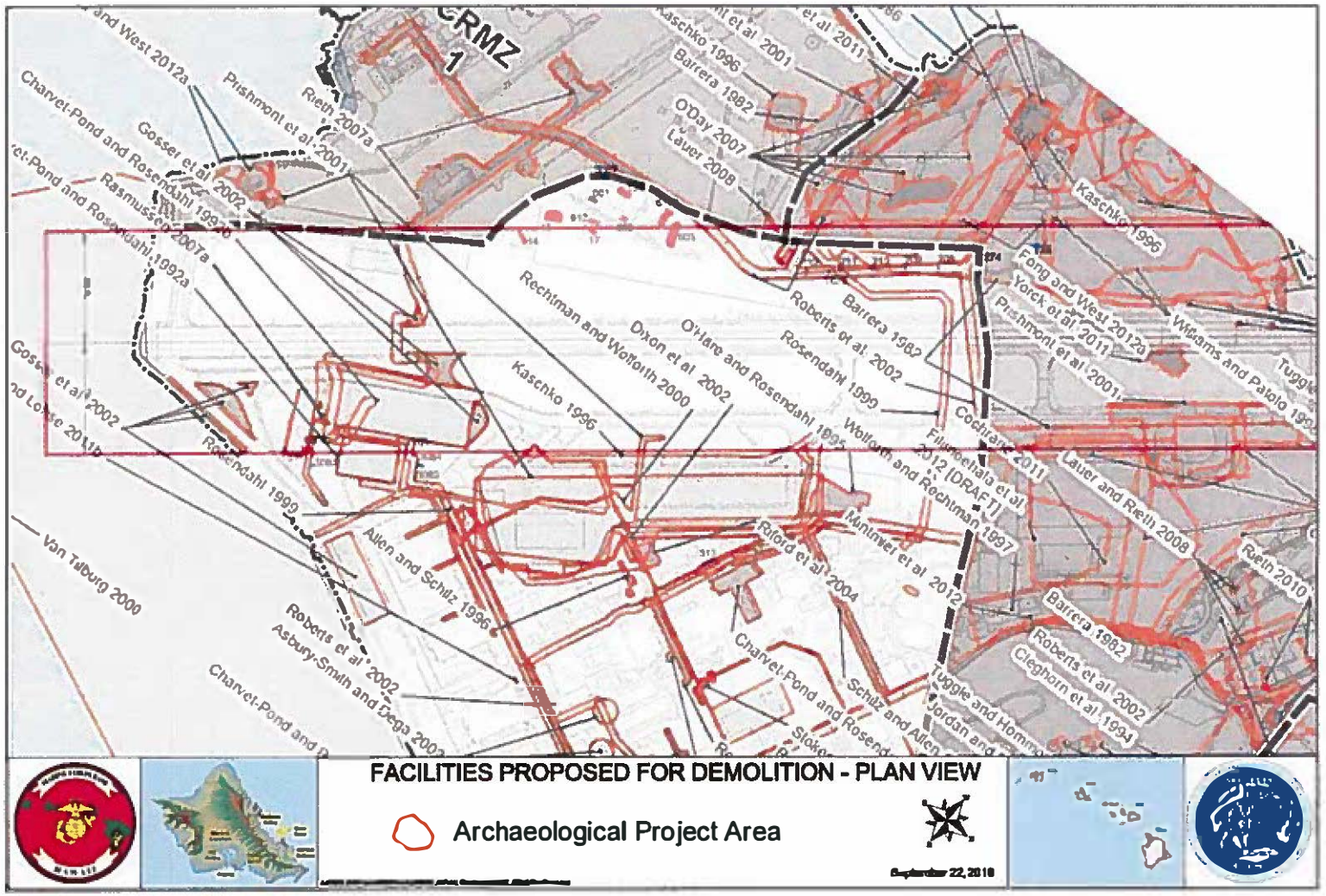
Enclosure 21. Facility 1359 proposed for renovation.

Enclosure 22. Facility 1360 proposed for renovation.

