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DRAFT

**Environmental Assessment
for the Disposal and Reuse of Surplus Property
at Naval Air Station Barbers Point,
O‘ahu, Hawai‘i**

March 2011

Department of the Navy
Base Realignment and Closure
Program Management Office

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EXECUTIVE SUMMARY

This Environmental Assessment (EA) evaluates the potential environmental consequences of the United States (U.S.) Department of the Navy's (Navy's) disposal of remaining surplus Navy property at Naval Air Station (NAS) Barbers Point and its subsequent reuse in a manner consistent with the *Kalaeloa Master Plan* (KMP) (Hawai'i Community Development Authority [HCDA] 2006). The Navy was required to close NAS Barbers Point, in accordance with Public Law 101-510, 10 U.S. Code (U.S.C) Section 2687, of the Defense Base Closure and Realignment Act (DBCRA) of 1990, as amended.

This EA supplements the *Final Environmental Impact Statement for the Disposal and Reuse of Naval Air Station Barbers Point, Hawai'i, February 1999* (hereinafter referred to as the 1999 FEIS) (Navy 1999a) due to changes to the proposed reuse plan for NAS Barbers Point that have occurred since the 1999 FEIS. The EA specifically addresses six parcels (approximately 388 acres [157 hectares]) that were not assessed in the 1999 FEIS because either the parcels were to be conveyed to another federal agency via a federal-to-federal (fed-to-fed) transfer or, with respect to Lot 13074-D, because the reuse plan for a portion of the parcel changed. The remaining portions of the NAS Barbers Point property were assessed in the 1999 FEIS and have been conveyed.

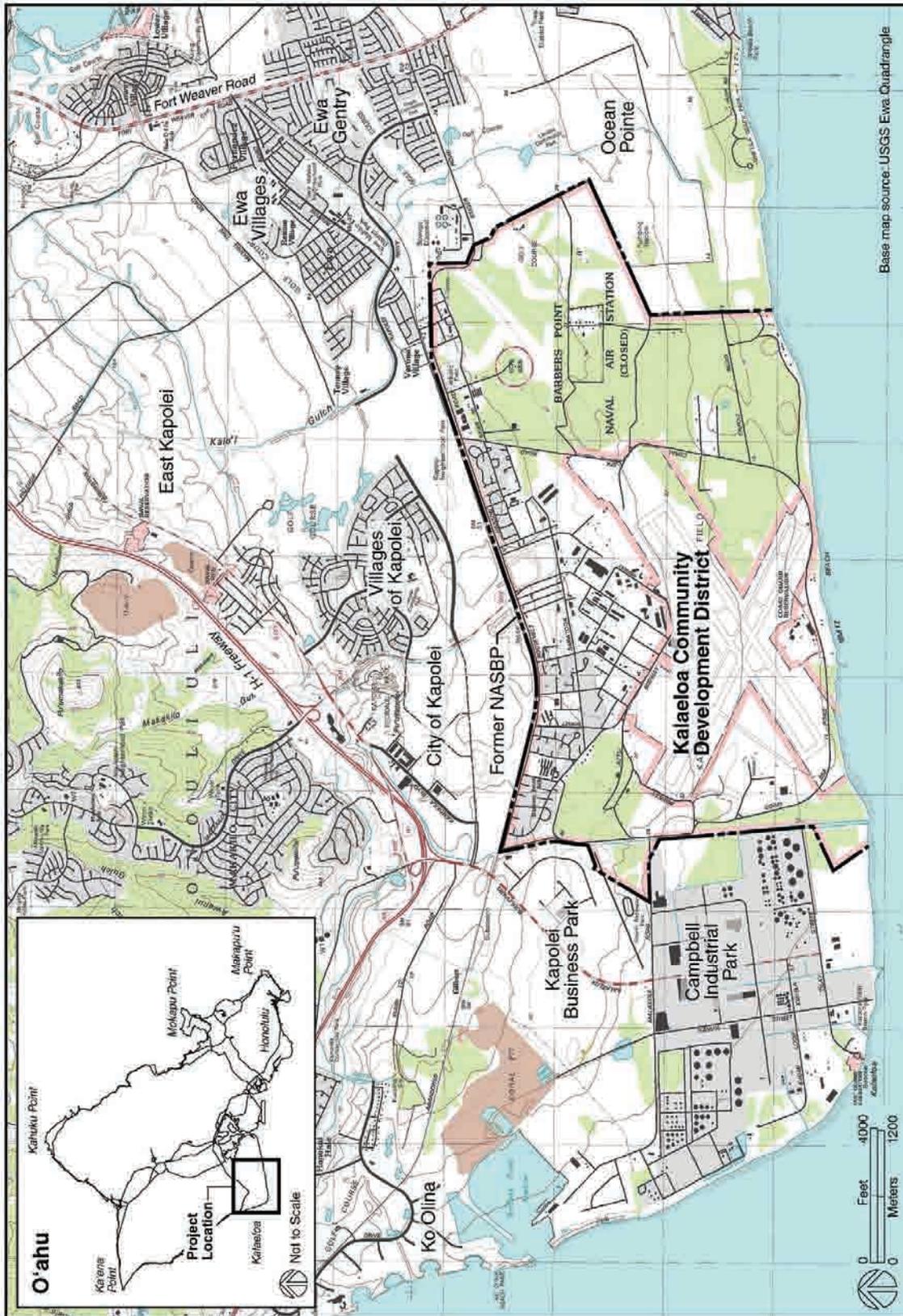
This EA has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969; the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] Sections 1500-1508); and Navy procedures for implementing NEPA (32 CFR Part 775). The Navy is the lead agency for the Proposed Action.

Purpose and Need

The purpose of the Proposed Action is to provide for the disposal of the remaining surplus Navy property at NAS Barbers Point and its subsequent reuse in a manner consistent with the KMP (HCDA 2006). The surplus property to be disposed in this Proposed Action (i.e., project area) includes six parcels (i.e., Lot 13058-B, Lot 13058-G, Lot 13058-D, Lot 13058-F, Lot 13073-A, and Lot 13074-D), which encompasses approximately 388 acres (157 hectares). The need for the Proposed Action is to comply with the DBCRA of 1990, Public Law 101-510, 10 U.S.C. Section 2687, note, which required the Navy to close NAS Barbers Point and dispose of the property.

Background

The former NAS Barbers Point is situated in the County of Honolulu, island of O'ahu, approximately 16 miles (26 kilometers) west of downtown Honolulu (see Figure ES-1). The former air station is located within the larger Kalaeloa Community Development District. NAS Barbers Point was recommended for closure in 1993 by the Defense Base Closure and Realignment Commission in accordance with the DBCRA.



1
2 **Figure ES-1: Project Site, NAS Barbers Point, O'ahu, Hawai'i**

1 Also in 1993, the State of Hawai‘i established the Barbers Point Naval Air Station
2 Redevelopment Commission as the local redevelopment authority (LRA) for planning the reuse
3 of NAS Barbers Point. The LRA prepared the *Naval Air Station Barbers Point Community*
4 *Redevelopment Plan* (hereafter referred to as the 1997 Reuse Plan; Helber Hastert and Fee
5 Planners 1997). Based on this 1997 Reuse Plan, the Navy initiated the NEPA process and
6 prepared an FEIS for the disposal and reuse of NAS Barbers Point. The FEIS was completed in
7 February 1999 and a Record of Decision (ROD) was published in the *Federal Register* on June
8 30, 1999 (Volume 64, Number 125). The station was closed on July 2, 1999.

9
10 Following the Navy NEPA decision, in June 2002, the State of Hawai‘i Legislature enacted a
11 law which transferred redevelopment responsibility from the BPNAS Redevelopment
12 Commission to the HCDA. In 2006, the HCDA completed and the State of Hawai‘i adopted the
13 *Kalaeloa Strategic Plan* (HCDA 2005), amending the 1997 Reuse Plan. This amendment
14 resulted in a change to the reuse plan for Lot 13074-D. In addition, since the publication of the
15 ROD, the proposed fed-to-fed transfers of Lot 13058-B, Lot 13058-D, Lot 13058-G, Lot 13058-
16 F, and Lot 13073-A did not occur and the lots became available for disposal by the Navy and
17 reuse by the local community. Importantly, these parcels were not assessed in the 1999 FEIS
18 because they were to be conveyed to other federal agencies via a fed-to-fed transfer.

19
20 The Navy has prepared this EA to supplement the 1999 FEIS. The supplement is required due to
21 changes that have occurred since the 1999 ROD, including the availability of five new parcels
22 and a change in the proposed land use for a portion of Lot 13074-D.

23 24 **Scope of the EA**

25 This EA provides an analysis to supplement the 1999 FEIS and evaluates the potential direct,
26 indirect, short-term, and long-term impacts on the human and natural environment resulting from
27 the disposal and subsequent reuse of remaining surplus property at NAS Barbers Point. The EA
28 documents the Navy’s compliance with the requirements of NEPA, as amended; the CEQ
29 regulations implementing NEPA (40 CFR Sections 1500-1508); and Navy procedures for
30 implementing NEPA (32 CFR Part 775).

31
32 Resource areas examined in this EA and potentially impacted include geology, topography, and
33 soils; groundwater; surface water; air quality; noise; visual resources; transportation; land use;
34 biological resources; cultural resources; public health and safety; public services; socioeconomic
35 environment; and infrastructure. The EA also addresses potential cumulative impacts that may
36 result from reasonably foreseeable projects in the region, including other disposal or realignment
37 actions. The analysis of potential impacts is based on the full build-out of the KMP (HCDA
38 2006).

39 40 **Alternatives Considered in the EA**

41 This EA augments and incorporates by reference the alternatives assessed in the 1999 FEIS. The
42 alternatives considered in the 1999 FEIS remain unchanged in this supplemental EA and
43 therefore, will not be re-iterated in detail herein. The 1999 FEIS Preferred Alternative assumed
44 development as open space, parks or recreation for all lots (Lots 13058-B, 13058-D, 13058-F,
45 13058-G, 13073-A, and 13074-D). At this time, specific detailed site plans have not been
46 developed for the build out of the proposed action’s land use plan (i.e., KMP), including the

1 scale, density, massing, land use mix, and footprint of future development (e.g., mixed use
2 [moderate intensity], institutional [cultural center], and eco-industrial [open space overlay]). To
3 assess the still unknown future land use scenarios, this EA utilizes a programmatic or broad-scale
4 approach to analyze the potential impacts of implementing the proposed action.

5
6 The alternatives considered in this EA, which supplements the alternatives assessed in the 1999
7 FEIS, include the proposed action (i.e., KMP) and the No Action Alternative. Other reuse
8 alternatives, including other development scenarios for the project area, were eliminated from
9 consideration because they were not considered feasible or reasonable, given the purpose and
10 need of the Proposed Action, authority of the HCDA to plan and manage future development,
11 and the existence of the State-approved and publically developed KMP (HCDA 2006). The
12 alternatives examined in this EA are described in detail below.

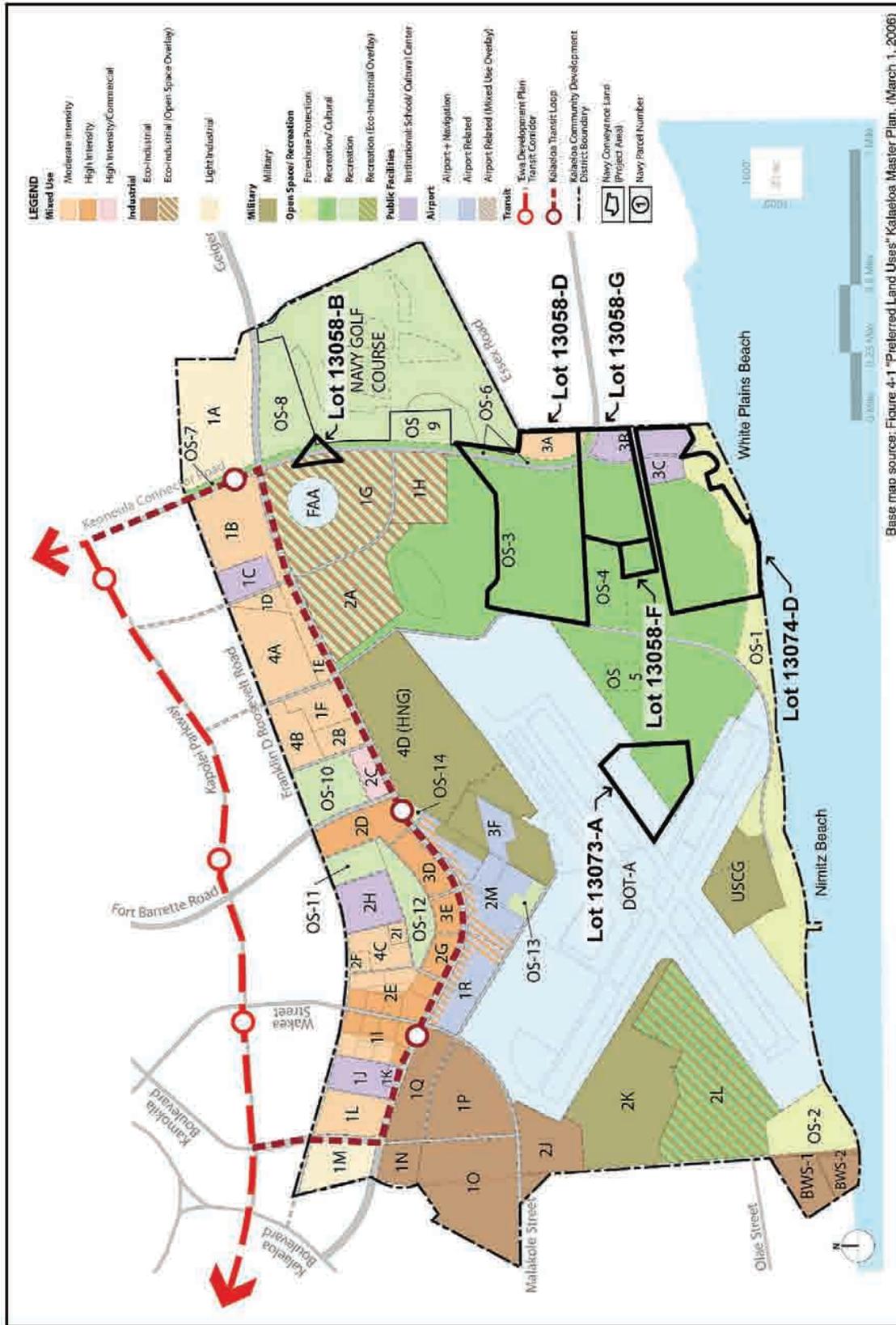
13
14 **Proposed Action (Preferred Alternative)**

15 The Proposed Action is the disposal of six parcels encompassing approximately 388 acres (157
16 hectares) by the Navy and its subsequent reuse by the HCDA in a manner consistent with the
17 KMP (HCDA 2006). This alternative has been identified as the preferred alternative by the
18 Navy. The individual parcels and the proposed land use for each are identified in Table ES-1.
19 The proposed land use plan for the project area is illustrated in Figure ES-2.
20

Table ES-1 Proposed Action Land Use, NAS Barbers Point, O’ahu, Hawai’i

Project Area	Land Area (acres/hectares)	Proposed Land Use (acres/hectares)
Lot 13058-B (Triangle)	5.6/2.3	Eco-Industrial (Open Space Overlay) (5.6/2.3)
Lot 13058-D (Northern Trap and Skeet Range)	145.8/59.0	Open Space/Recreation (131.1/53.1) Mixed-Use (Moderate Intensity) (14.7/6.0)
Lot 13058-G (Southern Trap and Skeet Range)	57.9/23.4	Open Space/Recreation (43.9/17.8) Mixed-Use (Moderate Intensity) (1.3/0.5) Institutional (Cultural Center) (12.7/5.1)
Lot 13058-F (Ordy Pond)	9.3/3.7	Open Space/Recreation (9.3/3.8)
Lot 13073-A (Airport Wetland)	45.6/18.5	Open Space/Recreation (22.2/9.0) Airport/Navigation (23.4/9.5)
Lot 13074-D (Beach Area)	124.2/50.3	Open Space/Recreation (70.0/28.3) Institutional (Cultural Center) (23.3/9.4) Foreshore Protection (31.0/12.5)
TOTAL	388.4/157.2	

21
22 At this time no specific development plans for the project area parcels have been prepared.
23 Following disposal, the project area reuse would be completed as part of the larger NAS Barbers
24 Point redevelopment effort. All future development would be implemented in a manner
25 consistent with the KMP (HCDA 2006) and would be the responsibility of the HCDA or a future
26 developer. For a more detailed description of the Proposed Action, refer to the KMP.
27
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Base map source: Figure 4-1 "Preferred Land Uses" Kāhala Master Plan, (March 1, 2006)

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Figure ES-2: Proposed Action, NAS Barbers Point, O’ahu, Hawai’i

1 **No Action Alternative**

2 The No Action Alternative is the retention of the six surplus parcels by the U.S. government in
3 caretaker status. Under this alternative, no construction or redevelopment of the remaining
4 surplus property would take place. The No Action Alternative is evaluated in detail in this EA as
5 prescribed by CEQ regulations. Implementation of this alternative does not meet the Navy's
6 requirement to close NAS Barbers Point, as prescribed by the DBCRA.

7
8 **Summary of Potential Environmental Impacts**

9 The EA examines the potential human and natural environmental consequences of the Proposed
10 Action and any impacts associated with the reasonably foreseeable reuse of the property.
11 Potential environmental impacts associated with the Proposed Action and the No Action
12 Alternative are discussed below.

13
14 **Proposed Action**

15 Implementation of the Proposed Action would not significantly impact the quality of the human
16 or natural environment. The Proposed Action would not result in any significant long-term
17 adverse impacts on geology, topography, and soils; groundwater; surface water; air quality;
18 noise; visual resources; transportation; land use; biological resources; cultural resources; public
19 health and safety; public services; socioeconomic environment; and infrastructure.

20
21 The Navy has determined that the disposal and reuse of Lot 13058-D would not affect the
22 federally-listed, endangered 'akoko plant (*Chamaesyce skottsbergii* var. *kalaeloana*). Transfer of
23 legal title of the property by the Navy to HCDA does not, in itself, affect the 'akoko. To ensure
24 that subsequent reuse by HCDA or its successors is appropriately analyzed and that such reuse
25 will conserve the 'akoko, the Navy will require that a conservation and management plan
26 approved by State of Hawai'i Department of Land and Natural Resources (DLNR) be in place
27 prior to conveyance of the parcel. The State will have the ability to enforce appropriate State
28 laws and regulations governing actions involving listed species and to ensure that the plant will
29 be protected. Further, the Navy will attach to the title transfer document a restrictive covenant
30 binding on the Grantee and all subsequent land owners. The restrictive covenant will place land
31 use controls on the property for the conservation and protection of the 'akoko.

32
33 Further, the HCDA has been working with DLNR and the U.S. Fish and Wildlife Service
34 (USFWS) on a draft conservation agreement to ensure protection of 'akoko on the parcel. HCDA
35 plans to use a portion of revenue generated by commercial use of HCDA property to fund
36 conservation actions required by their 'akoko conservation and management plan.

37
38 After transfer, the State would have the authority to enforce compliance with the terms of the
39 conservation and management plan and the Navy would have authority to enforce compliance
40 with the covenant. Any proposed actions that may affect 'akoko after transfer out of Navy's
41 ownership would be reviewed as provided by State legislation, regulation, and policy and would,
42 accordingly, be enforceable to the extent of those laws, regulations, and policies. The State of
43 Hawai'i Endangered Species Act prohibits the take of individual listed plants, whether by the
44 State or by any other non-federal entity, without State review and authorization. The
45 implementation of the Proposed Action would not be expected to result in a significant adverse
46 impact to other flora resources.

1
2 The federally-listed endangered Hawaiian stilt (*Himantopus mexicanus knudseni*) have been
3 previously observed within Lot 13058-F and Lot 13073-A. However, no recorded observations
4 of the stilt at Lot 13058-F have occurred since 1993 and the lot (specifically Ordy Pond) no
5 longer provides stilt habitat due to the re-growth of dense vegetation surrounding the pond. The
6 stilt occasionally feed and nest, during the seasonal winter rains, on the mudflats associated with
7 the wetland portion of Lot 13073-A. Under the Proposed Action, both lots have been identified
8 for recreational/open space uses. The lots would remain undeveloped and no change from
9 existing conditions would be expected. The Navy, with USFWS concurrence, has determined
10 that the Proposed Action is not likely to adversely affect any federally listed or proposed species,
11 including the black-necked stilt, or proposed or designated critical habitat within either Lot
12 13058-F or Lot 13073-A (Henson 2003). The implementation of Proposed Action would not be
13 expected to result in a significant adverse impact to other fauna resources.

14
15 The Navy has determined that the transfer of Lot 13058-D, 13058-F, 13058-G, 13073-A, and
16 13074-D, with conditions, would have no effect on historic properties. Consultations between the
17 Navy and State of Hawai‘i, DLNR, State Historic Preservation Officer (SHPO) regarding these
18 properties were completed between 1998 and 2003 (Sumida 2009a and b). SHPO concurred that
19 the effect of the proposed disposal would not be adverse provided that the Navy provides
20 protective covenants to ensure the preservation and appropriate treatment of historic properties
21 (Sumida 2009a and b).

22
23 Lot 13058-B contains a portion of Site 5127, the former 1941 Marine Corps Air Station (MCAS)
24 ‘Ewa , which the Navy determined was eligible for listing in the National Register of Historic
25 Places (NRHP). Site 5127 was first identified as eligible in the consultation for the ‘potential
26 land transfer of Navy retained properties at the former Marine Corps Air Station ‘Ewa . In 2008,
27 Commander Navy Region Hawaii expanded the boundaries of Site 5157 to include the 1941
28 airfield and support area and the 1941 airfield (runway). There are no buildings or other historic
29 properties on Lot 13058-B. In consideration of the above, the Navy has made a determination of
30 “no adverse effect” for the proposed transfer of Lot 13058-B (Sumida 2009a). SHPO in a letter
31 dated April 20, 2010, concurred with the Navy’s conditional “no effect” determination
32 (McMahon 2010). The conditions include:

- 33
34 • The development of protective covenants and recognizing the eligibility of former MCAS
35 ‘Ewa (Site 5127).
36
37 • SHPO review of the protective covenant prior to the final transfer of land.
38
39 • Protection for historic sites under state law to be included in the covenants.

