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HWY-DS 2.1184

May 26, 2006

TO: THE HONORABLE GENEVIEVE SALMONSON, DIRECTOR
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FROM: *for* GLENN M. YASUI *Deputy of Chief*
ADMINISTRATOR, HIGHWAYS DIVISION

SUBJECT: FINAL ENVIRONMENTAL ASSESSMENT (AMENDED)
AVIATOR RECOVERY
HALAWA VALLEY, KOOLAU MOUNTAINS
OAHU, HAWAII

The State Department of Transportation has reviewed the final environmental assessment (amended) for the subject project and anticipates a Finding of No Significant Impact (FONSI) determination.

Please publish notice of availability for this project in the next issue of the Environmental Notice. We have enclosed a completed OEQC publication form, four copies of the final EA, and the project summary on disk. Please call Karen Chun at 692-7552 if you have any questions.

Enclosures

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ENVIRONMENTAL ASSESSMENT



Aviator Recovery Halawa Valley, Ko'olau Mountains O'ahu, Hawai'i

Commander Navy Region Hawai'i

May 2006

ENVIRONMENTAL ASSESSMENT

AVIATOR RECOVERY
Halawa Valley, Ko'olau Mountains
O'ahu, Hawai'i

Department of the Navy

May 2006

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COVER SHEET

Proposed Action Recover the remains of a naval aviator who crashed into the Ko'olau Mountains, O'ahu, Hawai'i.

Type of Document Environmental Assessment

Lead Agency Commander Navy Region Hawai'i

For Further Information Mr. Kyle Fujimoto
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Summary

This Environmental Assessment (EA) was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code §4321 *et seq.*), as implemented by Council on Environmental Quality regulations (Title 40 Code of Federal Regulations Parts 1500-1508); Chief of Naval Operations Instruction 5090.1B, *Environmental and Natural Resources Program Manual*, of June 4, 2003; and Chapter 343, Hawai'i Revised Statutes (HRS).

The Joint Prisoner of War/Missing in Action Accounting Command (JPAC) proposes to recover the remains and personal effects of a naval aviator who crashed into the Ko'olau Mountains while on a training flight in June 1944. The project site is located in the upper Halawa Valley, below the Ko'olau Mountain ridgeline, north of the southern entrance to the H-3 Freeway Tunnel on the island of O'ahu, Hawai'i. The project site lies within a designated conservation district, and includes lands in the possession of the State of Hawai'i Department of Transportation (DOT) and belonging to the State of Hawai'i Department of Hawaiian Home Lands (DHHL). As such, this EA has been prepared in accordance with Chapter 343, HRS, in addition to the NEPA requirements that apply to Federal actions. Although no Federally-listed endangered or threatened plant or animal species are found on the project site, it is designated critical habitat for seven Federally-listed endangered plant species. The Proposed Action is scheduled to begin in June 2006 and end in December 2006, subject to favorable weather conditions and recovery team availability. As part of the Proposed Action, JPAC would obtain a right-of-entry from DOT and DHHL. Commander Navy Region Hawai'i (CNRH) is acting as executive agent on behalf of JPAC.

The purpose of the project is to carry out JPAC's mandate by the United States (U.S.) Congress to recover remains of missing service personnel from World War II, the Cold War, Korean War, Vietnam War, and Gulf War wherever possible. The need for the project was initiated by a surviving member of the aviator's immediate family who requested, via Senator John McCain of Arizona, that the family receive information regarding the incident and that the aviator's remains be recovered and returned to his family. In addition, JPAC is required by Section 576, paragraph (a)(1) of the National Defense Authorization Act of Fiscal Year 2000 to attempt to recover the aviator's remains.

CNRH has completed a National Historic Preservation Act Section 106 review by consulting with the State Historic Preservation Officer, Office of Hawaiian Affairs, O'ahu Council of Hawaiian Civic Clubs, and Ko'olaupoko Hawaiian Civic Club. It was determined that the Proposed Action would have no adverse effect on historic properties. Formal consultation with the U.S. Fish and Wildlife Service regarding designated critical habitat for seven endangered plant species was conducted in compliance with Section 7 of the Endangered Species Act. It was determined that the Proposed Action would not have a significant impact on critical habitat.

The Proposed Action would not result in significant impacts on the following resource areas: air quality; noise; infrastructure; health and safety; socio-economics; land use; public facilities, services, and recreation; and views. With implementation of Best Management Practices, the Proposed Action would not result in significant impacts on the following resource areas: biological resources; and topography, soils, and water resources. The Proposed Action would not create environmental health and safety risks that may disproportionately affect children and minority or disadvantaged populations, and would not result in cumulative impacts to any environmental resource. CNRH has determined that the Proposed Action would not have reasonably foreseeable direct or indirect effects on any coastal use or resource of the State's coastal zone.

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**ENVIRONMENTAL ASSESSMENT
AVIATOR RECOVERY
HALAWA VALLEY, KO‘OLAU MOUNTAINS, O‘AHU, HAWAI‘I
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B	Endangered Species Act, Section 7 Consultation Letters
C	National Historic Preservation Act, Section 106 Consultation Letters
D	Chapter 343, HRS Pre-Assessment Consultation Comment Letters
E	Draft EA Distribution, Comment, and Response Letters

ACRONYMS AND ABBREVIATIONS

BMPs	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cm	centimeter(s)
CNRH	Commander Navy Region Hawai'i
CZMA	Coastal Zone Management Act
DBEDT	State of Hawai'i Department of Business, Economic Development and Tourism
DHHL	State of Hawai'i Department of Hawaiian Home Lands
DLNR	State of Hawai'i Department of Land and Natural Resources
DOH	State of Hawai'i Department of Health
DOT	State of Hawai'i Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
EO	Executive Order
FONSI	Finding of No Significant Impact
ft	feet/foot
GIS	geographic information systems
H-3	H-3 Freeway
ha	hectare(s)
HAR	Hawai'i Administrative Rules
HRS	Hawai'i Revised Statutes
JPAC	Joint Prisoner of War/Missing In Action Accounting Command
km	kilometer(s)
KMWP	Ko'olau Mountains Watershed Partnership
LZ	landing zone
m	meter(s)
m ²	square meter(s)
NAAQS	National Ambient Air Quality Standards
NAVFAC	Naval Facilities Engineering Command
NEPA	National Environmental Policy Act
NHP	State of Hawai'i Natural Heritage Program
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OCHCC	O'ahu Council of Hawaiian Civic Clubs
OEQC	Office of Environmental Quality Control
OHA	Office of Hawaiian Affairs
OPNAVINST	Chief of Naval Operations Instruction
SHPD	State Historic Preservation Division
SHPO	State Historic Preservation Officer
U.S.	United States
USC	United States Code
USFWS	United States Fish and Wildlife Service
UXO	unexploded ordnance
yd ²	square yard(s)

EXECUTIVE SUMMARY

Project Name:	Aviator Recovery, Halawa Valley, Ko'olau Mountains
Proposed Action:	The Joint Prisoner of War/Missing in Action Accounting Command (JPAC) proposes to recover the remains and personal effects of a naval aviator who crashed into the Ko'olau Mountains while on a training flight in June 1944.
Applicant:	Commander Navy Region Hawai'i (CNRH)
Approving Authority:	State of Hawai'i Department of Transportation (DOT)
Contact Information:	Mr. Kyle Fujimoto, Planner In Charge Environmental Planning Division Naval Facilities Engineering Command, Pacific 258 Makalapa Drive, Suite 100 Pearl Harbor, HI 96860-3134 Telephone: (808) 472-1442
Action Required:	Compliance with National Environmental Policy Act (NEPA) and Chapter 343, Hawai'i Revised Statutes (HRS)
Chapter 343, HRS Trigger:	Use of State Lands Use of land classified as conservation district by State law
Alternatives Considered:	(1) On-Site Screening, and (2) No Action
Location:	Halawa Valley, Ko'olau Mountains, O'ahu, Hawai'i
Project Schedule	June – December 2006
Project Area:	Approximately 0.45 acre (0.18 hectare)
Tax Map Key Parcels:	1-9-9-011:002 1-9-9-011:004
Landowners:	DOT State of Hawai'i Department of Hawaiian Home Lands (DHHL)
Existing Uses:	Conservation
Proposed Uses:	Conservation
State Land Use District:	Conservation, protective subzone
City and County of Honolulu Primary Urban Center Development Plan:	Preservation
City and County of Honolulu Zoning:	P-1 Restricted Preservation District
Special Designations:	None
Anticipated Determination:	Finding of No Significant Impact (NEPA) Finding of No Significant Impact and Negative Declaration (Chapter 343, HRS)

This Environmental Assessment (EA) was prepared in accordance with NEPA of 1969 (42 United States [U.S.] Code §4321 *et seq.*), as implemented by Council on Environmental Quality regulations (Title 40 Code of Federal Regulations Parts 1500-1508); Chief of Naval Operations Instruction 5090.1B, *Environmental and Natural Resources Program Manual*, of June 4, 2003; and Chapter 343, HRS.

This EA analyzes and documents potential environmental consequences associated with the Proposed Action and alternatives. If the analyses presented in this EA indicate that implementation of the Proposed Action would not result in significant environmental or socio-economic impacts, a Finding of No Significant Impact would then be prepared. If significant environmental issues result that cannot be mitigated to insignificance, an Environmental Impact Statement would then be prepared. CNRH is acting as executive agent on behalf of JPAC.

Proposed Action. JPAC proposes to recover the remains and personal effects of a naval aviator who crashed into the Ko'olau Mountains while on a training flight in June 1944. The action would require removal of vegetation and excavation and screening of soil from an area of up to 478 square yards (yd²) (400 square meters [m²]). An additional 1,435 yd² (1,200 m²) of ancillary support areas for a buffer area around an existing helicopter landing zone (LZ) and for a trail from the LZ to and from the recovery area may be affected by clearing/thinning or incidental trampling of vegetation. An emergency LZ and associated trail located to the north of the project site would not be cleared of vegetation; these areas would only be used in the event of an emergency. No more than 106 cubic yards (80 cubic meters) of soil would be moved from the site to JPAC's laboratory for screening. Prior to the start of recovery activities, JPAC would obtain a right-of-entry from DOT and DHHL. Erosion control would be implemented concurrently with the recovery. Further erosion control and revegetation with native plants would be implemented to restore the area, concurrently with or immediately following the recovery.

Proposed recovery activities are scheduled to occur from June through July 2006 subject to favorable weather conditions and recovery team availability, and proposed post-recovery restoration activities are scheduled to occur from July to December 2006, immediately following recovery activities. Following restoration activities, short duration trips would continue for up to one year to monitor the progress of the restoration effort.

Purpose and Need. The purpose of the project is to carry out JPAC's mandate by the U.S. Congress to recover remains of missing service personnel from World War II, the Cold War, Korean War, Vietnam War, and Gulf War wherever possible. The need for the project was initiated by a surviving member of the aviator's immediate family who requested, via Senator John McCain of Arizona, that the family receive information regarding the incident and that the aviator's remains be recovered and returned to his family. In addition, JPAC is required by Section 576, paragraph (a)(1) of the National Defense Authorization Act of Fiscal Year 2000 to attempt to recover the aviator's remains. As stated in the paragraph, "The Secretary of Defense shall make every reasonable effort to search for, recover, and identify the remains of United States servicemen lost in the Pacific theatre of operations during World War II (including New Guinea) while engaged in flight operations."

The project site is located in very rugged terrain in the upper Halawa Valley, below the ridgeline of the Ko'olau Mountains, north of the southern entrance to the H-3 Freeway Tunnel. Because the project site is located on property in the possession of the State of Hawaii DOT (Parcel 1-9-

9-011:002) and property belonging to State of Hawaii DHHL (Parcel 1-9-9-011:004), which has been designated as conservation district, this EA has been prepared in accordance with Chapter 343, HRS in addition to the NEPA requirements that apply to Federal actions. Although the project site does not contain any Federally-listed endangered or threatened species of plants or animals, it is part of Federally-designated critical habitat for seven species of Federally listed endangered plants. Such areas are commonly referred to as unoccupied critical habitat. Access to the site is very difficult due to its remote location and inclines that can exceed 70 degrees. The project site consists of vegetated slopes interspersed with pieces of plane wreckage. The plane crash occurred during a non-live-fire training mission and the aircraft was not carrying any ordnance (i.e., ammunition or bombs); therefore, no unexploded ordnance is expected at the project site.

Alternatives. Alternatives considered include the On-Site Screening Alternative and the No-Action Alternative. The On-Site Screening Alternative is identical to the Proposed Action except that the soil would be wet-screened on-site instead of being removed to the JPAC laboratory. Water used to screen the soil would be pumped from the ephemeral stream located at the project site. This alternative would also involve a larger field crew to conduct the screening. The No-Action Alternative was carried forward in the analysis as a benchmark to compare the magnitude of environmental effects of the Proposed Action and On-Site Screening Alternative.

Environmental Consequences. CNRH has completed a National Historic Preservation Act Section 106 review by consulting with the State Historic Preservation Officer, the Office of Hawaiian Affairs, the O'ahu Council of Hawaiian Civic Clubs, and the Ko'olaupoko Hawaiian Civic Club. It was determined that the Proposed Action would have no adverse effect on historic properties. Formal consultation with the U.S. Fish and Wildlife Service regarding unoccupied designated critical habitat for seven endangered plant species overlapping the project site was conducted in compliance with Section 7 of the Endangered Species Act. The U.S. Fish and Wildlife Service determined that the Proposed Action would not be likely to destroy or adversely modify any designated critical habitat. Accordingly, the Proposed Action would not have a significant impact on critical habitat.

The Proposed Action would not result in significant impacts on the following resource areas: air quality; noise; infrastructure; health and safety; socio-economics; land use; public facilities, services, and recreation; and views. With implementation of Best Management Practices, the Proposed Action would not result in significant impacts on the following resource areas: biological resources; and topography, soils, and water resources. The Proposed Action would not create environmental health and safety risks that may disproportionately affect children and minority or disadvantaged populations, and would not result in cumulative impacts to any environmental resource. CNRH has determined that the Proposed Action would not have reasonably foreseeable direct or indirect effects on any coastal use or resource of the State's coastal zone.

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1.0 PURPOSE OF AND NEED FOR ACTION

1.1 SUMMARY OF THE PROPOSED ACTION

The Joint Prisoner of War/Missing in Action Accounting Command (JPAC) proposes to recover the remains and personal effects of a naval aviator who crashed into the Ko'olau Mountains, O'ahu, Hawai'i, while on a training flight in June 1944. The location of the project site is shown on Figure 1-1.

1.2 PURPOSE AND NEED

The purpose of the Proposed Action is to carry out JPAC's mandate by the United States (U.S.) Congress to recover remains of missing service personnel from World War II, the Cold War, Korean War, Vietnam War, and Gulf War wherever possible. The need for the project was initiated by a surviving member of the aviator's immediate family who requested, via Senator John McCain of Arizona, that the family receive information regarding the incident and that the aviator's remains be recovered and returned to his family.

1.3 BACKGROUND

Because the project site is located on property in the possession of the State of Hawai'i Department of Transportation (DOT) (parcel 1-9-9-011:002) and property belonging to the State of Hawai'i Department of Hawaiian Home Lands (DHHL) (parcel 1-9-9-011:004), which has been designated as conservation district, Chapter 343, Hawai'i Revised Statutes (HRS) (State Environmental Impact Statement [EIS] Law) is applicable. Therefore, this Environmental Assessment (EA) was prepared in accordance with Chapter 343, HRS in addition to the National Environmental Policy Act (NEPA) requirements that apply to Federal actions. The DOT is the approving agency for this document because the crash site is on the property in their possession. DHHL property would be used for ancillary support areas. Commander Navy Region Hawai'i (CNRH) is acting as executive agent on behalf of JPAC for this EA.

1.3.1 Joint Prisoner of War/Missing in Action Accounting Command

The mission of JPAC, mandated by the U.S. Congress, is to achieve the fullest possible accounting of all Americans missing as a result of our nation's previous conflicts. The unit is comprised of handpicked Sailors, Soldiers, Airmen, Marines, and civilians with specialized skills. Using formal archival research techniques and archaeological methods overseen by experienced and professional archaeologists, JPAC ensures that the remains of missing U.S. service members are identified and recovered in a thorough and scientific manner, and returned home (JPAC, 2005).

1.3.2 Project Location

The project site is located in very rugged terrain in the upper Halawa Valley, below the ridgeline of the Ko'olau Mountains, north of the southern entrance to the H-3 Freeway (H-3) Tunnel (Figure 1-1). The project site is within unoccupied critical habitat for seven species of Federally-listed endangered plants. Access to the site is very difficult due to its remote location and inclines that can exceed 70 degrees. The project site consists of vegetated slopes interspersed with pieces of plane wreckage.

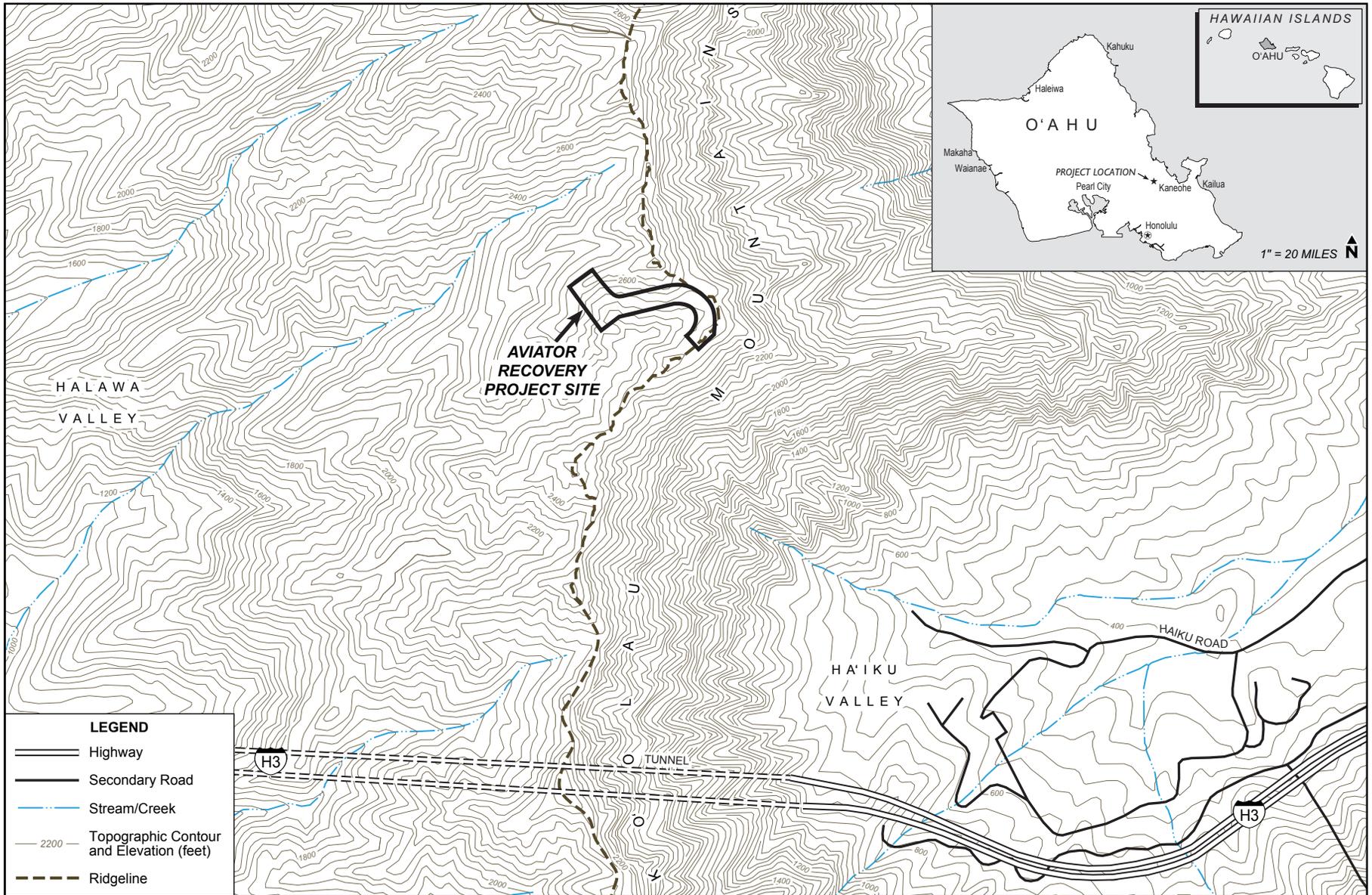


Figure 1-1
Regional Location Map
Ko'olau Mountains, O'ahu, Hawai'i



On June 15, 1944, the aviator's F6F-3 "Hellcat" was on a routine training flight near Kane'ohe Bay, O'ahu, Hawai'i and did not return to station at the end of the exercise. A search was initiated and the crash site was located on June 17, 1944. Because the plane crash occurred during a non-live-fire training mission and the aircraft was not carrying any ordnance (i.e., ammunition or bombs), no unexploded ordnance (UXO) is expected at the project site.

In late September and mid-December 2004, a JPAC team conducted a preliminary reconnaissance of the crash site. The purpose of the visit was to determine the approximate position of the aircraft debris field, and to delineate the approximate scope of the project site with Global Positioning System data points. In addition, the team photographed existing site conditions and terrain characteristics.

In February 2005, biologists conducted a biological resources survey for Federally-listed or proposed threatened and endangered species potentially present in and around the vicinity of the project site, as well as in a buffer area surrounding the recovery area (The Environmental Company, Inc. [TEC], 2005). The Biological Survey Report is provided in Appendix A.

Also in February 2005, a team of restoration specialists from Pono Pacific surveyed project site conditions and vegetation communities to develop a Site Restoration Plan. The Site Restoration Plan contains a list of erosion control recommendations and guidelines for the JPAC crew to implement during recovery efforts (Pono Pacific, 2005). The plan also contains details on how to implement additional erosion control and revegetation actions following the recovery effort. The plan will be reviewed and updated prior to the start of the recovery activities.

1.4 REGULATORY OVERVIEW

The following is a discussion of the Federal and State of Hawai'i laws and consultations that are relevant to implementing the Proposed Action. Chapters 4 and 5 provide a discussion on how the Proposed Action complies with these relevant laws and consultations.

1.4.1 National Environmental Policy Act

This EA was prepared in accordance with the NEPA of 1969, 42 U.S. Code (USC) §4321, as implemented by the Council on Environmental Quality (CEQ) regulations, 40 Code of Federal Regulations (CFR) Parts 1500-1508; and Navy guidelines, Chief of Naval Operations Instruction (OPNAVINST) 5090.1B CH-4, *Environmental and Natural Resources Program Manual*, of June 4, 2003 (U.S. Department of the Navy, 2003). This EA analyzes the potential impacts of the Proposed Action and reasonable alternatives and is intended to provide sufficient evidence and analysis for determining whether to prepare an EIS or a Finding of No Significant Impact (FONSI).

1.4.2 Chapter 343, Hawai'i Revised Statutes

Because the project site occurs on State lands and on lands classified as conservation district by State law, the requirements of Chapter 343, HRS, State EIS Law; and Title 11, Chapter 200 (Chapter 11-200), Hawai'i Administrative Rules (HAR) are applicable to the Proposed Action and alternatives. The purpose of Chapter 343, HRS is to establish a system of environmental review to ensure that environmental concerns are given appropriate consideration in decision making along with economic and technical considerations. Chapter 343, HRS was patterned

after the Federal NEPA. Environmental review under Chapter 343, HRS is required for any program or project that proposes one or more of eight land uses or administrative acts, including use of State or County lands or funds other than for feasibility studies, the use of any land classified as conservation district by State law, or the purchase of raw land. The Proposed Action is subject to review under Chapter 343, HRS with approval by the DOT (i.e., the approving agency). This EA was prepared in accordance with Chapter 343, HRS and Chapter 11-200, HAR to provide sufficient evidence and analysis for determining whether to prepare an EIS or to issue a Negative Declaration/FONSI under Chapter 343, HRS.

1.4.3 Historic Sites Act of 1935

The Historic Sites Act of 1935 (16 USC §461-467) established a national policy for the preservation of historic resources, including sites and buildings. This Act led to the establishment of the National Historic Landmarks program. The Act also forms a basis for the Historic American Building Survey/Historic American Engineering Record, a National Park Service program that establishes standards for, and conducts architectural and engineering documentation.

1.4.4 National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966 as amended (16 USC §470) recognized the nation's historic heritage and established a national policy for the preservation of historic properties as well as the National Register of Historic Places (NRHP). Section 106 of the NHPA requires Federal agencies to take into account the effects of Federal undertakings on historic properties, and affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Section 106 process, as defined in 36 CFR §800, provides for the identification and evaluation of historic properties, for determining the effects of Federal undertakings on such properties, and for developing ways to resolve adverse effects in consultation with consulting parties.

1.4.5 Coastal Zone Management Act

The purpose of the Coastal Zone Management Act (CZMA) is to encourage coastal states to manage and conserve coastal areas as a unique, irreplaceable resource. The CZMA states that land subject solely to the discretion of the Federal government, such as Federally owned or leased property is excluded from the State's coastal zone. However, Federal activities that directly affect the coastal zone are to be conducted in a manner consistent with the enforceable policies of Federally approved State program to the extent practicable. The proponent of the action must determine whether the action would affect any coastal use or resource in a coastal state.

1.4.6 Endangered Species Act

The Endangered Species Act (ESA) as amended (16 USC §1531 *et seq.*) establishes a process for identifying and listing plant and wildlife species determined to be in danger of extinction and providing specific legal protections to conserve them. It requires all Federal agencies to carry out programs for the conservation of Federally listed endangered and threatened plants and animals. It also prohibits actions by Federal agencies that would likely jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse

modification of designated critical habitat. Section 7 of the ESA requires Federal agencies proposing actions that may affect listed species or critical habitat to first formally consult with either the U.S. Fish and Wildlife Service (USFWS) and/or the National Oceanic and Atmospheric Administration to ensure that they do not jeopardize listed species or destroy critical habitat. Section 9 of the ESA prohibits the “taking” of listed species by causing harm or harassment.

1.4.7 Clean Air Act

The Clean Air Act (CAA) sets National Ambient Air Quality Standards (NAAQS) for sulfur dioxide (SO₂), carbon monoxide (CO), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM₁₀) and 2.5 microns (PM_{2.5}), nitrogen dioxide (NO₂), lead (Pb), and ozone (O₃). The CAA regulates construction and operation of new stationary sources and modifications of existing stationary sources in its New Source Review program. This program is divided further into non-attainment and attainment area permitting requirements. Non-attainment areas require permitting of all major pollution sources. Attainment areas require the installation of the best available control technology for all major sources and must fall within the next increment of degradation. Major pollution sources require an air quality permit before construction.

1.4.8 Environmental Permits and Required Approvals

Table 1-1 lists potential Federal and State environmental permits, approvals, and consultations that are associated with the Proposed Action.

Table 1-1. Potential Permits, Approvals, and Consultations Associated with the Proposed Action

<i>Permit/Approval/Consultation</i>	<i>Lead Agency(ies)/Groups</i>
FEDERAL	
NEPA, FONSI or Notice of Intent to prepare an EIS	Commander, Navy Installations
ESA, Section 7 consultation	USFWS
NHPA, Section 106 consultation	State Historic Preservation Officer (SHPO) Office of Hawaiian Affairs (OHA) O’ahu Council of Hawaiian Civic Clubs (OCHCC)
STATE OF HAWAI’I	
Chapter 343, HRS Environmental Review and Determination	DOT
Right-of-Entry Permits	DOT DHHL

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2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1 INTRODUCTION

This chapter presents a discussion of the Proposed Action and alternatives, and a summary of environmental effects. The alternatives described below represent a range of reasonable alternatives. The Proposed Action and the alternatives are analyzed in terms of how well they meet the project's purpose and need, as described in Chapter 1.2.

2.2 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.2.1 Proposed Action

JPAC proposes to recover the remains and personal effects of a naval aviator who crashed into the Ko'olau Mountains while on a training flight in June 1944. As part of the Proposed Action, CNRH would obtain a right-of-entry permit from the State of Hawai'i DOT. The Proposed Action consists of two main phases: the recovery of the aviator and post-recovery restoration work. Proposed recovery activities are scheduled to occur from June through July 2006, and proposed post-recovery restoration activities are scheduled to occur from July to December 2006. After restoration activities, short duration trips would continue for up to one year to monitor the progress of the restoration effort.

2.2.1.1 Project Site

The Proposed Action would require the removal of vegetation and excavation and screening of soil from an area up to 478 square yards (yd²) (400 square meters [m²]). An additional 1,435 yd² (1,200 m²) of ancillary support areas for a buffer area around an existing helicopter landing zone (LZ) and for a trail from the LZ to and from the recovery area may be affected by clearing/thinning or incidental trampling of vegetation. An emergency LZ and associated trail (263 yd² [220 m²]) located to the north of the project site would not be cleared of vegetation; these areas would only be used in the event of an emergency. The 2,176-yd² (1,820-m²) or 0.45-acre (0.18-hectare [ha]) project site consists of the following five interconnected areas listed in Table 2-1 and shown on Figure 2-1:

- Recovery area,
- Southeastern trail to/from southeastern LZ,
- Southeastern LZ,
- Northern LZ, and
- Northern trail to/from northern LZ.

Table 2-1. Recovery and Support Areas Associated with the Proposed Action

Area	Size
Recovery Area	478 yd ² (400 m ²)
Southeastern LZ	215 yd ² (180 m ²)
Southeastern Trail	1,220 yd ² (1,020 m ²)
Northern LZ*	60 yd ² (50 m ²)
Northern Trail*	203 yd ² (170 m ²)
Total	2,176 yd² (1,820 m²)

Note: *No vegetation would be cleared from these areas; these areas would only be used for emergencies.

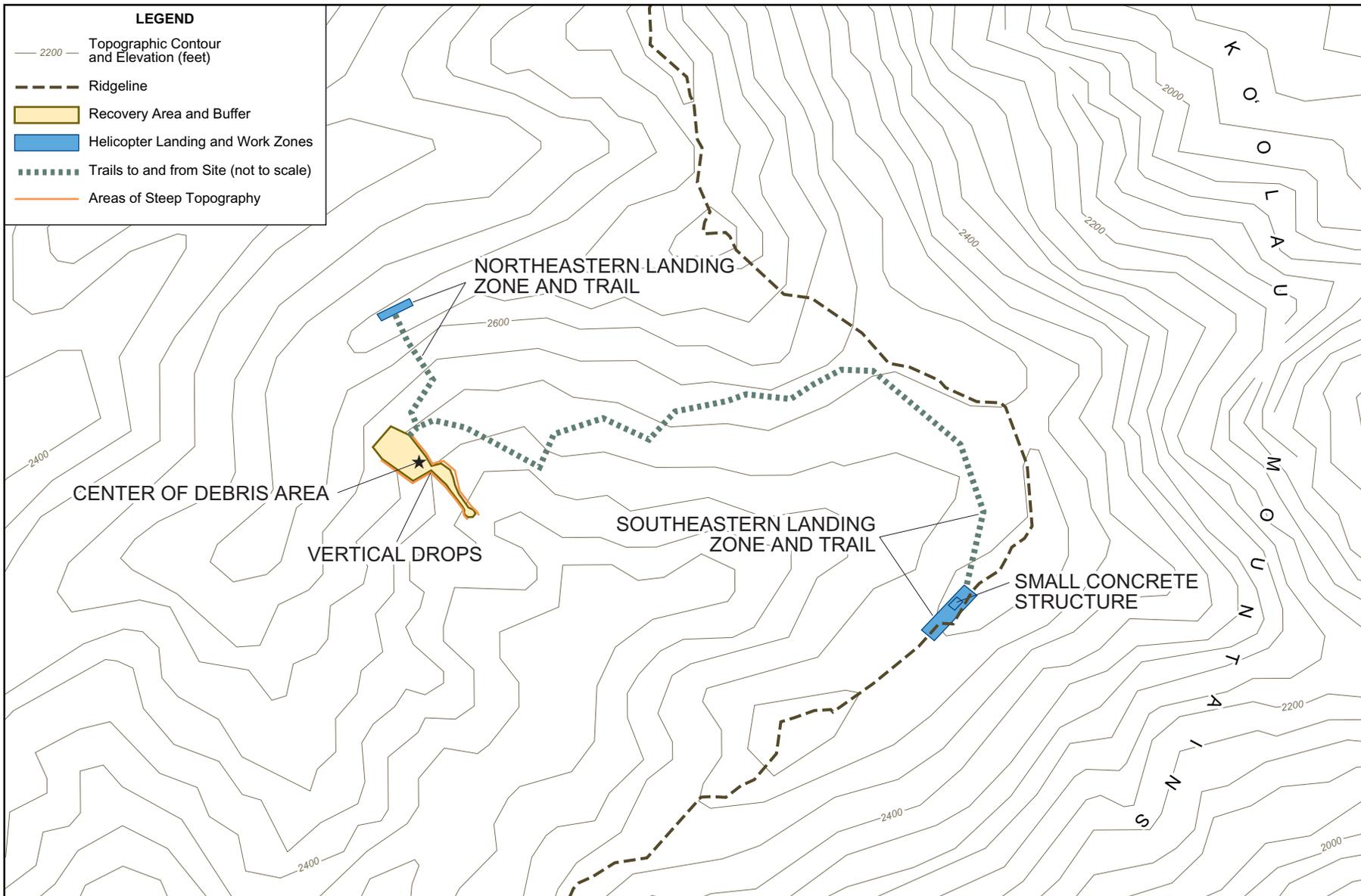


Figure 2-1
Proposed Project Site



The locations of the ancillary support areas (helicopter LZs and trails) were sited to minimize potential erosion and impacts to designated critical habitat and to maximize the use of level terrain where available. The recovery area also includes a buffer area that allows for additional work zones where topography would not restrict work (less than an approximately 50 percent slope). The southeastern LZ would be the entry point to the project site. JPAC would use an existing concrete structure in the vicinity of the southeastern LZ for equipment storage and temporary shelter, and an existing concrete slab for landing the helicopters. The trail from this LZ to the recovery area does not change much in elevation, so it is a safer but longer trail. Conversely, the northern trail to and from the northern LZ is much steeper and shorter. As such, it makes for a good egress trail, but a dangerous ingress trail. The shorter distance to the northern LZ makes it the preferred LZ in the event of a medical emergency.

2.2.1.2 Aviator Recovery Activities

During the recovery phase of the Proposed Action, the JPAC Recovery Team would first establish support areas of temporary disturbance (the southeastern LZ and trail). In these support areas, taller vegetation would be cut or thinned to meet helicopter safety requirements and facilitate safe passage by recovery personnel. There would be some incidental disturbance (e.g., cutting, trampling) of the vegetation in these areas, but clearing and/or grubbing would not occur. After establishing the support areas, the JPAC Recovery Team would use hand tools such as picks, shovels, and buckets to remove vegetation and soil in the recovery area. Gas-powered equipment would not be used on-site. Trees and large shrubs would not be removed unless it becomes necessary to retrieve remains or personal effects. There are few large shrubs in the vicinity of the crash.

As soils in the recovery area are typically damp, it would be very difficult to screen soils on-site. Therefore, under the Proposed Action, the soils would be removed for screening at JPAC's laboratory. It is estimated that an average depth of 6 to 8 inches (15 to 20 centimeters [cm]) of soil would be removed from an area of no more than 478 yd² (400 m²), resulting in a maximum soil volume of 106 cubic yards (80 cubic meters) removed from the site. The aircraft body and large pieces of debris would be left at the site. As the recovery effort proceeds, JPAC personnel would implement temporary erosion control measures, such as anchoring geotextile, burlap, or other soil-stabilizing material over exposed areas, and would place soil-retention barriers down-slope of the disturbed areas. All trash generated would be collected and removed daily.

Proposed recovery actions are expected to begin in summer 2006 and would require a crew of up to 15 personnel to complete. The length and timing of recovery activities is limited to a fixed period due to seasonal variations in weather and availability of resources. JPAC recovery activity is expected to last approximately 6 weeks. At the conclusion of the recovery effort, the JPAC Recovery Team would remove all of their equipment, supplies, and trash.

2.2.1.3 Post-Recovery Restoration Activities

Concurrently and/or immediately following the completion of JPAC's recovery effort (or as soon as weather conditions permit), restoration specialists (botanists, biologists, geologists, and technicians) would implement more permanent erosion control and revegetation measures. Following excavation, sufficient soil should remain at the project site to support revegetation. Erosion control matting would be placed over exposed areas to hold the remaining soil in place and retard invasive plant growth. It is not likely that soil replacement would be required. However, should it be necessary to replenish soils, they would be from a source that would not

introduce invasive species to the project area, such as a commercial source or the slide area located upslope of the recovery area). It is unlikely that any of the soil removed from the site can be returned. It would need to be sterilized after being exposed at Hickam AFB. There are no known facilities on Oahu for sterilization for soil. In addition, the structure of the soil would be altered considerably by screening and sterilization, which would make the soil more prone to erosion.

The disturbed areas would be revegetated with plants that mimic the pre-clearing species composition, including native Hawaiian plants noted in the biological survey (TEC, 2005; see Appendix A). Only native plants would be introduced to the area; invasive species currently present at the site would not be in the mix of native plants used in site revegetation activities. A crew of up to eight staff from Pono Pacific would need approximately 4 to 6 weeks to complete restoration work at the project site (Pono Pacific, 2005). Post-restoration monitoring would continue for up to one year to monitor the success of the restoration effort.

2.2.1.4 Project Site Access

Due to its remote location, access to and from the project site for all phases of the Proposed Action would be via helicopter. The JPAC Recovery Team would use military helicopters and take off and land at Hickam Air Force Base or Wheeler Army Airfield. Civilian helicopters would be used for transport of the restoration specialists and would be a combination of a 4-passenger Hughes 500 and 6-passenger Bell 206L that would take off and land at a helipad adjacent to Honolulu International Airport. The helicopters would drop off personnel and then return to base until such time that personnel are ready to return; the helicopter would likely not stay on-site.

During the restoration phase of the project, the restoration crew may use a temporary landing zone located in the vicinity of H-3 as a base to ferry plants and erosion control materials via helicopter to the project site. Equipment, plants, and other project supplies would be transported via sling load. During all phases of the project, personnel would not stay overnight at the site unless weather conditions are such that a safe return would not be possible.

2.2.2 Alternatives

Alternatives to the Proposed Action must be considered in accordance with NEPA, CEQ regulations for implementing NEPA, OPNAVINST 5090.1B, and Chapter 343, HRS. However, only those alternatives determined to be reasonable relative to their ability to fulfill the purpose and need for the Proposed Action require detailed analysis. The only alternative identified that satisfies the purpose of and need for the Proposed Action is the On-Site Screening Alternative. The No-Action Alternative was carried forward in the analysis as a benchmark to compare the magnitude of environmental effects of the Proposed Action and On-Site Screening Alternative.

2.2.2.1 On-Site Screening Alternative

The On-Site Screening Alternative is identical to the Proposed Action except that the soil would be wet-screened on site instead of being removed to the JPAC laboratory. Water used to screen the soil would be pumped from the ephemeral stream located at the project site that runs through the recovery area, should sufficient flow be available. Small gas-powered pumps may be used to pump water into a small temporary pool. JPAC personnel would use hand tools to

excavate incident-related soils, and then use water to wash all excavated soils through a 0.25-inch (0.6-cm) mesh screen. The water would be recirculated and sediments allowed to settle. The settled sediments and soils would be drained and returned to the recovery site. This alternative would also require a field crew at least three times the size of the Proposed Action field crew (approximately 45 personnel). Following the recovery effort, the same restoration and revegetation activities as described under the Proposed Action would occur. Concurrent restoration would not be possible under this alternative because of the additional space requirements of on-site soil screening.

2.2.2.2 No-Action Alternative

Under the No-Action Alternative, the remains of the missing aviator would be left in place. If efforts are not made to recover and identify the aviator's remains and they are left in place, JPAC would not fulfill its mission, as mandated by Congress, and the aviator's remains and personal effects would not be returned to his family.

2.3 ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION AND ALTERNATIVES

Table 2-2 summarizes the environmental effects of the Proposed Action, the On-Site Screening Alternative, and the No-Action Alternative. This information is a summary of Chapter 4.0, Environmental Consequences.

Table 2-2. Summary of Environmental Effects of the Proposed Action and Alternatives

<i>Environmental Resources</i>	<i>Proposed Action</i>	<i>On-Site Screening Alternative</i>	<i>No-Action Alternative</i>
Biological Resources	No Significant Impacts. Best Management Practices (BMPs): Erosion control measures and restoration. Consultation with USFWS under Section 7 of ESA conducted (Appendix B)	No Significant impacts. BMPs: Erosion control measures and water use restrictions. Consultation with USFWS under Section 7 of ESA conducted (Appendix B)	No Impacts.
Cultural Resources	No Significant Impacts. Consultation under Section 106 of the NHPA conducted (Appendix C)	No Significant Impacts. Consultation under Section 106 of the NHPA conducted (Appendix C)	No Impacts.
Topography, Soils, and Water Resources	No Significant Impacts. BMPs: Erosion control measures and restoration.	No Significant Impacts. BMPs: Erosion control measures and water use restrictions.	No Impacts.
Air Quality; Noise; Infrastructure; Health and Safety; Socio-economic Factors; Land Use Compatibility; Public Facilities, Services, and Recreation; and Views.	No Significant Impacts.	No Significant Impacts.	No Impacts.

3.0 AFFECTED ENVIRONMENT

This chapter describes the environmental setting and baseline conditions of the environmental resources within the project site associated with the Proposed Action and alternative. The project site includes the two helicopter LZs, the recovery area and buffer, and the two trails leading to the recovery area from the LZs.

3.1 OVERVIEW

Preliminary project scoping indicated that the Proposed Action and alternatives would not affect or be affected by many of the environmental resources typically addressed in EAs. However, the Proposed Action and alternatives were determined to have the potential to impact topography, soils, and water resources; biological resources; and cultural resources; therefore, these resource areas are addressed in detail (Sections 3.2, 3.3 and 3.4, respectively). The Proposed Action or alternatives are not expected to impact the following environmental resources.

Air Quality. Based on air quality data collected and published by the State of Hawai'i Department of Health (DOH), Hawai'i complies with the standards of the CAA, including the NAAQS and State Ambient Air Quality Standards. The air in Hawai'i is clean and low in pollutants, and O'ahu is in attainment of all air quality standards (U.S. Environmental Protection Agency, 2004).

Noise. The project site is located in a very remote location and there are no sensitive noise receptors within the vicinity. The closest school, Windward Community College, is located approximately 1.3 miles (2.2 kilometers [km]) east of the project site and 2,200 feet (ft) (670 meters[m]) lower in elevation. The closest sensitive noise receptor is a residential community in the Ha'iku Valley approximately 0.6 miles (1.0 kilometers [km]) east of the temporary landing zone used to ferry plants and erosion control materials to the project site during the restoration phase of the Proposed Action

Infrastructure (*utilities, storm drainage, traffic*). Due to its remote location, there are no public utilities or infrastructure services in the vicinity of the project site. However, a small concrete structure is located adjacent to a concrete slab now used as a helicopter LZ (Figure 3-1). Runoff flows through an ephemeral stream channel running through the project site during and immediately following periods of moderate to heavy rain.

The area is unpopulated and not easily accessible. Transport by helicopter is the safest method of access to the project site, as the terrain of the area is very steep and considered dangerous to traverse on foot. When weather conditions are favorable, it is common to see numerous military and civilian helicopters fly around and above the Ko'olau Mountains on a daily basis.

Health and Safety (*hazardous and regulated materials, safety*). The crash occurred during a training flight that did not include the use of live weapons or ordnance. Therefore, UXO is not expected at the project site. Any aviation fuel would likely have dispersed following impact, and through the years the heavy rainfall common to the area would have probably flushed the area of any residual fuel left at the recovery site. At the upper end of the recovery area is a recent (less than 1 year old) landslide (Figure 3-2). Falling debris from this unstable slope may pose a risk to personnel working in the recovery area (Pono Pacific, 2005).



Figure 3-1 Southeastern LZ, Small Concrete Structure, and Vegetation Communities at the Project Site

Socio-economic Factors (*population; employment; effects on children, disadvantaged, and minority populations*). The project site is located in an undeveloped and unpopulated area, far removed from urban influences and populations of children and disadvantaged or minority populations. The nearest populated area is Kane'ohe, a town of approximately 40,000 people located east of the project site at the base of the Ko'olau Mountains, on the opposite side of the ridgeline from the crash site, in the Ha'iku Valley (Hawai'i Department of Business, Economic Development and Tourism [DBEDT], 2003).

Land Use Compatibility. Aside from the southeastern LZ and the associated small concrete structure (Figure 3-1), the project site is undeveloped and contains a thick cover of shrubs and trees generally less than 6 ft (1.8 m) tall, but with scattered individuals up to 18 ft (5.5 m) tall, primarily near the periphery of the recovery area. The ancillary areas are located in wind-swept summit ridges, consisting of a uniform cover of low-growing non-native grasses with patches of native sedges and small shrubs scattered throughout. The project site is located near the edge of the Ewa Forest Reserve, bordering the Waiahole Forest Reserve. The Ko'olau Mountains provide and protect a large portion of O'ahu's water resources and the area is zoned for conservation (Ko'olau Mountains Watershed Partnership [KMWP], 2002).



Figure 3-2 Recent Landslide Located above Aviator Recovery Site

The majority of the project site is located on land in possession of DOT. A small portion (the southeastern LZ, concrete structure, and a portion of the associated trail) is located on land owned by the DHHL. The project site is within the protective subzone of the State of Hawai'i conservation district. The State Land Use Commission administers conservation districts, and the Department of Land and Natural Resources (DLNR) administers subzones (Hawai'i Statewide Geographic Information Systems [GIS] Program, 2005).

The parcels associated with the project site are zoned as P-1, "Restricted Preservation District," under the City and County of Honolulu's Land Use Ordinance. The project site is located outside the Urban Community Boundary and has a land use designation of "Preservation" according to the *Primary Urban Center Development Plan* (Land Use Map, Primary Urban Center – West) (City and County of Honolulu, 2004).

Public Facilities, Services, and Recreation. There are no public facilities, services, or officially recognized hiking trails located near the project site. The likelihood of recreational users in the project vicinity is low, due to the challenging terrain and lack of clearly defined trails to the project site. Biologists conducting the recent biological survey found signs of recent human activity in the project area, as evidenced by the presence of garbage in the bunker at the southeastern LZ.

Views. Views from the project site are spectacular due to its location and the lack of development in the area. From the helicopter LZs and along the ridge, a panoramic view of the Kane'ohe-Kailua area, the Ko'olau Mountains, H-3, and Honolulu is possible during clear days. Given its location and the influence of the common trade wind weather pattern, clouds often cover the ridge of the Ko'olau Mountains (and therefore the project site), obscuring views of the site from lower elevations, and minimizing the number of days when the site can be accessed via helicopter

3.2 TOPOGRAPHY, SOILS, AND WATER RESOURCES

3.2.1 Topography

The project site is located at an elevation of approximately 2,600 ft (792 m) above sea level at the head of North Halawa Valley, just west of the summit of the Ko'olau Mountains. This section of the Ko'olau Mountains is formed by remnants of the old Ko'olau volcanic dome. The soft basaltic materials have eroded away to form an amphitheater type head leading to steep, narrow valleys. East of the summit, the remnants of the volcanic caldera form the near-vertical cliffs of the Ha'iku Valley (DOT, 1978).

3.2.2 Soils

Poorly drained stoney clay in the upper valleys has a moderate to severe erosion potential. Well-drained clay loams in the valley floors have low erosion potential. The ridges at the project site have high peaks and low gullies and steep slopes with rocky, loose soil. The substrate at the site consists of weathered saprolitic basaltic lava flows and volcanic dikes. Saprolite retains the shape of a lava flow, but has been weathered into clay minerals and residual oxides and is no longer stable. Landslides are a frequent occurrence in the Ko'olau Mountains and several recent slides in the area can be seen from H-3 (Pono Pacific, 2005). The recent landslide adjacent to the project area extends 26 ft (8 m) into the recovery area at a maximum width of 15 ft (4.5 m). In February 2005, the landslide area was mostly barren soil, but a few plants were beginning to establish themselves.

The recovery area contains both soil and sediment; soil in the upland area and sediment in and adjacent to the ephemeral stream. For ease of discussion in this EA, in terms of this and related discussions, "soil" implies both soil and sediment. Except for two near-vertical walls along the stream channel, the terrain at the recovery area where soil would be excavated is moderately sloped, with grades generally less than 25 percent.

3.2.3 Water Resources

The area receives approximately 118 inches (300 cm) of rain per year, 70 percent of which occurs between November and April. The rains recharge a basal groundwater aquifer beneath the North Halawa Valley. A series of impermeable rock layers within the mountain traps groundwater, creating small pockets of high-level water (DOT, 1978).

The project site is located at the bottom of a bowl shaped area, which contains an ephemeral stream (Pono Pacific, 2005). This ephemeral stream feeds into one of three perennial streams that converge approximately 1.3 miles (2.1 km) downstream of the project site to form Halawa Stream, which has been rated outstanding for riparian, archaeological, and recreational resources (KMWP, 2002).

While there are no perennial streams found at the project site, there are several streams in a broader regional context. The North Halawa Stream (one of the aforementioned three perennial streams) begins as a series of springs emerging from leaks in the Ko'olau aquifer, between 984 and 1,968 ft (300 and 600 m) above sea level. The waters from these sources exist as permanent surface flow in the bedrock channels along portions of the headwater reach, until encountering the alluvial fill of the valley floor. Like most Ko'olau drainages, the discharges of North Halawa Stream are unpredictable and subject to flash flooding.

The Ha'iku side of the Ko'olau Mountains has important streams as well. He'eia Stream is the primary stream of Ha'iku Valley. Numerous small and intermittent tributaries in the back of the amphitheater valley feed this stream. Other streams in the Ha'iku area include the Keapuka, Luluku, and Kuou.

3.3 **BIOLOGICAL RESOURCES**

3.3.1 Definition of Resource

Biological resources include native or naturalized plant and animal species and the vegetation communities within which they occur. Although the existence and preservation of biological resources are intrinsically valuable, these resources also provide aesthetic, recreational, and socio-economic values to society. This analysis focuses on species or vegetation communities that are important to the functions of biological systems, are of special public importance, or are protected under Federal or State law or statute. For purposes of this EA, these resources are divided into three categories: vegetation types, wildlife, and special-status species.

Vegetation types includes all existing terrestrial plant communities as well as their individual component species. The area of potential effect for vegetation includes only those areas potentially subject to ground disturbance.

Wildlife includes all animals with the exception of those identified as special-status species. Wildlife includes amphibians, reptiles, birds, and mammals. Wildlife also includes those bird species that are not special-status species but are protected under the Federal Migratory Bird Treaty Act.

Special-status species are defined as those plant and animal species listed as threatened, endangered, or proposed as such, including their associated critical habitat, by the USFWS under the ESA or by the State of Hawai'i under the Hawai'i ESA.

3.3.2 Vegetation Types

Based on a biological survey of the project site, the vegetation community of the recovery area is Ohi'a lowland wet forest (TEC, 2005; refer to Appendix A). It is located in a small somewhat protected gulch, consisting of a thick cover of shrubs and trees generally less than 6 ft (1.8 m) tall but with scattered individuals up to 18 ft (5.5 m) tall primarily near the periphery of the recovery area. The survey documented the presence of 73 plant species, 68 percent of which were native.

The vegetation community of ancillary areas (all areas other than the recovery area) is montane wet shrubland (including mixed-fern shrubland). These areas are in wind-swept summit ridges where the vegetation consists of somewhat uniform cover dominated by low-growing non-native grasses with patches of native sedges and small shrubs scattered throughout, increasing in abundance in more sheltered locations.

3.3.3 Wildlife

Only one bird species was documented during the biological survey of the project site. The non-native Japanese bush warbler (*Cettia diphone*) was heard frequently (TEC, 2005). Other species expected to be generally present throughout the Ko'olau Mountains, including the project site, include the following non-native species: Shama thrush (*Copsychus malabaricus*), Japanese white-eye (*Zosterops japonicus*), red-vented bulbul (*Pycnonotus cafer*), red-whiskered bulbul (*Pycnonotus jocosus*), red-billed leiothrix (*Leiothrix lutea*), and yellow-faced grassquit (*Tiaris olivacea*) (KMWP, 2002).

Mammal species likely to be present in high areas of the Ko'olau Mountains include rats (*Rattus rattus*, *R. exulans*) and feral pigs (*Sus scrofa*). Rats commonly occur in forested habitats up to the summit area of the Ko'olau Mountains (KMWP, 2002) and they were documented at the project site during the biological survey (TEC, 2005).

3.3.4 Special-Status Species

The biological survey of the project site did not find any plants or animals classified as threatened, endangered, or specially designated by any regulatory agency (TEC, 2005). However, the project site or portions of the site are located within designated critical habitat for seven Federally-listed endangered plant species: *Haha* (*Cyanea st-johnii*), 'Ohe'ohe (*Tetraplasandra gymnocarpa*), *Cyanea crispa* (no common name), *Lobelia oahuensis* (no common name), *Sanicula purpurea* (no common name), *Trematolobelia singularis* (no common name), and *Viola oahuensis* (no common name) (Figure 3-3). The critical habitat for these species was designated in June 2003 (USFWS, 2003b). Table 3-1 shows the amount of critical habitat, by species, within each portion of the project site. The State of Hawai'i Natural Heritage Program (NHP) has also documented individual occurrences of special-status plant species within 0.5 mile (0.8 km) of the project site (Figure 3-3 and Table 3-2) (NHP, 2004).

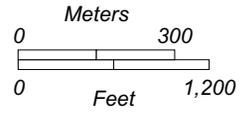
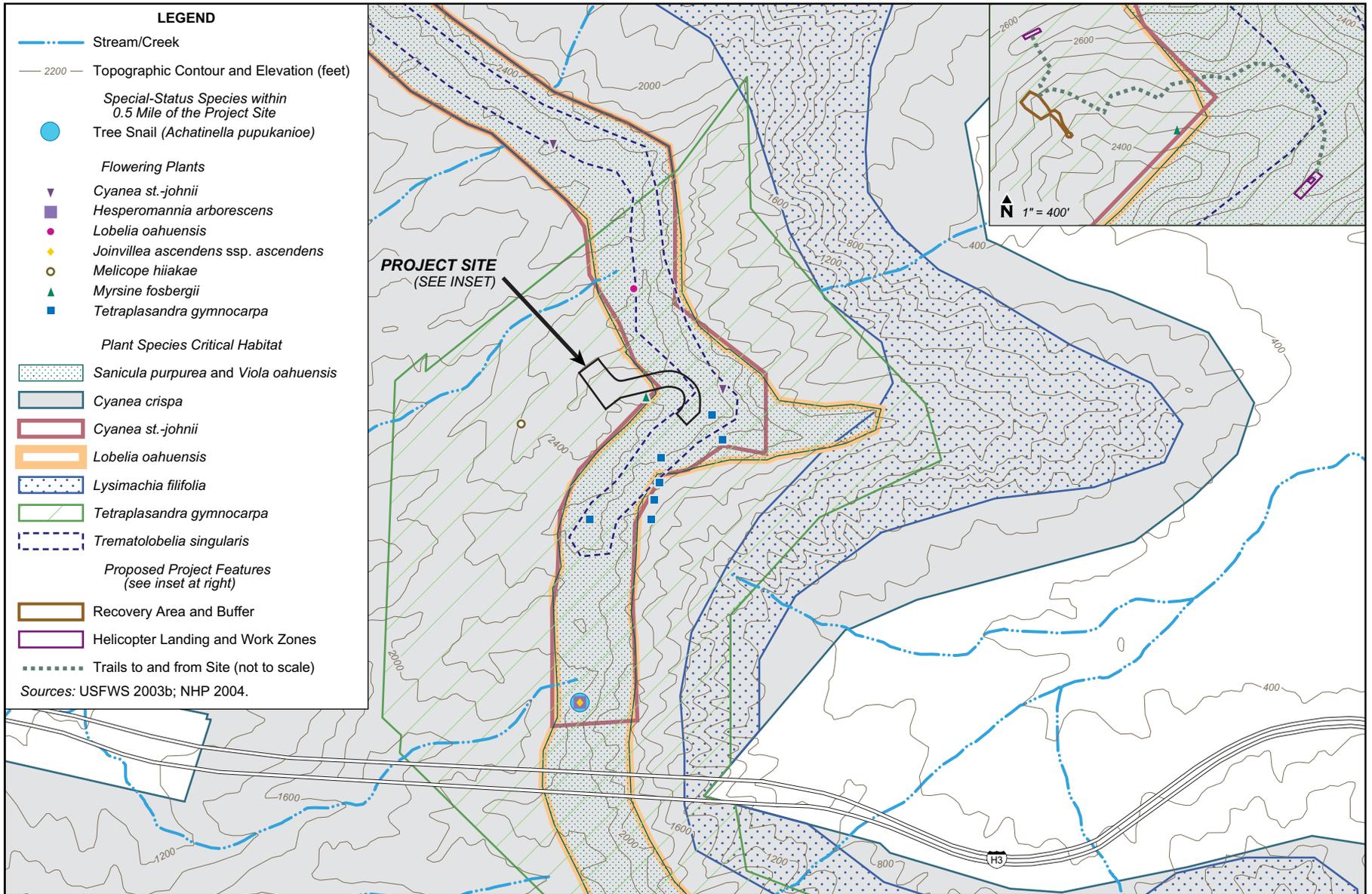


Figure 3-3
Special-Status Species and Critical Habitat within and in the Vicinity of the Project Site



Table 3-1. Areas of Critical Habitat for Seven Plant Species within the Project Site⁽¹⁾

Location/Area		Area of Critical Habitat (m ²) ⁽²⁾						
		<i>Cya cri</i>	<i>Cya st-j</i>	<i>Lob oah</i>	<i>San pur</i>	<i>Tet gym</i>	<i>Tre sin</i>	<i>Vio oah</i>
Southeast LZ ⁽³⁾	180	180	180	180	180	180	180	180
Southeast Trail	1,020	1,020	560	560	560	1,020	140	560
Recovery Area	400	400	0	0	0	400	0	0
North Trail ⁽⁴⁾	170	170	0	0	0	170	0	0
North LZ ⁽⁴⁾	50	50	0	0	0	50	0	0
Total (m²)	1,820	1,820	740	740	740	1,820	320	740
ha	0.18	0.18	0.07	0.07	0.07	0.18	0.03	0.07
yd ²	2,176	2,176	885	885	885	2,176	383	885
acre	0.45	0.45	0.18	0.18	0.18	0.45	0.08	0.18

Notes: ⁽¹⁾ The total area of the project site potentially subject to ground disturbance equals 2,176 yd² (1,820 m²). As shown in Figure 3-3, there is considerable overlap in areas of designated critical habitat for each species. Therefore, the total area for all species would be greater than the total project area.

⁽²⁾ Species names: *Cyanea crispa*, *Cyanea st-johnii*, *Lobelia oahuensis*, *Sanicula purpurea*, *Tetraplasandra gymnocarpa*, *Trematolobelia singularis*, *Viola oahuensis*.

⁽³⁾ The southeast LZ is a remote helicopter landing pad and an area with a small concrete structure and highly disturbed vegetation and therefore would not likely be considered critical habitat based on the language in the June 17, 2003 Federal Register final rule (USFWS, 2003b).

⁽⁴⁾ The North LZ and associated North Trail would not be cleared of vegetation; they would only be used in the event of an emergency.

Sources: USFWS, 2003b; NHP, 2004.

Table 3-2. Special-Status Species Occurrences within 0.5 Mile (0.8 km) of the Project Site

Common Name	Scientific Name	Status*	Type
Tree snail	<i>Achatinella pupukanioe</i>	Endangered	Invertebrate
Haha	<i>Cyanea st.-johnii</i>	Endangered	Flowering Plant
None	<i>Hesperomannia arborescens</i>	Endangered	Flowering Plant
None	<i>Lobelia oahuensis</i>	Endangered	Flowering Plant
'Ohe	<i>Joinvillea ascendens</i> ssp. <i>ascendens</i>	Candidate	Flowering Plant
Alani	<i>Melicope hiiake</i>	Candidate	Flowering Plant
Kolea	<i>Myrsine fosbergii</i>	Candidate	Flowering Plant
'Ohe'ohe	<i>Tetraplasandra gymnocarpa</i>	Endangered	Flowering Plant

Note: *Endangered status is applicable to both Federal and State designations.

Sources: NHP, 2004; DLNR, 2005; USFWS, 2005.

A survey for the Federally-listed endangered tree snail (*Achatinella* spp.) that was conducted as part of the biological survey did not find any live snails, native or introduced. This is consistent with current range maps of *Achatinella* spp., which do not show its range overlapping the project site. Several empty shells of the non-native predatory snail (*Euglandina rosea*) (not a special-status species) were found near the plane wreckage at the recovery site (TEC, 2005).

Although there were no occurrences within 0.5 mile (0.8 km) of the project site for any threatened or endangered bird species in the NHP database (NHP, 2004), sightings of the Federally-listed and State-listed endangered O'ahu creeper (O'ahu alauahio) (*Paroreomyza maculata*) were reported approximately 1 mile (1.6 km) from the site by Shallenberger and Vaughn (1978); other possible sightings by these investigators were reported within approximately 0.5 mile (0.8 km) of the site. The last confirmed detection of this species on O'ahu was in 1985 and it may already be extinct (USFWS, 2003a).

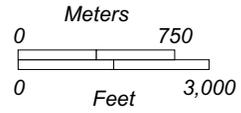
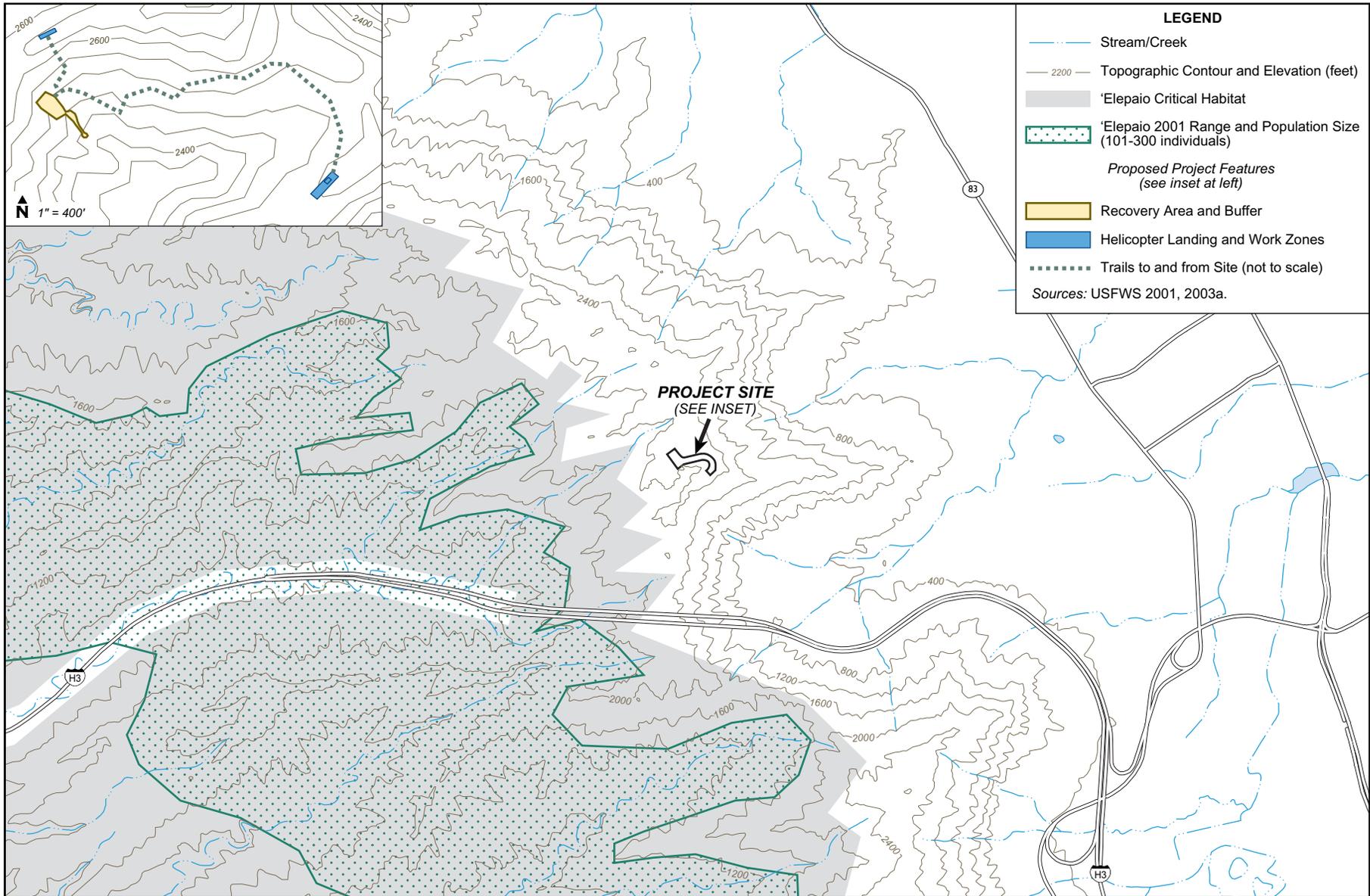


Figure 3-4
 'Elepaio Critical Habitat and 2001 Range in the Vicinity of the Project Site



Critical habitat for the Federally-listed and State-listed endangered O'ahu 'elepaio (*Chasiempis sandwichensis ibidis*) was designated in December 2001 and is to the west of the project site (Figure 3-4) (USFWS, 2001). The closest 'elepaio critical habitat from the project site is located approximately 780 ft (240 m) from the northern LZ, and the recovery area is approximately 820 ft (250 m) from 'elepaio critical habitat (Figure 3-4). The 2001 range of the 'elepaio as depicted in the *Revised Draft Hawaiian Forest Birds Recovery Plan* (USFWS, 2003a) is also shown on Figure 3-4. There are no known occurrences of the 'elepaio within 0.5 mile (0.8 km) of the project site (NHP, 2004).

Shallenberger and Vaughn (1978) reported the State-listed endangered bird species, the *i'iwi* (*Vestiaria coccinea*), approximately 0.5 and 1 mile (0.8 and 1.6 km) from the project site. Although fairly common on Kaua'i, Maui, and the Island of Hawai'i, the *i'iwi* is classified by the State of Hawai'i as endangered on the island of O'ahu (DLNR, 1996), but is not a Federally-listed species. Only three small populations of this species have been documented on O'ahu (Fancy and Ralph, 1998).

3.4 CULTURAL RESOURCES

3.4.1 Historic Properties

The NHPA defines historic property as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register..." (16 USC 470w). One historic property has been identified within the project site. The missing service personnel crash site itself is a historic property that contains the remains of the Hellcat aircraft, and potentially those of the missing U.S. service personnel.

The Hellcat crash site has integrity of location, but the site is not significant under National Register Criterion "a," association with important people, events, or broad patterns of history. The aircraft was on a training flight when it crashed, and was not associated with a significant historical event such as the Pearl Harbor attack. Furthermore, there is no documentation that this aircraft was associated with any significant World War II mission. The site of the crash is located in a very remote and inaccessible location, and therefore has not become a part of O'ahu's cultural landscape since the time of the crash. However, the age of the aircraft (more than 50 years old) renders it a historic object significant under National Register Criterion "d" for its potential to yield important information about the past.

The Proposed Action and On-Site Screening Alternative would temporarily use an existing concrete structure for storing field equipment and emergency shelter and a concrete pad for the southeastern LZ. These concrete features are located to the east of the recovery area, on top of the Ko'olau Ridge (Figure 3-1). The small rectangular concrete structure is partially buried, and the concrete pad is partially covered with grass. The concrete pad is currently used as a LZ. The small concrete structure and pad were associated with the OMEGA radio navigation system. A 1973 U.S. Geological Survey map of Ha'iku Valley shows a radio station tramway leading to a tower where the concrete structure and pad exist today. The Navy originally developed and completed construction of the Naval Radio Station at Ha'iku Valley in 1943, and by 1973 the operations changed over to the U.S. Coast Guard, and a new antenna was erected 1.4 miles (2.2 km) to the southeast across Ha'iku Valley.

The concrete structure and pad no longer have integrity because the metal tower, tram, cables, and other associated equipment are gone. The small structure is a utilitarian concrete masonry unit shelter that is not unique, and does not represent the work of a master architect. Moreover, the concrete pad and structure were auxiliary to the operation of OMEGA Station. As a result, the concrete shelter and pad do not qualify for the National Register of Historic Places.

3.4.2 Chapter 343, Hawai'i Revised Statutes – Cultural Resources

Cultural Resources, as used in Chapter 343, HRS, refer to the “practices and beliefs of a particular cultural group or ethnic group or groups” (Office of Environmental Quality Control [OEQC], 2004). The types of cultural practices and beliefs to be assessed may include “subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs” (OEQC, 2004), and may also include traditional cultural properties, or other historic sites that may support such beliefs and practices.

No formal Cultural Impact Assessment was carried out in support of this project. The rationale was primarily that the recovery effort is a single event, is not a development project, and would take place on a steep and remote mountain slope that is difficult to access. The discussion below is intended to be a good faith evaluation of cultural resources based on available archival information, and consultation with two Native Hawaiian organizations (OCHCC and OHA).

Archaeological Resources. There are no known archaeological resources within the project site. However, the neighboring vicinities of Halawa and Ha'iku have archaeological sites primarily clustered near streams at the bottom of the valleys. A significant quantity of archaeological work has been undertaken within Halawa for the construction of the H-3 Freeway. The results of this work are summarized in Volume 1 of a multi-volume report produced by the Bishop Museum (Hartzell et al., 2003). Several archaeological studies have also been carried out in Ha'iku Valley (e.g. Cleghorn and Jourdane, 1976; Dye, 1977; Williams and Nees, 1994; McDermott et al., 1997; Williams and Nees, 2002; Leidemann et al., 2004).

The pre-Contact settlement of Halawa is summarized as early settlement and use of the coastal and lower valley areas, followed by late prehistoric and protohistoric inland expansion (Hommon, 1976; Kirch, 1985; Klieger, 1995; Hartzell et al., 2003). Human presence in the lower valley is documented in part by pollen cores that show lowland coastal forests had disappeared by A.D. 1400 to 1500, a trend thought to have begun by circa A.D. 1000 (Athens, 1997). After A.D. 1500, archaeological data from the North Halawa Valley documents increased in the use of the upper valley for dryland agriculture and habitation. Low agricultural terraces for dryland agriculture are the most common features in the upper reaches of the valley (Hartzell et al., 2003).

The archaeological record of Ha'iku Valley suggests the clearance of forest for agricultural activities and habitation occurred first near the coast, and did not occur in the back of the valley for circa 400 years. By the 1400s Ha'iku Valley was the location of a large taro pondfield system (Williams and Nees, 2002). At the time of Western Contact, Ha'iku had two possible house sites, a large number of stone faced terraces, as well as two or more *heiau*. The cultural importance of the valley is also indicated by Kaualehu cave, which has legendary associations (State Site 50-80-10-331).

Sacred Sites. No sacred sites have been identified at the project site. Sacred sites located in other parts of Halawa include large *heiau* (no longer exist), small family *heiau* within residential complexes, and rock shelters used for burials. Two major *heiau* of Lower Halawa, Waipao Heiau and Waikahi Heiau, were destroyed during the development of field systems associated with sugarcane agriculture (Hartzell et al., 2003). Eleven possible religious features were found in the upper North Halawa Valley at State Sites 50-80-10-2010, -2011, and -2137. Two of these possible religious features at Site 50-80-10-2010 were dated. Feature 74 had the earliest date at A.D. 1425 – 1663. Coral was found at several of the inland religious features of Halawa.

Sacred sites of Ha'iku Valley include Kahekili Heiau (State Site 50-80-10-332), Kane ame Kanaloa Heiau (State Site 50-809-10-333), and Kaualehu Cave (State Site 50-80-10-331). McAllister (1933) first documented all three of these sites during a 1930 survey of the valley. Kahekili Heiau would have overlooked the taro pondfields of State Site 50-80-10-2042. It is possible that the *heiau* was associated with Kahekili, a Maui chief who ruled for 27 years on Maui and 9 years on O'ahu.