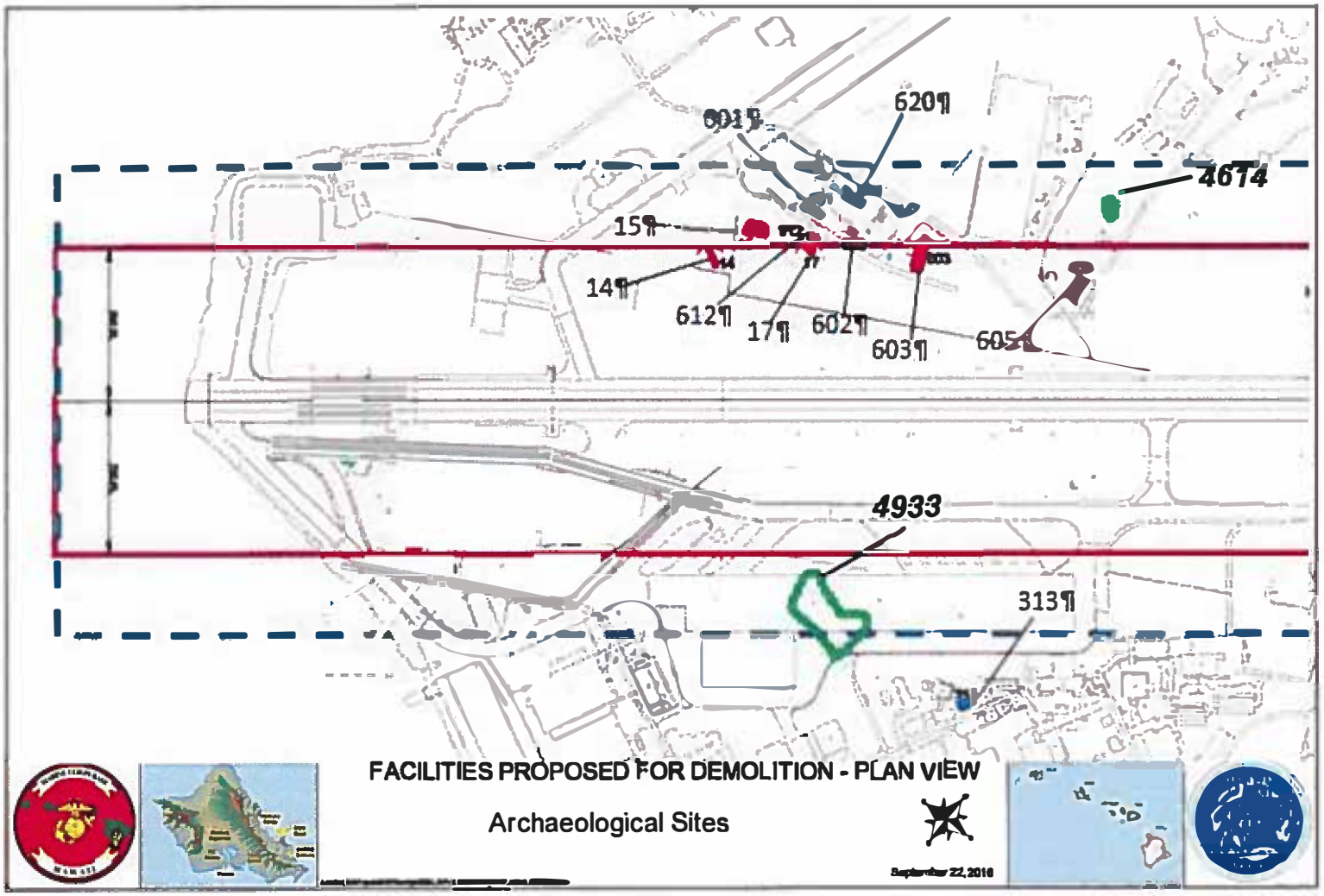
Enclosure 23. Facility 1361 proposed for renovation.

Enclosure 24. Facility 1304 in the MAG Ordnance Compound (south side of building), view to west)

Enclosure 25. Facility 1304 in the MAG Ordnance Compound (north side of building), view to west.



Enclosure 26. Previous archaeological projects around the airfield.



Enclosure 27. Location of Archaeological Sites 4933 and 4614 near proposed demolition.

APPENDIX A

U. S. Marine Corps Infrastructure Reset Strategy

General Robert B. Neller
37th Commandant of the Marine Corps

The state of facilities is the single most important investment to support training, operations, and quality of life. – *Commandant's Posture of the Marine Corps, March 2016*

VISION

Sustain infrastructure and installations as capable, resilient, right-sized platforms to generate force readiness and project combat power across the range of military operations.