40 41 **No Action Alternative**

42 No significant adverse impacts would be expected from the implementation of the No Action
43 Alternative.

44 45 **Areas of Potential Controversy**

46 Implementation of the Proposed Action is not expected to generate controversy.
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10
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LIST OF ACRONYMS AND ABBREVIATIONS

1		
2		
3		
4	ACM	asbestos-containing material
5	APE	area of potential effect
6	AST	aboveground storage tank
7	BMPs	best management practices
8	APE	Area of Potential Effect
9	BRAC	Base Realignment and Closure
10	BRAC PMO	Base Realignment and Closure Program Management Office
11	CAA	Clean Air Act of 1970
12	CEQ	Council on Environmental Quality
13	CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
14	CO	carbon monoxide
15	CFR	Code of Federal Regulations
16	CRMP	Cultural Resources Management Plan
17	CZMA	Coastal Zone Management Act
18	dba	decibels (adjusted)
19	DBCRA	Defense Base Closure and Realignment Act
20	DBEDT	Department of Business, Economic Development, and Tourism
21	DERP	Defense Environmental Restoration Program
22	DHHL	Department of Hawaiian Home Lands
23	DLNR	Hawai'i Department of Land and Natural Resources
24	DOH	State of Hawai'i Department of Health
25	DNL	day-night sound level
26	EA	Environmental Assessment
27	EPA	U.S. Environmental Protection Agency
28	ER	Environmental Restoration
29	ESA	Endangered Species Act
30	FAA	Federal Aviation Administration
31	fed-to-fed	Federal to Federal
32	FEIS	Final Environmental Impact Statement
33	FEMA	Federal Emergency Management Agency
34	FIRM	Flood Insurance Rate Map
35	FOST	Finding of Suitability to Transfer
36	HCDA	Hawai'i Community Development Authority
37	HIA	Honolulu International Airport
38	IR	Installation Restoration
39	IRP	Installation Restoration Program
40	KMP	Kalaeloa Master Plan
41	LBP	lead-based paint
42	LRA	Local Redevelopment Authority
43	LUO	Land Use Ordinance
44	m ³ /day	cubic meters per day

1	MCAS	Marine Corps Air Station
2	mgd	million gallons per day
3	msl	mean sea level
4	n/a	not available
5	NAAQS	National Ambient Air Quality Standards
6	NAS	Naval Air Station
7	Navy	Department of the Navy
8	NESHAP	National Emission Standards for Hazardous Air Pollutants
9	NEPA	National Environmental Policy Act
10	NO ₂	nitrogen dioxide
11	NOA	Notice of Availability
12	NHPA	National Historic Preservation Act
13	NRHP	National Register of Historic Places
14	O ₃	ozone
15	OMPO	O'ahu Metropolitan Planning Organization
16	Pb	lead
17	PCB	polychlorinated biphenyls
18	PM	Particulate Matter
19	POI	Points of Interest
20	RCRA	Resource Conservation and Recovery Act
21	ROD	Record of Decision
22	RONA	Record of Non-Applicability
23	SARA	Superfund Amendments and Reauthorization Act
24	seq.	sequitor
25	SHPO	State Historic Preservation Office
26	SIP	State Implementation Plan
27	SO ₂	sulfur dioxide
28	U.S.	United States
29	U.S.C.	United States Code
30	USFWS	U.S. Fish and Wildlife Services
31	UST	Underground Storage Tank
32	WWTP	Wastewater Treatment Plant
33	WWII	World War II
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1. PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The United States (U.S.) Department of the Navy (Navy) was required to close Naval Air Station (NAS) Barbers Point, in accordance with Public Law 101-510 (10 U.S. Code [U.S.C.] Section 2687, note), of the Defense Base Closure and Realignment Act (DBCRA) of 1990, as amended. The Proposed Action is the disposal of the remaining surplus Navy property at NAS Barbers Point and its subsequent reuse in a manner consistent with the *Kalaeloa Master Plan* (KMP) (Hawai'i Community Development Authority [HCDA] 2006). This Environmental Assessment (EA) evaluates the potential human and natural environmental consequences of the disposal and reuse of surplus property at the former NAS Barbers Point and any impacts associated with the reasonably foreseeable reuse of the property.

The environmental consequences resulting from the disposal and reuse of NAS Barbers Point were evaluated in the *Final Environmental Impact Statement for the Disposal and Reuse of Naval Air Station Barbers Point, Hawai'i, February 1999* (hereinafter referred to as the 1999 FEIS). The Navy issued a Record of Decision (ROD) on June 30, 1999, determining that the Navy intended to dispose of NAS Barbers Point in a manner that was consistent with the *Naval Air Station Barbers Point Community Redevelopment Plan* (Helber, Hastert & Fee, Planners 1997). This EA supplements the 1999 FEIS due to changes to the proposed reuse plan for NAS Barbers Point that have occurred since the 1999 FEIS. It specifically addresses six parcels (i.e., Lot 13058-B, Lot 13058-G, Lot 13058-D, Lot 13058-F, Lot 13073-A, and Lot 13074-D) that were not assessed in the 1999 FEIS either because they were to be conveyed to another federal agency via a federal-to-federal¹ (fed-to-fed) transfer or, in the case of Lot 13074-D, because the reuse plan for a portion of the parcel changed. The remaining portions of former NAS Barbers Point were assessed in the 1999 FEIS.

The EA was prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969, as amended; the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] Sections 1500-1508); and Navy procedures for implementing NEPA (32 CFR Part 775). The Navy is the lead agency for the Proposed Action.

1.1 PURPOSE AND NEED

The purpose of the Proposed Action is to provide for the disposal of the remaining surplus Navy property at NAS Barbers Point and its subsequent reuse in a manner consistent with the KMP (HCDA 2006). The surplus property to be disposed in this Proposed Action includes six parcels (i.e., Lot 13058-B, Lot 13058-G, Lot 13058-D, Lot 13058-F, Lot 13073-A, and Lot 13074-D) encompassing approximately 388 acres (157 hectares). The need for the Proposed Action is to comply with the DBCRA of 1990, Public Law 101-510, 10 U.S.C. Section 2687, note, which required the Navy to close NAS Barbers Point and dispose of the property.

¹ This is consistent with *The Department of the Navy Base Realignment and Closure Implementation Guidance, March 23, 2007* which identifies that fed-to-fed transfers are not to be included under the proposed action for disposal and reuse NEPA actions.

1.2 BACKGROUND AND PROJECT AREA

The former NAS Barbers Point, renamed Kalaeloa, is situated in the County of Honolulu, island of O‘ahu, approximately 16 miles (26 kilometers) west of downtown Honolulu. It is bounded on the west by Campbell Industrial Park, the community of Kapolei to the north, residential communities of Ocean Pointe and ‘Ewa Beach to the east, and the Pacific Ocean to the south (see Figure 1-1). The former air station is located within the larger Kalaeloa Community Development District which is located within the City and County of Honolulu’s ‘Ewa development planning area.

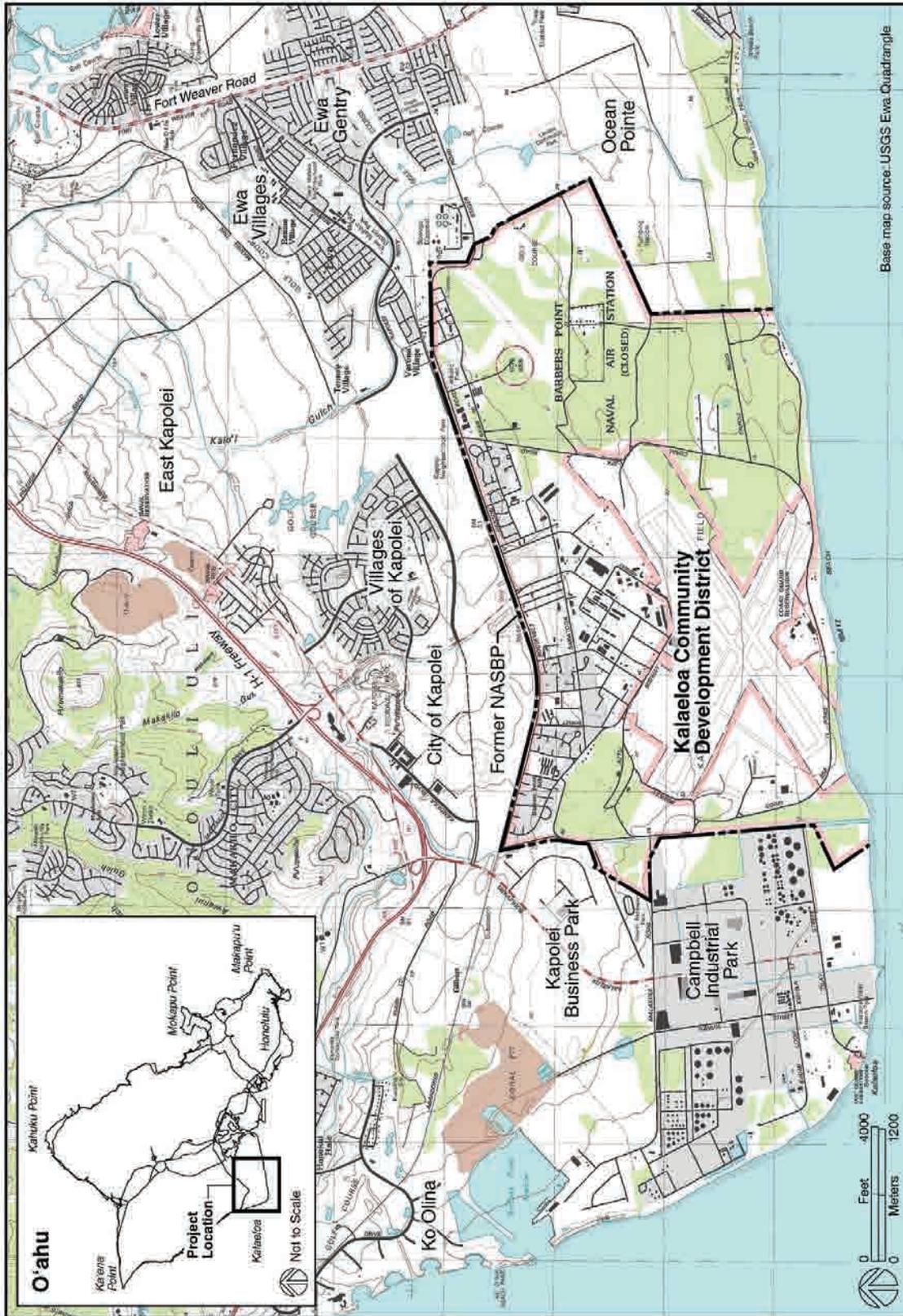
NAS Barbers Point was recommended for closure in 1993 by the Defense Base Closure and Realignment Commission in accordance with the DBCRA of 1990. This recommendation was approved by President Clinton and accepted by the 103rd Congress in 1993.

Also in 1993, the State of Hawai‘i established the Barbers Point NAS Redevelopment Commission as the local redevelopment authority (LRA) for planning the reuse of NAS Barbers Point. The LRA, in accordance with the 1993 BRAC Commission recommendation, was tasked with facilitating the transfer of NAS Barbers Point surplus parcels, and the Commission prepared the *Naval Air Station Barbers Point Community Redevelopment Plan* (hereafter referred to as the 1997 Reuse Plan) (Helber, Hastert & Fee, Planners 1997). Based on this 1997 Reuse Plan, the Navy initiated the NEPA process and prepared a FEIS for the disposal and reuse of NAS Barbers Point. The FEIS was completed in February 1999 and a ROD was published in the *Federal Register* on June 30, 1999 (Volume 64, Number 125). The station was closed on July 2, 1999.

Since 1999, the Navy has disposed of approximately 1,900 acres (769 hectares) of NAS Barbers Point property including:

- Public benefit conveyance: 804 acres (325 hectares) to schools (e.g., Barbers Point Elementary School), homeless assistance, and the Kalaeloa Airport (former NAS Barbers Point airfield);
- Special legislation: 556 acres (225 hectares) to Department of Hawaiian Home Lands (DHHL) and 87 acres (35 hectares) to HCDA;
- Negotiated sale: 197 acres (80 hectares) for roadways and drainage channels (State of Hawai‘i); and
- Fed-to-fed transfers: 256 acres (104 hectares) to U.S. Fish and Wildlife Service (USFWS), Federal Aviation Administration (FAA), U.S. Coast Guard, U.S. Postal Service, and the Hawai‘i National Guard.

Following the 1999 Navy NEPA decision, in June 2002, the State of Hawai‘i Legislature enacted a law (Senate Bill 2702 [becoming Act 184]) which transferred redevelopment responsibility from the Barbers Point Naval Air Station Redevelopment Commission to the HCDA. Pursuant to Act 184, HCDA assumed the responsibility for implementation of the Community Redevelopment Plan, overseeing remaining conveyances, contract administration, promulgation of administrative rules, and other responsibilities. HCDA has the authority to establish the land



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Figure 1-1: Project Site, NAS Barbers Point, O'ahu, Hawai'i

1 use and zoning to facilitate redevelopment activities. Act 184 also expanded the designation of
2 the Kalaeloa Community Development District to encompass all of the land within the former
3 NAS Barbers Point, including land retained by the Navy and land conveyed to other Federal
4 agencies.

5
6 In March 2005, the HCDA completed a draft *Kalaeloa Strategic Plan* (HCDA 2005) and
7 meetings and workshops were held with government officials, stakeholders and the community
8 to receive input. HCDA integrated the comments received, and in May 2005, the HCDA
9 formally adopted the *Kalaeloa Strategic Plan* (HCDA 2005). In 2006, the HCDA amended the
10 1997 Reuse Plan with the adoption of the KMP (HCDA 2006). This amendment resulted in a
11 change for one parcel (i.e., Lot 13074-D) that had not yet been disposed by the Navy (see Table
12 1-1).

13
14 In addition, since the publication of the ROD in 1999, the proposed fed-to-fed transfer of Lot
15 13058-B, Lot 13058-D, Lot 13058-G, Lot 13058-F, and Lot 13073-A did not occur and they
16 became available for disposal by the Navy and reuse by the local community. Importantly, these
17 parcels were not assessed in the 1999 FEIS because they were to be conveyed to other federal
18 agencies via a fed-to-fed transfer. No NEPA analysis was completed for their disposal and reuse.

19
20 The Navy has prepared this EA to supplement the 1999 FEIS. The supplement is required due to
21 changes that have occurred since the 1999 ROD, including the availability of five new parcels
22 (i.e., Lot 13058-B, Lot 13058-G, Lot 13058-D, Lot 13058-F, and Lot 13073-A) and a change in
23 the proposed land use for a portion of Lot 13074-D. The “project area” examined in this EA
24 includes these six parcels, which encompasses approximately 388 acres (157 hectares) located
25 within the former NAS Barbers Point property. The six parcels are identified in Table 1-1 and
26 illustrated in Figure 1-2. The individual parcels are also illustrated in Figures 1-3 through 1-8.
27

Table 1-1: Project Area Parcels, NAS Barbers Point, O’ahu , Hawai’i

Project Area	Land Area (acres/hectares)	1997 Reuse Plan Proposed Land Use	Included in 1999 FEIS Analysis	2006 Kalaeloa Master Plan Proposed Land Use (acres/hectares)
Lot 13058-B (Triangle)	5.6/2.3	Fed-to-fed transfer	No	Eco-Industrial (Open Space Overlay) (5.6/2.3)
Lot 13058-D (Northern Trap and Skeet Range)	145.8/59.0	Fed-to-fed transfer	No	Open Space/Recreation (131.1/53.1) Mixed-Use (Moderate Intensity) (14.7/6.0)
Lot 13058-G (Southern Trap and Skeet Range)	57.9/23.4	Fed-to-fed transfer	No	Open Space/Recreation (43.9/17.8) Mixed-Use (Moderate Intensity) (1.3/0.5) Institutional (Cultural Center) (12.7/5.1)
Lot 13058-F (Ordy Pond)	9.3/3.7	Fed-to-fed transfer	No	Open Space/Recreation (9.3/3.8)
Lot 13073-A (Airport Wetland)	45.6/18.5	Fed-to-fed transfer	No	Open Space/Recreation (22.2/9.0) Airport/Navigation (23.4/9.5)
Lot 13074-D (Beach Area)	124.2/50.3	Park	Yes	Open Space/Recreation (70.0/28.3) Institutional (Cultural Center) (23.3/9.4) Foreshore Protection (31.0/12.5)
TOTAL	388.4/157.2	-	-	

1
2 **1.3 THE NEPA PROCESS AND PUBLIC INVOLVEMENT**

3 Base realignment and closure (BRAC) disposal actions are subject to compliance with NEPA.
4 NEPA establishes an environmental review process for actions undertaken by federal agencies.
5 The review process is intended to help public officials make decisions that are based on an
6 understanding of the environmental consequences and to take actions that protect, restore, and
7 enhance the environment (40 CFR Section 1500.1). In accordance with NEPA, the Navy
8 prepared this EA for the disposal of surplus Navy property at NAS Barbers Point. Before
9 disposing of any real property, the Navy must analyze the effects of the disposal and reuse of the
10 property.

11
12 The NEPA process recognizes the importance of public involvement in the agency decision-
13 making process. In accordance with CEQ NEPA regulations (40 CFR Section 1506.6, Public
14 Involvement), this draft EA has been made available to agencies, applicants, and the public for a
15 30-day comment period. This review period provides, to the extent practicable, the opportunity
16 for the public to be involved in the preparation of this assessment.

17
18 A Notice of Availability (NOA) of this Draft EA was prepared and mailed to interested parties.
19 The NOA was also published in a local newspaper and posted to the Navy Base Realignment
20 and Closure Program Management Office (BRAC PMO) web site
21 (<http://www.bracpmo.navy.mil>). Copies of the draft EA were made available in hard- and
22 electronic-copy and posted to the BRAC PMO Web site.

23
24 **1.4 SCOPE OF THIS ENVIRONMENTAL ASSESSMENT**

25 This EA provides an analysis to supplement the 1999 FEIS and evaluates the potential direct,
26 indirect, short-term, and long-term impacts on the human and natural environment resulting from
27 the disposal and subsequent reuse of remaining surplus property at NAS Barbers Point. The EA
28 documents the Navy's compliance with the requirements of NEPA, as amended; the CEQ
29 regulations implementing NEPA (40 CFR Sections 1500-1508); and Navy procedures for
30 implementing NEPA (32 CFR Part 775).

31
32 Resource areas examined in this EA and potentially impacted include geology, topography, and
33 soils; groundwater; surface water; air quality; noise; visual resources; transportation; land use;
34 biological resources; cultural resources; public health and safety; public services; socioeconomic
35 environment; and infrastructure. The EA also addresses potential cumulative impacts that may
36 result from reasonably foreseeable projects in the region, including other disposal or realignment
37 actions. The analysis of potential impacts is based on the full build-out of the KMP (HCDA
38 2006).

39
40 The information and data used in the preparation of this EA were obtained by reviewing existing
41 documents and studies, including literature, maps, and planning documents; conversations and
42 coordination with local, state, and federal stakeholders, officials, and public; and fieldwork. In
43 addition, this EA incorporates the 1999 FEIS by reference.
44

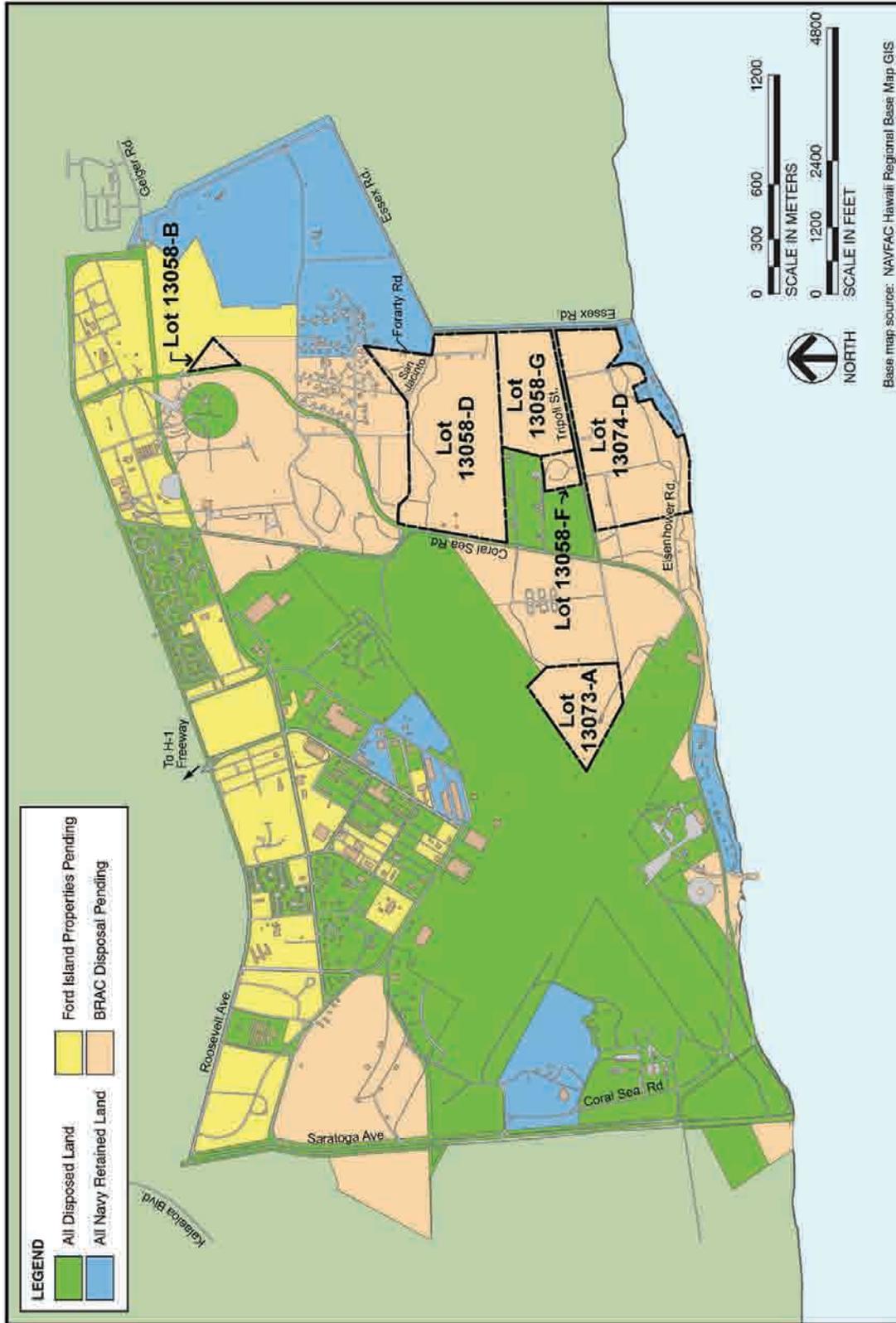
1.5 REGULATORY OVERVIEW

The Navy intends to dispose of the remaining surplus property at NAS Barbers Point. Disposal of the property is the responsibility of the Navy (i.e., federal action). The HCDA is responsible for implementing the KMP (HCDA 2006) following disposal. The future developer or owner of the property will be responsible for acquiring any applicable building permits, zoning approvals, and environmental permits for development of the property.