Kame ame Kanaloa Heiau had no structural remains present at the time of McAllister's survey (1933). It is speculated that the stones from this *heiau* were reused to build a nearby stonewall (State Site 50-809-10-1904). Cleghorn and Jourdane (1976) and Dye (1977) recorded this wall as a post-Contact construction. The majority of the wall was destroyed during the construction of an access road used for building Interstate H-3 (Williams and Nees, 2002).

Kaualehu Cave is located approximately three-quarters of the way up the *pali* (cliff) on the north side of Ha'iku Valley, and can be observed from almost anywhere in the valley (Williams and Nees, 2002). It is reported that the cave contains burials, and is impossible to access from above or below because the cliffs are so steep (McAllister, 1933).

Plant and Animal Resources. The vegetation patterns of the areas surrounding the project site can be divided into different environmental zones. The recovery area is located in the upper zone (TEC, 2005). It is only in the upper zone and high along the valley walls that there are relatively pure stands of native vegetation. The upper zone consists of Ohi'a Forest and Koa-Dicranopteris vegetation types. Also, Kukui Forests can be found in many of the side drainages in this upper zone. Also in the upper zone is the Loulu Wetland that is of particular interest, as it is known to have been a major component of O'ahu's vegetation prior to the arrival of the first Polynesian voyagers (Athens, 1997).

Several Polynesian-introduced plants that have been identified in the upper vegetation zone found between 1,083 and 1,476 ft (330 and 450 m) above sea level. Specific examples include *Ki* (*Cordyline fruticosa*), *Kukui* (*Aleurites moluccana*), and *'Ohi'a'ai* (*Syzygium malaccense*) (Herbst et al., 1977; Hartzell et al., 2003).

Ethnohistoric literature (e.g., Malo, 1951) and modern day hunting practices indicate *pua'a*, or feral pig (*Sus scrofa*), is the most culturally significant animal in the project site vicinity. Based on the known distribution and habitat of feral pigs in Hawai'i (Tomich, 1986), it is assumed that feral pigs are present in the area. At the time of European Contact, pigs were under strict religious control (*tapu*), considered food of the gods, and important in competitive feasting between chiefdoms. Today pig hunting is practiced by individuals from many ethnic backgrounds.

Another important Native Hawaiian animal resource is birds. Several culturally important native bird species have been reported living in North Halawa (Shallenberger, 1977; Preston et al., 1994). The *pueo*, or Hawaiian short-eared owl (*Asio flammeus sandwichensis*), identified in Halawa has feathers that were important for making *kahili*, and the bird itself was considered sacred (Malo, 1951). Also identified in Halawa is the O‘ahu ‘*elepao*, which was edible, but the plumage was not used for anything according to ethnohistoric information. Two other bird species found in North Halawa Valley that were important for Hawaiian featherwork and traditional Hawaiian chants are the ‘*apapane* (*Himatione sanguinea*) and the ‘*iwi* (Hartzell et al., 2003).

Streams. Please refer to Section 3.2, Topography, Soils, and Water Resources, for a discussion of streams found in and around the project site.

Trails. According to archaeological data and historical records, there are no known Native Hawaiian trails in the project site. In the broader region there is a popular hiking trail called the Ha‘iku Stairs, or Stairway to Heaven. The trail was originally built to allow maintenance personnel access to a radio antenna high above Ha‘iku Valley. In 1953, architect Daniel Cairns designed the all-metal stairway that was installed in place of a wooden ladder. In 2002, the City and County of Honolulu repaired the metal stairs and established a public access point. An access gate was constructed from the Hope Chapel parking lot to the old H-3 access road, 1 mile (1.6 km) from the Ha‘iku Stairs trailhead, however access and liability issues prevent the reopening of the trail and it remains closed to the public. The trail terminus is Pu‘u Keahi a Kahoe, located approximately 7,544 ft (2,300 m) away from the project site, on the opposite side of Ha‘iku Valley.

Na Ala Hele recognizes Waimano Trail as a public trail that provides access to the Ko‘olau Ridge from Pearl City (7.2 miles [11.6 km]). The trail terminus on the Ko‘olau Ridge is approximately 2,000 ft (610 m) away from the project site.

Wahi Pana (Storied Places). The entire Ko‘olau Mountain Range is an important part of the traditional cultural landscape for Native Hawaiians. The Ko‘olaupoko Hawaiian Civic Club has indicated that the Ko‘olau Mountains have special cultural significance, and expressed concern about the *kahuli* (*Achantinell mustelina*) tree snail, which is known in traditional chants and *mele* (songs) as the “singing snail” (Appendix D). The current project site is located within the Ko‘olau Mountain Range, a known habitat for the *kahuli*. As discussed in Section 3.3, Natural Resources, no snails were found at the project site during the biological survey conducted in February 2005.

Also, the more specific surrounding vicinities of Halawa and Ha‘iku have wahi pana (storied places) associated with them, but none have been identified in the current project site. Most of the legends associated with these places were oral traditions that were recorded from ethnographic informants.

The story of Kauwamoa, recorded in 1870, describes a swimming and diving spot in Halawa.

“...They stepped onto the other side, to the mulched fields of Halawa, on to Kauwamoa, a diving place where many enjoyed themselves. It was said to be Pe‘ape‘a’s diving place. The place where he dove into the water was from five to ten fathoms high (above the pool).”

- Sterling and Summers (1978:10)

The legend of Kaohelo tells a story explaining land formations of Ha'iku Valley.

"Kaohelo's (sister of Pele) spirit forms a marriage with the spirit of the handsome Heeia on O'ahu, who abandons her later for another woman. The little hills about the district of Heeia are formed from the body of Malulani, who has hanged herself out of grief for her sister."

- Beckwith (1970:188)

Kaualehu Cave (State Site 50-80-10-331) has the legend of Kamaakamahiai associated with it.

"...Kameha'ikana went to dwell at the cave Kaualehu... She went to Heeia to gather sea weeds and crabs. When she had enough she returned above Iole-ka'a to the top of the cliff. There she turned to look on this side of the cliff of Iole-ka'a... the cave of Kaualehu."

- Sterling and Summers (1978:201)

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 OVERVIEW

This chapter evaluates the probable consequences on environmental resources of the Proposed Action and two alternatives: On-Site Screening Alternative and No-Action Alternative.

Cumulative impacts on environmental resources can result from the incremental effects of development and other actions when evaluated in conjunction with other past, present, and reasonably foreseeable future actions. No cumulative impacts have been identified for the project site.

An analysis of a wide range of resources indicated that the Proposed Action and alternatives are unlikely to affect or be affected by the environmental resources as described in Sections 4.1.1 through 4.1.4. This EA includes a greater level of analysis for three resource areas with a greater potential for impacts under the Proposed Action and On-Site Screening Alternative: Topography, Soils, and Water Resources; Biological Resources; and Cultural Resources (Sections 4.2, 4.3, and 4.4, respectively).

4.1.1 Proposed Action

Air Quality. Emissions associated with the Proposed Action would be minimal and temporary. No new stationary sources of emissions would be created, and emissions from proposed helicopter trips (which would represent the greatest potential source of emissions) would be negligible and short-term in nature. In addition, the strong winds at the project site and in the routes to and from the project site would quickly dissipate the exhaust. Therefore, the Proposed Action would have no significant impacts on air quality.

Noise, Helicopter noise would be transitory, short-term, and typically limited to 8:00 A.M. – 5:00 P.M., seven days per week. Helicopters would avoid high-density urban areas and would fly at required Federal Aviation Administration altitudes on their way to and from the project site. The JPAC Recovery Team would use military helicopters and take off and land at Hickam Air Force Base or Wheeler Army Airfield. Civilian helicopters would take off and land at a helipad adjacent to Honolulu International Airport.

The project site is located in a very remote location with no sensitive noise receptors located in the vicinity. In addition, helicopter activity currently occurs in the vicinity of the project site and the vicinity of the take off/landing bases. The Proposed Action would not represent a new source or significant increase in noise to the area. Therefore, the Proposed Action would not result in significant noise impacts to the project site or vicinity.

Infrastructure (utilities, infrastructure, traffic). There are no utilities or infrastructure in the area. Because the project does not involve long-term operations, additional air traffic generated by the helicopter would be minimal and temporary. Therefore, the Proposed Action would have no significant impacts on utilities, infrastructure, and traffic.

Health and Safety (hazardous and regulated materials, safety). While not expected, should regulated or hazardous materials be found, they would be removed, handled, and disposed of in accordance with applicable State and Federal regulations. Ordnance is not expected to be at the site. However, an UXO expert would be part of the recovery team. Should any ordnance be

discovered, it would be removed in accordance with applicable Department of Defense instructions and procedures as well as applicable State and Federal regulations. The Proposed Action would have no significant impacts associated with hazardous and regulated materials.

Before work begins, recovery personnel would assess the area for potential geologic hazards. Protective equipment such as hard hats and temporary erosion control measures used at the site would help prevent potential falling rocks and debris from injuring recovery and restoration personnel. Work would not occur in heavy rain conditions and would not resume until slope conditions stabilize. The crew would limit the number of hours spent directly below hazardous outcrops. If needed, some geologic hazards such as boulders in the landslide debris area may be moved to a more stable position downslope prior to the start of work.

All recovery and restoration work would be accomplished in accordance with site-specific Accident Prevention Plans prepared prior to implementation of the Proposed Action. Recovery and restoration personnel would only access the site (via helicopter) when environmental conditions indicate it is safe to do so. The recovery and restoration teams are experienced, highly trained, and skilled in working safely in such environments. The teams have extensive experience working in areas at higher elevations and with steeper slopes than those found in the project area. Safety is, and will be, paramount to the team throughout the project.

The emergency northern LZ and associated trail would only be used in cases of medical emergency. The ridgeline is sufficiently stable to allow a helicopter to touch down on the ridge top and load an injured person on-board.

JPAC, Pono Pacific, and the helicopter operator(s) would check helicopter sling loads to ensure proper safety measures are implemented prior to takeoff, and that no people are underneath the suspended loads at any time. If military helicopters are used, military personnel would be present to ensure safety. Any potential herbicides used during restoration activities would be limited to the absolute minimum volume necessary, and would be handled and applied in accordance with all herbicide-specific safety measures (e.g., using appropriate containers for transportation and using the appropriate level of health and safety equipment during application). Therefore, the Proposed Action would have no significant impacts on health and safety.

Socio-economic Factors (population; employment; effects on children, disadvantaged, and minority populations). The Proposed Action is of short duration and would not impact the overall population or employment levels in the City and County of Honolulu or Hawai'i. Due to its remote location in an unpopulated area, the Proposed Action would not create environmental health and safety risks that may disproportionately affect children or minority or disadvantaged populations.

Land Use Compatibility. The Proposed Action would not change existing land use designations and would continue to be compatible with surrounding land use. The Proposed Action is of temporary duration. Although the project site is located within a conservation district, a Conservation District Use Application is not needed for the Proposed Action. CNRH has initiated coordination with DOT and DHHL, and CNRH involved the Office of Conservation and Coastal Lands in the EA review process to solicit their input. The Proposed Action would be consistent with the intent of the City and County of Honolulu's designation of "Preservation" for the project site. Furthermore, in order to minimize disturbances to the conservation district

as well as critical habitat, site restoration activities would be performed after recovery activities. Therefore, the Proposed Action would have no significant impacts on land use.

Public Facilities, Services, and Recreation. There are no public facilities or services located near the project site, and the project site is not generally used for recreation. Therefore, the Proposed Action would have no significant impacts on public facilities, services, or recreation.

Views. Short-term temporary visual impacts from the presence of helicopters would occur during recovery and restoration; however, helicopters are seen on a daily basis in the area and would be consistent with existing views. The Proposed Action would not permanently change existing viewsheds as no important public views are located in the project site and no vertical obstructions would be constructed under the Proposed Action. Site restoration activities would be performed after the recovery of remains to revegetate the disturbed area. Therefore, the Proposed Action would have no significant impacts on views.

4.1.2 On-Site Screening Alternative

With the implementation of the On-Site Screening Alternative, potential environmental impacts would be similar to those previously described under the Proposed Action, except that some petroleum-based fuel would be required for pumps to obtain water from the ephemeral stream. Any fuel used during screening would be limited to the absolute minimum volume necessary, and would be handled in accordance with all applicable safety measures (e.g., using appropriate containers for transportation and using the appropriate level of health and safety equipment). The On-Site Screening Alternative would not result in significant impacts to air quality; noise; infrastructure; health and safety; socio-economics; land use; public facilities, services, and recreation; or views.

4.1.3 No-Action Alternative

Under the No-Action Alternative, existing environmental conditions as described in Chapter 3.1 would not change. Therefore, no impacts to physical conditions; infrastructure; health and safety; socio-economics; land use; public facilities, services, and recreation; or views would occur.

4.1.4 Cumulative Impacts

No cumulative impacts have been identified for the area in and around the project site. The Proposed Action would not result in a net increase in utility demand or traffic in the area. There would be no associated increase in risk to human health and safety, and no impact to long-term population and employment levels in the City and County of Honolulu or the State of Hawai'i. The Proposed Action would not disproportionately affect children or minority or disadvantaged populations.

As the Proposed Action does not represent a change in scope or intensity from the current land use at the project site, the Proposed Action would not have a cumulative effect on land use compatibility. Therefore, as the Proposed Action would not significantly impact these resources, and no cumulative impacts have been identified, no cumulative impacts to physical conditions; infrastructure; health and safety; socio-economics; land use; public facilities, services, and recreation; or views would occur.

4.2 TOPOGRAPHY, SOILS, AND WATER RESOURCES

4.2.1 Proposed Action

The Proposed Action would result in the removal of vegetation and soils from the recovery area, which would potentially result in a change in topography and increased soil erosion. During vegetation and soil removal, standard erosion control procedures presented in the Site Restoration Plan (Pono Pacific, 2005) and developed during the EA comment and Section 7 consultation process (Appendix B) would be followed to minimize erosion, runoff, and potential impacts to critical habitat.

Soil removal could cause geological instability and increase potential risks for those working in the area and for the ecosystem, which could lead to a change in topography and further erosion and run-off. Therefore, soil removal would be kept to a minimum, and erosion control measures would be implemented while the recovery effort is on-going. Excavation activities would continue downward until all remains and personal effects are recovered (possibly to bedrock, in limited areas). Following excavation, sufficient soil should remain at the project site to support revegetation, and it is not likely that soil replacement would be required.

However, should it be necessary to replenish soils, they would be from a source that would not introduce invasive species to the project area, such as a commercial source or the slide area (located upslope of the recovery area). It is unlikely that any of the soil removed from the site can be returned. It would need to be sterilized after being exposed at Hickam AFB. There are no known facilities on Oahu for sterilization for soil. In addition, the structure of the soil would be altered considerably by screening and sterilization, which would make the soil more prone to erosion.

Restoration crews would place erosion control matting over exposed areas that would serve to hold the remaining soil in place and retard invasive plant growth. Restoration crews would then plant native species in holes cut into the erosion control matting as part of this component of the restoration effort. In addition, it is likely that in time, soil from the upslope landslide would naturally slide down to cover the recovery area. With the application of erosion control measures and the post-recovery restoration, the Proposed Action would have no significant impacts on topography and soils.

The Proposed Action does not involve any water use on site. The recovery phase is also scheduled during the summer when less rain is expected. With the application of temporary erosion control measures to control runoff of soil from the site and the post-recovery restoration, the Proposed Action would not affect the ephemeral stream, the three perennial streams, or Halawa Stream. Proposed Action would have no significant impacts to water resources.

4.2.2 On-Site Screening Alternative

The On-Site Screening Alternative is similar to the Proposed Action except that the crew would screen the soil for remains on-site, using water from the ephemeral stream (if sufficient flow were available). Therefore, the impacts and BMPs would be identical to the Proposed Action except that the water used for screening would be managed such that no overland surface flow from the screening process would be allowed to discharge onto unvegetated areas susceptible to erosion. The crew would also return the settled sediments from the rinse water to the crash site. With implementation of BMPs, the On-Site Screening Alternative would have no significant impacts on topography and soils.

Potential environmental impacts to water resources would be greater than those previously described under the Proposed Action due to the use of water to screen the soils on-site. To minimize impacts to water resources, water would be used in accordance with the following BMPs:

- Collecting the used water in a basin to allow any solids to settle out before discharge,
- Reusing the water after the solids settle out, and
- Discharging the water in small volumes onto well-vegetated areas.

The ephemeral stream collects water about 1,300 ft (400 m) downhill from the project site. A small, temporary dam would be required to use water from the stream. The potential for soil erosion would be greater than under the Proposed Action because of the use of water and a larger crew at the project site; however, erosion control measures would be implemented to minimize impacts. Any impacts would be temporary and limited to the recovery and surrounding buffer areas. With implementation of the erosion control measures, site restoration, and careful water handling, the On-Site Screening Alternative would not result in significant impacts to water resources.

4.2.3 No-Action Alternative

Under the No-Action Alternative, proposed recovery operations and associated ground-disturbing activities would not occur; therefore, there would be no impacts to topography, soils, and water resources.

4.2.4 Cumulative Impacts

No cumulative projects have been identified for area in and around the project site. With implementation of BMPs and site restoration, the Proposed Action and alternatives would not significantly impact the existing topography, soils, and potable water aquifers and there are no anticipated cumulative impacts to topography, soils, or water resources.

4.3 **BIOLOGICAL RESOURCES**

4.3.1 Proposed Action

Vegetation Types. The proposed action would require removal of vegetation and excavation and screening of soil over an area of approximately 478 yd² (400 m²). Trees and large shrubs would not be removed, unless it becomes necessary to retrieve remains or personal effects. Ancillary support areas would be affected by clearing/thinning taller vegetation or incidental trampling of an additional 1,435 yd² (1,200 m²). In addition, while no vegetation would be cleared from the emergency northern LZ or associated trail (263 yd² [220m²]), vegetation could potentially be disturbed by thinning for access or foot traffic in these areas in the event of an emergency. While there would be some incidental disturbance of the vegetation in the vicinities of the LZs and the access trails, clearing and/or grubbing would not occur in these areas.

During the recovery effort at the crash site, JPAC personnel would implement temporary erosion control measures, such as anchoring geotextile, burlap, or other soil-stabilizing materials over exposed areas, and would place soil-retention barriers down-slope of the disturbed areas. Following the recovery effort, the recovery area would be stabilized and revegetated with native species in accordance with the Site Restoration Plan (Pono Pacific, 2005) which will be updated following finalization of this EA and prior to the start of the recovery action. Soils and vegetation

in ancillary support areas would be disturbed as little as possible and restoration activities would also occur in these areas. If the emergency LZ and associated trail are used (in case of emergency only), and incidental disturbance to vegetation (e.g., thinning and trampling) results, these areas would also be restored.

Following excavation, sufficient soil should remain at the project site to support revegetation, and it is not likely that soil replacement would be required. However, should it be necessary to replenish soils, they would be from a source that would not introduce invasive species to the project area, such as a commercial source or the slide area located upslope of the recovery area).

The following general BMPs would be implemented at the recovery site; additional measures are provided in the Site Restoration Plan (Pono Pacific, 2005).

- To prevent weed seeds or plant parts from being brought into the project site, crews would be instructed about proper cleaning procedures prior to entering the project site. Equipment (especially digging tools) would be cleaned;
- Foods having the potential to introduce weeds, such as blackberries, would not be allowed at the site;
- Invasive weeds (e.g., Koster's curse [*Clidemia hirta*]) are already present at the site. Disturbing the soil may give weed seeds a competitive advantage over native plants; therefore selective herbicide application to reduce this advantage would be implemented;
- Only native plants would be introduced to the area; invasive species currently present at the site would not be in the mix of native plants used in site revegetation activities; and
- Erosion control materials, such as geotextiles, would be new and unused or, if organic, free from weed seeds.

Through implementation of the measures described above, potential impacts to vegetation types as a result of the Proposed Action would be minimized and there would be no significant impacts to vegetation.

Wildlife. Activities associated with the Proposed Action would temporarily displace wildlife from suitable habitat in the immediate vicinity of the study area. Displacement would occur from soil disturbance and removal of vegetation. Very few, if any, native vertebrate species are present at the site so the native species displaced or destroyed would primarily be invertebrates. Wildlife would return when the area is revegetated and long-term, permanent impacts to populations of wildlife species would not result. Therefore, no significant impacts to wildlife would occur as a result of the Proposed Action.

Special-Status Species. As the biological survey of the project site (TEC, 2005) did not find any plants or animals classified as threatened, endangered, or specially designated by any regulatory agency, no direct impacts to special-status species would occur. However, at least some portions of the project site are within the critical habitat of seven Federally-listed endangered plant species. The recovery area where vegetation and soil removal would occur during the recovery effort is within the critical habitat of two of these species: *Cyanea crispa* and *Tetraplasandra gymnocarpa*. The specific area of the project site that is within the critical habitat of each species is provided in Table 3-2 and depicted in Figure 3-3.

The amount of critical habitat that would be affected by the Proposed Action ranges from 0.002 to 0.023 percent of the total critical habitat for each species, and 0.008 to 0.050 percent of the individual units affected (Appendix B). The USFWS has concluded, through formal ESA Section 7 consultation process, and after their full consideration and analysis of impacts, that the Proposed Action is “not likely to destroy or adversely modify designated critical habitat” (Appendix B). The USFWS concludes that “any losses (to critical habitat) that occur after implementation of the Proposed Action would be short term in nature, occur in a very small percentage of designated critical habitats, and would not result in permanent destruction of the physical and biological features of critical habitat” (Appendix B).

Only one special-status animal, the O‘ahu tree snail, has been identified within 0.5 mile (0.8 km) of the site (Figure 3-3 and Section 3.2.4). No native snails or native snail shells were found during the biological survey of the project site (TEC, 2005). If during the course of the site excavation native snail shells are encountered, they would be retained and submitted to the University of Hawai‘i, Manoa Endangered Snail Laboratory. Based on the distances of special-status animals from the site, and for the limited historical occurrences of listed species in the vicinity of the site, proposed recovery activities at the site would not impact these species.

Critical habitat has been designated west of the project site for the O‘ahu ‘*elepaio*. The closest distance from the project site to ‘*elepaio* critical habitat is 780 ft (240 m). As proposed activities are planned for the summer and fall seasons, they would take place after the nesting season of the ‘*elepaio*, which extends from mid-February through May (USFWS, 2001). No impacts to the O‘ahu ‘*elepaio* are anticipated with implementation of the Proposed Action.

4.3.2 On-Site Screening Alternative

The On-Site Screening Alternative is similar to the Proposed Action except that a larger crew would screen the soil for remains on-site, using water from the ephemeral stream (if sufficient flow is available). Under the On-Site Screening Alternative, trampling effects on vegetation would increase because of the larger crew; however, any impacts would be temporary and limited to the recovery area and associated buffer area. As under the Proposed Action, erosion control and revegetation would be implemented. Therefore, the impacts and BMPs would be identical to the Proposed Action except that the water used for screening would be managed such that no overland surface flow from the screening process would be allowed to discharge into the on-site ephemeral stream. With implementation of BMPs, the On-Site Screening Alternative would have no significant impacts on biological resources.

4.3.3 No-Action Alternative

Under the No-Action Alternative, proposed recovery operations and associated ground-disturbing activities would not occur; therefore, there would be no impacts to biological resources.

4.3.4 Cumulative Impacts

As there are no identified cumulative projects in the vicinity of the project site, there are no anticipated cumulative impacts to biological resources.

4.4 CULTURAL RESOURCES

4.4.1 Proposed Action

For the purposes of this analysis, significant cultural resources are those properties listed, or eligible for listing, in the NRHP. As defined in the implementing regulations for Section 106 of the NHPA, impacts of an undertaking on significant cultural resources would be considered adverse if they “diminish the integrity of the property’s location, design setting, materials, workmanship, feeling, or association” [36 CFR §800.9 (b)]. Examples of adverse effects include, but are not limited to, the following:

- Physical destruction, damage, or alteration of all or part of the property;
- Isolation of the property from, or alteration of the character of, the property’s setting when that character contributes to the property’s qualification for listing on the NRHP;
- Introduction of visual, audible, or atmospheric elements that are out of character with the property, or alter its setting;
- Neglect of a property resulting in its deterioration or destruction; and
- Transfer, lease, or sale of the property [36 CFR §800.9 (b)].

JPAC’s Work Plan (JPAC, 2004) outlines field methods and archaeological excavation strategies designed to glean important historical information, and avoid impact to the aircraft crash site. Excavation would be carried out in a standardized scientific manner designed to gather historically significant information on site formation and artifact distribution, which would aid in establishing the original configuration of the site remains. In addition, the Work Plan states there would be no collection of war relics and artifacts beyond those that may be useful in establishing the identity of the aircraft and the missing service personnel’s personal effects. Moreover, metal detectors would be used to minimize the amount of vegetation removal and block excavation that has to be done. In sum, because the proposed recovery activities would be carried out in accordance with a work plan designed to extract important historical information and avoid impact to the aircraft crash site, no adverse effects on the historic property are expected.

Additionally, the concrete remains of a former OMEGA station tramway on the Ko’olau Ridge would not be impacted by the Proposed Action. The concrete pad has previously been used as a LZ, and no damage has occurred to the pad from the helicopter skids touching down. Grass growing on top of the concrete pad provides some degree of protection. The relatively flat grassy area surrounding the concrete pad and structure would be used to organize and/or pack equipment. The concrete structure would also serve as a temporary storage area for equipment and as emergency shelter in bad weather conditions. The proposed temporary use of the concrete pad and shelter is not expected to adversely affect either structure.

If any native Hawaiian or non-aviator related historic, archaeological, or cultural resources are discovered during any phase of the project, all work in the area would stop and the State Historic Preservation Division (SHPD) would be notified. Work would not resume until the SHPD gives its approval. In compliance with Section 106 of the NHPA, CNRH consulted with the State Historic Preservation Officer (SHPO), OCHCC, Ko’olaupoko Hawaiian Civic Club, and OHA, and has determined that the Proposed Action and the On-Site Screening Alternative would have no adverse effect on historic properties. Correspondence related to the Section 106 consultation process is provided in Appendix C.

4.4.2 Chapter 343, Hawai'i Revised Statutes – Cultural Resources

Archaeological Resources. The Proposed Action would have no impact on Native Hawaiian archaeological resources, as there are no recorded sites within the project site. While the broader vicinities of North Halawa Valley and Ha'iku Valley have had notable archaeological finds, these sites are primarily located near streams, and are at the bottom of the valleys. By contrast, the project site is near the top of the Ko'olau Mountain Range on a slope of more than 70 degrees. Therefore, it would be very unlikely that subsurface cultural deposits exist in this inaccessible area.

Sacred Sites. The Proposed Action would have no impact on *heiau*, burial caves, or shrines identified in North Halawa Valley and Ha'iku Valley. There would be no physical impact because all of these sites are well away from the project site. Furthermore, there would be no visual impact on these sites because the proposed recovery activities are a short-term effort, with no lasting alterations to the environment.

Plant and Animal Resources. The Proposed Action would have no significant impact on plant and animal resources. The Proposed Action involves a temporary effort to recover the missing aviator and his personal effects, not a development project. Therefore, once the recovery personnel are gone, plants and animals in the project site would eventually return. Areas where vegetation has been removed may take longer to recover. However, a Site Restoration Plan would be implemented as part of the Proposed Action. Biologists would plant appropriate native species in areas where vegetation must be removed during the recovery effort, with the goal of repopulating the areas with native plants.

Streams. The Proposed Action would have no significant impact on any of the area's streams such as the North Halawa Stream and its tributaries. The Hellcat crash site is well away from the North Halawa Stream, but near intermittent drainages at the watershed's upper limits that feed this stream. For the Proposed Action, soil screening would take place off-site at JPAC's laboratory, reducing the amount of loose soils on the steep terrain. In addition, sediment retention barriers would be used to minimize the amount of sediments that could be carried down the hill by fluvial processes.

Trails. The Proposed Action would not impact any historic or designated hiking trails. Both the Ha'iku Stairs and Waimano Trail are well outside of the project site.

Wahi Pana (Storied Places). The Proposed Action would not impact beliefs in, or the physical nature of wahi pana. The Ko'olau Mountains as a whole, and associated oral traditions of the *Kuhuli* snail, would not be impacted. The project is short-term, the area would be replanted with native species following recovery of the remains, and a recent biological survey (TEC, 2005) did not identify any *Kuhuli* within the project site boundaries.

The wahi pana located in the vicinities of Halawa Valley and Ha'iku Valley are not within view of the Hellcat crash site. Moreover, any visual impacts would be temporary during the recovery effort.

4.4.3 On-Site Screening Alternative

With implementation of the On-Site Screening Alternative, potential environmental impacts to cultural resources would be the same as those previously described under the Proposed Action. Therefore, no significant impacts to cultural resources would occur.

4.4.4 No-Action Alternative

Under the No-Action Alternative, proposed recovery operations and associated ground-disturbing activities would not occur; therefore, there would be no impacts to cultural resources.

4.4.5 Cumulative Impacts

As there are no identified cumulative projects in the vicinity of the project site, there are no anticipated cumulative impacts to cultural resources.

4.5 POSSIBLE CONFLICTS BETWEEN THE PROPOSED ACTION AND THE OBJECTIVES OF FEDERAL, STATE, AND COUNTY LAND USE POLICIES, PLANS, AND CONTROLS

This section provides an overview of the proposed project's consistency with major Federal, State, and County land use policies, plans, and controls. The project site is located completely on State property; no Federal land use policies, plans, or controls apply.

4.5.1 Coastal Zone Management Act

The purpose of the CZMA is to encourage states to manage and conserve coastal areas as a unique, irreplaceable resource. Federal activities that directly affect the coastal zone are to be conducted in a manner consistent with the enforceable policies of a Federally approved State program to the maximum extent possible. The project site is located within the coastal zone as defined by the Hawai'i Coastal Zone Management Program. CNRH has determined that the Proposed Action would not have reasonably foreseeable direct or indirect effects on any coastal use or resource of the state's coastal zone. The Hawai'i Coastal Zone Management Program Office concurred with the determination that the project is consistent to the maximum extent practicable with the CZM program. The project's conformance with relevant objectives of the Coastal Zone Management Program is provided as follows.

4.5.1.1 Recreational Resources

Objective: Provide coastal recreational opportunities accessible to the public.

Discussion: The Proposed Action would not impact coastal recreational opportunities, as it is located in the Ko'olau Mountains, far removed from coastal recreational opportunities.

4.5.1.2 Historic Resources

Objective: Protect, preserve, and where desirable, restore those natural and man-made historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

Discussion: The crash site is considered to be a historic site. However, the Proposed Action would have no adverse effect on the site. There are no known prehistoric archaeological resources at the project site. There are no known cultural resources or practices that would be adversely affected by the Proposed Action.

4.5.1.3 Scenic and Open Space Resources

Objective: Protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources.

Discussion: Site restoration would be conducted following the recovery activities to preserve the overall quality of the project site as a scenic and open space resource. The Proposed Action would not include structures or buildings, would be a temporary one-time event, and would not significantly impact scenic viewplanes.

4.5.1.4 Coastal Ecosystems

Objective: Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

Discussion: The Proposed Action would not impact coastal ecosystems, as it is far removed from coastal ecosystems.

4.5.1.5 Economic Uses

Objective: Provide public or private facilities and improvements important to the State's economy in suitable locations.

Discussion: Due to its remote location and associated inaccessibility, there are no public or private facilities at the project site.

4.5.1.6 Coastal Hazards

Objective: Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.

Discussion: Due to the location and high elevation of the project site, it is not in a tsunami warning area and would not be affected by tsunami or storm waves. The Proposed Action would not cause flooding of the ephemeral stream on the project site. Erosion control measures during recovery activities, and vegetation restoration immediately following recovery work, would be implemented to minimize erosion at the project site.

4.5.1.7 Managing Development

Objective: Improve the development and review process, communication and public participation in the management of coastal resources and hazards.

Discussion: In accordance with Chapter 343, HRS requirements, organizations were contacted for pre-assessment consultation to solicit their input. In accordance with Chapter 343, HRS requirements, pre-assessment consultation during preparation of this EA included government agencies, community organizations, and neighborhood groups (see Section 6.1). The Draft EA was available for public review. No impacts to coastal resources are expected.

4.5.1.8 Public Participation

Objective: Stimulate public awareness, education, and participation in coastal management.

Discussion: Due to the temporary nature and the location of the Proposed Action, public awareness, education, or participation in coastal management would not be directly applicable. In accordance with Chapter 343, HRS requirements, pre-assessment consultation during preparation of this EA included government agencies, community organizations, and neighborhood groups (see Section 6.1). The Draft EA was available for public review.

4.5.1.9 Beach Protection

Objective: Protect beaches for public use and recreation.

Discussion: Due to the location of the project site, beaches, public use, and recreation of beaches would not be affected.

4.5.1.10 Marine Resources

Objective: Implement the State's ocean resources management plan.

Discussion: The Proposed Action would not impact marine resources, as it is far removed from the ocean.

4.5.2 State Land Use Classification

All lands in the State of Hawai'i have been classified in one of four land use districts by the State Land Use Commission, pursuant to Chapter 205, HRS, and Chapter 15-15, HAR. The project site is located within the protective subzone of the State of Hawai'i conservation district.

Although the project site is located within a conservation district, a Conservation District Use Application is not needed for the Proposed Action. CNRH involved the Office of Conservation and Coastal Lands in the EA review process to solicit their input. Furthermore, in order to minimize disturbances to the conservation district as well as Federally designated critical habitat, site restoration activities would be performed after recovery activities.

4.5.3 Hawai'i State Plan

The Hawai'i State Plan, established through the State's legislative process, represents public consensus regarding expectations for Hawai'i's future. Chapter 226, HRS, as amended, describes the purpose of the State Plan as follows:

"[it] shall serve as a guide for the future long-range development of the State; identify the goals, objectives, policies, and priorities for the State of Hawai'i; provide the basis for determining priorities and allocating limited resources, such as public funds, services, manpower, land, energy, water, and other resources; improve coordination of state and county plans, policies, programs, projects, and regulatory activities; and establish a system for plan formation and program coordination to provide for an integration of all major state and county activities." (Chapter 226-1, HRS; Findings and Purpose).

The Proposed Action is consistent with the applicable goals, objectives, policies and guidelines of the Hawai'i State Plan as it is a temporary action in a remote area, no construction would occur, appropriate BMPs would be implemented, and in accordance with Chapter 343, HRS requirements, organizations were contacted for pre-assessment consultation and via the review process for the Draft EA to solicit their input.

4.5.4 General Plan of the City and County of Honolulu

The General Plan for the City and County of Honolulu was adopted in 1977, and has been subsequently amended (most recently in 2003). The Plan is a comprehensive statement of the long-range social, economic, environmental, and design objectives for the general welfare and prosperity of the people of O'ahu. Included in the General Plan are broad policy statements that facilitate the attainment of the Plan's objectives.

The Proposed Action is consistent with the applicable objectives and policies of the General Plan of the City and County of Honolulu as it is a temporary action in a remote area, no construction would occur, appropriate BMPs would be implemented, and in accordance with Chapter 343, HRS requirements, organizations were contacted for pre-assessment consultation to solicit their input.

4.5.5 Primary Urban Center Development Plan

The project site is located outside of the Urban Community Boundary and has a land use designation of Preservation (City and County of Honolulu, 2004). The Proposed Action would be consistent with the intent of the Preservation designation for the project site.

4.6 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Resources that are irreversibly or irretrievably committed to a project are those that cannot be recovered if the project is implemented. Human labor is also considered an irretrievable resource. In addition, the unavoidable destruction of natural resources that could limit the range of potential uses of that particular environment is also considered an irreversible commitment of resources.

The Proposed Action or the On-Site Screening Alternative would require the consumption of materials associated with helicopter operations and recovery and restoration activities. In addition, the use of helicopters would result in the consumption of fuel, oil, and lubricants. Human energy to recover the remains and personal effects of the aviator and to revegetate the project site would also be expended and irreversibly lost. However, the Proposed Action or the On-Site Screening Alternative would not result in significant irreversible or irretrievable commitment of resources.

4.7 RELATIONSHIP OF SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

NEPA requires an analysis of the relationship between a project's short-term impacts on the environment, and the effects that these impacts may have on the maintenance and enhancement of the long-term productivity of the affected environment.

Under the Proposed Action and On-Site Screening Alternative, short-term effects would be primarily related to the use of helicopters and equipment that are currently used for other purposes. In the long term, recovery of the remains and personal effects of the naval aviator would enable JPAC to continue to meet its mission requirements. The Proposed Action and On-Site Screening Alternative would result in potential short-term impacts only to vegetation and Federally designated critical habitat (discussed in Section 4.2). No long-term impacts to any resource area have been identified. Therefore, implementation of the Proposed Action or On-Site Screening Alternative would not result in any impacts that would reduce environmental productivity or narrow the range of beneficial uses of the environment. The No-Action alternative would not alter the existing environment and therefore would not result in any impacts that would reduce environmental productivity or narrow the range of beneficial uses of the environment.

4.8 COMPLIANCE WITH EXECUTIVE ORDERS

This section describes how the Proposed Action, the On-Site Screening Alternative, and the No-Action Alternative comply with Executive Orders (EOs).

4.8.1 Executive Order 12898, Environmental Justice

EO 12898, dated February 11, 1994, and the Secretary of the Navy Notice 5090, dated May 27, 1994, require the Navy to identify and address the potential for disproportionately high and adverse human health and environmental effects of their actions on minority and low-income populations. Neither the Proposed Action nor the alternatives would substantially affect human health or the environment. There would be no displacement of or disproportionate impact on minority population, including Native Hawaiians, or low-income populations as the project site is unpopulated.

4.8.2 Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks

EO 13045, dated April 21, 1997, requires Federal agencies to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

The project site is located in a remote location where people are not normally present, and no significant impacts on environmental resources are expected. The Proposed Action and alternatives would not create environmental health and safety risks that may disproportionately affect children.

4.8.3 Executive Order 13148, Greening the Government through Leadership in Environmental Management

EO 13148, dated April 22, 2000, requires Federal agencies to meet goals and requirements in the following areas: environmental management, environmental compliance, right-to-know and pollution prevention, release and use reductions of toxic chemicals and hazardous substances, reductions in ozone-depleting substances, and environmentally beneficial landscaping. No toxic or ozone-depleting substances are expected to be used. Proposed restoration activities would be done in a manner consistent with approved Restoration Plan to create environmentally beneficial vegetation. Any potential herbicides used during restoration activities would be limited to the absolute minimum volume necessary, and would be handled and applied in accordance with all herbicide-specific safety measures (e.g., using appropriate containers for transportation and using the appropriate level of health and safety equipment during application). Any trash and debris would be disposed of off-site in accordance with any applicable State, Federal, or local laws or regulations.

4.8.4 Executive Order 13123, Greening the Government through Efficient Energy Management

EO 13123, dated June 3, 1999, requires the Federal government to improve its energy management for the purpose of saving taxpayer dollars and reduce emissions that contribute to air pollution and global climate change. Federal agencies are required to reduce greenhouse gas emissions; reduce energy consumption per square foot of facility; strive to expand use of renewable energy; reduce the use of petroleum within its facilities; and reduce water consumption. During aviator recovery and restoration activities, JPAC and contractor crews would closely regulate the use of water and reduce energy consumption wherever feasible. Helicopter trips would be limited to the minimum number necessary, which would also conserve fuel and other resources.

5.0 COMPLIANCE WITH CHAPTER 343, HAWAII REVISIED STATUTES

5.1 ANTICIPATED DETERMINATION

This EA complies with the requirements identified in Section 1.4.2. This Chapter of the EA is included to meet the requirements of Chapter 343, HRS. Based on the information and analysis presented in this document, a FONSI is anticipated for the Proposed Action. The Proposed Action would have no significant short-term, long-term, or cumulative adverse impacts on the environment; therefore, preparation of an EIS would not be required.

5.2 FINDINGS AND REASONS SUPPORTING THE ANTICIPATED DETERMINATION

The anticipated negative determination was based on review and analysis of the significance criteria specified in Section 11-200-12, HAR, which states, "In determining whether an action may have a significant effect on the environment, the agency shall consider every phase of a proposed action, the expected consequences, both primary and secondary, and the cumulative as well as the short-term and long-term effects of the action. In most instances, an action shall be determined to have a significant effect on the environment if it..." meets any of the following criteria:

- 1. Involves an irrevocable commitment or loss of or destruction of natural or cultural resources.** Biological surveys found no Federally-listed or State-listed endangered, threatened or candidate species within the project site. Formal consultation with the USFWS regarding designated critical habitat located within the project site for seven endangered plant species was conducted in compliance with Section 7 of the ESA (Appendix B). The area would be revegetated following recovery activities. It was determined that the Proposed Action would not have a significant impact on critical habitat. No significant historical, archaeological, or cultural resources are anticipated to occur within the project site, and the project would not impact historic properties and traditional cultural properties or practices. Consultation with the SHPO, OCHCC, Ko`olaupoko Hawaiian Civic Club, and OHA was conducted (see Sections 3.3, 3.4, 4.3, and 4.4, and Appendix C)
- 2. Curtails the range of beneficial uses of the environment.** The Proposed Action would not reduce the beneficial uses of the environment. In the long-term, the Proposed Action would not permanently change existing conditions at the project site. The Proposed Action is of limited duration, and restoration activities would be conducted to revegetate the area. BMPs would be implemented during recovery and restoration to minimize erosion. Proposed recovery activities would occur in accordance with Federal and State regulations, thereby minimizing potential impacts to the environment (see Sections 3.1 and 4.1).
- 3. Conflicts with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.** The Proposed Action is consistent with the State's long-term environmental policies, and the policies and guidelines specified in Chapter 344, HRS, as demonstrated by the discussion in this chapter (see Sections 4.4 and 4.5).
- 4. Substantially affects the economic welfare, social welfare, and cultural practices of the community or State.** The Proposed Action would result not result in a noticeable direct or indirect economic benefit. Government employees would conduct the majority of work, with

only limited assistance from a few specialized contractors (e.g., helicopter pilots and restoration specialists), and the project would be of limited duration.

The Proposed Action would not adversely affect the social welfare or cultural practices of the community or State, or create environmental health and safety risks that may disproportionately affect children and minority or disadvantaged populations due to its remote location. The Proposed Action would not impact cultural resources or practices (see Sections 3.4 and 4.4).

5. Substantially affects public health. The Proposed Action would not substantially affect public health. Activities associated with the Proposed Action are limited to recovery and restoration activities that would not pose any public health hazards, and no populations are located within the vicinity of the project site. The Proposed Action would not affect water, noise or air quality. All recovery and restoration work would be accomplished in accordance with site-specific Accident Prevention Plans prepared prior to implementation of the Proposed Action. Therefore, the Proposed Action would have no significant impacts on health and safety (see Sections 3.1 and 4.1).

6. Involves substantial secondary impacts, such as population changes or effects on public facilities. The Proposed Action would not result in population changes or impact public facilities. Recovery activities would be conducted by on-island workers; no short- or long-term increases in population would occur. The nature of the recovery effort would not necessitate additional use of public facilities to implement the Proposed Action (see Sections 3.1 and 4.1).

7. Involves a substantial degradation of environmental quality. The Proposed Action would not substantially degrade environmental quality. Short-term impacts to air and water quality, noise levels, and natural resources would be minimal and transitory, and the use of erosion control measures and the implementation of restoration activities would minimize anticipated short-term impacts to biological resources. There would be no long-term impacts to any resource area. Implementation of the Proposed Action and the associated BMPs would not substantially change existing conditions (see Sections 3.1, 3.2, 4.1, and 4.2).

8. Is individually limited and cumulatively has considerable effect upon the environment or involves a commitment for larger actions. An analysis of possible cumulative impacts resulting from the Proposed Action determined that no cumulative impacts are expected. No cumulative projects have been identified in the project site (see Sections 4.1.4, 4.2.4, 4.3.4, and 4.4.5).

9. Substantially affects a rare, threatened, or endangered species, or its habitat. No threatened, endangered, or candidate listed animal or plant species protected by Federal or State regulations would be impacted by the Proposed Action. However, the project site does contain unoccupied critical habitat for seven Federally-listed endangered plant species. Formal consultation with the USFWS regarding designated critical habitat overlapping the project site for seven endangered plant species was conducted in compliance with Section 7 of the ESA (Appendix B). The area would be re-vegetated following recovery activities. The USFWS determined that the Proposed Action would not be likely to destroy or adversely modify any designated critical habitat. Accordingly, the Proposed Action would not have a significant impact on critical habitat.

10. Detrimentially affects air or water quality or ambient noise levels. The Proposed Action would not detrimentally affect air or water quality or ambient noise levels. The use of BMPs

would minimize potential impacts to water quality, and the Proposed Action would comply with applicable Federal, State, and local regulations and standards. Ground or surface water quality, aquifer recharge potential, and air quality would not be significantly impacted. Ambient noise resulting from helicopter traffic in the vicinity of the project site would be consistent with existing helicopter traffic in the area, and there are no identified sensitive noise receptors at the project site (see Sections 3.1, 3.2, 4.1, and 4.2).

11. Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a floodplain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters. The project site is located in an upland area unlikely to be affected by flooding. Access to the site is not typically possible during periods of inclement weather (which is common due to its location); therefore, access to the site is limited to periods of safe flying conditions. Due to the highly-erosive nature of the project site, BMPs would be implemented and the site would be restored at the conclusion of recovery efforts to minimize erosion. Workers would be briefed as to potential debris slide danger and would take appropriate safety measures. The project site is well removed from the coastal plain, is not in a tsunami warning area, and proposed recovery activities would not affect estuaries, coastal waters, or beaches (see Sections 3.1, 3.2, 4.1, and 4.2).

12. Substantially affects scenic vistas and viewplanes identified in county or State plans or studies. The Proposed Action would not obstruct or affect scenic vistas and viewplanes identified in County or State plans or studies. Due to the nature of the Proposed Action, there would be no long-term change to the visual environment (see Sections 3.1 and 4.1).

13. Requires substantial energy consumption. The Proposed Action would not require substantial energy consumption, as no new sources of energy demand would be created (see Section 4.8.4).

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6.0 LIST OF AGENCIES, ORGANIZATIONS AND INDIVIDUALS CONSULTED

6.1 CHAPTER 343, HRS PRE-ASSESSMENT CONSULTATION

The following agencies and organizations were contacted for pre-assessment consultation during preparation of this Draft EA in accordance with Chapter 343, HRS requirements (Appendix D). An asterisk (*) identifies parties who responded to the request for pre-assessment consultation. Comments received from these parties are presented in Appendix D.

Federal

U.S. Department of Agriculture
U.S. Geological Survey

State of Hawai'i

14th Senatorial District – Halawa Valley
16th Senatorial District – Halawa Heights
23rd Senatorial District – Kane'ohe
24th Senatorial District – Kane'ohe
32nd Representative District – Halawa
33rd Representative District – Halawa Valley
50th Representative District – Kane'ohe Bay
DBEDT, Office of Planning
DHHL
DLNR
DOH, Environmental Planning Office
DOT*
OEQC
OHA
University of Hawai'i, Environmental Center

City and County of Honolulu

Board of Water Supply*
Department of Planning and Permitting*
City Council District 3 – Kane'ohe
City Council District 7 – Halawa Valley Estates
City Council District 8 – Halawa

Utility Companies

Hawaiian Electric Company

Community and Other Organizations

Association of Hawaiian Civic Clubs, O'ahu Council
Halawa Luluku Interpretive Development*
Hawai'i's Thousand Friends
Historic Hawai'i Foundation
Kamehameha Schools
Kane'ohe Neighborhood Board
Ko'olauloa Hawaiian Civic Club*
Ko'olaupoko Hawaiian Civic Club*

The Nature Conservancy, Hawai'i Chapter*
 The Outdoor Circle
 The Sierra Club, Hawai'i Chapter
 Individuals in the community

6.2 CHAPTER 343, HRS DRAFT EA DISTRIBUTION

The following agencies and organizations received copies of the Draft EA as part of the Chapter 343, HRS review process. An asterisk (*) identifies parties who responded with comments on the Draft EA. All comment letters received in response to the Draft EA, and CNRH's subsequent response letters addressing those comment letters, are presented in Appendix E.

Federal

U.S. Department of Agriculture
 U.S. Geological Survey

State of Hawai'i

14th Senatorial District – Halawa Valley
 16th Senatorial District – Halawa Heights
 23rd Senatorial District – Kane'ohe
 24th Senatorial District – Kane'ohe
 32nd Representative District – Halawa
 33rd Representative District – Halawa Valley
 50th Representative District – Kane'ohe Bay
 DBEDT, Office of Planning*
 DHHL*
 DOH, Environmental Planning Office*
 DLNR
 OEQC*
 OHA*
 University of Hawai'i, Environmental Center
 Salt Lake-Moanalua Public Library
 Kane'ohe Public Library

City and County of Honolulu

Board of Water Supply
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 City Council District 3 – Kane'ohe
 City Council District 7 – Halawa Valley Estates
 City Council District 8 – Halawa

Utility Companies

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 Hawai'i's Thousand Friends
 Historic Hawai'i Foundation

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Koʻolauloa Hawaiian Civic Club
Koʻolaupoko Hawaiian Civic Club*
The Nature Conservancy, Hawaiʻi Chapter
The Outdoor Circle
The Sierra Club, Hawaiʻi Chapter
Individuals in the community

6.3 NATIONAL HISTORIC PRESERVATION ACT, SECTION 106 CONSULTATION

The following agencies were consulted in compliance with Section 106 of the NHPA. Correspondence is presented in Appendix C.

State of Hawaiʻi

SHPD

Other

Koʻolaupoko Hawaiian Civic Club
Oʻahu Council of Hawaiian Civic Clubs
Office of Hawaiian Affairs

6.4 ENDANGERED SPECIES ACT, SECTION 7 CONSULTATION

Formal consultation with the USFWS regarding designated critical habitat for seven endangered plant species overlapping the project site was conducted in compliance with Section 7 of the ESA. The USFWS determined that the Proposed Action would not be likely to destroy or adversely modify any designated critical habitat. Accordingly, the Proposed Action would not have a significant impact on critical habitat. Correspondence is presented in Appendix B.

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7.0 REFERENCES

- Athens, J.S. 1997. Hawaiian Native Lowland Vegetation in Prehistory. Pages 248-270 in P.V. Kirch, and T.L. Hunt, eds. *Historical Ecology in the Pacific Islands: Prehistoric Environmental and Landscape Change*. Yale University Press, New Haven, CT.
- Beckwith, M.W. 1970. *Hawaiian Mythology*. University of Hawai'i Press, Honolulu, HI
- City and County of Honolulu. 2004. *Primary Urban Center Development Plan*, City and County of Honolulu Department of Planning. June.
- Cleghorn, P.L., and E. Jourdane. 1976. Archaeological Reconnaissance Survey of the Windward Portion of Route H-3, District of Koolau Poko, O'ahu Island. Manuscript #120876 in Archives, Bishop Museum, Honolulu, HI.
- DBEDT. 2003. 2003 State of Hawai'i Data Book. http://www2.hawaii.gov/DBEDT/index.cfm?section=READ_Databook1075. Accessed on 25 February 2005.
- DLNR. 1996. List of Species of Endangered and Threatened Wildlife in Hawai'i. Hawai'i Administrative Rules Chapter 13-124, Exhibits 2 and 3. 13 June.
- DLNR. 2005. Threatened and Endangered Plants of Hawaii. <http://www.state.hi.us/dlnr/dofaw/pubs/TEplant.html>. Accessed on 3 March.
- Dye, T. 1977. Archaeological Phase I Survey of the Windward Portion of Proposed Interstate H-3: Halekou Interchange to Windward Portal of Koolau Tunnel, O'ahu. Manuscript #091277 in Archives, Bishop Museum, Honolulu.
- Fancy, S.G., and C.J. Ralph. 1998. 'I'iwi (*Vestiaria coccinea*). In *The Birds of North America*, No. 327 (A. Poole and F. Gill, eds.). Academy of Natural Sciences, Philadelphia, PA; American Ornithologists' Union, Washington, DC.
- Hartzell, L.L, S.A. Lebo, H.A. Lennstrom, S.P. McPherron, and D.I. Olszewski. 2003. Imu, Adzes, and Upland Agriculture, Inventory Survey Archaeology in North Halawa Valley, O'ahu (Vol. 1). Department of Anthropology, Bishop Museum, Honolulu, HI. Report Prepared for the Federal Highways Administration and the State of Hawai'i Department of Transportation.
- Hawai'i Statewide GIS Program. 2005. Conservation District and Elevation GIS Data. <http://www.state.hi.us/dbedt/gis/index.html>. Accessed on 3 March.
- Herbst, D., W. Char, and N. Balakrishnan. 1977. Report on the vegetation and flora in North Halawa Valley, O'ahu. In Draft Supplement to the Interstate Route H-3 Environmental Impact Statement, Report #FHWA-EIS-77-01-D(S). U.S. Department of Transportation, Federal Highways Administration, and State of Hawai'i Department of Transportation.
- Hommon, R.J. 1976. *The Formation of Primitive States in Pre-contact Hawai'i*. Ph.D. dissertation, University of Arizona, Tucson, AZ.
- JPAC. 2004. Work Plan: Recovery of World War II Missing Service Personnel: Island of O'ahu, State of Hawai'i. Prepared by the Joint POW-MIA Accounting Command, Hickam AFB, HI.

- JPAC. 2005. Joint POW-MIA Accounting Command: Mission and History. <http://www.jpac.pacom.mil/eBrochure.htm>. Accessed 3 March.
- Kirch, P.V. 1985. Feathered Gods and Fishhooks: An Introduction to Hawaiian Archaeology and Prehistory. University of Hawai'i Press, Honolulu, HI.
- Klieger, P.C. 1995. Na Maka o Halawa: A History of Halawa Ahupua'a, O'ahu. Bishop Museum Technical Report 7. Bishop Museum Press, Honolulu, HI.
- KMWP. 2002. Ko'olau Mountains Watershed Partnership Management Plan. <http://www.state.hi.us/dlnr/dofaw/wmp/koolau/KMWPMP.PDF>. Accessed on 3 March.
- Leidemann, H., J. Dockall, H.A. Lennstrom, and S.A. Lebo. 2004. Continuity and Change in Upland Kaneohe Agriculture: Data Recovery and Monitoring Investigations at Site 50-80-10-1887, Luluku 'Ili, O'ahu. Prepared by Department of Hawaiian and Pacific Studies, Bishop Museum, Honolulu, HI.
- Malo, D. 1951. Hawaiian Antiquities (Mo'olelo Hawai'i). Bishop Museum Special Publication No. 2 (second edition). Bishop Museum Press, Honolulu, HI.
- McAllister, J.G. 1933. Archaeology of O'ahu. Bishop Museum Bulletin 104. Bishop Museum Press, Honolulu, HI.
- McDermott, M., J. Winieski, R. Chiogioji, L. Pyle, A. Bush, D. Creed, and H. Hammatt. 1997. Archaeological Inventory Survey of the United States Coast Guard Omega Transmission Station, Ha'iku Valley, He'eia Ahupua'a, Ko'olaupoko, Island of O'ahu: Draft. Prepared for Woodward-Clyde Consultants, by Cultural Surveys Hawai'i, Kailua.
- NHP. 2004. Natural Diversity Database. Received on 15 October.
- OEQC. 2004. The Environmental Guidebook: A Guidebook for the Hawai'i State Environmental Review Process. <http://www.state.hi.us/health/oeqc/publications/guidebook.pdf>. Accessed on 3 March.
- Pono Pacific. 2005. Site Restoration Plan Prepared in Support of the Aviator Recovery EA. Prepared for TEC under contract with NAVFAC Pacific. February.
- Preston, D., R. Pyle, and F.G. Howarth. 1994. The Birds of North Halawa Valley, O'ahu, Hawai'i. In D. Polhemus, F.G. Howarth and S. Miller, eds. A Natural History Survey of North Halawa Valley, O'ahu, Hawai'i,. Manuscript on file, Department of Anthropology, Bishop Museum, Honolulu, HI.
- Shallenberger, R. 1977. Avifaunal Survey of North Halawa Valley, O'ahu. Appendix G. In Draft Supplement to the Interstate Route H-3 Environmental Impact Statement Vol. V; Report #FHWA-HI-EIS-77-01-D(S). U.S. Department of Transportation, Federal Highways Administration, and State of Hawai'i Department of Transportation.
- Shallenberger, R.J., and G.K. Vaughn. 1978. Avifaunal survey in the central Ko'olau Range, O'ahu. Ahuimanu Productions, Honolulu, HI.
- Sterling, E., and C.C. Summers. 1978. The Sites of O'ahu. Bishop Museum Press, Honolulu, HI.
- TEC. 2005. Biological Resources Survey Report Prepared in Support of the Aviator Recovery EA. Prepared under contract with NAVFAC Pacific. February.

- Tomich, P.Q. 1986. Mammals in Hawai'i. Bishop Museum Special Publication 76. Bishop Museum Press, Honolulu, HI.
- U.S. Department of the Navy. 2003. OPNAVINST 5090.1B, CH-4, Environmental and Natural Resources Program Manual. Office of the Chief of Naval Operations, Washington, DC. 4 June.
- U.S. Department of Transportation, Federal Highway Administration. 1978. Interstate Route H-3, the North Halawa Valley Alignment: Final Supplement to the Interstate Route H-3 Environmental Impact Statement.
- U.S. Environmental Protection Agency. 2004. Nonattainment Area Map (last updated 10 December). <http://www.epa.gov/oar/oaqps/greenbk/mapnpoll.html>. Accessed on 3 March 2005.
- USFWS. 2001. Endangered and Threatened Wildlife and Plants; Determination of Critical Habitat for the O'ahu 'Elepaio (*Chasiempis sandwichensis ibidis*); Final Rule. Federal Register 66:63752-63782.
- USFWS. 2003a Draft Revised Recovery Plan for Hawaiian Forest Birds. Region 1 U.S. Fish and Wildlife Service, Portland, OR. August.
- USFWS. 2003b. Endangered and Threatened Wildlife and Plants; Final Designations or Nondesignations of Critical Habitat for 101 Plant Species from the Island of O'ahu, HI; Final Rule. Federal Register 68:35950-36406.
- USFWS. 2005. Species Information: Threatened and Endangered Animals and Plants. <http://endangered.fws.gov/wildlife.html>. Accessed on 3 March.
- Williams, S.S., and R.C. Nees. 1994. Archaeological Reconnaissance Survey and Limited Subsurface Testing, Omega Transmitter Site, He'eia, Koolau Poko District, Island of O'ahu, Hawai'i. Manuscript on file, SHPD, Kapolei, HI.
- Williams, S.S., and R.C. Nees. 2002. Mo'olelo Ha'iku: Archaeological Inventory Survey, Data Recovery, and Monitoring Investigations for the Interstate Highway H-3 within Ha'iku Valley, He'eia Ahupua'a, Ko'olau Poko District, Island of O'ahu. Prepared for Department of Anthropology, Bishop Museum, Honolulu, HI, by Ogden Environmental and Energy Services Co., Inc., Honolulu, HI.

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APPENDIX A

Biological Survey Report Prepared in Support of
the Aviator Recovery EA

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Biological Survey Report

Prepared in Support of the Aviator Recovery Environmental Assessment



Ko'olau Mountains Halawa Valley O'ahu, Hawai'i

FOR OFFICIAL USE ONLY STAFF WORKING PAPER

Prepared prior to decision-making.
Contains opinions, advice and/or
recommendations. Not for public
release; not subject to release under
the Freedom of Information Act
(Exemption 5) nor to discovery
during litigation

Commander Navy Region Hawai'i

February 2005

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IN SUPPORT OF THE AVIATOR RECOVERY EA
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ACRONYMS AND ABBREVIATIONS

EA	Environmental Assessment
ft	foot/feet
GPS	Global Positioning System
JPAC	Joint Prisoner of War – Missing in Action Accounting Command
LZ	landing zone
m	meter(s)
TEC	The Environmental Company, Inc.
USFWS	U.S. Fish and Wildlife Service

SECTION 1

PROJECT DESCRIPTION AND METHODOLOGIES

1.1 PROJECT DESCRIPTION AND PURPOSE

This report describes the methods and results of the biological survey performed at the Aviator Recovery Project site in the Ko'olau Mountains, O'ahu, Hawai'i (Figure 1). The project site is located in the upper Halawa Valley, below the Ko'olau Mountain ridgeline, north of the southern entrance to the H-3 Freeway Tunnel on the island of O'ahu, Hawai'i. The survey effort was managed by The Environmental Company, Inc. (TEC) under subcontract to the U.S. Department of the Navy. The survey was performed as part of an Environmental Assessment (EA) that is being prepared by the U.S. Department of the Navy. The EA will address potential impacts from the proposed recovery by the Joint Prisoner of War – Missing in Action Accounting Command (JPAC) of the remains and personal effects of a naval aviator who crashed into the Ko'olau Mountains while on a training flight in June 1944.

The objective of the biological survey is to provide current baseline biological information for the project site. This information will be used by the U.S. Department of the Navy in the EA to evaluate existing conditions and potential impacts to biological resources. This information will also support project consultations and permit applications with appropriate natural resource agencies (e.g., U.S. Fish and Wildlife Service [USFWS]).

1.2 SCOPE

The survey effort for the project site was primarily focused on plants and land snails. These two groups were selected in consultation with the U.S. Department of the Navy based on the historical and current records for species observations in the area. There were systematic searches for plants and land snails and general observations made for other faunal groups.

The surveyed areas included 1) the crash site or excavation area, including a buffer area that allowed for additional work zones where topography was not restrictive (less than about a 50 percent slope); 2) two helicopter landing zones (LZs), and 3) two 10-foot (ft) (3-meter [m]) wide trails that would be used to access the project site from the LZs (Figure 2). All these areas were delineated in the field with flagging on December 21, 2004. Dr. James Pokines of the JPAC Recovery Team accompanied the field team on that date and personally directed the trail placement and delineation of the aviator recovery area and the associated work areas that would be required by the JPAC Recovery Team. In his delineation of the area, he included a buffer zone to allow for unforeseen conditions. This buffer area took into account accessibility based on topography.

1.3 METHODOLOGIES

An initial site visit was made on December 21, 2004 by Glenn Metzler, Senior Biologist and TEC team leader; Dr. Pokines, JPAC Recovery Team leader, and John Leong, a representative of Pono Pacific, the subcontractor that will be doing the site restoration after the JPAC Recovery Team has completed its work.

The biological surveys were conducted on February 10, 2005. The field team consisted of Glenn Metzler, Maya LeGrande (botanist with LeGrande Biological Surveys), and Kevin Hall (snail specialist, currently a Doctoral candidate under Dr. Michael Hadfield, University of Hawai'i).

Due to its remote location and steep terrain, helicopters transported the field team to the project site. The field team began the surveys at the old telecommunications tower site (southeastern LZ) near an existing concrete structure (Figure 2). Surveys were then conducted along the southeastern trail to the recovery area, within the recovery area itself, along the northern trail to the northern LZ, and then within the northern LZ. A small portion of the southeast (downslope) end of the recovery area was not directly surveyed, but was examined for plants with binoculars. This area was at the bottom of a vertical drop of approximately 32 ft (10 m). Dr. Pokines of the JPAC Recovery Team stated that he would probably excavate a small area (estimated at less than 16 ft [5 m] diameter) at the base of this drop (essentially the bottom of a waterfall during rainstorms). This area was not heavily vegetated and consisted primarily of herbaceous plants, with some shrubs around the perimeter.

During this time, Global Positioning System (GPS) locations were obtained with a Garmin GPSMap 76 using the time averaging function. GPS locations were collected each second for approximately 1 minute at each point recorded on the GPS unit. Accuracies displayed on the GPS unit at any point in time typically ranged from 20-30 ft (6-9 m), the normal accuracy that these types of units can obtain. The actual dimensions of the crash site were also measured so that the dimensions of the site are accurate. In addition, photographs were taken in all areas (Appendix A).

The total size of the project site is 2,176 square yards (yd²) (1,820 square meters [m²]) or 0.45 acre (0.18 hectare [ha]) (Table 1). The recovery area also includes a buffer area that allows for additional work zones where topography is not restrictive (less than about a 50 percent slope). Therefore, the project site consists of these five interconnected areas (Figure 2 and Table 1):

- Recovery Area,
- Southeast LZ,
- North LZ,
- Southeast trail to/from southeast LZ, and
- North trail to/from north LZ.

Table 1. Area of Recovery and Support Areas

<i>Area</i>	<i>Size</i>
Recovery Area	478 yd ² (400 m ²)
Southeast LZ	215 yd ² (180 m ²)
North LZ	60 yd ² (50 m ²)
Southeast Trail	1,220 yd ² (1,020 m ²)
North Trail	203 yd ² (170 m ²)
Total	2,176 yd² (1,820 m²)

Detailed methodologies for the botanical and land snail surveys are described in the subcontractor reports in Appendices B and C, respectively.

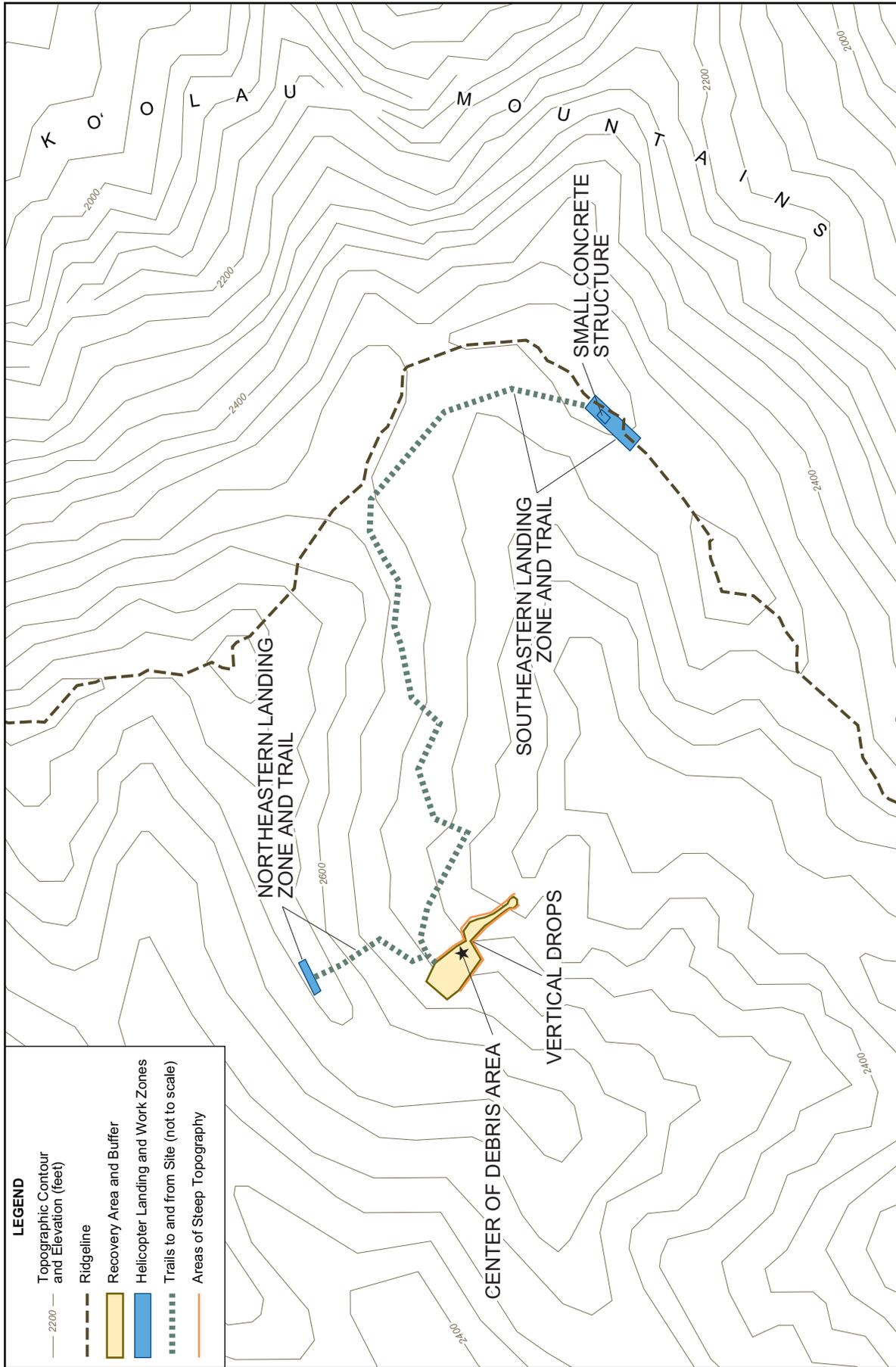


Figure 2
Proposed Project Site

SECTION 2 RESULTS

2.1 VEGETATION

The botanical survey (Appendix B) documented the presence of 73 plant species, 68 percent of which were native. The survey did not find any plants classified as threatened, endangered or specially designated by any regulatory agency. Table 1 of Appendix B lists all the plant species that were observed within all the site areas investigated. Vegetation of the recovery area, located in a small somewhat protected gulch, is classified as Ohi'a Lowland Wet Forest and consists of a thick cover of shrubs and trees generally less than 6 ft (1.8 m) tall but with scattered individuals, primarily near the periphery of the recovery area, up to 18 ft (5.5 m) tall. Vegetation of the ancillary areas (all areas other than the recovery site) which are located in wind-swept summit ridges, is classified as Montane Wet Shrubland (Mixed Fern Shrubland) and consists of a uniform cover of low-growing non-native grasses with patches of native sedges and small shrubs scattered throughout. Photographs of these vegetation types and a detailed discussion of the species composition within each survey area are provided in Appendix A.

2.2 LAND SNAILS

The purpose of the snail survey was to determine if any of the nine Federally endangered O'ahu tree snails of the genus *Achatinella* were within the project area and to determine if suitable habitat existed for these snails. The snail survey (Appendix C) did not find any live snails, native or introduced. Several empty shells of the introduced predatory snail *Euglandina rosea* were found near the plane wreckage within the recovery area. Mr. Hall, the biologist conducting the survey, found this somewhat unusual given that these predatory snails feed only on other snails. He stated it was unclear what prey had been keeping these snails alive and recommended that the excavation team collect any dead snail shells encountered and photograph any live snails and submit them to the University of Hawai'i Manoa Endangered Snail Laboratory for analysis. Refer to Appendix C for a more detailed discussion of the snail survey.

2.3 OTHER OBSERVATIONS

At the upper end of the recovery area is a recent (less than 1 year old) landslide (refer to Appendix A, Photo 6). The landslide extends approximately 26 ft (8 m) into the recovery area and is approximately 16 ft (5 m) wide. The landslide area was mostly barren soil, but a few plants were beginning to establish.

A non-native Japanese bush warbler (*Cettia diphone*) was heard near the crash site numerous times. There were also signs that rats occur in the project area.

The biologist conducting the snail survey noted the presence of "white mushy balls" that may have been egg sacks at the base of many uki plants (*Machaerina angustifolia*). These were determined not to be of molluscan origin, but their identity is unclear.

A small streambed traverses the length of the site (Figure 2) and other less clear channels are also present. This streambed is several feet wide and was dry during the time of the survey. It is clear that this was an ephemeral stream and only flows during significant rainfall events.

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APPENDIX A
Site Photographs

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Photo 1. Southeastern helicopter landing zone .



Photo 2. Start of trail from southeastern helicopter landing zone.



Photo 3. Trail from helicopter landing zone and concrete structure to crash site – note exposed steep slopes.



Photo 4. Trail from helicopter landing zone and concrete structure to crash site – less exposed area.



Photo 5. View of upper end of the crash site looking northwest, taken from a ridge above the site.



Photo 6. Typical vegetation structure at the crash site.



Photo 7. Southeastern edge of the crash site near the 30 foot drop (waterfall).



Photo 8. Vegetation at the base of the landslide at the crash site, looking downslope.