SITUATION – *The Infrastructure Reset Imperative*

We are facing future facilities challenges as we try to sustain current installations. We are struggling to keep pace as adversaries rapidly modernize. This is not healthy for the Marine Corps. – *Commandant's Posture of the Marine Corps, March 2016*

Over the past two decades, the infrastructure footprint of the Marine Corps has grown dramatically as we modernized to meet the emerging and dynamic demands of combat operations. The infrastructure footprint continues to grow with our execution of the Aviation Plan, Rebalance to the Pacific, and support of forward presence and distributed operations around the globe. Today, we have too much obsolete and costly infrastructure to sustain readiness and provide required future capabilities given the realities of declining budgets. Continued growth in infrastructure footprint and complexity increases the cost of ownership and further widens the growing gap between available resources and facility maintenance costs. This strategy provides a comprehensive framework to close this gap and ensure our installations remain a key enabler to generate and sustain combat readiness.

The practice of consistently "accepting risk" in our infrastructure is inadequate to deal with future challenges. Continued underfunding of facilities sustainment and recapitalization jeopardizes the progress we've made in recapitalizing obsolete barracks, and operations and training facilities over the last decade. More importantly, it degrades required capabilities, negatively impacts quality of life, and creates a bow wave of future costs to return assets to proper condition. Left unchecked, this approach negatively impacts our ability to generate force readiness and project combat power.

We will take a revolutionary approach to tackle these tough challenges with a specific focus on optimization and efficiency across the enterprise. We will reset our infrastructure by recapitalizing and reducing our footprint to support our mission and nothing more. We will maintain the critical capabilities of the facilities we retain at the lowest possible total lifecycle cost. Infrastructure Reset is not a onetime effort.

This Infrastructure Reset (IR) Strategy and the associated Campaign Plan initiate a long-term effort to fundamentally change infrastructure lifecycle management. This strategy, and its implementation and governance, will define the ways and means to optimize installation capability within constrained resource availability, while supporting the Operating Forces (OPFOR) and Supporting Establishment (SE) to achieve the specified end state. Most importantly, this will be executed in collaboration with the OPFOR.

COMMANDANT'S INTENT – ***The Strategic Objective and Guiding Principles***

The Strategic Objective is derived from FRAGO 01/2016, Advance to Contact:

> ***We will maintain and man our bases and stations to enable deployment for contingencies, provide realistic training, and provide support to Marines and their families that is essential to their preparedness and resilience to live successfully in our high operational tempo culture.*** ***– The Commandant's Planning Guidance, FRAGO 01/2016***

We will drive down infrastructure costs to sustainable levels, while continuing to support current and future missions. Marine Corps Installations Command will lead the effort to balance and optimize management of the facilities continuum of building, operating, maintaining, consolidating, and divesting of infrastructure. It will require a long-term leadership commitment and a collaborative effort across the entire Marine Corps to find innovative approaches that will: drive down requirements, increase space utilization, optimize infrastructure footprint, and maximize efficiency in delivering installation services. Installation assets and services must be adaptable to evolving requirements and operational changes. As we continue to operate in an environment of declining budgets, we will divest of excess and failing facilities as well as improve processes, policies, and standard business practices to effectively support an expeditionary Marine Corps.

Three Guiding Principles will align and unify efforts to achieve the objectives of this strategy:

1. **Spend every infrastructure dollar on the right long-term investment.** Ensure every dollar is targeted and spent on the highest priority for the Marine Corps. Optimize investment over the long-term to support Marine Corps missions within validated facility requirements at the lowest total lifecycle cost. Processes and governance will align infrastructure investment with our strategic priorities.

2. **Make every infrastructure dollar go further - drive efficiency with consistent use of best practices.** Aligned and dedicated installations management will drive down costs of operating and maintaining our installations by standardizing processes through consistent employment of best practices, innovation, policies, and tools.

3. **Make better-informed infrastructure investment decisions.** Develop and implement authoritative data systems, geospatially linked decision tools, and performance metrics that are clearly linked to Marine Corps missions and capabilities. Make informed decisions and trade-offs based on analysis of associated costs, risks, and impacts.

This strategy will be executed in concert with the OPFOR and all stakeholders to ensure we continue to provide exemplary installations support to Marine Forces, Marines, Sailors, and their families.