In addressing environmental consequences, the Navy is guided by relevant statutes (and their implementing regulations) and by Executive Orders that establish standards and provide guidance on environmental and natural resources management and planning (see Table 1-2).

Table 1-2: Applicable Regulatory Requirements

Regulation	Agency	Regulated Activity
National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 <i>et. sequitor (seq.)</i>	Navy	Federal action
National Historic Preservation Act (NHPA) of 1966 as amended (16 U.S.C. § 470 and amendments)	Advisory Council on Historic Preservation, State Historic Preservation Office (SHPO)	Federal undertakings that affect properties listed on or determined to be eligible for listing on the National Register of Historic Places (NRHP)
Endangered Species Act (ESA), 16 U.S.C. § 1531-1544	USFWS, National Marine Fisheries Service	Federal action potentially impacting threatened and endangered species
Coastal Zone Management Act (CZMA), 16 U.S.C. § 1451-1464	State of Hawai'i, Department of Business, Economic Development, and Tourism (DBEDT), Office of Planning	Actions by the federal or state agencies that may affect coastal resources



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Figure 1-2: Project Area, NAS Barbers Point, O'ahu, Hawai'i

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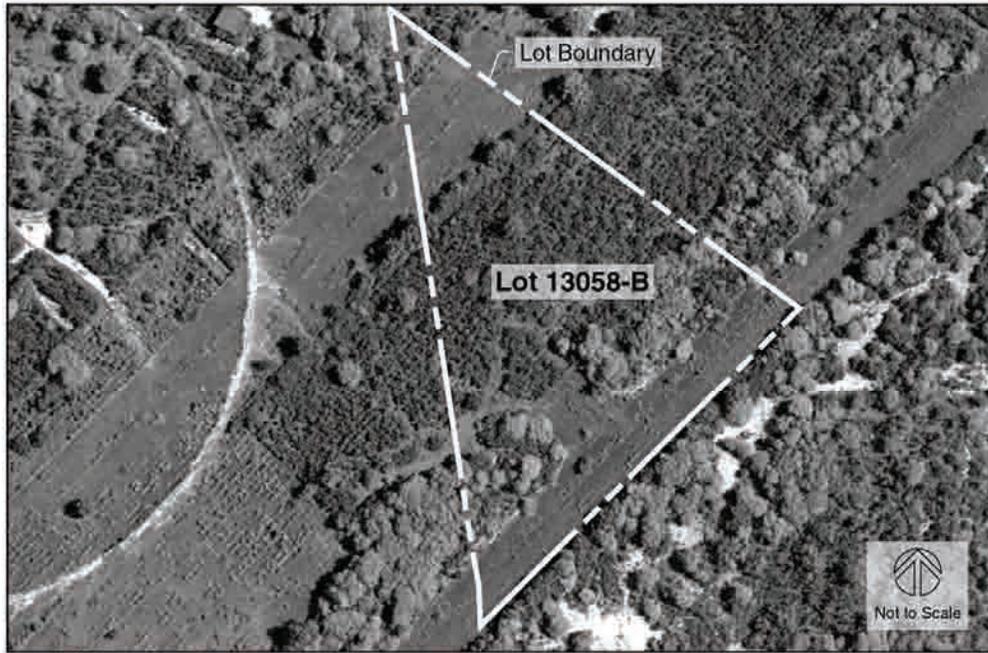
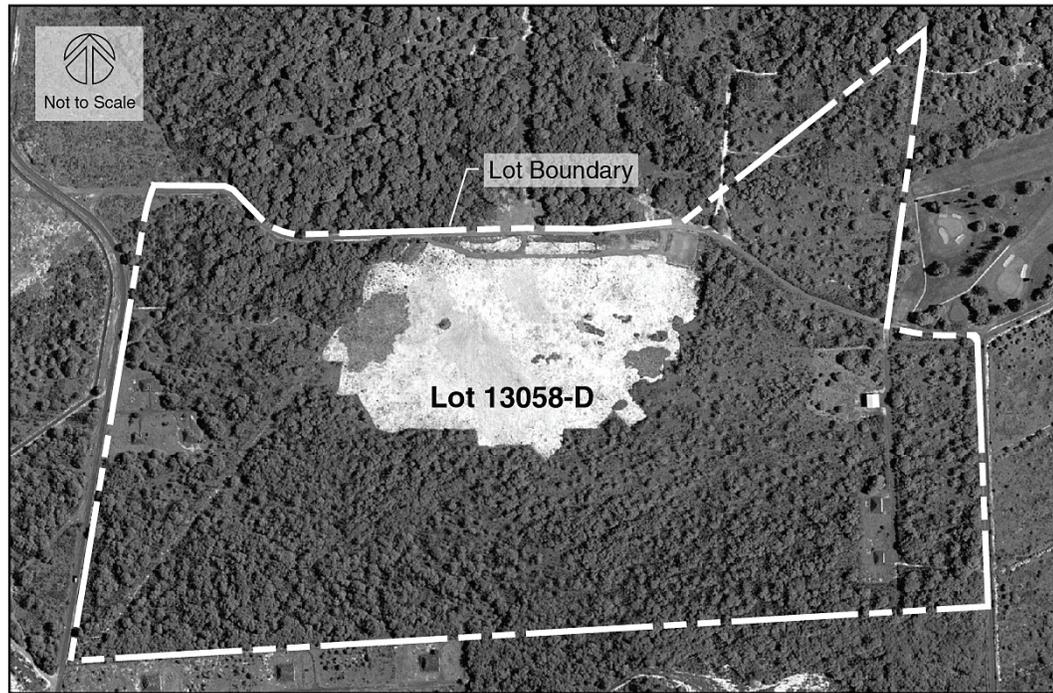


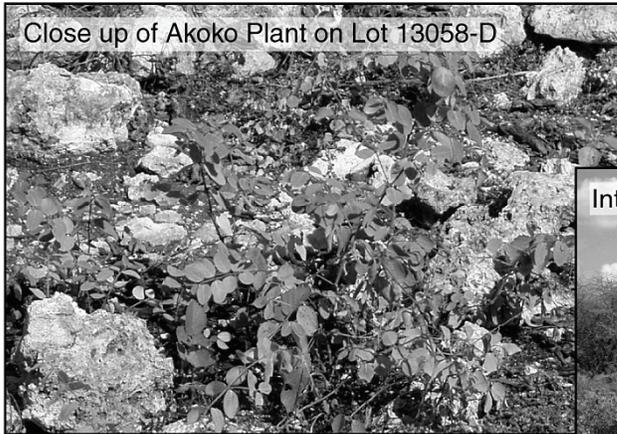
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Figure 1-3: Lot 13058-B, NAS Barbers Point, O'ahu, Hawai'i



Source: Boundary NAVFAC GIS 2006. Photo NGA 2006.



Close up of Akoko Plant on Lot 13058-D

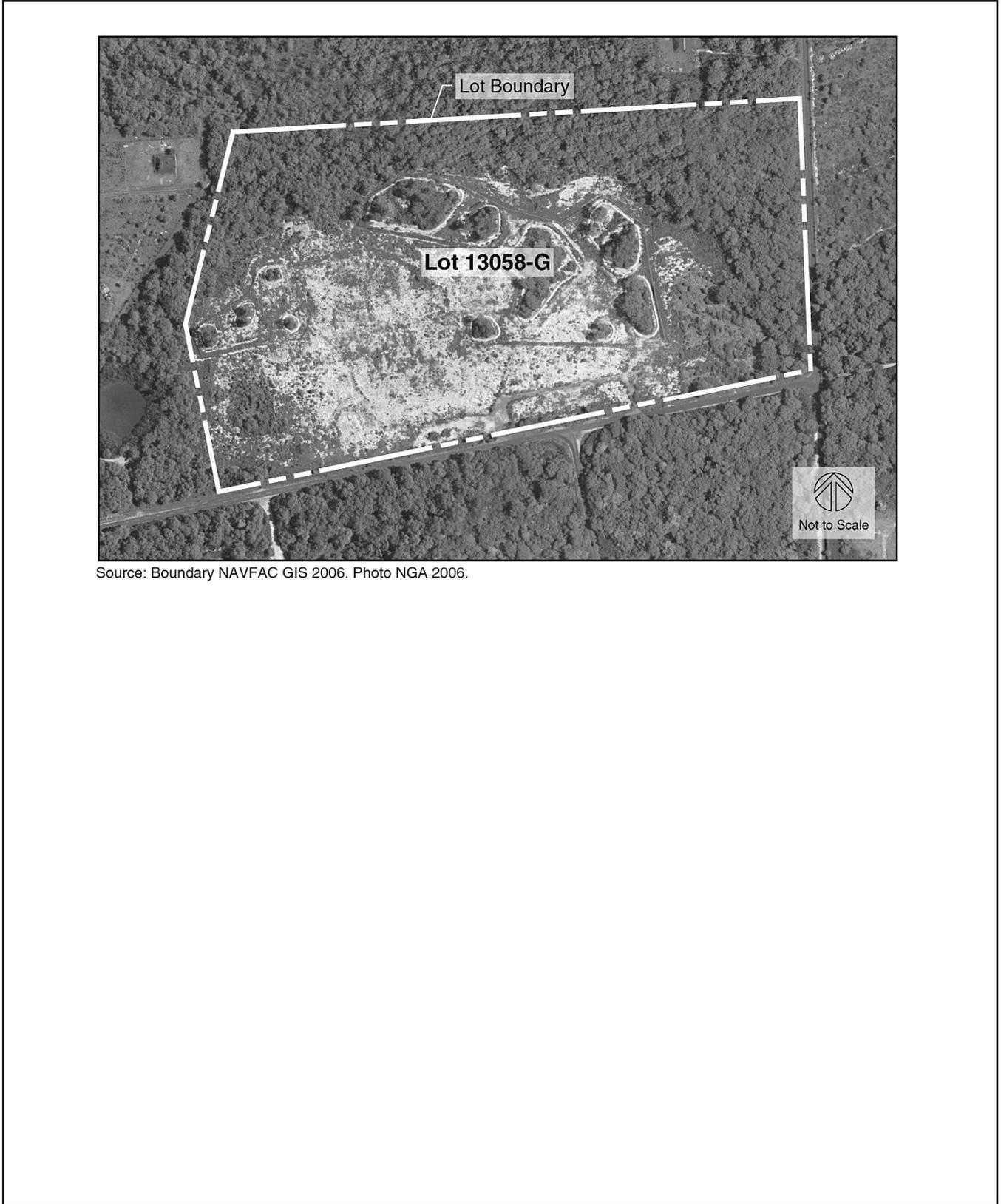
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Interior of Lot 13058-D

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Figure 1-4: Lot 13058-D, NAS Barbers Point, O'ahu, Hawai'i



Source: Boundary NAVFAC GIS 2006. Photo NGA 2006.

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Figure 1-5: Lot 13058-G, NAS Barbers Point, O'ahu, Hawai'i

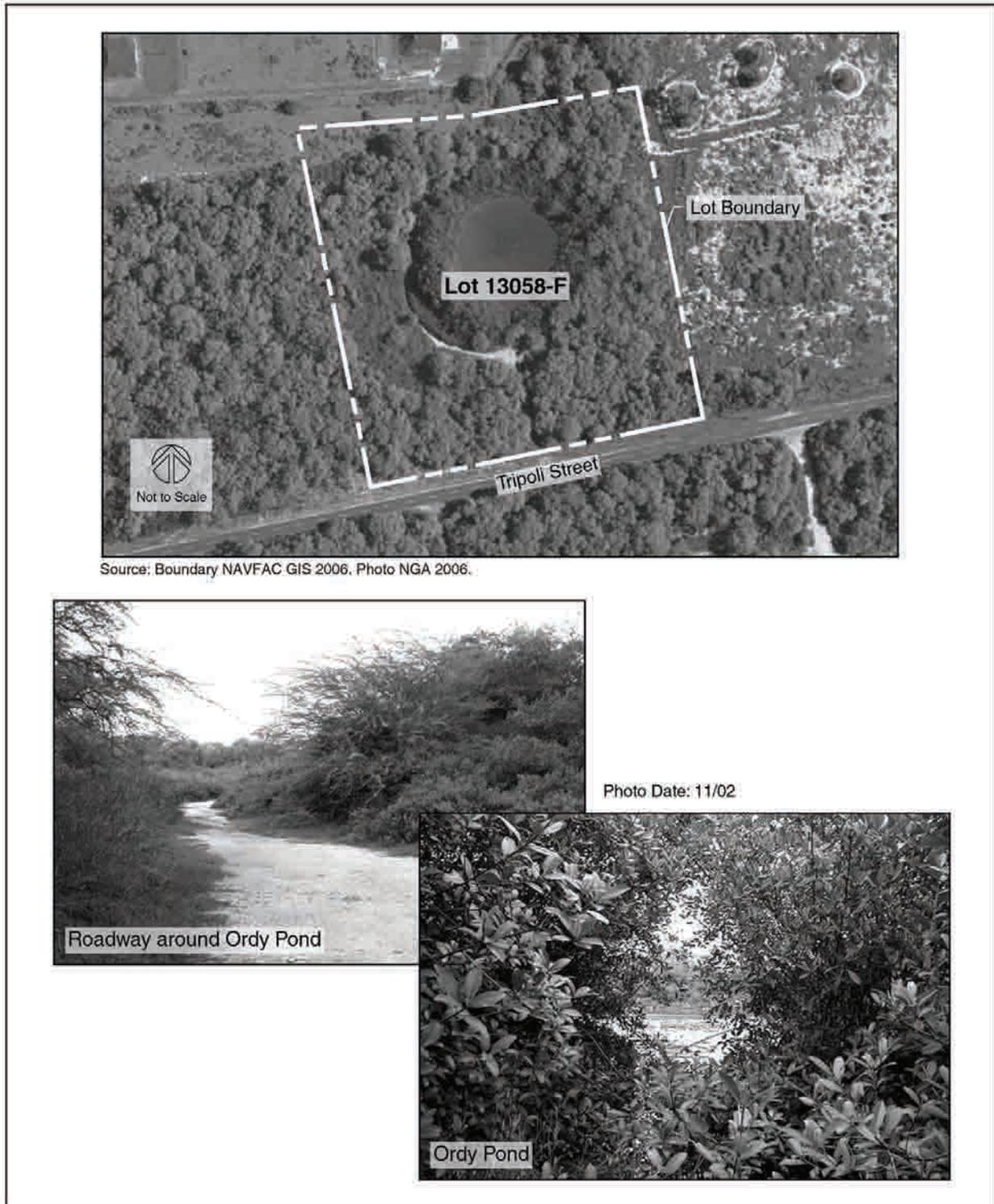
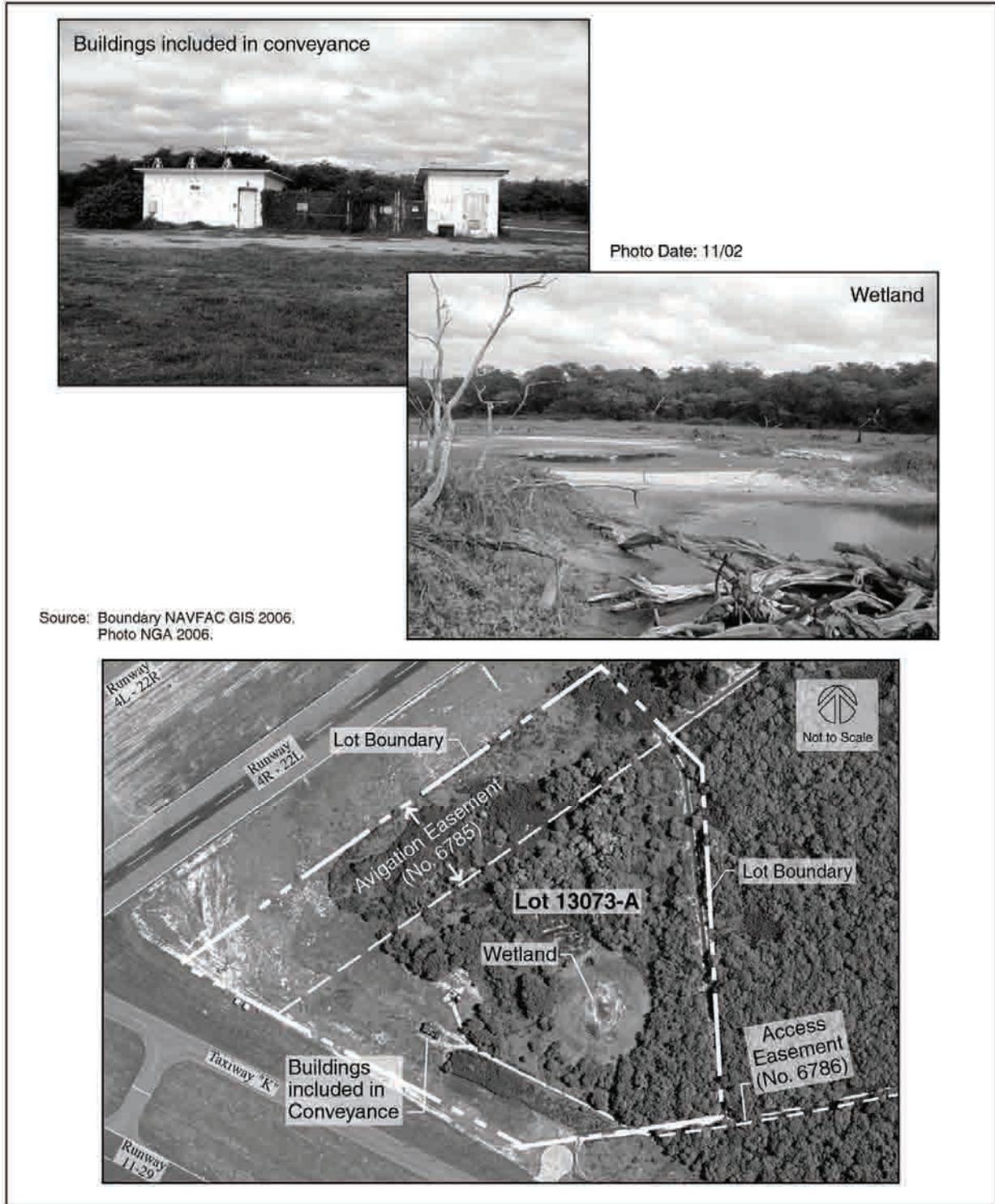


Figure 1-6: Lot 13058-F, NAS Barbers Point, O'ahu, Hawai'i

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Source: Boundary NAVFAC GIS 2006,
Photo NGA 2006.

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Figure 1-7: Lot 13073-A, NAS Barbers Point, O'ahu, Hawai'i

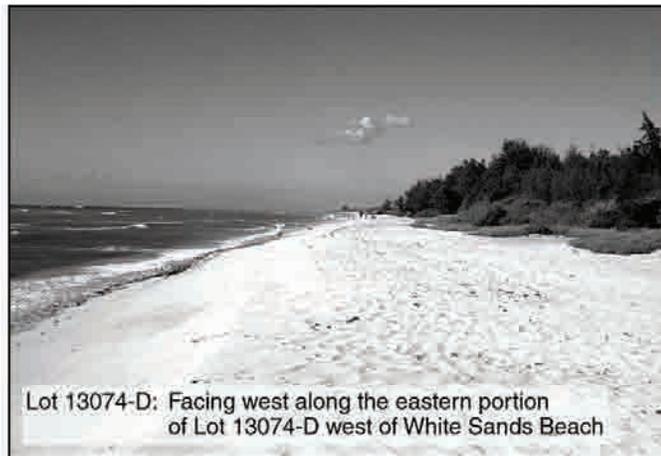


Photo Date: 1/08



Source: Boundary NAVFAC GIS 2006. Photo NGA 2006.

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Figure 1-8: Lot 13074-D, NAS Barbers Point, O'ahu, Hawai'i

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2. ALTERNATIVES, INCLUDING THE PROPOSED ACTION

This chapter provides a detailed description of the Proposed Action and alternatives. A comparison of the environmental impacts of the Proposed Action (preferred alternative) and No Action Alternative is presented at the end of this chapter in Table 2-3.

2.1 IDENTIFICATION OF ALTERNATIVES

To identify alternatives, the Navy rigorously explored and objectively considered other potentially reasonable alternatives to the Proposed Action (e.g., alternative land uses, development scenarios, etc.). The Proposed Action is the disposal of the property by the Navy, as required by the DBCRA of 1990, Public Law 101-510, 10 U.S.C. Section 2687, note, and its subsequent reuse by the community. The reuse of the property is the responsibility of the local community, in this case the HCDA, as directed by the State of Hawai'i Senate Bill 2702 (Act 184). The community reuse plan is codified in the KMP (HCDA 2006), which is the State-approved reuse plan for the larger NAS Barbers Point property, including the project area examined in this EA.

This EA augments and incorporates by reference the alternatives assessed in the 1999 FEIS. The alternatives considered in the 1999 FEIS remain unchanged in this supplemental EA and therefore, will not be re-iterated in detail herein. In summary, the action alternatives in the FEIS included the State-Preferred Alternative (the Preferred Alternative), Large Airport Alternative, Small Airport Alternative, and No Airport Alternative. The FEIS also considered a No-Action Alternative. The 1999 FEIS Preferred Alternative assumed development of the subject lots for open space, parks or recreation (Lots 13058-B, 13058-D, 13058-F, 13058-G, 13073-A, and 13074-D). The No Action Alternative would preserve the status quo on the surplus land (retain land and any on-site Navy utilities). The June 17, 1999 ROD concluded that the Navy would dispose of the property in a manner consistent with the State of Hawai'i's Redevelopment Plan (i.e., the Preferred Alternative).

The alternatives considered in this EA, which supplements the alternatives assessed in the 1999 FEIS, include the Proposed Action (i.e., KMP) and the No Action Alternative. Other reuse alternatives, including other development scenarios for the project area, were eliminated from consideration because they were not considered feasible or reasonable, given the purpose and need of the Proposed Action, authority of the HCDA to plan and manage future development, and the existence of the State-approved and publically developed KMP (HCDA 2006). The alternatives examined in this EA are described in detail below.

2.2 DESCRIPTION OF ALTERNATIVES

2.1.1 Proposed Action (Preferred Alternative)

The Proposed Action is the disposal of remaining surplus Navy property at NAS Barbers Point and its subsequent reuse. Specifically, this action calls for the disposal of six parcels encompassing approximately 388 acres (157 hectares) by the Navy and its subsequent reuse by the HCDA in a manner consistent with the KMP (HCDA 2006). This alternative has been identified as the preferred alternative by the Navy. This alternative is based upon the KMP and would be comprised of, depending on the individual parcel, mixed-use (moderate intensity),

1 open space/recreation, eco-industrial, institutional (school/cultural center), and airport/navigation
2 land uses.