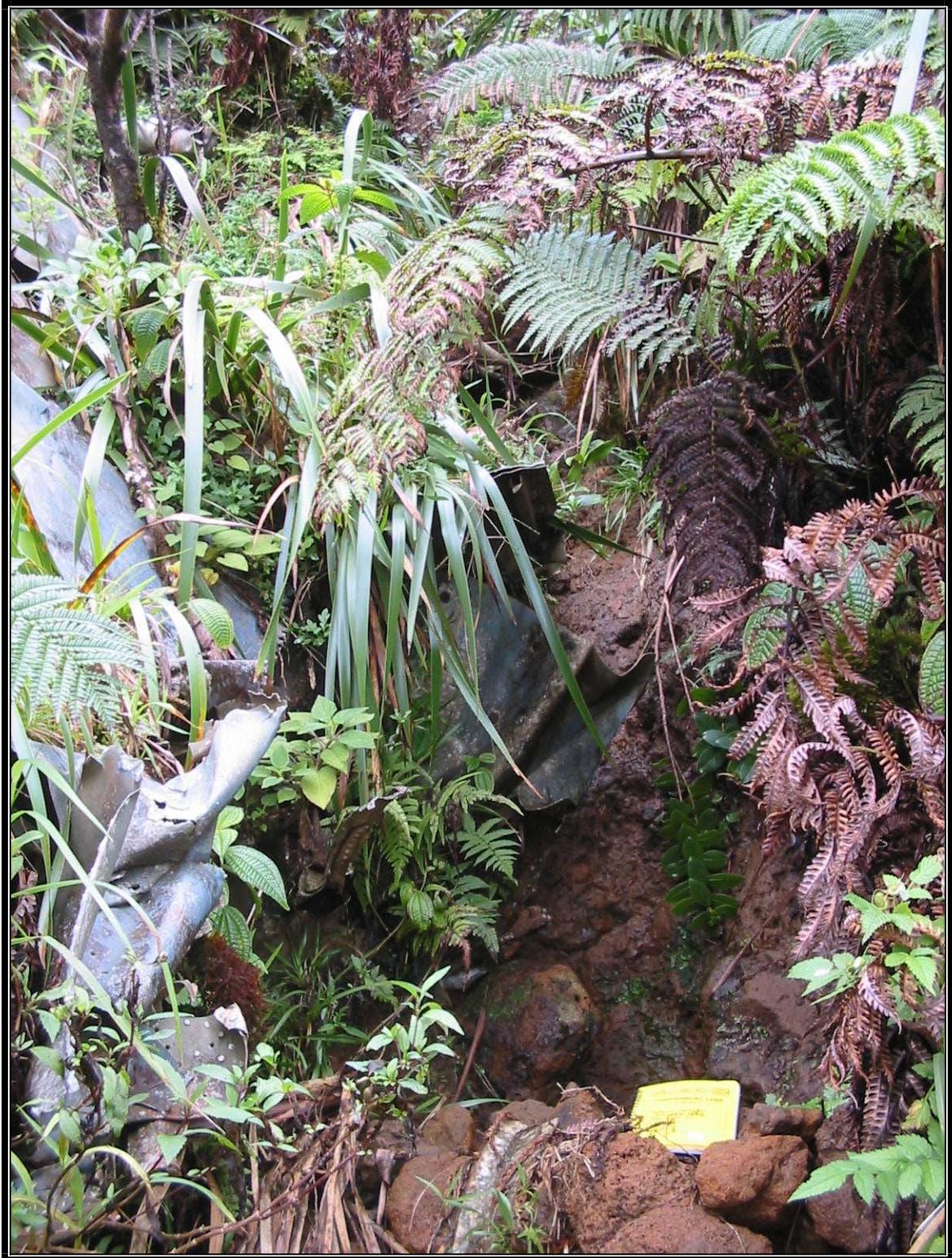


Photo 9. Stream channel, about one-third of the way downstream from the upper end of the site.



Photo 10. Trail from crash site to northern helicopter landing zone – typical vegetation.



Photo 11. Vegetation on the ridgetop at the northern helicopter landing zone.

APPENDIX B
Botanical Survey – Subcontractor Report

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**BOTANICAL SURVEY FOR THE AVIATOR RECOVERY PROJECT
KO`OLAU MOUNTAINS, OAHU**

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INTRODUCTION

LeGrande Biological Surveys, Inc. carried out a botanical field survey of the Aviator Recovery Site in the Ko'olau Mountains, O'ahu on the 10th of February 2005 for The Environmental Company, Inc. The primary objectives of the field studies were to:

- 1) provide a general description of the vegetation on the project site;
- 2) inventory the flora; and
- 3) search for threatened and endangered species as well as species of concern.

Federal and State of Hawai'i listed species status follows U.S. Fish and Wildlife Service (USFWS) (1999a, 1999b, 2004) and Federal Register (2002).

GENERAL SITE DESCRIPTION

The Aviator Recovery Project site consists of a total of approximately 2,000 square meters, located in the Ko'olau Mountains of O'ahu. The crash site is located at 2,600 feet in upper Halawa Valley, in a small south-facing side gulch of a larger bowl just below the main summit ridgeline. The botanical survey included two landing zones (LZs) for helicopter access, two separate trails that will serve as routes to the site, and the crash site itself. Excluding the LZs, much of the terrain is relatively steep. Both pathways from the LZs to the site are steep slopes, characterized by low growing vegetation and wet, muddy substrate.

SURVEY METHODS

Prior to undertaking the field studies, a search was made of the pertinent literature to familiarize the principal investigator with other botanical studies conducted in the general area. Information from the Hawai'i Natural Heritage Program database was reviewed as well as the The Bishop Museum's Biological Reconnaissance of Manana Valley, located just to the north of Halawa. (Bishop Museum, unpubl. data). Topographic maps were examined to determine terrain characteristics, access, boundaries, and reference points.

Surveys included walking along both routes designated for pathways to and from the LZs, surveying designated LZs on both the north and south ridges, and the entire flagged crash site. A walk-through survey method was used for areas that were passable. A section at the bottom of the crash site area consisted of a 30 foot waterfall drop, binoculars were used to survey the waterfall area from the top of the drop-off. Notes were made on plant associations and distribution, disturbances, topography, substrate types, exposure, drainage, etc. Plant identifications were made in the field; plants which could not be positively identified were collected for later determination in the herbarium, and for comparison with the recent taxonomic literature.

DESCRIPTION OF THE VEGETATION

The survey area includes the crash site which is in a small somewhat protected gulch with shrubs and trees and ancillary areas which are primarily wind-swept summit rides with low-growing vegetation. The windswept ridges are blanketed by a uniform cover of alien grasses, with patches of native sedges and small shrubs scattered throughout. The crash site is somewhat protected from the strong trade winds blowing over the summit, and contains trees and shrubs up to 18 ft tall. There were a total of 73 plant species noted in all the areas surveyed with 68% native and 32% non-native. These numbers express an overall native dominated habitat, with an incipient population of alien species beginning to invade and spread into the area.

In this study, two vegetation types are recognized on the project site: Montane Wet Shrubland (Mixed Fern Shrubland) and 'Ohi'a Lowland Wet Forest. The open ridges and slopes are characterized as a

Mixed Fern Shrubland, the soil is usually shallow with layers of organic peat and a substrate of clay or ironstone (Wagner et al. 1990). The small gulch that contains the crash site is characterized as an `Ohi`a Lowland Wet Forest.

An inventory of all the plants observed within the two vegetation types is presented in the species list at the end of the report.

Southeastern LZ

The southeastern LZ has an empty concrete structure and an adjacent area that the helicopter uses for landing. The vegetation is dominated by alien grasses and low growing shrubs. Glenwood grass (*Sacciolepis indica*), daisy fleabane (*Erigeron karvinskianus*), and honohono (*Commelina diffusa*) are prevalent, with natives such as uluhe (*Dicranopteris linearis*), manono (*Hedyotis terminalis*), and mamake (*Pipturus albidus*) scattered around the edges. The area is clear of tall vegetation that may create a hazard for helicopter operations.

Contour Access Route

The flagged access route from the southeastern LZ to the crash site contours around the back bowl below the summit ridge to the crash site. A 20-ft corridor was surveyed along the pathway. The vegetation was dominated by narrow-leaved carpetgrass (*Axonopus fissifolius*), Pterolepis (*Pterolepis glomerata*), and `uki (*Machaerina angustifolia*). Native species scattered along the route include kuhi`aikamo`owahie (*Lobelia hypoleuca*), kanawao (*Broussaisia arguta*), kolea (*Myrsine lanaiensis*), Carex (*Carex wahuensis* subsp. *wahuensis*), and na`ena`e (*Dubautia laxa* subsp. *laxa*).

Northern LZ

The designated northern LZ is located on a ridge top directly above the crash site. The ridgeline is mostly clear of tall trees and shrubs on the south side of the ridge, but on the northern side there are emergent trees that extend above the ridgeline to 10 feet. The low growing groundcover is mainly narrow-leaved carpetgrass, `uki, and uluhe. The taller trees and shrubs in the area include `ohi`a lehua (*Metrosideros polymorpha* var. *polymorpha*), lehua papa (*M. rugosa*), `ohi`a ha (*Syzygium sandwicensis*), olapa (*Cheirodendron platyphyllum* subsp. *platyphyllum*), `akia (*Wikstroemia oahuensis* var. *oahuensis*), and alani (*Melicope clusiifolia*). Because of the quickly changing weather in the area, other sections of the ridge could potentially be used for pick-up and drop-offs by helicopter, especially downhill of the designated LZ. An inventory of plants along the ridgeline 60 ft below the LZ was surveyed for threatened or endangered species, and none were observed.

Ridge Access Route

A steep ridge leading from the eastern border of the crash site to the north LZ was surveyed as a possible access route. A 15 foot wide corridor was surveyed the length of the route. Narrow-leaved carpetgrass and `uki dominated the ridge, with scattered `ama`u (*Sadleria pallida*), pala`a (*Sphenomeris chinensis*), ko`oko`olau (*Bidens macrocarpa*), Asiatic pennywort (*Centella asiatica*), wawae`iole (*Lycopodiella cernua*), and an occasional loulu (*Pritchardia martii*) was observed.

Crash Site

The crash site is located in a small south-facing gulch approximately 100 ft below the ridgeline. The survey area is 50 feet wide at the uppermost extent, and tapers down to a 20-foot wide strip following a natural waterway to a waterfall. The entire area is considered a `Ohi`a Lowland Wet Forest, characterized by various tree species (usually `ohi`a lehua as a dominant) with an understory of ferns. Various shrubs, lianas, and herbs cover the ground. Pieces of airplane shrapnel are scattered in the gulch.

The sides of the gulch are dense with low-growing vegetation. The ridge used to access the site and the slope descending into the gulch is mostly native with species such as `ohe naupaka (*Scaevola glabra*), `ohi`a ha, `ohe mauka (*Tetraplasandra oahuensis*), pilo (*Coprosma longifolia*), `ohe (*Isachne distichophylla*), and several native mint species (*Phyllostegia* spp.). A few weeds were observed in the area including, sourbush (*Pluchea carolinensis*) and Koster's curse (*Clidemia hirta*).

Within the bottom of the gulch is the main survey area of the crash/recovery project. The upper portion of the survey area is fresh open substrate from a landslide. A small stand of loulu are located in the upper-east corner of the site. A few loulu were uprooted in the landslide and are leaning or laying at the base of the slide. Rat chew was observed on loulu fruit hanging from the trees. `Ama`u is a dominant fern in the center of the site, mixed in with `uki `akia, and alani. Weedy species abound in this area, especially on the disturbed open soil from the landslide. Non-native species made up approximately 25% of the groundcover in the immediate area. Narrow-leaved carpetgrass, thimbleberry (*Rubus rosifolius*), Blechnum fern (*Blechnum appendiculatum*), and maile honohono (*Ageratum conyzoides*) were prevalent. Some of the larger weeds in the area are Koster's curse and bamboo orchid (*Arundina graminifolia*).

The western extent of the survey area in the main gulch was vegetated with a few taller tree species at the edge of the survey area. Some were observed just outside of the boundary, but were included in this study as the disturbance of sub-surface removal has the potential to extend beyond survey boundaries. Several tall native tree species up to 18 feet tall are mixed in with a tall understory of `uki, uluhe, and lehua `ahihi (*Metrosideros tremuloides*). The taller tree species include `ahakea (*Bohea elatior*), ho`awa (*Pittosporum glabrum*), `ohe mauka (*Tetraplasandra oahuensis*), and `ohi`a lehua.

The lower section of the survey area narrows, following a natural drainage. The vegetation in this area is dominated by an overstory of hapu`u (*Cibotium glaucum*) with `ie`ie (*Freycinetia arborea*), na`ena`e, and `ala`alawainui (*Peperomia* sp.). Weedy species such as owi (*Stachytarpheta cayennensis*) and daisy fleabane were observed in this area. Along the streambed, the damp rock walls were dominated by daisy fleabane with a few native ferns including kilau (*Vandenboschia davallioides*) and lepelepe a moa (*Selaginella arbuscula*) scattered along the wall and epiphytically on tree branches and hapu`u trunks. The waterfall section itself was dominated by `uki and invasive grass species such as narrow-leaved carpetgrass and Hilo grass (*Paspalum conjugatum*). Native shrubs were observed scattered in the area including `akia, na`ena`e, kanawao, and the only individual of kawa`u (*Ilex anomala*) seen in the study area. The weedy species comprised up to 40-50% of the groundcover in some of the sections within the waterfall area, and 15-20% of the shrub understory.

DISCUSSION AND RECOMMENDATIONS

The Aviator Recovery Project site includes two LZs, two access routes, and the main crash site. The LZs and the access routes are mainly covered in weedy grass species, but do contain several native plant species scattered within the survey areas. Potential impacts to the paths to and from the site include creating bare areas of open substrate when boots and/or equipment slide down the slope, creating areas of potential erosion and negative impacts to native plant species in the immediate area. The main gulch has the highest density of native plants. A sub-surface removal of soil for the recovery project would also remove the plants in this area. Removal of vegetation layers in areas that are steep with abundant rainfall can lead to massive amounts of erosion.

A relatively recent landslide begins above the site and runs into the upper sections of the crash site. Weedy plant species were observed invading the open soil substrate created by the slide. In the summit regions of the Ko`olau Mountains where disturbance has occurred, weedy plant species quickly invade the open substrate and spread, impeding reestablishment of native species in the area. An active

management strategy would need to be in place for revegetating with native plant species in order to combat this process. A few of the invasive plant species that were noted in the site that may be a concern for the project include Koster's curse and bamboo orchid, daisy fleabane, narrow-leaved carpetgrass, sourbush, thimbleberry, Blechnum fern, and maile honohono (*Ageratum conyzoides*). One plant of rose myrtle (*Rhodomytus tomentosa*) was found in the crash site and removed. This species has been found to be spreading throughout the Ko'olau Mountains and may become a significant invasive.

None of the plants observed on the project site is a threatened and endangered species or a species of concern (USFWS 1999a, 1999b, 2004, Wagner et. al. 1990). Although no endangered or threatened plant species were found during the survey of the project site, care should be taken while clearing the project site to limit the introduction of additional invasive plant species that have the potential to spread into adjacent native forest areas. Care should be taken to clean equipment and field clothing as well as possible before beginning work in the area. A sub-surface removal of vegetation and soil will have a significant impact on the botanical resources of the area. Causing areas of disturbance can open areas for alien plant species to invade and become established. A recovery plan should be in place to mitigate the loss of native vegetation to the area as well as combat the erosion that will be caused by removal of soil.

Literature Cited

- Bishop Museum. Unpublished data. Botanical Survey of Manana Valley, Ko'olau Mountains, O'ahu. Botany Department, Department of Natural Sciences.
- Evehuis, N.L., and L.G. Eldredge, editors. 1999-2002. Records of the Hawaii Biological Survey. Bishop Museum Occasional Papers Nos. 58-70.
- Hawaii Heritage Program, The Nature Conservancy of Hawaii. 1993. Biological Database and Reconnaissance Survey of the Department of Hawaiian Home Lands, Makuu Parcels, Island of Hawaii. Prepared for State of Hawaii, Department of Hawaiian Home Lands. Honolulu, HI.
- Palmer, D.D. 2003. Hawai'i's Ferns and fern Allies. University of Hawaii Press, Honolulu, HI.
- USFWS. 1999a. U.S. Fish and Wildlife Service species list, plants. Pacific Islands Office, Honolulu, HI. Mar. 23.
- USFWS. 1999b. Endangered and threatened wildlife and plants. 50 CFR 17.11 and 17.12. Dec. 31.
- USFWS. 2002. Endangered and Threatened Wildlife and Plants. Review of Species That Are Candidate or Proposed for Listing as Endangered or Threatened; Annual Notice of Findings on Recycled Petition; Annual Description of Progress on Listing Actions. *Federal Register* 67:40657-40679.
- USFWS. 2004. Hawaiian Islands Plants: Updated June 15, 2004, Listed and Candidate Species, as Designated under the U.S. Endangered Species Act.
- Wagner, W.L., D.R. Herbst, and S.H. Sohmer. 1990. Manual of the flowering plants of Hawaii. 2 Vols. University of Hawaii Press and Bishop Museum Press, Honolulu. Bishop Museum Special Publication 83.
- Wagner, W.L., and D.R. Herbst. 1999. Supplement to the Manual of the flowering plants of Hawaii, pp. 1855-1918 in W.L. Wagner, D.R. Herbst, and S.H. Sohmer. 1990. Manual of the flowering plants of Hawaii. Revised Edition. 2 vols. University of Hawaii Press and Bishop Museum Press, Honolulu, HI.

PLANT SPECIES LIST – Halawa, Oahu

The following checklist is an inventory of all the plant species observed on the Aviator Recovery site (approx. 2,000 square meters). The plant names are arranged alphabetically by family and then by species into each of three groups: Dicots, Monocots, and Ferns and Fern Allies (Pteridophytes). The taxonomy and nomenclature of the Ferns and Fern Allies follow Palmer (2003), while the flowering plants, Monocots and Dicots, are in accordance with Wagner et al. (1990) and Wagner and Herbst (1999). Recent name changes are those recorded in the Hawaii Biological Survey series (Evehuis and Eldredge, eds., 1999-2002).

For each species, the following is provided:

1. Scientific name with author citation.
2. Common English and/or Hawaiian name(s), when known.
3. Biogeographic status. The following terms are used:
 - E** = endemic or native only to the Hawaiian Islands.
 - N** = native to the Hawaiian Islands and elsewhere.
 - N?** = questionably native: data not clear if dispersal to the islands by natural or human-related mechanisms, but weight of evidence suggests probably indigenous.
 - NN** = non-native, introduced or alien: all those plants brought to the Hawaiian Islands by humans, intentionally or accidentally, after Western contact (i.e., Cook's arrival in the islands in 1778).

AVIATOR RECOVERY PROJECT, HALAWA, OAHU
PLANT SPECIES LIST (FEBRUARY 2005)

FAMILY	SCIENTIFIC NAME	STATUS	COMMON NAME
DICOTS			
Apiaceae	<i>Centella asiatica</i> (L.) Urb.	NN	Asiatic pennywort, pohe kula
Aquifoliaceae	<i>Ilex anomala</i> Hook. & Arn.	N	kāwa'u, 'aiea (Kaua'i)
Araliaceae	<i>Cheirodendron platyphyllum</i> (Hook. & Arn.) Seem. ssp. <i>platyphyllum</i>	E	'ōlapa, lapalapa
Araliaceae	<i>Tetraplasandra oahuensis</i> (A. Gray) Harms	E	'ohe mauka
Asteraceae	<i>Ageratina riparia</i> (Regel) R. M. King & H. Rob.	NN	Hāmākua pāmakani, spreading mist flower
Asteraceae	<i>Ageratum conyzoides</i> L.	NN	maile hohono, maile honohono, maile kula
Asteraceae	<i>Bidens macrocarpa</i> (A. Gray) Sherff	E	ko'oko'olau, ko'olau
Asteraceae	<i>Dubautia laxa</i> Hook. & Arn. ssp. <i>laxa</i>	E	na'ena'e pua melemele
Asteraceae	<i>Emilia sonchifolia</i> (L.) DC. var. <i>javanica</i> (Burm. f.) Mattf.	NN	Flora's paintbrush
Asteraceae	<i>Erigeron karvinskianus</i> DC.	NN	daisy fleabane
Asteraceae	<i>Pluchea carolinensis</i> (Jacq.) G. Don	NN	sourbush, marsh fleabane
Asteraceae	<i>Youngia japonica</i> (L.) DC.	NN	Oriental hawksbeard
Campanulaceae	<i>Lobelia hypoleuca</i> Hillebr.	E	kuhi`aikamo`owahie, liua, mo`owahie, opelu
Campanulaceae	<i>Trematolobelia macrostachys</i> (Hook. & Arn.) Zahlbr.	E	koli'i
Celastraceae	<i>Perrottetia sandwicensis</i> A. Gray	E	olomea, pua'a olomea, waimea (Maui)
Elaeocarpaceae	<i>Elaeocarpus bifidus</i> Hook. & Arn.	E	kalia
Ericaceae	<i>Vaccinium reticulatum</i> Sm.	E	'ōhelo, 'ōhelo 'ai
Hydrangeaceae	<i>Broussaisia arguta</i> Gaudich.	E	kanawao, pū'ahanui
Lamiaceae	<i>Phyllostegia glabra</i> var. <i>glabra</i> (Gaud.) Benth	E	ulihī
Lamiaceae	<i>Phyllostegia grandiflora</i> (Gaudich.) Benth	E	kapana
Lamiaceae	<i>Phyllostegia lantanoides</i> Sherff	E	no common name
Lythraceae	<i>Cuphea carthagenensis</i> (Jacq.) J. F. Macbr.	NN	tarweed, Colombian cuphea
Lythraceae	<i>Lythrum maritimum</i> Kunth	N?	loosestrife, pūkāmole, nīnika, pūkāmole lau li'i, pūkāmole lau nui
Melastomataceae	<i>Clidemia hirta</i> (L.) D. Don var. <i>hirta</i>	NN	Koster's curse
Melastomataceae	<i>Pterolepis glomerata</i> (Rottb.) Miq.	NN	
Myrsinaceae	<i>Myrsine lanaiensis</i> Hillebr.	E	kōlea
Myrtaceae	<i>Metrosideros polymorpha</i> Gaudich. var. <i>polymorpha</i>	E	'ōhi'a, 'ōhi'a lehua, lehua
Myrtaceae	<i>Metrosideros rugosa</i> A. Gray	E	lehua papa

FAMILY	SCIENTIFIC NAME	STATUS	COMMON NAME
Myrtaceae	<i>Metrosideros tremuloides</i> (A. Heller) Knuth	E	lehua 'āhihi, 'āhihi, 'āhihi kū ma kua, 'āhihi lehua, kūmakua, 'ōhi'a 'āhihi
Myrtaceae	<i>Rhodomyrtus tomentosa</i> (Aiton) Hassk.	NN	downy or rose myrtle
Myrtaceae	<i>Syzygium sandwicensis</i> (A. Gray) Nied.	E	'ōhi'a hā, hā, kauokahiki, pā'ihī (Maui), pā'ihī'ihī (Maui)
Piperaceae	<i>Peperomia</i> sp.	E	`ala`alawainui
Pittosporaceae	<i>Pittosporum glabrum</i> Hook. & Arn.	E	hō'awa, hā'awa, papahekili
Primulaceae	<i>Anagallis arvensis</i> L.	NN	scarlet pimpernel, poor man's weatherglass
Rosaceae	<i>Rubus rosifolius</i> Sm.	NN	thimbleberry, Mauritius raspberry, öla'a, 'ākala, 'ākalakala
Rubiaceae	<i>Bobea elatior</i> Gaudich.	E	'ahakea lau nui
Rubiaceae	<i>Coprosma longifolia</i> A. Gray	E	pilo, hupilo
Rubiaceae	<i>Hedyotis fosbergii</i> W. L. Wagner & D. R. Herbst	E	manono
Rubiaceae	<i>Hedyotis terminalis</i> (Hook. & Arn.) W. L. Wagner & D. R. Herbst	E	manono
Rutaceae	<i>Melicope clusifolia</i> (A. Gray) T. G. Hartley & B. C. Stone	E	kūkaemoa (Kaua'i), kolokolo mokihana, alani, alani kuahiwi
Rutaceae	<i>Melicope wawraeana</i> (Rock) T. G. Hartley & B. C. Stone	E	alani, alani kuahiwi
Thymelaeaceae	<i>Wikstroemia oahuensis</i> (A. Gray) Rock var. <i>oahuensis</i>	E	'ākia, kauhi
Urticaceae	<i>Pipturus albidus</i> (Hook. & Arn.) A. Gray	E	māmaki, māmaka, waimea (Kaua'i)
Verbenaceae	<i>Citharexylum caudatum</i> L.	NN	fiddlewood
Verbenaceae	<i>Stachytarpheta cayennensis</i> (Rich.) Vahl	NN	öwī, öi
MONOCOTS			
Arecaceae	<i>Pritchardia martii</i> (Gaudich.) H. Wendl.	E	loulu hiwa, loulu
Commelinaceae	<i>Commelina diffusa</i> N. L. Burm.	NN	honohono, honohono wai, makolokolo
Cyperaceae	<i>Carex wahuensis</i> subsp. <i>wahuensis</i> C. A. Mey.	E	
Cyperaceae	<i>Cyperus sandwicensis</i> Kukenth.	E	
Cyperaceae	<i>Machaerina angustifolia</i> (Gaudich.) T. Koyama	N	'uki
Orchidaceae	<i>Arundina graminifolia</i> (D. Don) Hochr.	NN	bamboo orchid
Orchidaceae	<i>Spathoglottis plicata</i> Blume	NN	Malayan ground orchid, Philippine ground orchid
Pandanaceae	<i>Freycinetia arborea</i> Gaudich.	N	'ie'ie, 'ie
Poaceae	<i>Axonopus fissifolius</i> (Raddi) Kuhlmann	NN	narrow-leaved carpetgrass
Poaceae	<i>Dichanthelium koolauense</i> (H. St. John & Hosaka) C. A. Clark & Gould	E	
Poaceae	<i>Isachne distichophylla</i> Munro ex Hillebr.	E	'ohe
Poaceae	<i>Paspalum conjugatum</i> P. J. Bergius	NN	Hilo grass, mau'u Hilo, sour paspalum

FAMILY	SCIENTIFIC NAME	STATUS	COMMON NAME
Poaceae	<i>Sacciolepis indica</i> (L.) Chase	NN	Glenwood grass
PTERIDOPHYTES			
Athyriaceae	<i>Deparia prolifera</i> (Kaulf.) Hook. & Grev.	NN	
Blechnaceae	<i>Blechnum appendiculatum</i> Willd.	NN	
Blechnaceae	<i>Sadleria pallida</i> Hook. & Arn.	E	'ama'u 'i'i, 'i'i, 'i'i'i, 'ama'u, ma'u, ma'uma'u, pua'a 'ehu'ehu,
Dicksoniaceae	<i>Cibotium glaucum</i> (Sm.) Hook. & Arn.	E	häpu'u, häpu'u pulu
Gleicheniaceae	<i>Dicranopteris linearis</i> (Burm f.) Underw. f. <i>linearis</i>	N	uluhe, unuhe
Grammitidaceae	<i>Adenophorus haalilioanus</i> (Brack.) K. A. Wilson	E	
Grammitidaceae	<i>Adenophorus tamariscinus</i> (Kaulf.) Hook. & Grev. var. <i>tamariscinus</i>	E	wahine noho mauna
Grammitidaceae	<i>Grammitis tenella</i> Kaulf.	E	kolokolo, mahinalua
Hymenophyllaceae	<i>Vandenboschia davallioides</i> (Gaudich.) Copel.	E	palai hihi, kilau
Lindsaeaceae	<i>Sphenomeris chinensis</i> (L.) Maxon	N	pala'ä, palapala'ä, Pala'e, p'ä'ü o Pala'e
Lycopodiaceae	<i>Huperzia erosa</i> Beitel & W. H. Wagner	E	
Lycopodiaceae	<i>Lycopodiella cernua</i> (L.) Pic. Serm.	N	wäwae'iole, hulu 'iole, huluhulu a 'iole
Nephrolepidaceae	<i>Nephrolepis cordifolia</i> (L.) C. Presl	N	
Polypodiaceae	<i>Lepisorus thunbergianus</i> (Kaulf.) Ching	N	pakahakaha, 'äkaha 'äkölea, pua'a kuhinia
Selaginellaceae	<i>Selaginella arbuscula</i> (Kaulf.) Spring	E	lepelepe a moa

APPENDIX C
Land Snail Survey – Subcontractor Report

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02/10/2005

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Aviator Recovery Site: Endangered O'ahu Tree Snails (*Achatinella* spp.) Survey

Objective

My objective in surveying the Aviator Recovery Site for The Environmental Company, Inc. (TEC) was to look for any signs that 9 species of tree snails of the federally endangered endemic O'ahu genus *Achatinella* might be present in the area in or around the aircraft's wreckage. As a graduate student under Dr. Michael Hadfield with the University of Hawaii at Manoa (UH), these snails are the focus of my doctoral research and I am quite familiar with most known aspects of their ecology. I have received direct training on working with this genus from Dr. Hadfield and discussed this project thoroughly with him in the weeks leading up to the survey, since he was unable to attend himself. He has been the primary researcher on these snails for almost 30 years and now supervises the world's only *Achatinella* captive-rearing program at UH. By using the methods we normally employ to find snails in the wild, I feel I had adequate time to reasonably search all of the likely vegetated areas in question that might have contained any *Achatinella*. The methods used, results, and discussion of the survey findings are described below.

Methods

The survey was conducted on February 10, 2005. Prior to departure, I studied the historical and current range maps for all known *Achatinella* species (U.S. Fish and Wildlife Service [USFWS] 1992), both extant and those thought to be extinct, to compare with topographic maps marking the crash site. None of the current known ranges of an *Achatinella* species overlapped the project area, and the 4 species that had at one point inhabited this region vary greatly in the dates when they were last recorded in the wild. These were *A. juddii* (probably extinct), *A. lorata* (probably extant), *A. turgida* (probably extant), and *A. vulpina* (possibly extant). Five others were also searched for since their known ranges came within a couple miles or less from the project area at one point. They are *A. byronii* (probably extant), *A. casta* (almost certainly extinct), *A. fuscobasis* (extant but uncommon), *A. lila* (extant but uncommon), and *A. vittata* (almost certainly extinct). The extinct/extant status used to describe these 9 species was taken directly from the Recovery Plan (USFWS 1992) and is based on how many years have passed since a sighting has occurred. I then researched Pilsbry and Cooke (1912-1914) to study the various color morphs of these species so that I would recognize the more rare species if found.

I also compiled a list of plants that might be in the area and that have been known to host *Achatinella* spp. Several of these plants were seen around the project area including *Metrosideros* sp., *Broussasia* sp., *Dubautia* sp., *Freycinetia* sp., *Hedyotis* sp., and *Melicope* sp. Priority was first given to searching these particular plants within the area flagged by TEC; other vegetation resembling known habitat choices were searched afterwards. These areas included both of TEC's flagged trails to/from the site and the entire site previously flagged by TEC surrounding the plane's wreckage. Very little potential habitat was found immediately off the trails, so most attention was focused on the crash or recovery area. Several small groves of trees and shorter patches of other native vegetation found within the site were the most likely hosts for any *Achatinella*, and were searched more thoroughly than the rest of the site. Finally, I searched the wreckage itself, as snails of this genus have been known to cling to the sides and undersides of well-

shaded metal surfaces to keep cool. In all of these searches, I also closely watched the ground and occasionally dug into the soil and plant matter to look for shells of any kind. This is generally an indicator of which plants might host live snails above (personal observations).

Results

After a few hours of searching the vegetation, I found no evidence of any kind of snail presence in the area, *Achatinella* spp. or otherwise. Interestingly though, while looking around the fuel tank scraps, I noticed the shell of 1 *Euglandina rosea*, an introduced predatory snail that is one of the main threats *Achatinella* spp. faces today (USFWS 1992). Closer inspection revealed 4 more of these shells varying in size from 6 to 30+ mm. Only one other shell was found in the site, also beneath what appeared to be the remnants of a wing. Most of these shells had punctures and cracks, suggesting rat predation. There was plenty of rat feces in the area, and the fruit of a palm (*Prichardia martii*) had clear rat bite impressions on it.

Other observations included numerous potential egg-sacks, white mushy balls found at the base of uki plants (*Machaerina angustifolia*). A sample was taken for lab analysis to see if they were eggs from another type of native snail (*Achatinella* bear live young), and Dr. Rob Cowie at UH confirmed they were not of molluscan origin. I also found several types of worms and spiders in the leaf litter.

Comments

Since none of the current range maps of extant *Achatinella* spp. overlapped with this area, it was not expected to find any endangered snails during this survey. Out of the 41 described species, less than 50% are still believed to exist in the wild (USFWS 1992), and those still in existence are increasingly difficult to find. These snails are also known for generally remaining in the same exact tree for life (Hadfield 1986), minimizing the possibility that individuals might be living in this vegetation, but were just temporarily away foraging.

In my professional opinion, this particular site does not likely host any *Achatinella* species and has not for quite some time. The confirmed presence of the two main predators of *Achatinella*, rats and *Euglandina rosea*, further support this judgment. Finding *E. rosea* shells clustered together (rare since they are usually solitary) with cracked shells appears to be a result of rats feeding in that spot. It is also possible that the *E. rosea* population exhausted the native prey snail numbers and resorted to cannibalism, eventually leading to the starvation of the last individual (Brenden Holland, pers. comm.). The main thing that remains unclear, is what prey had been keeping these *E. rosea* alive in the first place. These snails are specialized to hunt other types of snails, and no other shells or live specimens were found at the site. For this reason, I would recommend to the supervisor of this project that all personnel working in this area be asked to collect any dead snail shell in the site and photograph any live ones. These specimens and photographs should be sent to the UH Manoa Endangered Snail Laboratory for analysis.

Literature Cited

- Hadfield, M.G. 1986. Extinction in Hawaiian Achatinelline Snails. *Malacologia* 27:67-81.
- Pilsbry, H.A., and C.M. Cooke, Jr. 1912-1914. Achatinellidae. Manual of Conchology, 2nd Ser., Vol. 21. Academy of Natural Sciences of Philadelphia.
- U.S. Fish and Wildlife Service. 1992. Recovery Plan for the O'ahu Tree Snails of the Genus *Achatinella*. Region 1, Portland, OR.

APPENDIX B

Endangered Species Act, Section 7 Consultation Letters

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DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

11015.1A2H
Ser EV337 302
10 MAR 2005

Ms. Gina Shultz
Acting Field Supervisor
U. S. Fish and Wildlife Service
Pacific Islands Ecoregion
Box 50088
Honolulu, HI 96850

Dear Ms. Shultz:

Subj: INITIATION OF FORMAL ESA SECTION 7 CONSULTATION: AVIATOR
RECOVERY, UPPER HALAWA VALLEY, OAHU, HAWAII

The Navy requests initiation of formal consultation with the U.S. Fish and Wildlife Service (Service) in accordance with section 7 of the Endangered Species Act of 1973 (ESA). The Joint Prisoner of War – Missing in Action Accounting Command (JPAC) proposes to recover the remains and personal effects of a Naval aviator who crashed into the Ko'olau Mountains while on a training flight in June 1944. The project site is located in the upper Halawa Valley, below the Ko'olau Mountain ridgeline, north of the Honolulu-side entrance to the Highway 3 (H-3) Tunnel on the island of Oahu, Hawai'i. A topographical map detailing the location of the site is provided as Enclosure (1). The land is in the possession of the State of Hawaii Department of Transportation. The Navy is coordinating environmental compliance for JPAC.

A biological survey of the crash site and its vicinity was completed in February 2005. A copy of the survey report, "Biological Survey Report Prepared In Support Of The Aviator Recovery Environmental Assessment, February 2005," is provided as Enclosure (2). Although no species of plants or animals listed or proposed for listing pursuant to the ESA were discovered, the site falls within areas included with the June 17, 2003, Federal Register final rule designating critical habitat for 99 plant species from the island of Oahu. Because the proposed recovery actions may affect designated critical habitat of 7 of these 99 plants, formal consultation is required.

Background Information and Project Description

The surviving member of the aviator's immediate family has requested, via Senator McCain of Arizona, that the family receive information regarding the incident and that the aviator's remains be recovered and returned to his family. JPAC's mission, mandated by the United States Congress, is to achieve the fullest possible accounting of all Americans missing as a result of our nation's previous conflicts. The Proposed Action is needed to meet United States Congressional mandates and to return the remains and personal effects of the Naval aviator to his family. JPAC is a joint-Service unit headquartered at Hickam Air Force Base. Using formal archival research techniques and archaeological methods and overseen by experienced and professional archaeologists, JPAC ensures that the remains of missing United States service members are identified and recovered in a thorough and scientific manner.

The project site is located in rugged terrain in the upper Halawa Valley. Access to the site is very difficult due to its remote location and slopes to, perhaps, greater than 70 degrees. The project site consists of vegetated slopes. Photographs of the site are provided with Enclosures (2) and (3) for your reference.

In late September 2004, a JPAC team conducted a preliminary reconnaissance of the project area. The purpose of the visit was to determine the approximate position of the aircraft debris field and to delineate the approximate locations of key project area features with flagging material and global positioning system (GPS) data points. In addition, the team documented existing site conditions and terrain characteristics with photographs.

The action will require removal of vegetation and excavation and screening of soil to bedrock (estimated average depth of 6 inches (15 centimeters) from an area at the crash site of up to approximately 478 square yards (400 square meters), or 0.1 acre (0.04 hectare). Personnel will use hand tools to excavate soils. The average 6-inch depth over a 478-square yard area yields an approximate volume of soil of 79 cubic yards (60 cubic meters). Establishing ancillary support areas will require modifying the taller vegetation within an additional 1698 square yards (1420 square meters), or about 0.35 acre (0.14 hectare). This ancillary area will provide for a buffer around an existing helicopter landing pad, an alternative helicopter landing zone, and a footpath from landing zone to the recovery site. In this context, "modifying the taller vegetation" would include cutting taller vegetation at the helicopter landing area to meet safety requirements and unavoidable trampling of vegetation along pathways and at equipment staging areas. Vegetation in these areas may also need to be thinned or cut to allow access. Soils within the ancillary support areas will not be removed or significantly disturbed, but muddy trails from the landing zones to the crash site would be likely as a result of frequent and repeated use during the life of the project.

Due to the nature of the excavated soils, they will need to be wet screened, or washed through a 0.25-inch (0.6-cm) screen with water, to effectively separate recoverable materials. The proposed action may require soil excavated from the crash site to be moved from the site to JPAC's laboratory at Hickam Air Force Base for wet screening. JPAC is also considering an alternative where the excavated soil would be wet-screened on-site. To accomplish this alternative, water for the washing would either be brought in by helicopter or pumped from a stream in the vicinity of the recovery site. Soil recovered in the alternative proposal would remain on site.

JPAC anticipates that recovery actions will begin in summer 2005 and will take approximately 4 to 6 weeks for a crew of up to 15 personnel to complete. The length of the recovery actions is limited to a fixed time period due to seasonal variations in the weather and availability of resources. As the recovery effort proceeds, JPAC personnel will implement temporary erosion control measures, such as anchoring geotextile, burlap, or other soil-stabilizing material over exposed grids, and will place soil-retention barriers down-slope of the disturbed areas. Revegetation and more permanent erosion control will be implemented immediately following the completion of the recovery portion of the project.

Survey Data

In late 2004 and early 2005, biologists surveyed the crash site and the ancillary support areas. While the survey focused primarily on plants and snails, other observations of animals were recorded, as well. Of special concern was whether any federally listed or proposed threatened or endangered plants and animals were potentially present in and around the project area. No such species were found. However, native (but not ESA-listed) plants associated with the primary constituent elements of designated critical habitat for plants on Oahu were identified.

Critical Habitat

A final rule designating critical habitat for 99 species of plants on Oahu was published in 2003. Seven of those plants have critical habitats that (1) include the location and elevation of the Proposed Action area and (2) have one or more of the primary constituent elements that define that critical habitat. Primary constituent elements are those physical and biological features that are essential to the conservation of the species. For the 99 Oahu plants, the primary constituent elements are defined based on the habitat features of the areas from which the plant species are reported. These features are described as the type of plant community, associated native plant species, locale information (e.g., steep rocky cliffs, talus slopes, gulches, stream banks, etc.), and elevation.

The following table lists the seven plant critical habitats and provides a summary of those criteria constituting their primary constituent elements. One or more of the plants that define the primary constituent elements of each of the seven species has been documented as occurring within the entire Proposed Action site. The site of the wreckage and the proposed soil removal and screening falls within two of those critical habitat areas (*Cyanea crispa* and *Tetraplasandra gymnocarpa*). The ancillary action areas fall within all seven critical habitats. Enclosure 4 provides eight maps published in the June 17, 2003, Federal Register; one map shows all critical habitat areas island-wide, and the other seven maps provide locations of the critical habitats of the seven species considered in this consultation. Enclosure 5 provides maps generated specifically to show the Proposed Action and ancillary areas and critical habitat overlaps.

Plant Having Critical Habitat	Primary Constituent Elements
<p><i>Cyanea crispa</i> 6,506 acres (2,634 ha)</p>	<p>slopes, moist gullies, or stream banks in open mesic forests or closed wet forests containing one or more of the following associated native plant species: <i>Antidesma platyphyllum</i>, <i>Boehmeria grandis</i>, <i>Broussaisia arguta</i>, <i>Christella cyatheoides</i>, <i>Cibotium chamissoi</i>, <i>Cyrtandra</i> spp., <i>Diospyros</i> sp., <i>Dubautia</i> sp., <i>Metrosideros polymorpha</i>, <i>Microsorium spectrum</i>, <i>Perrottetia sandwicensis</i>, <i>Pipturus albidus</i>, <i>Pisonia umbellifera</i>, <i>Psychotria</i> sp. or <i>Touchardia latifolia</i>. Elevations between 56 and 959 m (184 and 3,146 ft).</p>
<p><i>Cyanea st.-johnii</i> 5,020 acres (2,031 ha)</p>	<p>wet, windswept slopes and ridges in <i>Metrosideros polymorpha</i> mixed lowland shrubland or <i>Metrosideros polymorpha-Dicranopteris linearis</i> lowland shrubland and containing one or more of the following associated native plant species: <i>Alyxia oliviformis</i>, <i>Antidesma</i> sp., <i>Bidens macrocarpa</i>, <i>Broussaisia arguta</i>, <i>Chamaesyce clusiifolia</i>, <i>Cibotium</i> sp., <i>Dubautia laxa</i>, <i>Freycinetia arborea</i>, <i>Hedyotis</i> sp., <i>Labordia</i> sp., <i>Machaerina angustifolia</i>, <i>Melicope</i> sp., <i>Psychotria</i> sp., <i>Sadleria pallida</i>, <i>Scaevola mollis</i>, or <i>Syzygium sandwicensis</i>. Elevations between 461 and 959 m (1,512 and 3,146 ft).</p>
<p><i>Lobelia oahuensis</i> 3,741 acres (1,514 ha)</p>	<p>steep slopes on summit cliffs in cloudswept wet forests or in lowland wet shrubland that are frequently exposed to heavy wind and rain and containing one or more of the following associated native plant species: <i>Bidens</i> sp., <i>Broussaisia arguta</i>, <i>Cheirodendron trigynum</i>, <i>Cibotium</i> sp., <i>Dicranopteris linearis</i>, <i>Dubautia laxa</i>, <i>Freycinetia arborea</i>, <i>Hedyotis</i> sp., <i>Labordia hosakana</i>, <i>Lycopodium</i> sp., <i>Machaerina angustifolia</i>, <i>Melicope</i> sp., <i>Metrosideros polymorpha</i>, <i>Peperomia</i> sp., <i>Phyllostegia</i> sp., <i>Sadleria squarrosa</i>, <i>Scaevola</i> sp., <i>Syzygium sandwicensis</i>, <i>Vaccinium</i> sp., or <i>Wikstroemia</i> sp. Elevations between 415 and 959 m (1,361 and 3,146 ft).</p>
<p><i>Sanicula purpurea</i> 934 acres (378 ha)</p>	<p>open <i>Metrosideros polymorpha</i> mixed montane bogs or windswept shrublands within the cloud zone containing one or more of the following associated native plant species: <i>Bidens</i> sp., <i>Cheirodendron</i> sp., <i>Dicanthelium koolauense</i>, <i>Gahnia beechyi</i>, <i>Leptecophylla tameiameiae</i>, <i>Lycopodium</i> sp., <i>Machaerina angustifolia</i>, <i>Plantago pachyphylla</i>, <i>Sadleria pallida</i>, or <i>Vaccinium</i> sp. Elevations between 415 and 871 m (1,361 and 2,857 ft).</p>
<p><i>Tetraplasandra gymnocarpa</i> 217 acres (88 ha)</p>	<p>windswept summit ridges, slopes, or gullies in wet or sometimes mesic lowland forests or shrublands and containing one or more of the following associated native plant species: <i>Acacia koa</i>, <i>Antidesma platyphyllum</i>, <i>Bidens</i> sp., <i>Bobea elatior</i>, <i>Broussaisia arguta</i>, <i>Cheirodendron</i> sp., <i>Cibotium chamissoi</i>, <i>Cibotium</i> sp., <i>Cyanea humboldtiana</i>, <i>Dicranopteris linearis</i>, <i>Diplopterygium pinnatum</i>, <i>Dubautia laxa</i>, <i>Freycinetia arborea</i>, <i>Hedyotis fosbergii</i>, <i>Hedyotis terminalis</i>, <i>Labordia</i> sp., <i>Lobelia hypoleuca</i>, <i>Machaerina angustifolia</i>, <i>Melicope</i> spp., <i>Metrosideros polymorpha</i>, <i>Myrsine fosbergii</i>, <i>Pouteria sandwicensis</i>, <i>Psychotria</i> spp., <i>Sadleria</i> sp., <i>Syzygium sandwicensis</i>, <i>Tetraplasandra oahuensis</i>, or <i>Wikstroemia</i> sp. Elevations between 93 and 959 m (305 and 3,146 ft).</p>
<p><i>Trematolobelia singularis</i> 25 acres (10 ha)</p>	<p>steep, windswept cliff faces or slopes in <i>Metrosideros polymorpha-Dicranopteris linearis</i> lowland wet shrubland and containing one or more of the following associated native plant species: <i>Broussaisia arguta</i>, <i>Cibotium</i> sp., <i>Dubautia laxa</i>, <i>Eugenia</i> sp., <i>Melicope</i> sp., <i>Sadleria</i> sp., or <i>Wikstroemia</i> sp. Elevations between 545 and 953 m (1,788 and 3,126 ft).</p>
<p><i>Viola oahuensis</i> 2,232 acres (903 ha)</p>	<p>exposed, windswept ridges of moderate to steep slope in wet <i>Metrosideros polymorpha-Dicranopteris linearis</i> shrublands or <i>Metrosideros polymorpha</i> mixed montane bogs in the cloud zone and containing one or more of the following associated native plant species: <i>Antidesma</i> sp., <i>Bidens macrocarpa</i>, <i>Broussaisia arguta</i>, <i>Cibotium</i> sp., <i>Dubautia laxa</i>, <i>Hedyotis terminalis</i>, <i>Labordia</i> sp., <i>Machaerina</i> sp., <i>Melicope</i> sp., <i>Sadleria</i> sp., <i>Syzygium sandwicensis</i>, <i>Vaccinium</i> sp., or <i>Wikstroemia</i> sp. Elevations between 415 and 959 m (1,361 and 3,146 ft).</p>

Impacts

Critical habitat will be affected by the proposed and ancillary actions. A Restoration Plan has been prepared to assess potential risks and recommend best management practices (BMPs) to mitigate these effects. The following is a summary of BMPs to be taken; a more detailed account is provided in the enclosed Restoration Plan.

1. Weed seeds, shoots or plants not native to the area could be brought into the area by workers, the helicopter, or equipment. Competition by weeds is a significant and pervasive problem that further endangers many native plants.
 - Crews would be instructed about proper cleaning procedures prior to entering the area. Equipment (especially digging tools) will be cleaned.
 - Foods having the potential to introduce weeds, such as blackberries, will not be allowed at the site.
 - Invasive weeds (such as *Clidemia hirta*, Koster's curse) are already present at the site. Disturbing the soil may give weed seeds a competitive advantage over native plants. Selective herbicide application to reduce this weed seed advantage will be implemented.
 - Erosion control materials, such as geotextiles, will be new and unused.
 - Should water be flown in by helicopter from off site to wash soils, it will be procured from uncontaminated potable sources as opposed to, for example, a lake that would likely contain weed seeds.
2. Trash may attract rats. Rats eat the seeds of some native plants.
 - All green trash (e.g., food wastes) will be properly bagged and removed daily.
 - The area will be totally cleaned of all equipment and supplies at the conclusion of the project.
3. Native soils will be lost.
 - A potential 79 cubic yards (60 cubic meters) of soil may be removed from the site for screening at Hickam Air Force Base. Recovery of wet-screened soils is difficult, and any soils that have been at Hickam for any length of time may become contaminated with weed seeds.
 - Should replenishment soils be required to be brought to the site, they will be sterile (not contain weed seeds).
 - As can be seen in Figure 2a of the enclosed Restoration Plan, a slide immediately upslope from the crash site occurred within the past year. It may be possible to use this area as a source of replacement soil.
4. Erosion will be a significant concern. While erosion and eventual revegetation is a natural process in the Ko'olau Mountains, overgrazing in the past and ongoing pig damage has exacerbated it. Because of the nature of the soils, once topsoils have been removed, it is a lengthy but inevitable process to naturally revegetate such areas. However, weeds can gain a "foothold" in disturbed areas and can overwhelm native vegetation.
 - Temporary erosion control measures will be implemented as work progresses.

10 MAR 2005

- Permanent erosion control will be initiated immediately after JPAC has finished with excavation. The enclosed Restoration Plan provides details of how that work would be accomplished.
5. Plant species selected for revegetation is critical.
- Native plants will be selected and transplanted into the area in order to reestablish the approximate mix of native vegetation that existed prior to the proposed action. The plants will be grown in local native nurseries, as required. Most of the plants that will be planted at the site will be of the same species already established in the area.
6. Impact on habitat.
- The soil removal action may affect approximately 0.1 acre (0.04 hectare) of critical habitat. However, restoration will aid in returning the area to a condition where native plants have become reestablished and it is once again uniform with its surrounding, undisturbed habitat. JPAC's actions will not permanently remove habitat, such as would be the case if permanent construction or an ongoing use were proposed. Enclosure 5 maps show action areas and critical habitats.
 - The total land area to be affected by actions at the crash site (478 square yards; 400 square meters; 0.1 acre; 0.04 hectares) and at the ancillary sites (1698 square yards; 1420 square meters; 0.35 acres; 0.142 hectares) is summarized as a percentage of the total of each of the 7 critical habitats affected in the first table below. The crash site itself is within only 2 of the 7 critical habitats: *Cyanea crispa* and *Tetraplasandra gymnocarpa*. The second table provides greater detail.

Critical Habitat (CH)	Total CH Acreage	% of Total CH Affected At Crash Site	% of Total CH Affected At Ancillary Sites	Total % of CH Affected
<i>C. crispa</i>	6,506	0.002 %	0.01 %	0.012 %
<i>C. st.-johnii</i>	5,020	0.000	0.01	0.01
<i>L. oahuensis</i>	3,741	0.000	0.01	0.01
<i>S. purpurea</i>	934	0.000	0.04	0.04
<i>T. gymnocarpa</i>	217	0.046	0.18	0.226
<i>T. singularis</i>	25	0.000	1.60	1.60
<i>V. oahuensis</i>	2,232	0.000	0.02	0.02

Areas of Critical Habitat within the Proposed Aviator Recovery Site (m ² , except as noted) ⁽¹⁾								
Area		Species						
		<i>Cya cri</i>	<i>Cya st-j</i>	<i>Lob oah</i>	<i>San pur</i>	<i>Tet gym</i>	<i>Tre sin</i>	<i>Vio oah</i>
Southeast LZ ⁽²⁾	180	180	180	180	180	180	180	180
Southeast Trail	1020	1,020	560	560	560	1,020	140	560
Excavation and Buffer	400	400	0	0	0	400	0	0
North Trail	170	170	0	0	0	170	0	0
North LZ	50	50	0	0	0	50	0	0
Totals (m²)	1820	1,820	740	740	740	1,820	320	740
hectares	0.18	0.18	0.07	0.07	0.07	0.18	0.03	0.07
yd²	2180	2,177	885	885	885	2,177	383	885
acres	0.45	0.45	0.18	0.18	0.18	0.45	0.08	0.18

Notes: ⁽¹⁾ The total area of the APE or area of potential ground disturbance equals 1,820 m² (2180 yd²). As can be seen in the accompanying figure, there is considerable overlap in areas of designated critical habitat for each species. Therefore, the total area for all species will be greater than the total project area.
⁽²⁾ The southeast LZ is a remote helicopter landing pad and old bunker area with highly disturbed vegetation and therefore would not likely be considered critical habitat based on the language in the June 17, 2003 Federal Register final rule.

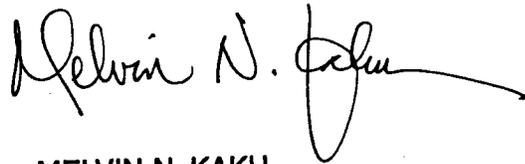
- Landslides in that area of the Ko'olau Mountains are neither uncommon nor a recent phenomenon. Within the last several months, for example, four very large slides have occurred nearby. These can easily be seen from the H-3 highway to the north, just before entering the tunnel in a Kaneohe-bound direction. They cover many times the 0.45 acres that will be affected by the proposed action.

Potential impacts on endangered Oahu elepaio (*Chasiempis sandwichensis ibidis*) and its designated critical habitat were also considered. None of the areas affected by the proposed actions will occur within the forested habitats favored by the bird. Also, the project site lies outside of designated Elepaio Critical Habitat. A map is provided at Enclosure (6). Navy has concluded that actions considered will not affect the bird or its critical habitat.

Two factors are driving the need for commencing the Proposed Action this summer. First, the dry summer months are the only practicable time of the year to do such work. The heavy rains typical of the fall and winter months would not only severely hamper recovery efforts but could generate safety hazards. Second, JPAC's military personnel and equipment (including substantial helicopter support) are available this summer, but may not be available after this opportunity passes. In order to fulfill public notification and review requirements for Chapter 343 of the Hawaii Revised Statutes, the draft Environmental Assessment (EA) for the Proposed Action needs to be completed by April 22, 2005. The conclusions of this consultation would be included in the draft EA. Accordingly, we hope that the consultation can be concluded in a timely manner. If we can be of any assistance in your review and analysis whatsoever, please let us know. The Navy's point of contact for this consultation is Mr. William Kramer. He can be reached by telephone at (808) 472-1426 or by e-mail at William.r.Kramer@navy.mil.

Thank you for your consideration of this formal consultation request. We would appreciate your sharing a draft of your response with us prior to your completion of the opinion.

Sincerely,



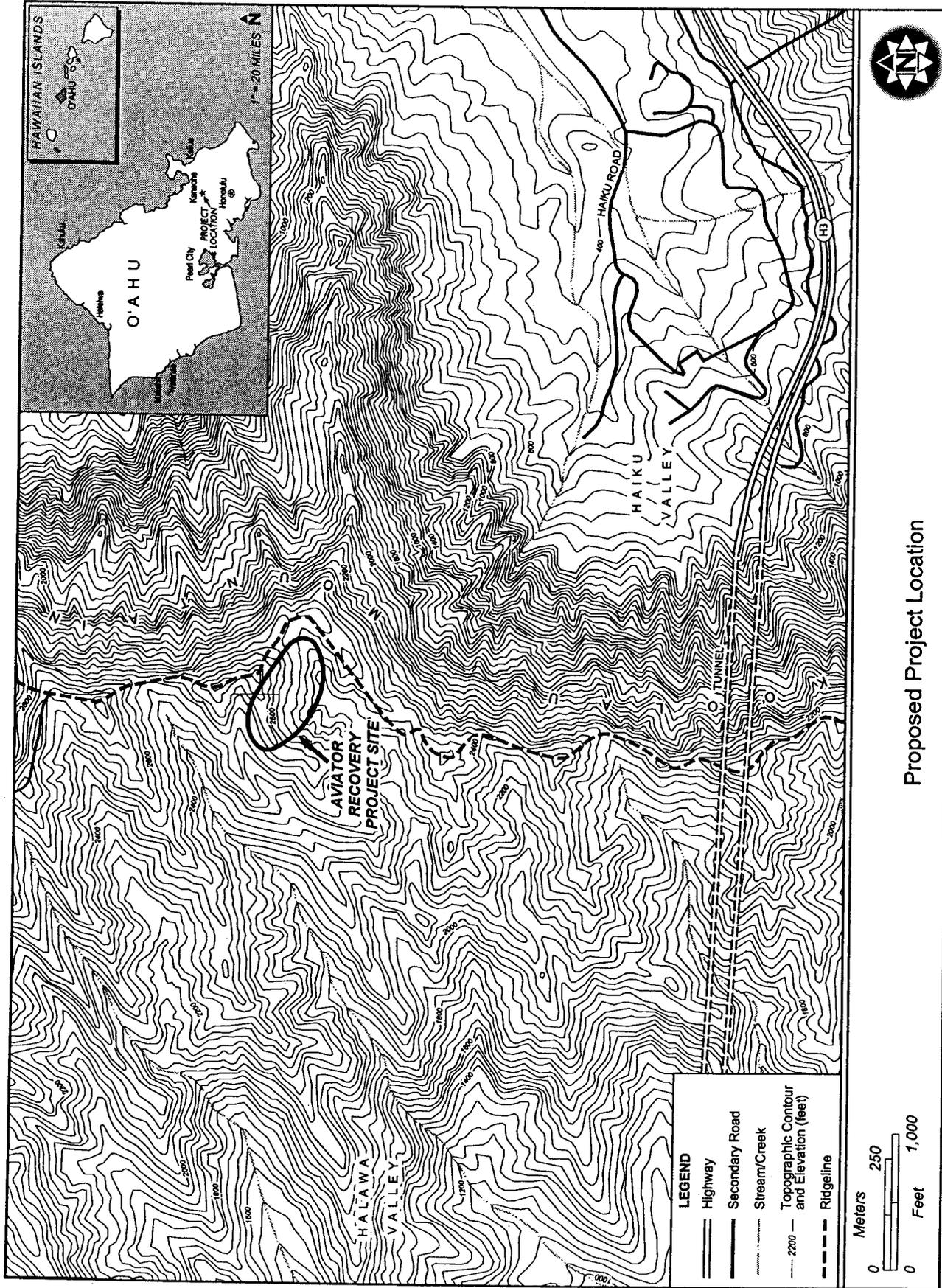
MELVIN N. KAKU
Acting Business Line Manager
Environmental

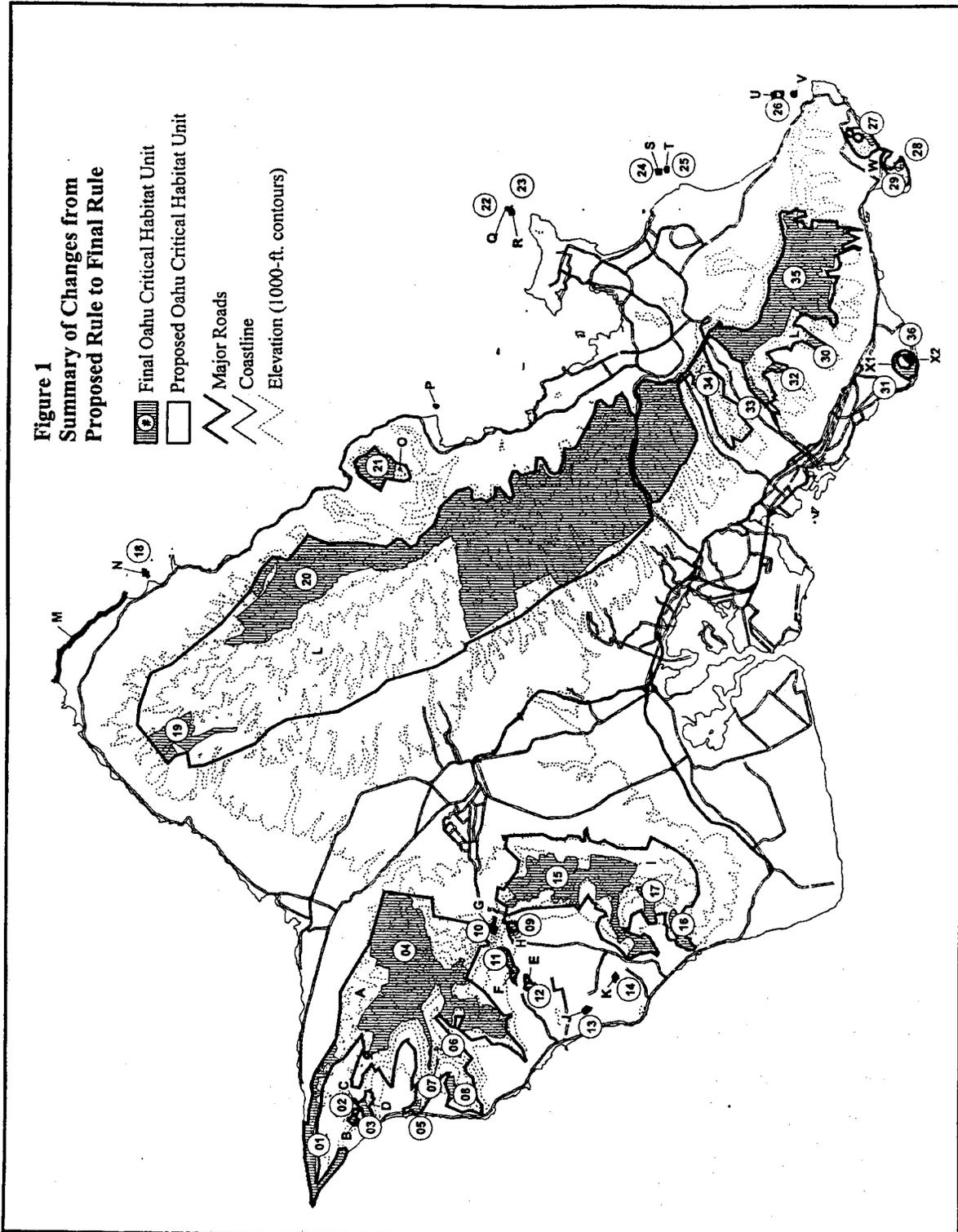
Encl:

- (1) Topographic Map of Site
- (2) Biological Survey Report of Feb 05
- (3) Draft Restoration Plan of Feb 05
- (4) Maps of Critical Habitat Areas
- (5) Overlay Maps of Critical Habitat
- (6) Map of Elepaio Critical Habitat

Copy to:

COMNAVREG Hawaii (N465)
(Mr. Randy Miyashiro)





Oahu A

This unit was proposed as critical habitat for 65 species: *Abutilon sandwicense*, *Alectryon macrococcus*, *Alsinidendron obovatum*,

Alsinidendron trinerve, *Bonamia menziesii*, *Cenchrus agrimonioides*, *Centaurium sebaeoides*, *Chamaesyce celastroides* var. *kaenana*, *Chamaesyce herbstii*, *Colubrina oppositifolia*,

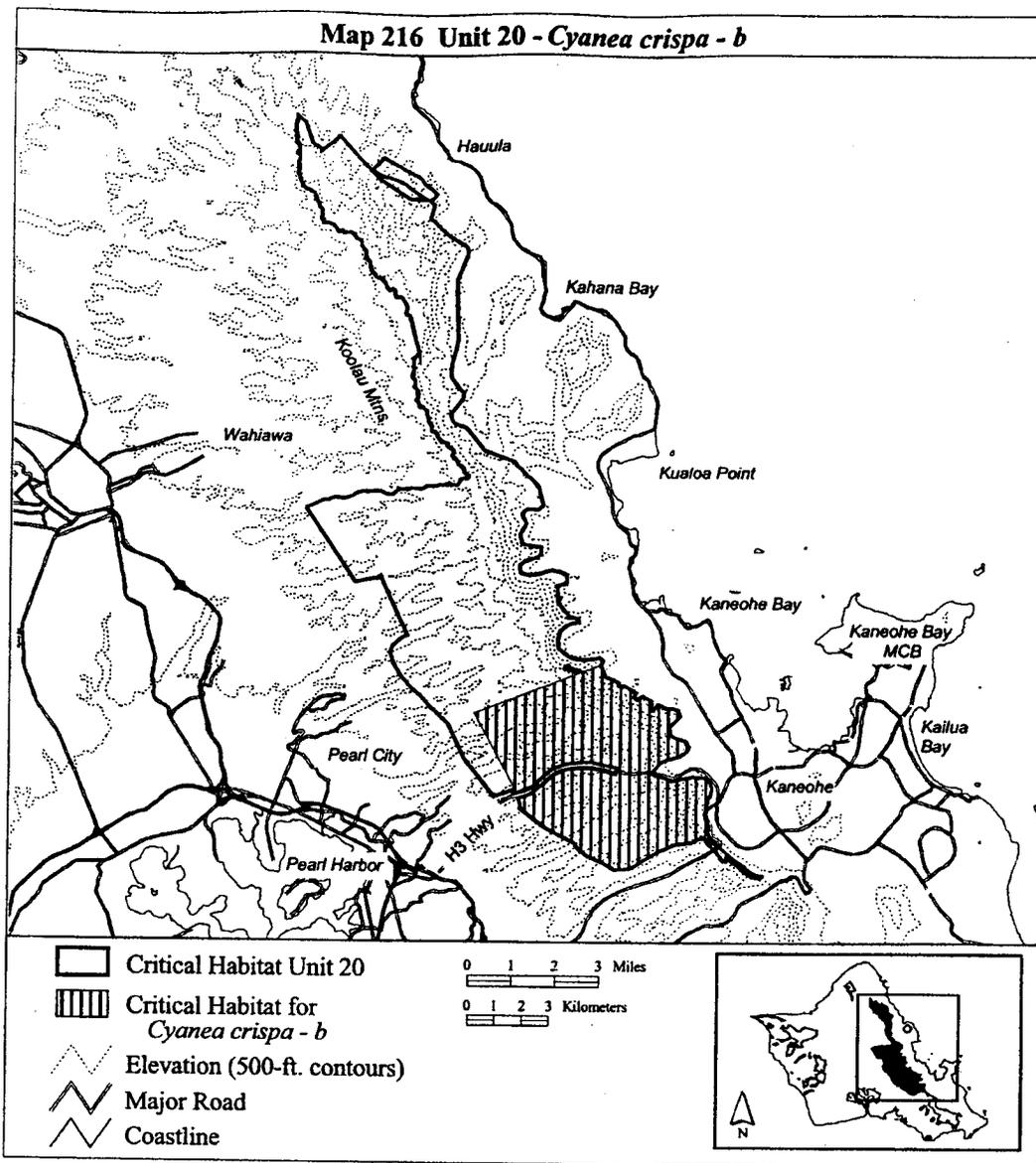
Ctenitis squamigera, *Cyanea acuminata*, *Cyanea grimesiana* ssp. *obatae*, *Cyanea longiflora*, *Cyanea superba*, *Cyperus trachysanthos*, *Cyrtandra dentata*, *Delissea subcordata*, *Diellia falcata*,

2365627; 622664, 2365546; 622731,
2365278; 622707, 2365156; 622707,
2365155; 622708, 2365153; 622641,
2365005; 622145, 2364750; 621489,

2364647; 620825, 2364374; 619887,
2363809; 619327, 2363736; 619306,
2363734; 619289, 2363742; 618843,

2364003; 618621, 2364070; return to
starting point.

(ii) Note: Map 216 follows:



(217) Oahu 20—*Cyanea grimesiana* ssp. *grimesiana*—a (2,634 ha; 6,506 ac)

(i) Unit consists of the following 38 boundary points: Start at 615490, 2366752; 612398, 2369695; 612094, 2370041; 611819, 2370260; 611368, 2370754; 611085, 2371205; 610944, 2371614; 611022, 2371876; 611396,

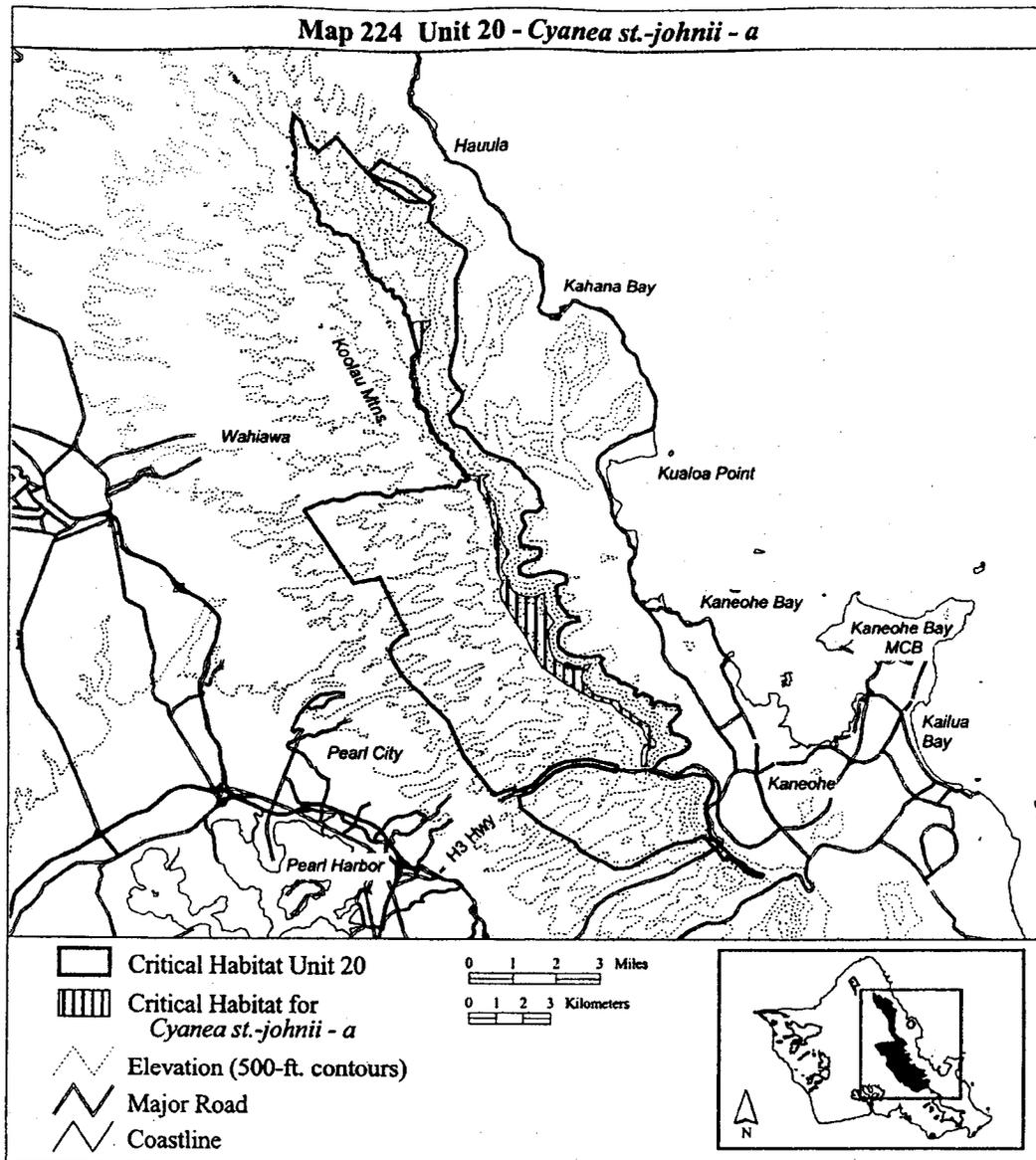
2372179; 611946, 2372426; 612560, 2372652; 613209, 2372878; 613703, 2373012; 614077, 2373117; 614331, 2373061; 614557, 2372906; 614910, 2372539; 615136, 2372264; 615481, 2371939; 615799, 2371565; 615800, 2371529; 616088, 2371135; 616300, 2370873; 616582, 2370598; 616942, 2370344; 617358, 2370062; 617535,

2369928; 618156, 2369490; 618692, 2369067; 618996, 2368827; 618981, 2368819; 619052, 2368735; 619186, 2368559; 619327, 2368319; 619423, 2368067; 618778, 2367765; 617647, 2367736; 616951, 2367504; return to starting point.

(ii) Note: Map 217 follows:

2378090; 613757, 2378093; 613753,
2378093; return to starting point.