END STATE

- Marine Corps infrastructure investments are aligned with OPFOR and SE capability-based requirements to support the warfighting mission and contribute directly to current and future Force readiness.
- The infrastructure capacity necessary to support validated Marine Corps capabilities is clearly defined; infrastructure excess to constrained requirements is demolished; and required infrastructure is recapitalized, configured, and sustained to properly support enduring missions.
- Enterprise governance and installation management continuously ensure that infrastructure capacity and readiness are optimized to support Marine Corps Force Management strategies through investment and lifecycle management processes.

LINES OF EFFORT

We will advance the IR Strategy along four primary Lines of Effort (LOEs). Each LOE and its associated goal, objectives and tasks will establish the long-term ways and means of achieving the strategic ends as prescribed above, and in our Marine Corps Operating Concept (MOC) and the Marine Corps Service Strategy 2016.

LOE 1: Reduce and Optimize Infrastructure Footprint

Goal: We will reduce and optimize infrastructure footprint by consolidation, implementing space management to maximize utilization, and eliminating excess and failing facilities.

- Disciplined enterprise infrastructure planning processes will ensure that validated facility requirements will not be exceeded and excess infrastructure is divested.
- Basic Facility Requirements (BFRs) will be constrained to the minimum footprint necessary to support validated mission requirements and standard BFRs will be established and consistently applied to like units.
- Region and Installation commanders will employ personnel loading and space utilization data for disciplined space management and exploit this data to continuously right-size the inventory by identifying and executing consolidation and divestiture plans in coordination with affected OPFOR and other tenants.
- Long range Global Infrastructure Plans identifying requirements and gaps for the OPFOR and SE, along with Regional Optimization Plans to develop infrastructure solutions that include the potential relocation of units to best use existing infrastructure, will be developed for enterprise Capabilities Based Assessment and prioritization.
- Infrastructure plans will consider unique regional requirements.
- Consolidation and divestiture plans will place first priority on vacating and demolishing excess failing facilities by fiscal year 2022.
- Plans will be developed to complete divestiture of remaining excess underutilized facilities by the end of fiscal year 2027 including consolidation to enhance force protection and improve support of total force requirements aboard installations.

LOE 2: Ensure Investment Decisions Enable Lowest Total Lifecycle Costs

Goal: We will develop a facilities investment strategy with supporting processes and governance to balance the portfolio supporting basic facility requirements at lowest total lifecycle costs.

- A capital improvement project prioritization model will be developed and employed with enterprise governance processes to ensure investment decisions align with Marine Corps strategic guidance and Capabilities Based Assessment to achieve the objectives of this strategy.
- Five-year Facility Investment Plans for execution of the enterprise infrastructure planning process will be developed and prioritized to balance the facility investment portfolio of construction, sustainment, recapitalization, and demolition at lowest total lifecycle cost.
- Infrastructure condition, configuration, capacity, resiliency, and mission dependency will be assessed regularly and continuously monitored to guide facility investment decisions for basic facility requirements according to lowest lifecycle cost principles.
- Data-driven infrastructure investment decisions will link facility readiness as measured by condition, configuration, and capacity to mission impact reflected in the Defense Readiness Reporting System-Marine Corps.
- Annual infrastructure investment plans will target demolition of excess and failing (Q4) facilities and recapitalization of poor (Q3) enduring facilities to right-size the inventory and optimize facility readiness.
- Workforce optimization strategies and business case driven delivery models will be employed to reduce long-term costs and maximize the output of facility investments.
- Savings and cost avoidance generated through divestiture will be targeted at recapitalization and sustainment of required enduring facility capabilities.
- New footprint construction will be offset by an equivalent footprint reduction or be approved only when supportable with total lifecycle operations and maintenance costs as determined by established regional and enterprise governance.

LOE 3: Implement Best Practices and Process Efficiencies

Goal: We will drive efficiencies through standardized organizations, processes, levels of service, and consistent implementation of best practices in support of Marine Corps priorities.

- Service contracts will be consolidated and regionalized to deliver Base Operating Support aligned with prescribed Marine Corps Common Output Levels of Service and risk at lowest total cost.
- Alternative service delivery models will be used to foster enduring partnerships with surrounding communities, leverage private sector expertise and efficiencies, and divest of unnecessary overhead where justified by business case analysis.
- Performance metrics will be benchmarked and monitored for all facilities services, operations, and maintenance and used to reduce cost through standardization and streamlining of organizations and processes to consistently implement best practices.
- Standard barracks and transient quarters management, operations and maintenance models will be identified and implemented to continuously assess requirements, monitor utilization, divest of excess capacity, and sustain required infrastructure at the lowest total cost to the Marine Corps.