3
4 The land use plan for the Proposed Action is mostly comprised of open space and recreational
5 land uses, approximately 79.2-percent (or 307.5 acres/124.5 hectares) of the total project area
6 (Table 2-2). The remaining, and smaller, portion of the project area would be redeveloped to
7 include eco-industrial, mixed-use (moderate intensity), and institutional (cultural center) land
8 uses. These new land uses would include new development and comprise only 14.8-percent (or
9 57.6 acres/23.3 hectares) of the total project area. In addition, approximately 6.0-percent (or 23.4
10 acres/9.5 hectares) of the project area would continue to be used for airport uses (i.e., airport
11 runway buffer area). This airport use would remain unchanged from current conditions. At this
12 time specific redevelopment plans for the project area have not been developed. The proposed
13 development type for each of the six parcels is identified in Table 2-1 and illustrated in Figure 2-
14 1. A description of each of each of the proposed land uses follows. A summary of the various
15 proposed land uses is included in Table 2-2 and a description of each land use type follows.
16

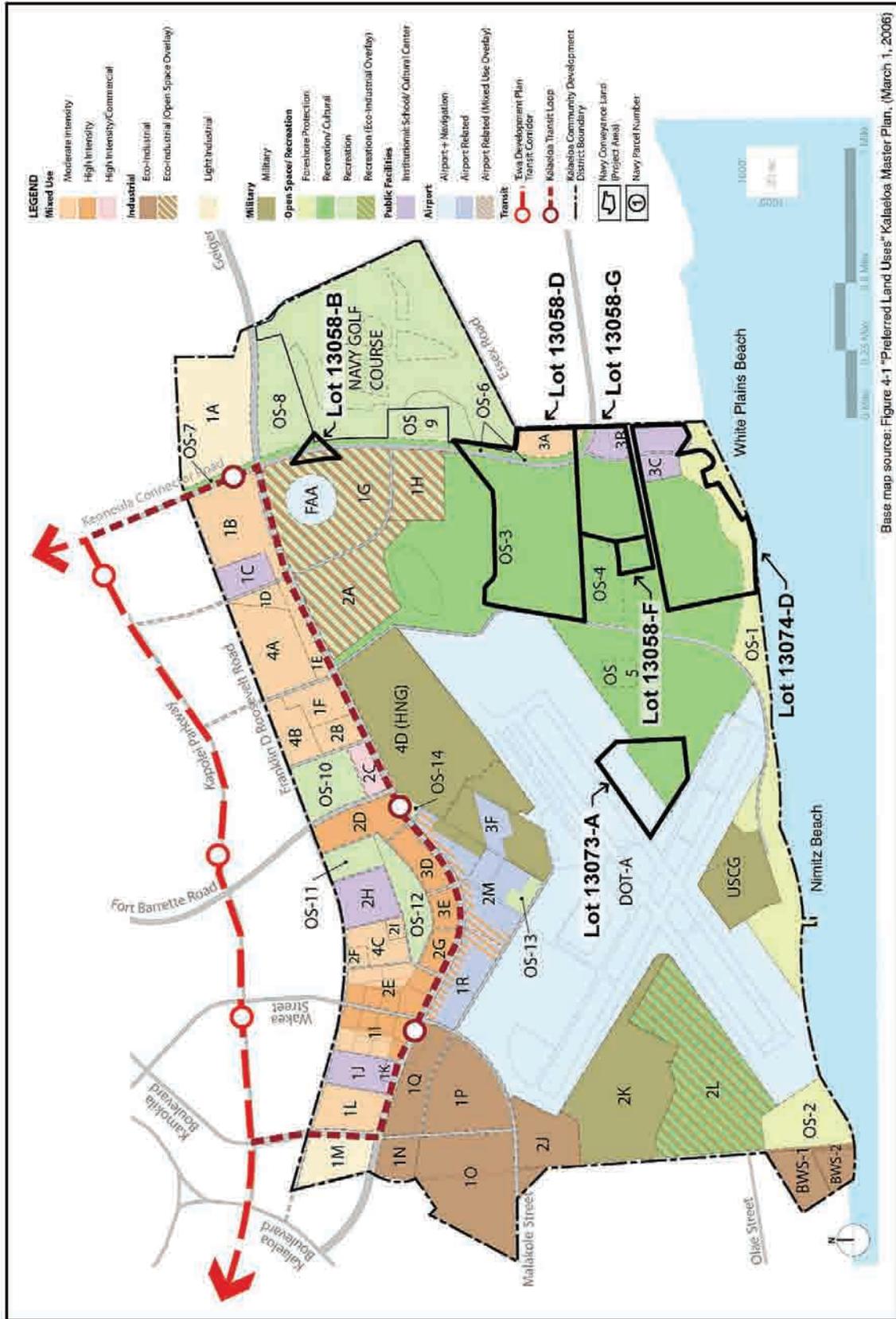
Table 2-1: Project Area Land Use, NAS Barbers Point, O’ahu , Hawai’i

Project Area	Land Area (acres/hectares)	Proposed Land Use (acres/hectares)
Lot 13058-B (Triangle)	5.6/2.3	Eco-Industrial (Open Space Overlay) (5.6/2.3)
Lot 13058-D (Northern Trap and Skeet Range)	145.8/59.0	Open Space/Recreation (131.1/53.1) Mixed-Use (Moderate Intensity) (14.7/6.0)
Lot 13058-G (Southern Trap and Skeet Range)	57.9/23.4	Open Space/Recreation (43.9/17.8) Mixed-Use (Moderate Intensity) (1.3/0.5) Institutional (Cultural Center) (12.7/5.1)
Lot 13058-F (Ordy Pond)	9.3/3.7	Open Space/Recreation (9.3/3.8)
Lot 13073-A (Airport Wetland)	45.6/18.5	Open Space/Recreation (22.2/9.0) Airport/Navigation (23.4/9.5)
Lot 13074-D (Beach Area)	124.2/50.2	Open Space/Recreation (70.0/28.3) Institutional (Cultural Center) (23.3/9.4) Foreshore Protection (31.0/12.5)
TOTAL	388.4/ 157.2	

Table 2-2: Summary of Proposed Land Use, NAS Barbers Point, O’ahu , Hawai’i

Proposed KMP Land Use	Total Acres/Hectares	Percentage
Eco-Industrial (Open Space Overlay)	5.6/2.3	1.4%
Mixed-use (Moderate Intensity)	16.0/6.5	4.1%
Institutional (Cultural Center)	36.0/14.5	9.3%
Airport/Navigation	23.4/9.5	6.0%
Open Space/Recreation	276.5/112.0	71.2%
Foreshore Protection	31.0/12.5	8.0%
TOTAL	388.5/ 157.3	100%

17
18 **Eco-Industrial (Open Space Overlay).** Lot 13058-B (approximately 5.6 acres/2.3 hectares) is
19 identified as being included within the KMP’s larger Parcel 1G planning area. This land use
20 could include environmentally compatible industries such as solar or hybrid energy generation,
21 bio-filtration, or other such technologies. These industries require large land areas and would be
22



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Figure 2-1: Proposed Action, NAS Barbers Point, O’ahu, Hawai’i

1 located within the airport's accident potential zones where height restrictions limit development.
2 In addition, the KMP identifies this lot as an 'Open Space Overlay' area, which could be utilized
3 as a regional park. This parcel is currently planned for a public benefit conveyance to the City
4 and County of Honolulu for use as a park. No specific site plans have been developed at this
5 time.
6

7 **Mixed-Use (Moderate Intensity).** The eastern portion of Lot 13058-D and the northeast corner
8 of Lot 13058-G (combined total of 16.0 acres/6.5 hectares) is located within the KMP's Parcel
9 3A planning area, which is designated for mixed-use (moderate intensity) development. This
10 area could include mixed use development, which could include commercial uses on the ground
11 level and residential attached units located on the second and higher levels. No specific site plans
12 have been developed at this time.
13

14 **Institutional (Cultural Center).** The eastern portion of Lot 13058-G and the northeast corner of
15 Lot 13074-D (total 36.0 acres/14.6 hectares) is comprised of land area dedicated for institutional
16 land uses. This land is located within the KMP's Parcel 3B and 3C planning area. This area has
17 been designated for future institutional, public use, and civic facilities. Specifically, a Hawaiian
18 Cultural Center has been proposed to be developed within this planning area. No specific site
19 plans have been developed at this time.
20

21 **Airport/Navigation.** A portion of Lot 13073-A (23.4 acres/9.5 hectares) is located adjacent to
22 the existing airfield and is designated by the KMP for continued airport related land use. This
23 area and the remaining undeveloped area would be utilized as an airfield buffer area.
24

25 **Open Space/Recreation.** The majority (approximately 276.5 acres/111.9 hectares) of the project
26 area would be comprised of open space and recreational land uses and is located within the
27 KMP's Parcel OS-3 planning area. This land area would be comprised of mostly passive open
28 space land uses and preserve/cultural park space. These parcels contain a relatively high density
29 of cultural and archaeological sites (HCDA 2006).
30

31 **Foreshore Protection.** A portion of Lot 13074-D (31.0 acres/12.4 hectares) is located within the
32 KMP's Parcel OS-1 planning area. This area is proposed to be utilized as a natural area preserve.
33

34 Implementation of the entire KMP, including the six parcels examined in this EA, is projected to
35 occur in three overlapping phases of approximately seven years each through 2025 (2007-2015,
36 2012 - 2020, and 2015 - 2025). A fourth phase, "beyond 2025," is identified to acknowledge
37 unforeseeable conditions that may arise during the initial three phases.
38

39 At this time no specific development or construction plans for the project area parcels have been
40 prepared. Following disposal, redevelopment of the project area would be completed as part of
41 the larger NAS Barbers Point redevelopment effort. All future development would be
42 implemented in a manner consistent with the KMP (HCDA 2006) and would be the
43 responsibility of the HCDA, future developer, or property owner. For a more detailed description
44 of the Proposed Action, refer to the KMP.
45

1 **2.3 NO ACTION ALTERNATIVE**

2 The No Action Alternative is the retention of the six surplus parcels (i.e., Lot 13058-B, Lot
3 13058-G, Lot 13058-D, Lot 13058-F, Lot 13073-A, and Lot 13074-D) by the U.S. government in
4 caretaker status. Under this alternative, no construction or redevelopment of surplus property
5 would take place. The No Action Alternative is evaluated in detail in this EA as prescribed by
6 CEQ regulations.

7
8 **2.4 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION AND OTHER**
9 **ALTERNATIVES**

10 Table 2-3 presents a comparison of the environmental consequences of the Proposed Action and
11 the No Action Alternative.

Table 2-3: Comparison of Alternatives

Resource Area	Proposed Action	No Action Alternative
Geology, Topography, and Soils	No significant impact.	No significant impact.
Groundwater and Surface Water	No significant impact. Lot 13058-F and Lot 13073-A contain surface waters and/or wetlands, and a portion of Lot 13074-D abuts the ocean. Under the Proposed Action, the land areas of the parcels containing surface waters is not expected to significantly change from existing conditions and no impact on existing surface waters or wetlands is expected.	No significant impact.
Air Quality	No significant long-term, operational period air quality impacts would be expected from the Proposed Action. Any new air emission sources will be required to comply with federal and State air emissions standards and any applicable regulatory permit approvals.	No significant impact.
Noise	The Proposed Action would not be expected to result in significant construction, vehicle, or operational noise impacts.	No significant impact.
Visual Resources	No significant impact.	No significant impact.
Transportation	The type and scale of development proposed would be expected to result in an insignificant increase in traffic and would not be expected to adversely impact the existing, adjacent or regional, transportation system.	No significant impact.
Land Use	Full build-out of the Proposed Action would not significantly change the existing land use or impact surrounding land use conditions.	No significant impact.
Terrestrial Flora	The Navy has determined that the disposal and reuse of Lot 13058-D would not affect the federally-listed endangered 'akoko plant (<i>Chamaesyce skottsbergii</i> var. <i>kalaeloana</i>). Transfer of legal title of the property by the Navy to HCDA does not, in itself, affect the 'akoko. To ensure that subsequent reuse by HCDA or its successors is appropriately	No significant impact.

Table 2-3: Comparison of Alternatives

Resource Area	Proposed Action	No Action Alternative
	<p>analyzed and that such reuse will conserve the 'akoko, the Navy will require that a conservation and management plan approved by Hawai'i DLNR be in place prior to conveyance of the parcel. The State will have the ability to enforce appropriate State laws and regulations governing actions involving listed species and to ensure that the plant will be protected. Further, the Navy will attach to the title transfer document a restrictive covenant binding on the Grantee and all subsequent land owners. The restrictive covenant will place land use controls on the property for the conservation and protection of the 'akoko.</p> <p>Further, the HCDA has been working with DLNR and the USFWS on a draft conservation agreement to ensure protection of 'akoko on the parcel. HCDA plans to use a portion of revenue generated by commercial use of HCDA property to fund conservation actions required by their 'akoko conservation and management plan</p> <p>The implementation of Proposed Action would not be expected to result in a significant adverse impact to other flora resources.</p>	
Terrestrial Fauna	<p>As identified in Section 3.2.2, the federally-listed endangered Hawaiian stilt (<i>Himantopus mexicanus knudseni</i>) have been previously observed within Lot 13058-F and Lot 13073-A. However, no recorded observations of the stilt at Lot 13058-F have occurred since 1993 and the lot (specifically Ordy Pond) no longer provides stilt habitat. The stilt occasionally feed and nest, during the seasonal winter rains, on the mudflats associated with the wetland</p>	No significant impact.

Table 2-3: Comparison of Alternatives

Resource Area	Proposed Action	No Action Alternative
Cultural Resources	<p>portion of Lot 13073-A. Under the Proposed Action, both lots have been identified for recreational/open space uses. The lots would remain undeveloped and no change from existing conditions would be expected.</p> <p>The Proposed Action is not likely to adversely affect any federally listed or proposed species, including the black-necked stilt, or proposed or designated critical habitat.</p> <p>The Navy has determined that the transfer of Lot 13058-D, 13058-F, 13058-G, 13073-A, and 13074-D, with conditions, would have no effect on historic properties. Consultations between the Navy and the Hawai'i SHPO regarding these properties were completed between 1998 and 2003. SHPO concurred with the Navy's "no adverse effect" determination for the proposed disposal provided that the Navy provides protective covenants to ensure the preservation and appropriate treatment of historic properties.</p> <p>Lot 13058-B contains a portion of Site 5127, the former 1941 MCAS 'Ewa, which the Navy has determined eligible for listing in the NRHP. Site 5127 was first identified as eligible in the consultation for the 'potential land transfer of Navy retained properties at the former MCAS 'Ewa. In 2008, Commander Navy Region Hawaii expanded the boundaries of Site 5127 to include the 1941 airfield and support area and the 1941 airfield (runway). There are no buildings or other historic properties on Lot 13058-B. In consideration of the above, the Navy has determined a finding of "no adverse effect" for the proposed transfer of Lot 13058-B. SHPO in a letter dated April 20, 2010,</p>	No significant impact.

Table 2-3: Comparison of Alternatives

Resource Area	Proposed Action	No Action Alternative
Hazardous and Regulated Materials	<p>concluded with the Navy's conditional "no effect" determination.</p> <p>There would be no hazard to the public or the environment, no reasonably foreseeable environmental impacts, or significant environmental impacts as a result of releases of hazardous substances, pollutants, or contaminants during development or operation of the Proposed Action at the project area that have been addressed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).</p>	No significant impact.
Public Services	No significant impact.	No significant impact.
Socioeconomics	No significant impact.	No significant impact.
Infrastructure	No significant impact.	No significant impact.

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3. AFFECTED ENVIRONMENT

This chapter summarizes the existing environment for each relevant human and natural environmental resource potentially impacted by the Proposed Action. The study area examined includes the project area, the larger NAS Barbers Point property, and where applicable, the City and County of Honolulu, the island of O‘ahu , and the State of Hawai‘i. The resources analyzed in this EA include geology, topography, and soils; groundwater; surface water; air quality; noise; visual resources; transportation; land use; biological resources; cultural resources; public health and safety; public services; socioeconomic environment; and infrastructure. An analysis of the potential impacts on these resources is presented in Chapter 4. The EA also addresses potential cumulative impacts that may result from reasonably foreseeable projects in the region, including other disposal or realignment actions (see Chapter 5).

3.1 PHYSICAL ENVIRONMENT

3.1.1 Geology, Topography, and Soils

Geology. The Hawaiian Islands represent the southernmost portion of the Hawaiian Archipelago, a series of northwest-trending ridges produced by a succession of volcanic eruptions during the Pliocene Epoch. The island of O‘ahu was formed by two shield volcanoes: (1) Wai‘anae Volcano, on the west; and (2) Ko‘olau Volcano, on the east. The Wai‘anae Volcano erupted between 3.9 and 2.5 million years ago and the Ko‘olau Volcano erupted between 2.5 and 1.7 million years ago. The volcanoes are separated by the Schofield Plateau of central O‘ahu which was formed by lavas of the Ko‘olau Range banking against the older Wai‘anae Range. North and south of the Schofield Plateau is O‘ahu 's coastal plain, which is composed of marine and terrigenous sediments deposited when the sea stood at a higher stand.

The Project Area, including the former NAS Barbers Point property, is located within the ‘Ewa Coastal Plain, which is comprised of interbedded coral reef and alluvial volcanic sediments (caprock) overlying the basalt (volcanic rock). The caprock ranges from 50 to 400 feet (15 to 122 meters) thick along the northern boundary of NAS Barbers Point and from 750 to 1,000 feet (229 to 305 meters) thick along the coast. The upper 100 feet (31 meters) of caprock is marine sediment, consisting mainly of coral reef with minor layers of shell fragments and beach sand.

Topography. The topography of the project area is relatively flat. The maximum elevation of the parcels is 40 feet (12 meters) above mean sea level (msl) at Lot 13058-B, sloping gently southward towards the shoreline at Lot 13074-D, with a 0.5 percent average slope. Table 3-1 provides a summary of the topography and physical features at the project area.

1 **Table 3-1: Summary of Topography and Physical Features at the Subject Lots**

Project Area	Elevation Range in feet (meters) above msl	Slope	Comments
Lot 13058-B (Triangle)	40 (12)	Generally flat	Open land
Lot 13058-D (Northern Trap and Skeet Range)	30 (9) to 20 (6)	Gently sloping south	Largely open land with a few structures and pavement
Lot 13058-G (Southern Trap and Skeet Range)	20 (6) to 10 (3)	Gently sloping to the south	Largely open land
Lot 13058-F (Ordy Pond)	less than 10 (3)	Flat with local relief at the wetland	Undeveloped land with mangrove wetland
Lot 13073-A (Airport Wetland)	20 (6) to 10 (3)	Gently sloping to the south	Largely open land with small wetland and a few structures
Lot 13074-D (Beach Area)	15 (4.5) to 0 (0)	Gently sloping to the south	Largely open land with a few structures

2
3 **Soils.** The project area is predominantly underlain by coral outcrop which contains coral or
4 cemented calcareous sand. In a typical profile, coral outcrop makes up about 80 to 90 percent of
5 the acreage with the remaining 10 or 20 percent consisting of a thin layer of friable, red soil
6 material in cracks, crevices, and depressions within the coral outcrop. Lot 13058-B is underlain
7 by fill land – mixed. Fill land – mixed areas are filled with material dredged from the ocean or
8 hauled from nearby areas, and general material from other sources. Beach sand which is
9 comprised of sandy, gravelly, or cobbly areas that are washed and rewashed by ocean waves
10 underlies the near shore portions of Lot 13074-D. Beach sand consists mainly of light-colored
11 sands derived from coral or sea shells (U.S. Department of Agriculture 1972).
12

13 **3.1.2 Groundwater and Surface Waters**

14 **Groundwater**

15 The project area is located within the ‘Ewa aquifer system of the Pearl Harbor Aquifer Sector;
16 however, a small portion of the eastern side of the former NAS Barbers Point property (including
17 portions of Lot 13058-D, Lot 13058-G, and Lot 13074-D) is located within the Waipahu Aquifer
18 System of the Pearl Harbor Aquifer Sector. Both aquifer systems have two aquifers: a deep,
19 basal, confined flank aquifer in the underlying basalt and an overlying shallow, basal,
20 unconfined, sedimentary caprock aquifer (Mink and Lau 1990).
21

22 The deep aquifer of the ‘Ewa Aquifer System is has moderate salinity, is currently used but not
23 for drinking water; it is considered irreplaceable and has a low vulnerability to contamination.
24 The deep aquifer of the Waipahu Aquifer System has low salinity and is currently used for
25 drinking water; it is considered irreplaceable and has a moderate vulnerability to contamination
26 (Mink and Lau 1990).
27

28 Both of the shallow aquifers are caprock, unconfined, sedimentary aquifers. The shallow aquifer
29 of the ‘Ewa Aquifer System is brackish and is not suitable for consumption or irrigation without
30 desalination; it is not considered ecologically important. It is considered replaceable and has a
31 high vulnerability to contamination. In contrast, the shallow aquifer of the Waipahu Aquifer

1 System is ecologically important, and has low salinity. It is considered irreplaceable and has a
2 moderate vulnerability to contamination (Mink and Lau 1990).

3
4 The depth to groundwater at the project area ranges from about 60 feet (18.3 meters) along the
5 northern border of NAS Barbers Point, to zero at the coast. These depths correspond to a seaward
6 gradient of 1 to 2 feet per mile (0.2 to 0.4 meters/kilometers). The alternating layers of marine
7 and alluvial sediments underlying the coral aquifer are likely saturated with saline water
8 hydraulically connected to the ocean. Hydraulic conductivity with the marine layers is high,
9 allowing horizontal movement of groundwater, but less permeable alluvial layers inhibit vertical
10 migration of groundwater within the caprock as a whole (Naval Facilities Engineering Command
11 Pacific [NAVFAC PAC] 1994).

12 13 **Surface Waters**

14 The flat topography of the project area combined with the highly permeable soil and rock, allow
15 storm water runoff to easily infiltrate and collect in man-made detention basins, dry wells,
16 natural sinkholes, or pits for infiltrating into the subsurface. During extreme precipitation events
17 however, storm water typically overflows and sheet-flows into the ocean.

18
19 Executive Order 11990, Protection of Wetlands, directs federal agencies to take action to
20 minimize the destruction, loss, or degradation of wetlands on their properties and mandates the
21 review of the impact of proposed actions on wetlands through NEPA. There are two surface
22 water bodies located within a pond at Lot 13058-F and a wetland within Lot 13073-A. The pond
23 is a brackish water-filled sinkhole with a depth of 22 feet (7 meters). The open water area is
24 approximately 270 feet (82 meters) in diameter and accounts for less than 1 acre (0.4 hectares).
25 Including the surrounding mangrove, it occupies an area of about 3 acres (1.2 hectares). The
26 pond's sediment provides a geologic record of sedimentation and climatic change for the leeward
27 region of the island. The pond was originally hydraulically connected to the ocean, although it is
28 now nearly sealed off from groundwater due to the accumulation of fine sediments. As a result,
29 there is very little tidal fluctuation in the pond.