(ii) Note: Map 224 follows:

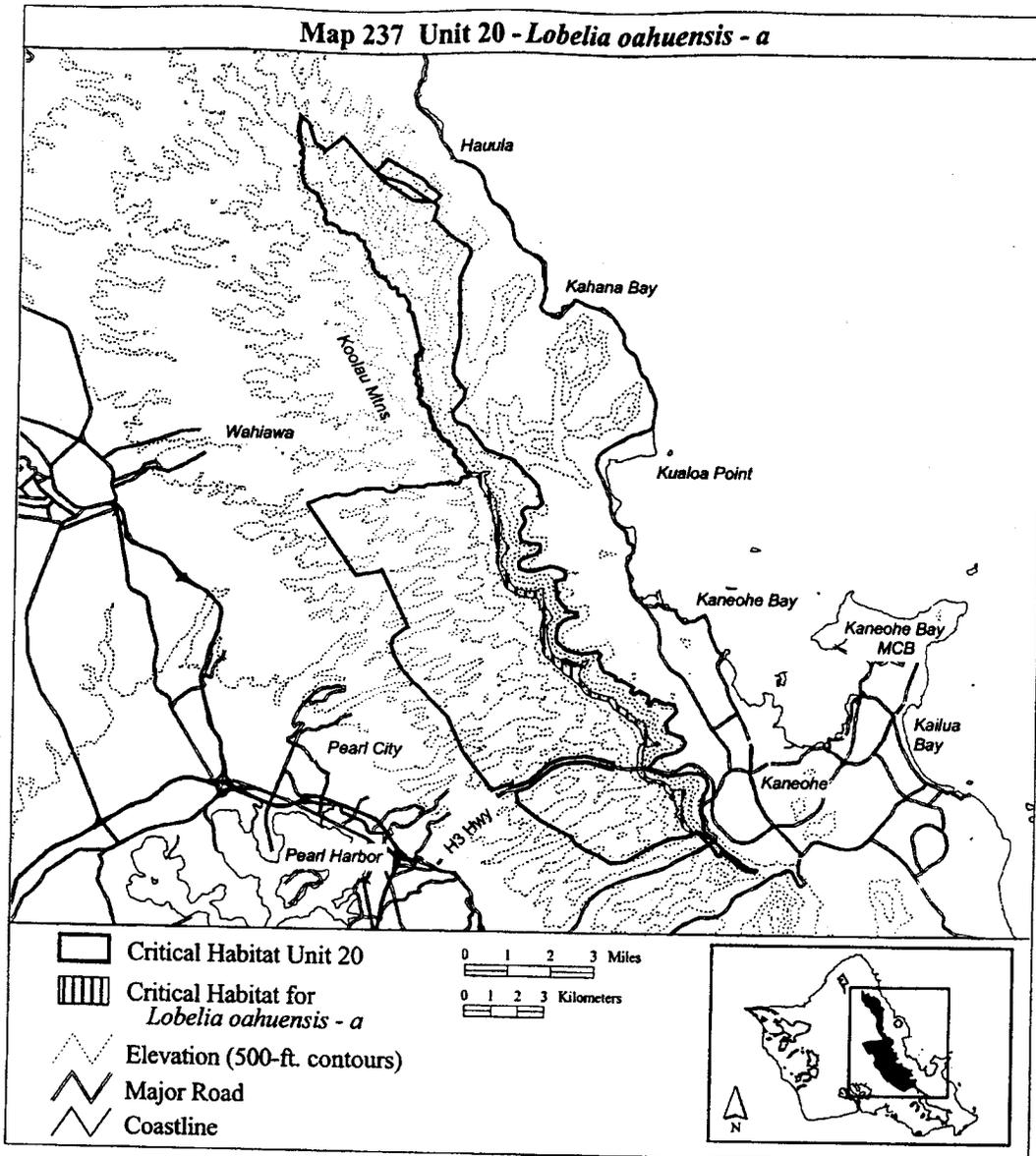


(225) Oahu 20—*Cyanea truncata*—a
(2,031 ha; 5,020 ac)

(i) Unit consists of the following 164 boundary points: Start at 613602, 2386551; 613659, 2386389; 613631, 2386210; 613273, 2385353; 613273, 2385352; 613274, 2385331; 613268, 2385140; 613280, 2384981; 613312, 2383180; 613250, 2382818; 613195, 2382609; 613088, 2382144; 613082, 2381829; 613080, 2381820; 613080, 2381819; 613080, 2381818; 613087, 2381810; 613208, 2381606; 613344, 2381440; 613533, 2381229; 613545, 2381214; 613505, 2380936; 613087,

2380405; 613087, 2380404; 613089, 2380400; 613115, 2380198; 613237, 2380056; 613239, 2380052; 613240, 2380051; 613646, 2379898; 614360, 2379039; 614361, 2379039; 615437, 2378644; 615510, 2378505; 615637, 2378424; 615841, 2378182; 616058, 2377995; 616346, 2377691; 616360, 2377561; 616377, 2377455; 616437, 2377260; 616441, 2377261; 616504, 2377029; 616326, 2376847; 615911, 2376866; 615753, 2376724; 615753, 2376601; 615853, 2376412; 615876, 2376331; 615830, 2376217; 615657, 2375913; 615739, 2375583; 616002, 2375545; 616017, 2375521; 616413,

2375487; 616454, 2375432; 616454, 2375239; 616289, 2375088; 615849, 2374937; 615671, 2374785; 615684, 2374538; 615946, 2374455; 616023, 2374455; 616049, 2374426; 616159, 2374455; 616248, 2374455; 616439, 2374528; 616726, 2374601; 616815, 2374624; 617102, 2374594; 617234, 2374550; 617314, 2374524; 617376, 2374469; 617417, 2374318; 617399, 2374230; 617371, 2374191; 617349, 2374168; 616881, 2374029; 616743, 2374112; 616317, 2374015; 615712, 2374125; 615423, 2374373; 615244, 2374758; 615423, 2375102; 615506, 2375280; 615437, 2375432; 615285,



(238) Oahu 20—*Lysimachia filifolia*—a
(1,514 ha; 3,741 ac)

(i) Unit consists of the following 333 boundary points: Start at 622547, 2364906; 622392, 2365018; 622231, 2365150; 622133, 2365305; 622037, 2365661; 622013, 2365661; 622019, 2365874; 622064, 2366138; 622093, 2366310; 622156, 2366460; 622128, 2366563; 622082, 2366649; 621950, 2366718; 621645, 2366708; 621496, 2366708; 621369, 2366748; 621214, 2366817; 621053, 2366892; 620818, 2366989; 620582, 2367122; 620553, 2367236; 620553, 2367363; 620542, 2367512; 620571, 2367673; 620663, 2367845; 620743, 2367966; 620898, 2368127; 621042, 2368236; 621082, 2368305; 621053, 2368409; 620910,

2368518; 620818, 2368690; 620720, 2369000; 620617, 2369178; 620462, 2369276; 620345, 2369363; 620061, 2369535; 619852, 2369805; 619545, 2370014; 619336, 2370051; 618992, 2370088; 618685, 2370149; 618414, 2370321; 618242, 2370567; 618193, 2370752; 618107, 2370924; 617996, 2370960; 617578, 2371133; 617050, 2371477; 616829, 2371821; 616902, 2372362; 617038, 2372718; 617025, 2373050; 616853, 2373505; 616607, 2373923; 616030, 2373911; 615648, 2374021; 615403, 2374181; 615317, 2374501; 615329, 2374771; 615403, 2375078; 615415, 2375324; 615267, 2375619; 615292, 2375841; 615317, 2376025; 615317, 2376234; 615009, 2376603; 615009, 2376620; 615004,

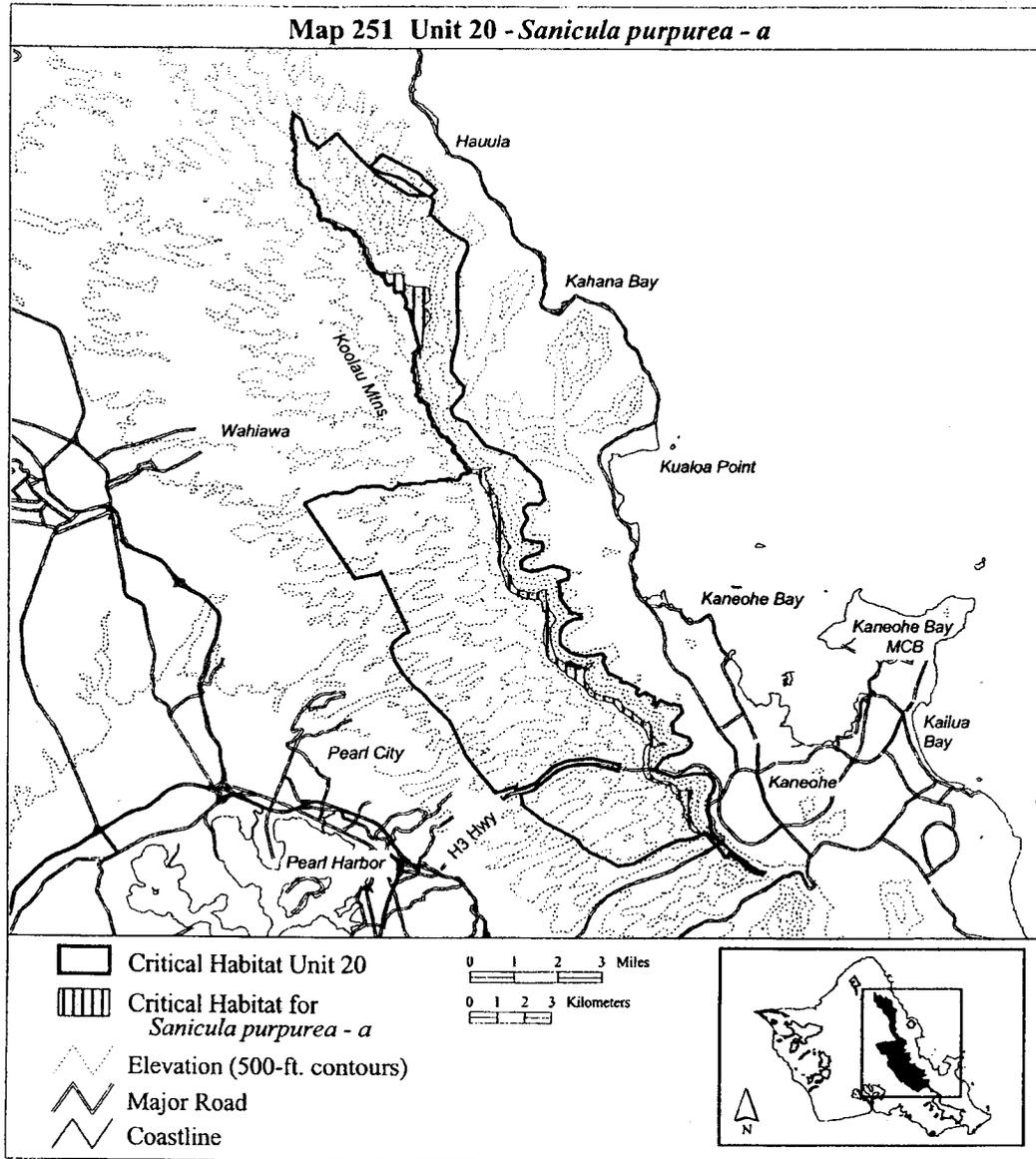
2376613; 614843, 2376808; 614825, 2377015; 614825, 2377136; 614670, 2377337; 614492, 2377664; 614372, 2377888; 614331, 2378038; 614349, 2378147; 614084, 2378170; 613740, 2378336; 613533, 2378572; 613401, 2378825; 613429, 2379003; 613326, 2379210; 613016, 2379371; 612780, 2379543; 612648, 2379727; 612487, 2379997; 612372, 2380152; 612372, 2380284; 612408, 2380419; 612389, 2380468; 612286, 2380594; 612039, 2380784; 611999, 2380916; 612033, 2381169; 611918, 2381508; 611855, 2381692; 611867, 2381829; 611872, 2381985; 611872, 2382180; 611930, 2382444; 611976, 2382576; 612102, 2382714; 612114, 2382789; 612114, 2382996; 612114, 2383174; 612160,

2374431; 614870, 2374599; 614819,
2374755; 614819, 2374861; 614816,
2374861; 614810, 2374936; 614828,
2375020; 614861, 2375104; 614852,
2375185; 614861, 2375303; 614825,
2375375; 614765, 2375465; 614762,
2375564; 614762, 2375687; 614756,
2375832; 614777, 2375979; 614762,

2376138; 614723, 2376259; 614641,
2376349; 614641, 2376391; 614641,
2376550; 614617, 2376653; 614590,
2376791; 614602, 2376929; 614602,
2376932; 614530, 2377068; 614482,
2377179; 614434, 2377242; 614365,
2377350; 614323, 2377431; 614211,
2377594; 614115, 2377753; 614115,

2377816; 614088, 2377922; 614031,
2378000; 613935, 2378000; 613833,
2377985; 613763, 2378008; 613771,
2378068; 613764, 2378090; 613757,
2378093; 613753, 2378093; return to
starting point.

(ii) Note: Map 251 follows:

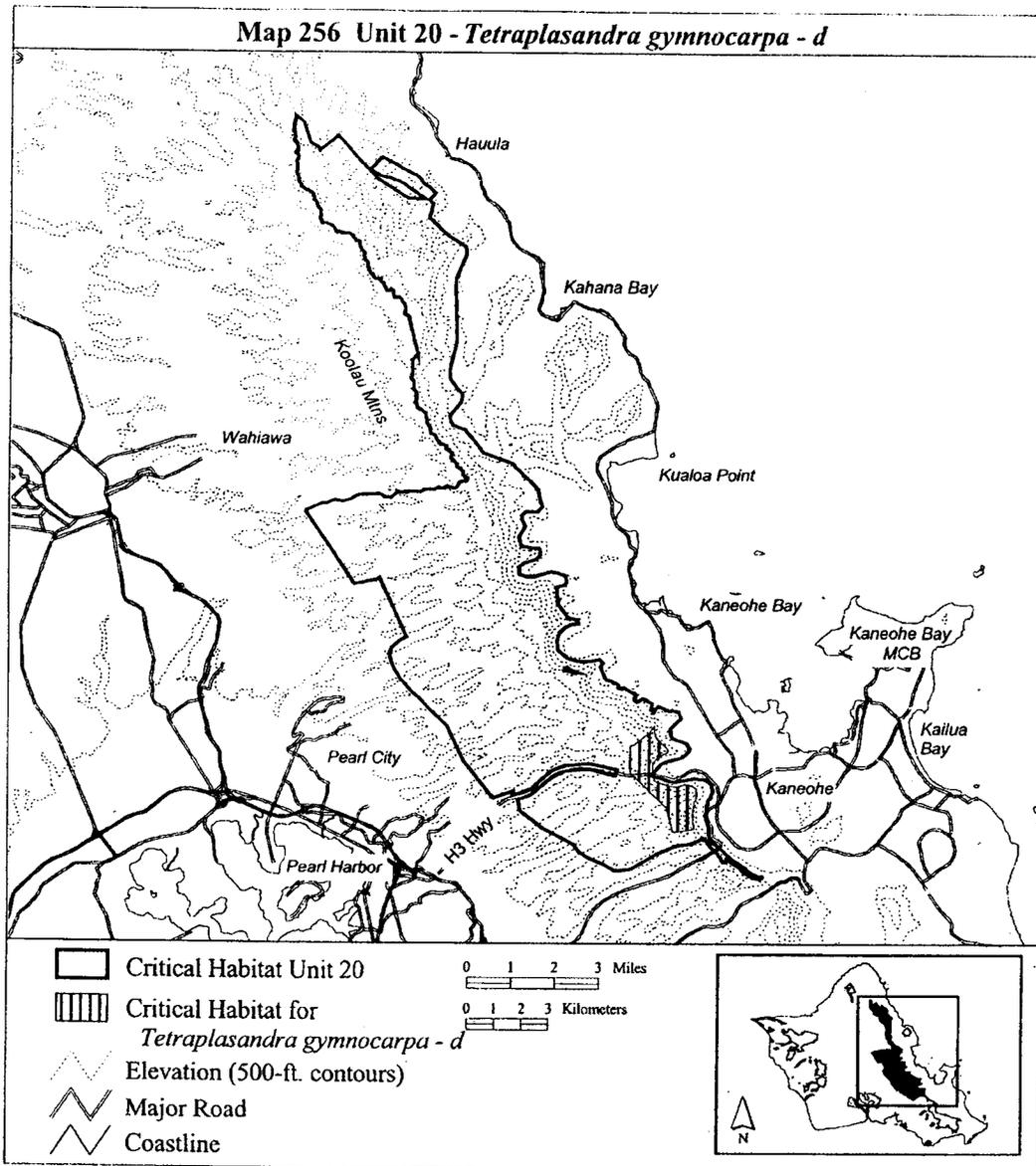


(252) Oahu 20—*Schiedea kaalae*—e
(378 ha; 934 ac)

(i) Unit consists of the following 100
boundary points: Start at 610262,
2387162; 610252, 2387163; 610196,
2387181; 610159, 2387216; 610133,
2387242; 610063, 2387266; 610077,
2387301; 610149, 2387343; 610210,
2387403; 610168, 2387460; 610107,

2387518; 610058, 2387565; 610063,
2387719; 610159, 2387749; 610222,
2387768; 610273, 2387791; 610320,
2387824; 610336, 2387848; 610325,
2387892; 610299, 2387953; 610259,
2388006; 610259, 2388044; 610266,
2388112; 610252, 2388147; 610222,
2388182; 610178, 2388226; 610114,
2388238; 610000, 2388289; 609981,

2388301; 609999, 2388345; 610027,
2388381; 610054, 2388383; 610098,
2388387; 610124, 2388392; 610140,
2388423; 610168, 2388432; 610222,
2388437; 610278, 2388437; 610318,
2388437; 610348, 2388390; 610402,
2388369; 610446, 2388369; 610486,
2388355; 610504, 2388319; 610504,
2388322; 611095, 2388275; 611810,



(257) Oahu 20—*Trematolobelia singularis*—a (88 ha; 217 ac)

(i) Unit consists of the following 173 boundary points: Start at 619374, 2369581; 619392, 2369559; 619441, 2369499; 619483, 2369472; 619551, 2369457; 619725, 2369358; 619888, 2369229; 620066, 2369093; 620195, 2369010; 620366, 2368938; 620453, 2368904; 620483, 2368794; 620502, 2368623; 620559, 2368456; 620624, 2368335; 620688, 2368271; 620684, 2368214; 620586, 2368153; 620479, 2368054; 620381, 2367956; 620362, 2367873; 620290, 2367865; 620260, 2367914; 620316, 2368001; 620381, 2368058; 620472, 2368187; 620552, 2368248; 620582, 2368282; 620536,

2368339; 620430, 2368437; 620430, 2368547; 620415, 2368684; 620423, 2368775; 620381, 2368839; 620298, 2368862; 620097, 2368972; 619953, 2369059; 619714, 2369248; 619539, 2369351; 619411, 2369430; 619377, 2369472; 619377, 2369458; 619289, 2369552; 619210, 2369659; 619134, 2369731; 619013, 2369783; 618837, 2369792; 618789, 2369792; 618637, 2369862; 618406, 2369919; 618243, 2370004; 618243, 2370068; 618197, 2370144; 618185, 2370171; 618137, 2370183; 618109, 2370220; 618079, 2370301; 617988, 2370408; 617906, 2370492; 617858, 2370556; 617858, 2370623; 617876, 2370687; 617897, 2370796; 617836, 2370808; 617773,

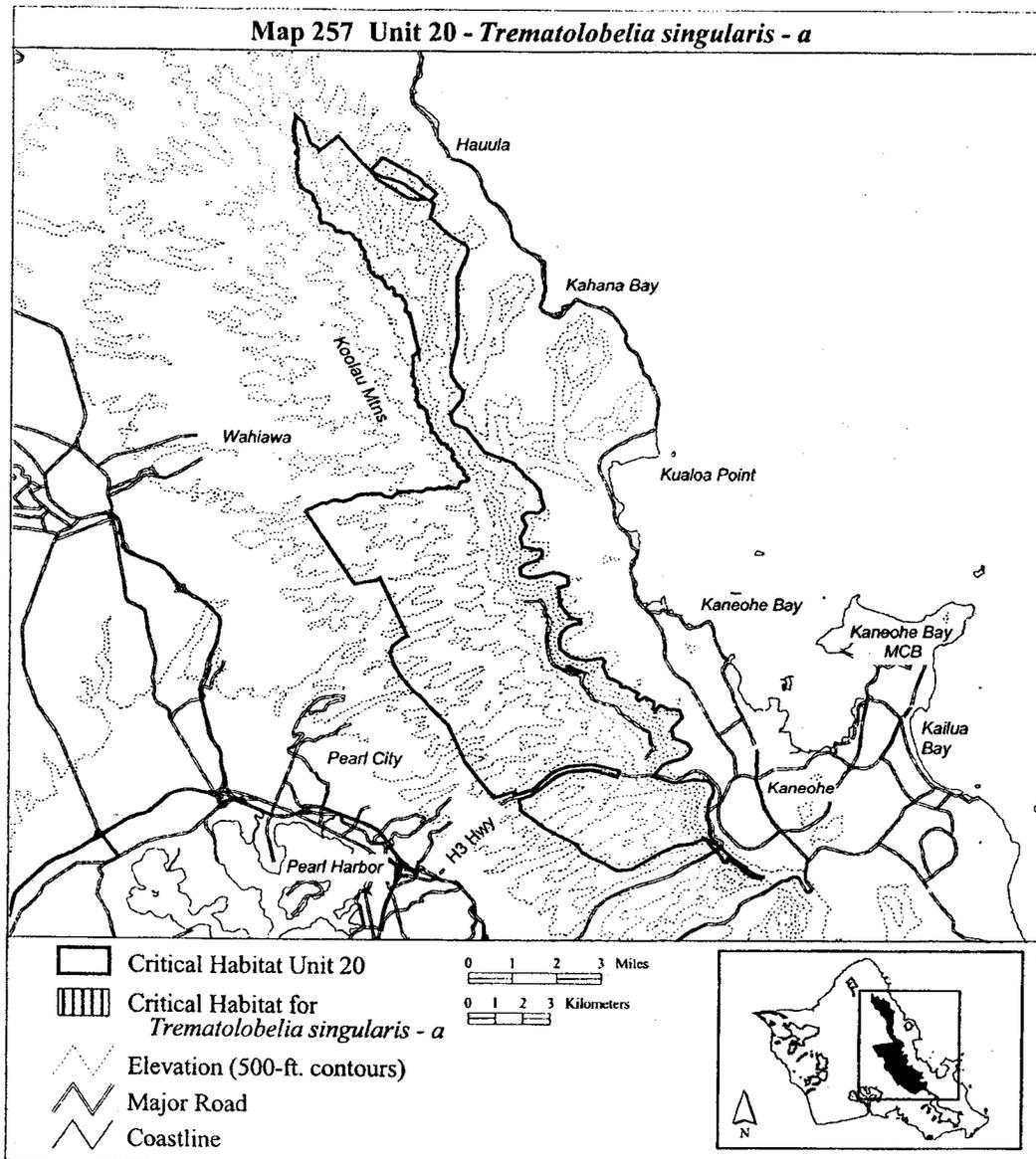
2370817; 617724, 2370838; 617648, 2370859; 617542, 2370859; 617451, 2370902; 617379, 2370941; 617218, 2371026; 617157, 2371064; 617151, 2371055; 617084, 2371122; 616985, 2371134; 616903, 2371185; 616812, 2371264; 616733, 2371359; 616713, 2371457; 616666, 2371619; 616638, 2371785; 616611, 2371942; 616583, 2372108; 616599, 2372266; 616638, 2372415; 616634, 2372423; 616631, 2372565; 616698, 2372672; 616678, 2372739; 616666, 2372806; 616654, 2372908; 616631, 2372964; 616567, 2372999; 616536, 2373078; 616489, 2373161; 616524, 2373236; 616532, 2373310; 616504, 2373381; 616469, 2373445; 616433, 2373496; 616410,

2373563; 616366, 2373579; 616351,
2373567; 616252, 2373543; 616122,
2373523; 615948, 2373519; 615842,
2373516; 615814, 2373594; 615864,
2373580; 615870, 2373618; 616047,
2373606; 616102, 2373606; 616185,
2373606; 616319, 2373634; 616390,
2373665; 616473, 2373638; 616536,
2373535; 616607, 2373405; 616607,
2373255; 616627, 2373137; 616717,
2373042; 616757, 2372960; 616820,
2372829; 616832, 2372707; 616796,
2372605; 616761, 2372522; 616761,

2372419; 616729, 2372348; 616705,
2372195; 616709, 2372096; 616721,
2371958; 616753, 2371836; 616769,
2371714; 616761, 2371674; 616796,
2371548; 616839, 2371473; 616875,
2371371; 616958, 2371280; 617045,
2371209; 617192, 2371133; 617194,
2371135; 617369, 2371041; 617509,
2370969; 617636, 2370923; 617697,
2370908; 617824, 2370908; 617958,
2370938; 618000, 2370956; 618058,
2370984; 618109, 2370993; 618128,
2370956; 618097, 2370929; 618058,

2370868; 618027, 2370799; 617988,
2370714; 617967, 2370641; 617973,
2370568; 618030, 2370492; 618076,
2370438; 618106, 2370408; 618161,
2370368; 618212, 2370256; 618337,
2370141; 618385, 2370065; 618431,
2370004; 618546, 2369956; 618737,
2369901; 618855, 2369874; 619068,
2369828; 619198, 2369792; 619313,
2369707; 619347, 2369643; 619374,
2369586; return to starting point.

(ii) Note: Map 257 follows:

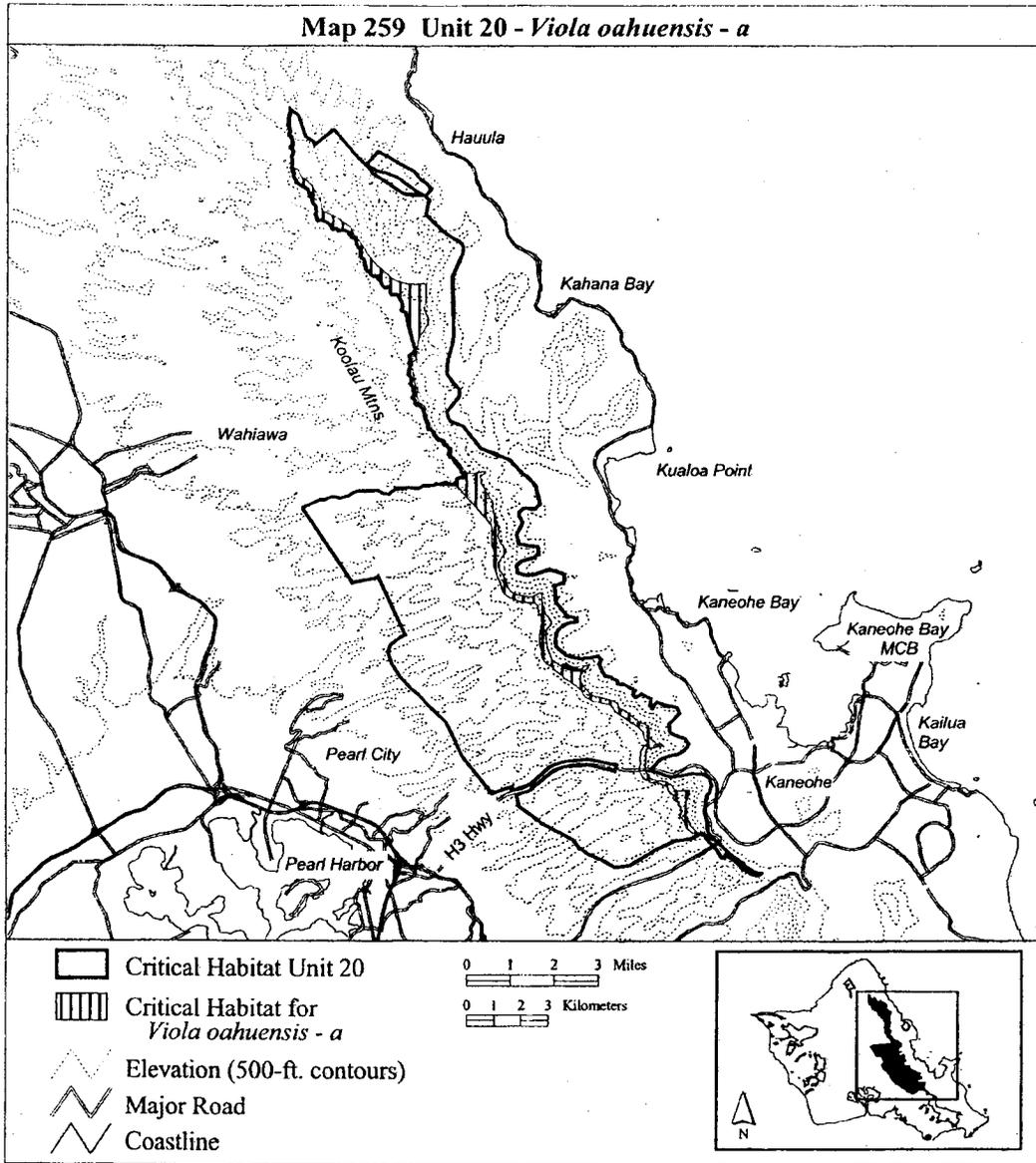


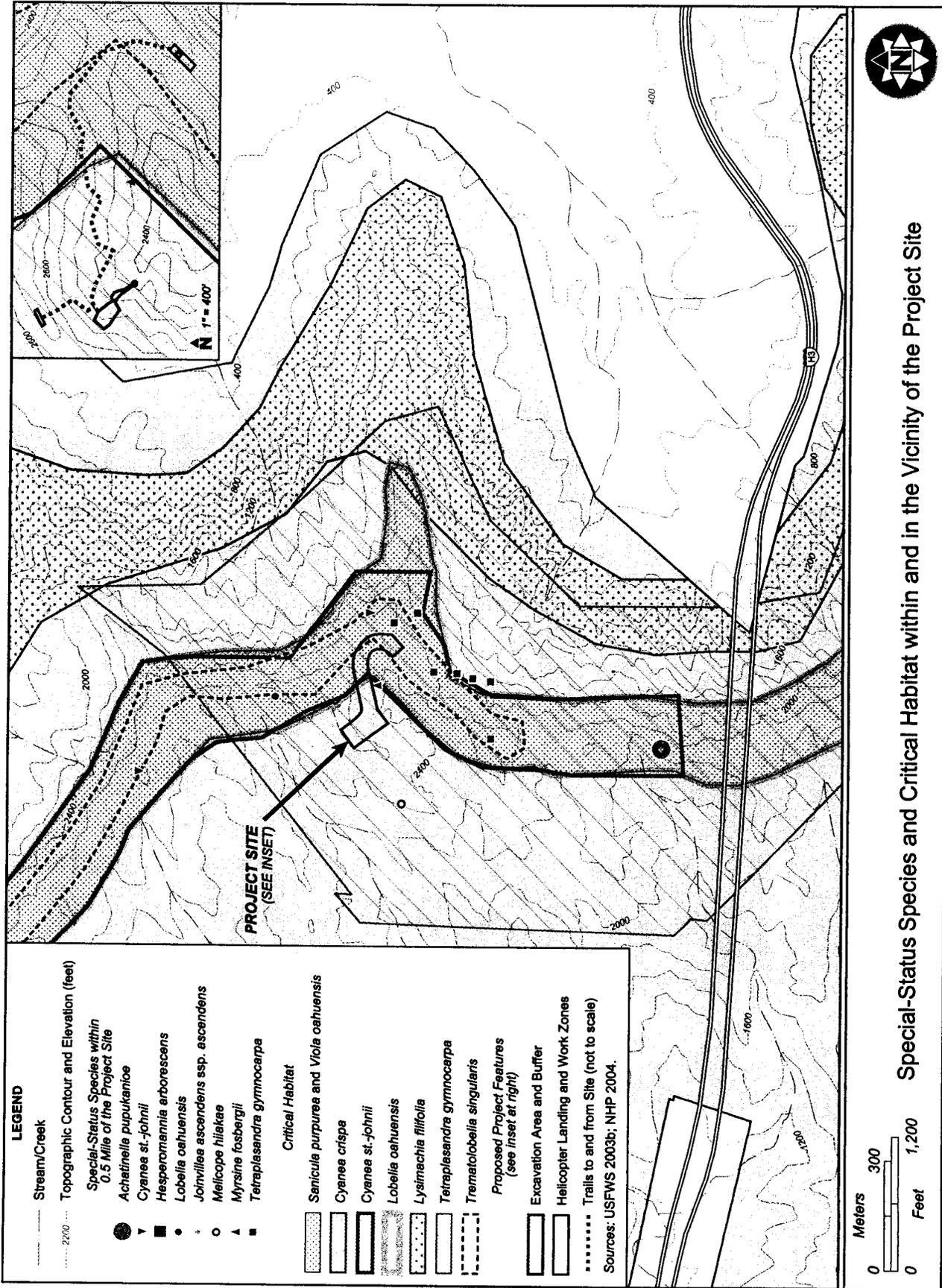
(258) Oahu 20—*Trematolobelia singularis*—b (10 ha; 25 ac)

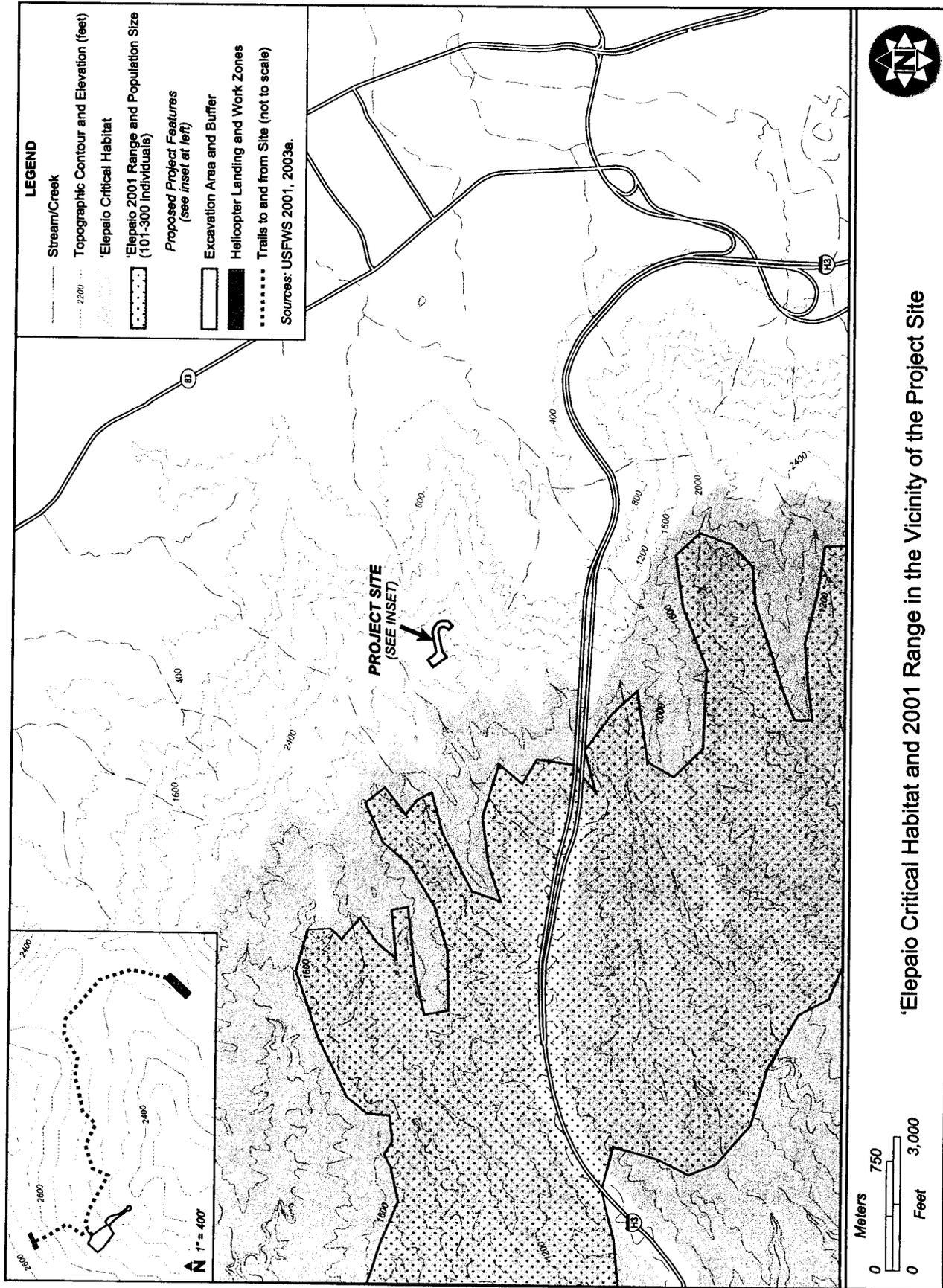
(i) Unit consists of the following 104 boundary points: Start at 622202,

2365006; 622110, 2365022; 622077,
2365045; 622053, 2365096; 622025,
2365135; 621986, 2365171; 621931,
2365225; 621917, 2365275; 621904,

2365327; 621896, 2365404; 621891,
2365456; 621854, 2365504; 621801,
2365545; 621767, 2365584; 621767,
2365605; 621772, 2365640; 621790,







'Elepaio Critical Habitat and 2001 Range in the Vicinity of the Project Site



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, Hawaii 96850

In Reply Refer To:
1-2-2005-F-172

JUN 14 2005

Mr. Melvin N. Kaku
Acting Business Line Manager, Environmental
Naval Facilities Engineering Command, Pacific
Department of the Navy
258 Makalapa Drive, Suite 100
Pearl Harbor, Hawaii 96860-3134

Dear Mr. Kaku:

This document transmits the Fish and Wildlife Service's (Service) biological opinion based on our review of the proposed aviator recovery activities in upper Halawa Valley on the island of Oahu, Hawaii, in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Your finding that the proposed project would adversely affect critical habitat for *Cyanea crispa*, *C. st.-johnii*, *Lobelia oahuensis*, *Sanicula purpurea*, *Tetraplasandra gymnocarpa*, *Trematolobelia singularis*, and *Viola oahuensis* and your request for formal consultation was received on March 11, 2005. The proposed project will not affect listed species. This biological opinion is based on (1) your March 10, 2005, letter; (2) the February 2005 Biological Survey Report; (3) the February 2005 Draft Restoration Plan for the Aviator Recovery Site; (4) email communications of April 4 and 5, 2005, between Dr. Gregory A. Koob of the Pacific Islands Fish and Wildlife Service office and William Kramer; (5) email communication between Dr. Koob and Glenn Metzler on April 5, 2005; and, (6) information from our files. A complete administrative record of this consultation is on file at this office.

CONSULTATION HISTORY

September 27, 2004: Dr. Koob, of this office, accompanied Julie Rivers of Navy Environmental and staff of Pono Pacific on a helicopter reconnaissance of the 1944 crash site. The general condition of the site was viewed from the air and from a ridgeline opposite the crash site and was part of a trip to determine how to best conduct vegetation surveys of the site.

March 11, 2005: The service received the Navy's March 10, 2005, letter making a determination that critical habitat for seven plant species (*Cyanea crispa*, *C. st.-johnii*, *Lobelia oahuensis*, *Sanicula purpurea*, *Tetraplasandra gymnocarpa*, *Trematolobelia singularis*, and *Viola*



oahuensis) may be adversely affected and requesting formal consultation. A biological survey report and a draft restoration plan for the site were included with the letter.

March 29, 2005: Dr. Koob left a voice message for William Kramer of the Navy asking for more detailed information on some of the conservation measures mentioned in the Navy's March 10, 2005, letter.

March 31, 2005: William Kramer sent an email to Dr. Koob saying that Glenn Metzler of The Environmental Company will be responding to the request for more information on the conservation measures. Dr. Koob called Mr. Metzler, responding to a voice mail message, and reiterated the need for clarification on some of the conservation measures.

April 1, 2005: Dr. Koob emailed Mr. Kramer requesting the electronic versions of the project description, maps, and photos that were included in the Navy's March 10, 2005, letter.

April 4, 2005: Mr. Kramer sent an email to Dr. Koob (including a forwarded message from Mr. Metzler), clarifying some of the conservation measures.

April 5, 2005: Anne Hong of the Navy Environmental Planning Division, for Mr. Kramer, sent an email to Dr. Koob with the final clarifications of the conservation measures and also said that the electronic files requested on April 1, 2005, will be forthcoming.

April 5, 2005: Mr. Metzler sent an email to Dr. Koob with the electronic files of the project description, maps, and photos that were included in the Navy's March 10, 2005, letter.

April 7, 2005: Dr. Koob sent Mr. Kramer an email asking for a review of the project description that will be included in the biological opinion.

April 8, 2005: Mr. Kramer sent Dr. Koob an email with some edits to the project description.

April 14, 2005: The Service sent the Navy a letter confirming the receipt of the reports and initiation of formal consultation on *Cyanea crispa*, *C. st.-johnii*, *Lobelia oahuensis*, *Sanicula purpurea*, *Tetraplasandra gymnocarpa*, *Trematolobelia singularis*, and *Viola oahuensis* critical habitat.

BIOLOGICAL OPINION

DESCRIPTION OF PROPOSED ACTION

The following summary of the proposed action is drawn from the project descriptions in the Navy's March 10, 2005, letter, the Navy's Draft Restoration Plan for the Aviator Recovery Site, and subsequent information received from the Navy. The project site is located in rugged terrain in the upper Halawa Valley, Oahu. Access to the site is very difficult due to its remote location and extremely steep terrain with slopes, perhaps, greater than 70 degrees. The project site consists of vegetated slopes.

The Navy proposes to remove vegetation, and excavate and screen soil to bedrock (an estimated average depth of 15 centimeters (cm) or 6 inches (in)) from an area at the crash site of up to approximately 400 square meters (sq m) (478 square yards (sq yd)) or 0.04 hectares (ha) (0.1 acres (ac)). Personnel will use hand tools to excavate soils. The average 15 cm (6 in) depth over a 400 sq m (478 sq yd) area yields an approximate volume of soil of 60 cubic m (79 cubic yd). In addition, the Navy proposes to establish ancillary support areas by modifying the taller vegetation within an additional 1,420 sq m (1,698 sq yd), or about 0.14 ha (0.35 ac) area. This ancillary area will provide a buffer around an existing helicopter landing pad, an alternative helicopter landing zone, and a footpath from landing zone to the recovery site. In this context, “modifying the taller vegetation” would include cutting taller vegetation at the helicopter landing area to meet safety requirements and unavoidable trampling of vegetation along pathways and at equipment staging areas. Vegetation in these areas may also need to be thinned or cut to allow access. Soils within the ancillary support areas will not be removed or significantly disturbed, but trails from the landing zones to the crash site are likely to be created as a result of frequent and repeated use during the life of the project.

The excavated soils will need to be wet screened, or washed through a 0.6-cm (0.25-in) screen with water, to effectively separate recoverable materials. Soil excavated from the crash site may be moved from the site to the Joint Prisoner of War – Missing in Action Accounting Command (JPAC) laboratory at Hickam Air Force Base for wet screening. JPAC is also considering wet screening the excavated soil on-site. Water for wet screening would either be brought in by helicopter or pumped from a stream in the vicinity of the recovery site. After wet screening, the excavated soil will be returned to the remains recovery site.

JPAC anticipates that recovery actions will begin in the summer of 2005 and will take approximately four to six weeks for a crew of up to 15 personnel to complete. The length of the recovery actions is limited to a fixed time period due to seasonal variations in the weather and availability of resources. As the recovery effort proceeds, JPAC personnel will implement temporary erosion control measures, such as anchoring geotextile, burlap, or other soil-stabilizing material over exposed grids, and will place soil-retention barriers down-slope of the disturbed areas. Revegetation and more permanent erosion control will be implemented immediately following the completion of the recovery portion of the project.

CONSERVATION MEASURES

In order to reduce negative impacts to critical habitat the following precautions will be taken:

Non-native Species Control

The Navy will implement the following measures to reduce the introduction and spread of, or where possible, to eradicate non-native species:

1. The Navy will provide specific instructions to recovery crews to brush dirt and other debris from their shoes and from equipment (particularly digging tools) that cannot be stored at the project site prior to entering the project area each work day.

2. Foods with small seeds (such as blackberries) and any other food that may have the potential to introduce weeds will not be allowed at the site.
3. The Navy will prevent the spread of non-native plants from soil disturbance activities by selective herbicide application. A weed suppressant such as RoundStar may be used to help prevent the seed bank from exploding upon removal of the native vegetation. The Navy will eradicate newly dispersed weeds in the project area by spot spraying with herbicides (either Round Up (41 percent Glyphosphate Isopropylamine Salt) or Garlon 3a (61.6 percent Triclopyr Butoxethylester and acid equivalent of 44.3 percent Triclopyr Triethylamine Salt)). Area-wide herbicide application will not be conducted due to concerns regarding drift and unintentional spraying of native plants.
4. The Navy will ensure that any replenishment soils brought to the site are sterile (*i.e.*, free of seeds).
5. The Navy will prevent the incursion and attraction of mice and rats that feed on the seeds of some native plants by requiring recovery crews to properly bag (*i.e.*, place in a plastic bag and seal) and remove all green trash (*e.g.*, food waste) daily.
6. Water brought in from off-site to wash soils will be procured from uncontaminated (*i.e.*, free of weed seeds) potable sources.

Erosion Control

1. The Navy will implement temporary erosion control measures down-slope of the project area during the recovery activities. These measures may include the implementation of soil retention barriers built of either plywood or tarps. Tarps will be used initially until more permanent barriers are in place.
2. Erosion control materials, such as geotextiles, will be new and unused.
3. The Navy will implement permanent erosion control measures immediately after JPAC has finished soil excavation. Detailed methods for erosion control are included in the February 2005 Draft Restoration Plan for Aviator Recovery Site.
4. Jute matting and decomposing bio stakes will be used to secure sifted soil. This will help to prevent run-off and soil displacement. The matting will keep soil in place and will also allow for natural recruitment of native plants after pre-emergent herbicides wears off.

Habitat Restoration

1. The Navy will remove all equipment and supplies from the project area at the conclusion of the recovery activities.
2. The Navy will implement the following habitat restoration measures at the conclusion of the recovery activities. Native plants will be selected and transplanted into the area in order to reestablish the approximate mix of native vegetation that existed prior to the

recovery activities. The plants will be procured from native plant nurseries on Oahu. All plant species used for outplanting will be historically or currently known from the project area.

3. The Navy will ensure that Recovery crews create and use established trails through non-native vegetation whenever possible. The Navy will implement habitat restoration measures for these routes, as described above for the remains recovery site proper.

STATUS OF THE CRITICAL HABITAT

Critical Habitat for *Cyanea crispa* (Haha)

Critical habitat for *Cyanea crispa* was designated on Federal, state, and private land on June 17, 2003, in four separate units totaling 7,326 ha (18,102 ac). Three units (Oahu 20—*Cyanea crispa*—a, Oahu 21—*Cyanea crispa*—c, and Oahu 35—*Cyanea crispa*—d) are currently occupied and one unit (Oahu 20—*Cyanea crispa*—b) is unoccupied. Critical habitat units a and c provide habitat for one population (a minimum of 300 mature, reproducing individuals) each, while units b and d provide habitat for three populations each (68 FR 35950).

The primary constituent elements for these units are slopes, moist gullies, or stream banks in open mesic forests or closed wet forests that are between 56 and 959 m (184 and 3,146 ft) in elevation and contain one or more of the following associated native plant species: *Antidesma platyphyllum* (hame), *Boehmeria grandis* (akolea), *Broussaisia arguta* (kanawao), *Christella cyatheoides* (kikawaio), *Cibotium chamissoi* (hapuu), *Cyrtandra* spp., *Diospyros* sp. (lama), *Dubautia* sp., *Metrosideros polymorpha* (ohia), *Microsorium spectrum* (peahi), *Perrottetia sandwicensis* (olomea), *Pipturus albidus* (mamaki), *Pisonia umbellifera* (papala kepau), *Psychotria* sp. or *Touchardia latifolia* (olona). The plant community, associated species, and elevations are indicative of important features such as soil moisture, nutrient cycling and availability, temperature ranges, and light levels that are included as primary constituent elements of the habitat required for the conservation of this species (68 FR 35950).

The threats to critical habitat for *Cyanea crispa* include habitat destruction and/or degradation by feral pigs and habitat alteration by aggressive non-native plants such as *Arthrostemma ciliatum*, *Clidemia hirta*, *Psidium cattleianum* (strawberry guava), *Psidium guajava* (guava), *Pterolepis glomerata*, *Rubus rosifolius* (thimbleberry), *Schinus terebinthifolius* (Christmas berry), *Setaria palmifolia* (palmgrass), and *Zingiber zerumbet* (awapuhi) (68 FR 35950).

Critical Habitat for *Cyanea st.-johnii* (Haha)

Critical habitat for *Cyanea st.-johnii* was designated on Federal, state, and private land on June 17, 2003, in two separate units (Oahu 20—*Cyanea st.-johnii*—a and Oahu 35—*Cyanea st.-johnii*—b) totaling 832 ha (2,057 ac). Both units are occupied; unit a provides habitat for three populations (of 300 mature reproducing individuals) and unit b provides habitat for six populations (68 FR 35950).

The primary constituent elements for these units are wet, windswept slopes and ridges in *Metrosideros polymorpha* mixed lowland shrubland or *M. polymorpha-Dicranopteris linearis* (uluhe) lowland shrubland that are between 461 and 959 m (1,512 and 3,146 ft) in elevation, and contain one or more of the following associated native plant species: *Alyxia oliviformis* (maile), *Antidesma* sp., *Bidens macrocarpa* (kookolau), *Broussaisia arguta*, *Chamaesyce clusiifolia* (akoko), *Cibotium* sp., *Dubautia laxa*, *Freycinetia arborea* (ieie), *Hedyotis* sp., *Labordia* sp., *Machaerina angustifolia* (uki), *Melicope* sp., *Psychotria* sp., *Sadleria pallida* (amau), *Scaevola mollis* (naupaka kuahiwi), or *Syzygium sandwicensis* (ohia ha). The plant community, associated species, and elevations are indicative of important features such as soil moisture, nutrient cycling and availability, temperature ranges, and light levels that are included as primary constituent elements of the habitat required for the conservation of this species (68 FR 35950).

The threats to critical habitat for *Cyanea st.-johnii* include habitat destruction and/or degradation by feral pigs and habitat alteration by aggressive non-native plants such as *Andropogon virginicus* (broomsedge), *Axonopus fissifolius* (narrow-leaved carpetgrass), *Clidemia hirta*, and *Sacciolepis indica* (Glenwood grass). Rats, slugs, and snails also threaten the habitat by preying on seeds and plant parts of the native vegetation in the habitat (68 FR 35950).

Critical Habitat for *Lobelia oahuensis*

Critical habitat for *Lobelia oahuensis* was designated on Federal, state, and private lands on June 17, 2003, in two separate units (Oahu 20—*Lobelia oahuensis*—a and Oahu 35—*Lobelia oahuensis*—b) totaling 644 ha (1,592 ac). Both units are occupied; unit a provides habitat for seven populations (of 300 mature reproducing individuals) and unit b provides habitat for three populations (68 FR 35950).

The primary constituent elements for these units are steep slopes on summit cliffs in cloudswept wet forests or in lowland wet shrubland that are frequently exposed to heavy wind and rain that are between 415 and 959 m (1,361 and 3,146 ft) in elevation, and contain one or more of the following associated native plant species: *Bidens* sp., *Broussaisia arguta*, *Cheirodendron trigynum* (lapalapa), *Cibotium* sp., *Dicranopteris linearis*, *Dubautia laxa* (naenae pua melemele), *Freycinetia arborea*, *Hedyotis* sp., *Labordia hosakana* (kamakahala), *Lycopodium* sp., *Machaerina angustifolia*, *Melicope* sp., *Metrosideros polymorpha*, *Peperomia* sp., *Phyllostegia* sp., *Sadleria squarrosa*, *Scaevola* sp., *Syzygium sandwicensis*, *Vaccinium* sp., or *Wikstroemia* sp. The plant community, associated species, and elevations are indicative of important features such as soil moisture, nutrient cycling and availability, temperature ranges, and light levels that are included as primary constituent elements of the habitat required for the conservation of this species (68 FR 35950).

The threats to critical habitat for *Lobelia oahuensis* include habitat destruction and/or degradation by feral pigs and habitat alteration by aggressive non-native plants such as *Clidemia hirta*, *Erigeron karvinskianus* (daisy fleabane), *Paspalum conjugatum* (Hilo grass), *Rubus argutus* (prickly Florida blackberry), and *Rubus rosifolius* (68 FR 35950).

Critical Habitat for *Sanicula purpurea* (Snakeroot)

Critical habitat for *Sanicula purpurea* was designated on Federal, state, and private land on June 17, 2003, in four separate units totaling 1,051 ha (2,597 ac). Three units (Oahu 20—*Sanicula purpurea*—a, Maui 17—*Sanicula purpurea*—b, and Maui 17—*Sanicula purpurea*—c) are currently occupied and one unit (Maui 17—*Sanicula purpurea*—a) is currently unoccupied. Critical habitat unit Oahu a provides habitat for four populations (of 300 mature, reproducing individuals), Maui b provides habitat for three populations, and units Maui a and Maui c combined provide habitat for one population (68 FR 25934, 68 FR 35950).

The primary constituent elements for these units are open *Metrosideros polymorpha* mixed montane bogs or windswept shrublands within the cloud zone that are between 415 and 871 m (1,361 and 2,857 ft) in elevation, and contain one or more of the following associated native plant species: *Bidens* sp., *Cheirodendron* sp., *Dichantherium koolauense*, *Gahnia becheyi*, *Leptocophylla tameiameia* (pukiawe), *Lycopodium* sp., *Machaerina angustifolia*, *Plantago pachyphylla* (laukahi kuahiwi), *Sadleria pallida*, or *Vaccinium* sp. The plant community, associated species, and elevations are indicative of important features such as soil moisture, nutrient cycling and availability, temperature ranges, and light levels that are included as primary constituent elements of the habitat required for the conservation of this species (68 FR 35950).

The threats to critical habitat on Oahu for *Sanicula purpurea* include habitat destruction and/or degradation by feral pigs and habitat alteration by aggressive non-native plants such as *Axonopus fissifolius* and *Clidemia hirta* (68 FR 35950).

Critical Habitat for *Tetraplasandra gymnocarpa* (Oheohe)

Critical habitat for *Tetraplasandra gymnocarpa* was designated on Federal, state, and private land on June 17, 2003, in six separate units (Oahu 20—*Tetraplasandra gymnocarpa*—a, Oahu 20—*Tetraplasandra gymnocarpa*—b, Oahu 20—*Tetraplasandra gymnocarpa*—c, Oahu 20—*Tetraplasandra gymnocarpa*—d, Oahu 35—*Tetraplasandra gymnocarpa*—e, and Oahu 35—*Tetraplasandra gymnocarpa*—f) totaling 1,942 ha (4,799 ac). Each is occupied and provides habitat for one population of 100 mature, reproducing individuals (68 FR 35950).

The primary constituent elements for these units are windswept summit ridges, slopes, or gullies in wet or sometimes mesic lowland forests or shrublands that are between 93 and 959 m (305 and 3,146 ft) in elevation, and contain one or more of the following associated native plant species: *Acacia koa* (koa), *Antidesma platyphyllum*, *Bidens* sp., *Bobea elatior* (ahakea lau nui), *Broussaisia arguta*, *Cheirodendron* sp., *Cibotium chamissoi*, *Cibotium* sp., *Cyanea humboldtiana* (haha), *Dicranopteris linearis*, *Diplopterygium pinnatum* (uluhe lau nui), *Dubautia laxa*, *Freycinetia arborea*, *Hedyotis fosbergii* (manono), *H. terminalis* (manono), *Labordia* sp., *Lobelia hypoleuca* (kuhiaikamowahine), *Machaerina angustifolia*, *Melicope* spp., *Metrosideros polymorpha*, *Myrsine fosbergii* (kolea), *Pouteria sandwicensis* (alaa), *Psychotria* spp., *Sadleria* sp., *Syzygium sandwicensis*, *Tetraplasandra oahuensis* (ohe mauka), or *Wikstroemia* sp. The plant community, associated species, and elevations are indicative of important features such as soil moisture, nutrient cycling and availability, temperature ranges,

and light levels that are included as primary constituent elements of the habitat required for the conservation of this species (68 FR 35950).

The threats to critical habitat for *Tetraplasandra gymnocarpa* include habitat destruction and/or degradation by feral pigs and habitat alteration by aggressive non-native plants such as *Aleurites moluccana* (kukui), *Araucaria columnaris* (Cook Island pine), *Ardisia elliptica* (shoebutton *Ardisia*), *Axonopus fissifolius*, *Clidemia hirta*, *Erigeron karvinskianus*, *Eucalyptus* sp., *Paspalum conjugatum*, *Psidium cattleianum*, *Pterolepis glomerata*, *Sacciolepis indica*, and *Setaria palmifolia*. The non-native two-spotted leafhopper (*Saphonia rufofascia*) also threatens the habitat by feeding on and damaging the native vegetation in the habitat (68 FR 35950).

Critical Habitat for *Trematolobelia singularis*

Critical habitat for *Trematolobelia singularis* was designated on Federal, state, and private lands on June 17, 2003, in five separate units totaling 140 ha (347 ac). Two units (Oahu 20—*Trematolobelia singularis*—a and Oahu 34—*Trematolobelia singularis*—c) are unoccupied, and three units (Oahu 20—*Trematolobelia singularis*—b, Oahu 35—*Trematolobelia singularis*—d, and Oahu 35—*Trematolobelia singularis*—e) are occupied. Unit a provides habitat for two populations (of 300 mature reproducing individuals) and units b through e provide habitat for one population each (68 FR 35950).

The primary constituent elements for these units are steep, windswept cliff faces or slopes in *Metrosideros polymorpha*-*Dicranopteris linearis* lowland wet shrubland that are between 545 and 953 m (1,788 and 3,126 ft) in elevation, and contain one or more of the following associated native plant species: *Broussaisia arguta*, *Cibotium* sp., *Dubautia laxa*, *Eugenia* sp., *Melicope* sp., *Sadleria* sp., or *Wikstroemia* sp. The plant community, associated species, and elevations are indicative of important features such as soil moisture, nutrient cycling and availability, temperature ranges, and light levels that are included as primary constituent elements of the habitat required for the conservation of this species (68 FR 35950).

The threats to critical habitat for *Trematolobelia singularis* include habitat destruction and/or degradation by feral pigs and habitat alteration by the aggressive non-native plant *Clidemia hirta*. Rats and slugs also threaten the habitat by preying on seeds and plant parts of the native vegetation in the habitat (68 FR 35950).

Critical Habitat for *Viola oahuensis*

Critical habitat for *Viola oahuensis* was designated on Federal, state, and private lands on June 17, 2003, in two separate units totaling 977 ha (2,418 ac). One unit (Oahu 20—*Viola oahuensis*—a) is occupied and one unit (Oahu 35—*Viola oahuensis*—b) is unoccupied. Unit a provides habitat for six populations (of 300 mature reproducing individuals) and unit b provides habitat for one population (68 FR 35950).

The primary constituent elements for these units are exposed, windswept ridges of moderate to steep slope in wet *Metrosideros polymorpha*-*Dicranopteris linearis* shrublands or *M. polymorpha* mixed montane bogs in the cloud zone that are between 415 and 959 m (1,361 and

3,146 ft) in elevation, and contain one or more of the following associated native plant species: *Antidesma* sp., *Bidens macrocarpa*, *Broussaisia arguta*, *Cibotium* sp., *Dubautia laxa*, *Hedyotis terminalis*, *Labordia* sp., *Machaerina* sp., *Melicope* sp., *Sadleria* sp., *Syzygium sandwicensis*, *Vaccinium* sp., or *Wikstroemia* sp. The plant community, associated species, and elevations are indicative of important features such as soil moisture, nutrient cycling and availability, temperature ranges, and light levels that are included as primary constituent elements of the habitat required for the conservation of this species (68 FR 35950).

The threats to critical habitat for *Viola oahuensis* include habitat destruction and/or degradation by feral pigs and habitat alteration by aggressive non-native plants such as *Axonopus fissifolius*, *Clidemia hirta*, *Paspalum conjugatum*, *Psidium cattleianum*, and *Pterolepis* sp. Military activity also threatens some portions of designated critical habitat (68 FR 35950).

ENVIRONMENTAL BASELINE

The environmental baseline describes the status of the species and factors affecting the environment of the critical habitat in the proposed action area during the consultation process. The baseline usually includes state, local, and private actions that affect a species or its critical habitat at the time the consultation begins. Unrelated Federal actions that have already undergone formal or informal consultations are also a part of the environmental baseline. Federal actions within the action area that may benefit listed species for critical habitat are also included in the environmental baseline; however, no conservation actions are being conducted in the action area. The environmental baseline describes the species' health at a specified point in time, and it does not include the effects of the action under review in this consultation.

Critical Habitat for *Cyanea crispa*

A small amount (0.005 percent (0.18 ha; 0.45 ac)) of critical habitat for *Cyanea crispa* is located in the action area (Figure 1, page 18). The critical habitat in the action area, in combination with approximately 1,831 ha (4,525 ac) of habitat outside the Navy action area, provides for the conservation of three populations of *C. crispa* with 300 mature reproducing individuals (68 FR 35950).

The major threats to the primary constituent elements in the action area are landslides and non-native plants such as *Clidemia hirta*, *Pterolepis glomerata*, and *Rubus rosifolius*. Non-native plants compete for light, space, and nutrients with the associated native plant species.

Critical Habitat for *Cyanea st.-johnii*

A small amount (0.009 percent (0.07 ha; 0.18 ac)) of critical habitat for *Cyanea st.-johnii* is located in the action area (Figure 2, page 19). The critical habitat in the action area, in combination with approximately 697 ha (1,723 ac) of habitat outside the action area, provides for the conservation of three populations of *C. st.-johnii* each with 300 mature reproducing individuals (68 FR 35950).

The major threats to the primary constituent elements of the critical habitat in the action area are landslides and non-native plants such as *Axonopus fissifolius*, *Clidemia hirta*, and *Sacciolepis indica*. Non-native plants compete for light, space, and nutrients with the associated native plant species.

Critical Habitat for *Lobelia oahuensis*

A small amount (0.011 percent (0.07 ha; 0.18 ac)) of critical habitat for *Lobelia oahuensis* is located in the action area (Figure 3, page 20). The critical habitat in the action area, in combination with approximately 493 ha (1,218 ac) of habitat outside the Navy action area, provides for conservation of seven populations of *L. oahuensis* with 300 mature, reproducing individuals.

The major threats to the primary constituent elements of the critical habitat in the action area are landslides and non-native plants such as *Clidemia hirta*, *Erigeron karvinskianus*, and *Paspalum conjugatum*. Non-native plants compete for light, space, and nutrients with the associated native plant species.

Critical Habitat for *Sanicula purpurea*

A small amount (0.042 percent (0.07 ha; 0.18 ac)) of critical habitat for *Sanicula purpurea* is located in the action area (Figure 3, page 20). The critical habitat in the action area, in combination with approximately 704 ha (1,739 ac) of habitat outside the action area, provides for conservation of four populations of 300 mature reproducing individuals (68 FR 35950).

The major threats to the primary constituent elements of the critical habitat in the action area are landslides and the non-native plant *Axonopus fissifolius*. Non-native plants compete for light, space, and nutrients with the associated native plant species.

Critical Habitat for *Tetraplasandra gymnocarpa*

A small amount (0.009 percent (0.18 ha; 0.45 ac)) of critical habitat for *Tetraplasandra gymnocarpa* is located in the action area (Figure 4, page 21). The critical habitat in the action area, in combination with approximately 362 ha (894 ac) of habitat outside the action area, provides for conservation of one population of 100 mature reproducing individuals (68 FR 35950).

The major threats to the primary constituent elements of critical habitat in the action area are landslides and non-native plants such as *Axonopus fissifolius*, *Clidemia hirta*, *Erigeron karvinskianus*, *Paspalum conjugatum*, *Pterolepis glomerata*, and *Sacciolepis indica*. Non-native plants compete for light, space, and nutrients with associated native plant species.

Critical Habitat for *Trematolobelia singularis*

A small amount (0.023 percent (0.03 ha; 0.08 ac)) of critical habitat for *Trematolobelia singularis* is located in the action area (Figure 5, page 22). The critical habitat in the action area,

in combination with approximately 89 ha (219 ac) of habitat outside the action area, provides for conservation of two populations of 300 mature, reproducing individuals (68 FR 35950).

The major threats to the primary constituent elements of critical habitat in the action area are landslides and the non-native plant *Clidemia hirta*. Non-native plants compete for light, space, and nutrients with associated native plant species.

Critical habitat For *Viola oahuensis*

A small amount (0.007 percent (0.07 ha; 0.18 ac)) of critical habitat for *Viola oahuensis* is located in the action area (Figure 3, page 20). The critical habitat in the action area, in combination with approximately 903 ha (2,232 ac) of habitat outside the action area, provides for conservation of six populations of 300 mature reproducing individuals (68 FR 35950).

The major threats to the primary constituent elements of critical habitat in the action area are landslides and non-native plants such as *Axonopus fissifolius*, *Clidemia hirta*, *Paspalum conjugatum*, and *Pterolepis* sp. Non-native plants compete for light, space, and nutrients with associated native plant species.

EFFECTS OF THE ACTION ON CRITICAL HABITAT

General Impact Statement

This section outlines impacts the recovery activities will have on critical habitat for seven plant species. Because the proposed action will impact all critical habitat similarly, we are analyzing the species collectively as a group. We have determined that the proposed action will directly impact the primary constituent elements of soil and associated native plant species. The direct effects to soil include removal, wet screening, and its return to the site or replacement with soil from off-site. The direct effects to the native plant species include their destruction and/or removal, pruning, and trampling in adjacent areas. There may be indirect effects to critical habitat due to removal of soil and vegetation which may trigger landslides and erosion. In addition, movement of recovery crews and equipment at helicopter landing zones, on trails, and on the recovery site proper, may spread seeds of non-native plants that will degrade the habitat. Increased human traffic and trash in critical habitat may attract rodents which feed on plant parts, fruits, and seeds. Minimization and avoidance measures for these activities are summarized above.

The proposed project action area is completely contained in critical habitat units Oahu 20—*Cyanea crispa*—b and Oahu 20—*Tetraplasandra gymnocarpa*—d and partially intersects with units Oahu 20—*Cyanea st.-johnii*—a, Oahu 20—*Lobelia oahuensis*—a, Oahu 20—*Sanicula purpurea*—a, Oahu 20—*Trematolobelia singularis*—a, and Oahu 20—*Viola oahuensis*—a (see Figures 1-5). The amount of critical habitat affected by the proposed project ranges from 0.002 to 0.023 percent of the total critical habitat for each species, and 0.008 to 0.050 percent of the individual units affected.

Table 1. Critical habitat affected by the proposed action.

Critical Habitat	Unit's Acres	Statewide acres	Acres Affected	Percent of Unit Affected	Percent State-wide CH Affected
<i>Cyanea crispera</i>	4,525	18,102	0.45	0.010	0.002
<i>Cyanea st.-johnii</i>	1,723	2,057	0.18	0.010	0.009
<i>Lobelia oahuensis</i>	1,218	1,592	0.18	0.015	0.011
<i>Sanicula purpurea</i>	1,739	2,597	0.18	0.010	0.007
<i>Tetraplasandra gymnocarpa</i>	894	4,799	0.45	0.050	0.009
<i>Trematolobelia singularis</i>	219	347	0.08	0.037	0.023
<i>Viola oahuensis</i>	2,232	2,418	0.18	0.008	0.007

The action area contains some primary constituent elements that will be affected by the proposed action, particularly soil and native plant species. The vegetation of the area is mostly comprised of native species (68%), but there are also some non-native species in the area, some that are considered threats to the affected critical habitat units.

The timeframe for the proposed action for the remains recovery and for habitat restoration work, if conducted concurrently, is four to six weeks. This timeframe may lengthen, depending on weather conditions. The proposed action will cause direct adverse effects to the primary constituent elements in the seven critical habitat units with which the action area intersects. These effects include destruction and removal of vegetative primary constituent elements, vegetation trampling and modification (pruning), disruption and removal of soil, soil erosion, and invasive species (weed and rat) introduction or spread.

Effects to Associated Native Plants Species

(a) Removal of Native Plant Species

The native vegetation will be directly adversely affected in three ways. In the 0.04 ha (0.1 ac) remains recovery site proper, vegetation will be removed so that soil can be removed and screened. This will happen in two critical habitat units (20—*Cyanea crispera*—b and Oahu 20—*Tetraplasandra gymnocarpa*—d). Though there will be complete destruction of the existing native plants, the vegetation will be replaced with native plant species within four to six weeks of completion of the remains recovery activities. Only native plant species historically or currently known from the project area will be used for revegetation. It is assumed that the revegetation process will be at least 60 percent successful (US Navy 2005). Minimization measures for this action are outlined in the conservation measures of this biological opinion.

(b) Pruning

Vegetation, both non-native and native, in helicopter landing zone, on trails, and in the remains recovery site proper will be pruned for safety reasons. Cutting of vegetation may provide points of entry for pathogens or insects, and has a dwarfing affect on woody species. However, these impacts are expected to be minimal and temporary in nature. It is assumed for the purpose of this analysis that the naturally dwarfed (wind-pruned) woody species in the action area are adapted to occasional pruning and will recover.

(c) Trampling

Recovery crews can directly crush a plant in and around helicopter landing zones, on the trails, and in the remains recovery site proper. Repeated use of these areas will result in some vegetation death, and may create muddy pathways. Plants that are trampled but not killed outright are expected to recover, similar to those affected by strong winds and rains (a common occurrence in the action area). Measures to minimize trampling of native plants are outlined in the conservation measures section of this biological opinion.

Effects to Soil

Soil will be directly adversely impacted by removal, wet screening, and replacement. In the remains recovery area soil will be removed to a depth of approximately 15 cm (6 in) over an area of approximately 0.04 ha (0.1 ac), totaling approximately 60 cubic m (79 cubic yd). Soil will be removed from units Oahu 20—*Cyanea crispera*—b and Oahu 20—*Tetraplasandra gymnocarpa*—d over a period of approximately four to six weeks. The soil will either be wet screened on-site or off-site. Soil that is wet screened on-site will be returned to the remains recovery site. Soil taken off-site for wet screening will be replaced by soil from an on-site landslide or from an off-site location. Measures to minimize the effects of soil removal and wet screening are outlined in the conservation measures section of this biological opinion. These measures, in combination with the relatively short time period of soil disturbance and small area to be disturbed, reduce the adverse impact to the critical habitat.

Indirect Effects to Primary Constituent Elements

(a) Landslides

Landslides are common in and around the action area as evidenced by the recent landslide adjacent to the action area (Navy 2005), indicating the habitat is adapted to soil disturbance to some degree. It is assumed for the purpose of this analysis that the remains recovery site proper will be similar to a natural landslide during the time of the dig (*i.e.*, temporary loss of vegetation and soil). However, areas that have experienced natural landslides are rarely, if at all, have their soil replaced or are revegetated with native plant species, as the Navy has committed to do in the action area. Additional measures to minimize the effects of landslides are outlined in the conservation measures section of this biological opinion.

(b) Erosion

Altering vegetation by removal, cutting, and pruning at helicopter landing zones and on trails may result in soil compaction, and loss or erosion of soil, particularly during wet weather. Soil erosion may also occur through destabilization of the soil from large-scale vegetation and soil removal in the recovery site proper. Measures to minimize the impacts of soil erosion are outlined in the conservation measures section of this biological opinion.

(c) Non-native species

The proposed project may increase the presence of non-native invasive animal and plant species in the action area.

1) Rats and Mice

Rats and mice may be attracted to trash left on-site. Rodents have been shown to eat plants and the fruits and/or seeds of native plants species, especially plants in the lobelia, palm, and African violet families (Cuddihy and Stone 1990). Rats threaten the associated native plants in critical habitat units Oahu 20—*Cyanea st.-johnii*—a and Oahu 20—*Trematolobelia singularis*—a and are assumed to threaten the other critical habitat units in the action area (68 FR 35950). Measures to minimize the impacts of rats and mice are outlined in the conservation measures section of this biological opinion.