LOE 4: Align Installation Management and Establish Enterprise Governance

Goal: We will align and consolidate installation management to improve effectiveness, maximize efficiency, reduce support costs, and establish enterprise governance as a necessary condition to produce and sustain the desired outcomes of this Strategy. The enterprise governance will align the installations, the OPFOR, and SE to create a unified approach.

- Enterprise and regional governance bodies with appropriate OPFOR representation and supporting processes will be established to institutionalize the Infrastructure Reset Strategy and oversee its implementation and consistent, long-term application through all phases of the Planning, Programming, Budgeting, and Execution process.
- Installation management structures will be aligned to provide the dedicated leadership and management required to implement and sustain this strategy for optimizing installation support, reducing and managing infrastructure footprint, and driving efficiencies in service delivery.
- Installation management consolidations at the regional, installation, and functional level will be assessed to improve effectiveness, reduce support costs, and establish the reinforced regional capacity for aligned installation and infrastructure management.
- Installation management structures will be aligned to provide the necessary support to Marine Corps components, commands, units, and tenants for infrastructure planning and lifecycle management of global, total force Marine Corps real property.

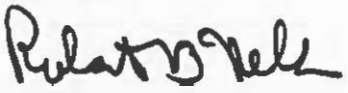
WAY AHEAD

With the end state in mind, our global framework of installations, facilities, ranges, and other vital infrastructure must support increased readiness and improved efficiencies within budget constraints. We must maintain and sustain only the essential infrastructure with an expeditionary mindset in garrison, supported by an affordable total lifecycle management model.

We will staff and publish the Marine Corps IR Campaign Plan early in 2017 and it will detail specific goals, objectives, tasks, measures of effectiveness, and timelines for executing this strategy along the four stated LOEs.

Our ability to remain the Nation's crisis response force rests on our resourceful and innovative spirit to address these imperatives. Despite a constrained resource environment, our management of installations and global infrastructure investments will support ready and relevant expeditionary forces, able to respond rapidly across the range of military operations. We have a defined focus with clear objectives. Now, it's time to Move out.

Semper Fidelis,



Robert B. Neller
General, U.S. Marine Corps
Commandant of the Marine Corps

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Appendix E:

Coastal Zone Management Act Correspondence

Acknowledging receipt of CZMA de minimis list notification.

Thank you.

John Nakagawa
Hawaii Coastal Zone Management (CZM) Program
Email: john.d.nakagawa@hawaii.gov
Phone: (808) 587-2878

-----Original Message-----
From: Bigay, John CIV NAVFAC PAC, EV2
Sent: Friday, June 16, 2017 9:42 AM
To: Nakagawa, John D <john.d.nakagawa@hawaii.gov>
Subject: MARINE CORPS BASE HAWAII DEMINIMIS DETERMINATION

John,

Marine Corps Base Hawaii is proposing to demolish up to ten old facilities that are adjacent to Marine Corps Air Station, Kaneohe Bay, the airfield component (tenant command) at MCBH Kaneohe Bay. Also included are renovation of several existing buildings, and construction of a new building, both intended to accommodate personnel who will be displaced by demolition of one or more of the existing facilities. Seven of the ten facilities are located within the airfield runway safety zone, and are proposed for demolition for aviation safety reasons. Three other facilities are either located very close to the airfield safety zone and/or are proposed for demolition per an infrastructure reduction initiative. None of the existing facilities, nor the site for the proposed new 1-story, approximately 8,000 square foot facility, are located near the shoreline. All existing facilities to be demolished are eligible for listing in the National Register of Historic Places. National Historic Preservation Act Section 106 consultation, as well as an Environmental Assessment, are in progress.

Per the Navy/Marine Corps De Minimis Activities under the Coastal Zone Management Act, the determination has been made that the described proposed actions fall within de minimis-list item numbers 1) New Construction, and 11) Demolition. The proposed actions will comply with the de minimis list mitigations/conditions numbered 1, 3, 6, 8, 9, 10, 11, 12, 14, and 16.