30
31 The wetland within Lot 13073-A is a small (less than 1 acre [0.4 hectares]), seasonal, wetland
32 (Navy 1997). The wetland is within a salt flat of approximately 2 acres (0.8 hectares), up to 1
33 acre (0.4 hectares) of which seasonally floods to provide open water habitat. When flooded, the
34 depth ranges to, perhaps, 2 feet (0.6 meters). The source of the water is rainwater drainage from
35 the adjacent runways (Sutterfield 2003). A portion of the project area (i.e., Lot 13074-D) borders
36 the Pacific Ocean to the south (see Figure 1-8). The shoreline portions of Lot 13074-D are
37 classified as "marine system, intertidal subsystem". Coastal waters fronting the southern
38 boundary are classified by the State of Hawai'i Department of Health (DOH) as Class A open
39 coastal waters. There are no drainage outfalls or other point sources of discharge on this lot.

40
41 The Flood Insurance Rate Maps (FIRMs) published by the Federal Emergency Management
42 Agency (FEMA 2011) identifies the majority of the project area within Zone D, which denotes
43 areas in which flood hazards are undetermined, but possible. There are no streams or surface
44 water features in or near the subject lots that could cause potential flood hazards. However, near
45 shore portions of Lot 13074-D are located in Zones "A", "AE", and "VE". Zone A corresponds to
46 the 100-year coastal floodplains with no base flood elevation determined. Zone AE correspond

1 to the 100-year floodplains with base flood elevation determined. Zone VE corresponds to the
2 100-year coastal floodplains that have additional hazards associated with storm waves (FEMA
3 2011).

4 5 **3.1.3 Air Quality**

6 The Clean Air Act (CAA) of 1970, 42 USC Section 7401 et seq. amended in 1977 and 1990, is
7 the primary federal statute governing air pollution. The CAA designates six pollutants as criteria
8 pollutants, for which the National Ambient Air Quality Standards (NAAQS) have been
9 promulgated to protect public health and welfare. The six criteria pollutants are particulate matter
10 (PM₁₀ and PM_{2.5}), carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), lead
11 (Pb), and ozone (O₃).

12
13 The DOH is the agency responsible for monitoring air quality on the island of O‘ahu, and has
14 established ambient air quality standards similar to the NAAQS. Based on air quality data
15 collected and published by the DOH, the island of O‘ahu is classified as being in attainment of
16 the federal standards and is not subject to the CAA’s General Conformity Rule.

17
18 There are no significant stationary air emission sources at the project area subject to permitting.
19 Existing mobile sources of emissions, such as motor vehicles that may be operated within the
20 project area, are not likely to substantially degrade local or regional air quality. The neighboring
21 James Campbell Industrial Park is located immediately west of the project area. There are a
22 number of permitted stationary air emission sources within the industrial park including two oil
23 refineries and a cogeneration plant. In addition, the City and County of Honolulu Wastewater
24 Treatment Plant is located northeast of the project area. It is a permitted stationary air emission
25 source.

26 27 **The General Conformity Rule**

28 The 1990 Amendments to Section 176 of the CAA require the U.S. Environmental Protection
29 Agency (EPA) to promulgate rules to ensure that federal actions conform to the appropriate State
30 Implementation Plan (SIP). These rules, known as the General Conformity Rule (40 CFR
31 Sections 51.850-.860 and 40 CFR Sections 93.150-.160), require any federal agency responsible
32 for an action in a nonattainment area or maintenance area to determine that the action conforms
33 to the applicable SIP or that the action is exempt from the General Conformity Rule
34 requirements. This means that federally supported or funded activities will not: (1) cause or
35 contribute to any new air quality standard violations; (2) increase the frequency or severity of
36 any existing standard violation; or (3) delay the timely attainment of any standard, interim
37 emission reduction, or other milestone. In regions that are in attainment for the NAAQS, the
38 General Conformity Rule is not applicable (EPA 2008); however, it is applicable where
39 maintenance areas have been established.

40
41 Only federal actions are potentially subject to Conformity Rule requirements. As mentioned, the
42 project area is classified as being in attainment and the General Conformity Rule is not
43 applicable. Further, since reuse of the property would be completed under private development,
44 the Conformity Rule is not applicable to post-conveyance redevelopment of the project area.
45 General Conformity requirements shall not apply to federal actions that involve the transfer of
46 ownership, interests, and titles in land, facilities, and real and personal properties, regardless of

1 the form or method of transfer (40 CFR 93.153(c)(2)(xiv). A Record of Non-Applicability
 2 (RONA) is included in Appendix A.
 3

4 **3.1.4 Noise**

5 The State of Hawai‘i’s Administrative Rules, Title 11, DOH, Chapter 46 regulates community
 6 noise controls and establishes the maximum equivalent sound levels that may be experienced,
 7 and to provide for the prevention, control, and abatement of noise pollution in the State from
 8 construction, industrial activities, and stationary sources. Table 3-2 presents these noise limits for
 9 the various land use zones in decibels (adjusted) (dBA).
 10

Table 3-2: State of Hawai‘i Maximum Permissible Sound Levels in dBA

Zoning District	Daytime (7 A.M. to 10 P.M.)	Nighttime (10 P.M. to 7 A.M.)
Class A (includes all areas zoned residential, conservation, preservation, public space, open space, and similar land uses)	55	45
Class B (includes lands zoned for multi-family dwellings, apartment, business, commercial, hotel, resort, or similar land uses)	60	50
Class C (includes lands zoned agricultural, country, industrial, or similar land uses)	70	70

Source: State of Hawai‘i, DOH 2011

11
 12 In addition, noise associated with construction activities is not allowed to exceed the maximum
 13 permissible sound levels for the hours before 7 A.M. and after 6 P.M. Monday through Friday;
 14 before 9 A.M. and after 6 P.M. on Saturday; and no noise in excess of the maximum permissible
 15 sound level on Sunday and holidays.
 16

17 Ambient noise levels within the project area are relatively low and are predominantly a function
 18 of the amount of traffic on adjacent roadways and air traffic from Kalaeloa Airport. The project
 19 area parcels are located to the north, south, and east of the Kalaeloa Airport, a 752-acre (304-
 20 hectare) general aviation airport and reliever airfield for the Honolulu International Airport
 21 (HIA). The airport features two parallel runways (4R-22L and 4L-22R) that are 8,000 feet (2,438
 22 meters) and 4,500 feet (1,372 meters) in length respectively, and a crosswind runway (11-29)
 23 that is 6,000 feet (1,829 meters) in length. It has air traffic control functions from 6 A.M. to 10
 24 P.M. daily but is available as an alternate at other times. Users of the airport are the U.S. Coast
 25 Guard, Hawai‘i Community College Flight Program, Hawai‘i National Guard and the general
 26 aviation community. Existing airport operations include flight arrivals, departures, and touch-
 27 and-go operations. In 2007 there were 123,184 air operations (State of Hawai‘i Department of
 28 Transportation 2011).
 29

30 Aircraft operations are the main source of noise within portions of the project area. The KMP
 31 indicates that the area exposed to airport noise contours of 60 Day-Night Sound Level (DNL)² or

² Noise exposure from aircraft is measured using the day-night average sound level metric (DNL). The DNL presents a reliable measure of community sensitivity to aircraft noise. The DNL, expressed in

1 more associated with the flight patterns at Kalaeloa Airport are relatively small and are generally
2 confined to areas identified for airport and aviation-related uses surrounding the airport. Lot
3 13073-A is located adjacent to the Kalaeloa Airport runways, and is part of the airfield. A
4 portion of this parcel is located within designated noise contours ranging from 60 to 75 DNL.
5 The contours are modeled off projected 2004 Kalaeloa Airport operations including HIA
6 landings (HCDA 2006). The remaining project area parcels are located outside of any designated
7 noise contours greater than 60 DNL.
8

9 **3.1.5 Visual Resources**

10 The project area parcels are characterized as generally flat or gently sloping and open, with most
11 having been highly altered by development. Most of Lot 13058-B, Lot 13058-D, Lot 13058-G,
12 and Lot 13073-A are covered with low scrub and/or kiawe, and Lot 130058-F contains a wetland
13 pond with a dense thicket of mangrove. Lot 13074-D is a coastal area with unobstructed views of
14 Mamala Bay and the Pacific Ocean from all but the interior areas of the parcel. It is largely
15 covered with strand vegetation near the shore and low scrub and forest in the inland areas.
16

17 Visual landmarks and significant vistas identified in the 'Ewa Development Plan (City and
18 County of Honolulu 2000) which are relevant to the project area include panoramic views of the
19 distant shoreline from the H-1 Freeway above the 'Ewa Plain, mountain and ocean views, and
20 distant views of central Honolulu and Diamond Head.
21

22 **3.1.6 Transportation**

23 The transportation network surrounding the project area consists of a vehicular road network
24 connecting the former NAS Barbers Point property to the adjacent community and includes
25 Franklin D. Roosevelt Road to the north; Saratoga Street and Kalaeloa Boulevard (State
26 Highway 95) to the west; and Coral Sea Road to the east. Access to the project area and other
27 portions of the former NAS Barbers Point property is comprised of the former air station internal
28 road network (e.g., Midway Street, Saratoga Avenue, Boxer Road). This system of internal roads
29 has previously been transferred from the Navy to the City and County of Honolulu and the State
30 of Hawai'i.
31

32 Existing streets do not meet State of Hawai'i Highway or City and County of Honolulu
33 subdivision standards and would need to be improved to conform to the appropriate standards
34 (HCDA 2006). As part of the implementation of the KMP, existing roadway corridors would be
35 widened and/or realigned. The improvement to appropriate standards would also correct existing
36 deficiencies in pedestrian facilities within the project area.
37

38 A number of non-project transportation improvements are planned in the vicinity of the project
39 area. Most of these projects have been identified and/or confirmed through the O'ahu
40 Metropolitan Planning Organization's (OMPO) *O'ahu Regional Transportation Plan 2030*

decibels, represents the average sound exposure during a 24-hour period and does not represent the sound level for a specific period. The Hawaii Department of Transportation has recommended that the 60 DNL be used as the common level for determining land use compatibility in respect to noise sensitive uses near airports (HCDA 2006).

(OMPO 2006), as well as the *‘Ewa Highway Impact Fee Program* studies and plans.³ A description of foreseeable regional transportation improvements are include in Chapter 5 (Cumulative Impacts).

Public transportation in the area surrounding the project area is provided by the City and County of Honolulu’s ‘The Bus’ system of fixed route, transit hubs, and ‘HandiVan’ special services. A transit hub is located to the north of the project area in Kapolei. The transit hub is connected by TheBus to the transit hub in ‘Ewa, with a limited number of transit stops along Roosevelt Road (HCDA 2006).

3.1.7 Land Use

Existing Land Use

The project area includes six parcels and encompasses approximately 388 acres (157 hectares) located within the former NAS Barbers Point property. The project area parcels are located within the former NAS Barbers Point, which is situated in Honolulu County, approximately 16 miles (26 kilometers) west of downtown Honolulu. The six parcels are comprised of federally owned land. The project area parcels are identified and existing land use is described in Table 3-3 and illustrated in Figures 1-2 through 1-8.

Table 3-3: Existing Land Use, NAS Barbers Point, O’ahu, Hawai’i

Project Area	Land Area (acres/hectares)	Existing Land Use
Lot 13058-B (Triangle)	5.6/2.3	The parcel is unused and does not contain any structures. It is bounded on the north, south, and east by a former MCAS runway and on the west by the FAA beacon facility.
Lot 13058-D (Northern Trap and Skeet Range)	145.8/59.0	The parcel contains an area that was formerly used as a trap and skeet range. The lot is mainly open space but does contain seven structures associated with the range including: (1) Buildings 171, 172 and 173, Fuse-Detonator Magazines constructed in 1943; (2) Building 1493, Disaster Control Storage constructed in 1944; (3) Building 1527, Miscellaneous Storage constructed in 1944; (4) Building 1528, Fuse-Detonator Magazine constructed in 1944; and (5) Building 1529, believed to be an Ammunition Magazine constructed in 1944. The lot is bounded on the north by San Jacinto Road, open land, and Coral Pit No.3; on the south by the Southern Trap and Skeet Range; on the east by Essex Road and the Barbers Point Golf Course; and on the west by open land and Coral Sea Road.
Lot 13058-G (Southern Trap and Skeet Range)	57.9/23.4	The parcel is a nearly-rectangular lot that was formerly used as a trap and skeet range. It is bounded on the east by Essex Road and on the west by Ordy Pond and DHHL land. The lot is

³ *Ewa Highway Impact Fee Program*, prepared for State of Hawaii Department of Transportation by Kaku Associates, Inc. July, 2002.

Table 3-3: Existing Land Use, NAS Barbers Point, O’ahu, Hawai’i

Project Area	Land Area (acres/hectares)	Existing Land Use
		comprised of open space with heavy vegetation and undergrowth. No buildings or utilities are located on the property.
Lot 13058-F (Ordy Pond)	9.3/3.7	The parcel is a nearly-rectangular lot that is bounded on the north and west by DHHL land, on the east by Lot 13058-G, and on the south by Tripoli Road and the Beach Area lot. Ordy Pond is situated within the parcel. The pond is approximately 3 acres (1.2 hectares) in size with less than 1 acre (0.40 hectares) of open water, which is surrounded by a band of American mangrove and other introduced species.
Lot 13073-A (Airport Wetland)	45.6/18.5	The Airport Wetland parcel is located adjacent to the Kalaeloa Airport runways, and was used as a buffer to the airfield and for off-site stormwater drainage purposes. Additionally, Lot 13073-A is part of the airfield and is enclosed on the southern, eastern, and northern boundaries with a fence. The lot consists predominantly of vacant land covered with native vegetation. There are three structures on the parcel including: (1) Building 1667, Generator Building, constructed in 1961; (2) Building 1668, VHF/UHF Building, constructed in 1961; and (3) Building 1900, Tacan Facility, constructed in 1985. A large coastal salt flat, approximately 2 acres (0.80 hectares), is located within the parcel. A portion, less than 1 acre (0.40 hectares), contains a seasonal wetland.
Lot 13074-D (Beach Area)	124.2/50.3	The lot is bound by White Plains Beach and the Pacific Ocean on the south, Essex Road and the Ocean Pointe development on the east, Tripoli Road on the north, and Coral Sea Road on the west. There is a bathhouse located on the eastern end of the beach area and there are several concrete revetments located along the beach.
TOTAL	388.4/157.2	

1
2 The land immediately surrounding the project area, which is comprised of former NAS Barbers
3 Point property, has been transferred from federal ownership by the Navy.
4 Since 1999, the Navy has disposed of approximately 1,900 acres (769 hectares) of former air
5 station property to various recipients including other federal agencies, local schools and
6 homeless assistance providers, and other state and local entities. In general, the land area
7 immediately adjacent to the project area includes the Kalaeloa Airport to the west, open space
8 (un-disposed Navy property - Lot 13059-B) to the north, recreation uses to the east and the
9 Pacific Ocean to the south (see Figure 1-2).

10
11 The Kalaeloa Airport to the west, which was the former NAS Barbers Point airfield, is now
12 owned and operated by the State of Hawai’i Department of Transportation Airports Division.

1 The airport serves as a general aviation reliever airport for HIA. It has air traffic control
2 functions from 6 A.M. to 10 P.M. daily but is available as an alternate at other times. The airport
3 has two parallel runways (4R-22L and 4L-22R) and a crosswind runway (11-29). Runway 4R-
4 22L is 8,000 feet (2,438 meters); Runway 4L-22R is 4,500 feet (1,372 meters); and Runway 11-
5 29 is 6,000 feet (1,829 meters). Users of the airport are the U.S. Coast Guard, Hawai‘i
6 Community College Flight Program, Hawai‘i National Guard and the general aviation
7 community. Major ‘touch and go’ aviation training occurs at Kalaeloa Airport. In 2007 there
8 were 123,184 air operations (State of Hawai‘i Department of Transportation 2011).
9

10 The remaining areas surrounding the project area are proposed to be redeveloped in a manner
11 consistent with the KMP and existing and proposed future surrounding land uses include
12 recreation, parks, airport, military, and eco-industrial uses. The land outside the project area lies
13 within the jurisdiction of the City and County of Honolulu. Land use and development is
14 regulated by the applicable state and municipal land use regulations, zoning, and building
15 regulations.
16

17 **Coastal Zone Management**

18 The CZMA (16 U.S.C., Section 1451, et seq., as amended) provides assistance to states, in
19 cooperation with federal and local agencies, for developing land and water use programs in
20 coastal zones. Section 307 of the CZMA stipulates that when a federal project initiates
21 reasonably foreseeable effects on any coastal use or resource (land or water, or natural resource),
22 that action must be consistent to the maximum extent practicable with the enforceable policies of
23 the affected state’s federally approved coastal management plan. Federal agencies must also give
24 consideration to management program provisions that are in the nature of the recommendations.
25

26 The State of Hawai‘i has a federally approved Coastal Zone Management Program known as the
27 Hawai‘i Coastal Zone Management Program. The State of Hawai‘i DBEDT Office of Planning
28 administers the program. The project area, as well as the entire State of Hawai‘i, is located
29 within the State’s federally approved coastal zone; however, federal lands (e.g., project area) are
30 excluded from being assessed for coastal consistency. If, however, federal activity on these
31 properties has a reasonably foreseeable effect on any land or water use or natural resource in the
32 coastal zone, a federal consistency review must be completed.
33

34 **3.2 BIOLOGICAL RESOURCES**

35 **3.2.1 Terrestrial Flora**

36 Much of the project area parcels are covered with managed vegetation (e.g., parks and lawns) or
37 covered with native and introduced vegetation. The dominant vegetation within the project area
38 is the kiawe and lowland scrub (Navy 1999a). In addition, Lot 13073-A contains a mix of
39 wetland and dryland habitats. The wetland portion of this lot is a salt flat of approximately 2
40 acres (0.80 hectares), up to 1 acre (0.40 hectares) of which seasonally floods to provide open
41 water habitat. The salt flat is largely devoid of vegetation except for a narrow band of pickle
42 weed, kiawe, koa haole, and various grasses. (Sutterfield 2003)
43

44 The only protected species of plant found within the project area is the federally-listed
45 endangered ‘Ewa Plains’ ‘akoko (*Chamaesyce skottsbergii* var. *kalaeloana*). Specifically, Lot
46 13058-D contains suitable habitat for the ‘akoko and the largest population of the species known

1 to exist. As of 2008, a total of approximately 1,400 'akoko plants were identified within Lot
2 13058-D (Sumida 2009b). The plants are currently being maintained through weeding, selective
3 herbicide application, and other horticultural practices.

4
5 The plant has flourished on this parcel due to the Navy's previous initiation and funding of a
6 five-year 'akoko conservation plan. The conservation plan was a result of a contaminant removal
7 action (lead and arsenic in the soil and rocks) in 2003. The action resulted in removal actions on
8 approximately 23 acres (9.3 hectares) of Lot 13058-D that had contained the 'akoko. Formal
9 Section 7, ESA consultation with USFWS completed on June 5, 2003, concluded that the 2003
10 removal action would not likely jeopardize the continued existence of 'akoko. At that time the
11 Navy agreed to undertake the conservation actions for a period of five years to achieve specific
12 goals to decrease adverse impacts on the plant. These actions included the establishment of
13 another population of several acres of 'akoko within Lot 13058-D. Those plants have flourished
14 and now represent the highest known concentration of the endangered plant. Appendix B
15 includes a copy of the 2003 consultation.
16

17 **3.2.2 Terrestrial Fauna**

18 There are no areas within the project area that are designated as critical habitat as defined within
19 the ESA or that are proposed for such designation for any animal species. However, historically,
20 the federally-listed and state-listed endangered Hawaiian stilt (*Himantopus mexicanus knudseni*)
21 have been observed within Lot 13058-F and Lot 13073-A.
22

23 **Lot 13058-F**

24 In 1993, the federally-listed endangered Hawaiian stilt have been observed at Lot 13058-F (Ordy
25 Pond) by USFWS and Navy natural resources personnel during a brief period when portions of
26 the bank of the pond had been cleared of mangrove, allowing the birds to wade in the shallower
27 water at the pond's edge. However, mangroves have grown back, forming a thick band around
28 the pond. The sides of the pond are too steep to allow feeding, wading or nesting areas for the
29 silt, and the parcel does not provide any stilt habitat in its present condition. As documented in a
30 letter from the Navy to the USFWS dated April 18, 2003, no species that are proposed or listed
31 as threatened or endangered have been observed, or would be expected to occur within the parcel
32 (Sutterfield 2003). Appendix B includes a copy of this consultation.
33

34 **Lot 13073-A**

35 The endangered Hawaiian stilts have been observed occasionally feeding and nesting on the
36 mudflats associated with the wetland area of Lot 13073-A, when seasonal winter rains provide
37 areas of pooled water. Three or four stilts have been observed there for a few months each year,
38 depending on the rainfall. Although the stilts attempt to nest on the flats bordering open water,
39 eggs are routinely destroyed by predators prior to hatching, so successful nesting has not been
40 reported (Sutterfield 2003).
41

42 No other threatened or endangered species have been observed or critical or sensitive habitats
43 have been identified with the project area.
44

3.3 CULTURAL RESOURCES

This section describes the existing cultural resources that are located within the project area or area of potential effect (APE). According to 36 CFR Section 800.16(d), the APE is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of cultural resources, if such resources exist. Cultural resources consist of archaeological resources (prehistoric and historic archaeological sites) and architectural resources (historic districts, buildings, facilities, and other structures).

The following discussion of cultural resources is based on information presented in the following documents:

- *Final Environmental Impact Statement for the Disposal and Reuse of Naval Air Station Barbers Point* (Navy 1999a).
- *Cultural Resources Management Plan (CRMP) Naval Air Station Barbers Point* (Navy 1999b).

The project area, which is comprised of parcels that were part of the former NAS Barbers Point, is located in a geographic region known as the ‘Ewa Plain, which is part of the traditional Hawaiian land division of Honolulu. The ‘Ewa Plain is known for its unique natural history, its long history of Hawaiian occupation, and its economic history during the 19th and 20th centuries. The former NAS Barbers Point was constructed in 1941, incorporating another facility known as MCAS ‘Ewa, which had its origin in the 1930s as a dirigible mooring facility that was converted to a Marine airfield in 1939-1940 (Denfeld 1997). Following World War II (WWII), the air station continued to serve military needs and in 1993 it was recommended for closure by the BRAC Commission.

3.3.1 Historic Properties

In accordance with Section 106 of the NHPA, the Navy is required to consider the effects of this undertaking on historic properties (36 CFR Section 800.1 (a)). Historic properties are defined as “any prehistoric district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior. The term historic properties include artifacts, records, and remains that are related to and located within such properties. The term historic properties includes properties of traditional religious and cultural importance to a federally recognized Indian tribe or Native Hawaiian organization and that meet the National Register criteria” (36 CFR Section 800.16(1)).