2) Non-native Plants

An increase in non-native plants in the action area may result from the disturbance activities such as soil and vegetation removal, human foot traffic, movement of equipment into the action area, and replacement of excavated soil. Non-native invasive plants compete with native plant species for light, nutrients, and space and impact the associated native plant species both directly through competition and indirectly through alteration of the critical habitat. Measures to minimize the inadvertent introduction of new non-native plants to the action area and to prevent the influx of non-native plants from adjacent areas are outlined in the conservation measures section of this biological opinion. These measures will result in either less or similar concentrations of non-native plants in the action area resulting in either better or similar ability of the habitat to provide for recovery of the species for which the area was designated critical habitat.

Cumulative Effects

Cumulative effects include the effects of future State, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. We are unaware of any specific future actions that are or will occur within the action area considered in this biological opinion.

CONCLUSION

After reviewing the current status of the critical habitat for *Cyanea crispa*, *C. st.-johnii*, *Lobelia oahuensis*, *Sanicula purpurea*, *Tetraplasandra gymnocarpa*, *Trematolobelia singularis*, and *Viola oahuensis*, the environmental baseline for critical habitats in the action area, the effects of the proposed aviator recovery activities in upper Halawa Valley on the island of Oahu, and the cumulative effects, it is the Service's biological opinion that the aviator recovery activities, as proposed, are not likely to destroy or adversely modify designated critical habitat for these seven species.

There is an adverse effect to critical habitat and primary constituent elements due to the proposed action. Our determination that adverse modification or destruction of critical habitat should not occur is based largely on the Navy's multiple actions, described in the conservation measures section of this biological opinion, to minimize and reduce the effects of removal of native vegetation and soil, cutting and trampling of native plants, landslides, and erosion; to prevent the inadvertent introduction and spread of non-native species; and to maintain or increase the current

baseline for primary constituent elements of critical habitat through habitat restoration. Any losses that occur after implementation of the proposed action will be short term in nature, occur in a very small percentage of designated critical habitats, and will not result in permanent destruction of the physical and biological features of critical habitat.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Endangered Species Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The recommendations provided relate only to the proposed action and do not necessarily represent complete fulfillment of the Army's section 7(a)(1) responsibilities for the species.

- 1) The Navy should manage the vegetation in the restored sites until it is deemed successful.
- 2) The Navy should photo document and monitor the revegetation efforts and report to the Service.
- 3) The Navy should identify the existing seed bank from excavated soil.
- 4) The Navy should survey and monitor for rodents and eradicate, if necessary.
- 5) The Navy should fund research on slope revegetation methodology.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notifications of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on this action. As required in 50 CFR § 402.16, reinitiation of consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operation causing such take must cease pending reinitiation.

As stated in the conclusion (above), the Service's finding of no adverse modification is based in large part on the conservation measures built into the project by the Navy. Should there be a failure to carry out any or all of the described measures, or if the measures are not effective, or if

these measures are modified in any way without Service coordination, reinitiation of consultation will be required.

In future communications on this project, please refer to consultation number 1-2-2005-F-172. If you have any questions regarding this biological opinion, please contact Gregory A. Koob of my staff at (808) 792-9400.

Sincerely,



Patrick Leonard
Field Supervisor

Cumulative Effects

Cumulative effects include those resulting from the incremental effects of the proposed action in combination with other past, present, and future actions in the same area. The effects of the proposed action are considered in this biological opinion in order to determine if the cumulative effects of the proposed action, in combination with other past, present, and future actions, would result in a significant adverse effect on the species or critical habitat.

CONCLUSION

REINITIATION NOTICE

The purpose of this biological opinion is to provide information to the applicant regarding the potential effects of the proposed action on the species and critical habitat. The applicant is responsible for ensuring that the proposed action is consistent with the requirements of the Act. If the applicant determines that the proposed action is consistent with the requirements of the Act, the applicant should proceed with the proposed action. If the applicant determines that the proposed action is not consistent with the requirements of the Act, the applicant should not proceed with the proposed action. The applicant should consult with the Service to determine if the proposed action is consistent with the requirements of the Act.

Figure 1. Action area and *Cyanea crispa* critical habitat in relation to the proposed remains recovery project.

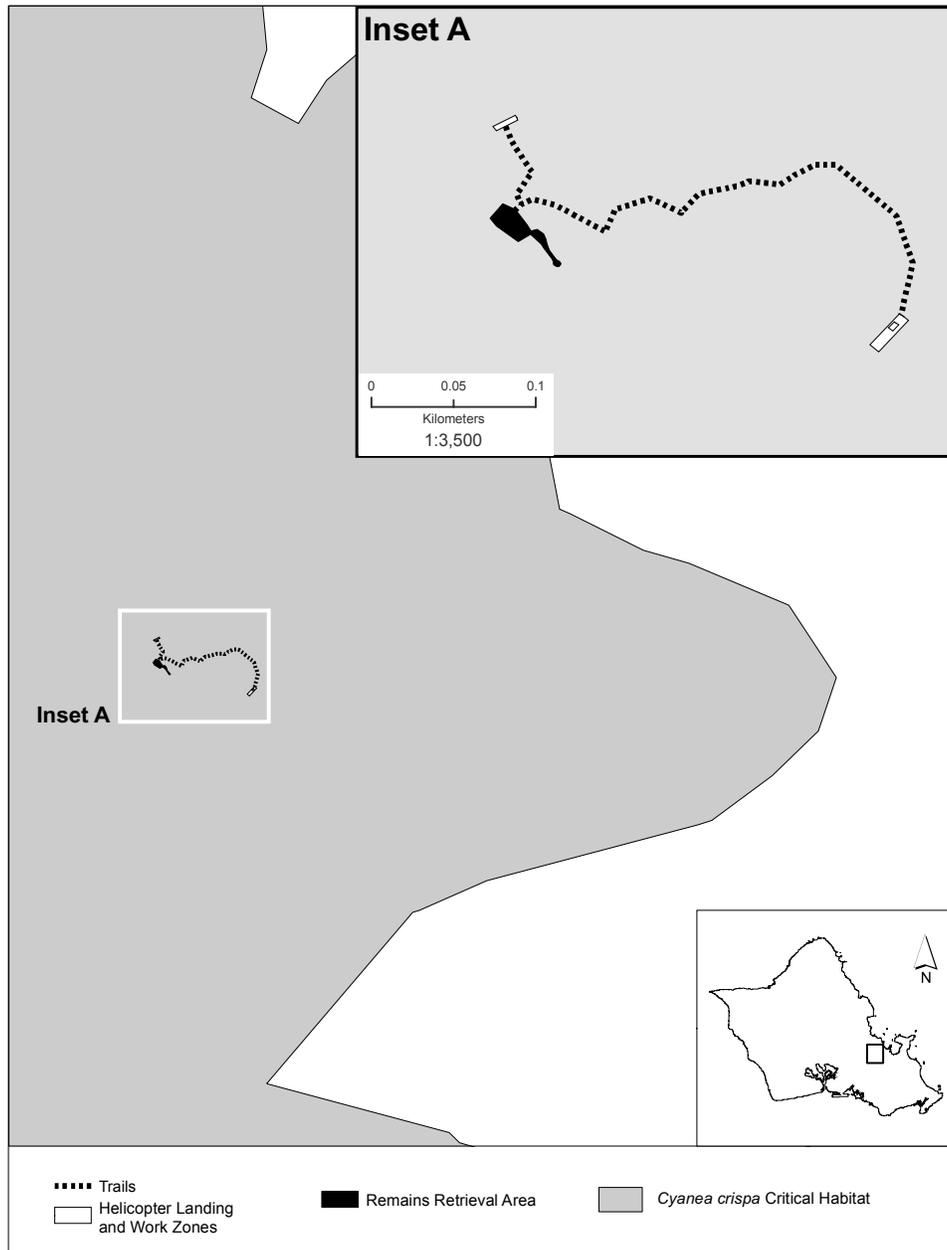


Figure 2. Action area and *Cyanea st.-johnii* critical habitat in relation to the proposed remains recovery project.

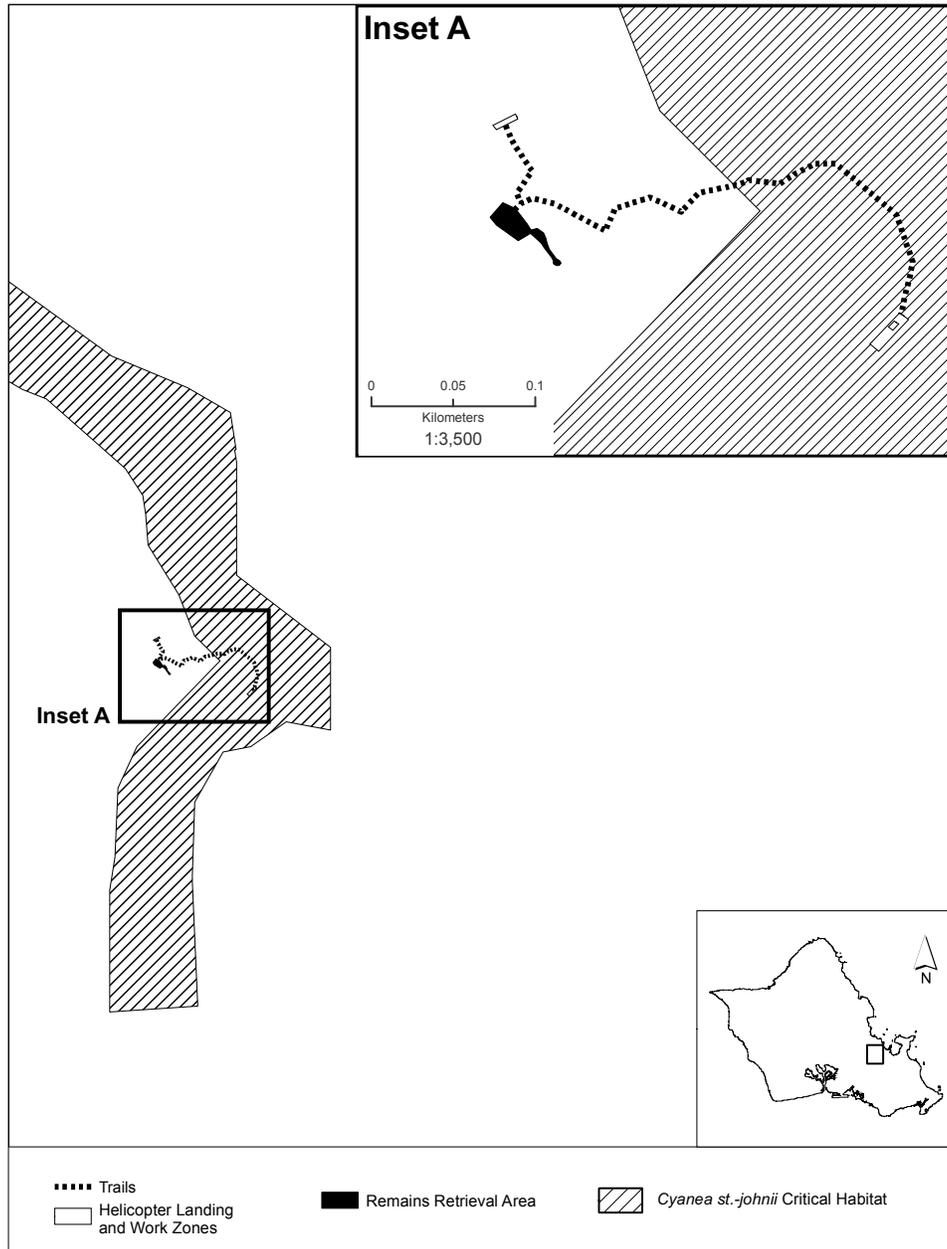


Figure 3. Action area and *Lobelia oahuensis*, *Sanicula purpurea*, and *Viola oahuensis* critical habitats in relation to the proposed remains recovery project.

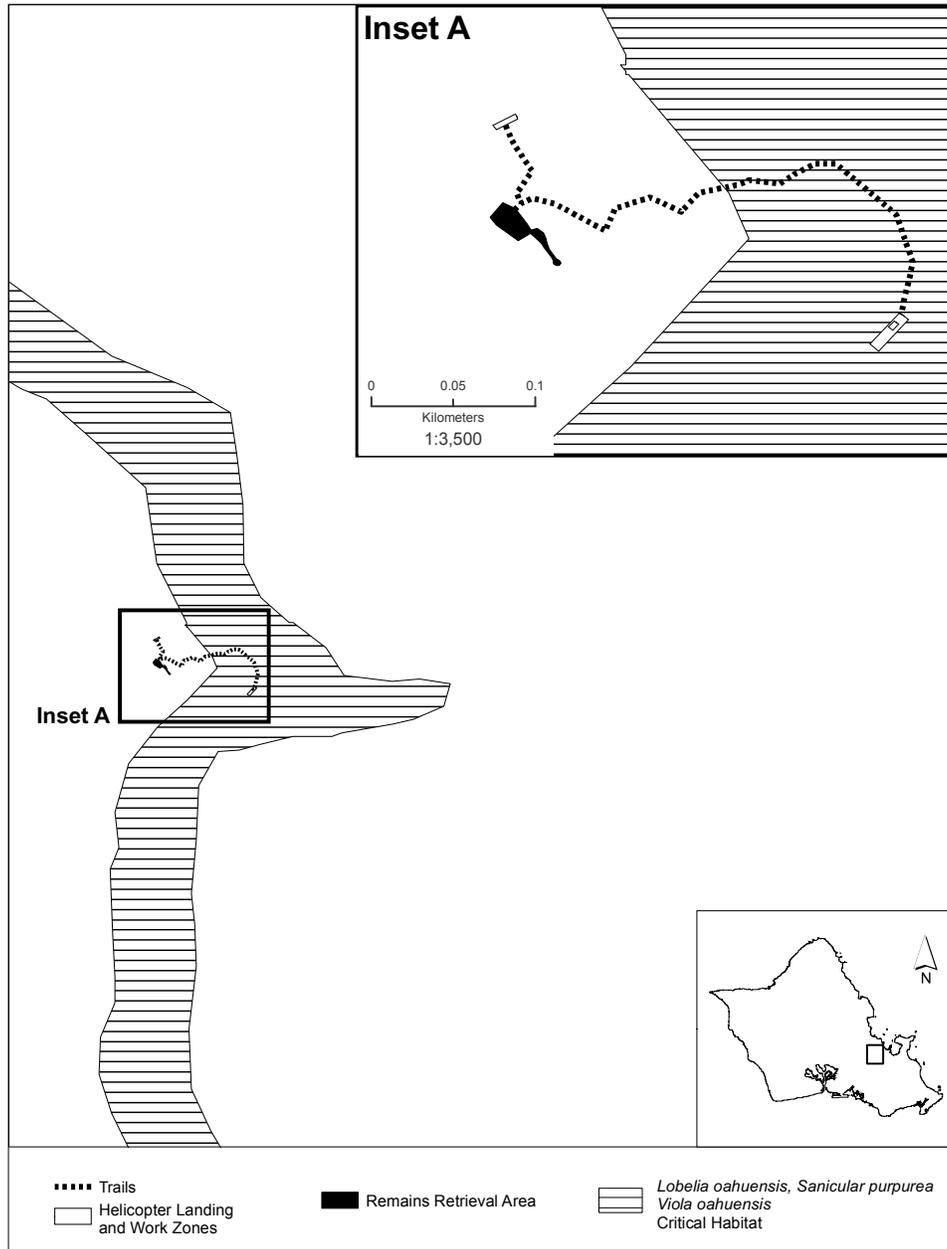


Figure 4. Action area and *Tetraplasandra gymnocarpa* critical habitat in relation to the proposed remains recovery project.

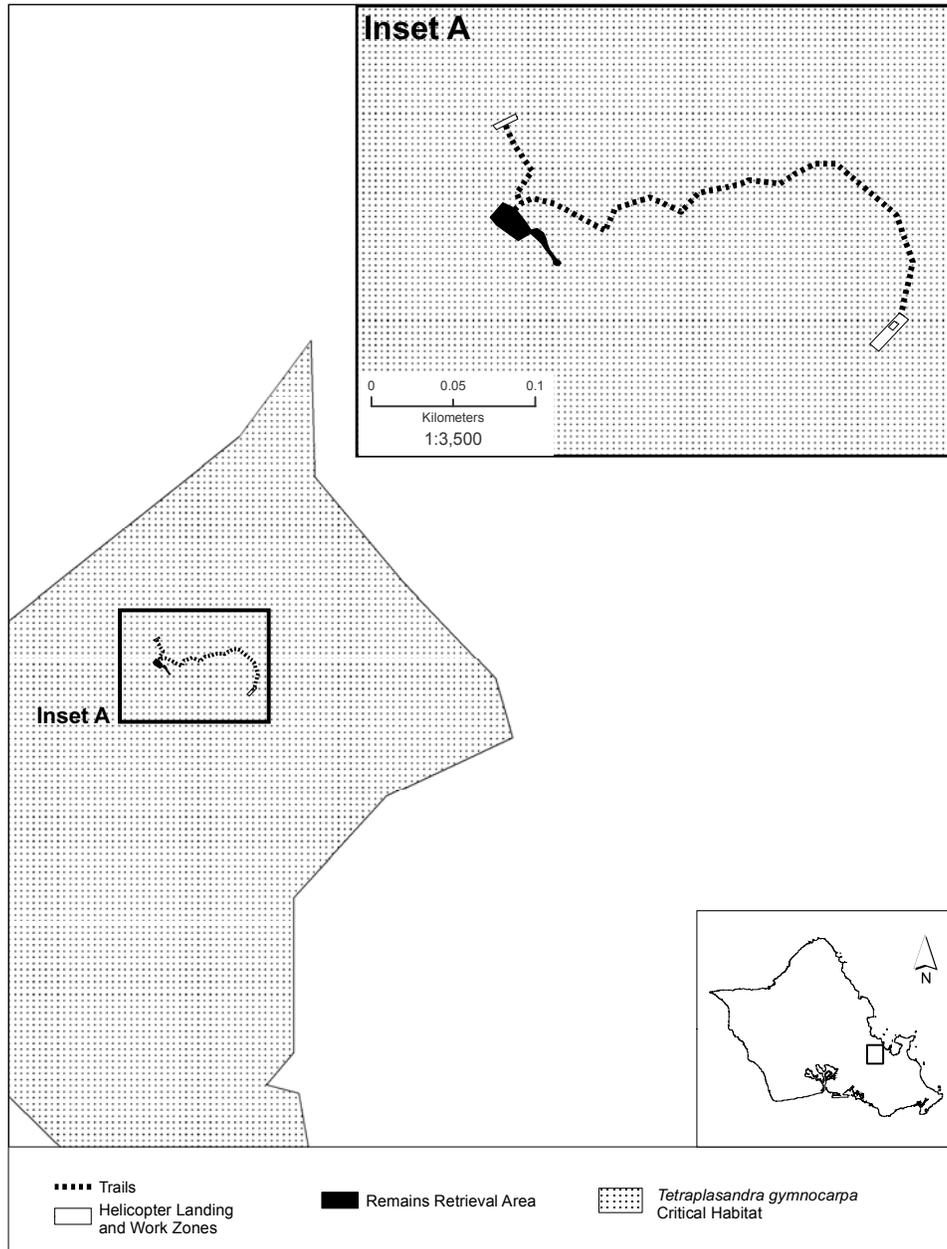
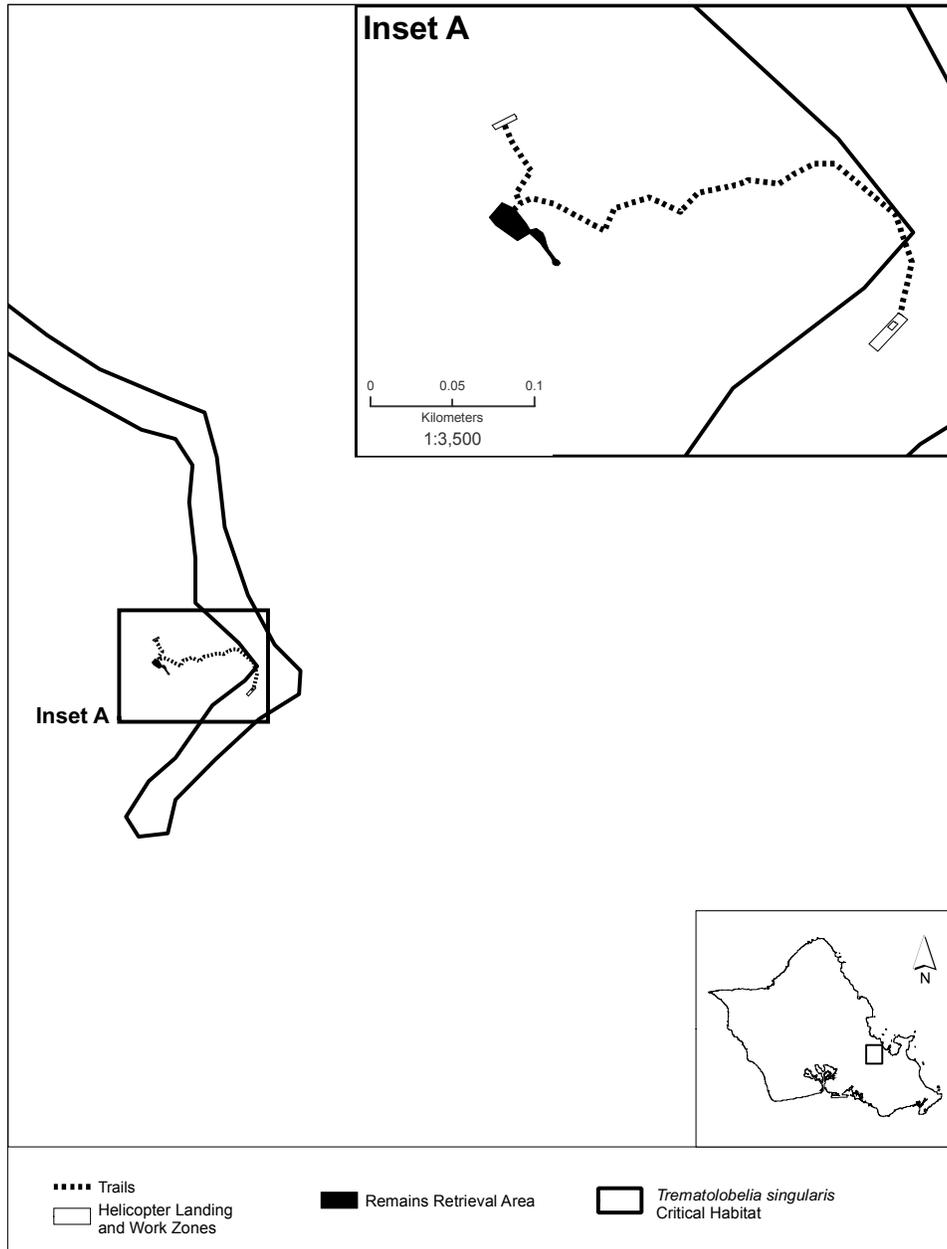


Figure 5. Action area and *Trematolobelia singularis* critical habitat in relation to the proposed remains recovery project.



LITERATURE CITED

Cuddihy, L.W., C.P. Stone. 1990. Alteration of native Hawaiian vegetation. Honolulu, HI: University of Hawaii Cooperative National Park Resources Studies Unit.

U.S. Navy. 2005. Biological Survey Report, Prepared in Support of the Aviator Recovery Environmental Assessment, Kooalu Mountains, Halawa Valley, Oahu, Hawaii. Commander Navy Region Hawaii.

Federal Register Publications

(68 FR 25934) Endangered and threatened wildlife and plants; designation of critical habitat for 60 plant species from the islands of Maui and Kahoolawe, HI; final rule. Department of the Interior, Fish and Wildlife Service, 50 CFR part 17, May 14, 2003. Federal Register 68 (93): 25934.

(68 FR 35950) Endangered and threatened wildlife and plants; final designations or nondesignations of critical habitat for 101 plant species from the island of Oahu, HI; final rule. Department of the Interior, Fish and Wildlife Service, 50 CFR part 17, June 17, 2003. Federal Register 68 (116): 35950.

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APPENDIX C

National Historic Preservation Act, Section 106 Consultation Letters

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DEPARTMENT OF THE NAVY

COMMANDER
NAVY REGION HAWAII
850 TICONDEROGA ST STE 110
PEARL HARBOR HI 96860-5101

5750

Ser N464/00027

MAR 09 2005

CERTIFIED MAIL NO. 7001 1940 0006 1626 0663

Ms. Nalani Kahoano Gersaba
Oahu Council of Hawaiian Civic Clubs
1767 Mahani Loop
Honolulu, HI 96819

Dear Ms. Gersaba:

Pursuant to Section 106 of the National Historic Preservation Act, we are requesting your review of the proposed "Recovery of World War II Missing Service Personnel." In accordance with the implementing regulations for Section 106 of the National Historic Preservation Act, we have reviewed the project and determined that it is an undertaking as defined in 36 CFR 800.16(y).

The project area is located below the ridge crest of the Ko'olau Mountain Range, above Kaneohe Bay, O'ahu, Hawai'i (TMK 4-6-15). Please refer to enclosed map for exact location.

Background and Project Description

On June 15, 1944 a Navy Ensign pilot took off in an F-6F-3 (Hellcat) from Barbers Point for a routine training flight near Kaneohe Bay, Oahu. He was one of among six flights that went up that day, but this particular Navy Ensign never returned to the station at the end of the exercises. The group had been practicing dive angle rocket training; after the fourth dive on target, the individual in question failed to rejoin the other Hellcats. Investigations that followed uncovered the crash site on 17 June 1944, on a mountaintop approximately four miles from then US Naval Air Station (USNAS) Kaneohe. Human remains and a boot were apparently found at that time, while reports that the wreckage and possibly remains were buried on the mountain could not be confirmed.

On April 26, 1996 then US Army Central Identification Laboratory Hawaii (CILHI) interviewed Rear Admiral (RADM) Bakutis concerning his visit to the Hellcat crash site soon after the incident in 1944. RADM Bakutis did not recall encountering any remains at the site, but believed the Navy Ensign was inside the plane at the time of the crash. As part of further investigations into the incident, the Joint Task Force-Full Accounting conducted a brief survey of the crash site on February 24, 1999. The survey took place at grid coordinate 4Q FJ 2010 6870, and located the aircraft wreckage that could be positively correlated with the missing Navy Ensign's Hellcat.

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Ser N464/ 00027
MAR 09 2005

The present project proposes to conduct intensive pedestrian and metal detector survey at the Hellcat crash site, including subsurface excavations if deemed necessary by these surveys [see enclosed work plan]. The project is designed to be a limited-collection survey with strictly bounded recuperation of personal effects and, if applicable, human remains which will contribute to the primary goal of conclusively identifying both the aircraft and its Navy Ensign pilot. All collected material will be carefully cataloged and maintained as a responsibility of Joint Prisoner-of-War/Missing-in-Action Accounting Command (JPAC).

Area of Potential Effect

A visit to the site by the Joint Task Force-Full Accounting in 1999 approximated the area encompassed by the aircraft crash and associated debris field to be around 25m x 150m, and entirely located below the ridge crest. However, the catastrophic nature of the crash, combined with the amount of time that has passed since the event and the steep (70°+) slope of the site, together suggest a high potential for the dispersal and continued shifting of remains due to fluvial processes. Thus, the true perimeter of the aircraft debris will be determined more accurately by pedestrian reconnaissance and metal detector survey during the course of the present project. The area of potential effect (APE) includes this area in addition to the helicopter landing zone, equipment storage area, break areas, UXO holding area, latrine area, and any additional safety system areas located on the steep slope.

Identification of Historic Properties

There have been no archaeological investigations conducted in the immediate vicinity of the APE for this project. The closest survey to the project area was conducted in 1997, and is well outside of the APE in Ha'iku Valley (Draft Report: *Archaeological Inventory Survey of the United States Coast Guard Omega Transmission Station, Ha'iku Valley, He'eia Ahupua'a, Ko'olaupoko, Island of O'ahu*: McDermott et al. 1997).

Three of the sites found closest to the project area, but outside of the APE, consist of an agricultural terrace complex (State Site 50-80-10-5498), two pits or pig wallows (State Site 50-80-10-5499), and an enclosure or possible heiau (State Site 50-80-10-5603). Worth noting is that all of these sites occur on significantly more level ground than the steep slopes of the project area, estimated at 70° or more. The report also documents the use of the valley bottom and surrounding slopes for taro cultivation and settlement by Native Hawaiians, followed by extensive military utilization during World War II. However, it is noted that the density of sites decreases with

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Ser N464

00027
MAR 09 2005

proximity to the Ko'olau Mountains. Thus, the steep ridges, slopes, and narrow drainages of the project area significantly reduce the probability of encountering archaeological sites.

The crash site contains the remains of the Hellcat aircraft, and potentially those of the missing U.S. service personnel. The aircraft was on a training flight when it crashed, and was not associated with a significant historical event such as the Pearl Harbor attack, and there is no documentation that the aircraft itself was associated with any significant WWII mission. However, because of the age (more than 50 years) of the crash and the aircraft, informal consultation with the State Historic Preservation Officer (SHPO) has determined that the site is eligible for the National Register of Historic Places.

Our records search indicates an absence of Native Hawaiian cultural resources in the APE. If your organization is aware of any cultural resources in the APE please advise.

Determination of Effect

It is our determination that the proposed Recovery of World War II Missing Service Personnel, carried out in accordance with the enclosed work plan, would have no adverse effects on historic properties. Per 36 CFR § 800.5(c)(1), we will proceed with the recovery of the World War II service personnel if we receive no response from your office by the end of the 30 day review period, and other consulting parties have not objected. We are concurrently consulting with SHPO and Office of Hawaiian Affairs (OHA).

Should you have any questions regarding this undertaking, please contact Mr. Eric West, Archaeologist, Naval Facilities Engineering Command, Pacific, at 472-1415, or Mr. Randy Miyashiro, Navy Region Hawaii Cultural Resource Coordinator, at 471-1171 extension 233.

Sincerely,



G. P. JENNINGS
Lieutenant, CEC, USNR
Historic Preservation
Program Coordinator
By direction of
Commander, Navy Region Hawaii

Enclosures: 1. Project Area Map
2. Project Work Plan



DEPARTMENT OF THE NAVY

COMMANDER
NAVY REGION HAWAII
850 TICONDEROGA ST STE 110
PEARL HARBOR HI 96860-5101

5750

Ser N464/00028

MAR 09 2005

CERTIFIED MAIL NO. 7001 1940 0006 1626 0670

Ms. Heidi Guth
Office of Hawaiian Affairs
711 Kapiolani Boulevard Suite 500
Honolulu HI 96813

Dear Ms. Guth:

Pursuant to Section 106 of the National Historic Preservation Act, we are requesting your review of the proposed "Recovery of World War II Missing Service Personnel." In accordance with the implementing regulations for Section 106 of the National Historic Preservation Act, we have reviewed the project and determined that it is an undertaking as defined in 36 CFR 800.16(y).

The project area is located below the ridge crest of the Ko'olau Mountain Range, above Kaneohe Bay, O'ahu, Hawai'i (TMK 4-6-15). Please refer to enclosed map for exact location.

Background and Project Description

On June 15, 1944 a Navy Ensign pilot took off in an F-6F-3 (Hellcat) from Barbers Point for a routine training flight near Kaneohe Bay, Oahu. He was one of among six flights that went up that day, but this particular Navy Ensign never returned to the station at the end of the exercises. The group had been practicing dive angle rocket training; after the fourth dive on target, the individual in question failed to rejoin the other Hellcats. Investigations that followed uncovered the crash site on 17 June 1944, on a mountaintop approximately four miles from then US Naval Air Station (USNAS) Kaneohe. Human remains and a boot were apparently found at that time, while reports that the wreckage and possibly remains were buried on the mountain could not be confirmed.

On April 26, 1996 then US Army Central Identification Laboratory Hawaii (CILHI) interviewed Rear Admiral (RADM) Bakutis concerning his visit to the Hellcat crash site soon after the incident in 1944. RADM Bakutis did not recall encountering any remains at the site, but believed the Navy Ensign was inside the plane at the time of the crash. As part of further investigations into the incident, the Joint Task Force-Full Accounting conducted a brief survey of the crash site on February 24, 1999. The survey took place at grid coordinate 4Q FJ 2010 6870, and located the aircraft wreckage that could be positively correlated with the missing Navy Ensign's Hellcat.

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Ser N464/00028
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The present project proposes to conduct intensive pedestrian and metal detector survey at the Hellcat crash site, including subsurface excavations if deemed necessary by these surveys [see enclosed work plan]. The project is designed to be a limited-collection survey with strictly bounded recuperation of personal effects and, if applicable, human remains which will contribute to the primary goal of conclusively identifying both the aircraft and its Navy Ensign pilot. All collected material will be carefully cataloged and maintained as a responsibility of Joint Prisoner-of-War/Missing-in-Action Accounting Command (JPAC).

Area of Potential Effect

A visit to the site by the Joint Task Force-Full Accounting in 1999 approximated the area encompassed by the aircraft crash and associated debris field to be around 25m x 150m, and entirely located below the ridge crest. However, the catastrophic nature of the crash, combined with the amount of time that has passed since the event and the steep (70°+) slope of the site, together suggest a high potential for the dispersal and continued shifting of remains due to fluvial processes. Thus, the true perimeter of the aircraft debris will be determined more accurately by pedestrian reconnaissance and metal detector survey during the course of the present project. The area of potential effect (APE) includes this area in addition to the helicopter landing zone, equipment storage area, break areas, UXO holding area, latrine area, and any additional safety system areas located on the steep slope.

Identification of Historic Properties

There have been no archaeological investigations conducted in the immediate vicinity of the APE for this project. The closest survey to the project area was conducted in 1997, and is well outside of the APE in Ha`iku Valley (Draft Report: *Archaeological Inventory Survey of the United States Coast Guard Omega Transmission Station, Ha`iku Valley, He`eia Ahupua`a, Ko`olaupoko, Island of O`ahu*: McDermott et al. 1997).

Three of the sites found closest to the project area, but outside of the APE, consist of an agricultural terrace complex (State Site 50-80-10-5498), two pits or pig wallows (State Site 50-80-10-5499), and an enclosure or possible *heiau* (State Site 50-80-10-5603). Worth noting is that all of these sites occur on significantly more level ground than the steep slopes of the project area, estimated at 70° or more. The report also documents the use of the valley bottom and surrounding slopes for taro cultivation and settlement by Native Hawaiians, followed by extensive military utilization during World War II. However, it is noted that the density of sites decreases with

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MAR 09 2005

proximity to the Ko'olau Mountains. Thus, the steep ridges, slopes, and narrow drainages of the project area significantly reduce the probability of encountering cultural sites in the vicinity.

The crash site contains the remains of the Hellcat aircraft, and potentially those of the missing U.S. service personnel. The aircraft was on a training flight when it crashed, and was not associated with a significant historical event such as the Pearl Harbor attack, and there is no documentation that the aircraft itself was associated with any significant WWII mission. However, because of the age (more than 50 years) of the crash and the aircraft, informal consultation with the State Historic Preservation Officer (SHPO) has determined that the site is eligible for the National Register of Historic Places.

Our records search indicates an absence of Native Hawaiian cultural resources in the APE shown on the project map enclosure. If your organization is aware of any cultural resources within the APE please advise.

Determination of Effect

It is our determination that the proposed Recovery of World War II Missing Service Personnel, carried out in accordance with the enclosed work plan, would have no adverse effects on historic properties. Per 36 CFR § 800.5(c)(1), we will proceed with the recovery of the World War II service personnel if we receive no response from your office by the end of the 30 day review period, and other consulting parties have not objected. We are concurrently consulting with SHPO and Oahu Council of Hawaiian Civic Clubs.

Should you have any questions regarding this undertaking, please contact Mr. Eric West, Archaeologist, Naval Facilities Engineering Command, Pacific, at 472-1415, or Mr. Randy Miyashiro, Navy Region Hawaii Cultural Resource Coordinator, at 471-1171 extension 233.

Sincerely,



G. P. JENNINGS
Lieutenant, CEC, USNR
Historic Preservation
Program Coordinator
By direction of
Commander, Navy Region Hawaii

Enclosures: 1. Project Area Map
2. Project Work Plan



DEPARTMENT OF THE NAVY

COMMANDER
NAVY REGION HAWAII
850 TICONDEROGA ST STE 110
PEARL HARBOR HI 96860-5101

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Ser N464/00026

MAR 09 2005

Certified Mail No. 7001 1940 0006 1626 0656

Mr. Peter Young
Chairperson and State Historic Preservation Officer
Department of Land and Natural Resources
State Historic Preservation Division
Kakuhihewa Building
601 Kamokila Boulevard, Room 555
Kapolei, HI 96707

Dear Mr. Young:

Pursuant to Section 106 of the National Historic Preservation Act, we are requesting your review of the proposed "Recovery of World War II Missing Service Personnel." In accordance with the implementing regulations for Section 106 of the National Historic Preservation Act, we have reviewed the project and determined that it is an undertaking as defined in 36 CFR 800.16(y).

The project area is located below the ridge crest of the Ko'olau Mountain Range, above Kaneohe Bay, O'ahu, Hawai'i (TMK 4-6-15). Please refer to enclosed map for exact location.

Background and Project Description

On June 15, 1944 a Navy Ensign pilot took off in an F-6F-3 (Hellcat) from Barbers Point for a routine training flight near Kaneohe Bay, Oahu. He was one of among six flights that went up that day, but this particular Navy Ensign never returned to the station at the end of the exercises. The group had been practicing dive angle rocket training; after the fourth dive on target, the individual in question failed to rejoin the other Hellcats. Investigations that followed uncovered the crash site on 17 June 1944, on a mountaintop approximately four miles from then US Naval Air Station (USNAS) Kaneohe. Human remains and a boot were apparently found at that time, while reports that the wreckage and possibly remains were buried on the mountain could not be confirmed.

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Ser N464/00026
MAR 09 2005

on February 24, 1999. The survey took place at grid coordinate 4Q FJ 2010 6870, and located the aircraft wreckage that could be positively correlated with the missing Navy Ensign's Hellcat.

The present project proposes to conduct intensive pedestrian and metal detector survey at the Hellcat crash site, including subsurface excavations if deemed necessary by these surveys [see enclosed work plan]. The project is designed to be a limited-collection survey with strictly bounded recuperation of personal effects and, if applicable, human remains which will contribute to the primary goal of conclusively identifying both the aircraft and its Navy Ensign pilot. All collected material will be carefully cataloged and maintained as a responsibility of Joint Prisoner-of-War/Missing-in-Action Accounting Command (JPAC).

Area of Potential Effect

A visit to the site by the Joint Task Force-Full Accounting in 1999 approximated the area encompassed by the aircraft crash and associated debris field to be around 25m x 150m, and entirely located below the ridge crest. However, the catastrophic nature of the crash, combined with the amount of time that has passed since the event and the steep (70°+) slope of the site, together suggest a high potential for the dispersal and continued shifting of remains due to fluvial processes. Thus, the true perimeter of the aircraft debris will be determined more accurately by pedestrian reconnaissance and metal detector survey during the course of the present project. The area of potential effect (APE) includes this area in addition to the helicopter landing zone, equipment storage area, break areas, UXO holding area, latrine area, and any additional safety system areas located on the steep slope.

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There have been no archaeological investigations conducted in the immediate vicinity of the APE for this project. The closest survey to the project area was conducted in 1997, and is well outside of the APE in Ha'iku Valley (Draft Report: *Archaeological Inventory Survey of the United States Coast Guard Omega Transmission Station, Ha'iku Valley, He'eia Ahupua'a, Ko'olaupoko, Island of O'ahu*: McDermott et al. 1997).

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Ser N464/00026
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slopes for taro cultivation and settlement by Native Hawaiians, followed by extensive military utilization during World War II. However, it is noted that the density of sites decreases with proximity to the Ko'olau Mountains. Thus, the steep ridges, slopes, and narrow drainages of the project area significantly reduce the probability of encountering archaeological sites.

The crash site contains the remains of the Hellcat aircraft, and potentially those of the missing U. S. service personnel. The aircraft was on a training flight when it crashed, and was not associated with a significant historical event such as the Pearl Harbor attack, and there is no documentation that the aircraft itself was associated with any significant WWII mission. However, because of the age (more than 50 years) of the crash and the aircraft, informal consultation with your office has determined that the site is eligible for the National Register of Historic Places.

Determination of Effect

It is our determination that the proposed Recovery of World War II Missing Service Personnel, carried out in accordance with the enclosed work plan, would have no adverse effects on historic properties. Per 36 CFR § 800.5(c)(1), we will proceed with the recovery of the World War II service personnel if we receive no response from your office by the end of the 30 day review period, and if other consulting parties have not objected. We are concurrently consulting with the Oahu Council of Hawaiian Civic Clubs and Office of Hawaiian Affairs.

Should you have any questions regarding this undertaking, please contact Mr. Eric West, Archaeologist, Naval Facilities Engineering Command, Pacific, at 472-1415, or Mr. Randy Miyashiro, Navy Region Hawaii Cultural Resource Coordinator, at 471-1171 extension 233.

Sincerely,



G. P. JENNINGS
Lieutenant, CEC, USNR
Historic Preservation
Program Coordinator
By direction of
Commander, Navy Region Hawaii

Enclosures: 1. Project Area Map
2. Project Work Plan



DEPARTMENT OF THE NAVY

COMMANDER
NAVY REGION HAWAII
850 TICONDEROGA ST STE 110
PEARL HARBOR HI 96860-5101

5750 00076
Ser N45/
24 MAR 2005

CERTIFIED MAIL NO. 7002 3150 0003 9288 6857

Ms. Nalani Kahoano Gersaba
Oahu Council of Hawaiian Civic Clubs
1767 Mahani Loop
Honolulu HI 96819

Dear Ms. Gersaba:

We are notifying your office of additional information regarding the proposed recovery of missing service personnel, Ko'olau Mountains, Oahu, Hawaii (TMK 1-9-9-011:002 and 004). We previously consulted your office in a letter dated March 9, 2005 (Ser N464/00027).

The proposed project scope has been changed to make use of a small concrete structure and concrete pad located on top of the Ko'olau Ridge. The project would use the concrete pad as a temporary helicopter landing zone, and the small structure to store field equipment and/or supplies during the aviator recovery effort.

Description of Concrete Pad and Structure

Approximately 200 meters above the Hellcat crash site, on top of the Ko'olau Ridge, is a small concrete structure with an associated concrete pad. The small concrete structure and pad are the remains of infrastructure associated with the maintenance of the OMEGA radio navigation system. A 1973 USGS map of Ha'iku Valley shows a radio station tramway leading to a tower where the concrete shelter and pad exist today. The Navy originally developed and completed construction of the Naval Radio Station at Ha'iku Valley in 1943, and by 1973 the station operations changed over to the Coast Guard, and a new antenna was erected 7,200 feet across Ha'iku Valley and 1250 feet above the ground.

The tower shown on the 1973 USGS map no longer exists, and the remaining concrete pad is all that is left. Currently the small rectangular concrete structure is partially buried, and the concrete pad is covered with grass to some extent.

The concrete structure and pad no longer have integrity because the metal tower, tram, cables, and other associated equipment are gone. The small structure is a concrete masonry unit shelter that is utilitarian, not unique, and does not represent the work of a master

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Ser N45/

24 MAR 2005

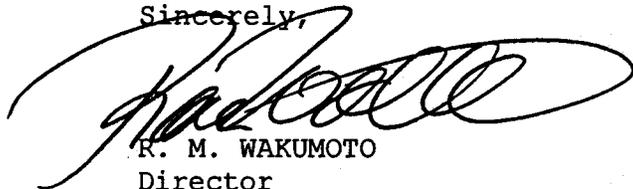
architect. The concrete pad and structure would have been auxiliary to the operation of OMEGA Station. As a result, for Section 106 purposes only, the concrete shelter and pad do not qualify for the National Register of Historic Places.

Determination of Effect

Proposed use of the small concrete structure for storing field equipment and pad for helicopter landing would be temporary, only during the aviator recovery field effort. The concrete pad has previously been used as a helicopter landing zone, and no damage has occurred to the pad from the helicopter skids touching down. Because the concrete structure and pad are not significant, and their proposed use would be temporary, the previous finding of "no historic properties adversely affected" for the proposed aviator recovery effort remains the same.

Should you have any questions regarding this undertaking, please contact Mr. Eric West, Archaeologist, Naval Facilities Engineering Command, Pacific, at 472-1415, or Mr. Randy Miyashiro, Navy Region Hawaii Cultural Resource Coordinator, at 471-1171, extension 233.

Sincerely,



R. M. WAKUMOTO

Director

Regional Environmental Director

By direction of

Commander, Navy Region Hawaii

Enclosure: 1. Aerial photograph of concrete structure and pad

Blind copy to:

CNRH N45RM

NAVFAC Hawaii ENV3 JF (PDF format)

NAVFAC Pacific EV33 (w/o encl)

Concrete Structure and Pad on the Ko`olau Ridge



Enclosure (1)



DEPARTMENT OF THE NAVY

COMMANDER
NAVY REGION HAWAII
850 TICONDEROGA ST STE 110
PEARL HARBOR HI 96860-5101

5750... 00078
Ser. N45/
24 MAR 2005

CERTIFIED MAIL NO. 7002 3150 0003 9288 6833

Ms. Heidi Guth
Office of Hawaiian Affairs
711 Kapiolani Boulevard Suite 500
Honolulu HI 96813

Dear Ms. Guth:

We are notifying your office of additional information regarding the proposed recovery of missing service personnel, Ko'olau Mountains, Oahu, Hawaii (TMK 1-9-9-011:002 and 004). We previously consulted your office in a letter dated March 9, 2005 (Ser N464/00028).

The proposed project scope has been changed to make use of a small concrete structure and concrete pad located on top of the Ko'olau Ridge. The project would use the concrete pad as a temporary helicopter landing zone, and the small structure to store field equipment and/or supplies during the aviator recovery effort.

Description of Concrete Pad and Structure

Approximately 200 meters above the Hellcat crash site, on top of the Ko'olau Ridge, is a small concrete structure with an associated concrete pad. The small concrete structure and pad are the remains of infrastructure associated with the maintenance of the OMEGA radio navigation system. A 1973 USGS map of Ha'iku Valley shows a radio station tramway leading to a tower where the concrete shelter and pad exist today. The Navy originally developed and completed construction of the Naval Radio Station at Ha'iku Valley in 1943, and by 1973 the station operations changed over to the Coast Guard, and a new antenna was erected 7,200 feet across Ha'iku Valley and 1250 feet above the ground.

The tower shown on the 1973 USGS map no longer exists, and the remaining concrete pad is all that is left. Currently the small rectangular concrete structure is partially buried, and the concrete pad is covered with grass to some extent.

The concrete structure and pad no longer have integrity because the metal tower, tram, cables, and other associated equipment are gone. The small structure is a concrete masonry unit shelter that is utilitarian, not unique, and does not represent the work of a master

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00078

Ser N45/

24 MAR 2005

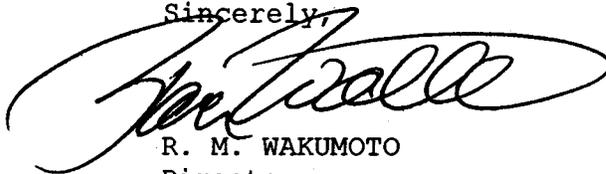
architect. The concrete pad and structure would have been auxiliary to the operation of OMEGA Station. As a result, for Section 106 purposes only, the concrete shelter and pad do not qualify for the National Register of Historic Places.

Determination of Effect

Proposed use of the small concrete structure for storing field equipment and pad for helicopter landing would be temporary, only during the aviator recovery field effort. The concrete pad has previously been used as a helicopter landing zone, and no damage has occurred to the pad from the helicopter skids touching down. Because the concrete structure and pad are not significant, and their proposed use would be temporary, the previous finding of "no historic properties adversely affected" for the proposed aviator recovery effort remains the same.

Should you have any questions regarding this undertaking, please contact Mr. Eric West, Archaeologist, Naval Facilities Engineering Command, Pacific, at 472-1415, or Mr. Randy Miyashiro, Navy Region Hawaii Cultural Resource Coordinator, at 471-1171, extension 233.

Sincerely,



R. M. WAKUMOTO

Director

Regional Environmental Director

By direction of

Commander, Navy Region Hawaii

Enclosure: 1. Aerial photograph of concrete structure and pad

Blind copy to:

CNRH N45RM

NAVFAC Hawaii ENV3 JF (PDF format)

NAVFAC Pacific EV33 (w/o encl)

Concrete Structure and Pad on the Ko`olau Ridge



Enclosure (1)



DEPARTMENT OF THE NAVY

COMMANDER
NAVY REGION HAWAII
850 TICONDEROGA ST STE 110
PEARL HARBOR HI 96860-5101

5750 00077
Ser N45/
24 MAR 2005

CERTIFIED MAIL NO. 7002 3150 0003 9288 6840

Mr. Peter Young
Chairperson & State Historic Preservation Officer
Department of Land & Natural Resources
State Historic Preservation Division
Kakuhihewa Building
601 Kamokila Boulevard Room 555
Kapolei HI 96707

Dear Mr. Young:

We are notifying your office of additional information regarding the proposed recovery of missing service personnel, Ko'olau Mountains, Oahu, Hawaii (TMK 1-9-9-011:002 and 004). We previously consulted your office in a letter dated March 9, 2005 (Ser N464/00026).

The proposed project scope has been changed to make use of a small concrete structure and concrete pad located on top of the Ko'olau Ridge. The project would use the concrete pad as a temporary helicopter landing zone, and the small structure to store field equipment and/or supplies during the aviator recovery effort.

Description of Concrete Pad and Structure

Approximately 200 meters above the Hellcat crash site, on top of the Ko'olau Ridge, is a small concrete structure with an associated concrete pad. The small concrete structure and pad are the remains of infrastructure associated with the maintenance of the OMEGA radio navigation system. A 1973 USGS map of Ha'iku Valley shows a radio station tramway leading to a tower where the concrete shelter and pad exist today. The Navy originally developed and completed construction of the Naval Radio Station at Ha'iku Valley in 1943, and by 1973 the station operations changed over to the Coast Guard, and a new antenna was erected 7,200 feet across Ha'iku Valley and 1250 feet above the ground.

The tower shown on the 1973 USGS map no longer exists, and the remaining concrete pad is all that is left. Currently the small rectangular concrete structure is partially buried, and the concrete pad is covered with grass to some extent.

The concrete structure and pad no longer have integrity because the metal tower, tram, cables, and other associated equipment are gone.

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Ser N45/
24 MAR 2005

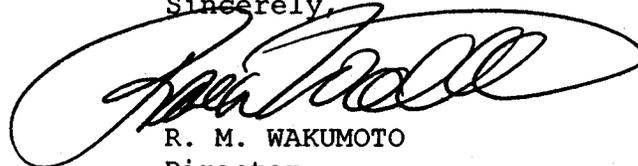
The small structure is a concrete masonry unit shelter that is utilitarian, not unique, and does not represent the work of a master architect. The concrete pad and structure would have been auxiliary to the operation of OMEGA Station. As a result, for Section 106 purposes only, the concrete shelter and pad do not qualify for the National Register of Historic Places.

Determination of Effect

Proposed use of the small concrete structure for storing field equipment and pad for helicopter landing would be temporary, only during the aviator recovery field effort. The concrete pad has previously been used as a helicopter landing zone, and no damage has occurred to the pad from the helicopter skids touching down. Because the concrete structure and pad are not significant, and their proposed use would be temporary, the previous finding of "no historic properties adversely affected" for the proposed aviator recovery effort remains the same.

Should you have any questions regarding this undertaking, please contact Mr. Eric West, Archaeologist, Naval Facilities Engineering Command, Pacific, at 472-1415, or Mr. Randy Miyashiro, Navy Region Hawaii Cultural Resource Coordinator, at 471-1171, extension 233.

Sincerely,



R. M. WAKUMOTO
Director
Regional Environmental Director
By direction of
Commander, Navy Region Hawaii

Enclosure: 1. Aerial photograph of concrete structure and pad

Blind copy to:

CNRH N45RM

NAVFAC Hawaii ENV3 JF (PDF format)

NAVFAC Pacific EV33 (w/o encl)

Concrete Structure and Pad on the Ko`olau Ridge



Enclosure (1)



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813

HRD05/1768 B

April 7, 2005

R. M. Wakumoto
Director, Regional Environmental Director
By direction of Commander, Navy Region Hawaii
Department of the Navy
850 Ticonderoga St., Ste. 110
Pearl Harbor, HI 96860-5101

RE: Request for Section 106 Review and Concurrence to change the scope of the Proposed Recovery of Missing Service Personnel, Ko'olau Mountains, O'ahu, TMKs: 9-9-011:002 and 004

Dear R. M. Wakumoto,

The Office of Hawaiian Affairs (OHA) is in receipt of your request for comments on the above project, which would include adding the use of a small concrete pad as a temporary helicopter landing zone, and a small concrete structure to store field equipment or supplies during the recovery project. OHA has no comments at this time.

We will, however, rely on your assurances that should iwi kūpuna or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

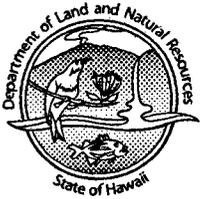
Thank you for the opportunity to comment. If you have further questions, please contact Heidi Guth at 594-1962 or e-mail her at heidig@oha.org.

Sincerely,

A handwritten signature in black ink, appearing to read "Clyde W. Nāmu'o".

Clyde W. Nāmu'o
Administrator

LINDA LINGLE
GOVERNOR OF HAWAII



COPY

RECEIVED SEP 30 2005

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

SEP 27 2005

Mr. R. M. Wakumoto, Regional Environmental Director
Department of the Navy
850 Ticonderoga Street, Suite 110
Pearl Harbor, Hawaii 96860-5101

LOG NO: 2005.1080
DOC NO: 0505MC12

Dear Mr. Wakumoto:

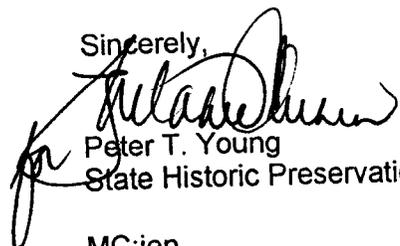
**SUBJECT: Section 106 National Historic Preservation Act Review of the Proposed Recovery of World War II Missing Service Personnel Ko'olau Mountain Range, Kaneohe, O'ahu
TMK: (1) 4-6-015**

Thank you for the opportunity to comment on the proposed recovery of a 1944 Hellcat aircraft and associated missing service personnel that were lost in June 1944 in the Ko'olau Mountain Range. We received your proposal on March 14, 2005 and additional information on March 29, 2005. We apologize for the delay of this review. We provide the following comments.

The area of potential effect (APE) is approximately 25m x 150m, below the ridge crest, helicopter landing zone, equipment storage area, break areas, UXO holding area, latrine area, and additional safety system areas on steep slope. The APE may be larger because of natural fluvial processes which may have further dispersed the remains.

There are no recorded archaeological sites within the APE. The only recorded archaeological sites in the vicinity of the APE are at much lower elevations. Therefore, we believe that the proposed recovery of World War II Missing Service Personnel, carried out in accordance with the enclosed work plan, will have no adverse effects on historic properties.

Sincerely,


Peter T. Young
State Historic Preservation Officer

MC:jen

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APPENDIX D

Chapter 343, Hawai'i Revised Statutes Pre-Assessment Consultation Comment Letters

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DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1F0B
Ser EV31/ 330
16 MAR 2005

To: Distribution

Subj: PRE-ASSESSMENT CONSULTATION FOR THE DRAFT ENVIRONMENTAL
ASSESSMENT FOR AVIATOR RECOVERY, KOOLAU MOUNTAINS,
HALAWA VALLEY, OAHU, HAWAII

The Joint Prisoner of War/Missing in Action Accounting Command (JPAC) proposes to recover the remains and personal effects of a U. S. service member missing since 1944 when his plane crashed into the Koolau Mountains on the island of Oahu, Hawaii.

To comply with the requirements of the National Environmental Policy Act of 1969 and Chapter 343, Hawaii Revised Statutes, the Navy is preparing an Environmental Assessment (EA) on behalf of JPAC, to evaluate the potential environmental effects of the Proposed Action and alternatives. This pre-assessment consultation letter is intended to ensure that interested parties are notified of the forthcoming Draft EA, and that all relevant environmental issues and concerns are identified and addressed.

The project area is located in the upper Halawa Valley on property in possession of the State of Hawaii Department of Transportation. Enclosure (1), a figure depicting the general location of the project area, is provided for your information.

The purpose of the project is to carry out JPAC's mandate by Congress to recover the remains of missing Service personnel whenever possible. A surviving member of the service member's immediately family has requested, via Senator John McCain of Arizona, that the service member's remains be recovered and returned to his family.

The Proposed Action would require the removal of vegetation and excavation and screening of soil from an area of up to 480 square yards (yd^2) (400 square meters [m^2]), and clearing of vegetation from approximately 1,700 yd^2 (1,420 m^2) for ancillary support areas (area around an existing helicopter landing pad, an alternative helicopter landing zone, and a path from the landing zone to the site). Access to the site is very difficult due to its remote location and steep slopes, so transport to and from the site would be via helicopter. The soil is damp, and it would be very difficult to screen it on-site. As part of the Proposed Action, the soil would be removed from the site to JPAC's laboratory for screening. The aircraft body and large pieces of the aircraft would be left at the site. The area would be re-planted following the recovery of remains, and necessary erosion control measures would be implemented.

No threatened or endangered plants or animals were identified at the site during a biological survey conducted in February 2005. However, the site is within the State of Hawaii's conservation district in an area designated as critical habitat for seven species of threatened and endangered plants. Formal consultation with the U. S. Fish and Wildlife Service has been initiated.

5090P.1F0B
Ser EV31/ 330
16 MAR 2005

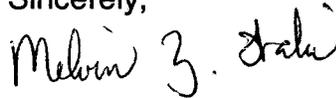
The Proposed Action would have no adverse effect on historic properties. In compliance with Section 106 of the National Historic Preservation Act, the Navy has initiated consultation with the State Historic Preservation Officer, Oahu Council of Hawaiian Civic Clubs, and the Office of Hawaiian Affairs.

Should you have any comments, we invite you to submit written comments by April 18, 2005 to the following address:

Naval Facilities Engineering Command, Pacific
Attn: Ms. Anne Hong, EV31AH
258 Makalapa Drive, Suite 100
Pearl Harbor, HI 96860-3134

Thank you for interest in this project. If you would like to receive a copy of the Draft EA, participate in the environmental review process, or share any questions or concerns, please contact Ms. Anne Hong, Planner-In-Charge, at (808) 472-1388 or by E-Mail at anne.hong@navy.mil.

Sincerely,



MELVIN Z. WAKI, P.E.
Business Line Manager
Environmental

Encl:
(1) Regional Location Map

Distribution: (See Page 3)

Distribution:

Mr. Kahikina D. Akana, Project Coordinator, Halawa Luluku Interpretive Development
Ms. Haunani Apoliona, Chairperson, Office of Hawaiian Affairs
The Honorable Romy M. Cachola, Honolulu City Council District 7
Mr. Eric Crispin, Director, City and County of Honolulu, Department of Planning
and Permitting
Mr. Pascual Dabis
The Honorable Lynn Finnegan, 32nd Representative District, Hawaii State House of
Representatives
Mr. Rodney Haraga, Director, State of Hawaii Department of Transportation
Ms. June Harrigan, State of Hawaii Department of Health, Environmental
Planning Office
The Honorable Clayton Hee, 23rd Senatorial District, Hawaii State Senate
Historic Hawaii Foundation
The Honorable Bob Hogue, 24th Senatorial District, Hawaii State Senate
The Honorable David Y. Ige, 16th Senatorial District, Hawaii State Senate
Mr. Clifford Jamile, Chief Engineer, Board of Water Supply
Mr. Rodney Jose ← Letter returned (incorrect address)
The Honorable Donna Mercado Kim, 14th Senatorial District, Hawaii State Senate
Ms. Mary Lou Kobayashi, Administrator, State of Hawaii Department of Business,
Economic Development, and Tourism, Office of Planning
Mr. Samuel Lemmo, Administrator, State of Hawaii Department of Land and Natural
Resources, Office of Conservation and Coastal Lands
Ms. Dee Jay A. Mailer, CEO, Kamehameha Schools
The Honorable Barbara Marshall, Honolulu City Council District 3
Ms. Cathleen Piilani Mattoon, President, Ko'olauloa Hawaiian Civic Club
Mr. T. Michael May, President and CEO, Hawaiian Electric Company
Mr. Jeff Mikulina, Director, The Sierra Club, Hawaii Chapter
Mr. James E.T. Moncur, Director, University of Hawaii Environmental Center
Mr. Wayne Nastri, Administrator, Region IX, U. S. Environmental Protection Agency
The Nature Conservancy, Hawai'i Chapter
The Honorable Gary H. Okino, Honolulu City Council District 8
The Honorable Blake K. Oshiro, 33rd Representative District, Hawaii State House of
Representatives
Mr. Steve Reelitz, President, Ko'olaupoko Hawaiian Civic Club
Mr. Charles Rose, President, Association of Hawaiian Civic Clubs, Oahu Council
Ms. Genevieve Salmonson, Director, Office of Environmental Quality Control
Ms. Mary Steiner, CEO, The Outdoor Circle
The Honorable Cynthia Thielen, Assistant Minority Floor Leader, 50th Representative
District, Hawaii State House of Representatives
Mr. Gordon Tribble, District Chief, Hawaii District Office, Department of the Interior,
U. S. Geological Survey

(cont. on page 4)

5090P.1F0B
Ser EV31/330
10 MAR 2005

Distribution:

Ms. Donna Wong, Executive Director, Hawaii's Thousand Friends

Mr. Roy S. Yanagihara, Chair, Kaneohe Neighborhood Board

Mr. Peter T. Young, Chairperson, State of Hawaii Department of Land and Natural Resources

Copy to:

COMNAVREG HAWAII (N465)

JPAC

1-1

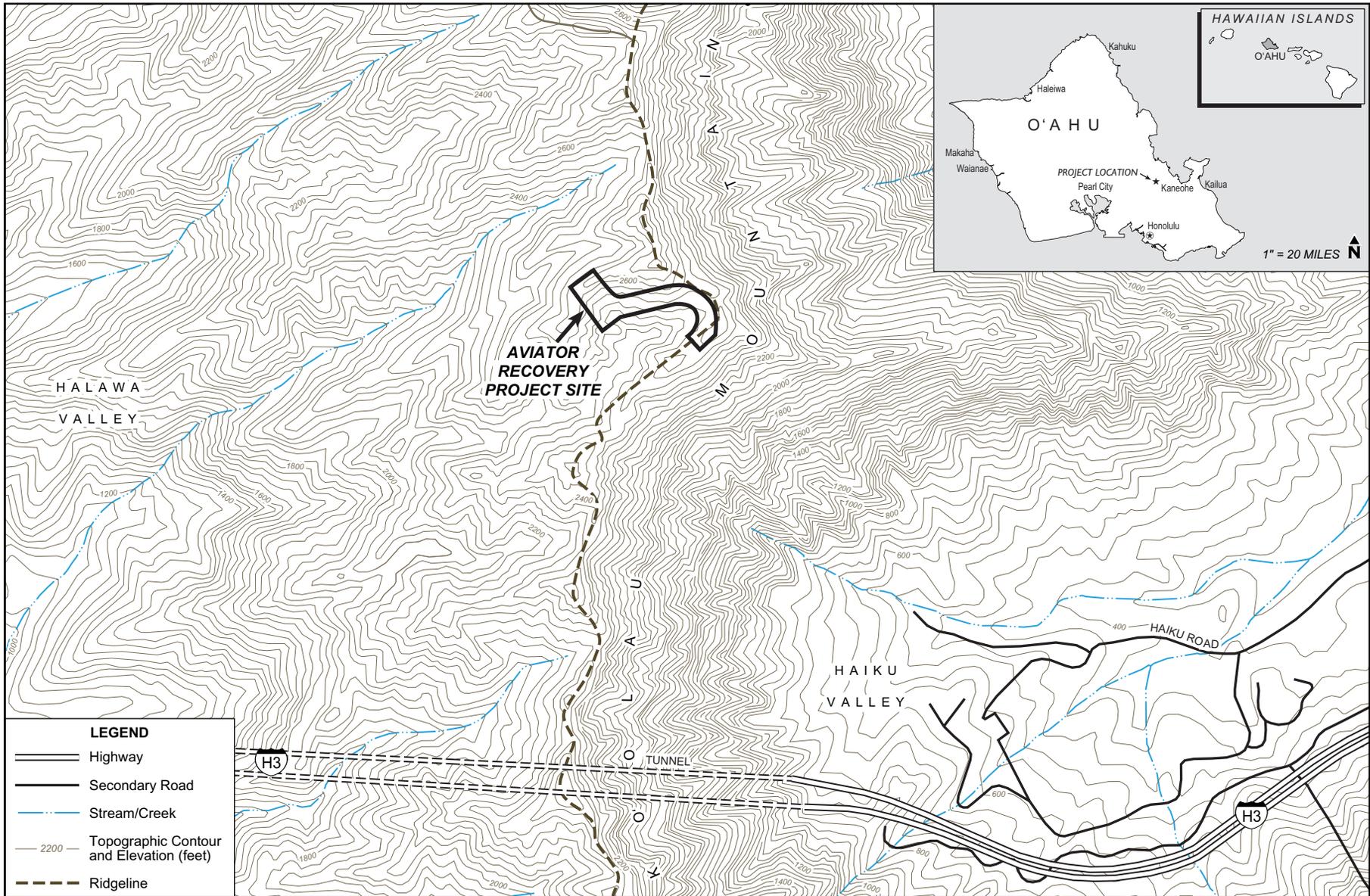


Figure 1-1
Regional Location Map
Ko'olau Mountains, O'ahu, Hawai'i





DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1F0B
Ser EV31/ 346
18 MAR 2005

Mr. Micah Kane, Chairman
State of Hawaii Department of
Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805

Dear Mr. Kane:

Subj: AVIATOR RECOVERY, KOOLAU MOUNTAINS, HALAWA VALLEY, OAHU,
HAWAII

The Joint Prisoner of War/Missing in Action Accounting Command (JPAC) proposes to recover the remains and personal effects of a U. S. service member missing since 1944 when his plane crashed into the Koolau Mountains on the island of Oahu. The project area is located in the upper Halawa Valley, north of the southern entrance to the H-3 Tunnel.

Entry onto property owned by the Department of Hawaiian Home Lands (DHHL) is required for access to the crash site (Tax Map Key number 9-9-011:004). Your permission for temporary right-of-entry over this property and use of an existing concrete pad for landing helicopters and cinderblock building for use as storage/shelter is requested. Our staff is available to meet with you to discuss the project. We will be contacting you to arrange for a meeting.

A figure depicting the general location of the project area is provided as enclosure (1). The parcel boundaries, and location of the concrete pad and building are depicted on enclosure (2). The crash site is located on property in possession of the State of Hawaii Department of Transportation (HDOT). We will be working with HDOT to obtain a right-of-entry for that portion of the proposed project area.

The purpose of the project is to carry out JPAC's mandate by Congress to recover the remains of missing Service personnel whenever possible. A surviving member of the service member's immediate family has requested, via Senator John McCain of Arizona, that the service member's remains be recovered and returned to his family.

Access to the site is very difficult due to its remote location and steep slopes, so transport to and from the site would be via helicopter. The existing concrete pad on DHHL property is the best location for landing, since the ridgeline is too narrow and the slopes are too steep to allow for helicopter landing. The use of the cinderblock building near the concrete pad as a temporary storage area and/or shelter would aid the field efforts. Covered shelter/storage (i.e., tarps and tents) cannot be established due to windy conditions.

18 MAR 2005

Access to the site will be required between July and December 2005. The length and timing of recovery activities is limited to a fixed time period due to seasonal variations in weather and availability of resources.

The Proposed Action would require the removal of vegetation and excavation and screening of soil from an area of up to 480 square yards (yd²) (400 square meters [m²]), and clearing of vegetation from approximately 1,700 yd² (1,420 m²) for ancillary support areas (area around an existing helicopter landing pad, an alternative helicopter landing zone for emergency retrieval of the field crew, and a path from the landing zone to the site). The soil is damp, and it would be very difficult to screen it on-site. As part of the Proposed Action, the soil would be removed from the site to JPAC's laboratory for screening. The aircraft body and large pieces of the aircraft would be left at the site. Some clearing and incidental trampling of vegetation will be associated with the project. The area would be re-planted following the recovery of remains, and necessary erosion control measures would be implemented.

No threatened or endangered plants or animals were identified at the site during a biological survey conducted in February 2005. However, the site is within the State of Hawaii's conservation district in an area designated as critical habitat for seven species of threatened and endangered plants. Formal consultation with the U. S. Fish and Wildlife Service has been initiated.

The Proposed Action would have no adverse effect on historic properties. In compliance with Section 106 of the National Historic Preservation Act, the Navy has initiated consultation with the State Historic Preservation Officer, Oahu Council of Hawaiian Civic Clubs, and the Office of Hawaiian Affairs.

To comply with the requirements of the National Environmental Policy Act of 1969 and Chapter 343, Hawaii Revised Statutes, the Navy is preparing an Environmental Assessment (EA) on behalf of JPAC, to evaluate the potential environmental effects of the Proposed Action and alternatives. HDOT will be the accepting agency for the EA.

The public review period for the draft EA is scheduled to begin in early May. Should you have any comments on the Proposed Action that you feel should be addressed in the draft EA, we invite you to submit written comments by April 20, 2005 to the following address:

Naval Facilities Engineering Command, Pacific
Attn: Ms. Anne Hong, EV31AH
258 Makalapa Drive, Suite 100
Pearl Harbor, HI 96860-3134

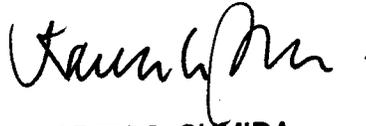
We are also soliciting comments from other Federal, State, and City and County agencies as well as some community organizations. A copy of the draft EA will be sent to you for review when it is available.

5090P.1F0B
Ser EV31/ 346

18 MAR 2013

Thank you for interest in this project. If you have any questions or concerns, please contact Ms. Anne Hong, Planner-In-Charge, at (808) 472-1388 or by E-Mail at anne.hong@navy.mil.

Sincerely,



KAREN C. SUMIDA
Acting Business Line Manager
Environmental

Encl:

- (1) Regional Location Map
- (2) Project Vicinity Map

Copy to:

COMNAVREG HAWAII (N465)
JPAC
RES
OPHRE

1-1

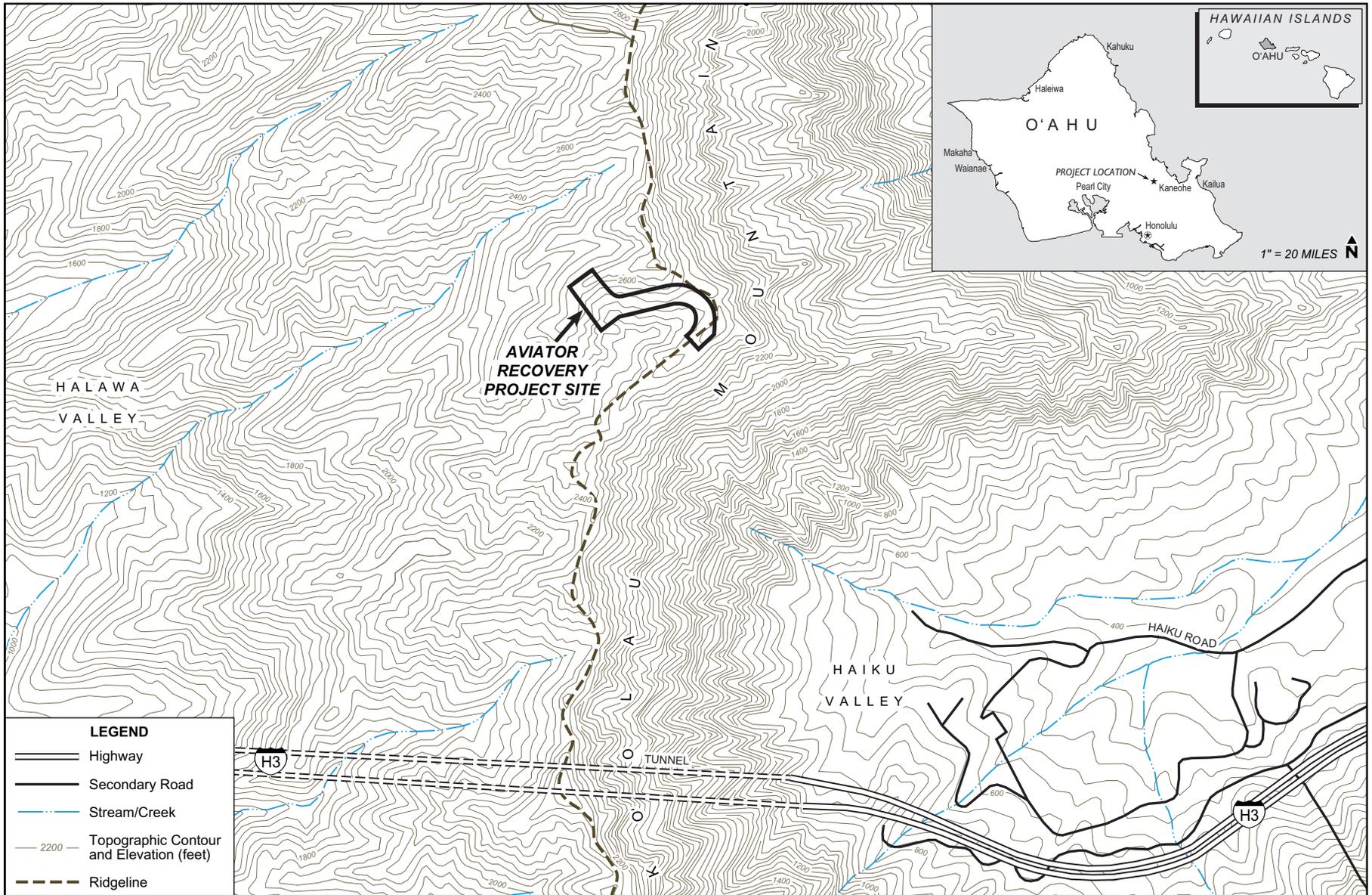
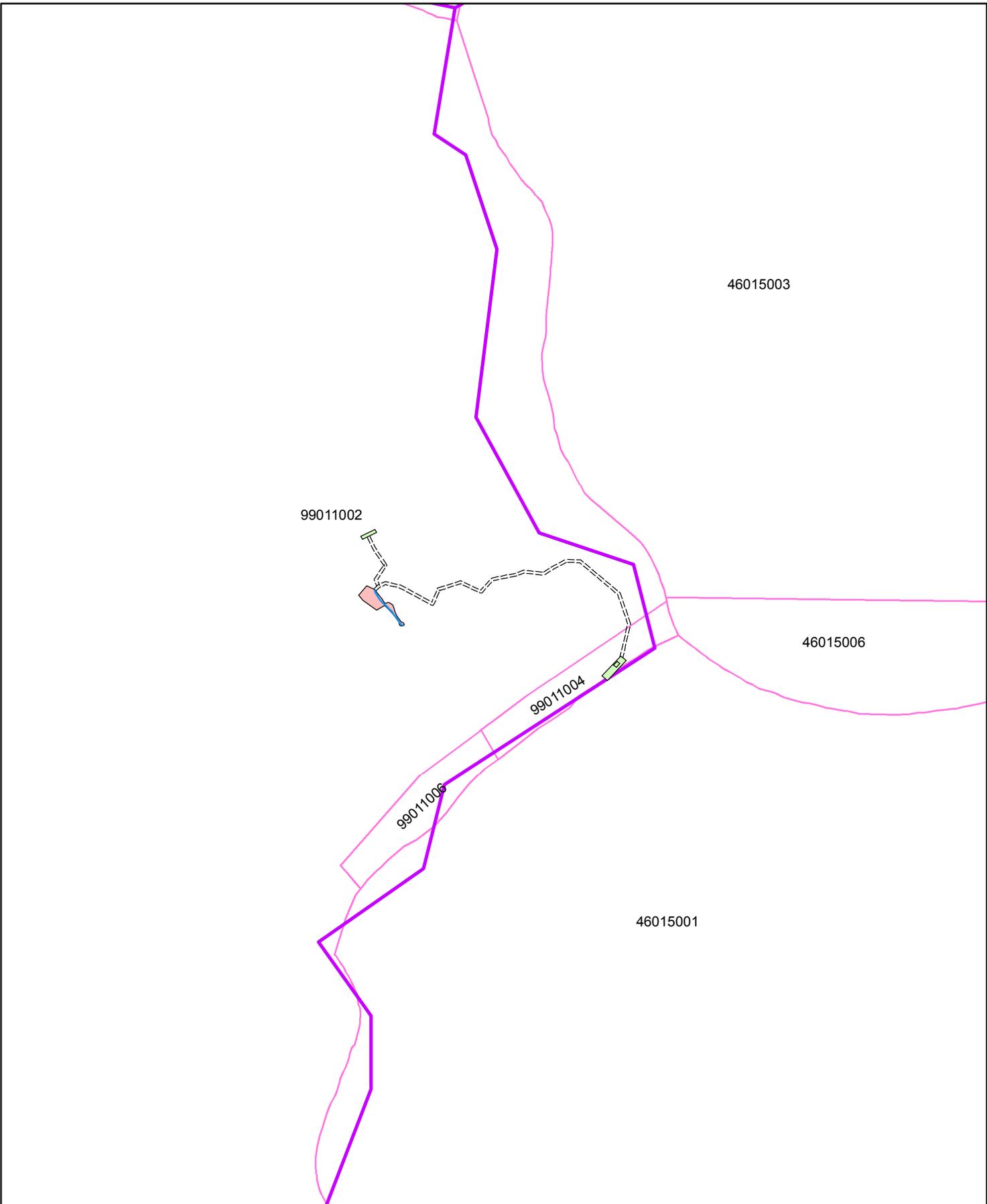


Figure 1-1
Regional Location Map
Ko'olau Mountains, O'ahu, Hawai'i





Legend

- Road**
- Street
 - Interstate
 - Highway
- Watershed Boundary
 - Parcel Boundary
 - Stream
 - Trail

- Helicopter Landing and Work Zones
- CrashExcavArea

0 200 400 800 Feet

0 50 100 200 Meters

Project Vicinity Map

Enclosure (2)



P.O. BOX 532
HAULUIA, HI 96717

March 20, 2005

Naval Facilities Engineering Command, Pacific
Att: Ms. Anne Hong, EV31AH
258 Makalapa Drive, Suite 100
Pearl Harbor, Hi. 96860-3134

Subject: Environmental Assessment for Aviator Recovery.

Dear Ms. Hong,

Thank you for including Ko'olauloa Hawaiian Civic Club in the pre-assessment consultation for the Draft Environmental Assessment (EA) for this project. Important to the Hawaiian culture is the responsibility to care for Na `Iwi Kupuna (human remains). We understand the need to retrieve the lost aviator and return him to his Ohana (family) for proper burial.

The project itself is nevertheless destructive to a fragile mountainside and will impact the environment. As described, a large area will be denuded of foliage and soil will be removed from the site for screening. No mention is made of the quantity of soil to be removed or the method of replacing that soil. Of concern is the possibility of introducing non-native plants and organisms in this process. Impacts of this nature will not be contained within the work site but will surely affect the adjacent flora and fauna.

We hope your draft EA will address some of our concerns in detail. We look forward to reviewing it in the near future.

Sincerely,

A handwritten signature in cursive script that reads "Cathleen Piilani Mattoon".

Cathleen Piilani Mattoon, President
Ko'olauloa Hawaiian Civic Club

E-mail: Toni Lee, President, Association of Hawaiian Civic Club
Mahealani Cypher, President, Ko'olaupoko Hawaiian Civic Club



The Nature Conservancy of Hawai'i
923 Nu'uuanu Avenue
Honolulu, HI 96817

tel (808) 537-4508
fax (808) 545-2019

www.nature.org/hawaii

April 8, 2005

Mr. Melvin Z. Waki, P.E.
Business Line Manager, Environmental
Department of the Navy
Naval Facilities Engineering Command, Pacific
258 Makalapa Drive, Ste. 100
Pearl Harbor, HI 96860-3134

Dear Mr. Waki:

Thank you for giving The Nature Conservancy the opportunity to comment on the Navy's consultation for the Draft Environmental Assessment for Aviator Recovery, Ko'olau Mountains, Halawa Valley, O'ahu, Hawai'i. We give our condolences to the family of the lost U.S. service member. While The Nature Conservancy does not own or manage any lands in the Ko'olau Mountains, we are interested in the overall protection of native forests throughout the island of O'ahu, as well as the entire state. The Proposed Action to remove vegetation and conduct excavation and screening of soil raises several concerns.

Spread of invasive weeds: The vegetation in the area consists primarily of native forest species. On O'ahu, core native forest areas, located primarily in the summits of our mountains, are becoming more fragmented with the invasion of alien species. Removing native vegetation will almost immediately lead to growth of invasive weeds, even if steps were taken to revegetate with native species. It is unrealistic to expect that outplanted native species will take hold and spread faster than weeds unless a crew of people is out there nearly everyday for at least a full year to control weed species. We also understand that there are many rats in the area, and rats are known to eat seeds of native plants, limiting the growth of new generations of native plants.

Erosion: Removal of vegetation and soil in the steep terrain is also of concern. The soil layer is not deep, and subsurface removal will result in erosion, if not landslides.

Other direct and indirect impacts: The more people and equipment brought in, the damage to native forest vegetation will increase both directly and indirectly, such as the creation of new trails and growing rat populations from food scraps left from people.

Our recommendation is to remove the remains and personal effects on the surface only and be extremely careful to cause as little damage to the forest as possible. The number of people involved in the removal should be limited to a small group. We would support replanting of any exposed areas with native species known to grow in the immediate area, and removal of invasive weeds. We hope that you will take our comments into serious consideration. Please contact me at phone: 808-621-2008 or e-mail: psato@tnc.org should you have any questions.

Aloha,

Pauline M. Sato
Director, O'ahu Program

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BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843



April 8, 2005

MUFI HANNEMANN, Mayor

EDDIE FLORES, JR., Chairman
RANDALL Y. S. CHUNG
SAMUEL T. HATA
HERBERT S. K. KAOPUA, SR.
DAROLYN H. LENDIO

RODNEY K. HARAGA, Ex-Officio

CLIFFORD S. JAMILE
Manager and Chief Engineer

DONNA FAY K. KIYOSAKI
Deputy Manager and Chief Engineer

Mr. Melvin Waki
Business Line Manager
Environmental
Department of the Navy
Naval Facilities Engineering Command, Pacific
258 Makalapa Drive, Suite 100
Pearl Harbor, Hawaii 96860-3134

Dear Mr. Waki:

Subject: Your Letter Dated March 16, 2005 Relating to
Assessment for Aviator Recovery in Halawa Valley

Thank you for the opportunity to review your proposed action in Halawa Valley to recover remains of an aviator that crashed his airplane in WWII. We have no objections to the proposed activity since it is not on the Board of Water Supply land, nor is the action expected to adversely affect water quality of our sources.

If you have any questions, please contact Chester Lao at 748-5931.

Very truly yours,

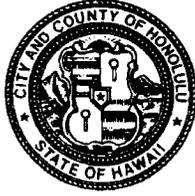
FOR

CLIFFORD S. JAMILE
Manager and Chief Engineer

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 523-4432 • FAX: (808) 527-6743
DEPT. WEB SITE: www.honolulu.gov • CITY WEB SITE: www.honolulu.gov

MUFI HANNEMANN
MAYOR



HENRY ENG, FAICP
DIRECTOR

DAVID K. TANOUÉ
DEPUTY DIRECTOR

2005/ELOG-774 (DW)

April 14, 2005

Ms. Anne Hong
Naval Facilities Engineering Command, Pacific
258 Makalapa Drive, Suite 100
Pearl Harbor, Hawaii 96860-3134

Dear Ms. Hong:

Environmental Assessment Pre-Consultation for
Aviator Recovery, Koolau Mountains
TMK: 9-9-011:002 and 004 in Halawa Valley, Oahu, Hawaii

Thank you for the opportunity to review the summary information describing the proposal by the Joint Prisoner of War/Missing in Action Accounting Command (JPAC) to recover the remains and personal effects of a U.S. service member missing since 1944 when his plane crashed into the Koolau Mountains. We offer the following comments for your review and consideration for the Draft EA report:

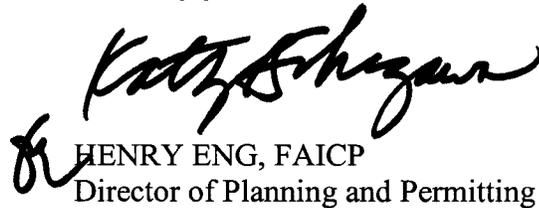
1. Indicate that the proposed project consists of parcels identified as TMK 9-9-011:002 (crash site) and 9-9-011:004 (ancillary support area).
2. Clarify and confirm ownership of parcel TMK 9-9-011:002. It appears that this parcel is owned by the Bishop Trust Estate and leased to the Oahu Sugar Company, Ltd.
3. State that, according to the *Primary Urban Center Development Plan* (PUC DP, June 2004), the project site is located outside the Urban Community Boundary and has a land use designation of Preservation (Land Use Map, PUC – West). The Aviator Recovery project is consistent with the intent of the Preservation designation.
4. State that Parcels 9-9-011:002 and 004 are zoned P-1 Restricted Preservation District under the City's *Land Use Ordinance*. The parcels are within the State Conservation District and thus all uses, structures and development standards are governed by the State.

Ms. Anne Hong
Naval Facilities Engineering Command, Pacific
Page 2

5. There appears to be three perennial streams which run through the mauka portion of parcel 9-9-011:002. The Draft EA should indicate if the proposed project will negatively impact the stream(s) and what mitigative measures, if any, are needed.

Thank you for the opportunity to comment and we look forward to the draft assessment. Please call Dina Wong of my Community Action Plans Branch staff at 527-6073 if you have any questions.

Sincerely yours,



HENRY ENG, FAICP
Director of Planning and Permitting

HE:lh
Doc: 363852

LINDA LINGLE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

RODNEY K. HARAGA
DIRECTOR

Deputy Directors
BRUCE Y. MATSUI
BARRY FUKUNAGA
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:

STP 8.1695

April 12, 2005

Ms. Anne Hong
EV31AH
Naval Facilities Engineering Command, Pacific
258 Makalapa Drive, Suite 100
Pearl Harbor, Hawaii 96860-3134

Dear Ms. Hong:

Subject: WW II Aviator Recovery of Remains
Pre-Assessment Consultation for Draft Environmental Assessment

In response to your consultation notice regarding the proposed recovery action, this is to advise you that your office and the other units under the Navy's Pacific Command that will be involved with the environmental assessment and recovery efforts should coordinate such matters with our Highways Division.

An existing right-of-entry agreement in the area of the recovery site between the Navy and our Department will have to be updated. The Right-of-Way Branch of our Highways Division should be contacted to discuss the documentation that will be needed.

We appreciate your advance notification of the proposed recovery.

Very truly yours,

A handwritten signature in black ink, appearing to read "Rodney K. Haraga".

 RODNEY K. HARAGA
Director of Transportation

Hong, Anne M CIV NAVFAC PAC

From: Kahikina D. Akana [kina@hlid.org]
Sent: Wednesday, April 13, 2005 2:19 PM
To: Hong, Anne M CIV NAVFAC PAC
Cc: Pam Nakagawa; Laura Kamalani-Paikai; Karen Chun; 'Lani Ma'a Lapilio'; Chester Koga
Subject: Pre-Assessment for DEA-Aviator Recovery in Halawa Valley

Aloha Anne,

At a recent meeting of the Halawa Luluku Interpretive Development Project working group a question was raised about the impact of your recovery efforts on the Kahuli snail which is an endangered species.

In the environmental assessment for your project, was the impact on the Kahuli snail considered? Was there an impact?

Finally, we are requesting a copy of the DEA be sent to:

Halawa Luluku Interpretive Development
677 Ala Moana Boulevard, Ste 811
Honolulu, HI 96813
Attention: Kahikina Akana, Project Director

Thank you.

Aloha,

Kahikina D. Akana, Project Director
Halawa Luluku Interpretive Development
677 Ala Moana Blvd, Ste 811
Honolulu, HI 96813

Ph (808) 587-4391
Fax (808) 587-4394
Email: kina@hlid.org

KO'OLAUPOKO HAWAIIAN CIVIC CLUB

April 20, 2005

Mr. Melvin Z. Waki, P.E.
Business Line Manager, Environmental
Naval Facilities Engineering Command, Pacific
258 Makalapa Drive, Suite 100
Pearl Harbor, Hawaii 96860-3134

Attention: Ms. Anne Hong, EV31AH

Subject: Pre-Assessment Consultation for the Draft Environmental Assessment
For Aviator Recovery, Ko'olau Mountains, Halawa Valley, O'ahu, Hawai'i

Dear Mr. Waki and Ms. Hong:

The Ko'olaupoko Hawaiian Civic Club discussed your proposal at its April 14, 2005, meeting, and has serious concerns and strong reservations about the proposed scope of work and desired recovery of remains of a pilot whose plane crashed into Halawa Valley in 1944, and ask that we be consulted before any further actions are taken regarding this project.

Our club is a community organization, established in 1937, and comprised primarily of native Hawaiians. Our primary purpose is the preservation and perpetuation of our island culture, traditions, and sacred places. The Ko'olau mountains, where this project would be located, are sacred to us. We are deeply concerned about the potential adverse effects of this project upon the endangered *Kabuli*, or achitenella snail, also known in our chants and mele as the "singing snail." It is native to these mountains, particularly in the vicinity of your project area, and is found nowhere else in the world.

Because this is a federal undertaking, we ask that you involve the Advisory Council for Historic Preservation in your future planning and consultation with ourselves and other native Hawaiian organizations that may have concerns.

We know that there is a culturally appropriate resolution to this dilemma. All of us sympathize with the family of this deceased airman, and would like to offer our mana'o, our kokua, to help find alternative solutions.

We look forward to working with you and the U.S. Navy to seek culturally appropriate methods to address the request of the deceased's family.

If you have any questions or need further information, please contact me at (808) 226-4195, or via email or postal mail as listed below.

Mahalo for this opportunity to accept your invitation to be consulted in this project, on behalf of the Ko'olaupoko Hawaiian Civic Club.

Malamapono,



MAHEALANI CYPHER
President

cc: Ms. Nalani Gersaba, President, O'ahu Council of Hawaiian Civic Clubs
Mr. Shad Kane, Chair, Committee for the Preservation of Historic Sites & Cultural Properties
Ms. Haunani Apoliona, Chair, Office of Hawaiian Affairs
Ms. Valerie Hauser, Advisory Council on Historic Preservation
Ms. Cathleen Piilani Mattoon, President, Ko'olauloa Hawaiian Civic Club
Ms. Genevieve Salmonson, Director, Office of Environmental Quality Control

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APPENDIX E

Draft EA Distribution, Comment, and Response Letters

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LINDA LINGLE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

RODNEY K. HARAGA
DIRECTOR

Deputy Directors
BRUCE Y. MATSUI
BARRY FUKUNAGA
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:
HWY-DS 2.7526

April 26, 2005

TO: MS. GENEVIEVE SALMONSON, DIRECTOR
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET, SUITE 702
HONOLULU, HAWAII 96813

FROM:  RODNEY K. HARAGA
DIRECTOR OF TRANSPORTATION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
AVIATOR RECOVERY
HALAWA VALLEY, KOOLAU MOUNTAINS
OAHU, HAWAII

The State Department of Transportation has reviewed the draft environmental assessment for the subject project, and anticipates a Finding of No Significant Impact (FONSI) determination. Please publish notice of availability for this project in the May 8, 2005 Environmental Notice. We have enclosed a completed OEQC Publication Form, four copies of the draft EA, and the project summary on disk. Please call Karen Chun at 692-7552 if you have any questions.

Enclosures



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1FOB
Ser EV31/ 532
4 - MAY 2005

Mr. Clifford Jamile
Manager and Chief Engineer
City and County of Honolulu
Board of Water Supply
630 South Beretania Street
Honolulu, HI 96843

Dear Mr. Jamile:

Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KOOLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII

Thank you for your letter of April 8, 2005 indicating that your office has no objections to the proposed recovery of the remains and personal effects of a missing U. S. service member in the Koolau Mountains. A draft environmental assessment (EA) has been prepared pursuant to the National Environmental Policy Act (42 United States Code §4321 et seq.), as implemented by Council on Environmental Quality regulations (Title 40 Code of Federal Regulations Parts 1500-1508); Environmental Impact Statement (EIS) law (Hawaii Revised Statutes, Chapter 343); and the EIS rules (Administrative Rules, Title 11, Chapter 200). A copy of the draft EA is provided as enclosure (1) for your review and comment.

Please submit any comments that you may have on the draft EA to the points of contact below:

Please send original comments to:

Applicant: Naval Facilities Engineering Command, Pacific
Address: Environmental Planning Division
258 Makalapa Drive, Suite 100, Pearl Harbor, HI 96860-3134
Contact: Ms. Anne Hong (EV31)
Phone: (808) 472-1388

Copies of the comments should be sent to:

Legal Repository: The Office of Environmental Quality Control
Address: 235 South Beretania Street, Suite 702, Honolulu, HI 96813

Approving Authority: State of Hawaii Department of Transportation
Address: 601 Kamokila Boulevard, Room 688, Kapolei, HI 96707
Contact: Ms. Karen Chun
Phone: (808) 692-7552

5090P.1F0B
Ser EV31/ 592
4 - MAY 2005

Consultant: TEC, Inc.
Address: 1001 Bishop Street, Suite 1400, Honolulu, HI 96813
Contact: Mr. Ryan Pingree
Phone: (808) 528-1445

Your comments must be received or postmarked by June 7, 2005 for consideration in the final EA.

Thank you for your participation in the Draft EA process. We look forward to receiving your comments, questions and suggestions.

Sincerely,

MELVIN N. KAKU
Director
Environmental Planning Division

Encl:
(1) Subject Draft EA of May 05

Copy to: (w/o encl)
Ms. Genevieve Salmonson, Director, Office of Environmental Quality Control
Mr. Rodney Haraga, Director, State of Hawaii, Department of Transportation
Mr. Micah Kane, Chairman, State of Hawaii, Department of Hawaiian Home Lands

Blind copy to: (w/o encl)
COMNAVREG HAWAII (N45)
JPAC



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1FOB
Ser EV31/ 591
4 - MAY 2005

Mr. Henry Eng, Director
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, HI 96813

Dear Mr. Eng:

**Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KOOLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII**

Thank you for your letter of April 14, 2005 providing comments on the proposed recovery of the remains and personal effects of a missing U. S. service member in the Koolau Mountains. The comments have been considered in the preparation of the draft environmental assessment (EA) prepared pursuant to the National Environmental Policy Act (42 United States Code §4321 et seq.), as implemented by Council on Environmental Quality regulations (Title 40 Code of Federal Regulations Parts 1500-1508); Environmental Impact Statement (EIS) law (Hawaii Revised Statutes, Chapter 343); and the EIS rules (Administrative Rules, Title 11, Chapter 200). A copy of the draft EA is provided as enclosure (1) for your review and comment.

We have incorporated all of the comments regarding zoning and land use into the draft EA. Regarding your second comment, the parcel with tax map key 9-9-011:002 is still owned by the Bishop Trust Estate, but it is in the possession of the State of Hawaii Department of Transportation. The State of Hawaii Department of Land and Natural Resources, State of Hawaii Department of Transportation, State of Hawaii Department of Hawaiian Home Lands, and State of Hawaii Office of Planning have been included in the pre-assessment consultation and draft EA review in order to involve State agencies that have an interest in land use at the project site within the State Conservation District.

Please submit any comments that you may have on the draft EA to the points of contact below:

Please send original comments to:

Applicant: Naval Facilities Engineering Command, Pacific
Address: Environmental Planning Division
258 Makalapa Drive, Suite 100, Pearl Harbor, HI 96860-3134
Contact: Ms. Anne Hong (EV31)
Phone: (808) 472-1388

Copies of the comments should be sent to:

Legal Repository: The Office of Environmental Quality Control
Address: 235 South Beretania Street, Suite 702, Honolulu, HI 96813

Approving Authority: State of Hawaii Department of Transportation
Address: 601 Kamokila Boulevard, Room 688, Kapolei, HI 96707
Contact: Ms. Karen Chun
Phone: (808) 692-7552

Consultant: TEC, Inc.
Address: 1001 Bishop Street, Suite 1400, Honolulu, HI 96813
Contact: Mr. Ryan Pingree
Phone: (808) 528-1445

Your comments must be received or postmarked by June 7, 2005 for consideration in the final EA.

Thank you for your participation in the Draft EA process. We look forward to receiving your comments, questions and suggestions.

Sincerely,

MELVIN N. KAKU
Director
Environmental Planning Division

Encl:
(1) Subject Draft EA of May 05

Copy to: (w/o encl)
Ms. Genevieve Salmonson, Director, Office of Environmental Quality Control
Mr. Rodney Haraga, Director, State of Hawaii, Department of Transportation
Mr. Micah Kane, Chairman, State of Hawaii, Department of Hawaiian Home Lands

Blind copy to: (w/o encl)
COMNAVREG HAWAII (N45)
JPAC



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1F0B
Ser. EV31/ 593
4 - MAY 2005

Mr. Clyde Namu'o
State of Hawaii
Office of Hawaiian Affairs
711 Kapiolani Blvd., Suite 500
Honolulu, HI 96813

Dear Mr. Namu'o:

Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KOOLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII

Thank you for your letter of April 7, 2005 responding to the Section 106 consultation letter for the proposed recovery of the remains and personal effects of a missing U. S. service member in the Koolau Mountains. We appreciate that you have no comments on the Proposed Action. As mentioned in the Section 106 consultation letter, should iwi kupuna or Native Hawaiian cultural or traditional deposits be found during the ground disturbance, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

A draft environmental assessment (EA) has been prepared pursuant to the National Environmental Policy Act (42 United States Code §4321 et seq.), as implemented by Council on Environmental Quality regulations (Title 40 Code of Federal Regulations Parts 1500-1508); Environmental Impact Statement (EIS) law (Hawaii Revised Statutes, Chapter 343); and the EIS rules (Administrative Rules, Title 11, Chapter 200). A copy of the draft EA is provided as enclosure (1) for your review and comment.

Please submit any comments that you may have on the draft EA to the points of contact below:

Please send original comments to:

Applicant: Naval Facilities Engineering Command, Pacific
Address: Environmental Planning Division
258 Makalapa Drive, Suite 100, Pearl Harbor, HI 96860-3134
Contact: Ms. Anne Hong (EV31)
Phone: (808) 472-1388

Copies of the comments should be sent to:

Legal Repository: The Office of Environmental Quality Control
Address: 235 South Beretania Street, Suite 702, Honolulu, HI 96813

5090P.1FOB
Ser. EV31593
4 - MAY 2005

Approving Authority: State of Hawaii Department of Transportation
Address: 601 Kamokila Boulevard, Room 688, Kapolei, HI 96707
Contact: Ms. Karen Chun
Phone: (808) 692-7552

Consultant: TEC, Inc.
Address: 1001 Bishop Street, Suite 1400, Honolulu, HI 96813
Contact: Mr. Ryan Pingree
Phone: (808) 528-1445

Your comments must be received or postmarked by June 7, 2005 for consideration in the final EA.

Thank you for your participation in the Draft EA process. We look forward to receiving your comments, questions and suggestions.

Sincerely,

MELVIN N. KAKU
Director
Environmental Planning Division

Encl:
(1) Subject Draft EA of May 05

Copy to:
Ms. Heidi Guth, State of Hawaii, Office of Hawaiian Affairs
Ms. Genevieve Salmonson, Director, Office of Environmental Quality Control (w/o encl)
Mr. Rodney Haraga, Director, State of Hawaii, Department of Transportation (w/o encl)
Mr. Micah Kane, Chairman, State of Hawaii, Dept of Hawaiian Home Lands (w/o encl)

Blind copy to: (w/o encl)
COMNAVREG Hawaii (N45)
JPAC



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1FOB
Ser EV31595
4 - MAY 2005

Kaneohe Public Library
45-829 Kamehameha Highway
Kaneohe, HI 96744

Dear Sir or Madam:

**Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KOOLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII**

The Navy has prepared a draft environmental assessment (EA) for the proposed recovery of remains and personal effects of a missing U. S. service member in the Koolau Mountains. We respectfully request that enclosure (1), the draft EA, be kept at your library for public review during the public comment period of May 8, 2005 through June 7, 2005, to comply with the requirements of the State's Hawaii Revised Statutes, Chapter 343, and the State Office of Environmental Quality Control (OEQC) Guidebook for public review.

The draft EA was prepared pursuant to the National Environmental Policy Act (42 United States Code §4321 et seq.), as implemented by Council on Environmental Quality regulations (Title 40 Code of Federal Regulations Parts 1500-1508); Environmental Impact Statement (EIS) law (Hawaii Revised Statutes, Chapter 343); and the EIS rules (Administrative Rules, Title 11, Chapter 200).

The public is requested to submit any comments that they may have on the draft EA to the points of contact below:

Please send original comments to:

Applicant: Naval Facilities Engineering Command, Pacific
Address: Environmental Planning Division
258 Makalapa Drive, Suite 100, Pearl Harbor, HI 96860-3134
Contact: Ms. Anne Hong (EV31)
Phone: (808) 472-1388

Copies of the comments should be sent to:

Legal Repository: The Office of Environmental Quality Control
Address: 235 South Beretania Street, Suite 702, Honolulu, HI 96813

5090P.1F0B
Ser EV31/595
4 - MAY 2005

Approving Authority: State of Hawaii Department of Transportation
Address: 601 Kamokila Boulevard, Room 688, Kapolei, HI 96707
Contact: Ms. Karen Chun
Phone: (808) 692-7552

Consultant: TEC, Inc.
Address: 1001 Bishop Street, Suite 1400, Honolulu, HI 96813
Contact: Mr. Ryan Pingree
Phone: (808) 528-1445

Comments must be received or postmarked by June 7, 2005 for consideration in the final EA.

Thank you for your participation in the Draft EA process. Should you have any questions, please contact Ms. Anne Hong, Planner-In-Charge, at (808) 472-1388 or by E-Mail at anne.hong@navy.mil.

Sincerely,

MELVIN N. KAKU
Director
Environmental Planning Division

Encl:
(1) Subject Draft EA of May 05

Copy to: (w/o encl)
Ms. Genevieve Salmonson, Director, Office of Environmental Quality Control
Mr. Rodney Haraga, Director, State of Hawaii, Department of Transportation
Mr. Micah Kane, Chairman, State of Hawaii, Department of Hawaiian Home Lands

Blind copy to: (w/o encl)
COMNAVREG Hawaii (N45)
JPAC



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1F0B
Ser EV317 594
4 - MAY 2005

Salt Lake-Moanalua Public Library
648 Ala Lilikoi Street
Honolulu, HI 96818

Dear Sir or Madam:

**Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KOOLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII**

The Navy has prepared a draft environmental assessment (EA) for the proposed recovery of remains and personal effects of a missing U. S. service member in the Koolau Mountains. We respectfully request that enclosure (1), the draft EA, be kept at your library for public review during the public comment period of May 8, 2005 through June 7, 2005, to comply with the requirements of the State's Hawaii Revised Statutes, Chapter 343, and the State Office of Environmental Quality Control (OEQC) Guidebook for public review.

The draft EA was prepared pursuant to the National Environmental Policy Act (42 United States Code §4321 et seq.), as implemented by Council on Environmental Quality regulations (Title 40 Code of Federal Regulations Parts 1500-1508); Environmental Impact Statement (EIS) law (Hawaii Revised Statutes, Chapter 343); and the EIS rules (Administrative Rules, Title 11, Chapter 200).

The public is requested to submit any comments that they may have on the draft EA to the points of contact below:

Please send original comments to:

Applicant: Naval Facilities Engineering Command, Pacific
Address: Environmental Planning Division
258 Makalapa Drive, Suite 100, Pearl Harbor, HI 96860-3134
Contact: Ms. Anne Hong (EV31)
Phone: (808) 472-1388

Copies of the comments should be sent to:

Legal Repository: The Office of Environmental Quality Control
Address: 235 South Beretania Street, Suite 702, Honolulu, HI 96813

5090P.1F0B
Ser EV31/ 591
4 - MAY 2005

Approving Authority: State of Hawaii Department of Transportation
Address: 601 Kamokila Boulevard, Room 688, Kapolei, HI 96707
Contact: Ms. Karen Chun
Phone: (808) 692-7552

Consultant: TEC, Inc.
Address: 1001 Bishop Street, Suite 1400, Honolulu, HI 96813
Contact: Mr. Ryan Pingree
Phone: (808) 528-1445

Comments must be received or postmarked by June 7, 2005 for consideration in the final EA.

Thank you for your participation in the Draft EA process. Should you have any questions, please contact Ms. Anne Hong, Planner-In-Charge, at (808) 472-1388 or by E-Mail at anne.hong@navy.mil.

Sincerely,

MELVIN N. KAKU
Director
Environmental Planning Division

Encl:
(1) Subject Draft EA of May 05

Copy to: (w/o encl)
Ms. Genevieve Salmonson, Director, Office of Environmental Quality Control
Mr. Rodney Haraga, Director, State of Hawaii, Department of Transportation
Mr. Micah Kane, Chairman, State of Hawaii, Department of Hawaiian Home Lands

Blind copy to: (w/o encl)
COMNAVREG Hawaii (N45)
JPAC



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1FOB
Ser EV31/ 621
6 - MAY 2005

Mr. Rodney Haraga, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Dear Mr. Haraga:

Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KO'OLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII

Thank you for your letter of April 26, 2005 indicating that your office has no objections to the proposed recovery of the remains and personal effects of a missing U. S. service member in the Koolau Mountains provided that all necessary environmental clearances and permits required by law are obtained. No environmental permits are required for the Proposed Action. The formal consultations conducted in compliance with Section 7 of the Endangered Species Act and Section 106 of the National Historic Preservation Act are still ongoing. These consultations will be concluded before the EA is finalized.

The pre-public draft environmental assessment (EA) was revised to include comments received during the pre-assessment consultation period. A copy of the draft EA is provided as enclosure (1) for your review and comment.

Please provide your comments by June 7, 2005 to the following address:

Naval Facilities Engineering Command, Pacific
Environmental Planning Division, EV31AH
258 Makalapa Drive, Suite 100
Pearl Harbor, HI 96860-3134

We appreciate your staff's assistance in coordinating submittal to the Office of Environmental Quality to begin the public review process. We will work with the Right-of-Way Branch to extend the existing right-of-entry agreement for the area of the recovery site to cover the recovery and restoration efforts.

If you have any questions, please contact Ms. Anne Hong at 472-1388, by facsimile transmission at 474-5419 or by E-Mail at anne.hong@navy.mil.

Sincerely,

MELVIN N. KAKU
Director
Environmental Planning Division

5090P.1F0B
Ser EV31/621
6 - MAY 2005

Encl: (3 cys)
(1) Subject Draft EA of May 05

Copy to: (1 cy)
Ms. Karen Chun
State of Hawaii, Department of Transportation
Highways Division, Design Branch
601 Kamokila Blvd., Room 688
Kapolei, HI 96707

Mr. Micah Kane (w/o encl)
Chairman
Dept of Hawaiian Homelands
P. O. Box 1879
Honolulu, HI 96805

Blind copy to: (w/o encl)
COMNAVREG Hawaii (N45)
JPAC



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1FOB
Ser EV31/620
6 - MAY 2005

Mr. Micah Kane, Chairman
State of Hawaii
Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805

Dear Mr. Kane:

**Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KO'OLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII**

The draft environmental assessment (EA) for the proposed recovery of remains and personal effects of a missing U. S. service member in the Koolau Mountains is provided as enclosure (1) for your review and comment. As mentioned in our letter of March 18, 2005, ancillary support areas required to perform the Proposed Action are on property owned by the Department of Hawaiian Home Lands (Tax Map Key 9-9-011:004). We will work with your office to obtain the necessary right-of-entry before the work is scheduled to begin.

The draft EA was prepared pursuant to the National Environmental Policy Act (42 United States Code §4321 et seq.), as implemented by Council on Environmental Quality regulations (Title 40 Code of Federal Regulations Parts 1500-1508); Environmental Impact Statement (EIS) law (Hawaii Revised Statutes, Chapter 343); and the EIS rules (Administrative Rules, Title 11, Chapter 200). No environmental permits are required for the Proposed Action. The formal consultations conducted in compliance with Section 7 of the Endangered Species Act and Section 106 of the National Historic Preservation Act are still ongoing. These consultations will be concluded before the EA is finalized.

In compliance with the State's Hawaii Revised Statutes, Chapter 343, and the State Office of Environmental Quality Control (OEQC) Guidebook, the subject Draft EA was submitted by the State of Hawaii Department of Transportation, the lead approving agency for the State, to the State OEQC on April 27, 2005 for public review from May 8, 2005 to June 7, 2005.

Should you have any comments on the enclosed draft EA, please send them by June 7, 2005 to the following address:

Naval Facilities Engineering Command, Pacific
Environmental Planning Division, EV31AH
258 Makalapa Drive, Suite 100
Pearl Harbor, HI 96860-3134

5090P.1F0B
Ser EV31/ 620
6 - MAY 2005

If you have any questions, please contact Ms. Anne Hong at 472-1388, by facsimile transmission at 474-5419 or by E-Mail at anne.hong@navy.mil.

Thank you for your participation in the Draft EA process. We look forward to receiving your comments, questions and suggestions.

Sincerely,



MELVIN N. KAKU
Director
Environmental Planning Division

Encl: (3 cys)
(1) Subject Draft EA of May 05

Copy to: (w/o encl)
Mr. Rodney Haraga, Director
State of Hawaii
Dept of Transportation AliiAIMoku Bldg
869 Punchbowl Street, Room 509
Honolulu, HI 96813

Halawa Valley Aviator Recovery (HRS 343 DEA)

District: Halawa
TMK: 1-9-9-001:002, 1-9-9-011:004
Applicant: Commander, Navy Region Hawai'i, Naval Facilities Engineering Command, Pacific, Environmental Planning Division
 258 Makalapa Dr, Ste. 100, Pearl Harbor, HI 96860-3134
 Contact: Anne Hong (472-1388)

Approving Agency: State of Hawai'i, Dept. of Transportation, Highways Division, Design Branch
 601 Kamokila Blvd. Rm 688, Kapolei, HI 96707
 Contact: Karen Chun (692-7552)

Consultant: TEC Inc.
 1001 Bishop St., Ste. 1400, Honolulu, HI 96813
 Contact: Ryan Pingree (528-1445)

Public Comment Deadline: June 7, 2005
Status: Draft environmental assessment (DEA) notice pending 30-day public comment. Address comments to the applicant with copies to the approving agency, consultant and OEQC.

Permits Required: NEPA Notice of Intent, USFWS Section 7, NHPA State Historic Preservation Section 106.

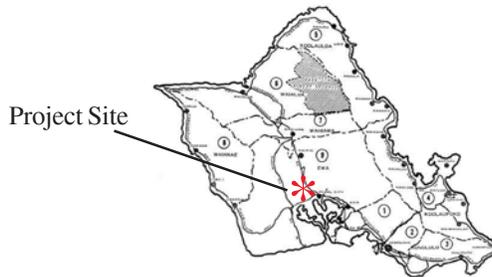
Commander, Navy Region Hawai'i has prepared a draft Environmental Assessment (EA) on behalf of the Joint Prisoner of War / Missing in Action Accounting Command (JPAC), who proposes to recover the remains and personal effects of a naval aviator who crashed into the Ko'olau Mountains in Halawa Valley, O'ahu, Hawai'i, in 1944, and return them to his family. The Proposed Action would require removal of vegetation and excavation and screening of soil from an area of up to 478 square yards (yd²) (400 square meters [m²]). Ancillary support areas would require clearing vegetation from an additional 1,698 yd² (1,420 m²) for two helicopter landing zones and two paths. The soil would be removed to JPAC's laboratory for screening.

As the recovery effort proceeds, JPAC personnel would implement temporary erosion control measures. Concurrently or immediately following the recovery effort, more permanent erosion control measures, including replacement of soil and re-planting with native plant species, will be implemented. Precautions will be taken to prevent weeds and other invasive plants from

being brought into the project area.

The site is within the State of Hawai'i's conservation district, in an area designated as critical habitat for seven species of threatened or endangered plants. The project area was surveyed, and no threatened or endangered plants or animals were identified. The crash site is considered to be historic, and there are no known archaeological resources within the project area. The Proposed Action is expected to have no adverse effect on historic properties, and is not expected to jeopardize critical habitat. Formal consultation regarding critical habitat and historic properties is being conducted (conclusion of consultation is pending).

The Proposed Action is of temporary duration, erosion control measures will be implemented, and the area will be revegetated with native species. No significant impacts are anticipated.



IN THE MATTER OF

DEPARTMENT OF DEFENSE
DEPARTMENT OF THE NAVY

**DEPARTMENT OF DEFENSE
DEPARTMENT OF THE NAVY
PUBLIC COMMENT PERIOD FOR
DRAFT ENVIRONMENTAL ASSESSMENT
FOR AVIATOR RECOVERY,
KO'OLAU MOUNTAINS,
HALAWA VALLEY, O'AHU, HAWAII**

AFFIDAVIT OF PUBLICATION

STATE OF HAWAII

City and County of Honolulu

SS.

The Commander, Navy Region Hawaii has prepared a draft Environmental Assessment (EA) on behalf of the Joint Prisoner of War / Missing in Action Accounting Command (JPAC), who proposes to recover the remains and personal effects of a naval aviator who crashed into the Ko'olau Mountains in Halawa Valley, O'ahu, Hawaii, in 1944, and return them to his family.

The public is invited to provide comments and input on the draft EA during the public comment period between May 8, 2005 and June 7, 2005.

The Proposed Action would require the removal of vegetation and excavation and screening of soil from an area of up to 478 square yards (yd²) (400 square meters [m²]). Ancillary support areas would require clearing vegetation from an additional 1,698 yd² (1,420 m²) for two helicopter landing zones and two paths. The soil would be removed to JPAC's laboratory for screening.

As the recovery effort proceeds, JPAC personnel would implement temporary erosion control measures. Concurrently or immediately following the recovery effort, more permanent erosion control measures, including replacement of soil and replanting with native plant species, will be implemented. Precautions will be taken to prevent weeds and other invasive plants from being brought into the project site.

The project site is located within the State of Hawaii's conservation district, in an area designated as critical habitat for seven species of threatened or endangered plants. The project site was surveyed, and no threatened or endangered plants or animals were identified. The crash site is considered to be historic, and there are no known archaeological resources within the project area. The Proposed Action is expected to have no adverse effect on historic properties, and is not expected to jeopardize critical habitat. Formal consultation regarding critical habitat and historic properties is being conducted (conclusion of consultation is pending).

The Proposed Action is of temporary duration, erosion control measures will be implemented, and disturbed areas will be revegetated with native species. No significant impacts are anticipated.

The draft EA is available for review at the Salt Lake - Moanalua Public Library and the Kaneohe Public Library.

Interested parties may request a copy of the draft EA from: Naval Facilities Engineering Command, Pacific, 258 Makalapa Drive, Suite 100, Pearl Harbor, Hawaii 96860-3134 (Attention: Ms. Anne Hong, EV31AH), telephone (808) 472-1388, E-mail "anne.hong@navy.mil."
(Hon. Adv.: May 8, 9, 10, 2005) (A-99847)

Valerie L Yanagihara *being duly sworn*

deposes and says that she is a clerk, duly authorized to execute this affidavit of THE HONOLULU ADVERTISER, a division of GANNETT PACIFIC CORPORATION, that said newspaper is a newspaper of general circulation in the State of Hawaii, and that the attached notice is a true notice as was published in the aforereferenced newspaper as follows:

*The Honolulu Advertiser: 3 times(s) on
05/08/2005, 05/09/2005, 05/10/2005*

and that affiant is not a party to or in any way interested in the above entitled matter.

*Subscribed and sworn to before me this 10th day of May
A. D. 20 05*

Elsie A. Maruyama

ELSIE A. MARUYAMA

Notary Public of the First Judicial Circuit
State of Hawaii
My commission expires

March 7, 2008





DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1F0B
Ser EV31/ 607
10 MAY 2005

Mr. John Nakagawa
Hawaii Coastal Zone Management Program
P. O. Box 2359
Honolulu, HI 96804

Dear Mr. Nakagawa:

Subj: FEDERAL CONSISTENCY WITH STATE OF HAWAII COASTAL ZONE
MANAGEMENT PROGRAM FOR AVIATOR RECOVERY, KO'OLAU
MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII

In accordance with the Federal Coastal Zone Management Act (CZMA), we request your review and concurrence on the Navy's consistency determination for the proposed recovery of the remains and personal effects of a missing U. S. service member in the Koolau Mountains. An evaluation of consistency with the CZMA is included as part of the draft Environmental Assessment (EA) for the Proposed Action, which is provided as enclosure (1) for your review and comment. Request an alternative notification schedule that will conclude with your decision date.

The project site is located on property in possession of the State of Hawaii Department of Transportation and on property owned by the State of Hawaii Department of Hawaiian Home Lands. The Proposed Action would require the removal of vegetation and excavation and screening of soil. The soil is damp, and it would be very difficult to screen it on-site. As part of the Proposed Action, the soil would be removed from the site to JPAC's laboratory for screening. The area would be re-planted following the recovery of remains, and necessary erosion control measures would be implemented.

No threatened or endangered plants or animals were identified at the site during a biological survey conducted in February 2005. However, the site is within the State of Hawaii's conservation district in an area designated as critical habitat for seven species of threatened and endangered plants. In addition to this correspondence with your office, we have initiated consultation with the U. S. Fish and Wildlife Service, State Historic Preservation Officer, Oahu Council of Hawaiian Civic Clubs, and the Office of Hawaiian Affairs.

Should you have any comments on the enclosed draft EA, please submit them before June 7, 2005.

The Navy has determined that the Proposed Action is consistent to the maximum extent practicable with State of Hawaii's Coastal Zone Management Program as documented in the EA.

5090P.1F0B
Ser. EV31637
10 MAY 2005

We appreciate your consideration of our determination and look forward to your response. Should you have any questions, please contact Ms. Anne Hong (EV31AH) at 472-1388, by facsimile transmission at 474-5419 or by E-Mail at anne.hong@navy.mil.

Sincerely,



MELVIN N. KAKU
Director
Environmental Planning Division

Encl:

(1) Subject Draft EA of May 05

Copy to: (w/o encl)

Mr. Rodney Haraga, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Mr. Micah Kane, Chairman
State of Hawaii
Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1F0B
Ser EV31/638

10 MAY 2005

Mr. Kahikina D. Akana
Project Coordinator
Halawa Luluku Interpretive Development
677 Ala Moana Blvd., Suite 811
Honolulu, HI 96813

Dear Mr. Akana:

**Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KO'OLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII**

Thank you for your E-Mail of April 13, 2005 providing comments on the proposed recovery of the remains and personal effects of a missing U. S. service member in the Ko'olau Mountains. The comments have been considered in the preparation of the Draft Environmental Assessment (EA) prepared pursuant to the National Environmental Policy Act (42 United States Code §4321 et seq.), as implemented by Council on Environmental Quality regulations (Title 40 Code of Federal Regulations Parts 1500-1508); Environmental Impact Statement (EIS) law (Hawaii Revised Statutes, Chapter 343); and the EIS rules (Administrative Rules, Title 11, Chapter 200). A copy of the Draft EA is provided as enclosure (1) for your review and comment.

Knowing that the project site lies within historic *Kahuli* habitat and that the area is also designated as critical habitat by U. S. Fish and Wildlife Service (Service) for several endangered plants, the area was surveyed for snails, plants and birds in February 2005. The biologists who conducted the surveys are all recognized experts in these species groupings. No endangered plants or animals (including native snails or native snail shells) were found during the survey. The biologists also checked historical and current maps showing the ranges of known species of endangered snails. No maps of current *Kahuli* distribution overlap the project area. On consideration of these data, the biologist concluded that the area is not likely to host any *Kahuli* and has not for quite some time. Based on these survey findings and the biologist's conclusions, we have determined that the project will not affect any endangered Oahu tree snails. A copy of the report is provided as Appendix A in the enclosed Draft EA. Should any *Kahuli* be discovered during the course of the project, the snail will not be disturbed and a biologist having both snail expertise and proper Federal and State permits will be contacted immediately to provide guidance on protection of the snail.

Please submit any comments that you may have on the Draft EA to the points of contact below:

Please send original comments to:

5090P.1F0B
Ser EV31/638
10 MAY 2005

Applicant: Naval Facilities Engineering Command, Pacific
Address: Environmental Planning Division
258 Makalapa Drive, Suite 100, Pearl Harbor, HI 96860-3134
Contact: Ms. Anne Hong (EV31)
Phone: (808) 472-1388

Copies of the comments should be sent to:

Legal Repository: The Office of Environmental Quality Control
Address: 235 South Beretania Street, Suite 702, Honolulu, HI 96813

Approving Authority: State of Hawaii Department of Transportation
Address: 601 Kamokila Boulevard, Room 688, Kapolei, HI 96707
Contact: Ms. Karen Chun
Phone: (808) 692-7552

Consultant: TEC, Inc.
Address: 1001 Bishop Street, Suite 1400, Honolulu, HI 96813
Contact: Mr. Ryan Pingree
Phone: (808) 528-1445

Your comments must be received or postmarked by June 7, 2005 for consideration in the Final EA.

If you would like to discuss any concerns that you may have regarding the Proposed Action, our staff would be available to meet with you during the public comment period. To set up the meeting, or if you have any questions, please contact Ms. Anne Hong, Planner-In-Charge, at (808) 472-1388 or by E-Mail at anne.hong@navy.mil.

Thank you for your participation in the Draft EA process. We look forward to receiving your comments, questions and suggestions.

Sincerely,



MELVIN N. KAKU
Director
Environmental Planning Division

Encl:
(1) Subject Draft EA of May 05

5090P.1F0B
Ser EV317 638
10 MAY 2005

Copy to: (w/o encl)
Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, HI 96813

Mr. Rodney Haraga, Director
State of Hawaii
Department of Transportation
Aliiainoku Bldg
869 Punchbowl Street, Room 509
Honolulu, HI 96813

Mr. Micah Kane, Chairman
State of Hawaii
Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805

Blind copy to: (w/o encl)
COMNAVREG Hawaii (N45)
JPAC



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1FOB
Ser EV31/641

10 MAY 2005

Ms. Cathleen Piilani Mattoon, President
Ko'olauloa Hawaiian Civic Club
P. O. Box 532
Hauula, HI 96717

Dear Ms. Mattoon:

Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KO'OLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII

Thank you for your letter of March 20, 2005 providing comments on the proposed recovery of the remains and personal effects of a missing U. S. service member in the Ko'olau Mountains. The comments have been considered in the preparation of the Draft Environmental Assessment (EA) prepared pursuant to the National Environmental Policy Act (42 United States Code §4321 et seq.), as implemented by Council on Environmental Quality regulations (Title 40 Code of Federal Regulations Parts 1500-1508); Environmental Impact Statement (EIS) law (Hawaii Revised Statutes, Chapter 343); and the EIS rules (Administrative Rules, Title 11, Chapter 200). A copy of the Draft EA is provided as enclosure (1) for your review and comment.

The Draft EA addresses potential impacts to environmental resources, which includes natural resources and soils. Further details regarding your concerns for the flora and fauna are provided in the Draft EA.

Knowing that the project site lies within historic *Kahuli* habitat and that the area is also designated as critical habitat by U. S. Fish and Wildlife Service (Service) for several endangered plants, the area was surveyed for snails, plants and birds in February 2005. The biologists who conducted the surveys are all recognized experts in these species groupings. No endangered plants or animals (including native snails or native snail shells) were found during the survey. The biologists also checked historical and current maps showing the ranges of known species of endangered snails. No maps of current *Kahuli* distribution overlap the project area. On consideration of these data, the biologist concluded that the area is not likely to host any *Kahuli* and has not for quite some time. Based on these survey findings and the biologist's conclusions, we have determined that the project will not affect any endangered Oahu tree snails. A copy of the report is provided as Appendix A in the enclosed Draft EA. Should any *Kahuli* be discovered during the course of the project, the snail will not be disturbed and a biologist having both snail expertise and proper Federal and State permits will be contacted immediately to provide guidance on protection of the snail. Regarding the project's effect on designated endangered plant critical habitat, the Proposed Action will likely have only a minor impact since the project area represents a very small percentage of the habitat and no endangered species are present at the site. The

5090P.1F0B
Ser EV31/641
10 MAY 2005

Service is currently reviewing the project and the project site restoration plan. Should the Service determine that the Proposed Action may adversely modify the project site habitat to a significant degree, the project activities will be modified to decrease any such adverse impact to an acceptable level.

As the recovery effort proceeds, personnel would implement temporary erosion control measures. Concurrently or immediately following the recovery effort, more permanent erosion control measures, including replacement of soil and re-planting with native plant species, will be implemented. Precautions will be taken to prevent weeds and other invasive plants from being brought into the project area, and weeding of invasive species will be included as part of the re-planting effort. Trash would be removed on a daily basis.

Please submit any comments that you may have on the Draft EA to the points of contact below:

Please send original comments to:

Applicant: Naval Facilities Engineering Command, Pacific
Address: Environmental Planning Division
258 Makalapa Drive, Suite 100, Pearl Harbor, HI 96860-3134
Contact: Ms. Anne Hong (EV31)
Phone: (808) 472-1388

Copies of the comments should be sent to:

Legal Repository: The Office of Environmental Quality Control
Address: 235 South Beretania Street, Suite 702, Honolulu, HI 96813

Approving Authority: State of Hawaii Department of Transportation
Address: 601 Kamokila Boulevard, Room 688, Kapolei, HI 96707
Contact: Ms. Karen Chun
Phone: (808) 692-7552

Consultant: TEC, Inc.
Address: 1001 Bishop Street, Suite 1400, Honolulu, HI 96813
Contact: Mr. Ryan Pingree
Phone: (808) 528-1445

Your comments must be received or postmarked by June 7, 2005 for consideration in the Final EA.

5090.1F0B
Ser EV31641
10 MAY 2005

If you would like to discuss any concerns that you may have regarding the Proposed Action, our staff would be available to meet with you during the public comment period. To set up the meeting, or if you have any questions, please contact Ms. Anne Hong, Planner-In-Charge, at (808) 472-1388 or by E-Mail at anne.hong@navy.mil.

Thank you for your participation in the Draft EA process. We look forward to receiving your comments, questions and suggestions.

Sincerely,



MELVIN N. KAKU
Director
Environmental Planning Division

Encl:

(1) Subject Draft EA of May 05

Copy to: (w/o encl)

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, HI 96813

Mr. Rodney Haraga, Director
State of Hawaii
Department of Transportation
Aliiimoku Bldg
869 Punchbowl Street, Room 509
Honolulu, HI 96813

Mr. Micah Kane, Chairman
State of Hawaii
Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1FOB
Ser EV317 639
10 MAY 2005

Ms. Mahealani Cypher, President
Ko'olaupoko Hawaiian Civic Club
P. O. Box 664
Kaneohe, HI 96744

Dear Ms. Cypher:

Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KO'OLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII

Thank you for your letter faxed on April 26, 2005 providing comments on the proposed recovery of the remains and personal effects of a missing U. S. service member in the Koolau Mountains. The comments have been considered in the preparation of the Draft Environmental Assessment (EA) prepared pursuant to the National Environmental Policy Act (42 United States Code §4321 et seq.), as implemented by Council on Environmental Quality regulations (Title 40 Code of Federal Regulations Parts 1500-1508); Environmental Impact Statement (EIS) law (Hawaii Revised Statutes, Chapter 343); and the EIS rules (Administrative Rules, Title 11, Chapter 200). A copy of the Draft EA is provided as enclosure (1) for your review and comment.

The Draft EA addresses potential impacts to environmental resources, which includes cultural and natural resources. We acknowledge the special cultural significance the Ko'olau Mountains have to your group. We have taken this into consideration, and do not believe that the Ko'olau Mountains, and the associated oral traditions of the *Kahuli* snail, would be impacted. For example, the proposed aviator recovery effort would not result in significant physical or visual impacts to the mountains, and a recent biological survey of the proposed project area did not identify any *Kahuli* within the project site boundaries. The project is short-term and the area will be replanted with native species following recovery of remains.

Knowing that the project site lies within historic *Kahuli* habitat and that the area is also designated as critical habitat by U.S. Fish and Wildlife Service for several endangered plants, the area was surveyed for snails, plants and birds in February 2005. The biologists who conducted the surveys are all recognized experts in these species groupings. No endangered plants or animals (including native snails or native snail shells) were found during the survey. The biologists also checked historical and current maps showing the ranges of known species of endangered snails. No maps of current *Kahuli* distribution overlap the project area. On consideration of these data, the biologist concluded that the area is not likely to host any *Kahuli* and has not for quite some time. Based on these findings and the biologist's conclusions, we have determined that the project will not affect any endangered Oahu tree snails. A copy of the report is provided as Appendix A in the enclosed Draft EA. Should any *Kahuli* be

discovered during the course of the project, the snail will not be disturbed and a biologist having both snail expertise and proper Federal and State permits will be contacted immediately to provide guidance on protection of the snail. Regarding the project's effect on designated endangered plant critical habitat, the Proposed Action will likely have only a minor impact since the project area represents a very small percentage of the habitat and no endangered species are present at the site. The Service is currently reviewing the project and the project site restoration plan. Should the Service determine that the Proposed Action may adversely modify the project site habitat to a significant degree, the project activities will be modified to decrease any such adverse impact to an acceptable level.

In compliance with Section 106 of the National Historic Preservation Act, the Navy has initiated consultation with the State Historic Preservation Officer, Oahu Council of Hawaiian Civic Clubs, and the Office of Hawaiian Affairs. None of these agencies and organization have expressed any concerns about the proposed undertaking having adverse effects to historic properties. In accordance with the Section 106 regulations, consultation with the Advisory Council on Historic Preservation (ACHP) would only be needed if a consulting party disagrees with the Federal agency's finding of no adverse effect. We hope once you have had a chance to review the Draft EA, we can work with you to try to resolve any concerns you may have prior to inviting the ACHP to participate in this consultation.

Please submit any comments that you may have on the Draft EA to the points of contact below:

Please send original comments to:

Applicant: Naval Facilities Engineering Command, Pacific
Address: Environmental Planning Division
258 Makalapa Drive, Suite 100, Pearl Harbor, HI 96860-3134
Contact: Ms. Anne Hong (EV31)
Phone: (808) 472-1388

Copies of the comments should be sent to:

Legal Repository: The Office of Environmental Quality Control
Address: 235 South Beretania Street, Suite 702, Honolulu, HI 96813

Approving Authority: State of Hawaii Department of Transportation
Address: 601 Kamokila Boulevard, Room 688, Kapolei, HI 96707
Contact: Ms. Karen Chun
Phone: (808) 692-7552

5090P.1F0B
Ser EV317-639
10 MAY 2005

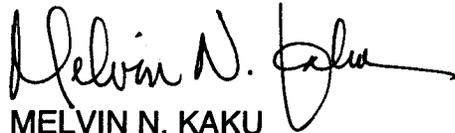
Consultant: TEC, Inc.
Address: 1001 Bishop Street, Suite 1400, Honolulu, HI 96813
Contact: Mr. Ryan Pingree
Phone: (808) 528-1445

Your comments must be received or postmarked by June 7, 2005 for consideration in the Final EA.

We would like to meet with you and members of your organization, at your convenience, mid-way during the public comment period for the Draft EA to discuss any concerns that you may have regarding the Proposed Action. To set up the meeting, or if you have any questions or concerns, please contact Ms. Anne Hong, Planner-In-Charge, at (808) 472-1388 or by E-Mail at anne.hong@navy.mil.

Thank you for your participation in the Draft EA process. We look forward to receiving your comments, questions and suggestions.

Sincerely,



MELVIN N. KAKU
Director
Environmental Planning Division

Encl:

(1) Subject Draft EA of May 05

Copy to: (w/o encl)

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, HI 96813

Mr. Rodney Haraga, Director
State of Hawaii
Department of Transportation
Aliiimoku Bldg
869 Punchbowl Street, Room 509
Honolulu, HI 96813

5090P.1F0B
Ser EV31/ 639
10 MAY 2005

Copy to: (w/o encl)
Mr. Micah Kane, Chairman
State of Hawaii
Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805

Blind copy to: (w/o encl)
COMNAVREG Hawaii (N45)
JPAC



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1FOB
Ser EV31/ 640
10 MAY 2005

Ms. Pauline M. Sato
The Nature Conservancy of Hawaii
923 Nuuanu Avenue
Honolulu, HI 96817

Dear Ms. Sato:

Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KO'OLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII

Thank you for your letter of April 8, 2005 providing comments on the proposed recovery of the remains and personal effects of a missing U. S. service member in the Koolau Mountains. The comments have been considered in the preparation of the Draft Environmental Assessment (EA) prepared pursuant to the National Environmental Policy Act (42 United States Code §4321 et seq.), as implemented by Council on Environmental Quality regulations (Title 40 Code of Federal Regulations Parts 1500-1508); Environmental Impact Statement (EIS) law (Hawaii Revised Statutes, Chapter 343); and the EIS rules (Administrative Rules, Title 11, Chapter 200). A copy of the Draft EA is provided as enclosure (1) for your review and comment.

The Draft EA addresses potential impacts to environmental resources, which includes natural resources and soils. Further details regarding your concerns for the spread of invasive weeds, erosion, and other direct and indirect impacts are provided in the Draft EA.

Knowing that the project site lies within historic *Kahuli* habitat and that the area is also designated as critical habitat by U. S. Fish and Wildlife Service (service) for several endangered plants, the area was surveyed for snails, plants and birds in February 2005. The biologists who conducted the surveys are all recognized experts in these species groupings. No endangered plants or animals (including native snails or native snail shells) were found during the survey. The biologists also checked historical and current maps showing the ranges of known species of endangered snails. No maps of current *Kahuli* distribution overlap the project area. On consideration of these data, the biologist concluded that the area is not likely to host any *Kahuli* and has not for quite some time. Based on these findings and the biologist's conclusions, we have determined that the project will not affect any endangered Oahu tree snails. A copy of the report is provided as Appendix A in the enclosed Draft EA. Should any *Kahuli* be discovered during the course of the project, the snail will not be disturbed and a biologist having both snail expertise and proper Federal and State permits will be contacted immediately to provide guidance on protection of the snail. Regarding the project's effect on designated endangered plant critical habitat, the Proposed Action will likely have only a minor impact since the project area represents a very small

percentage of the habitat and no endangered species are present at the site. The Service is currently reviewing the project and the project site restoration plan. Should the Service determine that the Proposed Action may adversely modify the project site habitat to a significant degree, the project activities will be modified to decrease any such adverse impact to an acceptable level.

As the recovery effort proceeds, personnel would implement temporary erosion control measures. Concurrently or immediately following the recovery effort, more permanent erosion control measures, including replacement of soil and re-planting with native plant species, will be implemented. Precautions will be taken to prevent weeds and other invasive plants from being brought into the project area, and weeding of invasive species will be included as part of the re-planting effort. Trash would be removed on a daily basis.

Regarding your recommendation to remove the remains and personal effects on the surface only, the recovery team's goal is to recover as much of the human remains at the site as possible. This goal will not be met if they are limited to surface collection for three primary reasons: (1) In aircraft crash sites, it is common that incident-related items are driven into the soil as a result of the force with which the plane impacts the ground; (2) in the 61 years between the incident and recovery, vegetation has grown and soils have likely formed over the wreckage; and (3) wreckage and remains may have been covered by erosional processes at the site (i.e. landslides). These factors all indicate that surface collection will not suffice.

Please submit any comments that you may have on the Draft EA to the points of contact below:

Please send original comments to:

Applicant: Naval Facilities Engineering Command, Pacific
Address: Environmental Planning Division
258 Makalapa Drive, Suite 100, Pearl Harbor, HI 96860-3134
Contact: Ms. Anne Hong (EV31)
Phone: (808) 472-1388

Copies of the comments should be sent to:

Legal Repository: The Office of Environmental Quality Control
Address: 235 South Beretania Street, Suite 702, Honolulu, HI 96813

Approving Authority: State of Hawaii Department of Transportation
Address: 601 Kamokila Boulevard, Room 688, Kapolei, HI 96707
Contact: Ms. Karen Chun
Phone: (808) 692-7552

5090.1F0B
Ser EV31/ 640
10 MAY 2005

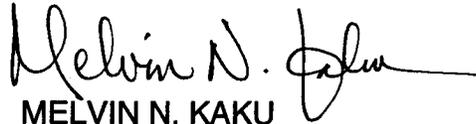
Consultant: TEC, Inc.
Address: 1001 Bishop Street, Suite 1400, Honolulu, HI 96813
Contact: Mr. Ryan Pingree
Phone: (808) 528-1445

Your comments must be received or postmarked by June 7, 2005 for consideration in the Final EA.

If you would like to discuss any concerns that you may have regarding the Proposed Action, our staff would be available to meet with you during the public comment period. To set up the meeting, or if you have any questions, please contact Ms. Anne Hong, Planner-In-Charge, at (808) 472-1388 or by E-Mail at anne.hong@navy.mil.

Thank you for your participation in the Draft EA process. We look forward to receiving your comments, questions and suggestions.

Sincerely,



MELVIN N. KAKU
Director
Environmental Planning Division

Encl:

(1) Subject Draft EA of May 05

Copy to: (w/o encl)

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, HI 96813

Mr. Rodney Haraga, Director
State of Hawaii
Department of Transportation
AliiAIMoku Bldg
869 Punchbowl Street, Room 509
Honolulu, HI 96813

5090P.1F0B
Ser EV31/640
10 MAY 2005

Copy to: (w/o encl)
Mr. Micah Kane, Chairman
State of Hawaii
Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805

Blind copy to: (w/o encl)
COMNAVREG HAWAII (N45)
JPAC

Hong, Anne M CIV NAVFAC HI, EV2

From: Hong, Anne M CIV NAVFAC PAC

Sent: Monday, May 16, 2005 6:41 PM

To: 'DSchwarz@iss-md.com'

Subject: RE: Draft EA from: Naval Facilities Engineering Command, Pacific, SB03507291: 5/8, 5/9, 5/10/05 - 2 of 2

Mr. Schwarz -

The remaining appendices are attached.

-----Original Message-----

From: Hong, Anne M CIV NAVFAC PAC

Sent: Monday, May 16, 2005 18:39

To: 'DSchwarz@iss-md.com'

Subject: RE: Draft EA from: Naval Facilities Engineering Command, Pacific, SB03507291: 5/8, 5/9, 5/10/05 - 1 of 2

Mr. Schwarz -

Per your request, a copy of the draft EA for the recovery of the aviator in the Ko'olau Mountains is provided in pdf format. The entire document is too large to be transmitted over our server, so I am forwarding the document in two separate transmittals.

Please send your comments to the address below. Your comments must be received or postmarked by June 7, 2005 for consideration in the Final EA.

Naval Facilities Engineering Command, Pacific
Environmental Planning Division
258 Makalapa Drive, Suite 100
Pearl Harbor, HI 96860-3134

Thank you for your participation in the Draft EA process. We look forward to receiving your comments, questions and suggestions.

If you should have any questions, please contact me viia telephone at 472-1388 or via E-mail at anne.hong@navy.mil.

Very Respectfully,
Anne Hong

Naval Facilities Engineering Command Pacific
Environmental Planning Division, Code EV31AH
Phone: (808) 472-1388
E-mail: anne.hong@navy.mil

-----Original Message-----

1/30/2006

From: Daniel Schwarz [mailto:DSchwarz@iss-md.com]
Sent: Wednesday, May 11, 2005 10:34
To: Hong, Anne M CIV NAVFAC PAC
Subject: Draft EA from: Naval Facilities Engineering Command, Pacific, SB03507291: 5/8, 5/9, 5/10/05

Mrs Hong

I am interested in a PDF copy of the draft EA. for the JPAC recovery of remains and personal effects of a naval aviator who crashed into the Ko'olau Mountains in Halawa Valley in 1944.

--

(X) General Dissemination.
() ISS Proprietary & Confidential.
() This Email may include information that should not be disclosed as part of the Non-disclosure Agreement.

Regards

Daniel Schwarz

Information Systems Support, Inc.

QA/QC Manager

Office (808)791-1072

NeXtel (808)478-2398

Web: www.pacmers.com

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\-----/



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1F0B
Ser EV31/696
18 MAY 2005

Ms. Namaka Whitehead
Kamehameha Schools
Land Assets Division
78-6831 Ali'i Drive, Suite 232
Kailua-Kona, HI 96740

Dear Ms. Whitehead:

**Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KOOLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII**

Per your request via E-mail of May 12, 2005, the draft environmental assessment (EA) for the proposed recovery of remains and personal effects of a missing U. S. service member in the Koolau Mountains is provided as enclosure (1) for your review and comment. The draft EA was prepared pursuant to the National Environmental Policy Act (42 United States Code §4321 et seq.), as implemented by Council on Environmental Quality regulations (Title 40 Code of Federal Regulations Parts 1500-1508); Environmental Impact Statement (EIS) law (Hawaii Revised Statutes, Chapter 343); and the EIS rules (Administrative Rules, Title 11, Chapter 200). Your comments must be received or postmarked by June 7, 2005 for consideration in the Final EA.

Please send original comments to:

Applicant: Naval Facilities Engineering Command, Pacific
Address: Environmental Planning Division
258 Makalapa Drive, Suite 100, Pearl Harbor, HI 96860-3134
Contact: Ms. Anne Hong (EV31)
Phone: (808) 472-1388

Copies of the comments should be sent to:

Legal Repository: The Office of Environmental Quality Control
Address: 235 South Beretania Street, Suite 702, Honolulu, HI 96813

Approving Authority: State of Hawaii Department of Transportation
Address: 601 Kamokila Boulevard, Room 688, Kapolei, HI 96707
Contact: Ms. Karen Chun
Phone: (808) 692-7552

Consultant: TEC, Inc.
Address: 1001 Bishop Street, Suite 1400, Honolulu, HI 96813
Contact: Mr. Ryan Pingree
Phone: (808) 528-1445

5090P.1F0B
Ser EV31/ 696
18 MAY 2005

Thank you for your participation in the Draft EA process. We look forward to receiving your comments, questions and suggestions.

Sincerely,



MELVIN N. KAKU
Director
Environmental Planning Division

Encl:

(1) Subject Draft EA of May 05

Copy to: (w/o encl)

Ms. Genevieve Salmonson, Director, Office of Environmental Quality Control

Mr. Rodney Haraga, Director, State of Hawaii, Department of Transportation

Mr. Micah Kane, Chairman, State of Hawaii, Department of Hawaiian Home Lands

5090P.1F0B
Ser EV31/ 696
18 MAY 2005

Thank you for your participation in the Draft EA process. We look forward to receiving your comments, questions and suggestions.

Sincerely,

MELVIN N. KAKU
Director
Environmental Planning Division

Encl:

(1) Subject Draft EA of May 05

Copy to: (w/o encl)

Ms. Genevieve Salmonson, Director, Office of Environmental Quality Control
Mr. Rodney Haraga, Director, State of Hawaii, Department of Transportation
Mr. Micah Kane, Chairman, State of Hawaii, Department of Hawaiian Home Lands

Blind copy to: (w/o encl)

COMNAVREG Hawaii (N45)
JPAC

LINDA LINGLE
GOVERNOR
STATE OF HAWAII



MICAH A. KANE
CHAIRMAN
HAWAIIAN HOMES COMMISSION

BEN HENDERSON
DEPUTY TO THE CHAIRMAN

KAULANA H. PARK
EXECUTIVE ASSISTANT

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS

P.O. BOX 1879
HONOLULU, HAWAII 96805

May 17, 2005

Mr. Melvin Kaku, Director
Environmental Planning Division
Department of the Navy
Naval Facilities Engineering Command, Pacific
258 Makalapa Drive, Suite 100
Pearl Harbor, Hawaii 96860-3134

Dear Mr. Kaku:

Subject: Draft Environmental Assessment for Aviator
Recovery, Koolau Mountains, Halawa Valley, Oahu

We appreciate the opportunity to provide our comments on the draft of your environmental assessment for the proposed recovery of remains and personal effects of a missing service personnel while on flight training during June 1944 in the Koolau Mountains.

Since your temporary use of Hawaiian Home Land's existing concrete pad as a helicopter landing zone and the concrete structure for storage purposes is deemed to have no adverse effects on historic properties, we have no comments at this time.