Table 3-4 lists the number of known historic properties in the project area. The properties are further described in Section 3.3.2 and 3.3.3.

1

Table 3-4: NRHP-Eligible Historic Properties

Parcel	Number of Historic Properties
Lot 13058-B (Triangle)	1
Lot 13058-F (Ordy Pond)	3
Lot 13073-A (Airport Wetland)	2
Lot 13058-D (Northern Trap and Skeet Range)	8
Lot 13058-G (Southern Trap and Skeet Range)	8
Lot 13074-D (Beach Area)	5

2

3 **3.3.2 Archaeological Resources**

4 The Navy has completed archaeological and architectural surveys for the project area.
5 Archaeological sites identified within the project area are summarized in Table 3-5. Potential
6 archaeological sites within the project area include:

7

- 8 • Hawaiian sites such as habitation and agricultural features, possible *kuleana*⁴ features,
9 possible religious structures, modified sinkholes, and trail features. Within these sites and
10 in areas with demolished surface sites, there is a high potential for buried cultural
11 deposits.
- 12 • Traditional Hawaiian burials are likely present in the coastal dune areas, Hawaiian
13 habitation complexes, and in sink holes, including sink holes that have been covered by
14 base construction.
- 15 • Ranching, sisal cultivation, and early 20th century habitation sites.
- 16 • WWII military components such as defensive, training and bivouac features.

17

18 **Table 3-5: Cultural Resources Identified in the Project Area**

Project Area	Site No.	Description	NRHP Eligibility Criteria
Lot 13058-B (Triangle)	5127	Contains a section of the abandoned runways of MCAS 'Ewa which were attacked by the Japanese on December 7, 1941.	A
Lot 13058-F (Ordy Pond)	5104	Wetland with pond sediments	D; recommended for preservation
	5105	20th century homestead or camp remnants	D
	5106	Military, WWII training complex	not eligible (data recovery complete)
	1730	Habitation complex; (site located in Parcels 13058-F and 13058-G)	A, C, D
Lot 13073-A (Airport Wetland)	5118	Salt flat used for traditional salt collection	D
	1752	Hawaiian settlement complex (3 clusters)	A, C, D; recommended for preservation

⁴ features associated with customary or traditional native Hawaiian access, land use, or residency.

Table 3-5: Cultural Resources Identified in the Project Area

Project Area	Site No.	Description	NRHP Eligibility Criteria
Lot 13058-D (Northern Trap and Skeet Range)	1735	Hawaiian habitation and agricultural complex; human remains encountered; (site located in Parcels 13058-D and 13058-G)	A, C, D
	1736	Hawaiian habitation and agricultural complex	A, C, D
	1737	Hawaiian habitation and agricultural complex	A, C, D
	1739	Ranching and military complex; unmodified sinkhole; no cultural material found	not eligible (disturbed)
	1740	Habitation and agricultural complex	not eligible (disturbed)
	1741	Modified sinkhole, faunal remains recovered; no cultural material found	not eligible (disturbed)
	1742	Modified sinkhole and trench; ranching era	not eligible (disturbed)
	1743	Modified sinkhole	not eligible (disturbed)
	1744	Ranching and military complex	not eligible (disturbed)
	1745	Modified sinkhole complex	D
	1746	Ranching and military complex	not eligible (disturbed)
	5100	Hawaiian habitation and agricultural complex	C, D
	5101	Military, WWII anti-aircraft battery complex	A, D; recommended for preservation
	5102	Ranching and military complex	not eligible (disturbed)
	6408	Prehistoric Hawaiian (RC 1460 to 1670 AD) and later military complex	D
	6452	Enclosure	not eligible (disturbed)
	6453	L-shaped feature	not eligible (disturbed)
6454	Rock mound complex; interpreted as traditional Hawaiian	D	
Lot 13058-G (Southern Trap and Skeet Range)	5103	Military, WWII skeet shooting berm	not eligible (disturbed)
	1730	Hawaiian habitation complex	A, C, D
	1731	Hawaiian habitation and agricultural complex	A, C, D
	1732	Hawaiian habitation and agricultural complex	A, C, D
	1733	Hawaiian habitation and agricultural complex	A, C, D
	1734	Hawaiian habitation and agricultural complex; borders 58-D	A, C, D
	1735	Hawaiian habitation and agricultural complex; human remains encountered; (site located in Parcels 13058-D and 13058-G)	A, C, D
	1736	Hawaiian habitation and agricultural complex	D
	1738	Agricultural complex with two small enclosures; no cultural material found; one feature disturbed	D
Lot 13074-D (Beach Area)	1748	Hawaiian habitation and agricultural complex with WWII modifications	D
	1749	Hawaiian habitation, ranching, and military complex	D
	1750	Hawaiian habitation and agricultural complex with 20th century components	D
	5108	Sinkhole complex with Hawaiian complex	D; recommended for preservation

Table 3-5: Cultural Resources Identified in the Project Area

Project Area	Site No.	Description	NRHP Eligibility Criteria
	5109	Military, WWII moving-target fire range	not eligible (data recovery complete)
	5110	Military, WWII small arms firing range	not eligible (data recovery complete)
	5111	Military, WWII bivouac area	not eligible (data recovery complete)
	5112	Military, WWII training area	A, D
	5307	Military, WWII bivouac area	not eligible (data recovery complete)

Notes:
 A - Associated with events that have made a significant contribution to broad patterns of our history.
 B - Associated with the lives of persons significant on our past.
 C - Embody the distinctive characteristics of a type, period, or method of construction, or that represent a significant and distinguishable entity whose components may lack individual distinction.
 D - Have yielded, or may be likely to yield, information important in prehistory or history.

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3.3.3 Architectural Resources

There are no historic buildings within the project area that are eligible for listing on the NRHP.

3.4 PUBLIC HEALTH AND SAFETY

3.4.1 Hazardous and Regulated Materials

This section discusses ongoing environmental management and restoration programs, including petroleum storage, at the project area. The management, investigation, and cleanup activities are ongoing; therefore, this section presents the latest data available at the time of preparation.

3.4.1.1 Regulatory Overview

The Navy is managing hazardous wastes, hazardous materials and substances, and has remediated any contamination resulting from past operations in accordance with the requirements of the following regulatory programs, as applicable:

- The **Resource Conservation and Recovery Act (RCRA)** regulates the treatment, storage, transportation, handling, labeling, and disposal of hazardous waste. The Hazardous and Solid Waste Amendments of 1984 added the requirement for treatment, storage, and disposal facilities with permits issued after November 8, 1984, to include corrective actions.
- Under the ongoing, separate, **Regulatory Compliance Program**, the Navy is required to manage hazardous materials and hazardous substances currently used by the Navy during its ownership and occupancy of the project area property, including at above ground petroleum storage tank sites, underground petroleum storage tank sites, oil/water separator sites, certain former polychlorinated biphenyls (PCB)-containing transformer sites regulated under the *Toxic Substances Control Act*, and miscellaneous other locations of concern.

- 1 • **CERCLA** requires federal agencies to conduct any needed response actions to clean up
2 contamination from past releases of hazardous substances causing an unacceptable risk to
3 human health and the environment. The **Installation Restoration (IR) Program** is the
4 program for military bases to manage inactive hazardous waste sites and hazardous
5 material spills in compliance with CERCLA. Cleanup of past contamination from
6 underground storage tanks (USTs) and corrective actions for past contamination of
7 RCRA sites could also be part of the IR Program.
8
- 9 • In 1986, Congress passed the **Superfund Amendments and Reauthorization Act**
10 (SARA), which mandated that the Navy follow the same cleanup regulations that apply to
11 private entities. SARA also established the Defense Environmental Restoration Program
12 (DERP). Through the DERP, the Navy conducts environmental restoration activities at
13 sites on active installations, installations undergoing BRAC, and formerly utilized
14 defense sites .
15
- 16 • The Navy established the **Environmental Restoration (ER) Program** to reduce the risk
17 to human health and the environment from past waste disposal operations and hazardous
18 substance spills at Navy activities, including certain oil spills that are not addressed by
19 the CERCLA regulatory framework. The program goal is to provide for cost-effective
20 and timely site assessment, planning, and remediation of identified releases consistent
21 with DERP requirements. The ER Program has been organized into three program
22 categories, one of which is the IR Program. The IR Program addresses releases of
23 hazardous substances, pollutants, or contaminants that pose toxicological risks to human
24 health or the environment. CERCLA remedy selection takes into account reasonably
25 anticipated future land use to determine the appropriate extent of remediation, which
26 must be protective of human health and the environment.
27

28 Under the provisions of CERCLA Section 120(h), any transfer of federal real property owned by
29 the U.S. government to non-federal entities is subject to the following requirements:
30

- 31 • A notice of hazardous substance activity must be given to the grantee;
32
- 33 • A covenant must be included in the deed that all remedial action necessary to protect
34 human health and the environment with respect to any such substance remaining on the
35 property has been taken before the date of such transfer;
36
- 37 • The deed covenant must also include a provision that the federal government will return
38 and perform any additional response action that may be required in the future; and
39
- 40 • The government retains a perpetual right of access necessary to do such additional
41 response actions.
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43

44 These CERCLA Section 120(h) deed requirements apply only to conveyances by deed of real
45 property out of federal ownership. They do not apply to interagency federal real property
46 transfers or to leases, licenses, or easements granted for the use of federal land.

3.4.1.3 Overview of Environmental Investigations and Project Area Conditions

Lot 13058-B (Triangle). The Finding of Suitability to Transfer (FOST) for the site identified only one environmental factor that poses a use constraint: the potential presence of hazardous substances related to Point of Interest (POI)-49, the Regional Groundwater System. However, the concentrations of these hazardous substances do not pose a threat to human health or the environment, and no further action is required (NAVFAC PAC 2002). A copy of the FOST Naval Facilities Engineering Command Hawaii [NAVFAC Hawaii] 2010) is included in Appendix C.

Lot 13058-F (Ordy Pond)

The 2008 draft FOST for Ordy Pond identified the presence of hazardous substances located at IR Program (IRP)-02 and POI-44; and ordnance, munitions, and explosives of concern (POI-44 – eastern portion of Ordy Pond lot) (NAVFAC Hawaii 2008).

Numerous investigations have been conducted at IRP-02 between 1982 and 2003. Heavy metals, polynuclear aromatic hydrocarbons, PCBs, pesticides, and other organic compounds have been detected in surface waters and sediments during the multiple environmental sampling events. The results of a human health risk assessment for IRP-02 indicated that the site is safe for unrestricted land use. IRP-02 has been recommended for no further action under CERCLA, and a no-action decision document was signed for this site in 2007 (NAVFAC Hawaii 2008). A removal action was conducted from 2000 through 2003 at POI-44 and all required response actions at POI-44 have been completed. The final FOST could identify additional remedial actions. A copy of the FOST is included in Appendix C.

Lot 13073-A (Airport Wetland). There is one aboveground storage tank (AST) located within the Airport Wetland lot; however, the AST is inactive and there is no evidence or record of a release or disposal from the AST. One UST was removed from the Airport Wetland lot and no further action is necessary.

The lot does not contain any IRP or POI sites, except for one NAS Barbers Point installation wide POI-49 site (Regional Groundwater System). The groundwater contains some hazardous substances, but not at levels that pose a threat to human health or the environment. A no-action CERCLA ROD was signed for this POI in 1999 (NAVFAC PAC 2003). Asbestos containing materials (ACM) was identified at Building 1667 and 1668 but Building 1900 was not surveyed for ACM. Lead-based paint (LBP) was identified at Building 1667, 1668, and 1900 (NAVFAC PAC 2003). A copy of the FOST is included in Appendix C.

Lot 13058-D (Northern Trap and Skeet Range). The FOST for the Northern Trap and Skeet Range lot (NAVFAC Hawaii 2007) identified the presence of hazardous substances (POI-44 and POI-45); LBP; and ordnance, munitions, and explosives of concern (POI-44). The Northern Trap and Skeet Range includes the majority of POI-44 (Northern Trap and Skeet Range), a portion of POI-45 (Coral Pit 3), and a portion of POI-49 (Regional Groundwater System, Section 3.5.1). Investigation of these sites determined that no further action is warranted at POI-45 or POI-49. POI-44 was remediated in accordance with CERCLA and a no further action decision document was prepared for the site. Notifications of the presence of LBP in Buildings 172, 1528 and 1529

1 and the presence of the Northern Trap and Skeet Range are included in the FOST (NAVFAC
2 Hawaii 2007a). A copy of the FOST is included in Appendix C.

3
4 **Lot 13058-G (Southern Trap and Skeet Range).** The FOST for the Southern Trap and Skeet
5 Range lot identifies the presence of hazardous substances (POI-44 and POI-49) and munitions
6 and explosives of concern (POI-44) (NAVFAC Hawaii 2007). A removal action was conducted
7 from 2000 through 2003 at POI-44 and all required response actions at POI-44 have been
8 completed. A copy of the FOST is included in Appendix C.

9
10 **Lot 13074-D (Beach Area).** The FOST identified hazardous materials/wastes (POI-44);
11 IRP/POI Sites (POI-44); Regional Groundwater System (POI-49); and LBP at the parcel
12 (NAVFAC PAC 2010). The former Machine Gun Range 3, the former Machine Gun Range 4,
13 and the former Carbine and Pistol Range are located within the Beach Area lot and are part of
14 POI-44 (Former Firing Ranges). Soil at the former Carbine and Pistol Range, the former MGR
15 No. 3, and MGR No. 4 contained lead. In addition, Machine Gun Range No. 4 also contained
16 antimony (NAVFAC PAC 2003). Removal actions were conducted between 1999 and 2000 at
17 the Carbine and Pistol Range where 730 cubic yards (558 cubic meters) of lead-contaminated
18 soil was removed from the site. No further action is required at the Carbine and Pistol Range.
19 The concentrations of lead in the soil at Machine Gun Range No. 3 were determined not to pose
20 a threat to human health and the environment. Therefore, no removal action was required at
21 Machine Gun Range No. 3. A removal action was conducted in 1999 and 2000 at Machine Gun
22 Range No. 4. A total of 460 cubic yards (352 cubic meters) of lead-contaminated soil and 2 cubic
23 yards (1.5 cubic meters) of antimony-contaminated soil were removed from the site. No further
24 action is required for POI-44 (NAVFAC PAC 2002). Building 729 (Operational Flammable
25 Storage) was not surveyed for LBP (NAVFAC PAC 2002) and, therefore, has the potential to
26 contain LBP. A copy of the FOST is included in Appendix C.

27 28 **3.5 PUBLIC SERVICES**

29 **3.5.1 Education**

30 The project area is located within the Leeward School District (Campbell-Kapolei complex).
31 Four elementary schools (i.e., Mauka Lani, Makakilo, Kapolei, and Barbers Point), Kapolei
32 Middle School, and Kapolei High School are located within close proximity to the project area.
33 Historic school enrollment data for the six schools is presented in Table 3-6.

34 **Table 3-6: Capacity and Enrollment Projections for Kapolei Area Schools**

School	Grade Level	School Year			Capacity ¹
		2007-2008	2008-2009	2009-2010	
Barbers Point Elementary	K-5	506	504	513	693
Kapolei Elementary	K-5	1,065	1,004	1,054	1,246
Mauka Lani Elementary	K-5	547	559	578	681
Makakilo Elementary	K-5	479	493	508	588
Kapolei Middle	6-8	1,559	1,463	1,488	1,818
Kapolei High	9-12	2,285	2,230	2,159	2,015

Source:
State of Hawai'i Department of Education 2011
¹ 2006 School Capacity provided by Department of Education June 2007

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3.5.2 Parks, Recreation, and Open Space

Park facilities in the vicinity of the project area include White Plains and Nimitz Beach parks along the shoreline, Onelua and Barbers Point Beach parks to the east and west, respectively, and Kapolei Regional Park located about 1 mile (1.6 kilometers) to the north. Major recreation facilities in the region include seven golf courses (i.e., Barbers Point,⁵ Kapolei, Ko ‘Olina, Coral Creek, Hawai‘i Prince, ‘Ewa Villages and West Loch). Publicly-accessible open space areas include the shoreline areas adjacent to beach parks.

3.5.3 Police, Fire and Emergency Services

Police and Fire. The Honolulu Police Department provides police protection services from its Kapolei District (District 8) headquarters at the Kapolei Police Station, located less than 2 miles (3.2 kilometers) from the project area. Security is also provided by Navy security personnel based at the West Loch Naval Magazine.

The State of Hawai‘i Department of Transportation maintains an airfield crash station for its Kalaeloa Airport facility. Federal Fire Department Station No. 12 protects remaining Navy housing and U.S. Coast Guard assets. The Honolulu Fire Department Battalion 4, which oversees fire protection services for West O‘ahu, is headquartered at the Kapolei Fire Station and provides fire protection services from the Kapolei and Makakilo Fire Stations (Station Nos. 40 and 35, respectively).

Emergency Services. The State of Hawai‘i contracts with the City and County of Honolulu Department of Emergency Services to provide pre-hospital emergency medical services and emergency medical ambulance services on O‘ahu. Ambulance units closest to the project area are located in Kapolei and the Waipahu Fire Station. In addition, there is a Rapid Response unit located at Saint Francis Medical Center West in the ‘Ewa Beach area.

3.6 SOCIOECONOMICS

This section provides a general discussion of the socioeconomic conditions (i.e., population, income, employment, and housing) in the area comprised of the project area, the former NAS Barbers Point property, and the surrounding community. Also provided in this section is a discussion of Executive Order 12898 (Environmental Justice) as it applies to these areas.

Population

The project area is located within the County of Honolulu, which had a total estimated population of 902,564 in 2009. The Honolulu metropolitan area, with a population of approximately 374,359 or 41-percent of the total county population, is located approximately 16 miles east of the project area. The ‘Ewa development planning area had a total population of 68,718 in the year 2000. Table 3-7 shows the population estimates for City and County of Honolulu and the State of Hawai‘i from 2000 to 2009.

⁵ Restricted to DOD employees and dependents

Table 3-7: Study Area Population (2000-2009)

	2000 ^a	2009 ^b	% Change 2000 to 2009
'Ewa (Development Plan Area)	68,718	n/a	n/a
Honolulu County	876,156	902,564	3
State of Hawai'i	1,211,537	1,280,241	6
Source: ^a 'Ewa data – City and County of Honolulu 2009. 2009 data not available (n/a). Honolulu County and State of Hawai'i data - U.S. Census Bureau, Census 2000, Summary File 1 ^b U.S. Census Bureau, 2005-2009 American Community Survey, 5-Year Estimates			

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Income

For 2009, the median household income for Honolulu County was slightly higher than that of the State of Hawai'i. Since 1999, the median household income, when adjusted for inflation, has risen slightly. Table 3-8 presents the household income for the study area.

Table 3-8: Median Household Income (2000-2009)

	Median Household Income 1999 ^a (adjusted to 2009 dollars)	Median Household Income 2009 ^b	Change 1999 to 2009 (net dollars)
'Ewa (Development Plan Area)	\$78,308	n/a	n/a
Honolulu County	\$66,852	\$67,066	+\$214
State of Hawai'i	\$64,155	\$64,661	+\$506
Source: ^a 'Ewa data – City and County of Honolulu, Department of Planning and Permitting, May 2003. 2009 data not available (n/a). Honolulu County and State of Hawai'i data - U.S. Census Bureau, Census 2000, Summary File 1 ^b U.S. Census Bureau, 2005-2009 American Community Survey, 5-Year Estimates			

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Environmental Justice

Consistent with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994), the U.S. Navy's policy is to identify and address any disproportionately high and adverse human health or environmental effects of its actions on minority or low-income populations.

The CEQ (1997) has issued guidance to federal agencies on the terms used in Executive Order 12898, as follows:

- **Low-income Population.** Low-income populations in an affected area should be identified using the annual statistical poverty thresholds from the U.S. Bureau of Census's Current Population Reports, Series P-60, on Income and Poverty.
- **Minority.** Individual(s) who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not Hispanic origin; or Hispanic.
- **Minority Population.** Minority populations should be identified where: (a) the minority population of the affected area exceeds 50-percent, or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

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- **Disproportionately High and Adverse Human Health Effects.** When determining whether human health effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable:
 1. Whether the health effects, which may be measured in risks and rates, are significant (as employed by NEPA), or above generally accepted norms;
 2. Whether the risk or rate of hazard exposure to a minority population, low income population, or Indian tribe to an environmental hazard is significant (as employed by NEPA) and appreciably exceeds or is likely to appreciably exceed the risk or rate to the general population or other appropriate comparison group; and
 3. Whether health effects occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposure to environmental hazards.

 - **Disproportionately High and Adverse Environmental Effects.** When determining whether environmental effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable:
 1. Whether there is or will be an impact on the natural or physical environment that significantly (as employed by NEPA) and adversely affects a minority population, low-income population, or Indian tribe. Such effects may include ecological, cultural, human health, economic, or social impacts on minority communities, low-income communities, or Indian tribes when those impacts are interrelated to impacts on natural or physical environment;
 2. Whether environmental effects are significant (as employed by NEPA) and are or may be having an adverse impact on minority populations, low income populations, or Indian tribes that appreciably exceed or are likely to appreciably exceed those on the general population or other appropriate comparison group; and
 3. Whether the environmental effects occur or would occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposures from environmental hazards.

39 Table 3-9 presents statistics on low-income, ethnic, and minority population characteristics for
40 Honolulu County and the State of Hawai‘i.
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Table 3-9: Environmental Justice Population Characteristics (2009)

	Total Population	Percent Minority	Percent Below Poverty Level
'Ewa (Development Plan Area) ^a	68,718	82.6	4.4
Honolulu County ^b	902,564	77.0	8.9
State of Hawai'i ^b	1,280,241	73.1	9.4
Source: ^a 'Ewa data – City and County of Honolulu, Department of Planning and Permitting, May 2003. 2009 data not available ^b Honolulu County and State of Hawai'i data -U.S. Census Bureau, 2005-2009 American Community Survey, 5-Year Estimates			

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3.7 INFRASTRUCTURE

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Base-wide utility systems located on the former NAS Barbers Point have been or are in the process of being conveyed to public and private entities, or may be abandoned in-place.

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Potable Water System. The existing water supply system on the former NAS Barbers Point property was constructed largely during the World War II era, is in relatively poor shape, and its capacity is not adequate to support planned developments at Kalaeloa (HCDA 2006).

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Non-potable water is available in the form of reclaimed water from the City and County of Honolulu's Honouliuli Wastewater Treatment Plant (WWTP) (13 million gallons per day [mgd]/49,210 cubic meters per day [m³/day] of R-1 or R-0 water). Non-potable water distribution lines extend from the Honouliuli WWTP along the north and west boundaries of Kalaeloa and provide non-potable irrigation water to the Barbers Point Golf Course for grounds maintenance.