We appreciate the opportunity to provide our comments regarding the proposed project.

If you have any questions, please call Rodney Asada, Technical Services Branch Manager of our Land Management Division at 586-3821.

Aloha and mahalo,

Micah A. Kane, Chairman
Hawaiian Homes Commission



STATE OF HAWAII'
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII' 96813

HRD05/1776B

May 23, 2005

Anne Hong (EV31)
Naval Facilities Engineering Command, Pacific
Environmental Planning Division
258 Makalapa Drive, Suite 100
Pearl Harbor, HI 96860-3134

RE: Draft Environmental Assessment for Aviator Recovery, Ko'olau Mountains, Halawa Valley, O'ahu.

Dear Ms. Hong,

The Office of Hawaiian Affairs (OHA) is in receipt of your May 4, 2005 request for comments on the above listed project. OHA offers the following suggestions:

The area of the proposed undertaking is within a critical habitat for seven endangered plant species and is a fragile environment. The proposed project area is home to a variety of flora species, 68% of which are native. OHA recommends that native flora species, including Koa (*Acacia koa*), 'Ohi'a (*Metrosideros polymorpha*) and varieties of fern, be used in re-vegetating the areas of impact wherever possible.

On the issue of Alternative Actions, OHA recommends that no unnecessary alterations of the landscape be made. OHA does not concur with the propositions to 1) tap a nearby stream to procure water for "wet-screening", or 2) remove soil from an upslope area to backfill proposed excavations. OHA recommends that, if needed, water be imported via helicopter for wet screening. Removed soils should be sterilized and returned to the project area as a backfill material. If additional sediments are needed to backfill, they should be collected from a nearby area of similar vegetation, particularly an area that is not susceptible to erosion and land slide.

OHA is also concerned with the amount of vegetation grubbing involved with creating the Landing Zone (LZ) and foot trails. It is OHA's recommendation that the project use only the existing landing pad to accommodate the proposed undertaking. Creation of a new LZ and trail

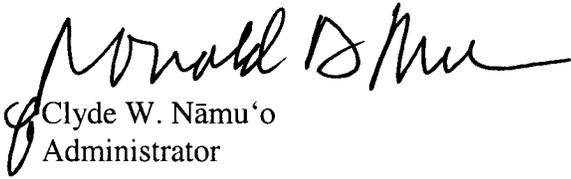
Anne Hong
May 23, 2005
Page 2

seems superfluous and would increase the adverse impact to the surrounding landscape. Can the proposed action be carried out with only one LZ pad and access trail?

OHA further requests your assurances that if the project goes forward, should iwi or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

Thank you for the opportunity to comment. If you have further questions or concerns, please contact Jesse Yorck at 594-0239 or jessey@oha.org.

‘O wau iho nō,



Clyde W. Nāmu‘o
Administrator

CC: The Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, HI 96813

Karen Chun
State of Hawaii Department of Transportation
601 Kamokila Boulevard, Room 688
Kapolei, HI 96707

Ryan Pingree
TEC, Inc.
1001 Bishop Street, Suite 1400
Honolulu, HI 96813

LINDA LINGLE
GOVERNOR OF HAWAII



CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
EPO-05-046

June 1, 2005

Ms. Anne Hong
Naval Facilities Engineering Command, Pacific
Environmental Planning Division
258 Makalapa Drive, Suite 100
Pearl Harbor, Hawaii 96860-3134

Dear Ms. Hong:

SUBJECT: Draft Environmental Assessment for Aviator Recovery
Koolau Mountains, Halawa Valley, Oahu, Hawaii

Thank you for allowing us to review and comment on the subject documents. We have no comment at this time and please refer to our website for the Standard Comments (<http://www.state.hi.us/health/environmental/env-planning/landuse/landuse.html>). If there are any questions about these standard comments please contact Jiakai Liu with the Environmental Planning Office at 586-4346.

Sincerely,

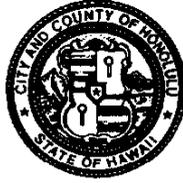
JUNE F. HARRIGAN-LUM, MANAGER
Environmental Planning Office

c: EPO

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 523-4432 • FAX: (808) 527-6743
DEPT. WEB SITE: www.honolulu.gov • CITY WEB SITE: www.honolulu.gov

MUFI HANNEMANN
MAYOR



HENRY ENG, FAICP
DIRECTOR

DAVID K. TANOUE
DEPUTY DIRECTOR

2005/ELOG-1016 (DW)

June 2, 2005

Ms. Anne Hong
Naval Facilities Engineering Command, Pacific
Environmental Planning Division
258 Makalapa Drive, Suite 100
Pearl Harbor, Hawaii 96860-3134

Dear Ms. Hong:

Draft Environmental Assessment Report for
Aviator Recovery, Koolau Mountains
TMK: 9-9-011:002 and 004 in Halawa Valley, Oahu, Hawaii

Thank you for the opportunity to review the Aviator Recovery May 2005 Draft Environmental Assessment (EA), and the anticipated issuance of a "Finding of No Significant Impact" (FONSI), which you are preparing for the Commander Navy Region Hawaii (CNRH). The Joint Prisoner of War/Missing in Action Accounting Command (JPAC) proposes to recover the remains and personal effects of a U.S. service member missing since 1944 when his plane crashed into the Koolau Mountains.

We offer the following comments for your review and consideration for the Final EA report:

1. Executive Summary, page ES-1: Change Central Oahu Sustainable Communities Plan to Primary Urban Center Development Plan. Under City and County of Honolulu zoning, change P-1 Restricted to P-1 Restricted Preservation District.
2. Page 4-12, line 1: Revise this sentence to read, "The Proposed Action is consistent with the applicable objectives and policies of the General Plan..."
3. Page 4-12, line 5: The sentence beginning, "The Proposed Action would be consistent..." should be deleted as it refers to the Primary Urban Center Development Plan and not the General Plan (it should be added to a new Section 4.5.5, see following comment).

Ms. Anne Hong
Naval Facilities Engineering Command, Pacific
Page 2
June 2, 2005

4. A Section 4.5.5 should be added, entitled "Primary Urban Center Development Plan." This section should state that, according to the Primary Urban Center Development Plan (PUC DP, June 2004), the project site is located outside the Urban Community Boundary and has a land use designation of Preservation (Land Use Map, PUC – West). The Aviator Recovery project is consistent with the intent of the Preservation designation.

Please call Dina Wong of my Community Action Plans Branch staff at 527-6073 if you have any questions.

Sincerely yours,



 HENRY ENG, FAICP
Director of Planning and Permitting

HE:lh
Doc: 374448

cc: OEQC
Department of Transportation
TEC, Inc.



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1FOB
Ser EV31/793
6 JUN 2005

Ms. Rocky Kaluhiwa, Second Vice President
Ko'olaupoko Hawaiian Civic Club
P. O. Box 4870
Kaneohe, HI 96744

Dear Ms. Kaluhiwa:

Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KO'OLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII

Thank you for meeting with us on June 2, 2005 to discuss the proposed recovery of the remains and personal effects of a missing U.S. service member in the Koolau Mountains. As you requested during our meeting, two additional copies of the Draft Environmental Assessment (EA) are provided as enclosure (1).

Comments for the draft EA should be postmarked or received by June 13, 2005.

Please send original comments to:

Applicant: Naval Facilities Engineering Command, Pacific
Address: Environmental Planning Division
258 Makalapa Drive, Suite 100, Pearl Harbor, HI 96860-3134
Contact: Ms. Anne Hong (EV31)
Phone: (808) 472-1388

If you have any questions or concerns, please contact Ms. Anne Hong, Planner-In-Charge, at (808) 472-1388 or by E-Mail at anne.hong@navy.mil. Thank you for your participation in the Draft EA process. We look forward to receiving your comments, questions and suggestions.

Sincerely,


MELVIN N. KAKU
Director
Environmental Planning Division

Encl:
(1) Subject Draft EA of May 05 (2 cys)

5090P.1F0B
Ser EV31/
6 JUN 2005

Copy to: (w/o encl)
Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, HI 96813

Mr. Rodney Haraga, Director
State of Hawaii
Department of Transportation
Aliiimoku Bldg
869 Punchbowl Street, Room 509
Honolulu, HI 96813

Mr. Micah Kane, Chairman
State of Hawaii
Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805

LINDA LINGLE
GOVERNOR OF HAWAII



GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186
E-mail: oeqc@health.state.hi.us

June 7, 2005

Commander, Navy Region Hawai'i
Naval Facilities Engineering Command, Pacific
Environmental Planning Division
258 Makalapa Drive, Suite 100
Pearl Harbor, Hawai'i 96860-3134

Mr. Rodney Haraga, Director
State of Hawaii, Department of Transportation
Highways Division, Design Branch
601 Kamokila Boulevard, Room 688
Kapolei, Hawai'i 96707

Mr. Ryan Pingree
TEC, Inc.
1001 Bishop Street, Suite 1400
Honolulu, Hawai'i 96813

Dear Messrs. Commander, Haraga, and Pingree:

The Office of Environmental Quality Control has received the draft environmental assessment for the Halawa Aviator Recovery, Tax Map Keys (1st) 1-9-9-001:002, and 1-9-9-11:004, in the judicial district of 'Ewa, and offers the following comments for your consideration and response.

EROSION AND STREAM WATER QUALITY: Given the possibility of rainfall and flooding in the Halawa area, there exists a remote possibility that the project may indirectly affected stream water quality through site runoff. Please use appropriate mitigative measures to ensure that runoff is controlled and please consider the suspension of grading and excavation work during periods of rainfall.

INTRODUCTION OF ALIEN SPECIES: Please incorporate appropriate measures to prevent the introduction of alien invasives in the project area.

Thank you for the opportunity to comment. If there are any questions, please call Mr. Leslie Segundo, Environmental Health Specialist, at (808) 586-4185.

Sincerely,

A handwritten signature in cursive script that reads "Genevieve Salmonson".

GENEVIEVE SALMONSON
Director



DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

LINDA LINGLE
GOVERNOR
THEODORE E. LIU
DIRECTOR
MARK K. ANDERSON
DEPUTY DIRECTOR
LAURA H. THIELEN
DIRECTOR
OFFICE OF PLANNING

OFFICE OF PLANNING

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2846
Fax: (808) 587-2824

Ref. No. P-10978

June 13, 2005

Mr. Melvin N. Kaku, Director
Environmental Planning Division
Department of the Navy
Naval Facilities Engineering Command, Pacific
258 Makalapa Drive, Suite 100
Pearl Harbor, Hawaii 96860-3134

Attention: Ms. Anne Hong

Dear Mr. Kaku:

Subject: Hawaii Coastal Zone Management (CZM) Program Federal Consistency
Review for Aviator Recovery, Koolau Mountains, Halawa Valley, Oahu

The proposal to recover the remains and personal effects of a naval aviator who crashed into the Koolau Mountains while on a training flight in June 1944, has been reviewed for consistency with the Hawaii CZM Program. We concur with your determination that the project is consistent to the maximum extent practicable with the Hawaii CZM Program based on the following conditions:

1. Erosion mitigation. In accordance with the May 2005, Draft Environmental Assessment, Section 2.2.1.2, temporary erosion control measures, such as anchoring geotextile, burlap, or other soil stabilizing material over exposed areas shall be implemented. Soil retention barriers shall be placed down-slope of the disturbed areas. In addition, all trash and debris generated by the project shall be collected and removed daily.
2. Post-recovery restoration. In accordance with the May 2005, Draft Environmental Assessment, Section 2.2.1.3, post-recovery restoration shall occur concurrently or immediately following the completion of the recovery effort. Restoration specialists, including botanists, biologists, geologists, and technicians shall implement erosion control and revegetation measures. The disturbed areas shall be revegetated with native Hawaiian plants. Post-restoration monitoring shall be carried out to monitor the progress and effectiveness of the restoration. If revegetation is not progressing

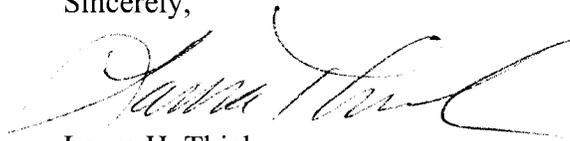
Mr. Melvin N. Kaku
Page 2
June 13, 2005

and/or weeds are precluding the native Hawaiian plants from growing, then corrective measures shall be taken to ensure the effectiveness of the restoration.

3. Protection of historic, archaeological, and cultural resources. If any native Hawaiian or non-aviator related historic, archaeological, or cultural resources are discovered during any phase of the project, all work in the area shall stop and the State Historic Preservation Division shall be notified. Work shall not resume until the State Historic Preservation Division gives its approval. Hawaii Revised Statutes, Chapter 6E - Historic Preservation, which is administered by the State Historic Preservation Division, is a federally-approved enforceable policy of the Hawaii CZM Program.

In addition, we agree to an alternative CZM federal consistency notification schedule that concludes with the date of this concurrence. CZM consistency concurrence is not an endorsement of the project nor does it convey approval with any other regulations administered by any State or County agency. Thank you for your cooperation in complying with Hawaii's CZM Program. If you have any questions, please call John Nakagawa of our CZM Program at 587-2878.

Sincerely,



Laura H. Thielen
Director

c: U.S. Fish and Wildlife Service, Pacific Islands Ecoregion
Dr. Wendy Wiltse, U.S. Environmental Protection Agency
Historic Preservation Division, Department of Land and Natural Resources
Department of Planning and Permitting, City and County of Honolulu

KO'OLAUPOKO HAWAIIAN CIVIC CLUB

June 13, 2005

Naval Facilities Engineering Command, Pacific
Attention: Ms. Anne Hong, EV31AH
258 Makalapa Drive, Suite 100
Pearl Harbor, Hawai'i 96860-3134

Subject: Comments Regarding Environmental Assessment for Aviator Recovery

Dear Ms. Hong:

We wish to inform you of our continuing concerns regarding your proposed plan to attempt to recover the remains of a missing aircraft crash victim from the mountains above Halawa Valley. Key concerns include:

- Disturbance of the wao 'akua, sacred area of the Ko'olau mountains
- Disturbance of critical habitat of endangered native Hawaiian species
- Possible disturbance of ancient Hawaiian iwi in project area
- Non-consideration of additional alternatives

The following are our more detailed comments and recommendations concerning the Environmental Assessment prepared for the recovery of a missing aviator whose plane crashed in the Ko'olau mountains above Halawa Valley in 1944:

1. Executive Summary

- a. Pg. ES-2 – "...Action would require removal of vegetation and excavation and screening of soil from an area up to 478 sq. yards..."
- b. "Ancillary support areas would require clearing vegetation from an additional 1,1698 square yards for a buffer area around an existing helicopter landing zone."
- c. "The soil would be removed from the site to JPAC's laboratory for screening..."
- d. "Revegetation and erosion control would be implemented concurrently or immediately following the recovery..."

Comment: This section describes the work area as being substantial in a very sensitive section of the Ko'olau range – as much as a half-acre would be cleared and the soil removed to be screened elsewhere. Clearing of additional vegetation in the "buffer area" is a concern because there have been sightings of native

plants near the ridge, some of which are said to be extremely rare. (source: Friends of Ha'iku Stairs)

Purpose and Need

Paragraph 2: "...The project site is located in very rugged terrain in the upper Halawa Valley, below the ridgeline of the Ko'olau Mountains, north of the southern entrance to the H-3 freeway tunnel..."

"Because the project site is located on property ...which has been designated as conservation district..."

"...Access to the site is very difficult due to its remote location and inclines of greater than 70 degrees..."

Comment: By your own admission, the project site is in rugged terrain, in a very remote area, and is located within a conservation district. This is an area that should not be disturbed – which is why it has been designated a “conservation district.” In addition, the hazardous nature of the recovery effort in this “rugged terrain” suggests that members of the recovery team may be endangered due to the potential for instability of the slope where the slide occurred, above the primary work area.

e. Page ES-3: Alternatives

"The No-Action Alternative was carried forward in the analysis as a benchmark to compare the magnitude of environmental effects of the Proposed Action and On-Site Screening Alternatives."

Comment: The alternatives considered by JPAC are inadequate, and do not include a consideration of allowing the remains to rest in peace in Halawa Valley, which is American/Hawaiian soil and not a foreign land. There should have been consultation with native Hawaiian groups prior to selection of the preferred alternative.

Environmental Consequences

"...the Oahu Council of Hawaiian Civic Clubs [Conclusion of Consultation pending]..."

"...CNRH determined that the Proposed Action would have **no adverse effects** (emphasis added) on historic properties. Formal consultation with the U.S. Fish and Wildlife Service regarding designated critical habitat for seven endangered plant species located within the project site was conducted in compliance with Section 7 of the Endangered Species Act [Conclusion of Consultation pending]. It was determined that the Proposed Action **would not have a significant impact on critical habitat** (emphasis added)."

Comment: We request that consultation with the Ko'olaupoko Hawaiian Civic Club continue until all significant issues are resolved. We further

submit that the Proposed Action **will, indeed, have a significant impact on the critical habitat.** The removal of up to a half-acre of vegetation and soil will undoubtedly be significant, since these areas of the Ko'olau mountains are already considered critical habitat for the listed species, including the rare achatinella snail (*kabuli*). We therefore disagree with your contention that the Proposed Action does not have significant effect upon the critical habitat.

2. Purpose of and Need for Action

- a. Page 1.3.1: "...and returned home..."

Comment: The remains have lain at rest in the wao akua, sacred uplands, of Halawa Valley on the island of O'ahu, State of Hawai'i. Perhaps the family could consider this "home", since it an area considered to be American soil.

- b. Page 1.3.2: Project Location

"The project site contains unoccupied critical habitat for seven species of Federally endangered plants..."

"...Access to the site is very difficult due to its remote location and inclines greater than 70 degrees..."

"The project site consists of vegetated slopes interspersed with pieces of plane wreckage..."

Comment: We reiterate our concern that the site is a critical habitat for seven species; it is occupied by native plants and animals and, therefore, should not be disturbed. We further reiterate our concern that the site is in a remote location with steep inclines. We are also concerned that these are vegetated slopes that may result in landslides once vegetation is removed for the project. We also note that the reference to "...pieces of plane wreckage..." appears to indicate that the crash was high impact, and that the remains of the crash victim are unlikely to be intact, particularly after 60 years in the damp and wet soil of the Ko'olau.

- c. Page 1.4: Regulatory Overview

There is a reference to the possibility of a "negative declaration". We ask for clarification on why this is being contemplated, given the potential serious impact upon a critical habitat.

- d. Page 1.4.4: National Historic Preservation Act

"...provides for the identification and evaluation of historic properties, for determining the effects of Federal undertakings on such properties, and for

developing ways to resolve adverse impacts in consultation with relevant parties...”

Comment: We ask for clarification on the following questions:

- (i) Is this a “federal undertaking” as defined in the NHPA?
- (ii) How do you define “relevant parties”?

e. Page 1.4.6: Endangered Species Act

Citing “Section 9 of the ESA prohibits the ‘taking’ of endangered species by causing harm or harassment,” we submit that this Act would be violated by the Proposed Alternative and the On-Site Alternative.

Comment: Because the area(s) being proposed for work to be done either in the direct impact location or routes nearby slated to be “cleared” or through which workers will have to cross are in the “critical habitats” or in close proximity to “critical habitats” as designated under federal law for plants, animals and “special status species.” To remove a half-acre of soil, whether on-site or off-site, would cause more than a negligible impact upon the ecosystem and environments which these species need to survive.

3. Alternatives Including the Proposed Action

a. Page 2-1, Section 2.2.1.1 – Project Site

“The 2,176-square-yd (1,820-m²) or 0.45-acre (0.18-hectare [ha]) project site consists of the following five interconnected areas...”

Comment: This statement reinforces the sizable area where vegetation will be cleared, soil will be removed, and around which human intrusions will significantly disturb a sensitive, critical habitat. It is likely that the area has been gradually recovering from the impact of the 1944 crash, and to enter the area for reconnaissance and clearing will create lasting harm to creatures as sensitive as the kahuli snail. In addition, clearing such a large area of vegetation and soil may have an effect upon nearby critical habitats of native birds. Non-sighting of endangered species in these areas should not constitute justification for wholesale removal of ecosystems in which these species exist.

b. Page 2-3, Section 2.2.1.2 – Aviator Recovery Activities

“During the recovery phase of the Proposed Action, the JPAC Recovery Team would first establish support areas of temporary disturbance (the LZs and trails). In these support areas, taller vegetation would be cut or thinned to meet helicopter safety requirements and facilitate safe passage by recovery personnel. After establishing the support areas, the JPAC Recovery Team

would use hand tools such as picks, shovels, and buckets to remove vegetation and soil to bedrock at the recovery area...”

“Therefore, under the Proposed Action, the soils would be removed for screening at JPAC’s laboratory. It is estimated that an average depth of 10 inches (25 centimeters) of soil would be removed from an area of no more than 478 square yards, resulting in an estimated soil volume of 133 cubic yards (100 cubic meters) removed from the site...”

Comment: We would like more detailed information on how many and what types of “taller vegetation” would be “cut or thinned” near the landing zones and/or trails. In addition, we have a concern about removing soil “to bedrock at the recovery area.” The cumulative estimated volume of soil to be removed is approximately 133 cubic yards which, in our view, appears to be a significant impact upon the critical habitat.

“The aircraft body and large pieces of debris would be left at the site. Trees would not be removed, unless necessary, to retrieve remains of personal effects.”

Comment: While we fully understand the sensitivity of JPAC’s mission to recover the remains of a loved one for the deceased’s family, we find it very disconcerting that this project involves removal of half an acre of vegetation and soil in a sacred area that is also a federally-designated critical habitat, while debris from the crash will be left in place. May we have clarification on why it was decided not to remove the aircraft debris?

“Once JPAC completes the screening effort, the screened soil would be sterilized and returned to the recovery area, or replenishment soils from another area would be sterilized and placed at the recovery area. Soil from a slide upslope of the recovery area may be a source of replacement soil.”

Comment: We have concerns regarding moving the soil back and forth, taking it out, sterilizing it, returning it to the recovery area. The soil in the primary recovery area has accumulated for a long, long time. Its composition is rich with the organisms and components that make it a healthy ecosystem for the plants and animals that thrive in that environment. In addition, the *mana* – the intrinsic spiritual power of this area – is compromised by the removal of such a large volume of soil, by sterilizing this soil, and/or by replacing it with eroded soils that may have differing composition. We also have concerns regarding using soil from the slide area, primarily because moving that soil may make the slide area more vulnerable to the possibility of expanded landslides in the future.

- c. Page 2-4, Section 2.2.1. – Post-Recovery Restoration Activities

“The disturbed areas would be revegetated with plants that mimic the pre-clearing species composition, including native Hawaiian plants noted in the biological survey (TEC, 2005; see Appendix A).”

Comment: Because you will be removing a variety of plants, including non-native species, we are concerned that you may be planning to replant invasive species such as *Clidemia*. We request a list of plants that would be contemplated for use in the restoration phase. We also request more information on the company, Pono Pacific, which has been contracted to assist with the restoration and revegetation portion of the project.

Section 2.2.2 – Alternatives

“The No-Action Alternative was carried forward in the analysis as a benchmark to compare the magnitude of environmental effects of the Proposed Action and On-Site Screening Alternative.”

Comment: We recommend that the “No-Action Alternative” be revised to reflect consideration of “Remains Left in Place Alternative” that we are recommending (see attached letter for consideration of Remains Left in Place Alternative).

Section 2.2.2.1 – On-Site Screening Alternative

“This alternative would also require a field crew at least three times the size of the Proposed Action field crew (approximately 45 personnel).”

Comment: We have concerns about this alternative, due to the large number of personnel who would be moving in and out of the sensitive, critical habitat area and because of the amount of disruption to the cultural landscape by the work that would have to be done.

d. Page 2-5, Section 2.2.2.2 – No-Action Alternative

“Under the No-Action Alternative, the remains of the missing aviator would not be recovered. JPAC would not fulfill its mission, and the remains would not be returned to the aviator’s family.”

Comment: We suggest that re-wording of this alternative is needed, to reflect an extended action, such as we are recommending, where the aviator’s remains are allowed to lay at rest in place here on American soil, in an area that is already considered sacred to native Hawaiians, and with the establishment of a memorial plaque either at Marine Corps Base Hawai’i or at Barber’s Point. The wording as it now reads for “No-Action Alternative” is very negative and lacking in cultural sensitivity.

e. Page 2-6, Table 2-2. Summary of Environmental Effects of the Proposed Action and Alternatives

Comment: We note that you indicated the Proposed Action has “No significant impacts” on biological resources, on cultural resources, on topography, soils and water resources, and on air quality, noise, infrastructure, health and safety, socio-economic factors, land use compatibility, public facilities, services, recreation and views. We strongly disagree that there is no significant impact on biological resources, cultural resources, topography, soils, air and noise quality.

4. Affected Environment - Page 3-1, Section 3.1 - Overview

- a. Air Quality – While the project does not affect air quality with noxious gases or other pollutants, the presence of helicopters for a prolonged period of time over the life of the project (and during restoration period) has and is likely to cause disturbance to native Hawaiian residents of Ioleka’a Valley, which lies next to Ha’iku Valley, just over the ridge from one of the landing zones. Residents from that valley have already complained about the helicopter activity. There is normally very little helicopter activity in that vicinity except for rescue operations.
- b. Noise – The same concerns have been raised by residents of Ioleka’a Valley about noise problems caused by the helicopters buzzing around the ridgelines during preliminary survey work conducted for this project.
- c. Infrastructure – “...the terrain of the area is very steep and considered dangerous to traverse on foot. When weather conditions are favorable, it is common to see numerous military and civilian helicopters fly around and above the Ko’olau mountains on a daily basis.”

Comment: According to residents of Ioleka’a Valley, there is normally very little helicopter activity along the ridgeline. May we please have documentation about the statement, “...it is common to see numerous military and civilian helicopters...”, and please verify whether the State Board of Land and Natural Resources has a record of commercial helicopter permits for flight-paths over this area.

- d. Health and Safety – “...At the upper end of the recovery area is a recent (less than 1 year old) landslide (Figure 3-2). Falling debris from this unstable slope may pose a risk to personnel working in the recovery area (Pono Pacific, 2005).”

Comment: Again, the possibility of physical danger for the recovery team is a concern to us. In addition, we are curious as to the coincidence that the slide above the work area occurred within the past year. Generally speaking, because this particular area is so remote, it would be unlikely the slide could have been caused by hikers or pig hunters entering the area. Can you please clarify for us what dates your initial survey teams first investigated the crash site in 2004, and did any of the initial workers attempt to rappel down that steep slope?

- e. Land-Use Compatibility – "...the area is zoned for conservation..." "The parcels associated with the project site are zoned as P-1, 'Restricted Preservation District', under the City and County of Honolulu's Land Use Ordinance."

Comment: Because the area is zoned for conservation by both the State of Hawai'i and the City and County of Honolulu, the primary concern is that conservation districts are not meant to have natural vegetation and soil removed. We are concerned about the project's intention of removing vegetation and soil, particularly in light of the fact that the State has declared this area a protected conservation zone.

- f. Public Facilities, Services and Recreation – "There are no...officially recognized hiking trails located near the project site. The likelihood of recreation users in the project vicinity is low due to the challenging terrain and lack of clearly defined trails to the project site. Recent biological surveys at the project site did find signs of recent human activity at the site (i.e., trash)."

Comment: Because the ridge was used regularly in ancient times as a passageway between the Ko'olaupoko (Windward) and Kona (Leeward) valleys, once connected under the leadership of a common *ali'i* or chief, it is not unlikely that trails did indeed exist, at least along the ridge and descending somewhere in the area to reach the Halawa Valley floor. In modern times, groups like the Sierra Club and the Hawa'i Trail and mountain club frequently use the ridge trail. Your commentary that the likelihood for recreational users in the project vicinity is "low" is contradicted by your last statement, that your survey teams did, indeed, find "signs of recent human activity at the site."

- g. Views – "Given its location...clouds often cover the ridge of the Ko'olau Mountains (and therefore the project site), which...makes access difficult due to unsafe flying conditions."

Comment: Again, "unsafe flying conditions" raise the question of whether this project can be safely executed, considering the amount of flight time that will be required for ferrying crews in and out, and for flying out buckets of soil and vegetation.

5. Page 3-4, Topography, soils and water resources

- a. Soils – "...moderate to severe erosion potential..." "...Landslides are a frequent occurrence in the Ko'olau Mountains and several recent slides in the area can be seen from H-3 (Pono Pacific, 2005). The recent landslide extends 26 feet (8 m) into the recovery area at a maximum width of 15 ft (4.5 m)."

- d. Special-Status Species Occurrences within 0.5 Mile (0.8 km) of the Project Site “A survey for the Federally endangered tree snail (*Achatinella* spp.) that was conducted as part of the biological survey did not find any live snails, native or introduced...” “...sightings of the Federally and State endangered O’ahu creeper (O’ahu alauahio) (*Paroreomyza maculata*) were reported approximately 1 mile (1.6 km) from the site by Shallenberger and Vaughn (1978); other possible sightings by these investigators were reported within approximately 0.5 mile (0.8 km) of the site. The last confirmed detection of this species on O’ahu was in 1985 and it may already be extinct (USFWS, 2003a).” Additional comments made regarding the O’ahu ‘elepaio and the Piwi.

Comments: Again, because the survey failed to locate plants or animals classified as Special Status Species does not mean they do not inhabit the area. The U.S. Fish and Wildlife Service notwithstanding, the area is still classified as a locale of critical habitats, and it is possible these endangered species still inhabit the area but were not findable during the period of the biological survey.

7. Cultural Resources, Page 3-9, Section 3.4.2 – Chapter 343, Hawai’i Revised Statutes - Cultural Resources

- a. Hawaii state law defines cultural resources as referring to the “practices and beliefs of a particular cultural group or ethnic group or groups...”, and also addresses the “religious and spiritual customs...traditional cultural properties, or other historic sites that may support such beliefs and practices...”

Comment: As we mentioned in our first consultation meeting with you, this region of the Ko’olau mountains is sacred to us, not because there were heiau there but because of the *mana* of the soil, the plants and trees, the native creatures and the proximity to the *wao akua*, the place of the gods. It is a burial ground in that the *ivi* – remains - of the deceased aviator have been at rest here for so many years. There is also the possibility that other remains lie at the bottom of that cliff, since the ridge was used regularly as a pathway in ancient times. We are concerned that disturbing this area disturbs all remains that are in the soil, a desecration in our culture.

The Ko’olaupoko Hawaiian Civic Club wishes to work collaboratively with JPAC and the U.S. Navy to find a culturally-appropriate solution to this dilemma. We are very sympathetic to the family of the deceased aviator, and wish to reach out to comfort them with the knowledge that their loved one is at peace here in Hawai’i.

We wish to continue consultation with the Navy and JPAC until this matter is brought to a conclusion that, hopefully, will be satisfactory to all parties. We are attaching a letter to Mrs. Myrtle Tice, who has requested the remains be recovered, and ask that you facilitate our request by conveying our message of aloha to her.

Comment: Again, the concern for safety. Because the area appears to be slide-prone, tampering with the soil in this location may result in exacerbating an already unstable environment. In addition, your assessment did not address the acidity or composition of the soils as pertains to composition in which the crash victim's remains would have lain for over 60 years. We ask for clarification as to what condition those remains would likely be in, having been exposed to a range of weather conditions and the effects of the soils of that area. Can we be assured that you will find any remains at all?

6. Biological Resources

- a. Vegetation Types – "...It is located in a small somewhat protected gulch, consisting of a thick cover of shrubs and trees generally less than 6 ft (1.8 m) tall but with scattered individuals up to 18 ft (5.5 m) tall primarily near the periphery of the recovery area. The survey documented the presence of 73 plant species, 68 percent of which were native."

Comment: If seven out of 10 plants in this area are native, clearing such a "thick cover of shrubs and trees", some reaching up to 18 feet tall, is a significant impact on the critical habitat and the conservation-protected native forest. We submit that your assessment inadequately recognizes the importance of the native forest in this area, where nearly 70% of the vegetation is native to the island and where some of them are federally-listed as endangered species.

- b. Wildlife – "Only one bird species was documented during the biological survey of the project site. The non-native Japanese bush warbler..."

Comment: Because your biological survey failed to locate the presence of native birds does not mean they do not inhabit the vicinity and forage for food in the area.

- c. Special Status Species: "The biological survey...did not find any plants or animals classified as threatened, endangered, or specially designated by any regulatory agency (TEC, 2005). However, the project site or portions of the site are located within designated critical habitat for several Federally endangered plant species..."

Comment: Again, because the survey failed to locate plants or animals classified as Special Status Species does not mean they do not inhabit the area. You did not mention the *kahuli*, the native snail, which is also endangered and inhabits this area (even though your survey failed to locate any); nor did you mention the fact that native birds known to frequent nearby forest trees could venture into this area as well. Please clarify for us how long a period of time your researcher worked in the field, conducting this biological survey?

June 13, 2005

If you have any questions or require more information, please contact us at (808) 226-4195 or via e-mail or by letter.

Again, mahalo for this opportunity to comment on your environmental assessment.

Malamapono,



MAHEALANI CYPHER
President

Attachment

Cc: Nalani Gersaba, President, O'ahu Council of Hawaiian Civic Clubs
Shad Kane, Chair, Committee for the Preservation of Historic Sites & Cultural
Properties, O'ahu Council HCC
Ko'olauloa Hawaiian Civic Club
Kualoa-He'eia Hawaiian Civic Club
Office of Hawaiian Affairs
Hawai'i Department of Hawaiian Home Lands
Hawai'i Department of Land & Natural Resources

KO'OLAUPOKO HAWAIIAN CIVIC CLUB

June 13, 2005

Mrs. Myrtle Tice
c/o Naval Facilities Engineering Command, Pacific
Attention: Ms. Anne Hong, EV31AH
258 Makalapa Drive, Suite 100
Pearl Harbor, Hawai'i 96860-3134

Subject: Recovery of the Remains of Your Family Member

Dear Mrs. Tice:

On behalf of the Ko'olaupoko Hawaiian Civic Club, we extend to you our sincerest sympathies and aloha from the island of O'ahu, State of Hawai'i.

We have been consulted by the U.S. Navy and the MIA recovery team regarding a project to recover the remains of your brother, who was lost in a plane crash in 1944 in a remote area of a valley here on our island.

We would like to ask your consideration of an alternative to the Navy's project, because a number of concerns have arisen with regard to the location where the crash occurred.

It is in a very remote, rugged area, a place that is sacred to native Hawaiians and in the vicinity of critical habitats for endangered Hawaiian birds, plants and other creatures.

We have also been concerned about the hazards of the recovery effort and the danger to the crews who would try to recover the remains. The project requires them to remove all of the vegetation and soil from a half-acre site of the mountain. Due to the rugged, remote location, all of this would have to be done via helicopter.

We have a tradition, here in the islands, of *hanai* – adoption – of those we love dearly, enfolding them in our hearts and welcoming them into our family. Because your brother's remains have rested in peace for so many years here in the mountains, we would like to know if you would consider allowing him to remain here – in this very sacred place – where we would hanai him and provide him with an island family on your behalf. Perhaps the military could erect a plaque in his memory either at Barber's Point Naval Air Station (where he was stationed) or at Marine Corps Base Pacific at Kane'ohe (where he flew out from).

It may be difficult for you to picture the location where he now lies, but we assure you that is a very beautiful area and can be readily seen from the H-3 freeway that crosses below the cliffs of the Ko'olau mountains.

June 13, 2005

We hope you will think about our recommendation and let us know how you feel about it. It is a sad thing to think of being so far away from one we love, but he is in a very beautiful place now and we think you might approve if you were able to see for yourself.

If you would like to discuss this further, please let the JPAC family liaison staff know and, hopefully, they will arrange for us to communicate with each other.

Mahalo – thank you – for any consideration you can give to our concerns.

Malamapono,



MAHEALANI CYPHER
President

Cc: Nalani Gersaba, President, O'ahu Council of Hawaiian Civic Clubs
Shad Kane, Chair, Committee for the Preservation of Historic Sites & Cultural
Properties, O'ahu Council HCC
Ko'olauloa Hawaiian Civic Club
Kualoa-He'eia Hawaiian Civic Club
Office of Hawaiian Affairs
Hawai'i Department of Hawaiian Home Lands
Hawai'i Department of Land & Natural Resources



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

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Ser EV317 934
13 JUL 2005

Ms. Mahealani Cypher, President
Ko'olaupoko Hawaiian Civic Club
P. O. Box 664
Kaneohe, HI 96744

Dear Ms. Cypher:

Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KO'OLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII

Thank you for your letter of June 13, 2005 providing comments on the Draft Environmental Assessment (EA) for the proposed recovery of the remains and personal effects of a missing United States (U. S.) service member in the Ko'olau Mountains. Additionally, we are continuing our consultations with your organization under Section 106 of the National Historic Preservation Act for the Proposed Action.

We forwarded your request to contact the aviator's family to ask them whether they would consider having his remains rest in peace in Halawa Valley to the Navy Casualty Assistance Branch for their consideration. They called the aviator's sister on June 28, 2005, and conveyed your concerns and sympathy to her. She still feels that it would be unacceptable to have her brother's remains left in place in the Ko'olau.

It was also clarified that the Joint Prisoner-of-War / Missing-in-Action Accounting Command (JPAC) is required by Section 576, paragraph (a) (1) of the National Defense Authorization Act of Fiscal Year 2000 to recover the aviator's remains, regardless of whether his family wants to have the remains returned to them. The paragraph states "The Secretary of Defense shall make every reasonable effort to search for, recover, and identify the remains of United States servicemen lost in the Pacific theatre of operations during World War II (including New Guinea) while engaged in flight operations." The purpose of and need for JPAC's recovery of the aviator's remains are still valid.

The Proposed Action is temporary in nature and does not involve construction of any structures. Erosion control measures and revegetation with native species would be implemented as part of the Proposed Action to minimize long-term impacts at the project site. As discussed above, the conclusion that the Proposed Action would have no significant impacts on the environment is supported by the analysis in the EA and the results of consultation with FWS. With regard to cultural resources, our determination under Section 106 that the Proposed Action would have no adverse effect on historic properties remains unchanged.

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Ser EV31/ 934
13 JUL 2005

Responses to each of your comments are provided as enclosure (1).

Members of JPAC's staff, our consultants, and our staff members are available to meet with you and members of your organization, at your convenience to discuss any concerns that you may have regarding the Proposed Action. Please contact Ms. Anne Hong, Planner-In-Charge, at (808) 472-1388 or by E-Mail at anne.hong@navy.mil to set up a meeting, or if you have any questions or concerns.

Please continue to send written correspondence to the following address:

Naval Facilities Engineering Command, Pacific
Environmental Planning Division
258 Makalapa Drive, Suite 100, Pearl Harbor, HI 96860-3134

Sincerely,


for MELVIN N. KAKU
Director
Environmental Planning Division

Encl:

(1) Responses to Comments of
13 Jun 05

Copy to:

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, HI 96813

Mr. Rodney Haraga, Director
State of Hawaii
Department of Transportation
AliiAIMoku Bldg
869 Punchbowl Street, Room 509
Honolulu, HI 96813

Mr. Micah Kane, Chairman
State of Hawaii
Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805

Responses to Comments of June 13, 2005

Comments received from the Ko`olaupoko Hawaiian Civic Club via letter of June 13, 2005 for the Draft Environmental Assessment, Aviator Recovery, Halawa Valley, Ko`olau Mountains, O`ahu, Hawai`i of May 2005

Comment 1. Executive Summary, Proposed Action, page ES-2, lines 15-20: This section describes the work area as being substantial in a very sensitive section of the Ko`olau range – as much as a half-acre would be cleared and the soils removed to be screened elsewhere. Clearing of additional vegetation in the “buffer area” is a concern because there have been sightings of native plants near the ridge, some of which are said to be extremely rare. (Source: Friends of Ha`iku Stairs)

Response: The boundaries of the project site were defined to include “buffer” areas to represent the largest area that could be affected. The “buffer” areas were included in the biological survey used to support consultations with the U. S. Fish and Wildlife Service (FWS) and this EA. The 0.45-acre project site includes some areas where soil would not be removed, but where vegetation may be cleared/thinned or incidentally trampled to allow the field crew access to and from the crash site. The description of the Proposed Action in Section 2.2.1.1 clarifies that soil and vegetation removal would take place only in an area of up to 478 square yards (400 square meters, or approximately 0.1 acre). This is in the immediate vicinity of the crash site itself. In the remaining ancillary support areas, an additional 1,698 square yards (1,420 square meters [0.35 acres]) may be affected by clearing/thinning or incidental trampling of vegetation.

The EA will be revised to clarify that clearing would not be required within the 263 square yards (220 square meters [0.05 acres]) for the northern landing zone and associated trail. The emergency (northern) landing zone would be used only in cases of medical emergency. The ridgeline is sufficiently stable to allow a helicopter to hover there, with skids touching the ridge top, and an injured person to be loaded in. It has previously been used as a landing zone. Some incidental disturbance to vegetation (e.g., thinning and trampling) may occur if the team needs to access the emergency landing zone.

As discussed in Section 3.3 and Appendix A of the Draft EA, no threatened and endangered species were found in the project area during the biological survey conducted for this project. This is consistent with the results of similar surveys conducted in nearby areas and other biological data. The biological survey was detailed, thorough, and consistent with other survey methodology for similar areas. All potentially affected areas were surveyed, covering essentially every square yard of the project area. The FWS Biological Opinion of June 14, 2005, accepted the survey methods as valid.

Enclosure (1)

We would appreciate it if you could share information that you have regarding recent sightings of rare plants in the vicinity of the project area so that we may consider it in our evaluation.

Comment 2. Executive Summary, Purpose and Need, page ES-2, lines 31-39: By your own admission, the project site is in rugged terrain, in a very remote area, and is located within a conservation district. This is an area that should not be disturbed – which is why it has been designated a “conservation district.” In addition, the hazardous nature of the recovery effort in this “rugged terrain” suggests that members of the recovery team may be endangered due to the potential for instability of slope where the slide occurred, above the primary work area.

Response: While this is not one of the stated allowable uses of a conservation district, it is also not a prohibited use. The City and County of Honolulu, Department of Planning and Permitting concurs that the Proposed Action is consistent with the intent of the designated land use for the area. The State of Hawaii Department of Land and Natural Resources (DLNR) was provided with a copy of the draft EA for review. No comments have been received from DLNR.

The recovery and restoration teams are experienced, trained, and skilled in working safely in such conditions as those found in the project area. The teams have extensive experience in working in areas at higher elevations with steeper slopes than those found at the project site. Safety is paramount for them.

The EA will be revised to emphasize that, except for two vertical drops along the stream channel, the terrain at the actual crash site where soil will be excavated is much more moderate in slope, generally less than a 25 percent grade.

Comment 3. Executive Summary, Alternatives, page ES-3, lines 6-8: The alternatives considered by JPAC are inadequate, and do not include a consideration of allowing the remains to rest in peace in Halawa Valley, which is American/Hawaiian soil and not a foreign land. There should have been consultation with native Hawaiian groups prior to selection of the preferred alternative.

Response: The remains at the crash site that are subject for recovery under the Proposed Action are those of a WWII aviator from the continental U. S. Consultation with native Hawaiian groups is not necessary. As for the location of the crash site being in Hawaiian soil, Native Hawaiian organizations were consulted, including the Office of Hawaiian Affairs and the Oahu Council of Hawaiian Civic Clubs.

The alternative of allowing the remains to rest in peace was included in the “No Action” alternative. The Navy recognizes that the aviator’s family had not been asked to consider having him remain in place. The aviator’s family has since been contacted, and their request to have his remains recovered has not changed.

In addition, JPAC is required by Section 576, paragraph (a) (1) of the National Defense Authorization Act of Fiscal Year 2000 to recover the aviator’s remains. The paragraph states, “The Secretary of Defense shall make every reasonable effort to search for,

recover, and identify the remains of United States servicemen lost in the Pacific theatre of operations during World War II (including New Guinea) while engaged in flight operations.”

If efforts are not made to recover and identify the aviator’s remains and they are left in place, JPAC would not be fulfilling its mission, as mandated by Congress.

Comment 4. Executive Summary, Environmental Consequences, page ES-3, lines 11-16: We request that consultation with the Ko’olaupoko Hawaiian Civic Club continue until all significant issues are resolved. We further submit that the Proposed Action **will, indeed, have a significant impact on the critical habitat.** The removal of up to a half-acre of vegetation and soil will undoubtedly be significant, since these areas of the Ko’olau mountains are already considered critical habitat for the listed species, including the rare achatinella snail (*kahuli*). We therefore disagree with your contention that the Proposed Action does not have significant effect upon the critical habitat.

Response: FWS is the scientific and legal authority to make determinations on the scope of impacts to critical habitat. There would be an adverse impact on Federally-designated critical habitat, but FWS concluded in their formal, Endangered Species Act (ESA) section 7 Biological Opinion of June 14, 2005, that the Proposed Action is “not likely to destroy or adversely modify designated critical habitat.” FWS reached this conclusion after their full consideration of pertinent past and present biological and related data and their analysis of possible Proposed Action impacts. A copy of the Biological Opinion is attached for your information.

The boundaries of the project site were defined to include “buffer” areas to represent the largest area that could be affected. The “buffer” areas were included in the biological survey used to support consultations with FWS and this EA. The 0.45-acre project site includes some areas where soil would not be removed, but where vegetation may be cleared/thinned or incidentally trampled to allow the field crew access to and from the crash site. The description of the Proposed Action in Section 2.2.1.1 clarifies that soil and vegetation removal would take place only in an area of up to 478 square yards (400 square meters, or approximately 0.1 acre). This is in the immediate vicinity of the crash site itself. In the remaining ancillary support areas, an additional 1,698 square yards (1,420 square meters [0.35 acres]) may be affected by clearing/thinning or incidental trampling of vegetation.

As a point of clarification, the project site is not designated critical habitat for the *kahuli* snail (endangered Oahu tree snail). The *kahuli*, or tree snail, (*Achatinella pupukarioe*) was discussed in Section 3.3.4, page 3-8, lines 1 to 5, and the complete tree snail survey report was presented in Appendix A: Biological Survey Report, Section 2.2 and Appendix C to that report. An extensive survey of the project area, including ancillary support areas (i.e., landing zones and trails) did not find any sign of native snail species. In addition, as discussed in the survey report, based upon the known distribution of the tree snail, it is not expected within the project area.

Comment 5. Section 1.3.1 - Joint Prisoner of War / Missing in Action Accounting Command, page 1-1, lines 30-31: The remains have lain at rest in the wao akua, sacred

uplands, of Halawa Valley on the island of O'ahu, State of Hawai'i. Perhaps the family could consider this "home," since it an area considered to be American soil.

Response: The aviator's family has been contacted, and their request to have his remains recovered has not changed.

In addition, JPAC is required by Section 576, paragraph (a) (1) of the National Defense Authorization Act of Fiscal Year 2000 to recover the aviator's remains. The paragraph states "The Secretary of Defense shall make every reasonable effort to search for, recover, and identify the remains of United States servicemen lost in the Pacific theatre of operations during World War II (including New Guinea) while engaged in flight operations."

If efforts are not made to recover and identify the aviator's remains and they are left in place, JPAC would not be fulfilling its mission, as mandated by Congress.

Comment 6. Section 1.3.2 - Project Location, page 1-1, lines 36-38: We reiterate our concern that the site is a critical habitat for seven species; it is occupied by native plants and animals and, therefore, should not be disturbed. We further reiterate our concern that the site is in a remote location with steep inclines. We are also concerned that these are vegetated slopes that may result in landslides once vegetation is removed for the project. We also note that the reference to "...pieces of plane wreckage..." appears to indicate that the crash was high impact, and that the remains of the crash victim are unlikely to be intact, particularly after 60 years in the damp and wet soils of the Ko'olaus.

Response: FWS is the scientific and legal authority to make determinations on the scope of impacts to critical habitat. There would be an adverse impact on Federally-designated critical habitat, but FWS concluded in their formal, ESA Section 7 Biological Opinion of June 14, 2005, that the Proposed Action is "not likely to destroy or adversely modify designated critical habitat." FWS reached this conclusion after their full consideration of past and present biological and related data and analysis of Proposed Action impacts.

The native plants and animals that occupy the project site that are not designated as threatened and endangered have no legal protection from impacts to habitat. However, they are considered in the revegetation and erosion control measures that would be implemented. The Navy has followed all applicable procedures through the ESA consultation process and the process required under the National Environmental Policy Act (NEPA).

As a point of clarification, the excavation area (excluding helicopter landing zones and trails) is critical habit for two plant species, not seven.

Removal of vegetation could result in increased erosion rates, so the recovery and restoration teams would use erosion control matting and specific recovery techniques to reduce erosion potential. The site would be re-vegetated as excavation is completed.

JPAC's anthropologist measured the pH of the soil in the crash area. While lightly acidic (pH 5.7), it is much less harsh than the soils JPAC normally encounters in Southeast Asia, where they routinely recover remains. In addition, there is no evidence of significant burning after the crash, and wartime investigators observed some remains. The recovery of significant remains and personal effects is likely.

Comment 7. Section 1.4 – Regulatory Overview, page 1-4, line 6: There is a reference to the possibility of a “negative declaration”. We ask for clarification on why this is being contemplated, given the potential serious impact upon a critical habitat.

Response: Based on the analysis and anticipated impacts, the “negative declaration” is the corresponding anticipated conclusion. With the implementation of erosion control and restoration efforts, no significant impacts are anticipated. Your specific comments regarding the potential impacts on critical habitat are addressed individually in this letter.

Comment 8. Section 1.4.4 – National Historic Preservation Act, page 1-4, lines 21-23: We ask for clarification on the following questions:

- (i) Is this a “federal undertaking” as defined in the NHPA?
- (ii) How do you define “relevant parties”?

Response: This is a federal undertaking as defined by NHPA. When we initiated consultations with the State Historic Preservation Officer, in accordance with 36 CFR Part 800, we established that the Proposed Action is an undertaking as defined in 36 CFR Part 800.16y.

The term “relevant parties” has been revised in the EA to “consulting parties” to be consistent with the terminology used in the Section 106 implementing regulations. Per the regulations, consulting parties are participants in the consultation process, to include the State Historic Preservation Officer; Indian tribes and Native Hawaiian organizations; representatives of local governments; applicants for Federal assistance, permits, licenses and other approvals; and certain individuals and organizations with a demonstrated interest in the undertaking.

Comment 9. Section 1.4.6 – Endangered Species Act, page 1-4, lines 39-40: Citing “Section 9 of the ESA prohibits the ‘taking’ of endangered species by causing harm or harassment,” we submit that this Act would be violated by the Proposed Alternative and the On-Site Alternative. Because the area(s) being proposed for work to be done either in the direct impact location or routes nearby slated to be “cleared” or through which workers will have to cross are in the “critical habitats” or in close proximity to “critical habitats” as designated under federal law for plants, animals, and “special status species.” To remove a half-acre of soil, whether on-site or off-site, would cause more than a negligible impact upon the ecosystem and environments which these species need to survive

Response: The FWS, as the expert Federal agency with jurisdiction to administer the ESA, issued a formal Biological Opinion pursuant to the consultation requirements imposed by Section 7 of the ESA. In so doing, the FWS assessed the potential for adverse impacts to designated critical habitat. It determined that the aviator recovery

efforts are “not likely to destroy or adversely modify designated critical habitat.” The Navy, as any other federal agency, is entitled to rely on the FWS’s Biological Opinion, see Stop H-3 Association v. Dole, 740 F.2d 1442 (9th Cir. 1984).

Comment 10. Section 2.2.1.1 – Project Site, page 2-1, lines 20-22: This statement reinforces the sizable area where vegetation will be cleared, soil will be removed, and around which human intrusions will significantly disturb a sensitive, critical habitat. It is likely that the area has been gradually recovering from the impact of the 1944 crash, and to enter the area for reconnaissance and clearing will create lasting harm to creatures as sensitive as the kahuli snail. In addition, clearing such a large area of vegetation and soils may have an effect upon nearby critical habitats of native birds. Non-sighting of endangered species in these areas should not constitute justification of wholesale removal of ecosystems in which these species exist.

Response: This is a highly erosive, dynamic, environment; given that and the focused-nature of the crash site, the impact site likely quickly recovered. The results of recent biological surveys and historical information do not support the statement that the proposed action will result in the “wholesale removal of ecosystems in which these species exist.

The *kahuli*, or tree snail (*Achatinella pupukanioe*), was discussed in Section 3.3.4, page 3-8, lines 1 to 5, and the complete tree snail survey report was presented in Appendix A: Biological Survey Report, Section 2.2 and Appendix C to that report. An extensive survey of the project area, including ancillary support areas (i.e., landing zones and trails) did not find any sign of native snail species. In addition, as discussed in the survey report, based upon the known distribution of the tree snail, it is not expected within the project area.

The closest point of critical habitat for native birds is over 780 feet (237 meters) away. The temporary disturbance of the area associated with aviator recovery activities would not result in impacts upon designated critical habitat for the O’ahu ‘elepaio, an endangered native bird.

The biological survey was detailed, thorough, and consistent with other survey methodology for similar areas. All potentially affected areas were surveyed, covering essentially every square yard of the project area. The FWS Biological Opinion of June 14, 2005, accepted the survey methods as valid.

FWS mentions the size of the project area in relation to the size of the designated critical habitat in their Biological Opinion of June 14, 2005:

Page 11, last paragraph, “The amount of critical habitat affected by the proposed project ranges from 0.002 to 0.023 percent of the total critical habitat for each species, and 0.008 to 0.050 percent of the individual units affected.”

Page 15, lines 1-4, “Any losses [to critical habitat] that occur after implementation of the proposed action will be short term in nature, occur in a very small percentage of

designated critical habitats, and will not result in permanent destruction of the physical and biological features of critical habitat.”

Comment 11. Section 2.2.1.3 – Aviator Recovery Activities, page 2-3, lines 16-26: We would like more detailed information on how many and what types of “taller vegetation” would be “cut or thinned” near the landing zones and/or trails. In addition, we have a concern about removing soil “to bedrock at the recovery area.” The cumulative estimated volume of soil to be removed is approximately 133 cubic yards which, in our view, appears to be a significant impact upon the critical habitat.

Response: The types of taller vegetation include *olomea* (*Perrottetia sandwicensis*), *ohi`a Lehua* (*Metrosideros polymorpha*), *ohi`a ha* (*Syzygium sandwicensis*), *akia* (*Wikstroemia oahuensis*), and *loulou* (*Pritchardia martii*).

The EA will be revised to clarify that clearing would not be required within the 263 square yards (220 square meters) of the northern landing zone and associated trail. The emergency (northern) landing zone would be used only in cases of medical emergency. The ridgeline is sufficiently stable to allow a helicopter to hover there, with skids touching the ridge top, and an injured person to be loaded in. It has previously been used as a landing zone. Some incidental disturbance to vegetation (e.g., thinning and trampling) may occur if the team needs to access the emergency landing zone.

As discussed in Section 3.3.2, the areas in the vicinities of the ancillary areas (all areas other than the recovery area) are in wind-swept summit ridges where the vegetation consists of somewhat uniform cover dominated by low-growing non-native grasses with patches of native sedges and small shrubs scattered throughout.

Section 3.3.2 describes the vegetation community in the recovery (excavation) area as consisting of a thick cover of shrubs and trees. Only the necessary amount of vegetation would be removed in the recovery area to get to remains. The taller vegetation is primarily near the periphery of the recovery area. JPAC plans to leave all trees and large shrubs in place to aid erosion control.

The EA will be revised to clarify that excavation will go down to bedrock in portions of the excavation site where soil cover is very thin. Excavation will continue down until pieces of the plane wreckage are no longer observed. Excavation is necessary because (1) in aircraft crash sites, it is common that incident-related items are driven into the soil as a result of the force with which the plane impacts the ground; (2) in the 61 years between the incident and recovery, vegetation has grown and soils have likely formed over the wreckage; and (3) wreckage and remains may have been covered by erosional processes at the site (i.e. landslides).

FWS has formally reviewed the proposal and has determined that the removal of the soil does not constitute destruction or adverse modification of designated critical habitat.

FWS’s Biological Opinion of June 14, 2005, states:

Page 11, last paragraph, "The amount of critical habitat affected by the proposed project ranges from 0.002 to 0.023 percent of the total critical habitat for each species, and 0.008 to 0.050 percent of the individual units affected."

Page 15, lines 1-4, "Any losses [to critical habitat] that occur after implementation of the proposed action will be short term in nature, occur in a very small percentage of designated critical habitats, and will not result in permanent destruction of the physical and biological features of critical habitat."

Comment 12. Section 2.2.1.3 – Aviator Recovery Activities, page 2-3, lines 26-28: While we fully understand the sensitivity of JPAC's mission to recover the remains of a loved one for the deceased's family, we find it very disconcerting that this project involves removal of half an acre of vegetation and soil in a sacred area that is also a federally-designated critical habitat, while debris from the crash will be left in place. May we have clarification on why it was decided not to remove the aircraft debris?

Response: Soil and vegetation removal will affect up to 478 square yards (400 square meters, or approximately 0.1 acre).

Removal of the aircraft debris is not driven by the purpose of and need for the Proposed Action. It is not part of JPAC's mission or the family's request. Since there is no legal requirement to remove the debris and the removal would have more of an impact on the soil and vegetation in the area, it is not included in the Proposed Action.

Comment 13. Section 2.2.1.3 – Aviator Recovery Activities, page 2-3, lines 26-28: We have concerns regarding moving the soil back and forth, taking it out, sterilizing it, returning it to the recovery area. The soil in the primary recovery area has accumulated for a long, long time. Its composition is rich with the organisms and components that make it a healthy ecosystem for the plants and animals that thrive in that environment. In addition, the *mana* – the intrinsic spiritual power of this area – is compromised by the removal of such large volume of soil, by sterilizing this soil, and/or by replacing it with eroded soils that may have differing composition. We also have concerns regarding using soil from the slide area, primarily because moving that soil may make the slide area more vulnerable to the possibility of expanded landslides in the future.

Response: Soil would be sterilized and returned or, most likely, taken from the landslide. The possibility of using soil from an off-site source is the least likely. Due to the dynamic nature of the system in place, the soil at the site is likely "new" geologically speaking. Large portions of the site lack soil development (i.e. loose sediment deposited in the ravine). Should soil be taken from the existing landslide area, erosion control measures would be taken to address the potential for future landslides. It is likely that in time the soil from the landslide would naturally slide down to cover the recovery area due to gravity and other physical factors.

The alternative to the removal of soil from the site would be the On-Site Screening Alternative. The evaluation in the EA shows that this alternative would not have a significant impact on the environment. However, it would have slightly more of an impact on the environment than the Proposed Action. Water would need to be pumped

from the nearest stream, and the field crew would be significantly larger (up to 3 times as many people).

Comment 14. Section 2.2.1 – Post-Recovery Restoration Activities, page 2-4, lines 4-7: Because you will be removing a variety of plants, including non-native species, we are concerned that you may be planning to replant invasive species such as Clidemia. We request a list of plants that would be contemplated for use in the restoration phase. We also request more information on the company Pono Pacific, which has been contracted to assist with the restoration and revegetation portion of the project.

Response: Only native plants will be introduced to the area as part of the revegetation portion of the project. This paragraph in the EA will be revised to make it clearer that invasive species present at the site will not be in the mix of plants in the revegetation effort.

All native plant species used for out planting will be historically or currently known to be in the project area in order to reestablish the approximate mix of native vegetation that existed prior to the recovery activities. The plants will be procured from native plant nurseries on Oahu. We can provide you with a list of species for the restoration phase once it is finalized. General information regarding Pono Pacific is available on their website: www.ponopacific.com.

Comment 15. Section 2.2.2 – Alternatives, page 2-4, lines 29-30: We recommend that the “No-Action Alternative” be revised to reflect consideration of “Remains Left in Place Alternative” that we are recommending (see attached letter for consideration of Remains Left in Place Alternative).

Response: The aviator’s family has been contacted, and their request to have his remains recovered has not changed.

In addition, JPAC is required by Section 576, paragraph (a) (1) of the National Defense Authorization Act of Fiscal Year 2000 to recover the aviator’s remains. The paragraph states “The Secretary of Defense shall make every reasonable effort to search for, recover, and identify the remains of United States servicemen lost in the Pacific theatre of operations during World War II (including New Guinea) while engaged in flight operations.”

A brief discussion of the potential for the aviator’s remains to be left in place will be included in the Final EA as an alternative that was considered but not analyzed.

Comment 16. Section 2.2.2.1 – On-Site Screening Alternative, page 2-4, lines 40-41: We have concerns about this alternative, due to the large number of personnel who would be moving in and out of the sensitive, critical habitat area and because of the amount of disruption to the cultural landscape by the work that would have to be done.

Response: The increase in number of personnel is one of the reasons why this is the alternative, and not the Proposed Action. However, due to the temporary nature of the

action, the increased number of personnel is not expected to have a significant impact on the environment.

Comment 17. Section 2.2.2.2 – No-Action Alternative, page 2-5, lines 2-3: We suggest re-wording of this alternative is needed, to reflect an extended action, such as we are recommending, where the aviator’s remains are allowed to lay at rest in place here on American soil, in an area that is already considered sacred to native Hawaiians, and with the establishment of a memorial plaque either at the Marine Corps Base Hawaii or at Barber’s Point. The wording as it now reads for “No-Action Alternative” is very negative and lacking in cultural sensitivity.

Response: The aviator’s family has been contacted, and their request to have his remains recovered has not changed.

In addition, JPAC is required by Section 576, paragraph (a) (1) of the National Defense Authorization Act of Fiscal Year 2000 to recover the aviator’s remains. The paragraph states “The Secretary of Defense shall make every reasonable effort to search for, recover, and identify the remains of United States servicemen lost in the Pacific theatre of operations during World War II (including New Guinea) while engaged in flight operations.”

A brief discussion of the potential for the aviator’s remains to be left in place will be included in the Final EA as an alternative that was considered but not analyzed.

Comment 18. Table 2-2 – Summary of Environmental Effects of the Proposed Action and Alternatives, page 2-6: We note that you indicated the Proposed Action has “No significant impacts” on biological resources, on cultural resources, on topography, soils and water resources, and on air quality, noise, infrastructure, health and safety, socio-economic factors, land use compatibility, public facilities, services, recreation and views. We strongly disagree that there is no significant impact on biological resources, cultural resources, topography, soils, air, and noise quality.

Response: The conclusion that the Proposed Action will have “No Significant Impacts” on biological resources, cultural resources, topography, soils, air, and noise quality is supported by the analysis in the EA and the results of consultation with FWS. Individual comments for each of these resource areas have been addressed separately.

Comment 19. Section 3.1 – Overview, Air Quality, page 3-1, lines 13-17: While the project does not affect air quality with noxious gases or other pollutants, the presence of helicopters for a prolonged period of time over the life of the project (and during restoration period) has and is likely to cause disturbance to native Hawaiian residents of Ioleka’a Valley, which lies next to the Ha’iku Valley, just over the ridge from one of the landing zones. Residents from the valley have already complained about the helicopter activity. There is normally very little helicopter activity in that vicinity except for rescue operations.

Response: Helicopters related to this project will fly from the Halawa side of the Ko’olau. It will be clarified in the EA that helicopters would not fly from the windward

side. As discussed in Section 4.1.1 – Proposed Action, Noise, helicopter noise will be transitory, short-term, and typically limited to 8:00 A.M. to 5:00 P.M.

The Navy would appreciate it if you could provide us with details on the complaints (e.g., which direction the helicopters came from, to whom the complaints were provided, the time and dates of the complaints).

Comment 20. Section 3.1 – Overview, Noise, page 3-1, lines 18-21: The same concerns have been raised by residents of Ioleka'a Valley about noise problems caused by the helicopters buzzing around the ridgelines during preliminary survey work conducted for this project.

Response: The Navy would appreciate it if you could provide us with details on the complaints (e.g., which direction the helicopters came from, to whom the complaints were provided, the time and dates of the complaints).

Comment 21. Section 3.1 – Overview, Infrastructure (utilities, storm drainage, traffic), page 3-1, lines 27-31: According to residents of Ioleka'a Valley, there is normally very little helicopter activity along the ridgeline. May we please have documentation about the statement, 'it is common to see numerous military and civilian helicopters' and please verify whether the State Board of Land and Natural Resources has a record of commercial helicopter permits for flight paths over this area.

Response: The statement in the EA regarding the frequency of helicopter activity was based on personal observations and conversations with helicopter pilots. The EA will be revised to reflect "Ko'olau Mountains" instead of "ridgeline" to be more accurate.

The State of Hawaii Department of Land and Natural Resources was contacted, and they stated that no permits are required to fly over the project area.

Comment 22. Section 3.1 – Overview, Health and Safety (hazardous and regulated materials, safety), page 3-1, lines 36-38: Again, the possibility of physical danger for the recovery team is a concern to us. In addition, we are curious as to the coincidence that the slide above the work area occurred within the past year. Generally speaking, because this particular area is so remote, it would be unlikely the slide could have been caused by hikers or pig hunters entering the area. Can you please clarify for us what dates your initial survey teams first investigated the crash site in 2004, and did any of the initial workers attempt to rappel down that steep slope?

Response: The landslide occurred prior to the first site visit by JPAC on September 17, 2004. Due to weather conditions, they were unable to reach the crash site during this visit, but did photograph the landslide from the helicopter. No personnel rappelled down the slope; there are no hard points (e.g., rock or large trees) to tie off to at the ridgeline. The EA will be revised to indicate that teams would not rappel down the slope. Personnel have and will continue to access the recovery site only from below-grade for safety reasons and to minimize slope instability (i.e., erosion). The proposed path was determined to be the easiest (i.e., safest) route based on observations during the site visit.

A geologist assessed the site and, in his professional opinion, believes that the landslide occurred due to natural processes common in the area.

Comment 23. Section 3.1 – Overview, Land Use Compatibility, page 3-2, lines 15-16: Because the area is zoned for conservation by both the State of Hawai'i and the City and County of Honolulu, the primary concern is that conservation districts are not meant to have natural vegetation and soil removed. We are concerned about the project's intention of removing vegetation and soil, particularly in light of the fact that the State has declared this area a protected conservation zone.

Response: While this is not one of the stated allowable uses of a conservation district, it is also not a prohibited use. The City and County of Honolulu, Department of Planning and Permitting concurs that the Proposed Action is consistent with the intent of the designated land use for the area. DLNR was provided with a copy of the draft EA for review. No comments have been received from DLNR.

Comment 24. Section 3.1 – Overview; Public Facilities, Services, and Recreation; page 3-4, lines 1-2: Because the ridge was used regularly in ancient times as a passageway between the Ko'olaupoko (Windward) and Kona (Leeward) valleys, once connected under the leadership of a common *ali'i* or chief, it is not unlikely that trails did indeed exist, at least along the ridge and descending somewhere in the area to reach the Halawa Valley floor. In modern times, groups like Sierra Club and the Hawai'i Trail and mountain club frequently use the ridge trail. Your commentary that the likelihood for recreational users in the project vicinity is 'low' is contradicted by your last statement, that your survey teams did, indeed, find 'signs of recent human activity at the site.

Response: The discussion of ancient passageways is addressed in Sections 3.4.2 and 4.4.2 in the Draft EA. The statement that there are no "official trails in the area" is correct, based on recent trail maps. The Draft EA states that the likelihood of recreational users is low, not zero – it does not state that people can't access the site. The EA will be revised to clarify that garbage (signs of human presence) was found in the area inside the bunker at the LZ, but not the crash site.

Comment 25. Section 3.1 – Overview, Views, page 3-4, lines 9-12: Again, 'unsafe flying conditions' raise the question of whether this project can be safely executed, considering the amount of flight time that will be required for ferrying crews in and out, and for flying out buckets of soil and vegetation.

Response: The recovery and restoration teams will not attempt to access the site when flying conditions are not safe. The EA will be revised to add emphasis that teams would access the site only during safe conditions, both here and in "Health and Safety" in Section 4.1.1.

Comment 26. Section 3.2.2 – Soils, page 3-4, lines 27-31: Again, the concern for safety. Because the area appears to be slide-prone, tampering with the soil in this location may result in exacerbating an already unstable environment. In addition, your assessment did not address the acidity or composition of the soils as pertains to

composition in which the crash victim's remains would have lain for over 60 years. We ask for clarification as to what condition those remains would likely be in, having been exposed to a range of weather conditions and the effects of the soils of that area. Can we be assured that you will find any remains at all?

Response: The recovery and restoration teams are experienced, trained, and skilled in working safely in such conditions as those found in the project area. The teams have extensive experience in working in areas at higher elevations with steeper slopes than those found at the project site. Safety is paramount for them.

The recovery and restoration teams would use erosion control matting and specific recovery techniques to reduce erosion potential. The site would be re-vegetated as excavation is completed.

JPAC's anthropologist measured the pH of the soil in the crash area. While lightly acidic (pH 5.7), it is much less harsh than the soils JPAC normally encounters in Southeast Asia, where they routinely recover remains. In addition, there is no evidence of significant burning after the crash, and wartime investigators observed some remains. The recovery of significant remains and personal effects is likely.

Comment 27. Section 3.3.2 – Vegetation Types, page 3-5, lines 33-37: If seven out of 10 plants in the area are native, clearing such a “thick cover of shrubs and trees”, some reaching up to 18 feet tall, is a significant impact on the critical habitat and the conservation-protected native forest. We submit that your assessment inadequately recognizes the importance of the native forest in this area, where nearly 70% of the vegetation is native to the island and where some of them are federally listed as endangered species.

Response: The “thick cover of shrubs and trees” described in Section 3.3.2 is in the vicinity of the recovery (excavation) area. Based on information in Appendix A, most of the tall trees are located near the periphery of the recovery area. Only the necessary amount of vegetation would be removed in the recovery area to get to remains. JPAC plans to leave all trees and large shrubs in place to aid erosion control.

As discussed in Section 3.3.2, the areas in the vicinities of the ancillary areas (all areas other than the recovery area) are in wind-swept summit ridges where the vegetation consists of somewhat uniform cover dominated by low-growing non-native grasses with patches of native sedges and small shrubs scattered throughout. The EA will be revised to clarify that clearing would not be required within the 263 square yards (220 square meters [0.05 acre]) for the northern landing zone and associated trail. The emergency (northern) landing zone would be used only in cases of a medical emergency. The ridgeline is sufficiently stable to allow a helicopter to hover there, with skids touching the ridge top, and an injured person to be loaded in. It has previously been used as a landing zone. Some incidental disturbance to vegetation (e.g., thinning and trampling) may occur if the team needs to access the emergency landing zone.

As discussed in Section 3.3 and Appendix A of the Draft EA, no threatened and endangered species were found in the project area during the biological survey conducted for this project. This is consistent with the results of similar surveys conducted in nearby areas and other biological data. The biological survey was detailed, thorough, and consistent with other survey methodology for similar areas. All potentially affected areas were surveyed, covering essentially every square yard of the project area. The FWS Biological Opinion of June 14, 2005, accepted the survey methods as valid.

The native plants that occupy the project site that are not designated as threatened and endangered have no legal protection from impacts to habitat. However, they are considered in the revegetation and erosion control measures that would be implemented. The project site will be replanted with native species that are the same or mimic those observed during the biological survey. The Navy has followed all applicable procedures through the ESA consultation process and the process required under NEPA.

Comment 28. Section 3.3.3 – Wildlife, page 3-2, lines 2-3: Because your biological survey failed to locate the presence of native birds does not mean they do not inhabit the vicinity and forage for food in the area.

Response: The biological survey was detailed, thorough, and consistent with other survey methodology for similar areas. No native birds were observed. The FWS Biological Opinion of June 14, 2005, accepted the survey methods as valid. The temporary disturbance of the area associated with aviator recovery activities would not result in impacts upon designated critical habitat for the O’ahu ‘elepaio, an endangered native bird. The closest point of this critical habitat is over 780 feet (237 meters) away.

Comment 29. Section 3.3.4 – Special-Status Species, page 3-6, lines 14-17: Again, because the survey failed to locate plants or animals classified as Special Status Species does not mean they do not inhabit the area. You did not mention the *kahuli*, the native snail, which is also endangered and inhabits the area (even though your survey failed to locate any); nor did you mention the fact that native birds known to frequent nearby forest trees could venture into the area as well. Please clarify for us how long a period of time your researcher worked in the field, conducting the biological survey?