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Wastewater System. The existing wastewater collection system on the former NAS Barbers Point property is currently operated under license by the City and County of Honolulu Department of Environmental Services. The existing wastewater system, like the water system, is old and the integrity of currently unused portions of the system is unknown. The system does not meet City and County of Honolulu standards, with the existing pumping stations being the major non-standard component.

11

12

The existing City and County of Honolulu's nearby Honouliuli WWTP has a capacity of 38 mgd (143,800 m³/day). The current inflow to the WWTP from all sources is approximately 25 mgd (94,640 m³/day). The WWTP processes 13 mgd (49,210 m³/day) by advanced treatment for non-potable use. The unused portion of the advanced treated water is blended with the remaining 12 mgd (45,420 m³/day) of the primary-treated flows and discharged to the ocean. The Navy has purchased 2.66 mgd (9,842 m³/day) of the 38 mgd (143,800 m³/day) treatment capacity at the Honouliuli WWTP to serve Kalaeloa and other Navy facilities within the WWTP service area. The current allocation for Kalaeloa is 1.5 mgd (5,678 m³/day).

13

14

Electrical Distribution and Telecommunications Systems. The existing electrical distribution system on the former NAS Barbers Point property is currently owned and operated by the Navy. Electrical power is received through a Hawaiian Electric Company substation located near the main gate along the northern property line. Power distribution is through a combination overhead and underground power lines.

15

1 Telephone and communications systems on the former NAS Barbers Point property are currently
2 owned by the Navy. Telephone service is currently provided through an agreement with
3 Hawaiian Telcom, Inc. using military telephone infrastructure. Service is provided through a
4 combination of overhead and underground lines.

5
6 **Drainage System.** Stormwater runoff within the former NAS Barbers Point property is
7 discharged into a system of dry wells that facilitate infiltration into the subsurface coral deposits.
8 Most of the areas drained by dry wells are located outside of the project area. The dry wells,
9 which are classified as injection wells and are permitted through the DOH Drinking Water
10 Branch Underground Injection Control program, do not currently conform to City and County of
11 Honolulu standards. Areas drained by the dry wells are typically serviced by drainage
12 infrastructure, including curbs, gutters and culverts. The remainder of the former NAS Barbers
13 Point property does not have drainage systems.

14
15 **Solid Waste.** Solid waste generated from private sources within the former NAS Barbers Point
16 property is collected by private contractors for disposal at the municipal H-POWER facility for
17 conversion to electrical power, or to the Waimanalo Gulch Sanitary Landfill in Leeward O‘ahu.
18 Solid waste generated from the public beach park areas (including the Beach Area lot) is
19 collected by County and City of Honolulu, and similarly disposed of.

4. ENVIRONMENTAL CONSEQUENCES

This chapter evaluates the potential direct, indirect, short-term, and long-term impacts on the human and natural environments resulting from the disposal of six parcels at NAS Barbers Point and its subsequent reuse in a manner consistent with the KMP. An evaluation of the potential cumulative impacts resulting from the disposal, when added to other past, present, and reasonably foreseeable future actions, is presented in Chapter 5. Impacts are based on the full build out of the alternatives and assumptions used to assess foreseeable reuse of the properties. The assumptions were based on the KMP, current property use, and existing and proposed land use and zoning.

Potential environmental impacts are identified, where applicable, according to their significance. According to the CEQ, the significance of an impact is determined by examining both its context and intensity (40 CFR 1508.27). Context is related to the affected region, the affected interests, and the locality, while intensity refers to the severity of the impact, which is based on the following considerations:

- The degree to which the proposed action affects public health or safety;
- Unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas;
- The degree to which the effects on the quality of the human environment are likely to be controversial;
- The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration;
- The degree to which the action may adversely affect districts, sites, highways, or structures, or objects listed in or eligible for listing in the NRHP or may cause loss or destruction of significant scientific, cultural, or historical resources;
- The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the ESA; and
- Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment.

4.1 PHYSICAL ENVIRONMENT

4.1.1 Geology, Topography, and Soils

Proposed Action

No significant adverse impacts on topography, geology, or soils would occur under the Proposed Action. Given the relatively minor slope of the project area, the need for grading and site preparation work is expected to be minimal. No impacts on soil stability would be expected as a

1 result of the proposed implementation of the KMP. Potential erosion associated with
2 construction activities would be controlled through the use of best management practices (BMPs)
3 to prevent soil loss and sediment discharge from the subject lots. All construction activities
4 would be conducted in accordance with applicable federal, State of Hawai‘i, and local
5 regulations and permit requirements to ensure that soil erosion is minimal.
6

7 **No Action Alternative**

8 No adverse impact would be expected from the implementation of the No Action Alternative.
9

10 **4.1.2 Groundwater and Surface Water**

11 **Proposed Action**

12 Groundwater and surface water would not be significantly impacted by the Proposed Action. The
13 project area is situated over deep confined basalt aquifers and overlying shallow caprock
14 aquifers. The deeper aquifer of the Waipahu System is currently used for drinking water and has
15 a moderate vulnerability to contamination. The basalt aquifer of the ‘Ewa System is considered
16 too deep to be contaminated from the surface. The shallow aquifer of the Waipahu System is
17 currently used, ecologically important, and has a moderate vulnerability to contamination. The
18 shallow aquifer of the ‘Ewa System, although considered highly vulnerable to contamination, is
19 brackish and not suitable for consumption or irrigation without desalination.
20

21 Lot 13058-F and Lot 13073-A contain surface waters and/or wetlands, and a portion of Lot
22 13074-D abuts the ocean. Under the Proposed Action, the land areas of the parcels containing
23 surface waters is not expected to significantly change from existing conditions and no impact on
24 existing surface waters or wetlands is expected. Construction activities and uses associated with
25 the Proposed Action would not increase the potential for pollutants or toxins to impact, or to be
26 in contact with, groundwater or surface water sources.
27

28 No significant flood impacts would occur with any of upland lots (i.e., Lot 13058-B, Lot 13058-
29 D, Lot 13058-G, Lot 13058-F, and Lot 13073-A). These lots are within Zone D, areas in which
30 flood hazards are undetermined but possible (FEMA 2011), and are outside the tsunami
31 inundation zone. The lowest ground elevation occurs on the southern edge of Lot 13058-F and
32 Lot 13058-G (approximately 12-15 feet [4-5 meters] above msl), according the U.S. Geological
33 Survey Quadrangle Map. Portions of Lot 13074-D lie along the beach and are in Zones A, AE,
34 and VE which are within the 100-year floodplain and tsunami inundation zone. Lot 13074-D is
35 planned primarily for open space, beach-oriented recreation and foreshore protection for all of
36 the alternatives, which is considered compatible.
37

38 **No Action Alternative**

39 No adverse impact would be expected from the implementation of the No Action Alternative.
40

41 **4.1.3 Air Quality**

42 **Proposed Action**

43 Air quality standards are established by both the EPA and by DOH. The State of Hawai‘i is in
44 “attainment” for all criteria air pollutants. The Proposed Action would not significantly impact
45 air quality. Some temporary short-term air quality impacts associated with development on the
46 subject lots would be expected during construction due to emissions from demolition activities,

1 construction equipment operations, and site preparation for construction. Standard construction
2 and erosion control techniques, such as the use of dust suppressants and other BMPs, will be
3 used to control these temporary construction-related emissions. Asbestos, LBP and any other
4 hazardous emissions that may be encountered during demolition will be managed according to
5 federal and state regulations.

6
7 No significant long-term, operational period air quality impacts would be expected from the
8 Proposed Action. Any new air emission sources will be required to comply with federal and state
9 air emissions standards and any applicable regulatory permit approvals.

10
11 Following disposal, the Navy would not retain ownership of the property; therefore, the
12 redevelopment, including construction and operation, associated with the implementation of the
13 Proposed Action would not be considered a federal action, and the General Conformity Rule
14 does not apply. A RONA is included in Appendix A.

15 16 **No Action Alternative**

17 No adverse impact would be expected from the implementation of the No Action Alternative.
18

19 **4.1.4 Noise**

20 **Proposed Action**

21 The Proposed Action would not be expected to result in significant construction, vehicle, or
22 operational noise impacts. Under the Proposed Action, some demolition, construction, and
23 renovation noise would occur within the boundaries of the project area. The proposed future
24 reuse of the property would not include dense land uses and would be comprised of mostly
25 recreational and park uses. These uses would be expected to generate minimal construction
26 activities and minimal operational noise impacts. However, construction activities associated
27 with mixed-use and institutional development in the eastern portions of Lot 13058-D, Lot 13058-
28 G, and Lot 13074-D would be expected to generate short-term minor noise impacts. Construction
29 related noise impacts would be managed to meet local noise standards. Therefore, extended
30 disruption of normal activities would not be expected and construction would not have a
31 significant long-term impact.

32
33 As identified in Section 3.1.4, Lot 13073-A is located adjacent to the Kalaeloa Airport runways.
34 Because of its proximity to the active runways, Lot 13073-A is and would continue to be located
35 within designated noise contours ranging from 60 to 75 DNL (HCDA 2006). In addition, as
36 projected, the western portion of Lot 13058-D would be located within a 60 to 65 DNL noise
37 contour. The remaining project area parcels are located outside of any designated noise contours
38 greater than 60 DNL (HCDA 2006).

39
40 Lot 13073-A, which is identified in the KMP as airport and recreational land uses, is proposed to
41 be conveyed to the FAA and would be used as open space to buffer development from airfield
42 activities. The proposed land uses for this parcel would be compatible with projected airfield
43 noise contours. The proposed Lot 13058-D recreational development located within the 60 to 65
44 DNL noise contour is compatible with restrictions. Table 4-1 identifies the State of Hawai'i
45 Department of Transportation recommendations for recreational land use compatibility within

1 the 60-65 DNL noise contour. Noise resulting from airport operations would not be expected to
2 significantly impact project area land uses.
3

Table 4-1: Recommended Recreational Land Use Compatibility with Aircraft Noise

Type of Land Use	Yearly Day-Night Average Sound Level					
	<60	60-65	65-70	70-75	75-80	80-85
Outdoor sports arena and spectator sports	Y	Y (f)	Y (f)	N	N	N
Outdoor music shells, amphitheaters	Y (f)	N	N	N	N	N
Nature exhibits and zoos, neighborhood parks	Y	Y	Y	N	N	N
Amusements, beach parks, active playgrounds, etc.	Y	Y	Y	N	N	N
Public golf courses, riding stables, cemeteries, gardens, etc.	Y	Y	N	N	N	N
Professional/resort sport facilities, locations of media events, etc.	Y (f)	N	N	N	N	N
Extensive natural wildlife and recreation areas	Y (f)	N	N	N	N	N

Source: HCDA 2006

Notes:
 Y (Yes) – Land use and related structures compatible without restrictions
 N (No) – Land use and related structures are not compatible and should be prohibited
 Y(f) - Impact of amplitude, duration, frequency, and tonal content of aircraft noise events should be evaluated

4
5 **No Action Alternative**
6 No adverse impact would be expected from the implementation of the No Action Alternative.
7

8 **4.1.5 Visual Resources**

9 **Proposed Action**

10 The Proposed Action would not significantly impact existing visual resources. Visual landmarks
11 and significant vistas identified in the *'Ewa Development Plan (City and County Honolulu 2000)*
12 would not be significantly altered or affected. Under the Proposed Action, the majority of
13 development proposed is minimal (e.g., recreation and open space) and similar to existing
14 conditions. Lot 13058-B would be redeveloped for eco-industrial land use and small portions of
15 Lot 13058-D and Lot 13058-G would be redeveloped for residential mixed-use, adjacent to the
16 Ocean Pointe golf course to the east. Portions of Lot 13058-G and Lot 13074-D would be
17 redeveloped as a cultural center. The KMP includes design guidelines for landscaping and site
18 development that would improve visual continuity and enhance aesthetic qualities.
19

20 **No Action Alternative**

21 No adverse impact would be expected from the implementation of the No Action Alternative.
22
23

4.1.6 Transportation

Proposed Action

The implementation of the Proposed Action would not be expected to result in a significant impact on transportation. The majority of the total project area would be utilized for undeveloped land uses. These land uses, open space and recreational, comprise 79.2-percent of the total project area, resulting in little change from existing conditions, and would be expected to generate minimal volumes of traffic based on their proposed uses. The remaining portion of the project area (approximately 14.8-percent) would be utilized for mixed-use (moderate intensity), eco-industrial, and institutional (cultural center) uses. At this time, specific development plans are not available and the proposed eco-industrial and residential uses and number of units are not quantifiable. However, it is assumed that the mixed-use area would be comprised of moderate intensity uses and includes commercial and apartment/condo type development. Further, the eco-industrial uses would include environmentally compatible industries such as solar or hybrid energy generation, bio-filtration, or other such technologies. This type of use would only be expected to generate minimal volumes of traffic. Therefore, the Proposed Action, because of the type and scale of development proposed, would be expected to result in an insignificant increase in traffic and would not be expected to adversely impact the existing, adjacent or regional, transportation system.

No Action Alternative

No adverse impact would be expected from the implementation of the No Action Alternative.

4.1.7 Land Use

Proposed Action

Implementation of the Proposed Action would result in the redevelopment of the project area in a manner consistent with the KMP. The action would maximize civilian reuse of the land, including open space and recreation lands and limited light industrial land use. Full build-out of the Proposed Action would not significantly change the existing or impact surrounding land use conditions. The majority of the project area, which is currently comprised of undeveloped open space, would remain unchanged and continue to be utilized as undeveloped recreation/open space or shore protection area. This largely undeveloped open space area comprises approximately 79.2-percent (or 307.5 acres/124.4 hectares) of the total project area. The remaining, and smaller, portion of the project area would be redeveloped to include eco-industrial, mixed-use (moderate intensity), and institutional land uses. These new land uses would include new development and comprise only 14.8-percent (or 57.6 acres/23.3 hectares) of the total project area. In addition, approximately 6.0-percent (or 23.4 acres/9.5 hectares) of the project area would continue to be used for airport uses. This airport use would remain unchanged from current conditions. At this time specific redevelopment plans for the project area have not been developed. Future land owners and developers would be expected to comply with applicable local, state, and federal regulations.

Table 4-2 identifies the project area existing land use and proposed future land use, and Table 4-3 provides a summary of the various land uses proposed for the project area.

Table 4-2: Project Area Land Uses

Project Area	Land Area (acres/hectares)	Existing Land Use	Proposed Action Land Use (approximate acres/hectares)
Lot 13058-B (Triangle)	5.6/2.3	Open Space	Eco-Industrial (5.6/2.3)
Lot 13058-D (Northern Trap and Skeet Range)	145.8/59.0	Open Space (former trap and skeet range)	Open Space/Recreation (131.1/53.1) Mixed-use (Moderate Intensity) (14.7/6.0)
Lot 13058-G (Southern Trap and Skeet Range)	57.9/23.4	Open Space (former trap and skeet range)	Open Space/Recreation (43.9/17.8) Mixed-use (Moderate Intensity) (1.3/0.5) Institutional (School/Cultural Center) (12.7/5.1)
Lot 13058-F (Ordy Pond)	9.3/3.7	Open Space and Pond	Open Space/Recreation (9.3/3.8)
Lot 13073-A (Airport Wetland)	45.6/18.5	Open Space	Open Space/Recreation (22.2/9.0) Airport/Navigation (23.4/9.5)
Lot 13074-D (Beach Area)	124.2/50.3	Open Space	Open Space/Recreation (70.0/28.3) Foreshore Protection (31.0/12.5) Institutional (School/Cultural Center) (23.3/9.4)
TOTAL	388.4/ 157.2		

1

Table 4-3: Summary of Proposed Land Uses

Proposed KMP Land Use	Total Acres/Hectares	Percentage
Eco-Industrial	5.6/2.3	1.4%
Mixed-use (Moderate Intensity)	16.0/6.5	4.1%
Institutional (School/Cultural Center)	36.0/14.5	9.3%
Airport/Navigation	23.4/9.5	6.0%
Open Space/Recreation	276.5/111.9	71.2%
Foreshore Protection	31.0/12.5	8.0%
TOTAL	388.5/ 157.3	100%

2

3 The Proposed Action would not result in a significant adverse impact to surrounding land use or
4 community cohesion in the neighborhoods surrounding the project area. The land use plan for
5 the project area, which includes mostly recreational and open space areas, complements the
6 surrounding built environment, land uses, zoning, and planning areas.

7

8 The Proposed Action would largely adhere to the local development policies including The
9 *General Plan for the City and County of Honolulu* and the *‘Ewa Development Plan*. In fact, the
10 Proposed Action would accomplish the following elements of the *‘Ewa Development Plan*: (1)
11 encourage civilian reuse to be compatible with regional growth; and (2) develop a regional open
12 space network to enhance recreation and aesthetics.

13

14 Although the Proposed Action would be consistent with most of the county development
15 policies, it would require an amendment to the current City and County of Honolulu Land Use
16 Ordinance (LUO). The LUO and accompanying maps (Chapter 21, ROH) define allowable uses
17 of land within the City and County of Honolulu, within limits imposed by Chapter 205, HRS.
18 The LUO describes the various zoning districts throughout the City and County of Honolulu, the
19 uses allowed within each zoning district and applicable development standards. The Kalaeloa
20 District is currently zoned F-1, Military and Federal Preservation District, reflecting the Navy’s

1 long-standing ownership and use of the site. The purpose of the F-1 District is “to identify areas
2 in military or federal government use and to permit the full range of military or federal
3 government activities” (Sec. 21-3.40-c, ROH). The LUO mandates that land no longer under
4 federal jurisdiction is placed into the P-2 General Preservation District. Any landowner other
5 than a federal or state entity that assumes ownership of the former NAS Barbers Point property
6 would be required to apply for the necessary zoning amendment approvals from the City and
7 County of Honolulu before construction could begin. Such a change in zoning classification
8 would not be expected to adversely impact the surrounding land uses and neighborhoods due in
9 part to the fact that the proposed land uses complement the surrounding land uses.

10
11 The Navy has determined that the disposal of the project area would be consistent to the
12 maximum extent practicable with the enforceable coastal zone policies of the Hawai‘i Coastal
13 Zone Management Program. Official consultation with the State of Hawai‘i, DBEDT, Office of
14 Planning was initiated on September 25, 1998 as part of the 1999 FEIS. The Office of Planning
15 concurred with the Navy’s determination in a letter dated December 18, 1998. Subsequently, on
16 July 28, 2008, upon the initiation of this supplemental EA, the Navy again consulted with the
17 Office of Planning via email regarding the Proposed Action. Responding via email dated July 29,
18 2008, the Office of Planning concurred that the federal transfer of parcels generally and
19 specifically for purposes of implementing the KMP are covered by the previous Coastal Zone
20 Management federal consistency concurrence. A copy of the CZMA correspondence is included
21 in Appendix D.

22 23 **No Action Alternative**

24 No significant adverse impact would be expected from the implementation of the No Action
25 Alternative. No reuse or redevelopment of the property would occur under this alternative.
26 Implementation of the No Action Alternative would result in approximately 388 acres (157
27 hectares) of vacant and underutilized land being left unused.

28 29 **4.2 BIOLOGICAL RESOURCES**

30 **4.2.1 Terrestrial Flora**

31 **Proposed Action**

32 The Navy has determined that the disposal and reuse of Lot 13058-D would not affect the
33 endangered ‘akoko plant. Transfer of legal title of the property by the Navy to HCDA does not,
34 in itself, affect the ‘akoko. To ensure that subsequent reuse by HCDA or its successors is
35 appropriately analyzed and that such reuse will conserve the ‘akoko, the Navy will require that a
36 conservation and management plan approved by the State of Hawai‘i DLNR be in place prior to
37 conveyance of the parcel. The State will have the ability to enforce appropriate State laws and
38 regulations governing actions involving listed species and to ensure that the plant will be
39 protected. Further, the Navy will attach to the title transfer document a restrictive covenant
40 binding on the Grantee and all subsequent land owners. The restrictive covenant will place land
41 use controls on the property for the conservation and protection of the ‘akoko.

42
43 Further, the HCDA has been working with DLNR and the USFWS on a draft conservation
44 agreement to ensure protection of ‘akoko on the parcel. HCDA plans to use a portion of revenue
45 generated by commercial use of HCDA property to fund conservation actions required by their
46 ‘akoko conservation and management plan.

1
2 The Species Management Plan Agreement approved by the State of Hawai‘i DLNR, will require
3 the Grantee or its successors in interest to continually comply with the following conditions for
4 so long as the subject ‘akoko is listed by the Federal Government or State Government as an
5 endangered or threatened species: (1) The management plan must become effective upon
6 conveyance of the property to the Grantee; and (2) Any land use or development of the property
7 must limit such use or development so that it does not adversely affect ‘akoko. Any proposal for
8 such use must be approved by Hawai‘i DLNR or its successor State regulatory division.
9

10 After transfer, the State would have the authority to enforce compliance with the terms of the
11 conservation and management plan and the Navy would have authority to enforce compliance
12 with the covenant. Any proposed actions that may affect ‘akoko after transfer out of Navy’s
13 ownership would be reviewed as provided by State legislation, regulation, and policy and would,
14 accordingly, be enforceable to the extent of those laws, regulations, and policies. The State of
15 Hawai‘i ESA prohibits the take of individual listed plants, whether by the State or by any other
16 non-Federal entity, without State review and authorization.
17

18 The implementation of Proposed Action would not be expected to result in a significant adverse
19 impact to other flora resources. The majority of the project area would remain undeveloped and
20 unchanged from existing conditions and include large areas (approximately 79.2 percent of total
21 project area) of recreation and open space uses. No areas of critical or sensitive habitat or
22 identified endangered or threatened vegetative species would be adversely impacted by the
23 action. However, the Proposed Action would be expected to require the removal of small areas
24 of vegetation to accommodate new facilities and supporting infrastructure in portions of the
25 project area including the eastern area of Lot 13058-D (mixed-use moderate intensity
26 development), eastern portions of Lots 13058-G and 13074-D (institutional development:
27 school/cultural). New development comprises only 14.8 percent (or 57.6 acres [23.3 hectares]) of
28 the total project site. However, at this time specific redevelopment plans for the project area have
29 not been developed. Future land owners and developers would be expected to comply with
30 applicable local, state, and federal regulations.
31

32 **No Action Alternative**

33 No adverse impact would be expected from the implementation of the No Action Alternative.
34

35 **4.2.2. Terrestrial Fauna**

36 **Proposed Action**

37 As identified in Section 3.2.2, the federally-listed endangered Hawaiian stilt have been
38 previously observed within Lot 13058-F and Lot 13073-A. However, no recorded observations
39 of the stilt at Lot 13058-F have occurred since 1993 and the lot (specifically Ordy Pond) no
40 longer provides stilt habitat. The stilt occasionally feed and nest, during the seasonal winter
41 rains, on the mudflats associated with the wetland portion of Lot 13073-A. Under the Proposed
42 Action, both lots have been identified for recreational/open space uses. The lots would remain
43 undeveloped and no change from existing conditions would be expected.
44

45 The Navy, with USFWS concurrence, has determined that the Proposed Action is not likely to
46 adversely affect any federally listed or proposed species, including the stilt, or proposed or

1 designated critical habitat within either Lot 13058-F or Lot 13073-A (Henson 2003). Appendix B
2 includes copies of the USFWS consultation letters.

3
4 The majority of the project area (79.2 percent) would remain undeveloped and unchanged from
5 existing conditions and include large areas of recreation and open space uses. The
6 implementation of Proposed Action would not be expected to result in a significant adverse
7 impact to other wildlife resources. At this time specific redevelopment plans for the project area
8 have not been developed. Future land owners and developers would be expected to comply with
9 applicable local, state, and federal regulations.

11 **No Action Alternative**

12 No adverse impact would be expected from the implementation of the No Action Alternative.

14 **4.3 CULTURAL RESOURCES**

15 For purposes of this analysis, significant cultural resources are those properties listed or eligible
16 for listing in the NRHP. As defined in implementing regulations for Section 106 of the NHPA,
17 impacts of an undertaking on significant cultural resources would be considered adverse if they
18 “diminish the integrity of the property’s location, design, setting, materials, workmanship,
19 feeling, or association” [36 CFR §800.5(a)]. Examples of adverse effects include, but are not
20 limited to, the following:

- 21
- 22 • Physical destruction, damage, or alteration of all or part of the property;
- 23 • Isolation of the property from or alteration of the character of the property’s setting when
- 24 that character contributes to the property’s qualification for the National Register;
- 25 • Introduction of visual, audible, or atmospheric elements that are out of character with the
- 26 property or alter its setting;
- 27 • Neglect of a property resulting in its deterioration or destruction; and
- 28 • Transfer, lease, or sale of the property out of Federal ownership or control without
- 29 adequate and legally enforceable restrictions or conditions to ensure long-term
- 30 preservation of the property's historic significance [36 CFR §800.5 (a)].
- 31

32 **Proposed Action**

33 The Navy has determined that the transfer of Lot 13058-D, 13058-F, 13058-G, 13073-A, and
34 13074-D, with conditions, would have no effect on historic properties. Consultations between the
35 Navy and State of Hawai‘i DLNR SHPO regarding these properties were completed between
36 1998 and 2003 (Sumida 2009a and b). SHPO concurred that the effect of the proposed disposal
37 would not be adverse provided that the Navy provides protective covenants to ensure the
38 preservation and appropriate treatment of historic properties (Sumida 2009a).

39
40 Lot 13058-B contains a portion of Site 5127, the former 1941 MCAS ‘Ewa , which the Navy has
41 determined eligible for listing in the NRHP. Site 5127 was first identified as eligible in the
42 consultation for the potential land transfer of Navy retained properties at the former MCAS
43 ‘Ewa. In 2008, Commander Navy Region Hawaii expanded the boundaries of Site 5157 to
44 include the 1941 airfield and support area and the 1941 airfield (runway). There are no buildings
45 or other historic properties on Lot 13058-B. In consideration of the above, the Navy has
46 determined a finding of “no adverse effect” for the proposed transfer of Lot 13058-B (Sumida

1 2009a). SHPO in a letter dated April 20, 2010, concurred with the Navy’s conditional “no effect”
2 determination (McMahon 2010). The conditions are as follows:

- 3
- 4 • The development of protective covenants and recognizing the eligibility of former MCAS
5 ‘Ewa (Site 5127).
- 6
- 7 • SHPO review of the protective covenant prior to the final transfer of land.
- 8
- 9 • Protection for historic sites under state law to be included in the covenants.

10
11 Copies of Section 106 consultation letters are included in Appendix B.

12 13 **No Action Alternative**

14 No adverse impact would be expected from the implementation of the No Action Alternative.

15 16 **4.4 HAZARDOUS AND REGULATED MATERIALS**

17 **Proposed Action**

18 CERCLA requires federal agencies to conduct any needed response actions to clean up
19 contamination from past releases of hazardous substances that pose an unacceptable risk to
20 human health and the environment. In preparing to dispose of the project area property, the Navy
21 will follow the provisions of CERCLA, Section 120(h)(3). These provisions require that the deed
22 transferring the property contain a covenant warranting that all remedial actions necessary to
23 protect human health and the environment with respect to contaminants remaining on the
24 property has been taken prior to the date of transfer.

25
26 Prior to transfer of custody and control of parcels, the Navy will remediate all known hazardous
27 substances in accordance with applicable laws and regulations. The Navy will inform future
28 property owners of the locations of the hazardous waste 90-day accumulation areas. The Navy
29 will be required to close or transfer these areas in accordance with CERCLA, RCRA, and all
30 other applicable federal, state, and local laws and regulations. Where appropriate, restrictions,
31 notifications, or covenants in deeds related to ACM, lead, and PCBs will be included in property
32 transfer documents to ensure the protection of human health and the environment.

33
34 For the reasons set forth above, there would be no hazard to the public or the environment, no
35 reasonably foreseeable environmental impacts, or significant environmental impacts as a result
36 of releases of hazardous substances, pollutants, or contaminants during development or operation
37 of the Proposed Action at the project area that are addressed under CERCLA.

38
39 In addition, no significant hazardous materials and waste impacts resulting from future
40 construction or operations would be expected. No hazardous waste would be expected to be
41 generated from the small amount of residential development proposed, other than small
42 quantities of household hazardous waste. Further, the majority of the project area would be
43 utilized for open space and recreational uses, no hazardous waste would be expected to be
44 generated from these uses. Lot 13058-B is identified for future eco-industrial land uses, which
45 could include environmentally compatible industries such as solar or hybrid energy generation,

1 or bio-filtration. Future property owners/developers would be required to manage hazardous
2 materials and wastes in accordance with applicable federal and state regulations.

3 4 ACM and LBP

5 Any modification, renovation, and/or demolition of an existing building will have to address
6 ACM and LBP. Contractors will need to comply with regulatory requirements during the
7 demolition of structures and materials containing ACM and LBP. The requirements address
8 engineering controls and protective measures that will be employed during demolition to ensure
9 that ACM and LBP are removed by qualified contractors in a manner that prevents the airborne
10 release of asbestos and lead and that these materials are disposed of properly.

11
12 Contractors will also need to comply with regulatory requirements during any renovation
13 projects on structures containing ACM and LBP. The National Emissions Standards for
14 Hazardous Air Pollutants (NESHAP) (40 CFR Part 61) require that each owner or operator of a
15 demolition activity subject to NESHAP remove regulated ACM from the facility being
16 demolished prior to any activity that would break up, dislodge, or disturb the materials.
17 Contractual specifications for demolition involving ACM also will be developed by an
18 accredited Asbestos Hazard Emergency Response Act professional to further ensure the proper
19 removal of regulated ACM.

20
21 In accordance with RCRA, demolition waste streams that might contain lead would be evaluated,
22 either by applying knowledge of the waste or by testing using the toxicity characteristic leaching
23 procedure, to determine whether hazardous waste disposal regulations are applicable. LBP-
24 containing hazardous wastes generated from demolition would be temporarily stored on-site in
25 compliance with RCRA requirements before being transported and disposed of off- site by a
26 licensed contractor.

27 28 **No Action Alternative**

29 No adverse impact would be expected from the implementation of the No Action Alternative.

30 31 **4.5 PUBLIC SERVICES**

32 **4.5.1 Education**

33 **Proposed Action**

34 The implementation of the Proposed Action would not result in a significant impact on public
35 and private elementary and secondary educational facilities located in the communities
36 surrounding the project area. Approximately 95.9-percent (or 372.5 acres/150.7 hectares) of the
37 total project area would be used for non-residential land uses. These uses would not generate an
38 increase in population or require educational services. The remaining portion of the project area
39 (approximately 16 acres/6.5 hectares) is designated for mixed-use development. This area would
40 be comprised of a mix of ground-level commercial development and residential uses located
41 above. At this time, specific development plans are not available and the proposed residential
42 uses and number of units are not quantifiable. However, the residential development proposed
43 would likely to have a lower number of children per household since it is located in a mixed-use
44 area and would be expected to consist of smaller condos and apartments. Therefore, the Proposed
45 Action, because of the type of housing proposed and the small scale of development would be

1 expected to result in an insignificant increase in the number of school-age children and would
2 not impact the existing school system or its capacity.

3 4 **No Action Alternative**

5 No adverse impact would be expected from the implementation of the No Action Alternative.
6

7 **4.5.2 Parks, Recreation and Open Space**

8 **Proposed Action**

9 Under the Proposed Action, approximately 79.2-percent (or 307.5 acres/124.4 hectares) of the
10 project area would remain or be used for open space, recreation, or foreshore protection uses.
11 The Proposed Action would provide a beneficial impact on the availability of regional open and
12 recreational space and would not result in a significant impact.

13 14 **No Action Alternative**

15 No adverse impact would be expected from the implementation of the No Action Alternative.
16

17 **4.5.3 Police, Fire and Emergency Services**

18 **Proposed Action**

19 The Proposed Action would not be expected to generate a significant impact to municipal police,
20 fire, and emergency services.

21 22 **No Action Alternative**

23 No adverse impact would be expected from the implementation of the No Action Alternative.
24

25 **4.6 SOCIOECONOMICS**

26 **Proposed Action**

27 The Proposed Action would potentially result in a small increase in employment during the
28 construction phase and, to a lesser extent, the operational phase. The action would result in large
29 areas designated for open-space, recreation, and/or conservation. Under the Proposed Action,
30 small portions of the project area would be developed for public facilities, mixed-use (moderate
31 intensity), and eco-industrial land use. No significant impact on socioeconomic resources would
32 be expected.

33 34 Environmental Justice

35 As discussed in Section 3.6, consistent with Executive Order 12898, *Federal Actions to Address*
36 *Environmental Justice in Minority Populations and Low-Income Populations* (February 11,
37 1994), the U.S. Navy's policy is to identify and address any disproportionately high and adverse
38 human health or environmental effects of its actions on minority and low-income populations.

39
40 There are no known significant or adverse environmental impacts, including human health,
41 economic or social effects that would disproportionately affect minority or low-income
42 populations resulting from the Proposed Action. It has been determined that no disproportionate
43 adverse environmental justice effects would be associated with the implementation of the
44 Proposed Action.
45

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

3 Executive Order 13045 requires that “each federal agency (a) shall make it a priority to identify
4 and assess environmental health risks and safety risks that may disproportionately affect
5 children; and (b) shall ensure that its policies, programs, activities, and standards address
6 disproportionate risks to children that result from environmental health risk of safety risks.”
7

8 The Proposed Action would not pose any environmental health and safety risks that may
9 disproportionately affect the general public, including children. Since no significant impacts on
10 environmental resources are expected from the Proposed Action, no health and safety risks to
11 children would be expected.
12

13 **No Action Alternative**

14 No adverse impact would be expected from the implementation of the No Action Alternative.
15

16 **4.7 INFRASTRUCTURE**

17 **Proposed Action**

18 Under the Proposed Action the Navy would convey its interests in any on-site water, wastewater,
19 electrical and telecommunications, and drainage systems and associated easements to public or
20 private entities. The KMP identifies a number of utility system improvements to support
21 development and indicates that all improvements would need to meet City and County of
22 Honolulu standards. Public sources, developer dedications, and impact fees levied by City and
23 County of Honolulu would fund improvements proposed under the KMP. Solid waste disposal
24 methods would likely not change under the Proposed Action. Future developers, landowners
25 and/or lessees, would be responsible for disposing of construction waste, and any solid waste
26 generated during the operational phase.
27

28 The Proposed Action would not be expected to generate a significant impact to municipal
29 potable water, wastewater systems, electrical distribution, telecommunication systems, drainage
30 systems, and solid waste.
31

32 **No Action Alternative**

33 No adverse impact would be expected from the implementation of the No Action Alternative.
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5. CUMULATIVE IMPACTS

This section examines the potential cumulative impacts that may result from the disposal and reuse of the project area. A cumulative impact is the effect on the environment that could result from the incremental impact of the Proposed Action when added to other past, present, or reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions that take place over time. Accordingly, a cumulative impact analysis identifies and defines the scope of other actions and their interrelationship with the Proposed Action or its alternatives if they overlap in space and time.

This cumulative impact analysis was developed to be consistent with guidance published by the CEQ (January 1997) and the EPA (May 1999).

Study Area

The geographic scope of this analysis has incorporated the characteristics of the resources that may be affected, including social, economic, and natural environments. For the purposes of this analysis, the study area for cumulative impacts includes, depending on resources area, the project area, former NAS Barbers Point property, City and County of Honolulu, the island of O‘ahu, and the State of Hawai‘i.

5.1 REASONABLY FORESEEABLE FUTURE ACTIONS

This section identifies foreseeable non-project actions and long-term trends in or near the study area that may pose a cumulative effect of the resources, ecosystems, or human environment in the project area when considered with the potential effects of the Proposed Action. Other reasonably foreseeable non-project actions occurring in the study area include the following:

Kalaeloa Master Plan (redevelopment of the former NAS Barbers Point). This project includes the redevelopment of the former NAS Barbers Point property by the HCDA. The total Kalaeloa redevelopment effort encompasses approximately 3,695 acres (1,495 hectares) of land. The project area assessed in this EA is located within the planning boundaries of this plan. Redevelopment efforts at the former NAS Barbers Point began in 1999 following the closure of the air station by the Navy. The most recent reuse plan for the property, the KMP, was adopted on March 1, 2006. Upon full build-out (+ 25 year development timeline), proposed redevelopment would include (HCDA 2006):

- 3 million square feet (278,709 square meters) of light industrial, commercial, retail and office space;
- Creation of an estimated 7,000 jobs;
- Approximately 6,350 residential units (minimum 30 percent affordable);
- Transit-oriented development and regional connections;
- Opportunities for high-technology development;
- Alternative energy development to promote self-sufficiency;
- New public schools;

- 1 • Preservation of recreation, open space and shoreline; and
- 2 • Protection of cultural sites and endangered species through a Native Hawaiian Culture &
- 3 Education Center.

4
5 **Barbers Point - Ford Island Development.** The Navy is leasing approximately 499 acres (202
6 hectares) of land retained by the Navy following the closure of NAS Barbers Point. This area is
7 located to the north of the 1999 EIS boundary, across Franklin D. Roosevelt Road. The property,
8 as well as former NAS Barbers Point utility systems (i.e., water, wastewater, electrical
9 distribution and telecommunication systems and corresponding easements), are being reused and
10 developed in a manner consistent with the KMP. Foreseeable development of the subject parcels
11 includes approximately 5,000 homes in a mixed use/transit-oriented setting, industrial and
12 commercial uses and public uses such as schools, parks and a public transit system, over a
13 twenty year period (Navy 2008).

14
15 **Other Residential Development.** Table 5-1 summarizes planned housing developments
16 proposed for the 'Ewa Development Plan Area as of August 2010. A total of 50,637 new housing
17 units are planned to be constructed by the year 2030 (City and County of Honolulu 2010). City
18 and County of Honolulu Department of Planning and Permitting projections estimate that the
19 inventory of housing units in the 'Ewa Development Plan Area will increase from approximately
20 20,800 units in 2000 to 44,000 units in 2020 and roughly 60,000 units in 2030, resulting in an
21 additional 23,200 new housing units by 2020, and 39,200 additional units by 2030.

22
Table 5-1: 'Ewa Development Plan Area – Planned Housing

Project	Year Build Out	Total Units	Units Completed (2009 and earlier)	Units Completed (proposed after 2009)
City of Kapolei				
Leihano at Kapolei – Senior Villages	n/a	714	n/a	n/a
Mehana at City of Kapolei	2020	1,150	20	1,130
Kapolei Mixed Use	2016	1,000	0	1,000
Palailai Residential (Kapolei Mauka)	2020	350	0	350
East Kapolei II				
State DHHL	2016	1,022	0	1,022
State HHFDC	2015	600	0	600
'Ewa by Gentry	n/a	6,816	6,158	658
'Ewa Makai by Gentry	n/a	1,673	606	1,067
'Ewa Village (City DCS)				
Completed Phases	2006	797	797	0
Franciscan Vistas/Iolina/Meleana Kula	2014	291	0	291
Area H Apartments	n/a	192	0	n/a
Single-family Units in Areas A & H	n/a	107	0	n/a
Ho'opili (East Kapolei)	2030	11,750	0	11,750
Kanehili (East Kapolei I, State DHHL)	2012	403	12	391
Kapolei West (Ko Olina, Phase II)	2025	2,500	0	2,500
Ko Olina Resort	n/a	4,450	1,164	n/a
Makaiwa Hills	2025	4,280	0	4,280
Makakilo (since year 1984)				
Completed Phases	2005	2,320	2,320	0

Table 5-1: ‘Ewa Development Plan Area – Planned Housing

Project	Year Build Out	Total Units	Units Completed (2009 and earlier)	Units Completed (proposed after 2009)
Kahiwelo (phase 1 and 2 (Makakilo East)	2017	472	50	422
Makakilo Heights	n/a	396	376	n/a
Wai Kalooi (Palehua East B)	2010	275	251	24
Villages of Kapolei				
Completed Phases (HHFDC and DHHL)	2008	3,225	3,225	0
Castle & Cooke townhomes	2012	634	284	350
Senior Residence at Kapolei	2010	80	60	20
Other units remaining to be built	2010	290	0	290
TOTAL (‘Ewa Development Plan Area)		50,637		

Source: City and County of Honolulu, Department of Planning and Permitting, Annual Report on the Status of Land Use on O‘ahu, Fiscal Year 2009, August 2010

1
 2 **Transportation Improvement Projects.** A number of transportation projects are planned for the
 3 ‘Ewa Development Plan Area to improve travel to and within the Kalaeloa Community
 4 Development District. Most of these projects have been identified and/or confirmed through
 5 OMPO’s *O‘ahu Regional Transportation Plan 2030* (OMPO 2006), as well as the ‘Ewa
 6 *Highway Impact Fee Program* studies and plans. The OMPO process assesses the long-range
 7 transportation needs to serve forecast travel over the next 20 or more years and selects a high-
 8 priority short list of projects and programs for funding within the next three years through its
 9 Transportation Improvement Program. The ‘Ewa *Highway Impact Fee Program* addresses the
 10 travel needs through 2010 and establishes a developer-funded source to pay for 20 percent of the
 11 regional roadways needed in the ‘Ewa District. The *O‘ahu Regional Transportation Plan 2030*
 12 (OMPO 2006) also recognizes the City and County of Honolulu’s Locally Preferred Alignment
 13 for the City’s proposed transit alignment (the Minimum Operating Segment – considered the first
 14 phase of the transit system – ends in the East Kapolei area just north of the Kalaeloa District; an
 15 anticipated future extension would ultimately loop through the Kalaeloa District).

16
 17 Table 5-2 summarizes major planned roadway improvements identified in the adopted
 18 Transportation Improvement Program that would improve access to the Kalaeloa Community
 19 Development District.
 20

1

Table 5-2: Major ‘Ewa Region Transportation Projects

Project	Description
Fort Weaver Road and Interchange	Improves freeway access to ‘Ewa Beach and East Kapolei residents
North South Road and Interchange	Provides direct freeway access to Kalaeloa Community Development District
Fort Barrette Road Improvements	Road widening
Makakilo Interchange	Provides direct freeway access to Kalaeloa Community Development District via Fort Barrette Road
Kapolei Interchange	Provides direct freeway access to Kalaeloa Community Development District via an extension of Wakea Street
Kapolei Parkway	Completes parkway segments between ‘Ewa Beach and Ko ‘Olina; provides a fourth east-west corridor across the ‘Ewa Plain (e.g., to Geiger Road/Roosevelt Ave [through Kalaeloa District] Farrington Hwy and H-1 Freeway)

2 Source: OMPO TIP (FY 2008-2011)

3

4 **5.2 ANALYSIS OF CUMULATIVE IMPACTS**

5 The cumulative impacts of the non-project actions are discussed by resource area below.
6 Implementing the Navy disposal action, as essentially a transfer of title, would not contribute to
7 any direct cumulative impacts to any resources analyzed in this document. Therefore, the
8 discussion of cumulative impacts for each resource does not include further analysis of Navy
9 disposal. Relevant cumulative impacts associated with the HCDA reuse are described below.

10

11 **Geology, Topography, and Soils**

12 No significant cumulative impacts on geology, topography, or soils would occur from reuse and
13 no-action alternatives.

14

15 **Groundwater and Surface Water**

16 No significant cumulative impacts on groundwater quality and surface water are anticipated.

17

18 **Air Quality**

19 No significant cumulative impacts on air quality are expected from the reuse and no-action
20 alternatives.

21

22 **Noise**

23 No significant cumulative noise impacts are expected from the reuse and no-action alternatives.

24

25 **Visual Resources**

26 No significant cumulative impacts are expected on visual resources from the reuse and no-action
27 alternatives.

28

29 **Transportation**

30 Cumulative impacts could occur as a result of the reuse of the project area and the continuing
31 development of the ‘Ewa Development Plan area. Future coordination between the parties
32 developing the ‘Ewa Highway Transportation Master will be needed to address regional road

1 system issues. Specific intersections could be designed to accommodate the anticipated traffic
2 from other projects. The *‘Ewa Development Plan* (City and County of Honolulu 2000)
3 acknowledges that the redevelopment of the former NAS Barbers Point property would open
4 additional lands for use and increase transportation needs beyond the levels planned for in the
5 *O‘ahu Regional Transportation Plan 2030* (OMPO). Additional roadways to enhance movement
6 have been identified in this transportation plan at a conceptual level and will require further
7 study.

8 9 **Land Use**

10 The reuse alternatives incremental contribution to regional cumulative land use impacts would
11 not be significant.

12 13 **Biological Resources**

14 There would be no significant cumulative impacts.

15 16 **Cultural Resources**

17 There would be no significant cumulative impacts.

18 19 **Public Health and Safety**

20 There would be no significant cumulative impacts.

21 22 **Public Services**

23 The Proposed Action, in conjunction with other regional development, would result in a
24 cumulative increase in the demand for public services. The long-term cumulative impacts on
25 public services due to reuse alternatives would be minimal or positive.

26 27 **Socioeconomic Environment**

28 Redevelopment of the project area, under the reuse alternative, along with future growth in the
29 surrounding communities, would result in positive impacts on the region and island wide
30 employment opportunities, availability of housing, and the availability of open space.

31 32 **Infrastructure**

33 The Proposed Action, in combination with cumulative regional development would result in
34 increased demand for utilities in the region. The increased regional demand could require
35 construction of new and enlarged utility systems and upgrading of existing utility infrastructure.
36 Construction of utility systems and facilities to serve regional growth and development would
37 proceed under the direction of the utility providers.

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