Response: The *kahuli*, or tree snail, (*Achatinella pupukanioe*) was discussed in Section 3.3.4, page 3-8, lines 1 to 5, and the complete tree snail survey report was presented in Appendix A: Biological Survey Report, Section 2.2 and Appendix C to that report. An extensive survey of the project area, including ancillary support areas (i.e., landing zones and trails) did not find any sign of native snail species. In addition, as discussed in the survey report, based upon the known distribution of the tree snail, it is not expected within the project area.

There are no known occurrences of federally listed native bird species (i.e., O’ahu creeper and ‘elepaio) within 0.5 mile of the project area and none were seen or heard during the biological survey. However, the proposed recovery activities would be short-

term in nature and is not scheduled to occur during the breeding season for either species. There would be no significant impacts to any native bird species during aviator recovery activities.

The chances for a nesting listed bird (O'ahu creeper or `elepaio) within the affected area are remote. Should the recovery begin during the nesting period, a survey of the area would be conducted to ensure that no nests are present. Once excavation and restoration commence, birds will avoid the affected area, so they will not nest in or near the area. Also, `elepaio favor a much denser canopy of vegetation and a different species mix than is present at the site (for example, it is much more likely to find them in deep gulches that have high canopy [10 meters and up] rather than the much more open vegetation found at the crash site). As for the O'ahu creeper, it favors mid-elevation forests, closed canopy, and large trees. It is very unlikely that it would be at, and even more unlikely that it would nest in, the project area.

The total field survey time was approximately 5 hours, with about 3 hours spent at the crash site. All potentially affected areas were surveyed, covering essentially every square yard of the project area. The biological survey was detailed, thorough, and consistent with other survey methodology for similar areas. The FWS Biological Opinion of June 14, 2005, accepted the survey methods as valid.

Comment 30. Section 3.3.4 – Special-Status Species, page 3-7, lines 1-25: Again, because the survey failed to locate plants or animals classified as Special Status Species does not mean they do not inhabit the area. The U.S. Fish and Wildlife Service notwithstanding, the area is still classified as a locale of critical habitats, and it is possible these endangered species still inhabit the area but were not findable during the period of the biological survey.

Response: The biological survey was detailed, thorough, and consistent with other survey methodology for similar areas. Note also that there was no habitat found for the snail; without habitat it is highly unlikely to find an associated creature. All potentially affected areas were surveyed, covering essentially every square yard of the project area. The FWS Biological Opinion of June 14, 2005, accepted the survey methods as valid. FWS is the scientific and legal authority to make determinations on the scope of impacts to threatened and endangered species and critical habitat.

Comment 31. Section 3.4.2 – Chapter 343, Hawai'i Revised Statutes – Cultural Resources, page 3-9, lines 34-39: As we mentioned in our first consultation meeting with you, this region of the Ko'olau mountains is sacred to us, not because there were heiau there but because of the *mana* of the soil, plants and trees, the native creatures and the proximity to the *wao 'akua*, the place of the gods. It is a burial ground in that the iwi – remains – of the deceased aviator have been at rest here for so many years. There is also the possibility that other remains lie at the bottom of that cliff, since the ridge was used regularly as a pathway in ancient times. We are concerned that disturbing this area disturbs all remains that are in the soil, a desecration in our culture

Response: We respect your attachment to the Ko'olau Mountains and its components. However, we would also like to point out that the proposed project is insignificant in

scale compared with development projects that have already taken place in the Ko`olau Mountains. Extensive housing developments exist on both sides of the Ko`olau, there are three highways that go through, communication towers are installed on top of ridges, and utility lines cross the mountains. The proposed project, however, is temporary in nature (estimated to last from two to six weeks depending on weather) and will be followed by restoration work. This project is not a development project that will construct a permanent intrusion into the environment of the Ko`olau. The area of excavation is about 478 square yards (400 square meters, or approximately 0.1 acre), a very minimal area when compared to the entire size of the mountain range. While the ridge top may have been used "as a pathway in ancient times," the crash site is located opposite of one of the steepest sections of the Ko`olau along the windward side, and it is very unlikely that any routine crossing point would have been established here. Therefore, the possibility for human remains other than the aviator's to be in the same location as the project site is very remote.

KO`OLAUPOKO HAWAIIAN CIVIC CLUB

August 5, 2005

Naval Facilities Engineering Command, Pacific
Attention: Ms. Anne Hong, EV31AH
258 Makalapa Drive, Suite 100
Pearl Harbor, Hawai'i 96860-3134

Subject: Your Response to Our Comments Regarding the Environmental Assessment for Aviator Recovery in the Ko`olau Mountains

Dear Ms. Hong:

Mahalo for your prompt response to the comments we submitted concerning your Environmental Assessment on the recovery of crash victim's remains in the Ko`olau Mountains. The Ko`olaupoko Hawaiian Civic Club wishes to express the following concerns:

1. In your letter of July 13, 2005, you state that the sister of the deceased crash victim, Mrs. Tice, was contacted by the Navy Casualty Assistance Branch "for their consideration." You also informed us that the Branch "called the aviator's sister..." and conveyed our concerns, and that Mrs. Tice "still feels that it would be unacceptable to have her brother's remains "left in place in the Ko`olau." The Ko`olaupoko Hawaiian Civic Club is dismayed that something so sensitive as this was handled via telephone call. We know that kupuna – and Mrs. Tice is a kupuna haole – require great care and personal attention when dealing with matters close of great importance to them. We believe the request we made to her, in the letter you asked us to write, should have been presented to her in person and someone should have explained all of the points we made to her personally. Culturally, we feel it was not *pono* (correct) to handle it in this manner. To do so over the telephone may have resulted in confusion on her part and led to the decision you say she made.
2. Our members remain concerned that the work must be done in a slide-prone area and may jeopardize the lives of personnel hired to conduct the recovery and restoration of the area.
3. Our members have asked that Mrs. Tice be brought to Hawai'i to see the location where her brother's remains lie and to judge for herself whether that would be acceptable, since his remains have lain in peace in the wao akua for so many years.
4. Regarding your comment that JPAC is required by law "to recover the aviator's remains, regardless of whether his family wants to have the remains returned...", we take issue with your contention that this endeavor meets the test of "every reasonable effort to..."

August 5, 2005

recover..." If the cost of this endeavor is so expensive, we contend that it is, instead, unreasonable and therefore fails the test of the law.

5. Regarding the achatinella snail habitat, we have been reassured by Dr. Greg Koob of Fish & Wildlife that he did not see the type of tree on which the snails are found, so we no longer see that as an issue.

Mahalo for this opportunity to offer our mana`o. Please let us know when Mrs. Tice will be visiting Hawai`i, and whether we may be of any assistance in helping her see the value of her brother's current resting place.

Malamapono,

A handwritten signature in black ink that reads "Mahealani Cypher". The signature is written in a cursive, flowing style.

MAHEALANI CYPHER
President

8/05/05



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1FOB
Ser EV21/1499
8 NOV 2005

Ms. Mahealani Cypher, President
Ko`olaupoko Hawaiian Civic Club
P. O. Box 664
Kaneohe, HI 96744

Dear Ms. Cypher:

Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KO`OLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII

Thank you for your letter of August 5, 2005 discussing your concerns on the proposed recovery of the remains and personal effects of a missing United States (U. S.) service member in the Ko`olau Mountains. Responses to your individual comments are provided as enclosure (1).

All measures have been taken in accordance with Navy protocol to discuss your concerns with the aviator's sister. The safety of the Joint Prisoner-of-War / Missing-in-Action Accounting Command's (JPAC's) personnel and the determination regarding the reasonableness of the action are also based on their previous extensive experience and protocol. The purpose of and need for JPAC's recovery of the aviator's remains are still valid, based on the family's request and JPAC's mandate.

We appreciate the Ko`olaupoko Hawaiian Civic Club's comments and input into the process. The remaining comments expressed in your letter address Navy and JPAC protocol rather than cultural concerns. Therefore, we consider Section 106 consultation to be concluded.

Please contact Ms. Anne Hong, Planner-In-Charge, at (808) 472-1388 or by E-Mail at anne.hong@navy.mil if you have any questions or additional concerns.

Sincerely,

Connie Chang
for MELVIN N. KAKU
Director
Environmental Planning Division

Encl:
(1) Response to Comments

5090P.1F0B
Ser EV21/ **1499**
8 NOV 2005

Copy to:
Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, HI 96813

Mr. Rodney Haraga, Director
State of Hawaii
Department of Transportation
Aliiainoku Bldg
869 Punchbowl Street, Room 509
Honolulu, HI 96813

Mr. Micah Kane, Chairman
State of Hawaii
Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805

Responses to Comments

Comments received from the Ko`olaupoko Hawaiian Civic Club via letter of August 5, 2005 for the Draft Environmental Assessment, Aviator Recovery, Halawa Valley, Ko`olau Mountains, O`ahu, Hawai`i of May 2005

Comment 1. In your letter of July 13, 2005, you state that the sister of the deceased crash victim, Mrs. Tice, was contacted by the Navy Casualty Assistance Branch “for their consideration.” You also informed us that the Branch “called the aviator’s sister...” and conveyed our concerns, and that Mrs. Tice “still feels that it would be unacceptable to have her brother’s remains “left in place in the Ko`olau.” The Ko`olaupoko Hawaiian Civic Club is dismayed that something so sensitive as this was handled via a telephone call. We know that kupuna – and Mrs. Tice is a kupuna haole – require great care and personal attention when dealing with matters close of greater importance to them. We believe the request we made to her, in the letter you asked us to write, should have been presented to her in person and someone should have explained all of the points we made to her personally. Culturally, we feel it was not *pono* (correct) to handle it in this manner. To do so over the telephone may have resulted in confusion on her part and led to the decision you say she made.

Response: All measures to discuss your concerns with the aviator’s sister have been taken in accordance with Navy protocol. The Navy Casualty Assistance Branch had previously established communications with her, and contacted her in the manner that was considered to be the most appropriate.

Comment 2. Our members remain concerned that the work must be done in a slide-prone area and may jeopardize the lives of personnel hired to conduct the recovery and restoration of the area.

Response: The recovery and restoration teams are experienced, trained, and skilled in working safely in such conditions as those found in the project area. The teams have extensive experience in working in areas at higher elevations with steeper slopes than those found at the project site. Safety is paramount for them. The anthropologist and team were chosen specifically for their level of experience with far more difficult sites, including sheer cliffs, mountaintops (up to 16,000 feet in elevation), and active glaciers. The recovery and restoration teams would use erosion control matting and specific recovery techniques to reduce erosion potential.

The teams have assessed the crash site, and have determined that the work can be performed safely.

Comment 3. Our members have asked that Mrs. Tice be brought to Hawai`i to see the location where her brother’s remains lie and to judge for herself whether that would be acceptable, since his remains have lain in peace in the wao akua for so many years.

Response: All measures to discuss your concerns with the aviator’s sister and to consider your request to have her visit the site have been taken in accordance with

Navy protocol. The Navy Casualty Assistance Branch had previously established communications with her, and contacted her in the manner that was considered to be the most appropriate.

Comment 4. Regarding your comment that JPAC is required by law “to recover the aviator’s remains, regardless of whether his family wants to have the remains returned...”, we take issue with your contention that this endeavor meets the test of “every reasonable effort to...recover...” If the cost of this endeavor is so expensive, we contend that it is, instead, unreasonable and therefore fails the test of the law.

Response: JPAC has conducted hundreds of recoveries around the world, and has worked in a lot of different environments (many more challenging than the site in the Ko`olau). The cost of this recovery is below average for a JPAC recovery mission. The determination that this proposed recovery is reasonable is based on JPAC’s extensive experience on past recoveries.



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1FOB
Ser EV21/59
24 JAN 2006

Mr. Clyde W. Namuo, Administrator
State of Hawaii
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, HI 96813

Dear Mr. Namuo:

Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KOOLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII

Thank you for your letter (serial number HRD05/1776B) of May 23, 2005, providing suggestions for the proposed recovery of the remains and personal effects of a missing U. S. service member in the Koolau Mountains. Your comments will be addressed in the final version of the Environmental Assessment (EA), to the maximum extent practicable. Responses to your comments are discussed below.

Comment 1: OHA recommends that native flora species, including Koa (*Acacia koa*), 'Ohi'a (*Metrosideros polymorpha*) and varieties of fern, be used in re-vegetating the areas of impact wherever possible.

Response: Native flora species will be used in the restoration effort. The species will be determined based on the species composition identified at the site. Koa (*Acacia koa*) was not observed during the biological survey, and the 'ohi'a in the project area was a dwarfed variety. It would be best not to introduce other plants (even if native) if they are not from the area. The native species that are present at the site are those suited for that type of the environment.

The taller vegetation is primarily near the periphery of the recovery area. The Joint Prisoner of War / Missing in Action Accounting Command (JPAC) plans to leave all trees and large shrubs in place to aid erosion control.

Shrubs and ground cover (including ferns) should be planted quickly. They have a more rapid growth rate than a tree such as 'ohi'a and will help to 1) lock in soil more quickly, 2) prevent weeds from emerging, and 3) develop an understory which is vital for watersheds. The restoration team will evaluate the feasibility of planting 'ohi'a shrubs. However, they may grow too slowly to be successful.

Comment 2: OHA recommends that no unnecessary alterations of the landscape be made. OHA does not concur with the propositions to 1) tap nearby stream to procure water for "wet-screening," or 2) remove soil from an upslope area to backfill proposed excavations. OHA recommends that, if needed, water be imported via helicopter for wet screening. Removed soils should be sterilized and returned to the project area as

a backfill material. If additional sediments are needed to backfill, they should be collected from a nearby area of similar vegetation, particularly an area that is not susceptible to erosion and land slide.

Response: Transport of water via helicopter for wet-screening was considered, and it is not feasible. There are no flat areas in the vicinity of the project site that are large enough to place a storage tank. Since wet-screening of the soil offsite is expected to have less of an impact to the environment, this is the planned action.

The intent is to leave sufficient soil in place for re-seeding. It is not likely that soil will need to be returned to the site. We are investigating potential sources of soil that do not contain weed seeds, or a method of sterilization for soil removed from the site. Should soil be taken from the existing landslide area, a geologist would be consulted and erosion control measures would be taken to address the potential for future landslides. Taking soil from a nearby area that is not susceptible to erosion and landslide is not feasible since a suitable area has not been identified, and it would result in disturbing the environment in the vicinity of the borrow area. For example, it could create openings that may allow weeds to become established.

Comment 3: OHA is concerned with the amount of vegetation grubbing involved with creating the Landing Zone and foot trails. It is OHA's recommendation that the project use only the existing landing pad to accommodate the proposed undertaking. Creation of a new LZ and trail seems superfluous and would increase the adverse impact to the surrounding landscape. Can the proposed action be carried out with only one LZ pad and access trail?

Response: This additional landing zone (LZ) is to be used in case of a medical emergency.

The EA will be revised to clarify that clearing would not be required within the 263 square yards (220 square meters [0.05 acres]) for the northern landing zone and associated trail. The emergency (northern) landing zone would be used only in cases of medical emergency. The ridgeline is sufficiently stable to allow a helicopter to hover there, with skids touching the ridge top, and an injured person to be loaded in. It has previously been used as a landing zone. Some incidental disturbance to vegetation (e.g., thinning and trampling) may occur if the team needs to access the emergency landing zone.

Comment 4: OHA requests assurances that if the project goes forward, should iwi or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

Response: If such a situation arises, the appropriate agencies will be contacted pursuant to applicable law. The following text will be incorporated into the EA on page 4-7, line 35:

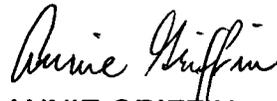
5090P.1F0B
Ser EV217 59
24 JAN 2006

“Summary. If any native Hawaiian or non-aviator related historic, archaeological, or cultural resources are discovered during any phase of the project, all work in the area shall stop and the State Historic Preservation Division shall be notified. Work shall not resume until the State Historic Preservation Division gives its approval.”

The proposed recovery action has been delayed, and is currently scheduled for June 2006. The final EA will be available in April or May 2006.

Should you have any questions, please contact Mr. Kyle Fujimoto, Planner-In-Charge, at 472-1442 or by E-Mail at kyle.fujimoto@navy.mil.

Sincerely,



ANNIE GRIFFIN
Director
Environmental Planning Division
Acting

Copy to:

Mr. Rodney Haraga, Director
State of Hawaii
Department of Transportation
Aliiaimoku Bldg
869 Punchbowl Street, Room 509
Honolulu, HI 96813

Mr. Micah Kane, Chairman
State of Hawaii
Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P-1E0B
Ser. EV21-166
24 JAN 2006

Mr. John Nakagawa
Hawaii Coastal Zone Management Program
P. O. Box 2359
Honolulu, HI 96804

Dear Mr. Nakagawa:

Subj: FEDERAL CONSISTENCY WITH STATE OF HAWAII COASTAL ZONE
MANAGEMENT PROGRAM FOR AVIATOR RECOVERY, KO'OLAU
MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII

Thank you for your letter (Reference Number P-10978) of June 13, 2005 providing concurrence with the determination that the proposed recovery of the remains and personal effects of a missing U. S. service member in the Koolau Mountains is consistent to the maximum extent practicable with the Hawaii Coastal Zone Management Program. JPAC's plans to meet each of the conditions to the maximum extent practicable are discussed below.

Condition 1: In accordance with the May 2005, Draft Environmental Assessment, Section 2.2.1.2, temporary erosion control measures, such as anchoring geotextile, burlap, or other soil stabilizing barriers shall be placed down-slope of the disturbed areas. In addition, all trash and debris generated by the project shall be collected and removed daily.

Response: The recovery and restoration teams would implement temporary erosion control measures as needed. All trash and debris generated by the project would be collected and removed daily.

Condition 2: In accordance with the May 2005, Draft Environmental Assessment, Section 2.2.1.3, post-recovery restoration shall occur concurrently or immediately following the completion of the recovery effort. Restoration specialists, including botanists, biologists, geologists, and technicians shall implement erosion control and revegetation measures. The disturbed areas shall be revegetated with native Hawaiian plants. Post-restoration monitoring shall be carried out to monitor the progress and effectiveness of the restoration. If revegetation is not progressing and/or weeds are precluding the native Hawaiian plants from growing, then corrective measures shall be taken to ensure the effectiveness of the restoration.

Response: This condition will be met to the maximum extent practicable. Post-recovery restoration would occur concurrently or immediately following the completion of the recovery effort. Erosion control and revegetation with native Hawaiian plants would be implemented in the disturbed areas.

Post- restoration monitoring is included as part of the restoration effort. The restoration team will make a "best effort" at reclamation as described in the EA and the Restoration Plan, but if weeds do become established and if native plants are precluded in spite of those efforts, monitoring and weed suppression cannot continue indefinitely. Invasive species already exist at the site, and we cannot guarantee that they will not return. Monitoring would continue for up to one year.

Condition 3: If any native Hawaiian or non-aviator related historic, archaeological, or cultural resources are discovered during any phase of the project, all work in the area shall stop and the State Historic Preservation Division shall be notified. Work shall not resume until the State Historical Preservation Division gives its approval. Hawaii Revised States, Chapter 6E – Historic preservation, which is administered by the State Historic Preservation Division, is a federally-approved enforceable policy of the Hawaii CZM program.

Response: This condition would be implemented if such a situation arises.

The following text will be incorporated into the EA on page 4-7, line 35:

Summary. If any native Hawaiian or non-aviator related historic, archaeological, or cultural resources are discovered during any phase of the project, all work in the area shall stop and the State Historic Preservation Division shall be notified. Work shall not resume until the State Historic Preservation Division gives its approval."

The proposed recovery action has been delayed, and is currently scheduled for June 2006. The final EA will be available in April or May 2006.

Should you have any questions, please contact Mr. Kyle Fujimoto, Planner-In-Charge, at 472-1442 or by E-Mail at kyle.fujimoto@navy.mil.

Sincerely,



ANNIE GRIFFIN
Director
Environmental Planning Division
Acting

Copy to:
Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, HI 96813

5090P-1 F0B
Ser. EV21/ 66
24 JAN 2006

Copy to:

Mr. Rodney Haraga, Director
State of Hawaii
Department of Transportation
Aliiaimoku Bldg
869 Punchbowl Street, Room 509
Honolulu, HI 96813

Mr. Micah Kane, Chairman
State of Hawaii
Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805

Blind copy to:

COMNAVREG HAWAII (N45)
JPAC



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1F0B
Ser EV21/65
24 JAN 2006

Mr. Henry Eng, Director
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, HI 96813

Dear Mr. Eng:

Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KOOLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII

Thank you for your letter (serial number 2005/ELOG-1016 [DW]) of June 2, 2005 providing comments on the proposed recovery of the remains and personal effects of a missing U. S. service member in the Koolau Mountains. All of the comments in the letter will be incorporated into the final version of the Environmental Assessment (EA). The proposed recovery action has been delayed, and is currently scheduled for June 2006. The final EA will be available in April or May 2006.

Should you have any questions, please contact Mr. Kyle Fujimoto, Planner-In-Charge, at 472-1442 or by E-Mail at kyle.fujimoto@navy.mil.

Sincerely,

A handwritten signature in cursive script that reads "Annie Griffin".

ANNIE GRIFFIN
Director
Environmental Planning Division
Acting

Copy to:
Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, HI 96813

Mr. Rodney Haraga, Director
State of Hawaii
Department of Transportation
Aliiimoku Bldg
869 Punchbowl Street, Room 509
Honolulu, HI 96813

5090P_1F0B
Ser EV21/ **65**

24 JAN 2006

Copy to:
Mr. Micah Kane, Chairman
State of Hawaii
Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805

Blind copy to:
COMNAVREG HAWAII (N45)
JPAC



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090-4F0B
Ser EV21/ 63
24 JAN 2006

Ms. June F. Harrigan-Lum, Manager
Environmental Planning Office
State of Hawaii Department of Health
919 Ala Moana Boulevard, Room 312
Honolulu, HI 96814

Dear Ms. Harrigan-Lum:

Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVER,
KO'OLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII

Thank you for your letter (serial number DPO-05-0-46) of June 1, 2005 providing the Department of Health's Standard Comments for the proposed recovery of the remains and personal effects of a missing U. S. service member in the Koolau Mountains. All of the Standard Comments will be addressed in the final version of the Environmental Assessment (EA). Responses to each of the comments are provided as enclosure (1).

The proposed recovery action has been delayed, and is currently schedule for June 2006. The final EA will be available in April or May 2006.

Should you have any questions, please contact Mr. Kyle Fujimoto, Planner-In-Charge, at 472-1442 or E-Mail at kyle.fujimoto@navy.mil

Sincerely,

A handwritten signature in cursive script that reads "Annie Griffin".

ANNIE GRIFFIN
Director
Environmental Planning Division
Acting

Copy to:
Ms. Genevieve Salmonson
Director
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, HI 96813

5090.1F0B
Ser EV21/ **63**
24 JAN 2006

Copy to:
Mr. Rodney Haraga, Director
State of Hawaii
Department of Transportation
Aliiimoku Building
869 Punchbowl Street, Room 509
Honolulu, HI 96813

Mr. Micah Kane, Chairman
State of Hawaii
Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805

**Draft Aviator Recovery EA
Halawa Valley, Ko'olau Mountains
O'ahu, Hawaii**

Responses to DOH Standard Comments

<i>Branch</i>	<i>Comment/Issue</i>	<i>Response/Action</i>
Clean Air Branch	<ol style="list-style-type: none"> 1. Construction/demolition involving asbestos. 2. Control of fugitive dust. 	<ol style="list-style-type: none"> 1. Not Applicable. The Proposed Action does not involve demolition or construction. 2. The Proposed Action does not involve construction activities and is in a remote area, not proximate to existing residences, businesses, or thoroughfares. In addition, the high moisture content of the soil at the project site decreases the possibility of fugitive dust generation.
Clean Water Branch	<ol style="list-style-type: none"> 1. Section 401 Water Quality Certification and Department of Army permits. 2. NPDES permit. 	<p>Action: No additions/changes to EA necessary.</p> <ol style="list-style-type: none"> 1. Not Applicable. No water will be discharged during the project. 2. Not Applicable. No water will be discharged during the project.
Environmental Planning Office	<ol style="list-style-type: none"> 1. Identify water body type and class. 2. Identify existing water quality management actions. 3. Identify pending water quality management actions. 4. Alternatives to Proposed Action. 	<p>Action: No additions/changes to EA necessary.</p> <ol style="list-style-type: none"> 1. The EA identifies an ephemeral stream runs through the project site, which feeds into Halawa Stream. Halawa Stream discharges into the East Loch of Pearl Harbor. 2. The project site is remote and unoccupied. There are no discharge permit requirements. 3. Halawa Stream is impaired for nutrients and turbidity. TMDLs are in the process of being developed. Pearl Harbor is impaired for suspended solids, nutrients, turbidity,

Branch	Comment/Issue	Response/Action
		<p>and PCBs. It has an established TMDL for suspended solids. No water will be discharged during the project. A NPDES permit is not required. With application of BMPs for erosion control, the proposed action is not expected to potentially affect these water bodies.</p> <p>4. The On-Site Screening Alternative would have more potential to affect soil runoff into the stream than the Proposed Action. An analysis of possible cumulative impacts determined that none have been identified in the vicinity of the project site. A watershed-wide assessment was not conducted because the Proposed Action is not expected to potentially affect water quality in the watershed.</p>
Hazard Evaluation and Emergency Response Office	<ol style="list-style-type: none"> 1. Phase I required for developments. 2. Land with former sugarcane production should be characterized for arsenic. 3. Land with previous releases of petroleum or hazardous substances should obtain an NFA letter from HEER. 	<p>Action: No additions/changes to EA necessary.</p> <ol style="list-style-type: none"> 1. Not Applicable. The Proposed Action does not include any development. There are no reported releases of hazardous substances. Due to the remote nature of the site, it is extremely unlikely that hazardous substances were released. 2. Not Applicable. The site was not formerly used for sugarcane production. 3. Not Applicable. There are no reported releases of hazardous substances. Due to the remote nature of the site, it is extremely unlikely that hazardous substances were released.
Noise, Radiation and Indoor Air	<p>Project should comply with HAR:</p> <ol style="list-style-type: none"> 1. Chapter 11-39 Air Conditioning and Ventilating. 2. Chapter 11-45 Radiation Control. 	<p>Action: No additions/changes to EA necessary.</p> <ol style="list-style-type: none"> 1. Not Applicable. The Proposed Action is not within a closed space. 2. Not Applicable. The Proposed Action would

Branch	Comment/Issue	Response/Action
Quality Branch	3. Chapter 11-46 Community Noise Control. 4. Chapter 11-501 Asbestos Requirements. 5. Chapter 11-502 Asbestos-Containing Materials in Schools. 6. Chapter 11-503 Fees for Asbestos Removal and Certification 7. Chapter 11-504 Asbestos Abatement Certification Program	not require radiation control. 3. Not Applicable. The Proposed Action is not proximate to any communities. 4. Not Applicable. The Proposed Action does not involve any asbestos containing materials. 5. Not Applicable. The Proposed Action does not involve any schools. 6. Not Applicable. The Proposed Action does not involve any asbestos containing materials. 7. Not Applicable. The Proposed Action does not involve any asbestos containing materials.
Safe Drinking Water Branch	1. Public water systems requirements. 2. Cross connection control requirements. 3. Activity within source water area. 4. Underground injection control. 5. Golf course development.	Action: No additions/changes to EA necessary. 1. Not Applicable. The Proposed Action does not involve a public water system. 2. Not Applicable. The Proposed Action does not involve any water systems. 3. The Proposed Action does not involve any water discharge. Any potential herbicides used during restoration activities would be limited to the absolute minimum volume necessary, and would be handled and applied in accordance with all herbicide-specific safety measures. 4. Not Applicable. The Proposed Action does not involve any underground injection. 5. Not Applicable. The Proposed Action does not involve a golf course.
Solid and Hazardous Waste Branch	1. Solid waste management plan. 2. Proper disposal of solid waste generated during the project. 3. Provide space for recycling. 4. Highway and road construction requirements.	Action: No additions/changes to EA necessary. 1. Not Applicable. The Proposed Action does not involve any construction, demolition, or occupation of the site. The nature of the action is limited in duration and activity. 2. All trash generated would be collected and

Branch	Comment/Issue	Response/Action
		<p>removed daily for disposal at a permitted solid waste disposal facility. Green waste would either be left at the site to aid in mulching or would be removed for disposal at a permitted solid waste facility</p> <ol style="list-style-type: none"> 3. Not Applicable. The Proposed Action does not involve any solid waste that can be recycled. 4. Not Applicable. The Proposed Action does not involve any highway or road construction.
Wastewater Branch.	<ol style="list-style-type: none"> 1. Wastewater system plans. 	<p>Action: No additions/changes to EA necessary.</p> <ol style="list-style-type: none"> 1. Not Applicable. The Proposed Action does not involve any wastewater systems. <p>Action: No additions/changes to EA necessary.</p>



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P-1F0B
Ser-EV217/ 64
24 JAN 2006

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, HI 96813

Dear Ms. Samuelson:

Subj: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KOOLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII

Thank you for your letter of June 7, 2005 providing comments on the proposed recovery of the remains and personal effects of a missing U. S. service member in the Koolau Mountains. All of the comments in the letter will be incorporated into the final version of the Environmental Assessment (EA). Measures to be taken to control runoff and to prevent the introduction of alien invasive species into the project area are discussed below.

Comment 1: Given the possibility of rainfall and flooding in the Halawa area, there exists a remote possibility that the project may indirectly affect stream water quality through site runoff. Please use appropriate mitigative measures to ensure that runoff is controlled and please consider the suspension of grading and excavation work during periods of rainfall.

Response: Work would be suspended during rainfall. Crews would not go to the site to work if it is raining or if there is a chance of rain. The sediments in the ravine are already loose and water-transportable. Erosion control measures will be taken for the sediments adjacent to the streambed currently held in place by small plant roots, as the crew excavates.

Comment 2: Please incorporate appropriate measures to prevent the introduction of alien invasives in the project area.

Response: The recovery and restoration crews would follow best management practices listed in Section 4.3.1 (page 4-5) of the EA to prevent the introduction of invasive species in the project area.

Post- restoration monitoring is included as part of the restoration effort. The restoration team will make a "best effort" at reclamation as described in the EA. Invasive species already exist at the site, and we cannot guarantee that they will not return. Monitoring would continue for up to one year.

The proposed recovery action has been delayed, and is currently scheduled for June 2006. The final EA will be available in April or May 2006.

Should you have any questions, please contact Mr. Kyle Fujimoto, Planner-In-Charge, at 472-1442 or by E-Mail at kyle.fujimoto@navy.mil.

Sincerely,



ANNIE GRIFFIN
Director
Environmental Planning Division
Acting

Copy to:
Mr. Rodney Haraga, Director
State of Hawaii
Department of Transportation
Aliiaimoku Bldg
869 Punchbowl Street, Room 509
Honolulu, HI 96813

Mr. Micah Kane, Chairman
State of Hawaii
Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805

KO`OLAUPOKO HAWAIIAN CIVIC CLUB

February 7, 2006

Mr. Melvin N. Kaku, Director
Attn: Ms. Connie Chang
Department of the Navy
Naval Facilities Engineering Command, Pacific
258 Makalapa Drive, Suite 100
Pearl Harbor, Hawai'i 96860-3134

Re: DRAFT ENVIRONMENTAL ASSESSMENT FOR AVIATOR
RECOVERY, KO`OLAU MOUNTAINS, HALAWA VALLEY, O`AHU

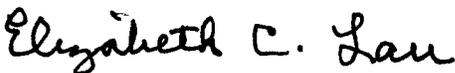
Dear Mr. Kaku:

In response to your letters of July 13 and November 8, 2005, the Ko`olaupoko Hawaiian Civic Club wishes to express its disappointment that you have chosen to uphold one federal law at the expense of the cultural concerns protected in another federal law, the National Historic Preservation Act. It is our view that, perhaps, this situation might have been handled more sensitively out of respect to Native Hawaiian concerns. Our letter to the relative of the deceased pilot, apparently, was never delivered.

Nonetheless, we fully understand the relative's yearning to have her brother's remains recovered and brought to her in Arizona. Therefore, despite our concerns over the pending activities planned in the recovery effort, we reluctantly accept the decision.

We strongly urge the U.S. Navy to recognize that federal laws were meant to protect all people, including Native Hawaiians. As guests here in our islands, we hope the Department of the Navy, in the future, will show more respect for our cultural beliefs.

Malamapono,


ELIZABETH C. LAU, President

cc: V. Hauser, ACHP
M. Chinen, SHPO
HAWAII CONGRESSIONAL DELEGATION

P. O. BOX 664 • KANE`OHE, HAWAI`I • 96744
PHONE: (808) 239-7305 • EMAIL: malamapono@aol.com

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DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1FOB
Ser EV2/ 478
16 MAY 2008

Ms. Elizabeth Lau, President
Ko'olaupoko Hawaiian Civic Club
P. O. Box 664
Kaneohe, HI 96744

Dear Ms. Lau

Subj: ENVIRONMENTAL ASSESSMENT FOR AVIATOR RECOVERY,
KO'OLAU MOUNTAINS, HALAWA VALLEY, OAHU, HAWAII

This is to provide an update to responses provided to Ko'olaupoko Hawaiian Civic Club's letter of June 13, 2005 providing comments on the Draft Environmental Assessment (EA) for the proposed recovery of the remains and personal effects of a missing United States (U. S.) service member in the Ko'olau Mountains.

Comment 19. states "While the project does not affect air quality with noxious gases or other pollutants, the presence of helicopters for a prolonged period of time over the life of the project (and during restoration period) has and is likely to cause disturbance to native Hawaiian residents of Ioleka'a Valley which lies next to Ha'iku Valley, just over the ridge from one of the landing zones. Residents for that valley have already complained about the helicopter activity. There is normally very little helicopter activity in that vicinity except for rescue operations."

The response states, "Helicopters related to this project will fly from the Halawa side of the Ko'olau. It will be clarified in the EA that helicopters would not fly from the windward side. As discussed in Section 4.1.1 – Proposed Action, Noise, helicopter noise will be transitory, short-term, and typically limited to 8:00 A.M. to 5:00 P.M."

We had originally planned on using landing zones on the Halawa side of the Ko'olau. Unfortunately, we are advised that those landing zones are no longer available. Consequentially, the recovery team has to use the former Omega Station located in Ha'iku Valley as a temporary landing zone to ferry plants and erosion control materials via helicopter during the restoration phase of the proposed action. Due to the remote location of the project site, there is no practical alternative to helicopter use. Use of this temporary landing zone will ensure that helicopters do not fly over populated areas with a loaded sling, and presents no significant change in environmental impacts. Helicopter noise will be transitory, short-term, typically limited to 8:00 A.M. to 5:00 P.M., and last for approximately 4-6 weeks.

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Please contact Mr. Kyle Fujimoto, Planner-In-Charge, at (808) 472-1442 or by E-Mail at kyle.fujimoto@navy.mil if you have any questions or concerns.

Sincerely,



KAREN C. SUMIDA
Director
Environmental Planning Division

Encl:
(1) Responses to Comments of
13 Jun 05

Copy to:
Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, HI 96813

Mr. Rodney Haraga, Director
State of Hawaii
Department of Transportation
AliiAIMoku Bldg
869 Punchbowl Street, Room 509
Honolulu, HI 96813

Mr. Micah Kane, Chairman
State of Hawaii
Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805

Responses to Comments of June 13, 2005

Comments received from the Ko`olaupoko Hawaiian Civic Club via letter of June 13, 2005 for the Draft Environmental Assessment, Aviator Recovery, Halawa Valley, Ko`olau Mountains, O`ahu, Hawai`i of May 2005

Comment 1. Executive Summary, Proposed Action, page ES-2, lines 15-20: This section describes the work area as being substantial in a very sensitive section of the Ko`olau range – as much as a half-acre would be cleared and the soils removed to be screened elsewhere. Clearing of additional vegetation in the “buffer area” is a concern because there have been sightings of native plants near the ridge, some of which are said to be extremely rare. (Source: Friends of Ha`iku Stairs)

Response: The boundaries of the project site were defined to include “buffer” areas to represent the largest area that could be affected. The “buffer” areas were included in the biological survey used to support consultations with the U. S. Fish and Wildlife Service (FWS) and this EA. The 0.45-acre project site includes some areas where soil would not be removed, but where vegetation may be cleared/thinned or incidentally trampled to allow the field crew access to and from the crash site. The description of the Proposed Action in Section 2.2.1.1 clarifies that soil and vegetation removal would take place only in an area of up to 478 square yards (400 square meters, or approximately 0.1 acre). This is in the immediate vicinity of the crash site itself. In the remaining ancillary support areas, an additional 1,698 square yards (1,420 square meters [0.35 acres]) may be affected by clearing/thinning or incidental trampling of vegetation.

The EA will be revised to clarify that clearing would not be required within the 263 square yards (220 square meters [0.05 acres]) for the northern landing zone and associated trail. The emergency (northern) landing zone would be used only in cases of medical emergency. The ridgeline is sufficiently stable to allow a helicopter to hover there, with skids touching the ridge top, and an injured person to be loaded in. It has previously been used as a landing zone. Some incidental disturbance to vegetation (e.g., thinning and trampling) may occur if the team needs to access the emergency landing zone.

As discussed in Section 3.3 and Appendix A of the Draft EA, no threatened and endangered species were found in the project area during the biological survey conducted for this project. This is consistent with the results of similar surveys conducted in nearby areas and other biological data. The biological survey was detailed, thorough, and consistent with other survey methodology for similar areas. All potentially affected areas were surveyed, covering essentially every square yard of the project area. The FWS Biological Opinion of June 14, 2005, accepted the survey methods as valid.

Enclosure (1)

We would appreciate it if you could share information that you have regarding recent sightings of rare plants in the vicinity of the project area so that we may consider it in our evaluation.

Comment 2. Executive Summary, Purpose and Need, page ES-2, lines 31-39: By your own admission, the project site is in rugged terrain, in a very remote area, and is located within a conservation district. This is an area that should not be disturbed – which is why it has been designated a “conservation district.” In addition, the hazardous nature of the recovery effort in this “rugged terrain” suggests that members of the recovery team may be endangered due to the potential for instability of slope where the slide occurred, above the primary work area.

Response: While this is not one of the stated allowable uses of a conservation district, it is also not a prohibited use. The City and County of Honolulu, Department of Planning and Permitting concurs that the Proposed Action is consistent with the intent of the designated land use for the area. The State of Hawaii Department of Land and Natural Resources (DLNR) was provided with a copy of the draft EA for review. No comments have been received from DLNR.

The recovery and restoration teams are experienced, trained, and skilled in working safely in such conditions as those found in the project area. The teams have extensive experience in working in areas at higher elevations with steeper slopes than those found at the project site. Safety is paramount for them.

The EA will be revised to emphasize that, except for two vertical drops along the stream channel, the terrain at the actual crash site where soil will be excavated is much more moderate in slope, generally less than a 25 percent grade.

Comment 3. Executive Summary, Alternatives, page ES-3, lines 6-8: The alternatives considered by JPAC are inadequate, and do not include a consideration of allowing the remains to rest in peace in Halawa Valley, which is American/Hawaiian soil and not a foreign land. There should have been consultation with native Hawaiian groups prior to selection of the preferred alternative.

Response: The remains at the crash site that are subject for recovery under the Proposed Action are those of a WWII aviator from the continental U. S. Consultation with native Hawaiian groups is not necessary. As for the location of the crash site being in Hawaiian soil, Native Hawaiian organizations were consulted, including the Office of Hawaiian Affairs and the Oahu Council of Hawaiian Civic Clubs.

The alternative of allowing the remains to rest in peace was included in the “No Action” alternative. The Navy recognizes that the aviator’s family had not been asked to consider having him remain in place. The aviator’s family has since been contacted, and their request to have his remains recovered has not changed.

In addition, JPAC is required by Section 576, paragraph (a) (1) of the National Defense Authorization Act of Fiscal Year 2000 to recover the aviator’s remains. The paragraph states, “The Secretary of Defense shall make every reasonable effort to search for,

recover, and identify the remains of United States servicemen lost in the Pacific theatre of operations during World War II (including New Guinea) while engaged in flight operations.”

If efforts are not made to recover and identify the aviator’s remains and they are left in place, JPAC would not be fulfilling its mission, as mandated by Congress.

Comment 4. Executive Summary, Environmental Consequences, page ES-3, lines 11-16: We request that consultation with the Ko’olaupoko Hawaiian Civic Club continue until all significant issues are resolved. We further submit that the Proposed Action **will, indeed, have a significant impact on the critical habitat.** The removal of up to a half-acre of vegetation and soil will undoubtedly be significant, since these areas of the Ko’olau mountains are already considered critical habitat for the listed species, including the rare achatinella snail (*kahuli*). We therefore disagree with your contention that the Proposed Action does not have significant effect upon the critical habitat.

Response: FWS is the scientific and legal authority to make determinations on the scope of impacts to critical habitat. There would be an adverse impact on Federally-designated critical habitat, but FWS concluded in their formal, Endangered Species Act (ESA) section 7 Biological Opinion of June 14, 2005, that the Proposed Action is “not likely to destroy or adversely modify designated critical habitat.” FWS reached this conclusion after their full consideration of pertinent past and present biological and related data and their analysis of possible Proposed Action impacts. A copy of the Biological Opinion is attached for your information.

The boundaries of the project site were defined to include “buffer” areas to represent the largest area that could be affected. The “buffer” areas were included in the biological survey used to support consultations with FWS and this EA. The 0.45-acre project site includes some areas where soil would not be removed, but where vegetation may be cleared/thinned or incidentally trampled to allow the field crew access to and from the crash site. The description of the Proposed Action in Section 2.2.1.1 clarifies that soil and vegetation removal would take place only in an area of up to 478 square yards (400 square meters, or approximately 0.1 acre). This is in the immediate vicinity of the crash site itself. In the remaining ancillary support areas, an additional 1,698 square yards (1,420 square meters [0.35 acres]) may be affected by clearing/thinning or incidental trampling of vegetation.

As a point of clarification, the project site is not designated critical habitat for the *kahuli* snail (endangered Oahu tree snail). The *kahuli*, or tree snail, (*Achatinella pupukanioe*) was discussed in Section 3.3.4, page 3-8, lines 1 to 5, and the complete tree snail survey report was presented in Appendix A: Biological Survey Report, Section 2.2 and Appendix C to that report. An extensive survey of the project area, including ancillary support areas (i.e., landing zones and trails) did not find any sign of native snail species. In addition, as discussed in the survey report, based upon the known distribution of the tree snail, it is not expected within the project area.

Comment 5. Section 1.3.1 - Joint Prisoner of War / Missing in Action Accounting Command, page 1-1, lines 30-31: The remains have lain at rest in the wao akua, sacred

uplands, of Halawa Valley on the island of O‘ahu, State of Hawai‘i. Perhaps the family could consider this “home,” since it an area considered to be American soil.

Response: The aviator’s family has been contacted, and their request to have his remains recovered has not changed.

In addition, JPAC is required by Section 576, paragraph (a) (1) of the National Defense Authorization Act of Fiscal Year 2000 to recover the aviator’s remains. The paragraph states “The Secretary of Defense shall make every reasonable effort to search for, recover, and identify the remains of United States servicemen lost in the Pacific theatre of operations during World War II (including New Guinea) while engaged in flight operations.”

If efforts are not made to recover and identify the aviator’s remains and they are left in place, JPAC would not be fulfilling its mission, as mandated by Congress.

Comment 6. Section 1.3.2 - Project Location, page 1-1, lines 36-38: We reiterate our concern that the site is a critical habitat for seven species; it is occupied by native plants and animals and, therefore, should not be disturbed. We further reiterate our concern that the site is in a remote location with steep inclines. We are also concerned that these are vegetated slopes that may result in landslides once vegetation is removed for the project. We also note that the reference to “...pieces of plane wreckage...” appears to indicate that the crash was high impact, and that the remains of the crash victim are unlikely to be intact, particularly after 60 years in the damp and wet soils of the Ko‘olau.

Response: FWS is the scientific and legal authority to make determinations on the scope of impacts to critical habitat. There would be an adverse impact on Federally-designated critical habitat, but FWS concluded in their formal, ESA Section 7 Biological Opinion of June 14, 2005, that the Proposed Action is “not likely to destroy or adversely modify designated critical habitat.” FWS reached this conclusion after their full consideration of past and present biological and related data and analysis of Proposed Action impacts.

The native plants and animals that occupy the project site that are not designated as threatened and endangered have no legal protection from impacts to habitat. However, they are considered in the revegetation and erosion control measures that would be implemented. The Navy has followed all applicable procedures through the ESA consultation process and the process required under the National Environmental Policy Act (NEPA).

As a point of clarification, the excavation area (excluding helicopter landing zones and trails) is critical habit for two plant species, not seven.

Removal of vegetation could result in increased erosion rates, so the recovery and restoration teams would use erosion control matting and specific recovery techniques to reduce erosion potential. The site would be re-vegetated as excavation is completed.

JPAC's anthropologist measured the pH of the soil in the crash area. While lightly acidic (pH 5.7), it is much less harsh than the soils JPAC normally encounters in Southeast Asia, where they routinely recover remains. In addition, there is no evidence of significant burning after the crash, and wartime investigators observed some remains. The recovery of significant remains and personal effects is likely.

Comment 7. Section 1.4 – Regulatory Overview, page 1-4, line 6: There is a reference to the possibility of a “negative declaration”. We ask for clarification on why this is being contemplated, given the potential serious impact upon a critical habitat.

Response: Based on the analysis and anticipated impacts, the “negative declaration” is the corresponding anticipated conclusion. With the implementation of erosion control and restoration efforts, no significant impacts are anticipated. Your specific comments regarding the potential impacts on critical habitat are addressed individually in this letter.

Comment 8. Section 1.4.4 – National Historic Preservation Act, page 1-4, lines 21-23: We ask for clarification on the following questions:

- (i) Is this a “federal undertaking” as defined in the NHPA?
- (ii) How do you define “relevant parties”?

Response: This is a federal undertaking as defined by NHPA. When we initiated consultations with the State Historic Preservation Officer, in accordance with 36 CFR Part 800, we established that the Proposed Action is an undertaking as defined in 36 CFR Part 800.16y.

The term “relevant parties” has been revised in the EA to “consulting parties” to be consistent with the terminology used in the Section 106 implementing regulations. Per the regulations, consulting parties are participants in the consultation process, to include the State Historic Preservation Officer; Indian tribes and Native Hawaiian organizations; representatives of local governments; applicants for Federal assistance, permits, licenses and other approvals; and certain individuals and organizations with a demonstrated interest in the undertaking.

Comment 9. Section 1.4.6 – Endangered Species Act, page 1-4, lines 39-40: Citing “Section 9 of the ESA prohibits the ‘taking’ of endangered species by causing harm or harassment,” we submit that this Act would be violated by the Proposed Alternative and the On-Site Alternative. Because the area(s) being proposed for work to be done either in the direct impact location or routes nearby slated to be “cleared” or through which workers will have to cross are in the “critical habitats” or in close proximity to “critical habitats” as designated under federal law for plants, animals, and “special status species.” To remove a half-acre of soil, whether on-site or off-site, would cause more than a negligible impact upon the ecosystem and environments which these species need to survive

Response: The FWS, as the expert Federal agency with jurisdiction to administer the ESA, issued a formal Biological Opinion pursuant to the consultation requirements imposed by Section 7 of the ESA. In so doing, the FWS assessed the potential for adverse impacts to designated critical habitat. It determined that the aviator recovery

efforts are “not likely to destroy or adversely modify designated critical habitat.” The Navy, as any other federal agency, is entitled to rely on the FWS’s Biological Opinion, see Stop H-3 Association v. Dole, 740 F.2d 1442 (9th Cir. 1984).

Comment 10. Section 2.2.1.1 – Project Site, page 2-1, lines 20-22: This statement reinforces the sizable area where vegetation will be cleared, soil will be removed, and around which human intrusions will significantly disturb a sensitive, critical habitat. It is likely that the area has been gradually recovering from the impact of the 1944 crash, and to enter the area for reconnaissance and clearing will create lasting harm to creatures as sensitive as the kahuli snail. In addition, clearing such a large area of vegetation and soils may have an effect upon nearby critical habitats of native birds. Non-sighting of endangered species in these areas should not constitute justification of wholesale removal of ecosystems in which these species exist.

Response: This is a highly erosive, dynamic, environment; given that and the focused-nature of the crash site, the impact site likely quickly recovered. The results of recent biological surveys and historical information do not support the statement that the proposed action will result in the “wholesale removal of ecosystems in which these species exist.

The *kahuli*, or tree snail (*Achatinella pupukanioe*), was discussed in Section 3.3.4, page 3-8, lines 1 to 5, and the complete tree snail survey report was presented in Appendix A: Biological Survey Report, Section 2.2 and Appendix C to that report. An extensive survey of the project area, including ancillary support areas (i.e., landing zones and trails) did not find any sign of native snail species. In addition, as discussed in the survey report, based upon the known distribution of the tree snail, it is not expected within the project area.

The closest point of critical habitat for native birds is over 780 feet (237 meters) away. The temporary disturbance of the area associated with aviator recovery activities would not result in impacts upon designated critical habitat for the O’ahu ‘elepaio, an endangered native bird.

The biological survey was detailed, thorough, and consistent with other survey methodology for similar areas. All potentially affected areas were surveyed, covering essentially every square yard of the project area. The FWS Biological Opinion of June 14, 2005, accepted the survey methods as valid.

FWS mentions the size of the project area in relation to the size of the designated critical habitat in their Biological Opinion of June 14, 2005:

Page 11, last paragraph, “The amount of critical habitat affected by the proposed project ranges from 0.002 to 0.023 percent of the total critical habitat for each species, and 0.008 to 0.050 percent of the individual units affected.”

Page 15, lines 1-4, “Any losses [to critical habitat] that occur after implementation of the proposed action will be short term in nature, occur in a very small percentage of

designated critical habitats, and will not result in permanent destruction of the physical and biological features of critical habitat.”

Comment 11. Section 2.2.1.3 – Aviator Recovery Activities, page 2-3, lines 16-26: We would like more detailed information on how many and what types of “taller vegetation” would be “cut or thinned” near the landing zones and/or trails. In addition, we have a concern about removing soil “to bedrock at the recovery area.” The cumulative estimated volume of soil to be removed is approximately 133 cubic yards which, in our view, appears to be a significant impact upon the critical habitat.

Response: The types of taller vegetation include *olomea* (*Perrottetia sandwicensis*), *ohi`a Lehua* (*Metrosideros polymorpha*), *ohi`a ha* (*Syzygium sandwicensis*), *akia* (*Wikstroemia oahuensis*), and *loulu* (*Pritchardia martii*).

The EA will be revised to clarify that clearing would not be required within the 263 square yards (220 square meters) of the northern landing zone and associated trail. The emergency (northern) landing zone would be used only in cases of medical emergency. The ridgeline is sufficiently stable to allow a helicopter to hover there, with skids touching the ridge top, and an injured person to be loaded in. It has previously been used as a landing zone. Some incidental disturbance to vegetation (e.g., thinning and trampling) may occur if the team needs to access the emergency landing zone.

As discussed in Section 3.3.2, the areas in the vicinities of the ancillary areas (all areas other than the recovery area) are in wind-swept summit ridges where the vegetation consists of somewhat uniform cover dominated by low-growing non-native grasses with patches of native sedges and small shrubs scattered throughout.

Section 3.3.2 describes the vegetation community in the recovery (excavation) area as consisting of a thick cover of shrubs and trees. Only the necessary amount of vegetation would be removed in the recovery area to get to remains. The taller vegetation is primarily near the periphery of the recovery area. JPAC plans to leave all trees and large shrubs in place to aid erosion control.

The EA will be revised to clarify that excavation will go down to bedrock in portions of the excavation site where soil cover is very thin. Excavation will continue down until pieces of the plane wreckage are no longer observed. Excavation is necessary because (1) in aircraft crash sites, it is common that incident-related items are driven into the soil as a result of the force with which the plane impacts the ground; (2) in the 61 years between the incident and recovery, vegetation has grown and soils have likely formed over the wreckage; and (3) wreckage and remains may have been covered by erosional processes at the site (i.e. landslides).

FWS has formally reviewed the proposal and has determined that the removal of the soil does not constitute destruction or adverse modification of designated critical habitat.

FWS’s Biological Opinion of June 14, 2005, states:

Page 11, last paragraph, “The amount of critical habitat affected by the proposed project ranges from 0.002 to 0.023 percent of the total critical habitat for each species, and 0.008 to 0.050 percent of the individual units affected.”

Page 15, lines 1-4, “Any losses [to critical habitat] that occur after implementation of the proposed action will be short term in nature, occur in a very small percentage of designated critical habitats, and will not result in permanent destruction of the physical and biological features of critical habitat.”

Comment 12. Section 2.2.1.3 – Aviator Recovery Activities, page 2-3, lines 26-28: While we fully understand the sensitivity of JPAC’s mission to recover the remains of a loved one for the deceased’s family, we find it very disconcerting that this project involves removal of half an acre of vegetation and soil in a sacred area that is also a federally-designated critical habitat, while debris from the crash will be left in place. May we have clarification on why it was decided not to remove the aircraft debris?

Response: Soil and vegetation removal will affect up to 478 square yards (400 square meters, or approximately 0.1 acre).

Removal of the aircraft debris is not driven by the purpose of and need for the Proposed Action. It is not part of JPAC’s mission or the family’s request. Since there is no legal requirement to remove the debris and the removal would have more of an impact on the soil and vegetation in the area, it is not included in the Proposed Action.

Comment 13. Section 2.2.1.3 – Aviator Recovery Activities, page 2-3, lines 26-28: We have concerns regarding moving the soil back and forth, taking it out, sterilizing it, returning it to the recovery area. The soil in the primary recovery area has accumulated for a long, long time. Its composition is rich with the organisms and components that make it a healthy ecosystem for the plants and animals that thrive in that environment. In addition, the *mana* – the intrinsic spiritual power of this area – is compromised by the removal of such large volume of soil, by sterilizing this soil, and/or by replacing it with eroded soils that may have differing composition. We also have concerns regarding using soil from the slide area, primarily because moving that soil may make the slide area more vulnerable to the possibility of expanded landslides in the future.

Response: Soil would be sterilized and returned or, most likely, taken from the landslide. The possibility of using soil from an off-site source is the least likely. Due to the dynamic nature of the system in place, the soil at the site is likely “new” geologically speaking. Large portions of the site lack soil development (i.e. loose sediment deposited in the ravine). Should soil be taken from the existing landslide area, erosion control measures would be taken to address the potential for future landslides. It is likely that in time the soil from the landslide would naturally slide down to cover the recovery area due to gravity and other physical factors.

The alternative to the removal of soil from the site would be the On-Site Screening Alternative. The evaluation in the EA shows that this alternative would not have a significant impact on the environment. However, it would have slightly more of an impact on the environment than the Proposed Action. Water would need to be pumped

from the nearest stream, and the field crew would be significantly larger (up to 3 times as many people).

Comment 14. Section 2.2.1 – Post-Recovery Restoration Activities, page 2-4, lines 4-7: Because you will be removing a variety of plants, including non-native species, we are concerned that you may be planning to replant invasive species such as Clidemia. We request a list of plants that would be contemplated for use in the restoration phase. We also request more information on the company Pono Pacific, which has been contracted to assist with the restoration and revegetation portion of the project.

Response: Only native plants will be introduced to the area as part of the revegetation portion of the project. This paragraph in the EA will be revised to make it clearer that invasive species present at the site will not be in the mix of plants in the revegetation effort.

All native plant species used for out planting will be historically or currently known to be in the project area in order to reestablish the approximate mix of native vegetation that existed prior to the recovery activities. The plants will be procured from native plant nurseries on Oahu. We can provide you with a list of species for the restoration phase once it is finalized. General information regarding Pono Pacific is available on their website: www.ponopacific.com.

Comment 15. Section 2.2.2 – Alternatives, page 2-4, lines 29-30: We recommend that the “No-Action Alternative” be revised to reflect consideration of “Remains Left in Place Alternative” that we are recommending (see attached letter for consideration of Remains Left in Place Alternative).

Response: The aviator’s family has been contacted, and their request to have his remains recovered has not changed.

In addition, JPAC is required by Section 576, paragraph (a) (1) of the National Defense Authorization Act of Fiscal Year 2000 to recover the aviator’s remains. The paragraph states “The Secretary of Defense shall make every reasonable effort to search for, recover, and identify the remains of United States servicemen lost in the Pacific theatre of operations during World War II (including New Guinea) while engaged in flight operations.”

A brief discussion of the potential for the aviator’s remains to be left in place will be included in the Final EA as an alternative that was considered but not analyzed.

Comment 16. Section 2.2.2.1 – On-Site Screening Alternative, page 2-4, lines 40-41: We have concerns about this alternative, due to the large number of personnel who would be moving in and out of the sensitive, critical habitat area and because of the amount of disruption to the cultural landscape by the work that would have to be done.

Response: The increase in number of personnel is one of the reasons why this is the alternative, and not the Proposed Action. However, due to the temporary nature of the

action, the increased number of personnel is not expected to have a significant impact on the environment.

Comment 17. Section 2.2.2.2 – No-Action Alternative, page 2-5, lines 2-3: We suggest re-wording of this alternative is needed, to reflect an extended action, such as we are recommending, where the aviator’s remains are allowed to lay at rest in place here on American soil, in an area that is already considered sacred to native Hawaiians, and with the establishment of a memorial plaque either at the Marine Corps Base Hawaii or at Barber’s Point. The wording as it now reads for “No-Action Alternative” is very negative and lacking in cultural sensitivity.

Response: The aviator’s family has been contacted, and their request to have his remains recovered has not changed.

In addition, JPAC is required by Section 576, paragraph (a) (1) of the National Defense Authorization Act of Fiscal Year 2000 to recover the aviator’s remains. The paragraph states “The Secretary of Defense shall make every reasonable effort to search for, recover, and identify the remains of United States servicemen lost in the Pacific theatre of operations during World War II (including New Guinea) while engaged in flight operations.”

A brief discussion of the potential for the aviator’s remains to be left in place will be included in the Final EA as an alternative that was considered by not analyzed.

Comment 18. Table 2-2 – Summary of Environmental Effects of the Proposed Action and Alternatives, page 2-6: We note that you indicated the Proposed Action has “No significant impacts” on biological resources, on cultural resources, on topography, soils and water resources, and on air quality, noise, infrastructure, health and safety, socio-economic factors, land use compatibility, public facilities, services, recreation and views. We strongly disagree that there is no significant impact on biological resources, cultural resources, topography, soils, air, and noise quality.

Response: The conclusion that the Proposed Action will have “No Significant Impacts” on biological resources, cultural resources, topography, soils, air, and noise quality is supported by the analysis in the EA and the results of consultation with FWS. Individual comments for each of these resource areas have been addressed separately.

Comment 19. Section 3.1 – Overview, Air Quality, page 3-1, lines 13-17: While the project does not affect air quality with noxious gases or other pollutants, the presence of helicopters for a prolonged period of time over the life of the project (and during restoration period) has and is likely to cause disturbance to native Hawaiian residents of Ioleka’a Valley, which lies next to the Ha’iku Valley, just over the ridge from one of the landing zones. Residents from the valley have already complained about the helicopter activity. There is normally very little helicopter activity in that vicinity except for rescue operations.

Response: Helicopters related to this project will fly from the Halawa side of the Ko’olau. It will be clarified in the EA that helicopters would not fly from the windward

side. As discussed in Section 4.1.1 – Proposed Action, Noise, helicopter noise will be transitory, short-term, and typically limited to 8:00 A.M. to 5:00 P.M.

The Navy would appreciate it if you could provide us with details on the complaints (e.g., which direction the helicopters came from, to whom the complaints were provided, the time and dates of the complaints).

Comment 20. Section 3.1 – Overview, Noise, page 3-1, lines 18-21: The same concerns have been raised by residents of Ioleka‘a Valley about noise problems caused by the helicopters buzzing around the ridgelines during preliminary survey work conducted for this project.

Response: The Navy would appreciate it if you could provide us with details on the complaints (e.g., which direction the helicopters came from, to whom the complaints were provided, the time and dates of the complaints).

Comment 21. Section 3.1 – Overview, Infrastructure (utilities, storm drainage, traffic), page 3-1, lines 27-31: According to residents of Ioleka‘a Valley, there is normally very little helicopter activity along the ridgeline. May we please have documentation about the statement, ‘it is common to see numerous military and civilian helicopters’ and please verify whether the State Board of Land and Natural Resources has a record of commercial helicopter permits for flight paths over this area.

Response: The statement in the EA regarding the frequency of helicopter activity was based on personal observations and conversations with helicopter pilots. The EA will be revised to reflect “Ko‘olau Mountains” instead of “ridgeline” to be more accurate.

The State of Hawaii Department of Land and Natural Resources was contacted, and they stated that no permits are required to fly over the project area.

Comment 22. Section 3.1 – Overview, Health and Safety (hazardous and regulated materials, safety), page 3-1, lines 36-38: Again, the possibility of physical danger for the recovery team is a concern to us. In addition, we are curious as to the coincidence that the slide above the work area occurred within the past year. Generally speaking, because this particular area is so remote, it would be unlikely the slide could have been caused by hikers or pig hunters entering the area. Can you please clarify for us what dates your initial survey teams first investigated the crash site in 2004, and did any of the initial workers attempt to rappel down that steep slope?

Response: The landslide occurred prior to the first site visit by JPAC on September 17, 2004. Due to weather conditions, they were unable to reach the crash site during this visit, but did photograph the landslide from the helicopter. No personnel rappelled down the slope; there are no hard points (e.g., rock or large trees) to tie off to at the ridgeline. The EA will be revised to indicate that teams would not rappel down the slope. Personnel have and will continue to access the recovery site only from below-grade for safety reasons and to minimize slope instability (i.e., erosion). The proposed path was determined to be the easiest (i.e., safest) route based on observations during the site visit.

A geologist assessed the site and, in his professional opinion, believes that the landslide occurred due to natural processes common in the area.

Comment 23. Section 3.1 – Overview, Land Use Compatibility, page 3-2, lines 15-16: Because the area is zoned for conservation by both the State of Hawai‘i and the City and County of Honolulu, the primary concern is that conservation districts are not meant to have natural vegetation and soil removed. We are concerned about the project’s intention of removing vegetation and soil, particularly in light of the fact that the State has declared this area a protected conservation zone.

Response: While this is not one of the stated allowable uses of a conservation district, it is also not a prohibited use. The City and County of Honolulu, Department of Planning and Permitting concurs that the Proposed Action is consistent with the intent of the designated land use for the area. DLNR was provided with a copy of the draft EA for review. No comments have been received from DLNR.

Comment 24. Section 3.1 – Overview; Public Facilities, Services, and Recreation; page 3-4, lines 1-2: Because the ridge was used regularly in ancient times as a passageway between the Ko‘olaupoko (Windward) and Kona (Leeward) valleys, once connected under the leadership of a common *ali‘i* or chief, it is not unlikely that trails did indeed exist, at least along the ridge and descending somewhere in the area to reach the Halawa Valley floor. In modern times, groups like Sierra Club and the Hawai‘i Trail and mountain club frequently use the ridge trail. Your commentary that the likelihood for recreational users in the project vicinity is ‘low’ is contradicted by your last statement, that your survey teams did, indeed, find ‘signs of recent human activity at the site.

Response: The discussion of ancient passageways is addressed in Sections 3.4.2 and 4.4.2 in the Draft EA. The statement that there are no “official trails in the area” is correct, based on recent trail maps. The Draft EA states that the likelihood of recreational users is low, not zero – it does not state that people can’t access the site. The EA will be revised to clarify that garbage (signs of human presence) was found in the area inside the bunker at the LZ, but not the crash site.

Comment 25. Section 3.1 – Overview, Views, page 3-4, lines 9-12: Again, ‘unsafe flying conditions’ raise the question of whether this project can be safely executed, considering the amount of flight time that will be required for ferrying crews in and out, and for flying out buckets of soil and vegetation.

Response: The recovery and restoration teams will not attempt to access the site when flying conditions are not safe. The EA will be revised to add emphasis that teams would access the site only during safe conditions, both here and in “Health and Safety” in Section 4.1.1.

Comment 26. Section 3.2.2 – Soils, page 3-4, lines 27-31: Again, the concern for safety. Because the area appears to be slide-prone, tampering with the soil in this location may result in exacerbating an already unstable environment. In addition, your assessment did not address the acidity or composition of the soils as pertains to

composition in which the crash victim's remains would have lain for over 60 years. We ask for clarification as to what condition those remains would likely be in, having been exposed to a range of weather conditions and the effects of the soils of that area. Can we be assured that you will find any remains at all?

Response: The recovery and restoration teams are experienced, trained, and skilled in working safely in such conditions as those found in the project area. The teams have extensive experience in working in areas at higher elevations with steeper slopes than those found at the project site. Safety is paramount for them.

The recovery and restoration teams would use erosion control matting and specific recovery techniques to reduce erosion potential. The site would be re-vegetated as excavation is completed.

JPAC's anthropologist measured the pH of the soil in the crash area. While lightly acidic (pH 5.7), it is much less harsh than the soils JPAC normally encounters in Southeast Asia, where they routinely recover remains. In addition, there is no evidence of significant burning after the crash, and wartime investigators observed some remains. The recovery of significant remains and personal effects is likely.

Comment 27. Section 3.3.2 – Vegetation Types, page 3-5, lines 33-37: If seven out of 10 plants in the area are native, clearing such a “thick cover of shrubs and trees”, some reaching up to 18 feet tall, is a significant impact on the critical habitat and the conservation-protected native forest. We submit that your assessment inadequately recognizes the importance of the native forest in this area, where nearly 70% of the vegetation is native to the island and where some of them are federally listed as endangered species.

Response: The “thick cover of shrubs and trees” described in Section 3.3.2 is in the vicinity of the recovery (excavation) area. Based on information in Appendix A, most of the tall trees are located near the periphery of the recovery area. Only the necessary amount of vegetation would be removed in the recovery area to get to remains. JPAC plans to leave all trees and large shrubs in place to aid erosion control.

As discussed in Section 3.3.2, the areas in the vicinities of the ancillary areas (all areas other than the recovery area) are in wind-swept summit ridges where the vegetation consists of somewhat uniform cover dominated by low-growing non-native grasses with patches of native sedges and small shrubs scattered throughout.

The EA will be revised to clarify that clearing would not be required within the 263 square yards (220 square meters [0.05 acre]) for the northern landing zone and associated trail. The emergency (northern) landing zone would be used only in cases of a medical emergency. The ridgeline is sufficiently stable to allow a helicopter to hover there, with skids touching the ridge top, and an injured person to be loaded in. It has previously been used as a landing zone. Some incidental disturbance to vegetation (e.g., thinning and trampling) may occur if the team needs to access the emergency landing zone.

As discussed in Section 3.3 and Appendix A of the Draft EA, no threatened and endangered species were found in the project area during the biological survey conducted for this project. This is consistent with the results of similar surveys conducted in nearby areas and other biological data. The biological survey was detailed, thorough, and consistent with other survey methodology for similar areas. All potentially affected areas were surveyed, covering essentially every square yard of the project area. The FWS Biological Opinion of June 14, 2005, accepted the survey methods as valid.

The native plants that occupy the project site that are not designated as threatened and endangered have no legal protection from impacts to habitat. However, they are considered in the revegetation and erosion control measures that would be implemented. The project site will be replanted with native species that are the same or mimic those observed during the biological survey. The Navy has followed all applicable procedures through the ESA consultation process and the process required under NEPA.

Comment 28. Section 3.3.3 – Wildlife, page 3-2, lines 2-3: Because your biological survey failed to locate the presence of native birds does not mean they do not inhabit the vicinity and forage for food in the area.

Response: The biological survey was detailed, thorough, and consistent with other survey methodology for similar areas. No native birds were observed. The FWS Biological Opinion of June 14, 2005, accepted the survey methods as valid. The temporary disturbance of the area associated with aviator recovery activities would not result in impacts upon designated critical habitat for the O‘ahu ‘elepaio, an endangered native bird. The closest point of this critical habitat is over 780 feet (237 meters) away.

Comment 29. Section 3.3.4 – Special-Status Species, page 3-6, lines 14-17: Again, because the survey failed to locate plants or animals classified as Special Status Species does not mean they do not inhabit the area. You did not mention the *kahuli*, the native snail, which is also endangered and inhabits the area (even though your survey failed to locate any); nor did you mention the fact that native birds known to frequent nearby forest trees could venture into the area as well. Please clarify for us how long a period of time your researcher worked in the field, conducting the biological survey?

Response: The *kahuli*, or tree snail, (*Achatinella pupukanioe*) was discussed in Section 3.3.4, page 3-8, lines 1 to 5, and the complete tree snail survey report was presented in Appendix A: Biological Survey Report, Section 2.2 and Appendix C to that report. An extensive survey of the project area, including ancillary support areas (i.e., landing zones and trails) did not find any sign of native snail species. In addition, as discussed in the survey report, based upon the known distribution of the tree snail, it is not expected within the project area.

There are no known occurrences of federally listed native bird species (i.e., O‘ahu creeper and ‘elepaio) within 0.5 mile of the project area and none were seen or heard during the biological survey. However, the proposed recovery activities would be short-

term in nature and is not scheduled to occur during the breeding season for either species. There would be no significant impacts to any native bird species during aviator recovery activities.

The chances for a nesting listed bird (O'ahu creeper or `elepaio) within the affected area are remote. Should the recovery begin during the nesting period, a survey of the area would be conducted to ensure that no nests are present. Once excavation and restoration commence, birds will avoid the affected area, so they will not nest in or near the area. Also, `elepaio favor a much denser canopy of vegetation and a different species mix than is present at the site (for example, it is much more likely to find them in deep gulches that have high canopy [10 meters and up] rather than the much more open vegetation found at the crash site). As for the O'ahu creeper, it favors mid-elevation forests, closed canopy, and large trees. It is very unlikely that it would be at, and even more unlikely that it would nest in, the project area.

The total field survey time was approximately 5 hours, with about 3 hours spent at the crash site. All potentially affected areas were surveyed, covering essentially every square yard of the project area. The biological survey was detailed, thorough, and consistent with other survey methodology for similar areas. The FWS Biological Opinion of June 14, 2005, accepted the survey methods as valid.

Comment 30. Section 3.3.4 – Special-Status Species, page 3-7, lines 1-25: Again, because the survey failed to locate plants or animals classified as Special Status Species does not mean they do not inhabit the area. The U.S. Fish and Wildlife Service notwithstanding, the area is still classified as a locale of critical habitats, and it is possible these endangered species still inhabit the area but were not findable during the period of the biological survey.

Response: The biological survey was detailed, thorough, and consistent with other survey methodology for similar areas. Note also that there was no habitat found for the snail; without habitat it is highly unlikely to find an associated creature. All potentially affected areas were surveyed, covering essentially every square yard of the project area. The FWS Biological Opinion of June 14, 2005, accepted the survey methods as valid. FWS is the scientific and legal authority to make determinations on the scope of impacts to threatened and endangered species and critical habitat.

Comment 31. Section 3.4.2 – Chapter 343, Hawai'i Revised Statutes – Cultural Resources, page 3-9, lines 34-39: As we mentioned in our first consultation meeting with you, this region of the Ko'olau mountains is sacred to us, not because there were heiau there but because of the *mana* of the soil, plants and trees, the native creatures and the proximity to the *wao 'akua*, the place of the gods. It is a burial ground in that the iwi – remains – of the deceased aviator have been at rest here for so many years. There is also the possibility that other remains lie at the bottom of that cliff, since the ridge was used regularly as a pathway in ancient times. We are concerned that disturbing this area disturbs all remains that are in the soil, a desecration in our culture

Response: We respect your attachment to the Ko'olau Mountains and its components. However, we would also like to point out that the proposed project is insignificant in

scale compared with development projects that have already taken place in the Ko`olau Mountains. Extensive housing developments exist on both sides of the Ko'olau, there are three highways that go through, communication towers are installed on top of ridges, and utility lines cross the mountains. The proposed project, however, is temporary in nature (estimated to last from two to six weeks depending on weather) and will be followed by restoration work. This project is not a development project that will construct a permanent intrusion into the environment of the Ko`olau. The area of excavation is about 478 square yards (400 square meters, or approximately 0.1 acre), a very minimal area when compared to the entire size of the mountain range. While the ridge top may have been used "as a pathway in ancient times," the crash site is located opposite of one of the steepest sections of the Ko'olau along the windward side, and it is very unlikely that any routine crossing point would have been established here. Therefore, the possibility for human remains other than the aviator's to be in the same location as the project site is very remote.



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